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The morphophonology of Muscat Arabic

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University of California, Los Angeles, 1988

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Los Angeles

The Morphophonology of Muscat Arabic

A dissertation submitted in partial satisfaction of the

requirements for the degree Doctor of Philosophy

in Linguistics

by

Bonnie Carol Glover

1988

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1988

For my mother

and in memory of my father

Contents

Figures and Tables

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PUBLICATIONS

Crocker, Gigi and Bonnie Glover. 1979. An Omani braiding technique for camel reins. Journal of Oman Studies 5.103-6.

Glover, Bonnie C. 1980. Toikpaya demonstratives. Proceedings of the 1979 Hokan languages workshop, ed. by James E. Redden, 43-52. Southern Illinois University, Carbondale, Illinois.

_____. 1983. Review of North east Arabian dialects by Bruce Ingham. MERA Forum 7:3.14-15.

Montgomery, Christine A. and Bonnie C. Glover. 1986. A sublanguage for reporting and analysis of space events. Published in Analyzing language in restricted domains. Sublanguage description and processing, ed. by R. Grishman and R. Kittredge, 129-61. Hillsdale, New Jersey: Lawrence Erlbaum Associates, Inc.

Abstract of the Dissertation

.The Morphophonology of Muscat Arabic

by

Bonnie Carol Glover

Doctor of Philosophy in Linguistics

University of California, Los Angeles, 1988

Professor Russell G. Schuh, Chair

This study describes the morphology and phonology of Muscat Arabic (MA) spoken in Muscat in the Sultanate of Oman. Based on data collected from women and men living in the old city of Muscat, the study focuses on certain phonological characteristics of the dialect and their effects on the underlying morpholexical structure, including: (1) the influence of adjacent consonants on short vowel quality; (2) the leveling of morpholexical vowel quality contrasts; (3) the weakening of glides; (4) the resyllabification of short vowels in open syllables; and (5) the roles of length and stress. The linguistic framework employed is that of lexical phonology, and the morphology is described using the non-linear approach of nonconcatenative theory.

Chapter 1 gives the linguistic background of MA and the Omani Arabic (OA) dialect group of which it is a member. In Chapter 2, the postlexical (surface phonological) and phonetic features of MA phonology are discussed. The following three chapters describe the levels of derivation: Chapter 3 describes the formation and derivational affixation of verbal and nominal stems; Chapter 4, the inflectional affixation of these stems; and Chapter 5, cliticization and phrasal phonology. In Chapter 6, the MA morphophonological processes are summarized and compared to similar processes in other varieties of Arabic. The three Appendices contain a list of morphemes and rules, five short texts, and an MA-English lexical list of examples.

Some of the phonological processes that characterize MA are the lengthening of affix consonants before vowel-initial clitics, syncope that is not conditioned by stress or vowel quality, lack of a strong fixed stress, and the leveling of morpholexical vowel quality to /a/. Although several processes in MA conspire to produce a preferred surface syllabic structure, the underlying morphological structure of MA is generally found to be transparent. Rather than obscuring the Arabic root and pattern morphology of the dialect, some MA processes differentiate between radical and non-radical consonants, thus preserving the underlying morphological structure.

Chapter 1

Linguistic Background

1.1 Introduction

This study of the morphophonology of an Arabic dialect[1] spoken in the Muscat (in Arabic, Masqaṭ)[2] district of the capital area[3] of the Sultanate of Oman (in Arabic, Salṭanat ʿumān) has two aims. The first is to describe the morphophonology of the dialect in detail, and in the process add to the small but growing body of recorded information on peninsular Arabic dialects. The second aim and central analytical focus of the study is to examine the kinds of syllabic alternations occurring in the dialect and their effects on underlying morphological structure, and then to compare them to those found in other Arabic dialects.

The dialect under investigation, designated in this study as Muscat Arabic (MA), is spoken by ʿIbāḍi Muslims from Muscat and belongs to the larger Omani Arabic (OA) dialect group. The OA dialects including MA originated with the

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[1] "Dialect" is the term generally used to refer to any of the diverse spoken varieties of Arabic, although in fact collectively they are comparable to (and probably lie somewhere between) a closely related group of languages, such as the Romance languages, or a highly distinctive set of dialects, such as those of German.

[2] The anglicized spellings (e.g. "Muscat") employed in this study are in standard use within Oman, where signs typically are in both Arabic and English.

[3] The capital area, which contains many other districts in addition to Muscat itself, is also called Muscat. §1.2 provides further details concerning various uses of the terms "Muscat" and "Oman."

migration eastward beginning in the second century[4] of nomadic Arabian tribes from the central and southern sections of the Arabian Peninsula. These tribes settled in the area later known as Oman, having found there a stable supply of water, and became for the most part sedentary villagers.[5]

A long history as a sedentarized society distinguishes Oman from its neighbors, and by the seventeenth century Muscat had begun to emerge as the prominent port in the area and the administrative capital of the coastal region. This was no doubt aided by the town's unique and easily defended geographical position, having a sheltered harbor and ringed by the rugged mountainous rock formations of the Omani coast. This configuration also served to set Muscat off from the rest of the country, even from the adjacent more populous commercial port of Muttrah (in Arabic, Maṭraḥ), from which until very recently it was accessible only by sea and a narrow track over the mountains. In the last decade, however, the face of Muscat has changed considerably due to unprecedented development in the Sultanate beginning in the early 1970's and the concomitant expansion of the administrative sector. This development has resulted in the dispersion of much of the indigenous population of Muscat to outlying suburbs of the capital area. The data in this study, however, reflect the situation before displacement, having been collected from speakers still living in Muscat at the time of interview.

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[4] All dates refer to the common era (C.E. or A.D.) unless otherwise specified.

[5] The process of settlement and sedentarization of this region is described in J. Wilkinson (1977, cf. especially Chapter IX, Sedentarization).

The MA morphophonemic processes investigated in this study include vowel quality variation; syncope, epenthesis, and metathesis; consonantal and vocalic length alternations; and stress assignment. These processes provide an important means of characterizing an individual dialect because whereas Arabic dialects share a more or less common underlying morpholexical structure, they encompass considerable interdialectal phonological variation. These phonological processes also vary in the degree to which they affect underlying structure.

Although there is evidence for some of these processes in Classical Arabic, the pre-Islamic poetic hybrid which became the standard Arabic literary language, they are less apparent in Literary Arabic[6] (LA) than in the spoken dialects. This is due partly to the fact that LA is a formally-acquired literary language, and therefore less subject than the spoken dialects to phonetically-motivated change. However, as C. Rabin points out in his study of ancient Arabian dialects, the relative lack of such effects in LA in itself reflects a dialect difference:

> The most outstanding difference between the phonetics of the Eastern dialects and West-Arabian is that in the former vowels are changed under the influence of surrounding phonemes and of stress, while such influences are almost wholly absent from West-Arabian. . . Classical Arabic on the whole sides more with West-Arabian in this respect than with the Eastern dialects. . The influence of surrounding

[6] The term "Literary Arabic" is preferred here because it refers to both the classical language of Arabic literature and to its descendant, the modern standard written language as it is used today throughout the Arab world. The relation of Literary Arabic to the spoken Arabic dialects is similar to that of Latin to vernacular Italian at the time when Latin was still the primary written language.

phonemes on vowels, on the other hand, is in most colloquials more pronounced. [Rabin 1951:97]

This study looks particularly at the influences on vowels and syllable structure in MA, and the extent to which they affect underlying structure. Some of these effects are described below.

Vowel quality variation. Variation in vowel quality is both phonologically and morphologically-conditioned. On the phonological side, the main kind of assimilation found in spoken Arabic is the assimilation of vowels in backness to adjacent consonants. By comparison, assimilation among contiguous consonants, for example, occurs much less often. In a phonological system whose large number of consonants (29 in MA) also function morphologically as radicals independently of the vowels, allophonic vowel quality alternations can be understood as reinforcing consonantal identity. The particular compatibilities between consonants and vowels and the degrees of assimilation differ in the various dialects of Arabic. Among short vowels, this has led in some cases to a realignment of a basic three-vowel system.

Morphological vowel quality variation is evidenced primarily in the vowels of verbal stems. Here the main contrast lies in vowel height rather than backness. In some instances in MA vowel height is morphologically-determined, in others it is phonologically-conditioned, and in yet others it is a lexical feature of a particular verb.

Glide weakening. The glides, /w/ and /y/, are neutralized, assimilated, or entirely deleted in various environments. The glottal stop is modified in similar ways. Because the glides and glottal stop also function, as do the consonants, as part of the root morphemes of the language, these modifications potentially obscure the underlying morphological structure.

Syncope, epenthesis, and metathesis. Short vowels in open syllables are extremely vulnerable to deletion in the spoken dialects of Arabic. Position within the word, structure of adjacent syllables, the quality of the vowel, and whether or not the vowel carries underlying stress are all factors in deletion in various dialects. By the same token, heavy consonant clusters are subject to epenthesis in many dialects. Processes of syncope, epenthesis, and CV-metathesis modify underlying syllable structure in dialect-specific ways to produce an optimal surface syllable structure for an individual dialect such as MA.

Consonant and vowel length variation. Shortening and lengthening of consonants and vowels are other means by which syllable structure is modified in Arabic dialects. Length variation may be phonological (e.g., applying to morpheme-final segments or unstressed vowels) or morphological (e.g., applying to imperatives only, or only at certain morpheme boundaries).

Stress. Stress in most dialects is assigned according to syllable weight and position within the word, although the unit of stress can also be the phrase. The assignment of stress may condition other phonological modifications such as vowel shortening, reduction or deletion, or it may be a relatively late rule as it is in MA.

The linguistic model on which this description is based is that of lexical phonology. This model allows for the examination of the interplay of morphological and phonological rules on each of several levels, and Arabic stem formation, affixation, and cliticization fit naturally fit into this kind of leveled approach. In addition, an underlying root-based approach to Arabic morphology in the form of the theory of nonconcatenative morphology proposed for LA by J. McCarthy (1979a, 1981) is considered for MA. These approaches and their application to this study are discussed further in Chapter 3.

The discussion of these phenomena in MA is organized according to the level of morpholexical structure. Following the linguistic background given in the remainder of this chapter, first the general phonological or postlexical processes applying to all forms are described, then in the next three chapters those processes are detailed that specifically refer to morphological structure, including respectively stems, affixes, and clitics and phrases. The final chapter summarizes the MA processes and compares them with those of other major Arabic dialect groups.

1.2 The linguistic setting

Although the Sultanate of Oman is an Arab country of the Arabian Peninsula and has a clear linguistic identity as Arabic-speaking, it nevertheless accomodates considerable ethnic and linguistic diversity. Much of this diversity is reflected on a

smaller scale in Muscat. The complexity of Omani society can be seen even from its Arab beginnings.

Oman traditionally denotes the area at the eastern end of the Arabian Peninsula whose backbone is the Hajar mountain range extending from Musandam in the north to Jaʿlān in the east (Figure 1-1). From the second through the fifth and then from the seventh to the eleventh centuries, Arabian tribes migrated into Oman from two separate areas of the Arabian Peninsula. Initially, tribes of southern or Yamani stock came from the settled regions of southern Arabia into Oman via Jaʿlān. The tribes from this area included the ʔAzd, Ṭayyi, and Kindah, who settled in various parts of eastern, coastal, and central Oman. From the central peninsula through the Burēmi oasis came the ʿAbd al-Qais, Bani Samah, and Bani Saʿd, among other tribes, of northern or Nizāri stock, and these groups moved mainly into western and central Oman. The migrating tribes encountered a land ruled by Persians, who centuries earlier had constructed there an extensive system of artificial channels that tapped into the undergound water table and provided a nearly constant supply of water.[7] With the rise of Islam the Arabian tribes overcame the Persian rulers, and the local population began to assimilate into Arab tribal structure as the tribes themselves became more closely tied to the land and settled in the villages.

[7] Much of this irrigation system is still in use today. Wilkinson (1977) discusses in detail this system, its origins, and its effect on settlement.

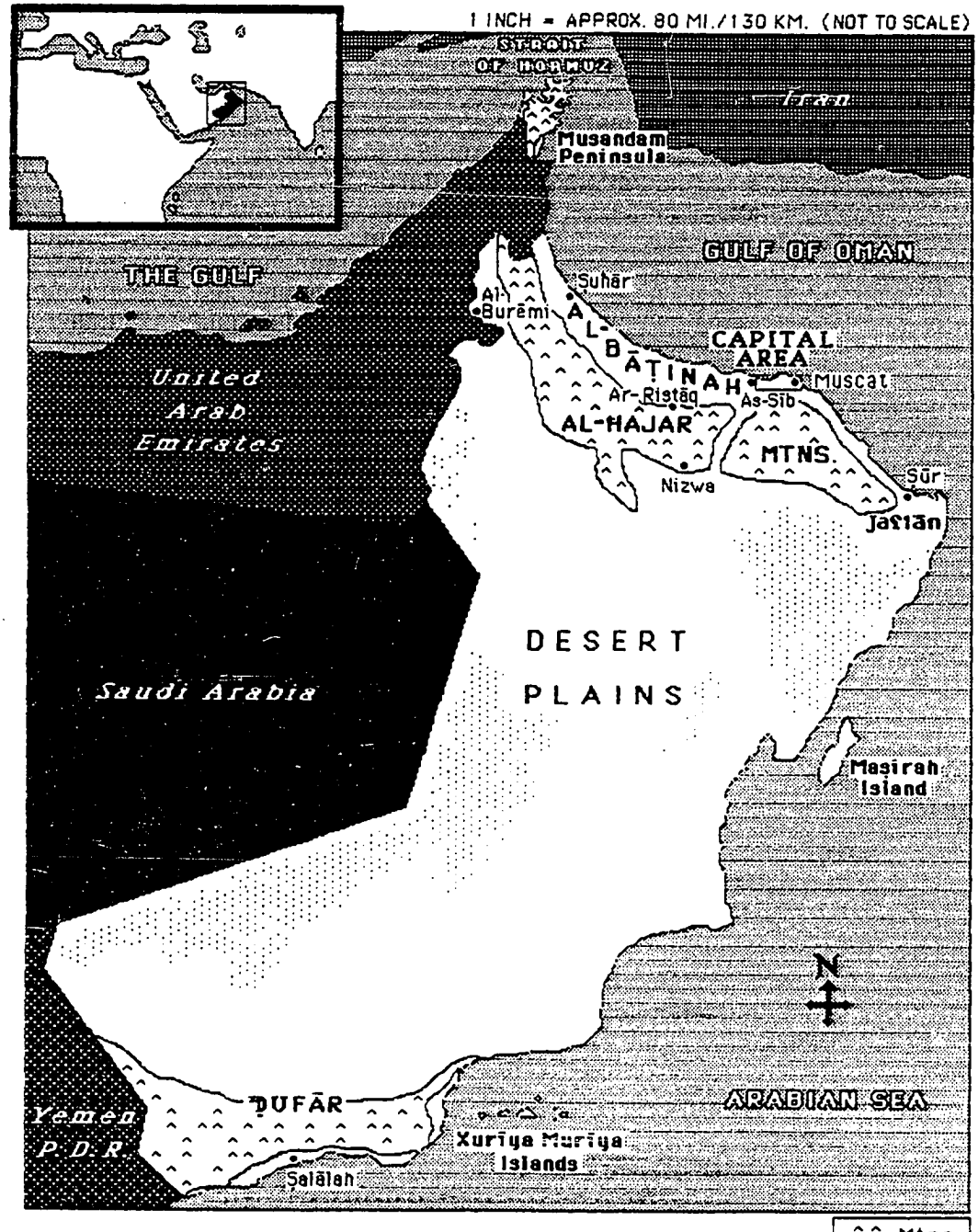

Figure 1-1. The Sultanate of Oman

The numerous fortifications extant in Oman attest to a history of complex alliances and bitter intertribal disputes. However, over the next millennium the mainly sedentarized tribes of the interior united in a loose confederation ruled by an elected imam. The coastal area in contrast came under rule by dynastic sultans. Together these two regions became known as "Muscat and Oman," the dual name indicating a basic dichotomy in outlook and ethnic make-up which is still manifest today.[8] The coastal area of Muscat, named for the administrative center in Muscat, had and still has an exchange economy based mainly on fishing and trade, and traditionally has been outward-looking and incorporative of diverse ethnic and even religious groups. Inner Oman, whose subsistence-level economy is based on cultivation, mainly of the date palm, and livestock herding, has been relatively more isolated and homogeneous.

In common local usage Oman still can refer to the inner region and Muscat to the coast. With the accession of the present sultan, H. M. Sulṭān Qābūs bin Saʿīd in 1970, however, these terms took on new meaning. The newly reorganized state was renamed the Sultanate of Oman with Muscat designated as the capital. The term "Oman" therefore has two meanings: the interior region and the country at large. "Muscat" has three: the coastal region including the capital area; the capital area metropolitan complex consisting of Muscat, Muttrah, Ruwi, Qurum, and other nearby districts; and the much smaller and distinct Muscat district itself. In this

[8] The history and current manifestation of this dichotomy is described in detail in Wilkinson (1987, cf. especially Part I, Geopolitical Structures).

study, unless otherwise indicated, Muscat refers to the Muscat district only and Oman to the entire country, including Muscat.

The population of Oman for government planning purposes is estimated in the absence of a census at one and a half million but is probably in actuality under a million (Cottrell 1980). Not all Omanis are ethnically Arab, but nearly all are Muslim. D. Eickelmann (1985) reports that 55-60% of Omanis are of the Ibāḍi sect[9] of Islam, 30-35% Sunni, and 5% or less Shīʿi. Roughly 17-20% of the total population are expatriates, mainly skilled workers.

Arabic, that is modern standard Arabic, is the official language of the Sultanate of Oman, and Omani Arabic (OA), including all of its various dialects, is the primary spoken language.

Aside from Arabic, English is the language most widely spoken in Oman. Inherited as a result of Britain's former colonial preeminence in the area, it is the language of commerce, is commonly used in some governmental ministries, and is the main foreign language taught in Omani schools.[10] English also functions as a lingua franca for the expatriate workers in Oman, who speak languages from a broad range of language groups.

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9 Ibāḍi Islam, which is also found in communities in Libya and Algeria, differs from Sunni Islam in its recognition of only the first two, rather than four, successors of the Prophet Muhammad, and its elected, rather than hereditary, imam, or spiritual leader (Eickelman 1985).

10 The conditions of English language teaching in Oman have been described in a study by Bilquis Al-Khabori (1984).

Many of the significant minority segments of the population natively speak Indo-Iranian, East African, or South Arabian languages. Speakers of these languages are variously distributed over the different regions of Oman. Over two-thirds the size of California, present-day Oman can be divided into five major regions:

1) the Capital Area, including Muscat;

2) the Bāṭinah coastal plain;

3) the Ḥajar mountain range and adjoining piedmont;

4) the deeert plains lying between northern and southern Oman; and

5) the southern region of Ẓufār.

Three other noncontiguous areas are also part of Oman: the Musandam Peninsula to the north jutting into the Strait of Hormuz and separated from the rest of the country by the United Arab Emirates; Maṣīrah Island to the east; and the Kuria Muria (in Arabic, Xurīya Murīya) Islands to the south.

The Capital Area, at the eastern end of which lies Muscat, is the most densely populated region on the country, and the one having the greatest ethnic mix. As the leading port of the Gulf area from the mid-seventeenth to the mid-nineteenth centuries, it had close contact with Iran, India and East Africa and attracted merchant communities from abroad[11] among which are Kutchi and Gujarati-speaking Hindu Banyans, resident Indian merchants whose ties with Oman often go

[11] The history of the Indian merchant communities in Muscat is discussed in detail in C. H. Allen, Jr. (1978, especially pp. 99-139).

back several generations; a Khojki-speaking Shīʿite Lōtī (pl. Luwātiyah) community with ties to Hyderabad in Pakistan; the Balūchis from Balūchistān on the other side of the Gulf of Oman whose language of origin belongs to the Iranian language family; and the Arabic-speaking Shīʿite Baḥārnah Arabs from the Gulf. [12] Among European groups are the Portuguese who controlled Muscat in the sixteenth and seventeenth centuries, leaving behind fortifications and a handful of linguistic borrowings.[13] Later the British, who prevailed over the French for control of the area in the late eighteenth and nineteenth centuries, established an advisory presence in Oman that continues to the present day. As early as 1833 the United States and Oman concluded a trade agreement,[14] and in 1893 Peter Zwemer of the Dutch Reformed Church in America arrived in Oman to establish the American Mission. The work of the mission, which built and operated a school and hospital in a country that had few schools and no hospital, was confined, as were the Europeans, mainly to Muscat and Muttrah.

Opened up only since 1970 to modern development, Oman now widely employs the labor of foreign workers, the greatest concentration of whom live in the capital. The majority are Pakistanis and Indians, but expatriates in Oman come from many other countries as well. Among the languages spoken are

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[12] That is, the Arabian (otherwise known as the Persian) Gulf, commonly called just "the Gulf" (OA, al-xalīg).

[13] A prominent example is the word /bandērah/ for 'flag.'

[14] The background and text of this treaty are found in an article by A. I. Cotheal (1854).

Egyptian, Sudanese, and Levantine Arabic; English, Dutch, French, German, Greek and other European languages; Hindi, Urdu, Balūchi, Bengali, Gujarati, Sindhi, and Singhalese among Indo-Iranian languages; Malayalam and Tamil among Dravidian languages; and Philippine languages among others from Southeast Asia.

Adjacent to the Capital Area is the Bāṭinah coastal plain, another major region of Oman. The Bāṭinah is similar to the Capital Area in the presence among the Arab majority of several prominent minority groups speaking Indo-Iranian languages, including Balūchis; ʿAjam and Irāni groups from southern Iran; the Luwātiyah and smaller Zidgāli group from Sindh in Pakistan and the Banyans.[15] The Arabs are Ibāḍi and Sunni, the Balūch are Sunni, and the Iranian groups are Sunni and Shīʿi These communities are spread over the various Bāṭinah towns, which are connected along the nearly continuously-settled two-hundred-mile coastal plain by a belt of cultivated land watered by wells.

The Musandam Peninsula is an extension of both the coastal plain and mountainous interior of Oman. Geographically it is the northernmost part of the Ḥajar mountain range of the Oman interior, but it resembles the coastal region in the ethnic mix of its inhabitants, the Shaḥi (pl. Shiḥūḥ) tribes, who speak Kumzāri, an Iranian language, in addition to a local Arabic dialect.[16]

Settlements in the the third major region, the Ḥajar mountain range, which rises to ten thousand feet at its highest point, the Jabal al-ʾAxḍar, and the piedmont

[15] F. Barth (1983) contains a detailed description of the pluralistic nature of society in Ṣuḥār, an important town on the Bāṭinah coastal plain.

[16] This Arabic dialect has been described by A. S. G. Jayakar (1903a).

zone surrounding it consist of a series of thinly-scattered self-contained oasis villages[17] built around date palm gardens still watered by the ancient channel irrigation system built by the Persians. In addition to agriculture, other village activities include livestock herding, apiculture, wool weaving, indigo dyeing, metal working, pottery making, and straw weaving. Nizwa is the largest town in the interior, and with the construction of better roads, has become the main commercial center of the area. The population is primarily Ibāḍi Muslims of Arab ethnic origin, although there are some Sunni Arab groups. More recently, along with the recent development of the interior has come an influx of expatriates. The patterns of tribal settlement in these villages are complex, with many villages divided into of two or more sections occupied by tribes which trace their origins back to the different parts of the Arabian Peninsula from which tribes emigrated. For example, Izki, 14 miles east of Nizwa, is a village whose two main sections are settled by tribes of north-central and southern provenance.

The largest non-Arab group of languages spoken in the interior are East African languages, the most prominent of which is Swahili. These languages are spoken primarily in the eastern section of the Hajar mountains, known as the Sharqīyah, although some inhabitants of the western Hajar and the Bāṭinah coast speak Swahili and related languages as well. This is a result of the migration to East Africa of Omanis attracted by the clove and rice plantations of the island of

[17] P. Costa (1983) describes the settlement patterns of Omani coastal and interior villages as well as the ancient copper mining towns in the north of Oman.

Zanzibar as well as the slave trade. From the mid-seventeenth to the mid-nineteenth centuries, Oman ruled Zanzibar. Many of these expatriate Omanis returned to Oman after 1970 when the country opened its doors to Omanis living abroad. Some Omanis are also descendants of Africans brought over from East Africa when the slave trade flourished.

The fourth region, the desert plain extending from northern to southern Oman, is the largest in area and smallest in population. It is inhabited mainly by beduin tribes who spend the summer near villages on the fringe of the desert to gather stores of dates and other foodstuffs and supplies, and winter in tents constructed around trees near desert grazing areas. The bedu are mainly camel, goat and sheep herders; they also weave wool, and those living near the coast fish during the winter. The beduin OA dialects differ in many respects from those of the settled tribes and resemble other beduin Arabian Peninsular dialects. For example, they pronounce the phoneme realized as a voiceless uvular, /q/, in LA (and MA) as a voiced velar, /g/. The nearby island of Maṣīrah is is also populated by beduin tribes. The southern desert is the home of the Harāsīs (sg. Harsūsi), an ethnically non-Arab tribe whose native language, Harsūsi, is a Semitic language of the South Arabian group, more closely related to Ethiopic languages than to Arabic and indirectly descended from Himyaritic. The Harāsīs, including the women and children, also speak beduin OA fluently as a second language.[18]

[18] This assessment of the fluency of the Harāsīs in OA, denied in some other accounts, is based on personal observation, corroborated by David Fenner and Elizabeth Mitchell (personal communication), who worked among the Harāsīs.

In the mid-1960's petroleum in commercial quantities was located in this region and its export commenced in 1967. This opened up formerly isolated desert areas to oil company workers, and the employment of local tribesmen changed centuries-old living patterns. The completion in the early 1980's of a modern road through the desert connecting northern and southern Oman and the subsequent development of completely desolate areas have dramatically changed the landscape. The introduction of the petroleum industry into Oman has had as a linguistic consequence the borrowing into OA of technical terms from English and other languages for oil-drilling, construction, and automotive equipment and tools. Some examples are /rigg/ 'drilling rig, oil derrick', plural /rgūg/, /bēb/ 'pipe,' /smīt/ 'cement', /tāyr/ 'tire', and /rēwas/ 'reverse gear'.[19]

The southern mountains and coastal plain of Dhofar (in Arabic, ẓufār) is the only place in the Arabian Peninsula receiving the monsoon rains, which arrive in late June or July and transform the vegetation of the mountains and littoral plain into a lush green. The population consists mainly of South Arabian tribes which speak primarily Mahri and Jibbāli; Baṯhari is spoken by another smaller group. The Jibbāli or mountain people herd cattle and harvest frankincense, whereas the other tribes live on the plain and are camel-herders and fishermen. The

[19] B. H. Smeaton (1973) studied the technical terms introduced into Arabic as a result of petroleum exploration and development by Americans in eastern Saudi Arabia, where oil in commercial quantities was struck in 1938. Many of these terms spread throughout the Gulf countries and are in active use in Oman today.

inhabitants of the sparsely populated Kuria Muria Islands speak a variety of Jibbāli known to mainland speakers as "baby Jibbāli" (T. M. Johnstone 1981).

In all of these regions, the last two decades have brought sweeping changes to Oman. Although the entry of foreigners into Oman is still strictly controlled, modern development has brought the country, which was closed to outsiders for most of this century, into contact with more outside influences than ever before. Many Omani men have worked outside the country, particularly in the Gulf, and a number of students have attended universities in the Gulf, Egypt, London, or the United States. At the same time, however, a greater consciousness of national and Arab identity has been awakened as Oman has emerged on the international scene and begun to acquire for itself the expertise needed to chart its future course. As part of this process, Oman opened its first university, Sultan Qaboos University, in 1986.

As in other aspects of life, these effects can be felt in the language. The borrowing of technical terms from other languages on the one hand has been countered by the replacement of some of those terms by Arabic words; for example /ħafīs/ 'office,' originally borrowed from English, has been recently replaced by the Arabic /maktab/. Greater education has resulted in more exposure to LA and to other influential dialects of Arabic whose impact on OA is exemplified by the replacement of the local word /mʕallim/ 'teacher, learned person,' by the term for 'teacher' associated with the modern Arab classroom, /mdarris/. Arabic is being

taught to adults as well as children as more Omanis seek to become literate and as Omanis recently returned to the country improve skills needed to succeed in Omani society.

Another phenomenon that has recently become more widespread is the use of an Arabic-based pidgin. This pidgin is based on a greatly simplified Arabic syntax with a vocabulary drawn primarily from Arabic, English, and Hindi-English,[20] and is used primarily between Omani Arabs and expatriates.

In contradistinction to the impact of other languages and other varieties of Arabic on OA, the dialects of Muscat and the rest of the Capital Area have grown in national prestige. Arabic-speaking Omanis from regions outside the capital are likely to address other Arab Omanis, particularly urbanized ones, or even Arabic-speaking expatriates, in a form of OA resembling MA.

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[20] For example, one common construction in this pidgin generalizes the OA existential /fī/ (literally 'in') used with nouns on the model of:

OA:	fī-h	nōm	'He is sleeping.'
	in-him	sleep	

as in:

Pidgin:	fī	slīb	'He/she/they is/are sleeping.'
	in	sleep	

where there is no person marking. Unlike its usage OA, /fī/ is also commonly used with verbs in the pidgin:

fī yrīd?	'Do/does [person taken from context] want [any]?'
in want(3 s.)	

Hindi-English expressions such as /sēmsēm/ 'same, like' are also very common in this pidgin.

As this section has attempted to demonstrate, the multiple linguistic influences characterizing OA and MA are not new, but have, in fact, helped to shape these dialects. In the next section, linguistic studies of OA and neighboring dialects are described. The final section of this chapter then serves as an introduction to MA, the dialect described in the remainder of this study.

1.3 Omani Arabic (OA) dialect studies

According to the classification proposed by T. M. Johnstone (1967a), Omani Arabic (OA) dialects form the easternmost of the four major Arabic dialect groups of the Arabian Peninsula. The other three are the northern group, which is spoken over a large area including central Arabia, the Syrian and Jordanian deserts, and the Gulf; Hijāzi, which is found along the western coast of the peninsula bordering the Red Sea; and the southwestern group, which extends from Yemen in the southwestern corner of the peninsula to Dhofar. Other classification schemas group OA with neighboring dialects. B. Ingham (1980), for example, classifies OA with Yemeni Arabic as belonging to a southern peninsular dialect group, whereas T. Prochazka (1981) demonstrates that certain Gulf dialects have features in common with OA as well as with contiguous dialects of the northern peninsular group.

In fact, the closely interrelated OA dialects exhibit morphophonological and other linguistic features which set them apart as a distinct group, whatever higher level classification is adopted. Furthermore, OA speakers differ in that in spite of their common nomadic ancestry with neighboring groups and their contact with

them, particularly with the Gulf, they have been, for a much longer period of time, mainly sedentary and imbued with a greater sense of regional identity. This section describes previous work on OA and adjacent dialect groups, particularly of the Gulf and Dhofar, and details some of the morphophonological features that distinguish OA from these dialects.

There are three main kinds of source material available concerning the Arabic dialects. One is based on work by the early grammarians of Arabic, who focused primarily on codifying the form of Literary Arabic (LA) which had emerged as the vehicle of pre-Islamic oral poetry[21] and of the Qurʔān. In contrast to LA, the spoken dialects were not generally considered deserving of systematic study. Information collected on them was usually lexicographic or anecdotal in nature, intended by the grammarians to explain deviations from standard LA usage or to justify their grammatical accounts of LA. C. Rabin (1951) gathered and evaluated this kind of occasional data, discovering in it a wealth of fragmentary information from which he was able to outline certain aspects of the ancient peninsular dialects and dialect groupings. A second source of data on the spoken dialects are historical documents written in LA but whose deviations from the standard language shed light on colloquial usage. A third source of data are the systematic linguistic accounts and transcriptions of spoken texts compiled

[21] The recitation of oral poetry, often with musical accompaniment, is still a vital part of daily life among Arab Beduin tribes such as the Wahībah in the deserts of Oman (personal observation).

beginning in the latter part of the eighteenth century by western and, increasingly today, Arab scholars.

Material of the second type for OA can be found in the large collection of Omani manuscripts housed in the Ministry of National Heritage and Culture in Oman.[22] The earliest Omani texts published in the West are five letters written in the late 1700's from the Omani Imam Saʿīd bin Aḥmad to the French consul in Baghdad. The letters are presented in Arabic with a translation and notes in French by A. I. Silvestre de Sacy (1827). Another relatively early published text is the official treaty and trade agreement concluded between the the Sultan of Muscat and the United States in 1833. It appeared in Arabic and English in the Journal of the American Oriental Society in 1854 with a short account of the background events by A. I. Cotheal.

German colonial presence in East Africa during the latter part of the nineteenth century led to studies of the Arabic spoken in Zanzibar by Arabs from Oman. In 1892 B. Moritz published a collection of official, business, and private letters from Oman and Zanzibar, accompanied by a lexicon and by orthographic and grammatical commentary. Several shorter articles appeared a few years later, including a narrative description with samples in Arabic script of an historical text

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[22] A general sketch of the collection is provided by G. R. Smith (1978). At the time of his visit in 1976 the collection contained about 2000 mss. By 1978, it comprised over 4000 mss., a quarter of which had been catalogued, and many more are known to survive. Included in the collection are a valuable set of early Ibāḍi legal documents, described by J. C. Wilkinson (1978).

from Zanzibar concerning Omani Arabs published by E. Sachau (1898), and three long colloquial texts phonetically transcribed and translated into German by W. Rössler (1898 and 1900) and H. Brode (1902).

The earliest linguistic sketch of an OA dialect is found in an article by F. Praetorius, "Uber den arabischen Dialekt von Zanzibar" (1880), which compares morphophonological and lexical features of the dialect with those of other Arabic dialects, including Levantine, Egyptian, and North African dialects for which descriptions were available at the time, and other Semitic languages. The sketch includes details of backing and short vowel deletion. Some examples are given in transcription but others are in Arabic orthography only, apparently where no phonetic clarification was deemed necessary. The dialect is identified by the author as identical to that spoken in Muscat, and indeed, the features as a whole resemble those found presently on the coast and in the capital area. However, there are certain notable deviations in the Zanzibari dialect. These include the occurrence of /d/ for /ð/ in the demonstratives and some other words; the use of /-hu/ rather than /-oh/ ~/-h/ for the 3rd singular masculine pronominal clitic; the use of /ħa-/ as the future particle; the absence of 2nd and 3rd person feminine plurals from the conjugations (though the 3rd feminine plural pronominal clitic is given as occurring in writing); and the omission of any mention of passive voice.

The most comprehensive description of an OA dialect is C. Reinhardt's book, Ein arabischer Dialect gesprochen in 'Omān und Zanzibar (1894), for which he gathered data on a visit to Zanzibar in 1888. This work is a compendium of data on

the interior Omani dialect spoken by the Bani Kharūṣ, an Ibāḏ i tribe of Yamani origin from the area in central Oman between Al-Rustāq and Nizwa. In addition to sections on phonology, morphology, and syntax, the book contains a collection of 28 texts, 200 proverbs, and 31 war songs. The data are presented in transcription, and vowel coloring is carefully noted. However, the OA consonantal phoneme /ḏ/ is transcribed etymologically according to its two orthographic representations in LA, /ḍ/ and /ẓ/ (cf. §2.1.1). These phonemes are not distinct in OA today, and the omission of /ẓ/ in the later discussions of consonantal classes would seem to suggest the lack of separate phonemic status. Similarly, there is no current evidence for a few other features mentioned, such as the /-ši/ verbal and nominal negation clitic (pp. 111-112).

The first linguistic description based on the speech of Omanis living in Oman was done in 1889 by A. S. G. Jayakar, a British-trained surgeon from Bombay who was the British surgical resident in Muscat from 1870 to 1900 and something of an Arabist and naturalist as well.[23] His article on Omani Arabic catalogs the variations from LA in contemporary OA usage, both spoken and written. Jayakar does not distinguish or identify individual OA dialects, although he mentions some dialect variants, but the description and accompanying vocabulary list clearly derive from coastal OA dialects. All of the data are cited in Arabic script, with occasional phonetic notes, and Arabic diacritical markings are used to indicate

[23] A species of mountain goat unique to Oman, the /tahar/ (Hermitragus jayakari), is named after him.

vowel pronunciation. Jayakar also published a similar description of the Arabic spoken in the Musandam Peninsula with notes on Kumzārī (1903a) and a collection of 320 Omani proverbs (1903b).

An interesting reference for borrowed words is Hobson-Jobson by H. Yule and A. C. Burnell, first published in 1886, with a second edition published in 1902. This voluminous work is described by its authors as a glossary of colloquial Anglo-Indian words, but in fact its scope is broader, and it includes words and phrases from all over southern Asia and East Africa along with numerous quotations illustrating their usage.

At the end of the nineteenth century, members of the Vienna Academy expedition to Dhofar collected and later published linguistic descriptions of the modern South Arabian languages. One South Arabian speaker who also spoke Arabic traveled to Vienna in 1904, and N. Rhodonakis published in 1908 and 1911 an account of that speaker's Dhofari Arabic dialect, including seventeen stories, 112 poems, and miscellaneous sayings transcribed and translated into German, analyses of the texts, a glossary, and a comparative linguistic sketch. Although this dialect is similar to OA in some respects, it is more closely related to southwestern peninsular dialects.

During the next sixty years virtually nothing was published on OA, although texts, linguistic sketches, and vocabularies continued to appear for the other peninsular dialect groups. In the early 1950's C. G. Campbell published two collections of Arab folktales in English, among which are a number of tales from

Oman (Campbell 1952 and 1954). In the 1950's and 1960's dialect studies and pedagogical works began to appear describing the Arabic dialects spoken in the Gulf countries of Kuwait, Saudi Arabia, Bahrain, Qatar, and the United Arab Emirates. Of the dialects belonging to the Northern peninsular group, these are the closest sub-group to OA geographically, sharing the eastern shoreline of the Arabian Peninsula, and linguistically.

Also in the 1950's, the oil companies, such as the Arabian American Oil Company (Aramco), began to put out handbooks on the local varieties of spoken Arabic. A brief review of western scholarship on modern peninsular Arabic dialects by R. A. C. Goodison appeared in 1958. In 1958 E. de Jong of the American Mission in Kuwait put into print a set of 50 lessons with vocabulary lists and exercises on the spoken Arabic of the Gulf.

The work of T. M. Johnstone represents the first modern linguistic study of the spoken Arabic of the Gulf and includes articles on particular Peninsular Arabic dialect features (1963 and 1965), a book on eastern Arabian dialects of Kuwait, Bahrain, Qatar, Dubai, Abu Dhabi and Buraimi (1967a) as well as other dialect sketches and studies, including a study of syllabification in the Arabic of `Anaiza (1967b). Johnstone later published comparative work on the Modern South Arabian languages spoken in southern Oman, including lexicons of Harsūsi (1977) and Jibbāli (1981)[24] containing numerous citations of OA forms.

[24] T. M. Johnstone had nearly completed a Mehri lexicon at the time of his death in 1983.

Another interesting work is B. H. Smeaton's study (1973), mentioned in §1.2, of the adoption into Arabic of technical terms from English due to the petroleum exploration and production in Al- Hasa, Saudi Arabia, where oil was struck in 1938. Although Smeaton collected his data from 1945 to 1949, many of the items which he cites are still current in OA.

Other studies concerning OA and neighboring dialects are H. Qafisheh's beginning and intermediate (with glossary) teaching grammars (1976 and 1977), and reference grammar (1979) of Gulf Arabic, and D. F. Hawley's instructive collection (1978) of courtesies used in Gulf Arabic, Saudi Arabic and OA.

Several recent linguistic studies of the interesting dialect situation in Bahrain are two studies by C. Holes (1980 and 1983) on sectarian Arabic dialect variation in Baḥrain, including that of the Baḥārnah sect members of which are also found in coastal Oman; a monograph on the Baḥārnah dialect by M. A. Al-Tajir (1982), a Bahraini; and the study by T. Prochazka (1981) meentioned at the beginning of this section comparing the Bahraini Shīʿi (Baḥārnah) dialects with a Bahraini Sunni (nomadic) dialect and the sedentary OA dialect recorded by Reinhardt (1894; described above), showing that they share features with both dialect types. B. Ingham has done several recent studies on the northern Gulf dialects among which are a survey article on Persian and Arabic dialects of the Gulf including borrowings (1980) and a book on north eastern peninsular Arabic dialects (1982), describing the areal features of Arabian and Mesopotamian Arabic language communities in Saudi Arabia, Kuwait, southern Iraq, and Khuzistan in Iran.

In recent years, the study of OA has received renewed attention in the form of an unpublished descriptive introduction to interior OA by D. Galloway (1977, MS.), an Arabist who worked in Oman as an oil company translator and interpreter. This description includes a grammatical sketch, lexicon, and 17 texts with an accompanying tape. A linguistic study of coastal OA in the framework of generative phonology and based on the speech of four Omani students studying at the University of Texas at Austin was done by K. Shaaban (1977).

A study of northern Omani colloquial code languages was done by D. Insall (1980). The codes he describes were originally used among Omanis to ensure confidential communication and are of two types: those which affix one or more syllables to each word of the encoded discourse and those which substitute a word, number, or a different letter for each letter of only the main words of the encoded discourse. The latter type may be written as well as spoken. Some of the phonological properties of the first type of code, which is still in common use in the interior, will be discussed later in this study.

An interesting lexical study of the spoken Arabic of Al-Khābūrah on the Bāṭinah coast by A. A. Brockett was published in 1985.[25] Based on tape recordings of 30 local residents talking about agricultural matters in connection with an agricultural development project, the study consists of a short sketch of some salient phonological and morphological features and an extensive Arabic-English glossary of agricultural and other terms, along with an English-Arabic index.

[25] See also the review of Brockett's book by Alan S. Kaye (1988).

Brockett does not focus his study on an attempt to describe the Khābūran dialect but rather surveys the speech patterns of the speakers recorded, whom he classifies into groups according to place of family origin and upbringing.

Pedagogical resources for the study of OA include lessons in OA for medical workers by A. de Young (1977a and 1977b), Peace Corps manuals (Peace Corps 1973; R. Kallmer 1977a, 1977b, and 1977c; and B. Glover 1981), and other manuals put out by government departments and companies in Oman faced with the necessity of training non-Arab speakers to speak colloquial Arabic. Finally, a general bibliographical resource on Oman, which includes a section on language and literature, is the Bibliographie uber das Sultanat Oman (J. Duster and F. Scholz eds. 1980, with periodic updates).

Based on the works mentioned above and data collected for this study, some of the more prominent morphophonological features that are widespread in OA but not in neighboring dialect groups are:

1. The leveling of vowel quality in verbal stems, as in absence of high vowels in Form I perfect active verbs, e.g., /šarab/ 'he drank', /farah/ 'he rejoiced', /kabar/ 'he grew' (cf. LA /šariba/, /fariha/, and /kabura /) and in imperfect active derived verbs (cf. §3.3.1), e.g., /ybaṭṭal/ 'he stopped, made stop', /ygāwab/ 'he answers', and not /ybaṭṭil/ or /ygāwib/ as in LA and other dialects.

2. The preference of CVC-CV syllabic sequences over CCV-CV structures, as in /yaktub/ 'he writes', but /ykitbu/ (not */yaktubu/) 'they write' (cf. LA /yaktubu/, /yaktubūnā/), and /mdarsah/ 'school' (cf. LA /madrasa/).

3. The presence of /y/ preceding vocalic inflectional affixes in perfect and imperfect final weak verbs, e.g., /nasyu/ 'they forgot', /tlaqyi/ 'you (f.s.) find'.

4. The ending /-āy/ on passive participles of final weak verbs, e.g. /mabɣāy/ 'wanted', /msawwāy/ 'done', /mištrāy/ 'bought'.

5. The insertion of the morpheme /-in-/ preceding pronominal clitics attached to participles, e.g., /kātb-in-ha/ 'he has written it (f.s.)'.

6. The lengthening of affix consonants preceding vowel-initial clitics, e.g. /sāʕditt-iš/ 'she helped you (f.s.)'. /katbann-oh/ 'they (f.p.) wrote it (m.)'.

7. The use of feminine plural 2nd and 3rd person pronouns and verbs, e.g., /ʔintan/ 'you (f.p.)', /hinnah/ 'they (f.)', /ʔahal-hin/ 'their (f.) family', /tarsan/ 'they (f.) filled'.

8. The existence of the internal passive, e.g., /turis/ 'it was filled', /yušall/ 'it was taken'.

Details of these and otheer MA morphonological features are discussed in Chapters 3, 4, and 5 and summarized in Chapter 6.

1.4 Muscat Arabic (MA)

Muscat Arabic (MA) is the Arabic dialect spoken by Omanis who are native to Muscat and do not belong to any of the minority ethnic and religious groups found within Oman (cf. §1.2).

The district of Muscat, illustrated in Figure 1-2, is a square quarter-mile section of the Capital Area containing about one-tenth of the capital's estimated

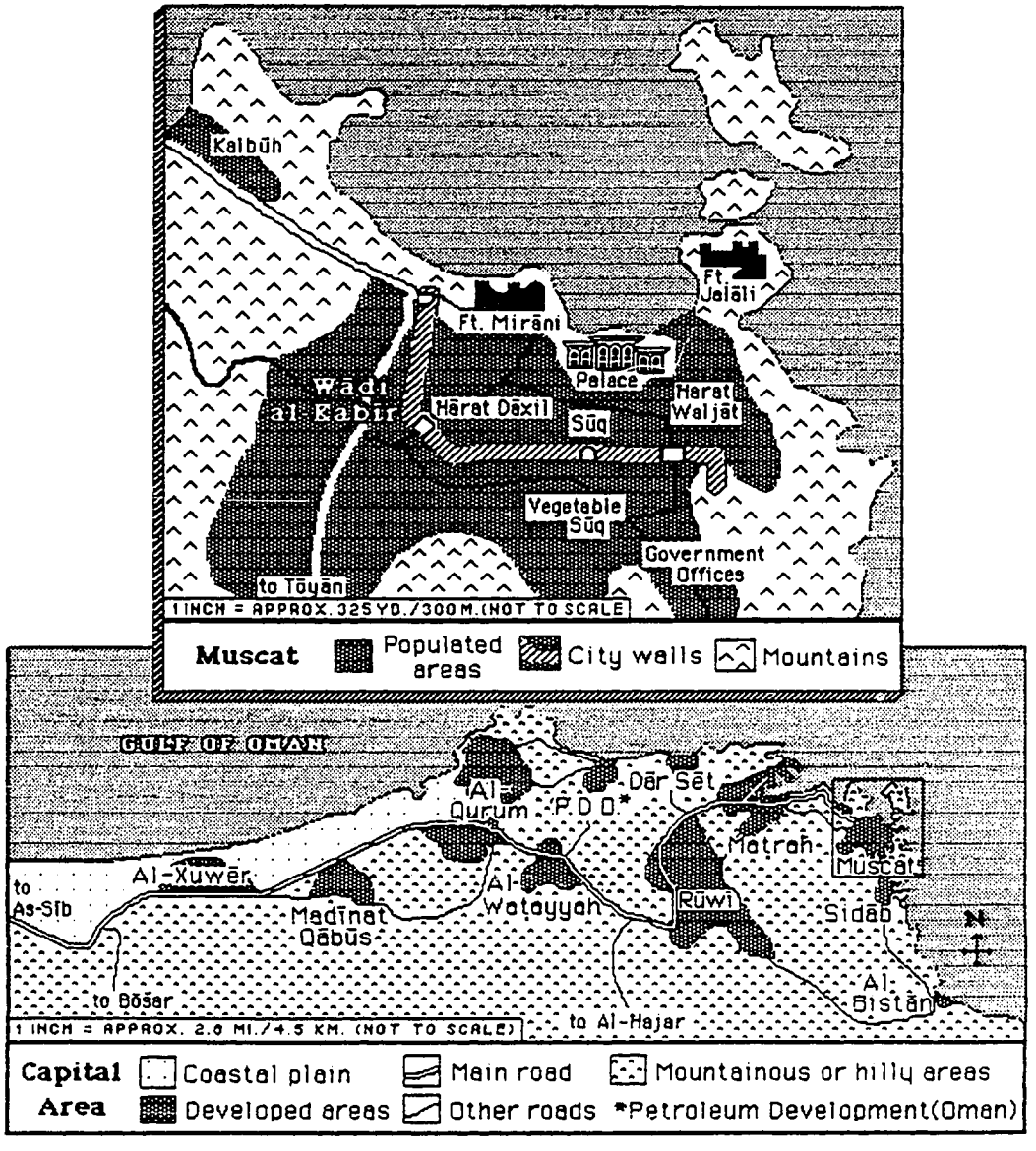

Figure 1-2. Muscat and the Capital Area

population of 80,000. As can be seen from the map, Muscat is only one of a number of scattered smaller areas that make up the capital. Most of these areas are former small villages that have become rapidly urbanized since 1970. Previous to that time, the main urban centers were the two adjacent towns of Muscat and Muttrah. Muscat, geographically set apart from the rest of the country, was the nucleus of political and administrative activity. Muttrah, on the other hand, was the commercial hub of the country, more closely tied to the trade of the Bāṭinah coast than to the politics of Muscat. This is still true to a great extent today, although newly-constructed roads currently connect Muscat with Muttrah and the rest of the capital as well as the interior.

The city itself bears the marks of its history, including the old city wall and two sixteenth-century Portuguese forts (cf. Figure 1-2), and a number of fine old houses. Historically, its water supply has been derived from the Wādi al-Kabīr and nearby wells. The first mention of Muscat was apparently that of the tenth century Arab geographer Ibn al-Faqīh al-Hamaðāni, who described it as a port city in Oman (G.R. Smith 1983). The name Muscat, /masqaṭ/ in LA, is also pronounced and written locally as /maskad/, /maskat/, and /maskah/. /maskah/, with the

feminine ending /-ah/, is also recorded by Jayakar (1889). The etymology of the name is uncertain.[26]

From early Islamic times to the Portuguese presence in the Gulf area in the sixteenth century, Muscat was one of a several ports along the Omani coast, which was dominated at various times by Hormuz (located at different sites on the Strait of Hormuz), Ṣuḥār (at the western end of the coastal plain and the supposed home of Sindabād), and Qalhāt, (about 15 miles northwest of Ṣūr). The Portuguese controlled Oman from a foothold in Muscat during the early sixteenth to the mid-seventeenth centuries, when they were expelled by the Omanis. They left two forts, completed in 1587 and 1588, on either side of Muscat's harbor. For the next two hundred years, Oman dominated the Gulf area and Muscat became the entrepôt for Gulf maritime traffic. Accounts by nineteenth century European travelers to Muscat estimate the population as ranging between 12,000 and 30,000, and as high as 60,000.[27] This changed dramatically with the the disruption and

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[26] Among local etymologies /masqaṭ/, literally 'place of falling' is usually interpreted as referring to the anchorage provided by the harbor (S. B. Miles 1919:468 and I. Skeet 1974:32). An alternative folk etymology, no doubt suggested by the inferno-like heat of summer which is intensified by the bare rock, suggests Muscat as the place where Lucifer fell to earth upon banishment by God from heaven. The putative meaning of the alternative form /maskat/, 'place of quiet,' is said to refer to the still waters of the sheltered harbor. G. R. Smith (1983) in a lexicographic study of the name mentions the interpretation of the nineteenth century lexicographer Al-Zabīdi of /masqaṭ/ as an arabization of /m-š-k-t/, for no origin is given. Wilkinson (1977:33, note 4) also considers it an arabization.

[27] R. Bidwell (1978).

decline of economic activity in the Gulf in the latter part of the nineteenth century.[28] From that time up until the modern development of the last two decades, Muscat like the rest of Oman, was closed off from much of the outside world and remained virtually unchanged.

The speakers of MA with whom I worked for a total of twenty months during the period 1977 to 1981 include four women and members of their families who were born and raised in Muscat. This was supplemented by conversations with students from Muscat attending the Sultan's School in Al-Sīb where I was a teacher. A number of these speakers of MA have since moved into other areas of the capital. Although my main speakers were women, this study does not emphasize sex-linked linguistic features. Women were chosen because by and large their speech is more conservative than that of men and less influenced by other Arabic dialects or other languages. Omani society, like that of the rest of the Middle East is sexually segregated. However, this is mitigated somewhat on the coast by the presence of other ethnic groups with less strict segregation. The women of Muscat and most non-beduin Omani women, do not cover their faces,[29] and women are encouraged to work in the public sector, as police and in mid-level government ministry posts as well as in the more traditional occupations of teaching and nursing. As a western woman, I personally had no problems working

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[28] The effects of these changes on Oman and Muscat are described in a study by R. G. Landen (1967).

[29] The only Omani women who cover their faces are beduin women on the Bāṭinah and in the desert plains, who wear the /burqaʕ/ or face mask.

with both women and men (in contrast, a western man would probably experience difficulties in finding appropriate circumstances in which to work with female speakers). In addition to working with speakers of MA, I was able at various times to work with speakers of other OA dialects from settled and beduin communities in the coastal, interior, and desert areas of northern Oman.

The MA material elicited includes words, phrases, sentences, continuous speech in the form of monologs and dialogs.[30] Most of the speakers are monolingual, although a few speakers know some English, and sessions were conducted primarily in Arabic. Efforts were made to compensate for the tendency of speakers with some education to use LA or adapt themselves in other ways to my Arabic speech or what they thought I might understand or like to hear. Informal speech was also observed, especially at the traditional Omani social gatherings where coffee and dates are served as well as on other occasions.

[30] A selection of short texts is included at the end of this study as Appendix B.

Chapter 2

Segments, Syllables, and Stress

This chapter on the general features of MA segments, syllables, and stress examines particularly the interactions between consonants and vowels and between syllable structure and stress. It includes the general phonological rules which apply postlexically, that is, after the derivation of the word in the lexicon described in the following three chapters.

2.1 Segments

The MA segmental inventory, like that of other varieties of Arabic, is characterized by a large number of consonants with little allophonic variation and a contrastingly small number of vowels exhibiting a much greater degree of allophonic variation, conditioned mainly by adjacent consonants. In some environments phonemic contrasts are neutralized, and a precise phonological account of the distribution of vocalic allophones is crucial for the analysis of morpholexical short vowel quality oppositions in MA. Furthermore, a picture of MA consonantal affinities and oppositions emerges that more clearly defines the dialect and incidentally may help to explain a gap in the consonantal system.

2.1.1 Consonants

The MA consonantal inventory, shown in Figure 2-1 and including the glides /y/ and /w/, contains 29 segments, all of which can appear in all consonantal positions (cf. §2.2.1) with the exceptions of the glottal stop, /ʔ/, described below, and the glides, which are weakened or deleted altogether in certain positions. All consonants and glides may be geminated.

There are three emphatic consonants, /ṣ/, /ṭ/ and /ḍ̣/. Emphasis,[1] indicated in the transcription by a dot under the phonemic symbol, is a particular kind of low-pitched resonance produced by the flattening and retraction of the root of the tongue toward the back wall of the pharynx, resulting in elongation of the oral cavity and constriction of the pharyngeal cavity (Salem Ghazeli 1977:76). Some accounts also associate lip rounding and protrusion with emphasis (e.g. T. F. Mitchell 1975:31), and in MA the lips are clearly rounded in the articulation of the emphatics. The corresponding "plain" consonants /s/, /t/, and /ḍ/, by contrast are articulated with the tongue elongated and raised forward and the lips spread. The

[1] "Emphasis" is a standard Arabist term used for these segments. Alternative articulatory terms for emphasis--"velarization" and "pharyngealization"--are not used here to avoid suggesting a phonemic affinity to velar or pharyngeal consonants.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Stops									
Voiceless				t ṭ	k		q		ʔ
Voiced	b			d	g				
Fricatives									
Voiceless		f	θ	s ṣ	š		x	ħ	
Voiced			ð ð̣	z			ɣ	ʕ	h
Affricates									
Voiceless					č				
Voiced					ǰ				
Liquids									
Apical				r					
Lateral				l					
Nasals	m			n					
Glides					y	w			

(1) Labial; (2) Labiodental; (3) Interdental; (4) Denti-alveolar; (5) Palatal; (6) Labial-velar; (7) Uvular; (8) Pharyngeal; (9) Glottal.

Table 2-1. Muscat Arabic Consonants

High	i	ī	u	ū
Mid	ē		ō	
Low	a	ā		

Table 2-2. Muscat Arabic Vowels

emphatic voiced interdental fricative /ð̣/ corresponds to the two LA phonemes /ḍ/ and /ẓ/, a merger also found in other peninsular and OA dialects.[2]

/r/ shares some properties of the emphatic consonants, notably a backing effect on adjacent vowels (cf. §2.1.3), and in the vicinity of an emphatic consonant it has an emphatic allophone, as in /maraṭ/ > [mạr̤ạṭ] 'to pull out'. An emphatic allophone of /l/, [l̤], occurs, phonologically unconditioned, in the single word [ʔạl̤l̤ạ̄h] 'God'.

The palatal stops /k/ and /g/ are phonetically [kʸ] and [gʸ]. In MA the voiced palatal affricate /ǰ/ is a free variant of /g/ in most words; however, /g/ appears to carry more local prestige and /ǰ/ to be used more often with outsiders or for borrowings from LA.[3] The voiceless palatal affricate /č/ is found only in loanwords, e.g., /lanč/ 'launch, motorboat', /dančal/ 'ceiling beams' (reportedly from the name of the African tree from which they were made).

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[2]In some areas this merger may have been relatively recent. A lateralized pronunciation of /ð̣/, corresponding to the LA phoneme /ḍ/, still lies within reproducible memory for speakers I worked with the mountainous far north of Rāziḥ in the Yemen Arab Republic (North Yemen) in 1979. Joseph Greenman (1979) reports an occasional similarly lateralized articulation of the interdental fricative in the northern coastal Yemeni dialect of Al-Ḥudēdah.

[3] In some dialects of the northern interior of Oman, /k/ and /g/ are realized as the palatal affricates [č] and [ǰ], and the reflex of /q/ is [k]. In beduin OA dialects, the voiced palatal obstruent /g/ is realized as [y], a phenomenon which T. M. Johnstone (1965) and C. Holes (1980) discuss in detail for the peninsular dialects. The reported realization of /g/ as [ž] in Shaaban (1977) is apparently the result of dialect interference, as [ž] is not a native OA reflex of this phoneme.

The contrast between the uvular obstruents /q/ and /ɣ/ is at least partially neutralized in some positions. Word-finally, the voiced uvular fricative /ɣ/ is despirantized and partially devoiced (e.g. /ṣāyuɣ/ -> [ṣāyuq] 'jeweler'). /q/ is often aspirated and adjacent to another consonant may be spirantized and voiced (e.g. /tiqdar/ -> [tiɣdar] 'she can'; /ʔalqi/ -> [ʔalɣi] 'I give a speech').[4] OA /q/ is described by Jayakar (1889:653) as an "indistinct" /ɣ/ and by Reinhardt (1894:6) as a "g" pronounced deep in the throat, although he retains the /q/ in his transcription. Reinhardt might possibly mean the voiced uvular stop, evidence for which as an allophone of /q/ dates at least from the late eighth century (Blanc 1969:20). K. Vollers (1895:494), in a review of Reinhardt's description, reports (via personal communication) that Reinhardt also observed [q] and [ɣ] allophones of /q/ not mentioned in his description. The situation in Persian and related Iranian dialects, which historically were and currently are in contact with OA (cf. §1.2), is somewhat similar: [q] and [ɣ] are allophones of a single phoneme. This phoneme is represented orthographically in Persian normally by the letter which in Arabic (from which the Persian letters derive) stands for /q/, but the letter corresponding to Arabic /ɣ/ is also used for this phoneme, although only in borrowings from Arabic.

[4] Verbs in Arabic have two aspects, perfect and imperfect. The imperfect, such as in these examples, is translated in this study by the simple present, and verbs in the perfect by the simple past.

With few exceptions, the glottal stop, /ʔ/, does not form an underlying cluster with other consonants,[5] although it may be geminated, as in /saʔʔal/ 'make ask'. Initial /ʔ/ is relatively uncommon. In certain words /h/ is preferred where dialects other than OA have /ʔ/, e.g. /hēn/ 'where' rather than /ʔēn/, and /he/ 'yes' rather than /ʔe/. Vowel-initial English borrowings which might be expected to have initial /ʔ/, often have initial /h/, as /ʔāyl/ ~ /hāyl/ ~ /hōyl/ 'oil' and /hōke/ 'o.k.'. The anaptyctic /ʔa-/, which is prefixed to initial clusters in LA perfect derived verbal forms, verbal nouns, and imperatives, is rare in MA and other OA dialects.[6]

2.1.2 Vowels

The inventory of MA vowel phonemes, charted in Figure 2-2, contains five long vowels and three short vowels which contrast in length with three of the long vowels.

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[5] In etymological clusters with /ʔ/, the /ʔ/ is realized in MA as vocalic length (e.g. /rās/ 'head', /stāhal/ 'to deserve', /yākil/ 'he eats' cf. LA /raʔs/, /staʔhal/, /yaʔkul/). /ʔ/ following a long vowel is realized as /y/ (e.g. /māy/ 'water', LA /māʔ/). /ʔ/ as a final radical is realized in verbs as /y/ (but cf. §4.1.1 for discussion of irregularities of the final radical in the MA reflex of the root j-y-ʔ). §6.1 lists some other permutations of the glottal stop.

[6] In contrast, nonanaptyctic initial /ʔa-/ is found in MA as the the first person singular imperfect prefix, and in some other OA dialects as the future prefix (the MA future prefix is /ba-/). Other examples of unstable initial /ʔa-/ are discussed in §§3.1.2 and 3.3.1.

The high long vowels /ī/ and /ū/ in addition to their underlying status as long vowels are productively derived from high short vowel plus glide sequences. The two long mid vowels, /ē/ and /ō/, are primarily derived by monophthongization of the low vowel plus glide sequences /ay/ and /aw/ respectively. The rules of coalescence are given in §2.2.3. Diphthongs are rare, and mainly involve long vowels, e.g. /māy/ 'water', /grēw/ 'small dogs', and loans /bōy/ 'servant; houseboy' and /ʔāyl/ ~/hāyl/ ~/hōyl/ 'oil'.

Among the three short vowels, /a/, /i/, and /u/, the primary contrast is one of height. In certain consonantal environments the backness contrast between the two high vowels /i/ and /u/ is neutralized, and the resulting vowel quality is consonantally-conditioned; similarly the low vowel has front and back allophones which are to a great extent conditioned by neighboring consonants. The compatibilities of consonant and vowel qualities are discussed in the following sections.

2.1.3 Phonotactics

The two main types of general assimilatory effects are those of consonants on contiguous consonants and of consonants on neighboring vowels. A third type, the effects of vowels on vowels in adjacent syllables, which is both assimilatory and dissimilatory, is a property of certain morphemes only and is discussed in Chapters 3 and 4.

In MA, as in other Arabic dialects, phonotactic constraints among consonants are enacted primarily at the morpholexical level, where the triconsonantal and quadriconsonantal roots are restricted with few exceptions to sets of nonhomorganic consonants, even in non-adjacent radical positions (e.g., the first and third radicals of a triradical).[7] At the same time, consonants acting as non-radicals, that is occurring in derivational and inflectional affixes and in clitics—/b, h, k, l, m, n, t, y, ʔ/—exclude the back (except for low back) consonants /q, x, ɣ, ħ, ʕ/ and emphatic consonants /ð̣, ṭ, ṣ/, which have a more powerful potential effect on adjacent consonants and vowels. Aside from these "built-in" restrictions, in normal careful speech there are virtually no phonological constraints as to which consonants can cluster, with a few exceptions.[8]

Two major kinds of consonantal assimilation are exemplified below:

a) Anticipatory point of articulation of /n/ to a following stop

/ganb/	→	[gʸæmb]	'side'
/rang/	→	[rɑŋgʸ]	'paint'

[7] A description of these restrictions is found in §3.1.2. The exceptions, all of which involve identical consonants, are triradicals with identical second and third radicals; triradical nominals with identical first and third radicals; and quadriradicals whose first and second radicals are identical to the third and fourth radicals.

[8]Exceptions in MA are the restrictions of the occurrence of glottal stop, noted above, and on obstruent-sonorant clusters in word-final position, described in §§2.2.2 and 3.4.1.

b) Anticipatory voicing of denti-alveolar and palatal obstruents

/mašdūd/	→	[mæždūd]	'blocked'
/tdaxxax/	→	[ddaxxax]	'to smoke'[9]

In (b), the anticipatory voicing precedes a homorganic voiced stop. Its inverse, anticipatory devoicing, does not occur in normal careful speech, e.g. [raqadt] 'I slept'. Voicing assimilation is more widespread in fast speech, as reported in Shaaban for coastal OA (1977), extending to anticipatory devoicing and affecting interdental, uvular, pharyngeal, and glottal obstruents. Total consonantal assimilation occurs in a few morphologically-conditioned cases, namely the definite article (cf. §4.2) and the indirect object marker (cf. §5.1.2).

Another assimilatory feature is emphasis, which spreads from the emphatic consonants /ṣ/, /ṭ/, and /ḍ/ over adjacent consonants and vowels. Some linguistic accounts of languages with emphasis, including Arabic and modern Aramaic, consider the phonemic domain of emphasis to be the syllable rather than the segment. Ghazeli (1977:115), in his study of emphasis in Arabic dialects, does not find phonetic support for emphasis blockage at syllable boundaries, but he does find it to be blocked at word boundaries. Without, and even sometimes with instrumental phonetic data, it is extremely difficult to be precise about where emphasis begins and ends. However, some observations are possible. In MA

[9] In Arabic the usual citation forms are the 3rd person masculine singular forms of the perfect and imperfect tenses, e.g. /tdaxxax, yitdaxxax/ 'to smoke'. Unless the inflection of the form is of particular interest, these forms will be glossed in this study by the English infinitive.

emphasis spread depends upon adjacency of a segment to an emphatic consonant, e.g. /šaṭab/ -> [šạṭạb] 'to cross out', and it does not cross word boundaries. Unlike some other Arabic dialects, in MA intervocalic labial consonants and sonorant consonants, even when partially emphasized themselves, with the exception of the emphatic allophone of /r/ , do not transmit emphasis to a neighboring syllable not contiguous to the emphatic consonant:

/ṣabāh/	->	[ṣạbāh]	'morning'
/lafaḏ/	->	[læfạḏ]	'to pronounce'
/ṭalab/	->	[ṭạlæb]	'to ask for'
/maraḏ/	->	[mạrạḏ]	'to be/become sick'

Emphasis is also conditioned by other factors to a limited degree. For example, at the root level, the emphatic /ṣ/ occurs to the exclusion of /s/ in the presence of a uvular co-radical (cf. §3.1).

The second type of assimilation concerns the effect of consonants on adjacent vowels. As shown phonetically in the examples of emphasis above, vowels adjacent to emphatic consonants are subject not only to emphasis but also backing; the emphatic allophone of /a/ is a back [ạ]. Backing coarticulation of vowels, which occurs in the environment of emphatics among other consonants, is a widespread and systematic assimilatory process in Arabic dialects as is the corresponding fronting of /a/ in the absence of back consonants, the imāla described by the early grammarians.

Figure 2-3 schematizes the short and reduced vowel allophones, and Figure 2-4 the long vowel allophones in MA. As is evident in these diagrams, there is some overlap among the allophones. Among the short vowels, the high front vowel counts as allophones the high back vowel and its allophones, and both of the high vowels include the central allophone of the low vowel. The front and back high long vowels incorporate the respective front and back long mid vowels as allophones. The conditions for these processes of backing and lowering are discussed below. The reduced centralized vowels included in the diagram are the result of vowel reduction, discussed in §2.2.2.

Consonantal features affect high and low vowels somewhat differently but with interesting similarities. One factor contributing to the difference is that among both short and long vowels there are two high vowel phonemes and only one low vowel phoneme. Nevertheless the set of high short vowel allophones, [i], [ɨ], [u], and [o], is a kind of reverse mirror image of the set of low short vowel allophones, [e], [æ], [a], and [ɑ], as the diagram in Figure 2-3 shows.

The consonantal environment for the backing of high and low vowels differs in that it is simple adjacency for the low short vowel whereas for the high short vowels the backing consonant must be tautosyllabic and follow the vowel. For the long vowel allophones, shown in Figure 2-4, the conditioning consonant must be tautosyllabic, but it may either precede or follow the vowel. Finally, the memberships of the sets of consonants that condition backing (and fronting) are similar with a few notable exceptions to be discussed below.

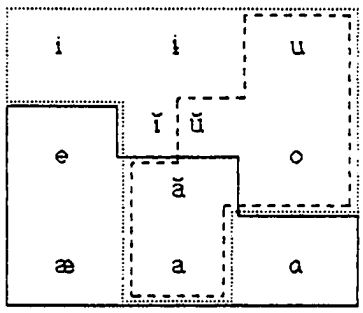

Table 2-3. Short and Reduced Vowel Allophones

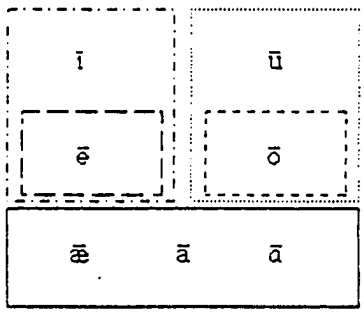

Table 2-4. Long Vowel Allophones

Figure 2-5 summarizes the allophonic effects of the various consonants on short vowels . The more heavily outlined boxees show where backing takes place in the environments specified at the bottom of the chart. As the figure shows, /r/, the labial-velar, emphatics, uvulars, and pharyngeals trigger backing whereas the interdentals, denti-alveolars, palatals, and glottals do not. The labials are split, causing backness in high but not low vowels. It should be stated here that the allophones given in the chart represent major points along a continuum rather than absolute values. Although the presence or absence in the specific environment of a consonant which causes backing, C_b, is the primary determiner of the allophone, vowels are affected to a lesser degree by the other consonants in the environment and may vary somewhat according to the particular speaker or even from one occasion to another for the same speaker.

In MA the low vowel /a/ has allophones ranging from low back [ɑ] to front mid [e], as illustrated below:

[fælægʸ]	'irrigation channel'
[baħaš]	'to dig'
[ɣɑršeh]	'bottle'
[ðˤɑħak]	'to laugh'
[rˤɑtˤɑb]	'unripe dates'
[zikmæ̃n]	'having a cold'
[ʕāmil]	'worker'
[tˤɑ̃ħ]	'to fall, fall over'

Backing Effects		/a/	/i/	/u/
Labial Labiodental	/b, m/ /f/	æ	(ɨ)	u
Interdental Denti-alveolar Palatal	/θ, ð/ /t, d, s, z, l, n/ /k, g, j, š, y/		i	(u)
Labial-velar /r/ Emphatic Uvular	/w/ /r/ /ð̣, ṭ, ṣ/ /q, x, ɣ/	ɑ	(o) u	
Pharyngeal	/ħ, ʕ/	a	(a)	
Glottal	/ʔ, h/	æ	i	(u)
_h**		e		o
Backing Environments:		/C_b	/_C_b(C)$	

Table 2-5. Short Vowel Allophone Distribution

The short low vowel has front and back allophones that are somewhat raised, with [æ] approaching [e], and [ɑ] approaching [ʌ] or [ɔ] ; [a] is low and slightly back from the center. The non-front allophones, [ɑ] and [a], result when the low short vowel is adjacent to a consonant which causes backing. As indicated in Figure 2-5, The strongest backing effect is produced by /r/, the emphatics, and the uvular consonants, which result in [ɑ]. /w/ has a slightly uneven backing effect, stronger when it follows than when it precedes the vowel. Contact of the low short vowel with the pharyngeals results in the low central allophone [a]. In the absence of any consonant which causes backing (C_b), the resulting allophone is front [æ], or preceding word-final /-h/, is raised to [e].[10] The adjacent consonant with the stronger backing effect takes precedence over one with a weaker (i.e., centralizing) effect. For example, a short low vowel between a backing and nonbacking consonant is backed, as in [xɑmm] 'to sweep'; the quality of a low vowel occurring between a pharyngeal and a uvular takes backness compatible with the uvular, as in [ħaqq] 'truth; property of'; and so on.

As with emphasis, backing is not generally transmitted to a syllable which is not contiguous to the backing consonant, as in:

[qɑfæl]	'to lock'
[mænaʕ]	'to prevent'
[rɑsæm]	'to draw'

[10] /a/ also becomes /e/ preceding a tautosyllabic /y/: cf. the discussion of high vowel coalescence in §2.2.3.

except for the glottals which may transmit backing progressively:

[ṣahal] 'to neigh; ululate'

[raʔa] 'to see'

but not regressively, e.g. [šæhaq] 'to bray'. This does not appear to be based on stress assignment because the vowel quality remains the same when the stress falls on either syllable: [ṣáhal] 'he ululated', [ṣahálɪt] 'I ululated' and [šǽhaq] 'he brayed', [šæhá̋qt] 'I brayed'.

The low back allophone may also occur unconditioned by back consonants in borrowings from other languages, such as [glās] 'cup, glass', from English , and [šæhag] 'to bray' from beduin OA, a variant of /šæhaq/ cited above, where the phoneme corresponding to /q/ is realized as /g/ but still conditions backing. Another example is [ʔaḷḷāh] 'God', borrowed from LA. Although these examples support the analysis of /a/ as a separate phoneme, the contrast with /a/ is marginal at best and confined to a few specific borrowed lexical items.

The distribution of the allophones of the long vowel /ā/ is the same as for the short vowels, with the exceptions that the backing consonant must be tautosyllabic rather than just adjacent (e.g. [taras] 'to fill' but [tāris] 'filling (act.part.)') and that /w/ conditions [ā] instead of the back allophone [ā]. Phonetically, [ā] is a very backed and sometimes slightly rounded allophone, approaching a long [ɒ] or [ɔ] in quality, whereas long [æ] is lower and less fronted than short [æ].

A primary factor inducing vocalic backing is obviously the backness of the conditioning consonant. The majority of front consonants from the labials to the palatals do not cause backing except for the emphatics, which can be seen as "back" in comparison to their plain counterparts, and /r/. On the other hand, the labial-velar, uvulars, and pharyngeals, all back consonants, do cause backing. However, not only the backness of the adjacent consonant but also its height determine whether it will trigger backness in the low vowel. The pharyngeal and glottal consonants occur with the progressively fronter allophones [a] and [æ], possibly because the tongue is less crucial to the consonantal articulation for these consonants and thus relatively free to assume a neutral or front position during the pronunciation of the vowel.

It appears, however, that backing, though the decisive factor, is only part of the story. The phonetic polarization of the allophones would seem to indicate that, given the absence of back consonants, the underlying low vowel phoneme /a/ is fronted in the presence of front consonants. Ghazeli (1977:76-7) finds plausible, though unverified, the parallel suggestion that the contrast between plain and emphatic consonants in Arabic is due not only to tongue retraction in the emphatics, but also to the advancement of the tongue in the articulation of the plain consonants. In other words, one possible view is that allophonic backing is in dynamic opposition to a process of fronting. This fronting process can be seen more clearly among the high vowels where it has to cross the phonemic lines between /u/ and /i/.

The backing of high vowels is more complicated than that of low vowels by virtue of the fact that there are two high short vowel phonemes, /i/ and /u/, and backing potentially neutralizes the contrast between them. The two vowels contrast in open syllables. However in syllables closed by a consonant that motivates backing, /i/ is realized as [u]. The set of consonants which cause high short vowel backing is similar to the set that causes low vowel backing, with some interesting differences. The primary backing consonants in this case are /w/, /r/, the emphatics, the uvulars, and the pharyngeals. The pharyngeals can also lower the vowel to [a], neutralizing the height contrast as well as the backness contrast among short vowels in the process (see further discussion of lowering with examples below), and /r/ and /w/[11] can lower a preceding high vowel to [o]. A second set of backing consonants are the labial and labiodental consonants, /b/, /m/, and /f/, preceding which /u/ is more common, but which for some speakers conditions the /i/ allophone [ɨ] (shown in parentheses in Figure 2-5). The non-backing consonants are the non-emphatic interdentals and denti-alveolars except /r/, and the palatals and glottals. The occurrence of /u/ in non-backing consonantal environments is relatively rare, and it is shown in parenthesis in Figure 2-5. Examples are [kunt] 'I was'; [quddām] 'in front of, across from' ([qiddām] is also heard); and [gundi] 'soldier'; words having /u/ in other varieties of Arabic, e.g. /funduq/ 'hotel', are frequently found with /i/ in this environment in

[11] Cf. the discussion of high vowel plus glide coalescence in §2.2.3.

MA, e.g. /finduq/. /u/ preceding word-final /h/ is realized as [o]. Some examples of allophonically conditioned high vowels are:

[tæktub] ~ [tæktɨb]	'she writes'
[tkitboh]	'she writes it (m.s.)'
[ymiss]	'he touches'
[ymuṣṣ]	'he sucks, suckles'
[suhh]	'dried dates'
[fæg^{y}or]	'dawn'

The backing of /i/ is expressed in the following high short vowel backing rule:

High Short Vowel Backing (Postlexical)

$$\underset{[+\text{high}]}{V} \rightarrow \underset{[+\text{back}]}{V} \quad / \quad \_\_ \quad C \quad (C) \;]_{syl}$$

$$\left\{ \begin{array}{c} \begin{bmatrix} +\text{back} \\ -\text{low} \end{bmatrix} \\ [+\text{labial}] \\ [+\text{emphatic}] \\ /r/ \end{array} \right\}$$

All of the conditioning consonants in this rule except /r/ are produced with a high back tongue position (the uvulars) or with the lips rounded (the labials) or both (the emphatics and /w/). As we saw earlier, /r/ groups with the emphatics in backing.

The motivation for the backing effect of labial (and labiodental) consonants is less obvious than for that of the back consonants. Labial consonants after all are

front consonants whose articulation does not involve the tongue but would seem to leave it free to produce a front articulation as it does with low short vowels. However, there is a link between backing and lip tension, which can be seen in the fact that for high back vowels rounding is less marked than unrounding. In Arabic and in MA specifically lip tension, which may help elongate the oral cavity, accompanies the articulation of the emphatic consonants. Also, labial consonants, nonlow back consonants, and high back vowels bear acoustic similarities to one another not shared with coronals and front vowels. The Jakobson, Fant, and Halle (1952) feature [+grave], attributed to the larger mouth cavity formed during the production of /u/, /o/, labials and velars, is an attempt to capture this relationship.

As mentioned above, short vowels adjacent to pharyngeals in open or closed syllables are lowered to [a]. This is true following as well as preceding a pharyngeal consonant:

[ʕamæ̃n]	'Oman' (cf. LA /ʕumæ̃n/)
[ʕanæb]	'grapes' (cf. LA /ʕinæb/)
[magāmaʕ]	'brooms' (MA pattern maCāCiC, cf. §3.5)
[ħarmeh] ~ [ħormeh]	'woman'
[wāħad] ~ [wāħid]	'one'

This phenomenon is expressed in the high short vowel lowering rule:

High Short Vowel Lowering (Postlexical)

$$\begin{array}{ccccc} V & \rightarrow & V & / & C \\ & & [+\text{low}] & & [+\text{pharyngeal}] \end{array}$$

In addition, variants with lowered short vowels are found for some other words where there is no conditioning pharyngeal:

[ʔuxt] ~ [ʔɑxt]	'sister'
[sumɑr] ~ [samɑr]	'acacia'
[nizwa] ~ [næzwa]	'Nizwa (city in interior Oman)'

Also, as will be seen in Chapter 3, leveling in the verbal system has also favored low short vowels.

The same core set of consonants which causes backing in other vowels, i.e. /r/, the emphatics, and uvulars, lowers the long high vowels /ī/ and /ū/ toward /ē/ and /ō/ respectively when in the same syllable, as in:

[mṣērɑh]	'Maṣīrah Island'
[txēṭ] ~ /txīṭ/	'she sews'
[ṣōq]	'sūq, market'
[yrōm] ~ /yrūm/	'he is able'

This effect is expressed by the following rule of high long vowel centralization:

High Long Vowel Centralization (Postlexical)

$$\bar{V} \rightarrow [-\text{high}] \;/\; C \begin{Bmatrix} \begin{bmatrix} +\text{back} \\ -\text{low} \end{bmatrix} \\ [+\text{emphatic}] \\ /r/ \end{Bmatrix}$$

[+high]

The lowering effect is generally stronger when the vowel is contiguous to more than one conditioning consonant.

2.1.4 Implications of backing for MA

The rules of High Short Vowel Backing, High Short Vowel Lowering, and High Long Vowel Lowering and the other conditions of allophonic variation given above provide a picture not only of the vowel system of MA but also the consonant system. Consonantal behavior in regard to allophonic variation reveals two major subgroups: 1) those consonants that cause vocalic backing, and 2) those that are nonbacking, and possibly fronting. Leaving aside the labials, which belong to both groups, the nonbacking consonants are the nonemphatic interdentals and denti-alveolars except /r/, the palatals, and the glottals; the backing consonants are /r/, the emphatics, the uvulars, and to a slightly lesser extent /w/ and the pharyngeals. What is more, except for a few borrowings cited above ([glās] 'glass', [šæhɑg] 'to bray', and from LA, [ʔaḷḷāh] 'God') which contain back vowel allophones unconditioned by a backing consonant from this set, consonants in MA are

consistent as to whether they are backing or non-backing. This differs from other Arabic dialects in which some consonants from the non-backing set occur with the back low vowel allophone [ɑ].[12] It is also interesting to note that the backing opposition is found between the pairs of glides and liquids, opposing /w/ to /y/ and /r/ to /l/ (and also perhaps to /n/, which behaves like a liquid in Arabic, cf. Greenberg 1950). The weakly backing consonants, that is, /w/ and the pharyngeals, appear to represent transitional points of articulation in the vocal tract between non-backing and backing consonants (or vice versa). Although the sole velar consonant in MA, the labial-velar glide /w/, groups with the backing consonants, in the environment of low short vowels it is somewhat ambivalent, affecting preceding vowels more strongly than following vowels. Its labiality may affect its stronger backing in the environment of high vowels. However, a noteworthy fact about the large inventory of MA consonants is the absence of velar stops. The phonemes /k/ and /g/, which are velar stops in most other varieties of Arabic, are palatal stops in MA. They are also clearly nonbacking, in contrast with the uvulars /q/, /x/, and /ɣ/, which are backing. The velar gap in MA, which the uvulars have not rushed to fill as they have in some other OA dialects,[13] may be at

[12] A common analysis of this situation in other dialects is the positing of an emphatic allophone for the not-usually-backing consonant, as in [mɑyy] 'water' in Syrian Arabic. For an alternative analysis in which [æ] and [ɑ] are considered to have split into separate phonemes, cf. Ghazeli (1977:133-72).

[13] In some interior OA dialects, /q/ has become the voiceless velar stop /k/.

least partly reinforced by the polarization of the consonantal backing/fronting feature on either side of the velar point of articulation.

Among MA short vowels, as mentioned previously, the primary phonemic contrast in quality is one of height. Backness, as we have seen, is phonemically secondary and in effect more of an indicator of consonantal identity than a source of vocalic opposition. This is true to some extent of all Arabic dialects, even LA, in which /i/ and /u/ are not in complementary distribution to nearly the same degree as they are in MA and other dialects. Jean Cantineau (1946) demonstrated the phonemic importance of vowel height for LA in his survey of a six-hundred-word portion of Qurʔānic text, in which he found that of vowel occurrences--including long vowels, which were counted as two identical short vowels--59.4% were /a/, 20.8% /i/, and 19.8% /u/. According to Cantineau, there were more occurrences of /a/ than /i/ and /u/ put together. Indeed, there were approximately three times as many occurrences of /a/ as of either /i/ or /u/ separately. Of the three possible sets of oppositions, a: i, a: u, and i: u, the one between the high vowels, i: u, is the weakest, whereas the two low:high oppositions, a: i and a: u, are stronger and nearly on a par.

The special role in Arabic morphology of vowels and vowel quality, which carry inflectional and derivational information independently from the consonantal root, make the analysis of the vocalic oppositions and their constraining factors crucial to an understanding of the morphophonological system of any given dialect.

The implications of this analysis for MA morphology are discussed in the following chapters.

2.2 Syllabic inventory and alternations

The underlying syllabic structure of MA and even the inventory of syllable types is different from the syllable structure and types found on the surface. This is largely due to the deletion of short vowels in open syllables, but also to quantity alternations and coalescence. The underlying syllabic inventory and the processes that occur postlexically are described in the following subsections.

2.2.1 Syllable types

Syllables in MA begin with a consonant, contain either a short or long vowel nucleus, and may be open, closed, or doubly-closed, as shown in Figure 2-6. Word-initial syllables only may begin with a cluster of two consonants; otherwise, the syllable boundary in a medial cluster of two consonants falls between them, and in a medial cluster of three consonants between the second and third consonants, e.g. /gar$gūr/ 'shark', /xab$bar/ 'he told', and /xubz$ha/ 'her bread', where "$" signifies a syllable boundary. Geminate consonants function as a sequence of two consonants underlyingly, although on the surface they behave as long consonants, especially in certain positions, e.g., syllable-finally, where they may be shortened (cf. §2.2.3).

	Short vowel	Long vowel
Open	CV	$C\bar{V}$
Closed	CVC(C)	$C\bar{V}C_1(C_1)$
For all types, onset can also be CC word-initially (after ##).		

Table 2-6. Underlying Syllable Types

Weight	Structure	Positions in word	Examples
Light	CV ##CCV	Non-final.	**ta**ras 'he filled' tišta**ɣ**al 'she works' **nta**ras 'it (m.) was filled'
Heavy	$C\bar{V}$ ##$CC\bar{V}$	All.	**gā** 'he came' **rāwā** 'he showed' **rāwēnā** 'we showed' **mšī** 'walk (m.s.imptv.)' **tθā**wab 'he yawned'
	CVC ##CCVC	All.	**kil** 'eat (m.s.imptv.)' **magmar** 'incense burner' **ð̣arabtī** 'you (f.s.) hit' **šrab** 'drink (m.s.imptv.)' **tqah**wā 'he had coffee'
Extra-heavy	$C\bar{V}C$ ##$CC\bar{V}C$	Preceding a clitic or word boundary.	**zēn** 'fine, well' **ṣēdh**ā 'her fish' qan**dīl**nā 'our lantern' qan**dīl** 'lantern' **nšāf** 'he could be seen' **xtār**hum 'he chose them(m.)'
	CVCC ##CCVCC	Preceding a clitic or word boundary	**šuft** 'I saw' **bint**hā 'her daughter' sa**maſt**hā 'I heard her' sa**maſt** 'I heard' **xtart** 'I chose' **xtart**hā 'I chose her'
	$C\bar{V}C_iC_i$	Preceding a clitic or word boundary.	**šāll** 'carrying' **šāll**hā 'carrying it (f.)' ma**šābb** 'fans' ma**šābb**hā 'her fans'

Table 2-7. Underlying Syllable Inventory and Distribution

For purposes of stress assignment, syllable rimes in MA can be classified as light (-V), heavy (-$\bar{V}$ and -VC), and extra-heavy (-$\bar{V}$C, $\bar{V}$C $_iC_i$, and -VCC). Figure 2-7 illustrates the distribution of these syllable weights. The restrictions on distribution are that underlying light syllables do not occur word-finally, and underlying extra-heavy syllables occur only preceding a clitic or word boundary.

Unstressed short vowels in open syllables may be deleted or reduced, leading to additional surface syllable shapes exemplified in the following section.

2.2.2 Syncope and vowel reduction

In MA, as in other Arabic dialects, short vowels, particularly when unstressed and in open syllables, are highly volatile in surface forms. These vowels are subject to various phonological processes, including syncope and reduction. At the same time, the processes that syncopate or reduce short vowels are tempered by restrictions on consonant clustering and balanced by syllable creation processes, such as epenthesis.

In general, any short vowel in MA is deleted when it occurs in a non-final open syllable following another open syllable. This can be stated as a rule of Syncope rule, which has the additional condition that it applies from right to left.

Syncope $\quad V \rightarrow \emptyset \quad / \; V\,C \_\_ \; C\,V$

Condition: Applies from right to left.

Some examples are of alternations which illustrate the application of Syncope are:

/baḥaš/	'he dug'	/baḥšu/	'they (m.) dug'
/gālis/	'sitting (m.s.)'	/gālsah/	'sitting (f.s.)'
/qalam/	'pen'	/qalmi/	'my pen'
/kutub/	'books'	/kutbi/	'my books'

As the above example /gālsah/ illustrates, Syncope can result in the surface occurrence of an extra-heavy syllable, e.g. /gāl-/, at other than a clitic boundary.

However, as we shall see in the following chapters, Syncope applies at all of the lexical phonological levels, and the condition for its application vary somewhat at each level.

Postlexically, the only short vowels in open syllables that remain after the application of Syncope at the various lexical levels are those 1) in nonlexically-derived words; and 2) between the second and third radicals of what would otherwise be a sequence of three radicals (cf. §5.1). These short vowels in open syllables are subject to reduction or postlexical Syncope, provided they are unstressed (cf. §2.3).

Reduction applies to all short unstressed vowels in open syllables. The reduced vowels retain the color of the original vowel, but are the more centralized vowels, /ă/, /ĭ/, and /ŭ /, depicted in the vowel chart in Figure 2-3.

Reduction (Postlexical)

$$\underset{[-\text{stress}]}{V} \rightarrow \check{V} \quad / \_\_ \; C\,V$$

Some examples of vowel reduction are:

/hĭná/	'there (adv.)'
/fánnăšu/	'they (m.) quit'
/targămū-hā/	'they (m.) translated it (f.)'

In fast speech, short vowels in open syllables are often deleted entirely. The postlexical Syncope rule states that an unstressed vowel in an open syllable (i.e., a reduced vowel) is elided:

$$\text{Syncope (Postlexical)} \quad \underset{[-\text{stress}]}{V} \rightarrow \emptyset \quad / \quad \_\_ \; C \; V$$

Condition: Fast speech.

Examples of postlexical vowel reduction and then Syncope are shown below.

/hunák/	>	/hŭnák/	> /hnák/	'there (adv.)'
/yistáʕmalu/	>	/yistáʕmălu/	> /yistáʕmlu/	'they (m.) use'
/tárgamu/	>	/tárgămu/	> /tárgmu/	'they (m.) translated'

2.2.3 Quantity

Three types of phonological rules affect quantity in MA: the shortening of long vowels in final position, the coalescence of short vowel plus glide sequences into long vowels, and the shortening of geminate consonants.

As in other Arabic dialects, long vowels are shortened in word-final position:

Final Vowel Shortening (Postlexical)

$$\bar{V} \rightarrow V \qquad / \_\_ \#\#$$

In this study, surface forms are transcribed without the macron, as in /ʕaṣa/ 'stick', /hūri/ 'small boat', and /tarsu/ 'they filled'. When these vowels are not final, as when a suffix or clitic is attached, they are long: /ʕaṣāh/ 'his stick', /hūrīna/ 'our small boat', and /tarsūha / 'they filled it (f.)'. Although phonetic length is lost or reduced word-finally, these shortened final vowels retain their quality, whereas short final vowels are centralized in most cases.

Short vowels occur word-finally only preceding certain non-root occurrences of /h/. In these cases the /h/ may be elided in mid-utterance. These cases include the feminine nominal ending in /-ah/ (pronounced [eh] unless preceded by an emphatic, uvular, or pharyngeal, in which case it is pronounced [ɑh]/ or [ah]), the /-ah/ ending on the third person personal pronouns (cf. §5.1), and the 3rd m. singular pronominal clitic /-oh/. Unlike some other Arabic dialects, this /h/ is distinctly pronounced in MA, although within an utterance it may be left off entirely. Final long vowels, by way of contrast, phonetically end in a distinct voicing interrupt, or glottal stop, e.g. /-aʔ/.

Coalescence affects two types of sequences: high short vowel plus glide, which results in a high long vowel, agreeing in backness with the glide, and low short vowel plus glide, which results in a mid long vowel. The rule of high vowel

coalescence states that a tautosyllabic sequence of /iy/ or /uy/ becomes /ī/, and /iw/ or /uw/ becomes /ū /(G is a glide):

High Vowel Coalescence (Postlexical)

$$\begin{array}{ccccc} V & G & \rightarrow & \bar{V} & / \_\_]_{syl} \\ [+high] & [\alpha front] & & [\alpha front] & \\ & & & [+high] & \end{array}$$

In low vowel coalescence, /ay/ becomes /ē/ and /aw/ becomes /ō /:

Low Vowel Coalescence (Postlexical)

$$\begin{array}{ccccc} V & G & \rightarrow & \bar{V} \ / \_\_] & syl \\ [+low] & [\alpha front] & & [\alpha front] & \\ & & & [-high] & \\ & & & [-low] & \end{array}$$

When the syllable-final glide in question is the first member of a sequence of two glides, the quality of the short vowel is subject to change, but the gemination is usually retained, e.g. /ysawwi/ > /ysowwi/ 'he does', and /mitfeyyaq/ > /mitfayyaq / 'free, available'. This suggests that there is a separate rule of low vowel centralization:

Low Vowel Centralization (Postlexical)

$$\underset{[+\text{low}]}{V} \rightarrow [-\text{low}] \;/\; \_\_ \; G_i \,]_{syl}$$

After Low Vowel Centralization has applied, then the High and Low Vowel Coalescence rules can be collapsed into one rule applying to sequences of a central vowel followed by a glide, i.e. /ey/ becomes /ē/ and /ow/ becomes /ō/, in syllable final position when the next syllable does not begin with an identical glide.

Coalescence

$$\underset{[\alpha\,\text{high}]}{V} \quad \underset{[\beta\,\text{front}]}{G} \rightarrow \bar{V} \;/\; \_\_ \,]_{syl}\, C$$

$$\begin{bmatrix} \alpha\,\text{high} \\ \beta\,\text{front} \end{bmatrix}$$

Condition: C is not identical to G.

Some examples of coalescence, illustrated with alternants where the glide appears on the surface, are shown below:

/yības/ (< yi+ybas)	'it (m.) dries'
cf. /yabas/	'it (m.) dried'
/yūǰaʕ/ (< yi+wǰaʕ)	'it (m.) hurts'
cf. /waǰaʕ/	'it (m.) hurt'
/qēḏ/ (< qayḏ)	'summer'
cf. /tqayyaḏ/	'to spend the summer'
/ṭōyān/ (< ṭawiyān)	'wells'
cf. /ṭawi/	'well (n.)'

Consonants are also subject to length variation. Geminate consonants in fast speech are occasionally[14] subject to shortening in syllable-final position:

Final Degemination (Postlexical) Optional

$$C_iC_i \rightarrow C_i \ / \ \_\_ \ ]_{syl}$$

Some examples are /ysid/ ~ /ysidd/ 'he closes', and /yitkallamu/ > /yitkallămu/ ~ /yitkallmu/ ~ /yitkalmu/ 'they (m.) talk', which deemonstrate the successive elision of the elements of penultimate syllable due to reduction, syncope, and consonant shortening.

When the geminate consonant is a word-final glide, Low Vowel Centralization and Coalescence can apply either to the geminate or degeminated

[14]In this my data differ from those of Shaaban (1977). who regards degemination of coastal OA as obligatory.

form. Since Final Degemination is optional, the result is two possible derivations, both of which are found in MA:

(1)	(2)	
/šayy/	/šayy/	'thing'
/šeyy/	---	Low Vowel Centralization
/šēy/	---	Coalescence
	/šay/	Final Degemination (opt.)
	/šey/	Low Vowel Centralization
	/šē/	Coalescence
	/še/	Shortening

The same is true of /taww/ 'now', which is realized as /tōw/ ~ /to/.

Geminate consonants may also be shortened word-initially, although this is more common outside of the Capital Area:

Initial Degemination (Postlexical)

$$C_iC_i \rightarrow C_i \ / \ \#\# \_\_$$

Some examples are /ttaṣal/ ~ /taṣal/ 'to get in touch' and nouns with an assimilated definite article (cf. §4.2), such as /b-bēt/ ~ /bēt/ 'the house'.

2.3 Stress

The Arabic stress rule common to LA and a number of Arabic dialects also applies to words in MA :

a) starting from the end of the word, stress the final syllable only if it is extra-heavy; otherwise,

b) stress the next (rightmost) heavy syllable encountered; otherwise,

c) stress the first (leftmost) syllable of the word.

In practice, stress in MA is never farther from the end of the word than the antepenultimate syllable and because of Syncope most commonly falls on one of the last two syllables. The selected examples below are given before the applications of reduction or final consonant shortening (cf. §2.2.2):

2 syllables:	/ʕáša/	'supper'
	/ráṭab/	'unripe dates'
	/wǎgid/	'much; very'
	/mágmar/	'incense burner'
	/lubǎn/	'frankincense
	/galást/	'I sat down'
	/yašíll/	'he takes'
	/ṭōyǎn/	'wells (n.)'
	/xabbárt/	'I informed (s.o.)'
	/yinkább/	'it is poured, pourable'
3 syllables:	/kánsalu/	'they canceled'
	/qabílah/	'tribe'

	/dišdášah/	'man's long outer garment'
	/titqáyyaḏ/	'she spends the summer'
	/banādír/	'flags'
4 syllables:	/yistáʕmalan/	'they (f.) used'
	/dašādíšhum/	'their (m.) dishdashas'
	/mitʕallamát/	'educated (f.p.)'
5 syllables:	/yistaʕmalúha/	'they (m.) used it (f.)'
	/mitʕallimínnoh/	'they (m.) have learned it (m.)'

Stress in MA is a late rule, applying only postlexically. Furthermore, the only other postlexical rule that depends on stress assigment is Reduction since only unstressed vowels in open syllables are reduced. Another rule, Final Consonant Shortening, can apply either before or after stress assignment, although its application after stress is preferred. When Final Consonant Shortening applies to the stressed form /yinkább/ it produces /yinkáb/ 'it is poured'. When the rule applies before stress, the resulting form is /yinkab/, an acceptable but less common form.

At the levels of affixation, cliticization, and the phrase, MA verbs and nouns are resyllabified in ways discussed in the following three chapters, and stress is assigned on the basis of the new syllable structure. There is little or no evidence for underlying stress, as there is in other spoken Arabic dialects. For example, M.

Brame (1973) points out that underlying (and, in fact cyclic) stress assignment in Palestinian Arabic accounts for differences in the presence of short high vowels in open syllables, such as that between /fihimna/ 'he understood us' (< /fihim/ + /na/) and /fhimna/ 'we understood' (< /fihimna/). In the first case, the initial vowel is stressed underlyingly, /fihim/, and since only unstressed high short vowels in open syllables are syncopated, it remains in the surface form, perhaps with secondary stress. In the second case, /fhimna/, the first underlying vowel was never stressed underlyingly and so is deleted.

In addition stress assignment is subject to some variation. Although the stress rule cited above represents the most common and most regular application of stress in MA, in practice stress placement, especially for words of certain syllable structures, is not completely fixed. In OA, and to a lesser extent MA, there is a tendency for stress to move to the end of the word, so that a two-syllable word like /ráṭab/ 'fresh dates', for example, is also commonly pronounced /ráṭáb/, with stress on both syllables, or /raṭáb/, which is then subject to reduction and may become /răṭáb/, and in faster speech /rṭáb/. However, a word with final syllabic stress like /yašíl/ 'he takes, carries' may also be realized as /yášíl/ or /yášil/ or, after Final Consonant Shortening, /yášil/. Three-syllable words having a heavy penultimate syllable may have more prominence on the first and third syllables, as /tăxuðná/ 'she took us', and /yáḏurbán/ 'they (f.) struck', rather than as expected on the penultimate syllable, i.e., /tăxúðna/ and /yaḏúrban/. Such variation in stress assignment indicates that stress in MA is a late rule and is postlexical.

In the interaction between syllable structure and stress in MA, then, syllable structure is largely independent of stress, and syllabic alternations are primary.

Chapter 3

Stems and Stem Components

This chapter and the following two chapters describe the morphology of MA and the phonological processes in MA that are sensitive to the internal morphological structure of the word. Unlike the general phonological rules of MA set forth in Chapter 2 that apply without regard to morphological structure, these processes necessarily refer to morphological units, namely stems, affixes, and clitics. This chapter details the morphology and phonology of stems and stem components, including roots, stem bases, and derivational affixes, and Chapters 4 and 5 describe inflectional affixation and cliticization, respectively.

In classical generative phonology, phonological rules sensitive to the morphological structure of a word have access to the morpheme boundaries, namely '+' ,'#', and '##', within the word. However, in the more recent theory of lexical phonology (P. Kiparsky 1982, K. Mohanan 1986) word-internal structure is represented instead by distinct levels or strata of morphological derivation within the lexicon. Each level or stratum has associated with it a set of morphological rules and a set of phonological rules that apply whenever their structural descriptions are met after each step of word formation at that level. These phonological rules may refer to the beginnings and ends of morphological forms, indicated by brackets ('[' and ']'). All base forms enter the first level. After the rules of morphology and phonology for the first level have applied, then the

resulting forms pass to the next level where the affixes of the next level are attached and the phonological rules for that level applied. When an item has passed through all levels it emerges from the lexicon, and the postlexical rules, such as those for MA given in Chapter 2, are applied

Under this approach, applications of morphological and phonological rules are interspersed in a principled way. Each rule need only be stated once, and its domain of application is specified in terms of the levels at which it applies. Rules may apply at more than one level and may be postlexical as well, although the domain of a rule appears to be restricted to adjacent levels (Mohanan 1986).

This analysis of MA morphophonology takes the approach of lexical phonology. It assumes three levels of rule application within the MA lexicon. Each level of word structure corresponds to a distinct morphological type:

Level 1 : derivational affixation

Level 2 : inflectional affixation

Level 3 : cliticization

These three levels are exemplified in MA as follows:

3 2 1 2 3

ba - yi - t - ʕallam - ū - hā → bayitʕallamūha

fut-3rd-refl-'cause to know'-pl(m)-'it(f)' 'they will learn it'

In this word the derivational affix /t/ and stem base /ʕallam/ form the stem /tʕallam/, 'to learn', to which are attached, at successive levels, the inflectional affixes and clitics.

The lexical phonological model allows the scope of application of phonological rules to be defined in terms of morphological domains of rule application, that is, in terms of the different lexical phonological levels. In fact, the model claims specifically that certain phonological rules precede morphological rules and that therefore the phonological rules in question must apply within the lexicon. It also distinguishes between rules that apply within the lexicon and rules that apply postlexically.

In MA, there exist both phonological rules that are necessarily interleaved with the morphology and general surface phonological rules that apply outside of the lexicon. An example of a postlexical MA rule is the rule of Low Vowel-Glide Coalescence (discussed in §2.2.3). This rule changes tautosyllabic /ay/ sequences to /ē/ and applies to any such sequence output from the lexicon regardless of morphological structure. In contrast, a lexical rule that modifies /ay/ sequences is the rule of /aG/-Monophthongization (discussed in §§4.1.1 and 4.3). According to this rule, morpheme-final /aG/ sequences, where G is a glide /y/ or /w/, become /ā/. Unlike the rule of Low Vowel-Glide Coalescence, however, this rule only

occurs in a prescribed morphological domain, i.e., after certain morphological rules have applied and before certain other morphological rules are applied. /aG/-Monophthongization necessarily applies after the attachment of inflectional endings and before clitic attachment, as the alternations of the verbal stem [baɣay] 'want' demonstrate. (In the cliticized forms, rule of Syncope applies to short vowels in open syllables following another open syllable (cf. §5.1.1)).

Inflected forms:

[baɣay][Ø]	→	[baɣā]	'he wanted
[baɣay][ū]	→	[baɣayū]	'they (m.) wanted'
[baɣay][an]	→	[baɣayan]	'they (f.) wanted'

Cliticized forms:

[baɣā][Ø]	→	[baɣā]	'he wanted'
[baɣā][oh]	→	[baɣā-h]	'he wanted if (m.)'
[baɣā][hā]	→	[baɣā-hā]	'he wanted it (f.)'
[baɣayū][hā]	→	[baɣyū-hā]	'they (m.) wanted'
[baɣayan][hā]	→	[baɣyan-hā]	'they (f.) wanted it (f.)'

In the above forms it can be seen that the /y/ of the stem [baɣay] is retained when an inflectional suffix is attached. Therefore /aG/-Monophthongization cannot apply before inflectional affixation because then the /y/ would be lost. But when the suffix is [Ø], then /aG/-Monophthongization applies to the morpheme-final /ay/. This application must occur before the

morphological operation of clitic attachment because the cliticized forms e.g. [baɣā-h] 'he wanted it (m.)' and [baɣā-hā] 'he wanted it (f.)' do not have it. In the cliticized forms, the /ay/ is no longer morpheme-final and thus no longer a candidate for /aG/-Monophthongization. In the case of [baɣā-h] 'he wanted it (m.)', the vowel of the clitic [oh] 'it (m)' is deleted by the rule of Affix Vowel Deletion (cf. §§4.1.1 and 5.1.1), which deletes a short vowel that immediately follows a long vowel. If the /ay/ were still present, i.e., *[baɣay-oh], then Affix Vowel Deletion could not apply, and the result would be *[baɣy-oh], an incorrect form. Therefore, /aG/-Monophthongization must apply before cliticization. In terms of MA lexical phonological levels, this rule is restricted to Level 2.

Figure 3-1 illustrates a number of the MA phonological rules that apply at various levels in the lexicon and postlexically (for a complete list of rules, cf. Appendix A, Morpheme and Rule Summary). The MA lexicon is shown separated into the three lexical levels described above and a fourth level preceding the other three, Level 0. At Level 0, described in the following section, §3.1.1, phonological segments are mapped onto the syllabic bases which serve as the basis for stem formation.

In Arabic and in Arabic dialects such as MA stems are analyzable into components that are subject both to morphological and phonological variation. These components and a means of representing them are discussed in the following section.

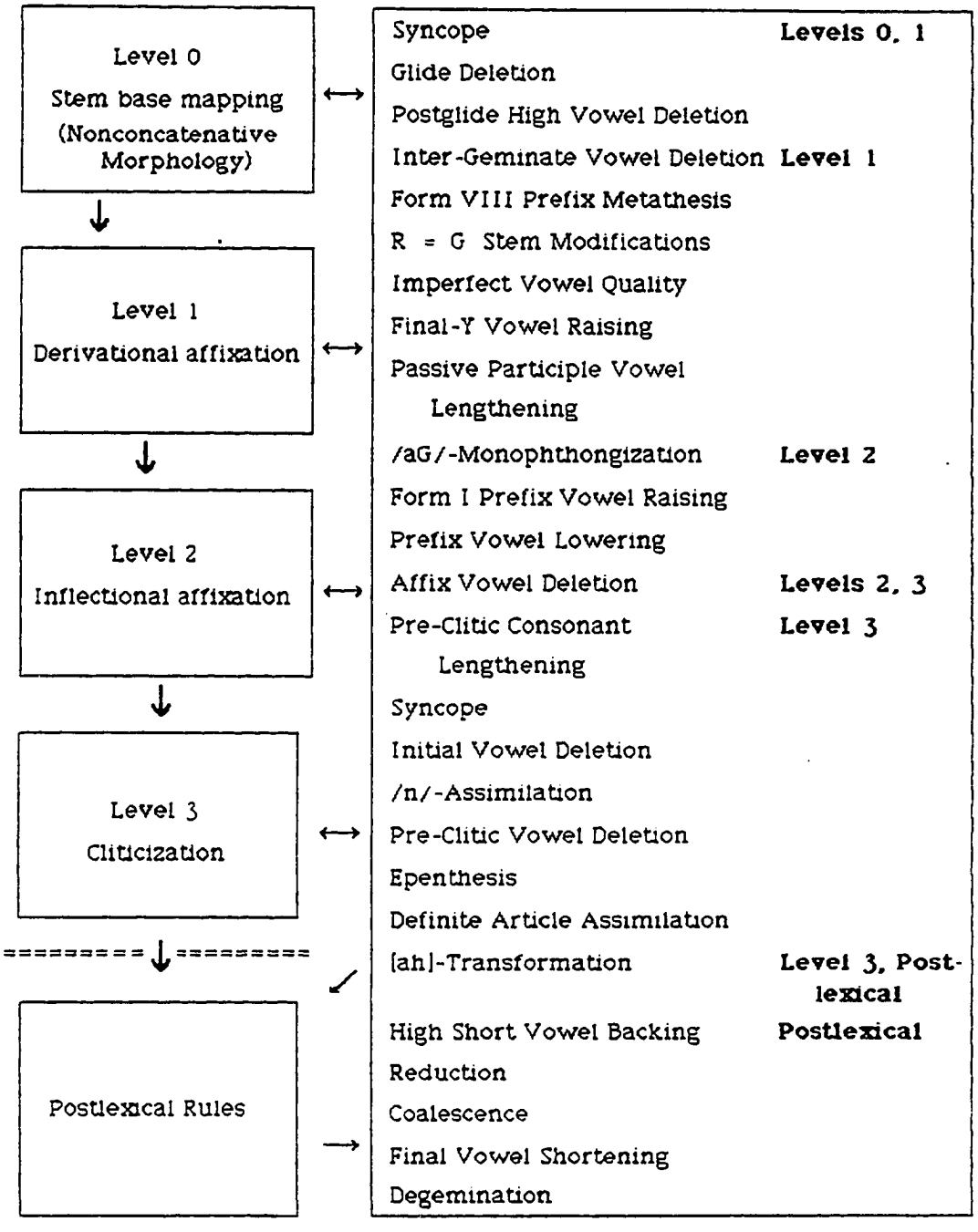

Figure 3-1. Muscat Arabic Lexical Phonological Levels and Rules

3.1 Stem components

Stems fall into three major classes: verbs, nominals (including nouns and adjectives), and stems having both verbal and nominal characteristics, namely the participles and verbal nouns, which are derivationally verbal or verb-related but inflectionally nominal. Not all words in MA have an internal stem structure and are lexically derived; exceptions are grammatical words, such as the particles (e.g., /wa/ 'and'), the non-substantively derived prepositions (e.g., /min/ 'from'), the pronouns (e.g., /ʔana/ 'I', /hāðī/ 'this'), and certain adverbials (e.g., /hina/ 'here).

The shape of the stem in Arabic is subject to morpheme structure constraints along several dimensions. First, the underlying syllable structure of the stem base (that is, the stem prior to derivational affixation) is confined to a closed set of syllabic stem shapes, made up of C (consonantal, or, more accurately, nonvocalic, since glides are included) and V (vocalic) elements. Second, the set of mutually-occurring elements permitted to occupy the C-slots of an individual syllabic base is subject to cooccurrence restrictions. These element sets comprise the well-known consonantal root of Arabic. Finally, stem vowels are likewise constrained within a given stem to a subset of the full range of the vocalic combinations available within the language and so can also be said to be subject to cooccurrence restrictions. The degrees of constraint vary according to word class, with verbs more highly constrained than nouns.

These stem constraints hold, by and large, for LA and for all dialects of Arabic. Each dialect, however, has its own set of phonological rules that are

sensitive to stems and stem components and determine their ultimate form. In some instances, they may even restructure or modify the components themselves. This study attempts to examine these effects in MA.

The following examples illustrate the various components of the stem:

ʕalam	'to know'
ʕulim	'to be known'
ʕallam	'to teach'
tʕallam	'to learn'
ʕalīm	'learnèd (nom.)'
ʔaʕlam	'more/most learnèd (nom.)'

The syllabic bases represented here are CVCVC, CVCCVC, and CVCVVC. The root consonants or radicals corresponding to the C elements are /ʔ-l-m/. The vowel qualities, corresponding to the V elements, are /a/ (perfect active verbal stems), /u-i/ (perfect passive verbal stems), and /a-ī/ and /a/ (the nominal stems). The same syllabic shape and stem may have different vowels, as evidenced by /ʕalam/ and /ʕulim/. Similarly, the same syllabic base with the same vowels occurs with other roots; for example /kabar/ 'to grow', /kabbar/ 'to cause to grow', /kabīr/ 'big, old', and /ʔakbar/ 'bigger, older' all have the root /k-b-r/. Derivational affixes, such as the verbal prefix /t/ on /tʕallam/ and the nominal prefix /ʔa/ on /ʔaʕlam/,

may be also added. Stems may have specific interrelationships with one another,[1] and in some instances these derivational relationships have phonological correlates (i.e., affixation or lengthening of a root consonant). However, more striking is the overall lack of phonological continuity among stems such as the above set, which are clearly related but share only a common root.

A question that arises in the description of Arabic morphophonology is, in what sense are these noncontinuous but phonologically-definable elements be said to be actual components of the stem? That is, do phonological constraints on and division of morphological labor among syllabic shape, consonants, and vowels have any kind of representational reality, albeit abstract, apart from the stem?

An analysis of the Arabic stem that represents these stem components individually and at the same time provides a mechanism for combining them has been proposed by J. McCarthy (1979a, 1981). His theory of nonconcatenative morphology is based on autosegmental phonology in that melodic elements (such as vowel quality) are mapped onto melody-bearing elements (such as vowels). These melodic elements, consisting of a given feature or bundle of features, may be

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[1] These relationships can be represented by a set of redundancy rules such as the following (where R stands for a radical):

$[RVRVR]_{\text{Verb}}$ <-> $[RVR_2R_2VR]_{\text{Causative Verb}}$

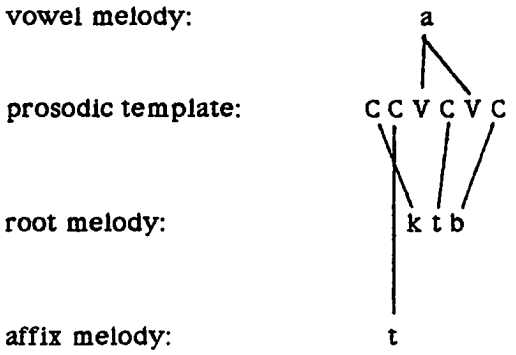
$[RaRīR]_{\text{Qualitative Nominal}}$ <-> $[ʔaRRaR]_{\text{Elative (Comparative)}}$

This study, while noting features of individual stem types, explores these interrelationships only insofar as they have morphophonological implications.

autosegmentalized and represented on a single tier. Like tone in some languages, these features can spread over one or more segments.

Root consonant and stem vowel qualities in Arabic exhibit autosegmental properties in that they are composed of elements that can be associated with more than one segment. McCarthy proposes that languages have the additional option of restricting autosegmental tiers to single morphemes, and posits separate autosegmental tiers for the vowel melodies, roots, and derivational affixes of stems in LA. All three are mapped according to a set of formal conventions into a predefined syllabic skeleton (segmental tier) called the prosodic template. This mapping is illustrated below for the LA verb /ktatab/ 'to subscribe'[2]:

[2] This example is taken from a lecture by McCarthy at the University of Southern California on May 11, 1981.



In this mapping, affixes are attached first to enable the correct mapping of root consonants into the remaining C-slots. Under this approach, then, morphemic constraints can be stated in terms of the appropriate melody on a single tier.

This and other approaches to Arabic which seek to represent the root have been criticized as too abstract and rigid for the spoken Arabic dialects because of the requirement that a radical be mapped onto a C-slot even when that segment does not appear on the surface. Radicals exhibiting this kind of behavior are primarily the glides /w/ and /y/. The so-called hollow verbs, for example, which are represented with a medial glide radical under the more abstract approach, do not have a glide on the surface, as in the verb /nād, ynūd / 'to doze'. Under a nonconcatenative approach this verb would be represented as: $[\text{nawad}]_{\text{Perfect active}}$ and $[\text{niwid}]_{\text{Imperfect active}}$ with phonological rules deriving the stems [nād] and [nūd]. The bracket notation is here used to indicate an underlying morpheme.

J. Heath (1987) in his description of a Moroccan Arabic dialect says of multitiered models such as that proposed by McCarthy that he is "skeptical of their value for MCA" (Moroccan Colloquial Arabic) because they are too rigid to handle

such phenomena as "problems associated with phonetic [č]" which "is sometimes represented as /tš/ and sometimes as a geminate /C_xC_x/" and "for oppositions such as /xwən/ 'steal' vs. /xun/ 'betray' . . . for which no plausible rules generating hollow and weak paradigms from roots with semivowels can be produced". E. Broselow (1976:181) in her description of Egyptian Arabic states that "the classical root and pattern system has gradually broken down, and . . . a word-oriented system of morphology has begun to take its place," due to the "increasing opacity of certain phonological rules (notably Coalescence and Final Glide Deletion)". In MA, however, such phenomena as those referred to above are notably absent. For example, in contrast to other dialects, medial glide deletion is not obscured by later rules such as vowel shortening, Coalescence does not have the exceptions that it has in Egyptian Arabic, and final glides are still present in the imperfect as well as the perfect tense (cf. §3.3.2). The phonology of MA is somewhat less opaque than that of some other dialects, and is characterized by syllabic variation and consonant lengthening rather than shortening and deletion, which potentially obscure derivational information. In fact, certain other characteristics of MA, such as the leveling of vowel quality in the perfect active verb and its contrast with the still viable internal passive (cf. §3.3.2), make the basic stem structure more rather than less transparent. MA has not moved away from the LA morphophonological system to the extent that other Arabic dialects have, which is not surprising in view of the origins of MA in the wholesale migration of Arabic-speaking tribes from other parts of Arabia to Oman as opposed to the dissemination of Arabic by

means of military and political conquest as occurred in other dialect areas such as North Africa.

The incorporation of an abstract representation such as that proposed by McCarthy into a dialect description provides a means of cataloguing stem constraints on radical, vowels, and syllable structure which still hold in the dialect. Also, such a representation is not abstract to the extent that the rules that must apply to them are phonologically-motivated and virtually exceptionless, which they clearly are in MA. Furthermore, the phonological rules that affect stem glides explain why sequences such as /aya/ and /awa/ do not exist on the surface within stems (they become /ā/). In fact, vestiges of long vowel-glide alternations exist in the spoken dialects, as in MA /baɣā/ 'to want' alternating with /baɣēna/ 'we wanted' < */baɣay/ + /na / by Coalescence.

In any case, it is difficult to eliminate the concept of the root as a morphological entity in MA and in Arabic in general. In most environments in MA, glides act just as any strong radical; however, in a few environments, such as between two short vowels, glides are weak radicals. So, although paradigmatic evidence for the glide may be lacking in some instances, syntagmatic evidence abounds. For example, /ɣāb/ 'to be absent' has the causative /ɣayyab/ 'to remove'; /ṭūl/ 'height, length' the qualitative /ṭawīl/ 'tall, long' and verb /ṭawwal/

'to lengthen'. Other phenomena supporting the productivity and special status of the root in MA are described in the first part of §3.1.2.

In this study, stems are assumed to consist of a syllabic base onto which root melodies and vowel melodies are mapped following the mapping conventions for these melodies presented by McCarthy. However, in contrast to their role in McCarthy's account, derivational affixes are here considered to be attached to the stem base in Level 1 *after* the base form has been established. The phonological rules are then applied to the resulting affixed forms.

This approach considers derivational affixation to be very like that occurring in nonconcatenative languages, where affixes are adjoined to a "concatenated" base form. In Arabic, however, the base consists of root and vowel qualities mapped onto a syllabic base (prosodic template).[3] The boundary difficulties associated with "infixes" such as /t/ in certain (i.e. Form VIII) verbs are resolved using the approach of lexical phonology (cf. §3.3.1). The derivational affix attachment rules of Level 1. however. are sensitive to varying degrees to the syllabic shape of the base.

For some purposes, it is useful to consider separately the derivational affix and the base to which the affix is attached. The bases, for example, have their own set of phonological properties, and some anomalies in affixed forms can be

[3] The term "syllabic base" is thus used here to refer to the CV-shape of the stem prior to affixation, in contrast to McCarthy's "prosodic template", which includes the affix. In this study, the schematic form representing affix attachment after root and vowel melody mapping, e.g, $tRaR_2R_2aR$, is called the "pattern" or "stem type".

resolved with reference to the underlying syllabic shape of the base. In addition, affix-base relations can be clearly represented when the two are considered separately. For other purposes, however, such as describing the close relationship between the stem components in nominal stems (cf. §3.5), a more integrated approach such as McCarthy's might seem to capture the facts more clearly. This tension between concatenated and nonconcatenative morphology occurs at the inflectional level too, where prefix vowel quality in the imperfect verb appears to be part of an overall vowel melody that includes the stem (cf. §4.1.2). The prosodic nature of Arabic morphophonology sometimes seems to be at variance with its segmental characteristics, and it may be that no single model can do justice to both its natures.

The present study of MA therefore utilizes a modified nonconcatenative approach to MA stem base morphology within a larger framework of lexical phonology. The nonconcatenative aspect is incorporated as Level 0, at which level the stem base is formed by mapping the root and vowel melodies onto the syllabic base.

The levels, then, according to this approach are

Level 0 : syllabic base mapping

Level 1 : derivational affixation

Level 2 : inflectional affixation

Level 3 : cliticization

These four levels are exemplified as follows:

```
3   2  1     0     2  3

                a
                /\
ba - yi - t - ʕallam - ū - hā          → bayitʕallamūha
              \ \ \ /
               ʕ l m

fut-3rd-refl-'cause to know'-pl(m)-'it(f)'   'they will learn it'
```

All of the nonlinear morphophonology is accomplished at Level 0. The output of Level 0 is the input to Level 1 and the starting point for the nonlinear aspects of MA morphophonology. Level 0 serves as a vehicle for relating the various components of the stem, and as a repository for phonological rules that apply to stem bases prior to affixation. It has the additional function of nominal stem formation for certain plurals through remapping, as described in §3.5.3.

The following three subsections describe the morphological entities and operations occurring at Level 0, that is the syllabic bases of the stem in MA, their root and vowel melodies, and the mapping of the latter onto the former, and then

§3.2 details the phonological rules applying at Level 0. Level 1 affixation and phonological rules are discussed in the remaining sections of the chapter.

3.1.1 Syllabic bases

The syllabic bases in MA are those CV skeleta onto which root consonants and stem vowels are mapped to form the stem base. The set of syllabic base syllable types is more restricted than that of affixed stems (there are no initial consonant clusters, for example). The two main classes of syllabic bases are verbal and nominal. The syllabic bases of the participles are the nearly same as those of verbs (except for one verb type, discussed in §3.4), whereas the verbal nouns, while related to the verbs, behave more like nominal stems (these are also discussed further in §3.4). Examples of all of these types are shown in the tables in this chapter.

Verbal syllabic bases are constrained to three, each having two syllables and three or four C-slots: CVCVC, CVCCVC and CVVCVC. These can be represented as CV(X)CVC, where X = C or V. The only exceptions are three or four irregular verbs (cf. § 3.1.2) having unstable root consonants whose base forms have degenerated to the shape CVC.

Nominal stems, in contrast, have a greater variety of stem shapes. One-syllable nominals have the shape CVCC, although, as with the verbs, a few nouns with unstable radicals have the shape CVC (cf. §3.1.2). Two-syllable nominals having three C-slots have one of the following stem shapes: CVCVC, CVVCVC,

CVCVVC, or CVVCVVC. The patterns having four C-slots are CVCCVC and CVCCVVC. A few nouns, mostly borrowed, have five consonants, e.g. /saturwīn/ 'Citroen', /salandar/ 'cylinder', /brēṭānyā/ 'Britain'; these nouns are of various shapes. To summarize, the nominal stem base shapes can be represented as: CVC(C), CV(V)CV(V)C, and CVCCV(V)C, or alternatively as CVC(C) and CV(X)CV(V)C, where X = C or V. In addition, two quadriconsonantal syllabic bases are reserved for nominal plurals (cf. §3.5.2), These are the trisyllabic plurals whose shapes are CVCVVCVC and CVCVVCVVC.

Possible syllables within syllabic bases are limited to CV (nonfinal), CVV (nonfinal), CVC, CVVC (final position only), and CVCC (isolate only). This analysis of syllabic bases makes the assumption that the first two C-slots (i.e. radicals) cluster only when a derivational prefix is attached (cf. §§3.3, 3.4, and 3.5).

The root and vowel melodies and their mapping onto these shapes is described in the following two sections.

3.1.2 Roots and root mapping

This section describes characteristics of the root and root types in MA, and presents the conventions used to map them onto the syllabic bases given in the previous section.

As in other Arabic dialects, the borrowing of foreign words into MA substantiates the productivity of the root system. For example, the consonants of the English word *horn* are mapped onto the verbal syllabic base CVCCVC in the MA

borrowing /harran/ 'to honk one's horn'; *tight* is borrowed as the MA nominal /tayt/ 'tight' and verb /tayyat/ 'to tighten'; *finish* as MA /finiš/ 'termination' and /finniš/ 'to be terminated (at a job)'; and Hindi *band* as MA /band/ 'closed' and /bannad/ 'to close (school or work, as for vacation)'.

In MA as in other varieties of Arabic the set of consonants that appear as radicals is considerably larger than the set having other morphological functions. In the latter set are the consonants found in derivational and inflectional affixes and in clitics. This set of consonants is restricted to ten: /b, h, k, l, m, n, š, t, y, ʔ/, just over a third of the total number of nonvocalic phonemes (27) in MA. Interestingly, these consonants belong to the set of phonologically more "neutral" (i.e., regarding their effects on surrounding segments) nonbacking and labial consonants.

A similar kind of phonological restriction on root versus non-root consonants is found in an entirely different linguistic phenomenon in Oman, namely that of language encoding as described by D. Insall (1983). In colloquial Omani speech there exist code languages that likely came about as a means of encrypting speech for secure communications in times of tribal strife but which now apparently function as a means of word play. The basic encoding algorithm is as follows: a syllable containing a theme consonant is inserted into every syllable of the original Omani word. For example, the word /xamsah/ 'five' encoded by /g/ becomes

/xagámsigah/, /ana/ 'I' encoded by /f/ is /afinifa/, and so on[4]. The theme consonant is constant throughout an utterance. The code consonants identified by Insall are /g, f, z, s, d, k, l/—all non-backing consonants except /f/, which is a labial. An exception is found in a code cluster /tr/ cited by Insall, which contains the back consonant /r/. It may also be significant that the set of encoding consonants overlaps very little (only in the instances of /k/ and /l/) with the ten consonants having non-radical morphological functions. Insall states (p. 115) that "the degree of secrecy achieved is more dependent on the speed achieved by the speaker than on the actual letter used to encode the speech", and the relative lack of phonetic complexity may well be a factor in the choice of theme consonant. Nevertheless, the set of root consonants is quite clearly unique, and certain consonants can only function as root consonants.

Although all nonvocalic segments in MA may function as radicals (i.e., root consonants), their cooccurrence within a given root is constrained. In general, homorganic consonants do not cooccur in the same root, with the striking exception of geminate verbs, in which the second and third radicals are identical. J. Greenberg (1950) has laid out in detail the cooccurrence restrictions for LA and identified four sets of homorganic consonants--liquid, labial, front, and back

[4] This form would appear to support an antepenultimate limit on stress assignment in OA, counting from the end of the word. These code languages were not known to my MA speakers.

consonants--for Proto-Semitic. MA, with a few exceptions,[5] follows the restrictions outlined by Greenberg for LA, with the additional proviso that in MA /ṣ/ commonly occurs to the exclusion of /s/ in conjunction with a uvular radical, /q/, /x/, or /γ/, as in :

MA:	waṣax	LA:	wasax	'to be dirty'
	ṣūq		sūq	'market'
	ṣaqaṭ		saqaṭ	'to fall'
	γammaṣ		γammas	'to dip'
	ṣalax		salax	'to skin'

The denti-alveolar emphatic /ṭ/ triggers emphatic /ṣ/ as well, as shown by MA /ṣōṭ/ 'voice', cf. LA /sōṭ/. Ghazeli (1977) points out that /ṣ/ requires the least amount of tongue backing among the emphatics. T. F. Mitchell (1975) describes /s/ as the consonant most susceptible to emphaticization in Arabic dialects. And H. Fleisch (1961) in his study of Arabic grammar lists this same set of consonants, /ṭ, q, γ, x /, as causing /s/ to become /ṣ/ in the dialects of certain early Arab tribes.

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5 Exceptions are MA /xāxað/ 'to clear one's throat', /karak/ 'to lay an egg', and /tayyat/ 'to tighten', having identical first and second or first and third radicals. As Greenberg points out, a few nominal roots, e.g., θ-l-θ 'three' and s-d-s as in /sādis/ 'sixth' also violate this constraint. An example of a root with three identical radicals was heard from a young Omani after racing around a school track. In a spirit of word-play, he said /gaggēt/ 'I jogged', from the English verb 'jog', triradicalized as ǰ-g-g, and with OA /ǰ/ realized as /g/ (see §2.1.1), forming the triliteral root g-g-g (or the monoliteral /g/).

An interesting feature of MA, noted for coastal OA by Jayakar (1889), is the historical transposition of root consonants. Normally, although proximity of root consonants to one another varies according to the shape of the stem, the relative order within a given root is constant in Arabic. However, in MA in some cases, mainly involving the radical /r/, the root consonants have apparently been transposed. Examples cited by Jayaker and current in in MA are /ramsah/ 'a chat, usually among men, between the evening meal and call to prayer', root r-m-s, cf. LA s-m-r 'to chat in the evening' and /rašbah/ 'waterpipe (for smoking)', probably from the root š -r-b 'to drink, smoke'. Additional MA examples are /murzāb/ 'rainspout', cf. LA /mizrāb/ 'spout'; /karhab/ 'electricity' ~ /kahrab/, /kahraba/ < /kahraba/; /ramaq/ ~ /maraq/ 'to move one's eyebrows'; and /čandal/ ~ /dančal/ 'ceiling beams'. Although these latter cases may be example of simple cluster transposition, they are still notable in that such transpositions are relatively rare in Arabic.[6]

Other factors that attest to the special status of the root in MA are phonological rules involving nonvocalic segments that are restricted in some way to non-radicals. These rules include the Level 3 rules of Pre-Clitic Consonant

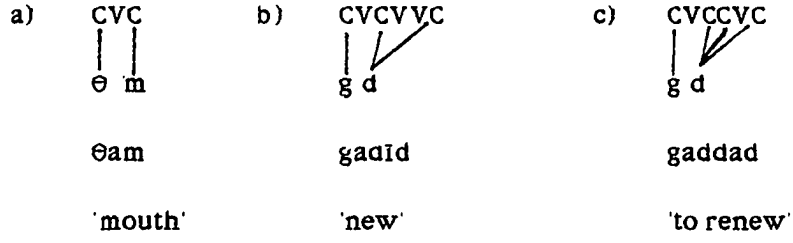
[6] A more complex transposition of root consonants has also been observed for another peninsular Arabic dialect. Hamza Qublan al-Mozainy (1985) in his study of a beduin Hijazi Arabic dialect describes a children's linguistic game in which the radicals in a word may be rearranged, e.g, difaʕ 'to push' may be daʕaf, fidaʕ, ʕadaf, faʕad, ʕafad (the vowel alternations follow from stress and consonant quality) . McCarthy (1981) cites this as evidence for the reality of the root as a level of analysis.

Lengthening (cf. §§5.1.1 and 5.1.4), Syncope (cf. §5.1.1), and /n/-Assimilation (cf. §5.1.3).

The root system in MA, as in LA and other Arabic dialects, in general is quite regular. Variations arise under well-defined morphophonological conditions, primarily when one of the radicals is a glide or glottal stop or when the second and third radicals of a triradical form are identical. Traditionally in LA the glides are termed "weak radicals," and roots having identical second and third radicals are called "geminates."

Roots consist of sets of two, three, or four (or infrequently five) nonvocalic radicals. These radical sets may be mapped onto syllabic shapes having up to four nonvocalic ("C") positions as defined in the previous section, §3.1.1. The mapping conventions for root melodies set forth by McCarthy assume a revised version of Leben's tonal Obligatory Contour Principle, which states: "A grammar is less highly valued to the extent that it contains representations in which there are adjacent identical elements on any autosegmental tier." The implications of this principle for root and vowel melodies are that a sequence of two or more identical radicals (or vowels) should be represented by a single segment on the root melody (or vocalic) tier.

The implications of this principle can readily be seen in the possible mappings in Arabic that are reducible to biradicals. Three instances of such mapping are shown below:



The mapping conventions state that melodic elements are associated one-to-one and left to right with melody-bearing elements. This is exemplified in a) above. After the one-to-one mapping, any remaining unassociated melody-bearing elements are assigned to the melody associated with the melody-bearing element to the immediate left if possible. This convention is the basis for the spreading of the root melody in b) and c) above. In case the melodic elements outnumber the melody-bearing elements, in Arabic the "extra" melodic elements are deleted, especially in verbs, as in the verbal root r-n-g-ḥ 'to swing' from the nominal /mrangaḥānah/ 'swing' (/m-/ and /-ah/ are instrumental affixes, cf. §3.5.2). Roots exhibiting the kind of structure shown in b) and c) above are the traditional geminates of Arabic. This interpretation of geminates--as biradicals mapped into syllabic shapes with three (or more) nonvocalic positions--seems to account for their exceptional violation of the cooccurrence restrictions described by Greenberg and mentioned earlier in this section.[7]

[7] Also, dictionaries in Arabic (as well as major Arabic-English dictionaries), which list Arabic words according to their roots, alphabetize geminate roots according to the first two consonants only, such that ǰ-d-d 'new', for example, precedes ǰ-d-b 'dry, barren' even though /b/ precedes /d/ in the Arabic alphabet.

A few "biradical" roots are exceptions to these mapping conventions and appear to be degenerate triradicals. These include a handful of MA nouns referring primarily to family members and body parts, such as /θam/ 'mouth', /ðin/ 'ear', /bin/ 'son', /xit/ 'sister', /ʔax/ 'brother', and /ʔab/ 'father'. Some of these have triradical variants such as /ʔaxt/ for 'sister' and /ʔaxū-/ (i.e., radicals ʔ-x-w), the bound form of 'brother' as in /ʔaxū-hā/ 'her brother'. In any case, the second radicals of these nouns do not function in the same way as in the majority of biradicals in that they do not spread over more than one C-slot.

Three verbal roots in common usage in MA also are exceptions to the biradical mapping conventions. Two of these are the roots /ʔ-k-l/ 'to eat' and /ʔ-x-ð/ 'to take', for which the glottal stop sometimes appears as the first radical, as in /ʔakil/ 'food' and /ʔakkal/ 'to cause to eat', but often does not, as in /kal/ 'he ate'. The third is a very common verb in MA, /g-y/ 'to come', which might be described as a final weak biradical and is undoubtedly related to the LA root /ǰ-y-ʔ/. A fourth irregular root, /r-y/ ~ /r-ʔ-y/ 'to see', is rare in MA but heard in other parts of Oman.[8] The irregularities of these roots will be discussed along with the other root classes in the later sections of this chapter.

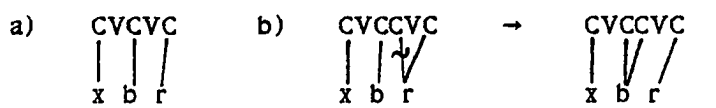
Biradicals mapping into syllabic shapes with three or four radical positions and following the mapping conventions, however, are very common in MA, such as /šall/ 'to take, pick up', /sakk/ 'to close', and /laff/ 'to turn, embrace, envelop'.

[8] A related verb /rāwa/ 'to show (trans.)' is quite common in MA.

Some biradicals have an onomatopoetic quality, as in /kaħħ/ 'to cough', /ṭašš/ 'to splash', and /wann/ 'to groan from tiredness'.

A special class of reduplicated biradicals, in which both radicals map into the third and fourth radical positions of a quadriradical, is described below in the the discussion of quadriradicals.

Triradical roots are the most common and the most numerous of the radical set types. These are mapped as follows, according to McCarthy:



xabar

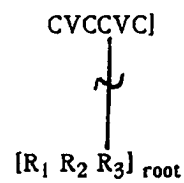
'news'

xabbar

'to inform'

Example a) shows a one-to-one mapping onto a syllabic base with three C-slots, whereas in b) the conventional mapping onto a syllabic base with four C-slots is subject to a rule that erases the association between the third 'C' and the third radical, in this case /r/. McCarthy's erasure rule is restricted to certain specified morphological forms, but in MA, unlike LA, there are no triradical roots with the mapping shown in b) that do not undergo erasure. The MA erasure rule is therefore morphologically unrestricted except that it applies only to triradicals:

Triradical Mapping Erasure:



Then, by convention, the melodic element to the right (R_2) is assigned to the unassociated melody-bearing element (C), and the result is shown on the right-hand side of the arrow in b).

Another possible and more straightforward derivation of b) above that would not involve mapping erasure is by means of a rule of C-Insertion. After the radicals have been mapped onto the existing C's of a CVCVC syllabic base, this rule inserts a C immediately following the C onto which R_2 is already mapped.[9]

C-Insertion

$$\emptyset \rightarrow C \;/\; C \underset{R_2}{\underline{\quad}}$$

As in b), the association lines then spread rightward from R_2 onto the unassociated C.

Regular triradicals are composed of three nonidentical consonants.[10] When one of the radicals is a glide, then predictable variation results such that the root, like the geminates described above, is traditionally said to belong to a morphophonologically-defined class. These classes are, in MA: 1) initial weak, i.e. having a glide (more commonly /w/) as the initial radical; 2) medial weak, also known as "hollow," in which the second radical is a glide, either /w/ or /y/; and 3)

[9] This derivation was suggested to me by Russ Schuh.

[10] Although in a very few cases, such as θ-l-θ 'three', the first and third consonants are identical. Cf. footnotes 2 and 5 in this chapter.

final weak, in which the final radical is a glide (exclusively /y/ in verbs; a few nouns have final /w/). Triradicals having /w/ as the second radical and /y/ as the third fall into the final weak class, with the medial /w/ functioning as a "strong" radical.

Quadriradicals are less numerous than triradicals but nevertheless comprise some frequently used roots. A sample mapping is shown below:

f) CVCCVC
t r g m

'to translate'

The mapping in these instances is one-to-one.

In addition to regular quadriradicals in which all of the radicals are consonants, quadriradicals exhibit variation when the second or fourth radical is a glide (roots having first and/or third radicals as glides are entirely regular). When

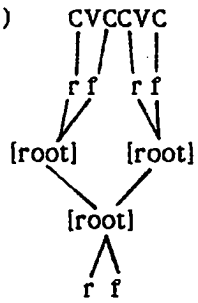
the second radical is a glide, a medial long vowel occurs as a result of coalescence,[11] but such roots are otherwise regular, and when the final radical is a glide (normally /y/), the root is final weak.

An additional subtype of quadriradical is the reduplicated root in which the first and second radicals are repeated as the third and fourth radicals. Many onomatopoetic roots fall into this category, such as /rafraf/ 'to flutter' and /zalzal/ 'to shake, tremble'. McCarthy has proposed an interesting mapping for these reduplicated roots: a biradical morpheme mapped into two morpheme positions. The resulting four radicals are then mapped onto the prosodic template, as follows:

---

[11] /w/ in this position is a candidate for Low Vowel Coalescence since it occurs syllable-finally following /a/. The interpretation of verbs containing /ō/ and three radical consonants, such as /sōlaf/ 'to tell (stories, etc.)', as quadriliterals in which R_2 is /w/, rather than say a pattern with an /ō/ or infix /w/ (as for example Forms XII and XIII of the verb in LA, which have a /w/ after the second radical), was suggested to me by the late Professor T. M. Johnstone (personal communication) and is assumed in Abboud (1979). Unfortunately there are no verbal alternations in which the /w/ might be expected to surface. The related noun is /sālfah/ (sg.), /swāluf/ (pl.) 'talk, news' has a surface /w/, but it is the result of a synchronic alternation with the /ā/ in the singular (cf. §3.5.3). This analysis is further supported by the existence of the derived [t]-prefix form, /tsōlaf/ 'to chat', which is characteristic of other quadriradical verbs. Other verbs of this type in MA are /nōfax/ 'to whitewash' and /qōraf/ 'to jinx' (cf. /tqōraf/ 'to be jinxed'). A quadriradical verb in which the it appears that second radical is /y,/ which by coalescence becomes /ē/, is /txēṭar/ 'to be a guest'.

g)



The root classes are summarized below (R is a radical; C a consonant or a glide which acts as a strong radical; and G a glide or weak radical):

Radicals:	R_1	R_2	R_3	R_4
Biradical	C	C		
Geminate	C	C_i	(C_i)	
Reduplicated	C_i	C_j	(C_i)	(C_j)
Triradical				
Regular	C	C	C	
Initial weak	G	C	C	
Hollow	C	G	C	
Final weak	C	C	G	
Quadriradical				
Regular	C	C	C	C
Medial /ō/	C	/w/	C	C
Final weak	C	C	C	/y/

3.1.3 Vowels and vowel mapping

Vowels in the MA verbal system are indicators of voice and, to a lesser degree, aspect.[12] In nominal stems, in combination with certain nominal syllabic shapes, they are associated with distinct semantic categories.

No stem has more than two distinct vowel qualities[13] spread over a maximum of five V positions comprising at most three syllables (cf. §3.1.1). The most common vowel quality by far is /a/, followed in frequency by /i/ and then /u/. The possible combinations in approximate order of number of patterns (most frequent first) are shown below:

(a)

(a-i) / (i-a)

(a-u) / (u-a)

(u), (i)

(u-i)

There are no examples of *(i-u). However, where the vowel melody is not (a), then the next choices are melodies with maximal, high-low contrasts, i.e., (a-i) / (i-a), (a-u) / (u-a). This has been noticed as well for LA by Fleisch (1961).

Vocalic morphemes are mapped onto V skeletal positions in the same way that radicals are mapped onto C skeletal positions, with a major exception. When

[12] In LA, vowels are used to indicated verbal voice and aspect; however vowel quality has been leveled in MA to the extent that it functions as an aspectual marker only in Form I verbs, and there only in some instances.

[13] Inflectional prefix vowels and their relation to stem vowels is treated in §4.1.2.

vocalic melody consists of two vowels, then the second vowel quality is assigned to the last V position or sequences of V's in the stem. This is exemplified in the active participle and the trisyllabic plural, both of which have the vowel melody (a-i), as in:

Active Participle: stakaawid 'being ambivalent about'

a i

Trisyllabic Plurals: fawaakih 'fruits'

a i

garaagiir 'sharks'

a i

In both instances, the /i/ is assigned to the final stem vowel and adjacent vowel if there is one by the following vowel association rule, similar to that proposed in McCarthy (1981):

Vowel Association:

(V) V C]

{ V_i - V_j }

Whereas the minimal unit onto which radicals are mapped is the C position, the minimal unit onto which vowels are mapped is the syllable, which may contain either one or two V positions.

Further details regarding vocalic morphemes are specific to the stem type (verb, participle/verbal noun, and nominal) and are given in later sections in this chapter.

3.2 General stem rules

The rules described in this section as general stem rules are those phonological rules applying in general to stems matching their structural descriptions and which are not specified for morphological subclass. These include all of the rules that apply to the syllabic bases formed at Level 0 and those that apply in general at Level 1 without specifying morphological class (although in one case there is a morphologically-identifiable class of exceptions).

The rule of Syncope discussed in §2.2.2, applies at Level 0 and 1. It states that a short vowel in a penultimate open syllable is elided when following another open syllable.

Syncope (Levels 0, 1)

$$V \rightarrow \emptyset \quad / \quad V\ C\ \_\_\ C\ V$$

Condition: Applies from left to right.

Syncope applies redundantly to syllabic bases,[14] and the environment for Syncope is also created at Level 1 when certain derivational affixes are attached. For

[14] Among the stem bases, there are no syllabic shapes containing the sequence CVCVCV, though shapes such as CVCCVC and CVCCVVC, for example, do occur.

example, the nominal prefix [ma][15], indicating an instrument or place where an action takes place, can be attached to a nominal base having the shape [RaRaR][16], where R stands for a C-slot filled by a radical. When the affix is attached, [[ma][RaRaR]] becomes [[ma][RRaR]], as in /magmar/ 'incense burner'. Some stems also have the feminine suffix /-ah/ attached, and in these cases [[ma][RaRaR][ah]] becomes [[ma][RaRR][ah]], as in /madarsah/ 'school'. Syncope applies in both instances to the penultimate vowel.

A second rule that applies to stem bases is Glide Deletion. According to this rule, intervocalic glides are deleted when the adjacent surrounding vowels are short and low. This accounts for alternations such as the following between the perfect and imperfect of verbs with medial glides (the Level 0 underlying perfect stem is given on the left):

[sayar]	sār	'he went'	y-sīr	'he goes'
[ɣayab]	ɣāb	'it was missing'	y-ɣīb	'it is missing'
[šawaf]	šāf	'he saw'	y-šūf	'he sees'
[rawam]	rām	'he was able'	y-rūm	'he is able'
[nawad]	nād	'he dozed'	y-dūz	'he dozes'
[xayas]	xās	'it was spoiled'	y-xīs	'it is spoiled'

[15] The bracketing notation mentioned at the beginning of this chapter, indicates the beginning and end of a morphological form.

[16] The justification of a base having two vowels where only one appears on the surface (in different positions) is discussed further in §§3.3, 3.5, and 4.1.

[dawax]	dāx	'he smoked'	y-dūx	'he smokes'
[ħayad]	ħād	'he knew'	y-ħīd	'he knows'

In each case, the quality of the underlying glide radical corresponds to the long vowel found in the imperfect (i.e., /w/ to /ū/ and /y/ to /ī/). For example, the perfect verb /sār/ 'to go' is represented at Level 0 as [sayar], and the imperfect as [siyir] (the derivation of the imperfect stem is discussed below). As a result of Glide Deletion, the perfect stem becomes [saar]. The medial glide radical also surfaces in related stems, such as [šawaf] > /šāf/ 'he saw', /šawwaf/ 'he showed'; and [γayab] > /γāb/ 'it was missing', /γayyab/ 'he lost'. The rule is given below, where G is a glide (/w/ or /y/) and C is a consonant.

Glide Deletion (Levels 0, 1)

$$G \rightarrow \emptyset \quad / \quad \underset{[+low]}{C\ V} \quad \_\_ \quad \underset{[+low]}{V\ C\ ]}$$

This rule applies at Level 0 and to the output of vowel lowering at Level 1.

All sequences of vowels at Levels 0 and 1, including those sequences derived by means of Glide Deletion, become long vowels. A third rule, that of Vowel Fusion, fuses sequences of identical short vowels into one long vowel of corresponding quality.

Vowel Fusion (Levels 0, 1)

$$\begin{array}{ccccc} V & & V & \rightarrow & \bar{V} \\ [\alpha f] & & [\alpha f] & & [\alpha f] \end{array}$$

This rule applies to the output of Glide Deletion as well as to all Level 0 vowel sequences. According to this rule, for example, [fawaz] > [faaz] > [fāz] 'to win', and [sayar] > [sayar] > [sār]. Vowel Fusion also applies to the output of Glide Deletion at Level 1.

Sequences of short vowel-glide-short vowel are also not permitted when the short vowel following the glide is high. According to the rule of Post-Glide High Vowel Deletion, the short high vowel is dropped. In this rule, G is a glide and C a consonant.

Post-Glide High Vowel Deletion (Levels 0, 1)

$$\underset{[+high]}{V} \rightarrow \emptyset \;/\; V \quad G \quad \_\_ \quad C\,]$$

The elision of this vowel creates environments for the postlexical rule of Coalescence, described in Chapter 2. Post-Glide High Vowel Deletion applies, for example, to the underlying imperfect active verbal stem [siyir] 'to go', which becomes [siyr], and postlexically by Coalescence /sīr/. Likewise, the underlying verbal stem [fiwiz] becomes [fiwz], and then by Coalescence, /fūz/ 'to win'. Post-Glide High Vowel Deletion applies to Level 0 and to the output of vowel raising at Level 1.

As Glide Deletion and Post-Glide High Vowel Deletion predict, the sequences CaGaC, CaGIC, and CIGIC (where 'I' stands for /u/ and /i/) are not found in MA stems, whereas the sequences CāC, CīC, CūC, CēC, and CōC commonly occur. CIGaC sequences are relatively infrequent, but they do occur, as in /ṣuwar/ 'pictures', and /šiyal/ 'scarves'.

Another general rule that applies to stems is the rule of Inter-Geminate Vowel Deletion. Stem base forms in which a short vowel intervenes between two identical consonants the first of which is preceded by a vowel drop the vowel between the identical consonants, as in [šalal] 'to pick up, take' which becomes [šall] upon application of this rule. A small class of exceptional forms never undergoes this rule, namely unaffixed nominal stems of the pattern RaR_iaR_i such as /ʕadad/ 'number' and /dalal/ 'coffeepots'. Because the lack of affixation is a conditioning factor in defining them, these exceptions can be identified only at Level 1, and therefore this rule applies at Level 1.

Inter-Geminate Vowel Deletion (Level 1)

$$V \rightarrow \emptyset \quad / \quad V \; R_i \; \_\_ \; R_i \;]$$

Conditions: Applies before syncope.
Does not apply to $[[RaR_iaR_i]]_{Nominal}$

As noted above, Inter-Geminate Vowel Deletion is ordered before Syncope. For example, the affixed underlying stem [[ma][nazaz]] becomes [[ma][nazz]], from which is derived /manazz/ 'cradle' and not *[[ma][nzaz]], as it would if Syncope applied first.

3.3 Verbal stems

Verbal stems in MA conform to one of nine triradical and two quadriradical derivational patterns, known in Arabic grammar as the "forms" of the verb and traditionally referred to by means of Roman numerals (e.g. Form I, Form II, etc., with Q used to indicate quadriradicals, e.g., Form QI). Form I is the base form, and all of the others are known collectively as the derived forms. The same root generally occurs in more than one verbal form, and each form has certain syntactic and semantic properties associated with it (e.g., causative, reflexive). The common forms found in LA are given below, along with their most common properties; for every form there are exceptions to these properties. As was traditional among the Arab grammarians, the triradical f-ʕ-l 'to do' and the quadriradical f-ʕ-l-l are used here to illustrate the C positions in the stems.[17]

Form I	faʕal	Unaugmented triradical
Form II	faʕʕal	Causation, intensity; denominative
Form III	fāʕal	Doing of an action to someone
Form IV	ʔafʕal	Causation

[17] In nonconcatenative terms, the purely expository quadriradical root f-ʕ-l-l used by the Arab grammarians would seem to be a mapping of f-ʕ-l onto four C positions but violating McCarthy's rule of Triradical Mapping Erasure. However, quadriradicals consist of four non-identical radicals (or two biradicals, cf. §3.1.2), e.g. l-h-w-z 'become dirty', x-r-b-ṭ 'be confused', q-r-m-ṭ 'wrinkle', r-f-r-f 'flutter one's eyelashes'. Because the root f-ʕ-l is not a possible source for /faʕlal/ in Arabic, the use of the root f-ʕ-l-l to indicate a quadriradical was no doubt unambiguous to the grammarians.

Form V	tfaʕʕal	Reflexive of Form II
Form VI	tfāʕal	Reflexive of Form III
Form VII	nfaʕal	Passive of Form I
Form VIII	ftaʕal	Reflexive of Form I
Form IX	ʔafʕall	Colors and bodily defects
Form X	stafʕal	Reflexive of Form IV
QI	faʕlal	Unaugmented quadriradical
QII	tfaʕlal	Reflexive of Form QI

For ease of understanding and comparison, those same designations are used here for the corresponding MA verbal stem types. Each form is based on one of three syllabic bases (cf. 3.1.1) with no affix or one of three derivational affixes attached. Each verbal form has a perfect and an imperfect stem, and may be internally marked for voice (active or passive).

The full set of perfect verbal stem forms for each root type is illustrated in Table 3-1. The meanings of the verbs shown in Table 3-1, as for all of the examples and texts in this study, are listed in the lexical index in Appendix C. The stems are shown after the Level 1 morphological and phonological rules have applied.[18] In this table, the first column gives the form designation, and the second column the stem pattern, that is the stem base after root and vowel mapping and Level 1 affix attachment and before Level 1 phonological rules have

[18] These stem patterns ought not to be confused with the third person singular perfect active surface forms, which have a zero inflectional affix.

Form	Pattern	Regular	Geminate	Hollow	Final-y	Initial weak
I	RaRaR RāR	bašam masak qafal šarab	sadd	sār nād xāf	ħakay laqay daray	wagaʕ yabas
II	RaR_2R_2aR	xabbar	gaddad	ħawwal ɣayyab	ṣallay	waṣṣal
III	RāRaR	xābar	*	nāwal	nāday	wāfaq
V	$tRaR_2R_2aR$	tʕallam	tmaddad	tfawwal tfayyaq	tɣadday	twaṣṣax
VI	tRāRaR	txābar	*	tʕāwan	tlāqay	twāħay
VII	nRaRaR nRāR	ntaras	nkabb	nšāf	nmaħay	nawfaq
VIII	RtaRaR RtāR	štaɣal	htamm	xtār	štaray	ttaṣal
X	staRaRaR staRāR	staħmaq	stamarr	starāħ	stakfay	stawgaʕ
Xa	staRāRaR	*	*	stakāwad	*	*

Form	Pattern	Regular	Redup-licated	R_2 = /w/	Final-y
QI	$R_1aR_2R_3aR_4$	xarbaṭ	rafraf	sawlaf	qahway
QII	$tR_1aR_2R_3aR_4$	txarbaṭ	twalwal	tsawlaf	tqahway

*not found

Table 3-1. Perfect Verbal Stems (Level 1)

applied. In this representation, R stands for any radical. In the remaining five columns, examples for each verb type are given as they are after the Level 1 phonological rules have applied but before a few later rules have applied to these stems, including Final-y Deletion (a Level 2 rule, cf. §4.1.1) by which the final-y verb ending /-ay/ becomes /-ā/ (e.g., /ħakay/ becomes /ħakā/); and the postlexical Coalescence rules discussed in Chapter 2 (whereby /sawlaf/ becomes /sōlaf/, etc.).

In the numerical schema, the verbal forms "missing" in MA are those corresponding to LA Forms IV and IX. Only vestiges of Form IV exist in MA, and Form IX is nonexistent (as are the rare LA Forms XI-XV and QIII-IV). In LA, the stem shapes of these forms are: ʔaRRaR (Form IV) and $ʔaR_1R_2VR_3R_3$ (Form IX). The lack of corresponding forms in MA is not surprising considering the instability of the glottal stop, and particularly initial /ʔa/, in OA and MA.[19] In LA both have the prefix /ʔa-/, which is lost when any other prefix is attached. The few Form IV verbs occur more commonly as Form I, such as /ʕaṭa/ ~ /ʔaʕṭa/ 'to give', and /rasal/ ~ /ʔarsal/ 'to send'. Other Form IV verbs are heard only in certain expressions, such as /ʔaħsan-t/ 'you're welcome (2 m.s.)' (the usual response to

[19] This can be seen in verbs in the dropping of initial glottal stop in the irregular verbs /k-l/ and /x-ð/, as well as the lack of anaptyctic /ʔa/ prefixed to Form I imperatives and Form VII, VIII, and X perfect tense verbs (cf. Table 3-1) and imperatives (cf. §4.1.2). In §2.1.1, the occurrence of initial /h/ rather than glottal stop in a few words such as /hēn/ 'where' and /hā yl/ 'oil' is discussed.

'thank you' to a man in MA), or only as participles, e.g. /muhimm/ 'important (IV, active participle)'.

Form IX resembles Form IV with the additional distinguishing phonological characteristic of a long final consonant, as in LA /ʔaħmarr/ 'to be/become red'. In addition to the difficulties associated with this shape described above, Form IX has a final long consonant, and as we have seen in Chapter 2 final long consonants in MA are subject to shortening. Form IX verbs, which mainly refer to colors and defects, have become Form I verbs in MA, e.g. /ħamar/ 'to be/become red' and /xaḏar/ 'to be/become green', or alternatively the common MA periphrastic construction with /stawa/ 'become' followed by the adjective, e.g. /stawa ʔaħmar/ 'to become red' is used instead.

The verbal forms in Arabic morphologically encode certain syntactico-semantic properties, such as causation (Form II), reciprocity (Form VI), and passivization (Form VII). A full analysis of the complexities and interrelationships of this system is beyond the scope of this study, however a few general observations can be made about MA. Form II is extremely productive in MA as in other Arabic dialects, not only incorporating the functions of causation, intensification, and denominalization, but also borrowings such as /fannaš/ 'to quit, resign; fire' < English *finish*; /ħarran/ 'to honk one's horn' < English *horn*; and /bannad/ 'to close' < Hindi *band*. Other notable characteristics of MA are the productivity of Form VII and the use of Form VIII as passive. These often take on the meaning, especially in Form VII, of 'able to be X-ed', as in /yinsamaʕ/ 'it can be

heard'. Examples of Form VIII used as a passive are /xtarab/ 'to be broken', /ṣtād/ 'to be fished, caught', and /γtašš/ 'to be cheated'.

Among other gaps in Table 3-1 is the absence of geminate verbs of Forms III and VI. The application of Inter-Geminate Vowel Deletion to Forms III and VI, would result in extra-heavy syllables, i.e. $C\bar{a}C_iC_i$ and $tC\bar{a}C_iC_i$, which are not otherwise found in MA stems.

As the only shape not found in LA, [[sta][CVVCVC]] is a somewhat unusual case. It is represented by only one commonly used verb in MA, /stakāwad/ 'to be ambivalent', and is designated Xa in Table 3-1 due to its similarity to Form X, which also has [sta] as its prefix. P. Abboud (1979) in his description of Northern Najdi Arabic verbs mentions the existence of verbs having the same shape as Xa, as well as the additional shape [[sta][CVCCVC]].[20]

3.3.1 Affixed stems: the verbal forms

The verbal stem bases RaRaR, RāR, RāRaR, and RaRRaR may have zero or one of three derivational affixes prefixed to them. The three derivational affixes are [t], [sta], and [n], and these are prefixed in the following combinations:

[20] The examples given (p. 474), all of the shape [[sta][CVCCVC]], are /ʔistisamkar/ 'it (m.) was locked', /yistifaggaddōn/ 'they (m.) showed concern for', and /tistaxalbiṭēn/ 'you (f.s.) are confused'.

$[RaRaR]_{I}$	$[[t][RaRaR]]_{VIII}$	$[[sta][RaRaR]]_{X}$	$[[n][RaRaR]]_{VII}$
$[RāR]_{I}$	$[[t][RāR]]_{VIII}$	$[[sta][RāR]]_{X}$	$[[n][RāR]]_{VII}$
$[RāRaR]_{III}$	$[[t][RāRaR]]_{VI}$	$[[sta][RāRaR]]_{Xa}$	
$[RaR_2R_2aR]_{II}$	$[[t][RaR_2R_2aR]]_{V}$		
$[R_1aR_2R_3aR_4]_{QI}$	$[[t][R_1aR_2R_3aR_4]]_{QII}$		

The eleven verbal forms of MA, indicated above by subscripts, are based on these shape.

Once these affixes are attached at Level 1, the phonological rules apply. The form [[sta][RaRaR]], for example, has several rules applied to it. Sample derivations are:

(1)	(2)	(3)	
[ħamaq]	[marar]	[rayaħ]	
			Level 0
--------	--------	[raaħ]	Glide Deletion
--------	--------	[rāħ]	Vowel Fusion
			Level 1
[sta][ħamaq]	[sta][marar]	[sta][rāħ]	Affixation
--------	[sta][marr]		Inter-Geminate Vowel Deletion
[sta][ħmaq]			Syncope

(3) above demonstrates that the rule of Glide Deletion must apply at Level 0 before the affixation of [sta] at Level 1. If Glide Deletion does not apply first, then the result is incorrect, [sta][rayaħ] > *[staryaħ] by the application of Syncope.

When the prefix [t] is attached to the patterns having the bases RaRaR and RāR, the result is not tRaRaR and tRāR, but RtaRaR and RtāR (Form VIII, shown in Table 3-1). The verb 'to work' for example is /štayal/ and not */tšayal/. This is made explicit in a rule of Prefix Metathesis:

Form VIII Prefix Metathesis (Level 1)

[t][R -> [R[t] / Form VIII

This rule changes [[t][RVRVR]] into [[R[t]VRVR]] and [[t][RV̄R]] to [[R[t]V̄R]].

When the initial radical (R_1) is a glide, most commonly /w/, changes occur in Forms VII and VIII:

Form VII Initial Weak Metathesis (Level 1)

$$GV \rightarrow VG \ / \ [n][\_\_RVR]_{Form\ VII}$$

Form VIII Initial Weak Assimilation (Level 1)

$$w \rightarrow t \ / \ [\_\_[t] \ / \ Form\ VIII$$

An example is [[n][wafaq]] which becomes [[n][awfaq]] by the Form VII rule and finally postlexically /nōfaq/ 'to be agreed upon.' by Low Vowel Coalescence. The Form VIII rule applies in the environment created by the Form VIII Prefix Metathesis rule shown above. The verb [[t][waṣal]] becomes [[w[t]aṣal]] by that rule and then [[t[t]aṣal]], and then /ttaṣal/ 'to contact (someone)' by the Form VIII Initial Weak Assimilation rule.

3.3.2 Vowel quality: the imperfect and the internal passive

This section examines vowel quality variation in MA verbal stems. In the perfect active stems, discussed in the previous section and exemplified in Table 3-1, the sole vowel melody is (a). This includes all Form I perfect active vebs, which, unlike LA and other dialects, have low vowels in MA. However, high vowels appear in some imperfect active and internal passive stems of MA.

The imperfect active stems are exemplified in Table 3-2. In this table, R stands for any radical, V for any vowel, and the example stems are given in the form they assume after all Level 1 phonological rules have applied and before the later applications of the rules of Final-y Deletion and Coalescence. The stems given

Form	Pattern	Regular	Geminate	Hollow	Final-y	Initial weak
I	RVRVR RV̄R	bišam misik qafil šarab	sidd	sīr nūd xāf	ħikiy laqay dariy	wigaʕ yibas
II	RaR_2R_2aR	xabbar	gaddad	ħawwal ɣayyab	ṣalliy	waṣṣal
III	RāRaR	xābar	*	nāwal	nādiy	wāfaq
V	$tRaR_2R_2aR$	tʕallam	tmaddad	tfawwal tfayyaq	tɣadday	twaṣṣax
VI	tRāRaR	txābar	*	tʕāwan	tlāqay	twāħay
VII	nRVRVR nRāR	ntiris (ntaras)	nkabb	nšāf	nmaħiy (nmaħiy)	nawfaq
VIII	RtVRVR RtāR	štiɣil (štaɣal)	ħtamm	xtār	štiriy (štariy)	ttaṣal (ttaṣal)
X	staRaRaR staRiGR	staħmaq	stamarr	stariyħ	stakfiy	stawgaʕ
Xa	staRāRaR	*	*	stakāwad	*	*

Form	Pattern	Regular	Redup-licated	R_2 = /w/	Final-y
QI	$R_1aR_2R_3aR_4$	xarbaṭ	rafraf	sawlaf	qahwiy
QII	$tR_1aR_2R_3aR_4$	txarbaṭ	twalwal	tsawlaf	tqahway

*not found

Table 3-2. Imperfect Verbal Stems (Level 1)

in parentheses for Forms VII and VIII illustrate alternative stems having underlying stress, discussed later in this section. The imperfect stems are the basis for both imperfect and imperative verbs. The formal distinction between these two stem types lies in their inflection (cf. §4.1.2).

The imperfect active verbal forms are identical to the perfect active stem patterns except in vowel quality, although as in the perfect active, {a} is the predominant vowel melody. However, in the imperfect stem, high vowels are found in the following four stem types: 1) in some Form I verbs; 2) in Form VII and VIII regular verbs; 3) in Form X hollow verbs; and 4) preceding final /y/ for all verbal forms except V, VI, QII, and a few Form I verbs.

In addition, certain verbal forms, both perfect and imperfect, have corresponding internal passive stems whose stem vowel melody contrasts in some ways with the active stem. For perfect passive stems, the vowel melody is {u-i} and for the imperfect passive stem, it is {a}.

In Form I imperfect verbal stems, two stem vowels are present in the underlying form even though only one appears on the surface. This is also true of Forms VII and VIII, which share the same syllabic base as Form I, CVCVC. The position in which the vowel appears on the surface depends on the syllable structure of the final form. If no inflectional affix or clitic[21] is attached to the stem or if the affix or clitic is consonant-initial, then the vowel appears in the second position (e.g., /yi-tris/ 'he fills', /yi-tris-ha/ 'he fills it (f.)'); if an attached affix or

[21] For a list of MA inflectional affixes and clitics, see Appendix A.

cliticis vowel-initial, then the vowel appears in the first positon (e.g., /yi-turs-u/ 'they (m.) fill'). The rules and rule applications syncopating the appropriate vowels are discussed in Chapters 4 and 5.

The analysis assumed here, in which both vowels are present in the underlying form and one vowel is eliminated by Syncope in the appropriate environments, is preferred to an alternative analysis with one underlying vowel (i.e.., CVCC or CCVC) and a rule of metathesis to modify the position of the vowel for several reasons. First, it allows for a common underlying syllabic base for both the perfect and imperfect verbs, which is true for all of the other verbal forms. Second, it provides a means of differentiating stem behaviors. The presence of both vowels satisfies the conditions for the Glide Deletion. Without the second vowel, it would be difficult to differentiate between the instances of /ay/ and /aw/ that become /ā/ rather than /ē/ or /ō /, whereas /aya/ and /awa/ always become /ā/. For example in the verb /nām,ynām / 'to sleep', [nawam] → [nām] but [nawm] → [nōm] 'sleep (nom.)'. If one vowel were not present in the imperfect, the underlying form would be [nwam] or [nawm], neither of which can easily become [nām]. Also, some potential occurrences of metathesis that would seem to produce an optimal syllabic structure are not utilized. This analysis, discussed in §5.1.1, specifically claims that the reason for the lack of vowel repositioning in those instances is that there is no vowel available to appear in the new position at that stage in the derivation. Third, in some instances described below, the two imperfect vowels potentially differ in quality from one another. Sometimes this is

due to the quality of the surrounding radicals, but in those cases where it is not, both vowels need to be represented. Finally, Syncope is a process which is necessary on independent grounds at later levels and is central to word construction, whereas metathesis is peripheral in MA. The mechanics of Form I imperfect vowel deletion are discussed further in Chapters 4 and 5.

The vowel in either of the two positions in the Form I imperfect active stem may be high or low. A sample set of surface forms of regular verbs is given below in both the vocalic suffix combining form and the zero affixation form respectively to illustrate the two vowel positions for each verb (/u/ is the result of the general phonological rule of High Short Vowel Backing described in Chapter 2):

a)	i - i :	gils-	glis	'to sit'
		misk-	msik	'to hold'
		šikr-	škur	'to thank'
		turs-	tris	'to fill'
		hurb-	hrub	'to escape'
b)	a - a:	baħš-	bħaš	'to dig'
		laʕb-	lʕab	'to play'
		nahm-	nham	'to call'
		qarb-	qrab	'to draw near'
		šarb-	šrab	'to drink'

c) i - a :	fiṯħ-	ftaħ	'to open'
	gumʕ-	gmaʕ	'to sweep'
	ħilm-	ħlam	'to dream'
	kidʕ-	kdaʕ	'to bite'
	xurb-	xrab	'to be spoiled'
d) a - i :	daxl-	dxil	'enter'
	qaṣd-	qṣid	'to want, go'
	rakḏ-	rkuḏ	'to run'
	raqd-	rqid	'to sleep'
	xalṭ-	xluṭ	'to mix'

As the above data show, four possible vowel combinations, /i/, /a/, /i-a/ and /a-i/, are represented, and no single vowel quality or quality combination is predominant.

Upon examination, however, vowel quality in some environments can be seen to correlate with phonological characteristics of neighboring consonants. Pharyngeals, for example, are always preceded by /a/, as in /baħš/, /ftaħ/, /gmaʕ/, /kdaʕ/, and /laʕb/. On the other hand, non-backing alveolar and palatal radicals are preceded by /i/ unless the vowel is preceded by a pharyngeal, as in

/gils, glis/ and /šikr, škur/, but /bħaš/. Clearly, consonant quality plays a role in determining vowel quality in these stems.[22]

Root consonant quality alone, however, is not decisive in MA. For example, /hurb, hrub/, /qarb, qrab /, and /xurb, xrab/ have root consonants in each radical position from similar phonological classes (back-/r/-labial) yet the imperfect vowels in one case are high, in the second low, and in the third instance split between high and low. Because these stems cannot be consistently distinguished phonologically, it appears that the vowel melodies associated with specific Form I imperfect active stems are lexically-determined, at least in part.

To what extent, then, are the vowels of this imperfect stem lexically-determined and to what extent phonologically-determined?

The phonological conditions determining a subset of the imperfect active vowels in Form I regular triradical verbs can be summarized in a rule having several parts. First, an imperfect active vowel is low immediately preceding a radical having the feature [+back], that is, is uvular, pharyngeal or glottal, as in

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[22] In his analysis of coastal OA (1977), Shaaban has formulated a rule of Imperfect Stem Vowel Assignment (ISVA) which relies on adjacent root consonant quality entirely:

I. $V \rightarrow a \;/\; \begin{matrix} L \_\_ C \\ C \_\_ L \end{matrix}$ where L stands for Laryngeal
[+imperfective]

II. $V \rightarrow u \;/\; \_\_\_ \begin{matrix} [+\text{consonantal}] \\ [+\text{labial}] \end{matrix}$

III. $V \rightarrow a \;/\; \begin{matrix} C \_\_ C \\ C \_\_ C \end{matrix}$

IV. $V \rightarrow i$ / elsewhere

/raqd-/, /nahm-/, and /ftaħ/. Second, an imperfect active vowel is low following a second radical (R_2) that is pharyngeal, e.g., /bħaš/, /lʕab/. In contrast, when the first radical, R_1, is a pharyngeal, the following vowel can be high, as in /ħilm-/. Third, an imperfect active vowel is high preceding a radical that is nonlabial, nonback, nonemphatic, and not /r/ (that is, a radical that is a nonemphatic alveolar--excluding the liquids--or palatal) unless it follows a radical that is [+back], [+emphatic], or /r/. Examples are /tris/, /šikr/, and /fitħ/.

Imperfect Vowel Quality (Level 1)

a) $$V \rightarrow [+low] \;/\; \underset{[+back]}{\_\_} \; R \; (V \; R)\,]_{\text{Form I imperf. active}}$$

b) $$V \rightarrow [+low] \;/\; R \; \underset{[+phar]}{\_\_} \; R\,]_{\text{Form I imperf. active}}$$

c) $$V \rightarrow [+high] \;/\; R \; \underset{\left\{\begin{matrix}[-back]\\[-emph]\\[-r]\end{matrix}\right\}}{\_\_} \; R \; (V \; R)\,]_{\text{Form I imperf. active}}$$

$$\left\{\begin{matrix}[-labial]\\[-back]\\[-emph]\\[-liquid]\end{matrix}\right\}$$

Note that the Imperfect Vowel Quality rule regulates vowel height, whereas the postlexical rules described in Chapter 2 describe vocalic backing. Although there is some overlap--pharyngeals condition low vowels in both cases--the rule

sets are clearly distinct. This analysis, unlike that of Shaaban for example, distinguishes between processes of vowel quality determination that are morphologically-conditioned (i.e., involve the imperfect stems of Form I verbs) and those that are more general phonological rules within the language.

The environments *not* covered by the Imperfect Vowel Quality rule and therefore determined by lexical feature are the vowels 1) preceding a labial, emphatic or liquid radical unless the vowel is preceded by a pharyngeal R_2; and 2) preceding alveolar and palatal nonemphatic radicals while at the same time following an emphatic or back radical or /r/. Examples of vowel height variation in these environments, indicated in bold type, are: [hid**u**m] 'to demolish' but [bišam] 'to eat until full'; [hub**u**ṭ] 'to go down' but [q **a**baḏ] 'to grasp'; [daxil] 'to enter' but [naxal] 'to sift'; [ħamil] 'to carry' but [ðibal] 'to wilt'; [qitil] 'to kill' but [qadar] 'to be able'; [higis] 'to feel (e.g., ill)' but [šahag] 'to bray'. A few verbs have more than one variant as pronounced by the same speakers, as in [ʕaraf] ~ [ʕaruf] 'to know'. Among the set of verbs given earlier in this section, the vowels not covered by the Imperfect Vowel Quality rule are shown in bold type: gilis, misik, šikur, turis, hurub; baħaš, laʕab, naham, qarab, šarab; fitaħ, g **u**maʕ, ħilam, kidaʕ, xurab; daxil, qaṣid, rakuḏ, raqid, xaluṭ. A more complex Imperfect Vowel Quality rule--perhaps sensitive to all three root consonants--might in fact be able to factor out some of these cases; however it appears that the phonological rule can account for slightly less than half of the vowels (18 vs. 22) if the above set of verbs is

representative, with the remainder of vowels lexically-determined with possibly some small proportion of vowels that can be either high or low.

Some verbs have vowels that differ in vowel height yet neither slot is conditioned by the Imperfect Vowel Quality rule; that is both vowels must be lexically-determined, e.g. ħilam, xurab, rakuð̣, qaṣid, and xaluṭ. This suggests that potentially two vowels must be stored in the lexicon. It also supports an underlying representation containing both vowels.

As stated above, the Imperfect Vowel Quality rule applies to Form I regular verbs. Verbs belonging to the other root classes do not follow this rule. Each class has a more restricted set of possible vowel combinations and is discussed with examples below.

Unlike regular triradicals, the stems of Form I geminate verbs undergo Inter-Geminate Vowel Deletion at Level 1 and as a result have only one underlying vowel that remains constant even when a vowel-initial affix or clitic is attached, e.g. /ymiss, ymissu/ 'to feel.' Geminate verbs have as the sole imperfect vowel melody {i}, which is backed and lowered according to the postlexical phonological rules of High Short Vowel Backing and Lowering described in Chapter 2:

Perfect	Imperfect	
mass	miss	'to feel'
maṣṣ	muṣṣ	'to suckle'
ħakk	ħikk	'to itch, scratch'
ʕaqq	ʕuqq	'to throw, toss in'

qall	qill	'to be, become few'
xarr	xurr	'to stream'
radd	ridd	'to return, answer'
taʕʕ	taʕʕ	'to tow, pull'
fahh	fahh	'to speak hoarsely'

Most hollow verbs have the imperfect vowel melody (i), but a few have (a). The medials sequence /-iyi-/ becomes /-ī-/ and /-iwi-/ becomes /-ū-/ by Post-Glide High Vowel Deletion and Coalescence, and the sequences /-aya-/ and /-awa-/ become /-ā-/ by Glide Deletion, as in the perfect stem. Examples are:

	Perfect	Imperfect	
a)	ħād	ħīd	'to know (the way)'
	ðāʕ	ðīʕ	'to be broken, spoiled'
	zād	zīd	'to add, increase'
b)	fāz	fūz	'to win'
	ṣāl	ṣūl	'to ache'
	nād	nūd	'to doze'
c)	nām	nām	'to sleep'
	xāf	xāf	'to be afraid'

Like geminate stems, hollow stems have only one syllabic stem configuration that does not alter preceding a vowel, e.g. /yfūz, yfūzu/ 'to win.'

There are two main types of final-y verbs, those with (i) and those having (a) as the second imperfect vowel, although fewer verbs have (a). The first vowel

(the vowel between R_1 and R_2) is phonologically-determined according to the Imperfect Vowel Quality rule. The surface forms are given below:[23]

a) i :	ħikyi	ħki	'to tell'
	mišyi	mši	'to walk'
	maħyi	mħi	'to erase'
	daryi	dri	'to be/become aware'
b) a :	baɣyi	bɣa	'to want'
	baqyi	bqa	'to remain'
	laqyi	lqa	'to meet'

Some final-y verbs show variation in the first vowel, e.g. /nasyi ~ nisyi, nsa/ 'forget'.

The second imperfect vowel for initial weak verbs is (a). The first vowel follows the Imperfect Vowel Quality rules:

wigʔi	wgaʔ	'to hurt'
yibsi	ybas	'to dry up'
warmi	wram	'to swell'
waqʔi	wqaʔ	'to fall'

[23] Final-y verbs lose the /y/ when in surface final position. For example, the root b-k-y 'cry' mapped onto a Form I syllabic shape in the perfect is [bakay], [bikiy]. On the surface this becomes /baka, ya-bki/ 'to cry.' Preceding vowel-initial suffixes or clitics, however, the /y/ appears, e.g. /bakyit/ 'she cried,' and /ybikyu/ 'they (m.) cry.' Therefore, at Level 1, where suffixes or clitics are not yet attached, the /y/ is retained. Final-y deletion is discussed in §§4.1 and 5.1.

The irregular verbs have the imperfect stems [kil] 'to eat' and [xuð] 'to take,' (where /u/ occurs in an /i/ environment), [giy] 'to come' and [ray] ~ [raʔay] 'to see'. The imperfect forms of these verbs are discussed further in §4.1.2.

The two root classes having predictable imperfect vowel qualities based on root type are the geminate and initial weak verbs; vowel height is lexically determined in hollow and final-y verbs. This can be expressed as:

Root Class Vowel Quality (Level 1)

a) $V \rightarrow [+high] \ / \ \_\_ \ R_2 \ R_2 \ ]_{\text{Form I imperf. active}}$

b) $V \rightarrow [+low] \ / \ G \ V \ R \ \_\_ \ R \ ]_{\text{Form I imperf. active}}$

Although Forms VII and VIII have the same syllabic base--CVCVC--as Form I, their imperfect vowels are not subject to the lexical and phonological complications of Form I verbs. Nevertheless, for Forms VII and VIII there are two possible stem basee for regular verbs. The preferred imperfect stem base and the one more widespread in MA is RiRiR. The alternate stem base, RaRaR, is similar to that preferred in other Arabic dialects. Examples are /yintris/ ~ /yintaras/ 'it was filled', /yištɣil/ ~ /yištaɣal/ 'he works', /yištuɣlu/ ~ /yištaɣlu/ 'they work'. This is also true for final-y verbs, e.g., /yištri/ ~ /yištári/ 'he buys', and /yišturyu/ 'they buy' which is preferred over /yištáryu/.

The vowel melody of the Form X medial weak imperfect stem (but interestingly, not Forms VII and VIII) is (i) rather than (a). The imperfect of

/starāh/, for example, is not */starāh/ but /starīh/. This can be expressed by an ablaut rule:

Form X Vowel Raising (Level 1)

R V y Y R] Imperf. active, Form X

(a) → (i)

The underlying form, e.g., [sta][riyih], then undergoes Post-Glide High Vowel Deletion at Level 1 to become [sta][riyh].

The final imperfect vowel in Forms II, III, VII, VIII, X, and QI is /i/ preceding /y/. The exceptions to this rule are Forms V, VI and QII, which have /a/ preceding /y/. This situation reflects that found in LA and other spoken dialects preceding any final root consonant; the vowel is /i/ except in Forms V, VI, and QII, where it is /a/. In MA, the diachronic /i/ of Forms II, III, VII, VIII, X, and QI has been leveled to /a/, *except* preceding /y/. Synchronically, however, this residue appears as a rule of vowel raising:

Final-Y Vowel Raising (Level 1)

V → [+high] / — y] Imperf.active, Forms II, III, VII, VIII, X, QI

Examples from Table 3-2 are [ṣalliy] 'to pray', [nmahiy] 'to be erased', [š tiriy] 'to buy', [stakfiy] 'to have enough', and [qahwiy] 'to serve coffee'.

Internal passive. Like some other peninsular Arabic dialects, MA retains the internal passive, which differs from the perfect and imperfect stems of the

active voice only in the quality of some stem vowels. For example, /rasal/ means 'he sent' and /rusil/ 'it was sent'. As mentioned previously, the vowel melodies characterizing the internal passive are: (u-i) (perfect) and (a) (imperfect).

Among other Arabic dialects preserving the internal passive are the Northern Najdi dialect described by Abboud (1979) and the northeast Arabian dialects described by B. Ingham (1982). Ingham mentions that in some dialects the internal passive is restricted to 3rd person or to the perfect tense, and even in the most productive dialects the 3rd person forms are the most common. In MA, the internal passive is found in both the perfect and imperfect stems. Although for some verbs all persons can be elicited, in spontaneous usage the third person, especially the third person singular, is the most common of the forms of the internal passive paradigm.

Jayakar (1889) mentions that in OA generally the internal passive has been replaced by the passive participle. Reinhardt (1894), on the other hand, cites full paradigms of the internal passive for Form I in both the perfect and imperfect tenses and gives examples in the 3rd person for Form II. More recently Galloway (1977) mentions its growing scarcity and the lack of phonological contrast between the internal passive and the active voice in some cases. He gives the full set of paradigms only for Form I. Shaaban (1977) states apparently erroneously that the internal passive is not found in (coastal) OA. Because the speech of men frequently resembles a kind of "common" or pan-dialectal Arabic which has no

internal passive, its usage is perhaps less common in their speech than in that of women.

Among the MA speakers interviewed for the present study, usage of the internal passive while perhaps not frequent is not uncommon, especially in the 3rd person in both the imperfect (cf. Text 1, Appendix B) and perfect aspects, and I was able to elicit some first and second person forms as well. Although the internal passive is still in use, it does not seem to be very productive, and its main function may be to reduce the number of arguments that the verb takes rather than to express passive voice, as in

kān yḏarban	il-mdāfuʔ	'The cannons fired/were fired.'
past strike=imperf=3fp	the-cannons	

The imperfect internal passive, which often carries the meaning of propriety, capability, or necessity for the action, is probably more common than the perfect passive. Usage of the 3rd person in the imperfect was also found for Forms II and VIII.

Other examples of the internal passive are:

<u>Imperfect</u>

s-samak y-ṣād	min baḥar	'Fish are caught in the sea.' (I)
the-fish 3ms-fish:impf:pass	from sea	

l-māy yu-šrab	'The water is drinkable.' (I)
the-water 3ms-drink:imperf:pass	

š-šuɣul ba-y-sawwa 'The work will be done.' (II)

the-work fut- 3ms-do:perf:pass

l-bēt lāzum y-naḍḍaf 'The house must be cleaned.'(II)

the-house must 3ms-clean:imperf:pass

sayyārt-i ma tu-štara 'My car was not bought.' (VIII)
car-my not 3fs-buy:imperf:pass

<u>Perfect</u>

lu-ħṣēni qunuṣ 'The fox was hunted down.' (I)
the-fox hunt:perf:pass-3ms

ʔana wulid-t fi ʕamān 'I was born in Oman.' (I)
I be=born:perf:pass-1s in Oman

r-ragāgīl ḍurb-u 'The men were beaten.' (I)
the-men beat:perf:pass-3mp

Common alternative ways of expressing the passive voice in MA are by means of the passive participle, and Forms VII and VIII, both of which are fairly productive in this usage (cf. §3.3.1). Form VII is found in particular with verbs of perception, e.g. /ma yinsmaʕ/ 'it can't be heard'. An example of a full set all of which roughly have the same passive meaning--'the jewel was stolen'--is:

l-gōhra s urq-it	Passive perfect-3fs (Form I)
l-gōhra masrūq-ah	Passive participle-fs (Form I)
l-gōhra nsarq-it	Active perfect-3fs (Form VII)
l-gōhra s tarq-it	Active perfect-3fs (Form VIII)

The vowel melody of the internal passive is (u-i) in the perfect tense. /i/ sometimes occurs in place of /u/ as the first vowel, and the second vowel may be /a/ when followed by a pharyngeal. Examples are /musik/ ~ /misik/ 'it was held', /ṭubux/ 'it was cooked', /suruq/ 'it was stolen', /ðubaḥ/ 'it was slaughtered', /rudd/ 'it was returned', /qīl/ 'it was said', and /ʔuxið/ 'it was taken'. Final-y internal passives were not found in the perfect tense.

The medial glide radical of the verb /qāl, yqūl/ 'to say' is /w/. In the passive, however, the verb is /qīl/ 'it was said', as cited above. This verb in the passive undergoes the rule of Glide Neutralization; that is, R_2, becomes /y/, i.e., [quwil] becomes [quyil]. By Post-Glide High Vowel Deletion, this form becomes [quyl], which by Coalescence becomes /qīl/ 'it was said.'

Glide Neutralization (Level 1)

$$w \rightarrow y \ / \ \_\_ \ V \ R \ ]_{\text{Perfect passive Form I}}$$

In the imperfect passive the vowel melody, including the inflectional prefix vowel (cf. §4.1.2) is (u-a) or (i-a) . Examples are /yuṭbax/ 'it should be cooked', /yušrab/ ~ /yišrab/ 'it's drinkable, good for drinking', /yukabb/ 'it's pourable, to be poured', /yuqāl/ 'it is said', /yubna/ 'it's being built', /yūkal/ 'it's edible',

/ynaḏḏaf/ 'it was cleaned', and /yuštara / 'it was bought'. In the perfect tense the contrast in vowel height distinguishes active from passive voice, but in the imperfect the active and passive forms are sometimes homophonous. For example, the passive variant /yišrab/ cited above is homophonous with the active voice, /yišrab/ 'he drinks'.

3.4 Participles and verbal nouns

The active and passive participial patterns and common verbal noun patterns of MA are exemplified in Table 3-3. The morphology of the participles and verbal nouns in Arabic is derivationally verbal or verb-related but inflectionally nominal. This reflects both their verbal and nominal usage. Verbally, participles have the force of the progressive or the perfect; for example,

mn-ēn	gāy	'Where are you coming/have
from-where	come:act.part.	you come from?'

As nominals, active participles are agentive in meaning and passive participles refer to the recipient of the action, and they can be head nouns or modify other nouns:

hiyyah	l-mʕallim-ah	'She is the teacher.'
she	the-teacher:act.part-fs	

Whereas the morphological shape of the participial stems is entirely predictable and in most cases based on the verbal stem forms, that of the verbal nouns, like other nominals, is somewhat more idiosyncratic.

Form	Participial Stems		Verbal Nouns
I	Active: Passive:	tāris fahmān matrūs	tarās, xōf (and others)
II	Active: Passive:	xabbir xabbar	taxbīr
III	Active: Passive:	sāʕid sāʕad	msāʕdah, sifār
V	Active: Passive:	tʕallim tʕallam	tʔallum, taḥṣūn
VI	Active: Passive:	tnāwil tnāwal	tnāwul
VII	Active: Passive:	ntaris *	ntirās
VIII	Active: Passive:	ftakir ftakar	ftikār
X	Active: Passive:	staʕmil staʕmal	staʕmāl
Xa	Active: Passive:	stakāwid *	*
QI	Active: Passive:	targim targam	targamah
QII	Active: Passive:	trangiḥ *	trangiḥ, twalwīlah

* not found

Table 3-3. Participial Stems and Verbal Nouns

Verbs of all forms have both active and passive participles except those of Form VII, the verbs of which are already passive in meaning, Form Xa, in which the single member has no passive participle, and Form QII, which verbs are intransitive.

With the notable exception of Form I, participial stems are identical in underlying syllabic shape and in derivational affixation to the perfect and imperfect verbal stems. The participles also resemble the imperfect stems in that a prefix, in the case of the participles /mi-/, is attached at Level 2 to all except Form I participles. Also as in the verbal stems, voice is distinguished by means of vowel quality. The vowel melody for the passive participles except for Form I is (a). The active participle vowel melody, on the other hand, is (a-i) for all forms including Form I.

The active and passive participles of Form I, examples of which are shown in Table 3-3, are of the patterns RāRiR and maRRūR , respectively. A few cognitive verbs in MA have a participial pattern of the shape, RaRRān, as in /fahmān/ 'understanding, having understood' and /nasyān / 'forgetting, having forgotten'. This pattern is similar to a common nominal pattern, RVRRān, referring to mental or physical states of being (e.g., farhān 'joyful,' zikmā n 'having a cold,' cf. § 3.5.2). However, in the case of the cognitive verbs these forms can take objects in the same way and with the same participial morphology (including the participial marker /-n-/) as regular active participles, e.g. /fahmānnoh/ 'understanding/having understood it (m.)' (cf. §4.2).

As in the imperfect stems, MA has two alternate versions of the participles for Forms VII and VIII, the preferred form in which the initial stem vowel is deleted and one in which it is not deleted, as in /mintris/ ~ /mintaris/ 'filled'.

As with the imperfect stems, the different root classes affect the shape of the participial stem. For geminate roots, the final vowel is suppressed according to the rule of Inter-Geminate Vowel Deletion, which obscures the active/passive contrast in Forms VIII and X. For example, the Form X participle /mistamarr/ 'continuing; continued' is both active and passive, deriving from both [mistamarir] and [mistamarar]. Inter-Geminate Vowel Deletion also affects the Form I active participle, e.g. [sādid] → /sādd/ 'closing' (the passive participle is not affected because it has a long vowel between the two consonants, e.g. /masdūd/ 'closed, blocked') and the Form VII participle (which has no passive counterpart), as in /minkabb/ 'poured'.

For Hollow verbs, the situation is slightly more complicated. First, as in the imperfect stems, for certain verbal forms the radical /w/ becomes /y/. This is true for Forms VII, VIII, and X, as it is for the imperfect stems, and in addition for Form I. In Form I, a medial root consonant /w/ becomes /y/, such that all hollow verbs have the shape CāyiC, e.g. /yšūf/ 'he sees' has the root š-w-f (cf. /šawwaf/ 'to show') but the active participle is /šāyuf/ 'seeing' . In the passive participle, /w/ also becomes /y/, e.g. the expected */maxwūf/ is instead /maxyūf/ 'feared'. In this MA differs from LA and other dialects which have /maxūf/ and for verbs with /y/ as the medial radical, /mazīd/ 'added'. In MA this can be heard

occasionally, such that /mazyūd/ ~ /mazīd/. The participles can be added onto the morphological classes specified for glide neutralization.

Glide Neutralization (Level 1)

w → y / __ V R] Perfect passive and participles Form I

Hollow verbs also contain some peculiarities in Forms VII, VIII, and X, where the glide /y/ occurs between two short vowels. For the active participles of Forms VII and VIII, the underlying forms are [nšayif] and [ħtayig]; however, the surface forms are /minšāf/ 'seen, visible' and /muħtāg / 'needing; needed'. In these cases the active and passive participles have fallen together and have the same vowel melody, (a). This is accomplished by means of a rule lowering the vowel quality of the final vowel of the active participles.

Active Participle Vowel Lowering (Level 1)

V → [+low] / y ___ R] Active Participle, Forms VII, VIII

Glide Deletion then applies to the resulting form, producing /ā/ as it did for the passive participle at Level 0.

In Form X, the underlying form is [strayiħ] but the surface form is /mistrīħ/ 'resting'. The sequence /ayi/ is realized as /ī/. This is similar to the rule for the Form X imperfect stems, in which /aya/ is realized as /ī/. These two cases of vowel raising can be combined in the same rule.

Form X Vowel Raising (Level 1)

V y V R] Imperf. active & Active participle,Form X

(a) → (i)

In the passive participle, /aya/ becomes /ā/, which is covered by the Glide Deletion rule.

A peculiarity of MA (and OA) is that in passive participles of final-y verbs the final vowel is lengthened such that the last syllable is /āy/ rather than [ay], as in /mabɣāy/ 'wanted', /msawwāy/ 'done', and /mištarāy / 'bought'. The lengthening of this vowel allows the /y/ to be preserved since it is then exempt from the later rule of final-y deletion. The vowel lengthening is expressed by the following rule:

Passive Participle Vowel Lengthening (Level 1)

V → [+long] / — y] Passive participle

[+iow]

Also, the Form I participles of the two irregular initial weak verbs are irregular: the active participles are /mākil/ 'eating' and /māxuð/ 'taking', and the passive participles are /mākūl/ 'eaten' and /māxūð/ 'taken'. The active participle of the defective root g-y is /gāy/ 'coming, having come'; there is no passive participle for this verb.

The verbal noun patterns listed in Table 3-3 in most instances resemble the related verbal forms, but in syllabic shape and vowel melody they exhibit the

variation found in nominals (cf. §3.5.1). Although, Form IV verbs are rare, a few Form IV verbal nouns are in common use, such as /ʔislām/ 'Islam'. An interesting pattern, noted for OA by Galloway, is the Form V pattern exemplified by /taħsūn/, which is not found in LA but which seems to parallel the Form II verbal noun pattern exemplified by /tazlīq/.[24] The Form Xa verb has no verbal noun.[25]

The most common syllabic base for verbal nouns in MA is CVCVVC. Verbal nouns having this shape are found in all except Forms VI, Xa, QI, and Q2. Alternate base shapes are: CVCC (Form I), CVVCVC (Forms III and VI), and CVCCV(V)C (Forms QI and QII). The verbal noun affixes and the syllabic bases to which they are attached are:

[ta]RVRīR	II
[ta]RaR$_2$R$_2$ūR	V
[ta]RVRūR	V
[ta]RāRuR	VI
R[t]iRāR	VIII
[ta]RVRaR[ah]	QII
[m]RāRaR[ah]	III

[24] Galloway describes this verbal noun pattern as being a nominal that refers to a particular instance of an action, for example taħsīn 'shaving, haircutting' (verbal noun, Form II) vs. taħsūn 'a shave, haircut'.

[25] A related nominal expression, however, is /kōdah ʕala-/, as in /kōdah ʕale-ya l-yōm/ meaning 'I am feeling ambivalent today' (lit. ambivalence on-me to-day).

[n]RIRaR	VII
[sta]RaRaR	X

With a few exceptions, these affix-stem shape combinations are nearly identical to those of the verbs.

3.5 Nominal stems

Nominal stems include nouns, adjectives, and those adverbs and prepositions which are derived from nouns.

In comparison with verbal stems in Arabic, nominals are less restricted in syllabic shape and are made up of a greater variety of vowel melodies and derivational affixes. Also, specific combinations of syllabic shape, vowel melody, and affix in nominals are together associated with lexico-semantic features rather than separately identifiable with certain features as they are in the verbs.

The rules of Syncope, the Glide Deletion, Post-Glide High Vowel Deletion, and Inter-Geminate Vowel Deletion apply to nominal stems as well as verbal stems. The Inter-Geminate Vowel Deletion rule, as mentioned previously, does not apply to nominal CVCVC stems, allowing for forms like /ʕadad/ 'number', but does apply to affixed nominal CVCVC stems like /minazz/ 'cradle' < [[mi][nazaz]].

Fifty or so of the common nominal patterns or stem types found in MA are shown in Tables 3-4, 3-5, and 3-6. Singular nominals having no derived affix are illustrated in Table 3-4, singular affixed nominal stems are shown in Table 3-5, and

plural nominal stems, both non-affixed and affixed, are given in Table 3-6. In the remainder of this section, first the basic non-affixed noun stems are described, then nominal affixation, and finally a third type of nominal stem derivation, the remapping formation of the trisyllabic plurals.

3.5.1 Non-affixed stems

The inventory of nominal syllabic bases, described in §3.1.1 as CVC(C) and CV(X)CV(V)C, is exemplified in Tables 3-4, 3-5, and 3-6. In these tables the first column gives the underlying syllabic base onto which the root and vowel melodies are mapped, and the second column gives the stem pattern after the root and vowel melodies have been mapped onto the syllabic base and before the phonological rules of Level 1 have applied. In the stem pattern representation, R stands for any radical and V for a vowel of any quality. The third column contains examples of MA nouns and adjectives in their surface forms. These examples are listed with their meanings in the lexicon in Appendix D. The final column in Tables 3-4 and 3-5 gives associated features for some stem patterns and in Table 3-6 the common corresponding singular stem patterns.

The non-affixed stems in Table 3-4 illustrate the range of nominal stem patterns and the effects of the phonological rules on these stems without the complications of nominal affixation, which is covered in the following section.

The first pattern, RVR, is that of "defective" triradical nominals, discussed previously in §3.1.2. The next set of stem patterns in the table, those having the

Syllabic base	Pattern	Examples	Features
CVC	RVR	θam, ʔab, ʔax, xit, ðin	
CVCC	RVRR	bank, kidf, suhh, qēð, bōš, līf	
	RVRiS	bisur, dihin, waʕil, ṭufil, ṭawī	
CVCVC	RaRaR	raṭab, falag, ʕadad, bāb, dawā	
	RiRaR	šitā	
CVVCVC	RāRiR	xādum, hāyuṭ, bāqil, šāhī	
		wāgid, hārr, zāyid, yābis, γālī	Qualitative
CVCVVC	RaRīR	ṣaγīr, xafīf, ṭawīl, γanī	Qualitative
		qafīr, wazīr	
	RVRāR	laḥāf, riyāl, γubār	
	RaRūR	tatūn, γalūg	
	RuRēR	grēw, sqēw	Diminutive
CVVCVVC	RāRāR	sāmān	
	RāRūR	šākūš	
	$R_iV̄R_iV̄h$	lōlōh, bībīh, būbūh, nānūh	Baby talk
CVCCVC	RaR_2R_2aR	sakkar	
	$R_1aR_2R_3aR_4$	xangar, daxtar	
	$R_1aR_2R_3iR_4$	markit, lēsū, hōrī	
CVCCVVC	$RaR_2R_2āR$	raggāl, farrāš, qaffār, hallāw	Occupation
	$RuR_2R_2āR$	tuffāh, quddām	
	$RaR_2R_2ōR$	šammōs, ʕazzōz	Nickname
	$R_1iR_2R_3āR_4$	findāl, qurṭās, bīdār, fīfāy	
	$R_1aR_2R_3īR_4$	qandīl, barmīl	
	$R_1aR_2R_3ūR_4$	gargūr, šangūb, zētūn	

Table 3-4. Non-affixed Nominal Stems (Singular)

Syllabic base	Pattern	Examples	Features
CVCC	ʔaRaRR	ʔaḥmar, ʔabyaḏ, ʔaʕrag	Colors, defects
		ʔaṣγar, ʔaxaff, ʔaṭwal, ʔaγnā	Elative
CVCC	RaRRā	ʔambā, ṣaḥrā, ḥalwā	F. nouns
		ḥamrā, bēḏā, ʕargā	F. colors and defects
CVCC	RVRRān	farḥān, zikmān, ḥurrān, gūʕān	States of being
CVCC	RVRRah	ḥurmah, zikmah, dallah, bēsah	
CVVCVC	RāRRah	fākhah, zāwyah	
CVCVVC	RaRāRah	fawālah	
	RaRīRah	ḥarīmah	
	RaRūRah	namūnah	
CVVCVVC	RūRīRah	gūnīyah	
CVCCVVC	RVR_2R_2āRah	θallāgah, tuffāḥah	Device, unit
	RaR_2R_2ūRah	sannūrah, dabbūsah	
CVCVC	mVRaRaR	magmar, maṭār, minazz, muxba	Instrument, Place
	maRiRiR	maglis	
CVCVC	maRaRaRah	mǒabḥah, mqamšah, mšabbah	
CVCVVC	miRRāR	muftāḥ, manfāx, migdāf	Instrument
	maRRūR	marðūf, matrūs, mašγūl	Pass. part. I
CVCCVVC	$R_1aR_2R_3$īR$_4$ah	bandīrah, nargīlah	
	$R_1iR_2R_3$āR$_4$ah	dišdāšah	

Table 3-5. Affixed Nominal Stems (Singular)

Syllabic base	Pattern	Examples	Sg. Patterns
CVCVC	RVRaR RuRuR	γaraš, dalal, γuraf, šiyal kutub, šunuṭ	RVRRah (and others)
CVCVVC	RiRāR RaRīR RuRūR RuRāR	zikām ħarīm, naxīl, kamīm kudūf, turūs ṣuγār, ṭuwāl	RVRR, RVRRah RaRīR
CVCVC	RiRRā	wizrā, buxlā	RaRīR, RaRīRah
CVCVVC	ʔaRRāR	ʔafīāg, ʔaṭfāl, ʔaqlām	RaRaR, RiRiL
CVCVC	ʔaRRiRah	ʔalsinah, ʔadwiyah	RVRāR,RaRaR
CVCC	RiRRān	ħuṣrān, qufrān, bībān, tōyān	RaRīR, RVRR
CVCVVCVC	RaRāGiR RaGāRiR maRāRiR $R_1aR_2āR_3iR_4$	qabāyil, fawākih, manāzz, ħalāwī, lawāsī, namāyin	RVRV̄R, RV̄RVR, mVRVRVR, RVRRVR (and others)
CVCVVCVVC	$RaR_2āR_2īR$ maRāRīR $R_1aR_2āR_3īR_4$	barāmīl, sanānīr, garāgīr, mafātīħ, bayādīr, ħalālīw	RVRRV̄R, mVRRāR (and others)

Table 3-6. Plural Nominal Stems

syllabic base CVCC, has the distinction of being the only stem type, nominal or verbal, with a final consonant cluster. The two patterns mapped into this base are RVRR and RVRiS. Stems of the second pattern are those which have an obstruent as the second radical and a sonorant (that is, a nasal, liquid, or glide) as the third, indicated by S. Because there is no other pattern of this shape having /i/ as the final vowel—the patterns derived from the CVCVC base shown in the next row in Table 3-4, namely RaRaR and RiRaR, have /a/ as the final vowel—it appears that the /i/ is epenthetic. When a vowel-initial clitic is attached, there is no epenthetic vowel, e.g. /ṭufl-ī/ 'my child' (lit. child-my). Epenthesis therefore applies at Level 3 to a final cluster in case no clitic is attached, as in /ṭufil/ 'child' (cf. §5.1.5).

The examples given in the tables show the effects of the phonological rules of Glide Deletion, Vowel Fusion, the Level 2 rule of Final /y/ Deletion (cf. §4.3), the Level 3 rule of Epenthesis (cf. §5.1.5), and the Postlexical rules of High Short Vowel Backing, Coalescence, and Shortening. Some sample derivations showing the application of these rules are as follows:

qayḏ	ṭawy	bayab [26]	daway	biydaar	laysiw	Rules:
						Level 0
		baab				Glide Deletion
		bāb		biydār		Vowel Fusion
						Level 1 (none)
						Level 2
			dawā			Final /y/ Deletion
						Level 3
	ṭawiy					Epenthesis
						Postlexical
					laysuw	High Short Vowel Backing
	ṭawī			bīdār	laysū	High Vowel Coalescence
qēḏ					lēsū	Low Vowel Coalescence
	ṭawi		dawa		lēsu	Shortening

Some of the nominal stems exemplified in the tables are qualitative or adjectival in nature. Adjectives in Arabic are not formally distinct from nouns:

[26] The plural of this nominal in MA, /bībān/ (< [biybaan]), indicates an underlying representation of [bayab] rather than [bawab], unlike in other Arabic dialects, where related forms /ʔabwāb/ 'doors' and /bawwāb/ 'doorkeeper' suggest the latter underlying representation.

/gamīl/, for example, is used to mean both 'beautiful (adj.)' and 'a beautiful one/person'. However, qualitative notions are expressed primarily by a few particular nominal stem patterns. Two of these are RāRiR and RaRīR. The first pattern is identical to the active participle, and the second is a pattern used for physical properties, such as /ṭawīl/ 'tall', /samīn/ 'fat' , /baʕīd/ 'far', /ɣani/ 'rich' (<ɣanīy), and /xafīf/ 'light'.

The initial short vowel of the qualitative pattern RaRīR is optionally elided in normal speech in a few of the most common of these stems, including /ṣɣīr/ 'small, young', /kbīr/ 'big, old', and /gdīd/ 'new', whereas in others it cannot be dropped, e.g., /marīḏ/ 'sick' but not */mrīḏ/; /qadīm/ 'old' but not */qdīm/; /xafīf/ 'light (wt.)' but not */xfīf/. [27] The initial short vowel /u/ in the diminutive nominal pattern RuReeR is also elided in common diminutives such as /grēw/ 'puppy'.

[27] The fact that this vowel is elided in some words of this pattern but not others is noted for coastal Omani Arabic in Shaaban 1977:91.

Certain lexical items, then, are marked in the lexicon as undergoing a rule of Nominal Stem Vowel Deletion:

Nominal Stem Vowel Deletion (Level 1)

$$V \rightarrow \emptyset \ / \ [C \_\_ C \ \bar{V} \ C]_{\text{Nominal}}$$

Condition: Optional (must be a nominal marked for this rule).

Biradical reduplication is found in a few nominal stems such as /fīfāy/ 'papaya' < [fiyfaay] and /gargūr/ 'shark', where the two consonants, f-y and g-r in these examples, are mapped into four C-slots, as illustrated for verbal stems in §3.1.2.

Two affective nominal patterns found in MA are the patterns $RaR_2R_2\bar{o}R$, used for nicknames, and $R_1\bar{V}R_1\bar{V}h$, found in baby talk, that is, words used by adults when talking to children. The first pattern is a common one for women's nicknames, as in:

Name	Nickname
laṭīfah	laṭṭōf
šarīfah	šarrōf
ʔamal	ʔammōl
mūna	mannūh
ʕazīzah	ʕazzōz

šamsah	šammōs
karīmah	karrōm

and occasionally for men's nicknames:

xālid	xallōd

It is also sometimes used for baby talk, as in /gallōs/ 'sit' for the imperative verb /glis/.

The pattern $R_1\bar{V}R_1\bar{V}h$, is used in baby talk words such as /lōlōh/ 'sleep', /bībīh/ 'grandmother', /būbūh/ 'clothes', /dādāh/ 'brother/sister', /kūkūh/ 'chicken', /tītīh/ 'goat', /tūtūh/ 'stop playing' , /nānūh/ 'fire', and /bābūh / 'nightingale'. It is also occasionally used for nicknames, e.g., /nūnūh/ as a nickname for /nūra/. This pattern has a single radical that is mapped into two C-slots. This could be viewed as a kind of minimal reduplication, with the final /h/ serving merely as an off-glide that preserves the final vowel length. But the additional reduplicative machinery is not necessary since the result of the mapping is not distinguishable from a monoradical mapped into the two available C-slots. This would seem to be a likely candidate for simplification or reanalysis on the part of children, although I have no definite evidence that this is happening.

The non-affixed plural stems given in the first two sections of Table 3-6 are used, though not exclusively, as the plurals of nominals of the patterns RVRR and RVRRah, with a few exceptions, e.g. /kitāb/ 'book', pl. /kutub/. Also, the plural pattern RuRāR is used as the plural of the qualitative pattern RaRīR.

Adverbs and prepositions derived from nominal stems in MA are based on a variety of patterns, as exemplified in /tōw/ 'now', /baʕd/ 'still, yet', /dōm/ 'always', /nōbah/ 'also', /bākor/ 'tomorrow', /qiddām/ 'in front (of), across (from)', /gamb/ 'next to', and /xilāf/ 'later, after, behind'.

3.5.2 Affixed stems

The affixed singular nominal stems are shown in Table 3-5 and the affixed plural stems in Table 3-6. The Level 1 prefixes are [ʔa] and [mV], and the suffixes are [ā], [ān], [ah], [ī], and [ūh] . A stem may have both a prefix and a suffix, as in [ma]RaRaR[ah] and the plural stem [ʔa]RRiR[ah].

The patterns ʔaRaRR and RaRRā are used for the masculine and feminine forms of basic colors and bodily defects. Examples are:

ʔaħmar	ħamrā	'red'
ʔabyaḏ	bēḏā	'white'
ʔaswad	sōdā	'black'
ʔaʕrag	ʕargā	'lame'

The syllabic bases of these two related patterns, CCVC and CVCC, each contain three C-slots and one V-slot, but the V-slot varies in position. One possible common underlying representation is CVCVC, with the appropriate vowel eliminated by Syncope at Level 1 after affixation:

[ʔa][ħamar] [ħamar][a]

[ʔa][ħmar] [ħamr][a] Syncope

This is similar to the solution proposed for the imperfect verbs in §3.3. However, unlike the imperfect verbs, these nominal stems have surface medial glide radicals, as illustrated in [ʔabyaḏ] and [ʔaswad] above. Glide Deletion has not applied at Level 0, as it would if the underlying form were [bayaḏ] and [sawad] to produce [bāḏ] and [sād] as the stem bases. The affixed forms would then be *[ʔabāḏ] and *[ʔasād]. The other two obvious candidates for the syllabic base are CCVC and CVCC. CVCC in fact corresponds to the form for geminate (biradical) roots, as in [ʔaṣamm] 'deaf' as well as to the feminine affixed forms. CCVC, on the other hand, corresponds to the masculine forms for all but geminate roots. In either case some kind of metathesis rule has to apply if both forms are considered to derive from the same underlying shape. The derivation from CCVC would require two metathesis rules, one for the feminine affixed forms and another for masculine geminate forms. CCVC also would be the only pattern with an underlying initial consonant cluster. CVCC on the other hand requires only one metathesis rule, for nongeminate masculine forms, as follows:

Metathesis: $a\ R_i \rightarrow R_i\ a\ /\ ʔa][R\_\_\_R_j]_{\text{Nominal color/defect}}$

Because it requires fewer rules, the second solution is preferred here. The elative forms, which are also of the shape ʔaRRaR, e.g., /ʔaṭwal/ 'taller' and /ʔahwan/

'better', show the glide as well. The feminine variant of these forms, used for the superlative, has a high vowel between the first two radicals:

ʔakbar kubrā 'oldest; biggest'

In these cases the underlying form is RuRaR, e.g., [kubar], [ṭuwal]. A medial glide is not eliminated because neither Glide Deletion nor Post-Glide High Vowel Deletion apply, and Syncope will eliminate the appropriate vowel at Level 1.

By way of contrast, the MA nominal patterns with the prefix [mV] resemble the verbal stems in that glides do not appear on the surface. The patterns in question are [mV][RVRVR] and [ma][RaRaRah], which both function as nouns of place and of instrument. Glide Deletion applies at Level 0, such that [ṭayar], for example, becomes [ṭār]. The affixed form is then [ma][ṭār] and the surface form /maṭār/ 'airport'. In MA regular verbs mVRaRaRah is realized on the surface as mRaRRah, as a result of the right to left application of the Syncope rule, instead of the pattern maRRaRah commonly found in other Arabic dialects, e.g. the local MA form of Arabic /madrasah/ is /mdarsah/ 'school'.

A common MA qualitative nominal pattern is RVRRān, which describes physical and emotional states of being, such as /gūʕān/ 'hungry', /zaʕlān/ 'angry', /zikmān/ 'having a cold', and /ṣōlān/ 'aching'. A difference between the active participle used qualitatively and the qualitative pattern RāRiR can be seen in the contrast in meaning between /bārid/ 'cold' and /ħārr/ 'hot' referring to the weather, and /burdān/ '(feeling) cold' and /ħurrān/ '(feeling) hot' referring to

bodily temperature. Active and passive participles of all verbal forms but especially Form I are widely exploited as adjectives. Examples are the active participles /yābis/ 'dry', /šāṭur/ 'smart', /wāgid/ 'much, many', /muhimm/ 'important' (another Form IV remnant), and the passive participles /mašγūl/ 'busy', /matrūs/ 'full', and /maʕrūf/ 'well-known'.

Affixation provides an environment for Syncope for a number of MA affixed stems. These include RaRRah, miRRaaR, maRRuuR, and the plural pattern ʔaRRaaR. The first of these patterns could have either of the underlying syllabic bases CVCC or CVCVC, both of which are attested in other nominal stems. The other three patterns would appear to have the base CCVVC, which is not attested among non-affixed nominal stem bases. This analysis therefore considers the base to be CVCVVC. Although in these cases, there is no surface alternation that would "prove" that a vowel is present underlyingly, Syncope is, at the very least, redundant due to the presence of the prefixes.

The pattern ʔaRRiRah, as in /ʔadwiyah/ 'medicines' and /ʔalsinah/ 'tongues', differs from the usual MA syllabic shape in that it has a penultimate short vowel in an open syllable. It appears that this pattern, which is relatively uncommon, has been borrowed from other varieties of Arabic because no indigenous variant with a preferred MA syllable structure analogous to maRaRRah (vs. the borrowed variant maRRaRah) exists in MA.

The MA suffixes [ā] and [ān] discussed above are attached only to patterns having the syllabic bases CVCC and CVCVC, but two other suffixes, [ah] and [ī], can be attached to a wider range of stems.

The suffix [-ah][28] applies at both Levels 1 and 2. It is morphologically both derivational and inflectional (cf. §§4.2 and 4.3). All nouns with this ending, except for a very few lexical items, i.e. /xalīfah/ 'caliph' and /ʔusāmah/ 'Usama (man's name)' referring to men, are feminine in gender. Table 3-5 shows those common stems for which it is derivational. As described in Chapter 4, inflectionally it is a participial and adjectival ending agreeing either with the noun being modified or with the gender of the referent. When this suffix is derivational, there is no contrast based on gender reference with a form of the noun without the suffix. In Arabic, this ending also serves the derivational function of making a collective noun into a unit noun, e.g. /tuffāḥ/ 'apples (collective)' and /tuffāḥah / 'apple'. In MA, however, this use of the ending is relatively rare. Instead, a periphrastic construction is used, frequently with the noun /ḥabbah/ 'grain, piece, unit' functioning as a unit indicator, as in /ḥabbit tuffāḥ/ 'an apple' (literally, a unit of apple), or with other nouns such as /rās/ (lit. 'head'), as in /rās θōm / 'clove of garlic' and /ṣubūʕ/ (lit. 'finger'), as in /ṣubūʕ mōz / 'banana'.[29]

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[28] After a non-backing consonant this suffix is pronounced [ɛh]. Unlike some other Arabic dialects, in MA the [h] (which is present in Arabic orthography) is pronounced, although it may be omitted in fast or less careful speech.

[29] In contrast, /mōzah/, which means 'a banana' in other Arabic dialects, does not carry that meaning in MA but is instead used as a woman's name (more commonly among older women).

[-ī] is a relative suffix that can be attached to a substantive nominal. Its attachment is not dependent on the pattern of the stem, however when it is attached to a stem with the suffix [ah], it replaces that suffix. Examples are:

hind	'India'	hindī	'Indian'
ʿumān	'Oman'	ʿumāni	'Omani'
siyāsah	'policy'	siyāsi	'political; spy'
ward	'rose'	wardī	'pink'
ramād	'ashes'	ramādi	'gray'

[ūh], a suffix used for women's nicknames in MA, is especially common used in Ṣūr and the Šarqīyah area southeast of Muscat. In some names it takes the place of the suffix [ah], and in names without [ah] it is simply attached to the name. Examples are:

lēlah	lēlūh
maryam	maryamūh
laṭīfah	laṭīfūh
xadīgah	xadīgūh

3.5.3 Remapped stems: the trisyllabic plurals

Of the plurals illustrated in Table 3-6, the ones in the top six sections of the table are formed in the same manner as the singular stems. The plurals in the last two sections of the table, the trisyllabic plurals, whose syllabic bases CVCVVCVC

and CVCVVCVVC each have three syllables, however, are formulated somewhat differently in some cases.

The trisyllabic plurals are the normal plural pattern for quadriradical nouns, as in /xangar/ 'curved dagger, worn by men', pl. /xanāgur/, /ḥallāw/ 'confectioner', pl. ḥalālīw, and /barmīl/ 'barrel', pl. /barāmīl /. In these instances, they function like the other plurals, except for one peculiarity, and that is that the vowel length in the last syllable corresponds to that of the last syllable in the singular stem. McCarthy (1979a) captures this fact by means of a redundancy rule:

Quadriliteral Noun Redundancy:

$$[CVCCV\langle V\rangle C]_{Singular} \sim [CVCVVCV\langle V\rangle C]_{Plural}$$

These forms have a few irregularities, as in /lēsu/ 'woman's headcloth' < [laysuw], pl. /lawāsi/ where the second radical /y/ becomes /w/ and the final radical /w/ becomes /y/ after short /i/; al so, a noted by McCarthy, the plural of /dīnār/ 'dinar' is /danānīr/ not the expected **/dayānīr /.

Another form that has a similar phonological interpattern relationship is the diminutive. The shape given in Table 3-4 for diminutives is used when the substantive has the syllabic base CVCC or CVCVC. However, when the substantive has the shape CVCVVC, then the diminutive has a different form not shown in the table, exemplified in /ṣayīr/ 'small', dim. /ṣuyayyor/ 'very small' (the plural, /ṣuyayyrīn/ is commonly used for 'children'). The redundancy rule can be expressed as follows:

Substantive-Diminutive Redundancy

CVC(V<V>)C ~ CVCV<yy>VC

The pattern of this other diminutive is RuRayyiR, and as in the quadriliteral case it appears that there is a phonological as well as morphological relationship between the corresponding stems, both of which are captured in the redundancy rules.

The trisyllabic plural stems, however, are also used as the plurals of nonquadriradical singular nouns containing a long vowel or a prefix. In these cases, information about the singular form as it is output from Level 1 is necessary in determining the shape of the plural, in particular in deriving segments to fill at least one of the C-slots. Examples are:

miftāh	mafātīh	'keys'
qabīlah	qabāyil	'tribes'
minazz	manāzz	'cradles'
fākhah	fawākih	'fruits'
šāwī	šawāwī	'mountain beduins'
namūnah	namāyin	'ways, types'

The results of Level 1 affixation need to be input into the mapping of the plurals because vocalic and affixal (e.g., the prefix consonant /m/) information is necessary at Level 0 for mapping onto the C-slots. A means that for accomplishing in lexical phonology is the loop (Mohanan 1986), a device that has been proposed

to allow the output of a given level to be input to the previous level.[30] In this case, the output of Level 1 would be the input to the previous level, Level 0, at which the mapping onto the syllabic shape occurs.

The nonquadriradical stems that map into the trisyllabic plural patterns can be divided into four types:

	Singular		Plural
a)	RaRV̄R(ah)	→	RaRāyiR
b)	RāRiR(ah)	→	RawāRiR
c)	mVRVRVR(ah)	→	maRāRiR
d)	miRRāR(ah)	→	maRāRīR

In a), the long vowel between the second and third radicals corresponds to a /y/ as the third consonant in the trisyllabic plural (as in /qabīlah/ and /namūnah/), and in b) long /ā/ between the first and second radicals corresponds to a /w/ as the second consonant of the trisyllabic plural (as in /fākhah/). In c) and d), the

[30] Another proposal for handling a very similar kind of morphological relation in Semitic is the mechanism of extraction, proposed to account for Modern Hebrew word relations by O. Bat-El (1986). Bat-El's root extraction rules (in which the root is extracted from a fully specified lexical item and combined with a different vocalic pattern) function as expressions of the relations between words rather than as active processes of association. This approach seems perhaps more appropriate for Hebrew, where the root and pattern morphology is less productive than in Arabic.

prefixal /m/ becomes the first consonant of the plural, and in d) the long vowel before the final radical corresponds to long /ī/ in the plural.

Stated in this manner, as a set of redundancy rules, these plurals are similar to other nominal pattern relationships, such as singular-plural, substantive-diminutive, and name-nickname. However, in most cases the necessary mapping information consists of the syllabic base, the root, and the vowels and is no different from that of any other nominal stem. No literal information derived from the original stem (other than the fact that it exists) is used to reconstruct the C-slot information in the way that it is in the trisyllabic plural. The cases of regular quadriliterals and the diminutives described above, where there are phonological correspondences, are perhaps one-dimensional instances of remapping without the systematicity of the nonquadriradical trisyllabic mapping.

The remapping instructions are as follows: Ignoring short vowels and given the plural syllabic base $C_1aC_2aaC_3i(i)C_4$,

1. Map the first nonvocalic segment onto C_1
2. If the next segment is /ā/, then map /w/ onto C_2, otherwise map the next nonvocalic segment onto C_2
3. If the next segment is a nonvocalic, then map it onto C_3, but if it is a long vowel /ī/ or /ū/, then map /y/ onto C_3
4. If the next segment is a long vowel, then the third syllable of the plural has long /ī/, otherwise it does not
5. Map the next nonvocalic segment onto C_4.

Once the remapping has taken place, the resulting forms undergo Vowel Fusion and then are output from Level 0 and input to Level 1. No affixes are attached to the trisyllabic plurals at Level 1, but the phonological rule of Inter-Geminate Vowel Deletion applies, as in [manāziz] → [manāzz] after which these forms leave Level 1 and enter Level 2 (cf. Chapter 4).

Chapter 4

Inflectional Affixes

The inflectional affixes of MA are those prefixes and suffixes attached to verbal, participial, and nominal stems which mark number and gender, and, for verbal stems only, person and aspect.[1] These affixes are attached at Level 2 to the stems output from Level 1. This chapter describes the morphemes and the morphophonological rules that apply at Level 2. Although the discussion in this chapter is organized by stem type, some of the phenomena described, such as syncope, glide deletion, and glide insertion, affect more than one type of stem.

4.1 Verbal affixes

Inflected verbs in Arabic--namely, the perfect, the imperfect, and the imperative--are distinguished by their affix sets as well as by the differences in stem shape discussed in the previous chapter. The verb in the perfect consists of the perfect stem with a set of suffixes attached to it. The imperfect and imperative are both formed from the imperfect stem with affixes attached. The affix set for imperfect verbs consists of a set of prefixes and suffixes, whereas imperative verbs have suffixes only.

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[1] The two aspects are the perfect, indicating completed action, and imperfect, indicating incomplete action. In the examples given in this study, unless otherwise determined from the context, the perfect aspect will be glossed in English with the past tense and the imperfect aspect with the simple present tense.

Verbal prefixes have the shape CV, and verbal suffixes the shape C or (C)VX (where X = V or C). These affix sets for each stem type are shown below.[2]

	Perfect stem	Imperfect stem		
	Perfect	Imperfect		Imperative
1 s.	-t	ʔa-	-Ø	---
2 s.m.	-t	ta-	-Ø	-Ø
2 s.f.	-tī	ta-	-ī	-ī
3 s.m.	-Ø	ya-	-Ø	---
3 s.f.	-it	ta-	-Ø	---
1 p.	-nā	na-	-Ø	---
2 p.m.	-tū	ta-	-ū	-ū
2 p.f.	-tan	ta-	-an	-an
3 p.m.	-ū	ya-	-ū	---
3 p.f.	-an	ya-	-an	---

The verbal inflectional affixes of MA are similar to those found in other Arabic dialects, although most recorded dialects, especially urban ones, do not have distinct second and third person feminine plural suffixes. Among the half dozen

[2] The following abbreviations are used in this table and elsewhere in this chapter: f = feminine, m = masculine, p = plural, s = singular. First person verbs are not differentiated according to gender. In the plural, the masculine forms are also used for mixed gender.

Gulf dialects described in Johnstone (1967), the feminine plural suffixes are frequently used only in the dialects of Qaṭar and of Buraimi, which lies on the border of the United Arab Emirates and Oman. These suffixes are also present in northern Najdi Arabic as described in Abboud (1979) and in the northeastern peninsular dialects (except for the urban areas of Zubair, Kuwait, Basra, and Baghdad) discussed in Ingham (1982).

Among the MA imperfect prefixes, the vowel quality varies in the internal passive and the derived forms (cf. §4.1.2). Imperative affixation is identical to that of the second person imperfect, except that the imperatives have no prefixes attached. The anaptyctic imperative prefix /ʔV-/ found in other Arabic dialects and LA is far less frequent in MA (cf. §§2.1.1 and 3.3).

As can be seen in the chart of affixes above, some affixes occur more than once in the verbal paradigms. The suffix [ū], for example, is found as a plural suffix on perfect, imperfect, and imperative verbs. In addition, the second person perfect suffixes can be further analyzed into more than one morpheme. These suffixes consist of [t], indicating the second person perfect, followed by the suffixes [Ø] (singular masculine), [ī] (2nd singular feminine), [ū] (plural masculine), and [an] (plural feminine). The verbal inflectional morphemes and their corresponding morphological features can be identified as follows:

Affix	Person	Number	Gender	Stem Type
	(1,2,3)	(s, p)	(m, f)[3]	(perfect, imperfect, imperative)
-t	1	s	---	perfect
-t-	2	all	all	perfect
-ī	2	s	f	all
-Ø	2,3	s	m	all
-Ø	1	all	---	imperfect
-Ø	3	s	f	imperfect
-it	3	s	f	perfect
-nā	1	p	---	perfect
-ū	2,3	p	m	all
-an	2,3	p	f	all
ʔa-	1	s	---	imperfect
na-	1	p	---	imperfect
ta-	2	all	all	imperfect
	3	s	f	imperfect
ya-	3	all	m	imperfect
	3	p	f	imperfect

[3] Gender is not applicable in the 1st person.

The order of attachment is crucial only in the case of the attachment of [-t-] in the second person perfect verbs (the second affix listed above). This suffix is attached before the other second person perfect suffixes.

4.1.1 Perfect

The inflected perfect verbal forms for the five different root types are exemplified for Form I in Table 4-1. The verbs in the table are shown as they appear on the surface, that is, after the rules at Levels 2 and 3 and the postlexical rules have applied,[4] assuming that no clitics are attached at Level 3. The derivations of these verbs and the derived forms analogous to them are discussed and exemplified below.

Syncope applies to Form I perfect verbal stems ending in -VR (that is, those having regular, final-y, or initial weak roots) when vowel-initial suffixes are attached. The vowel-initial inflectional suffixes are [it] (3rd singular feminine), [ū] (3rd plural masculine), and [an] (3rd plural feminine). These suffixed forms then satisfy the structural description of the same Syncope rule that applies at Level 1.

Syncope $\quad V \rightarrow \emptyset \;\; / \;\; V\ C\ \_\_\ C\ V$

Condition: Applies from right to left.

Examples are given below. The first column shows the stem and Level 2 affix and the second column shows the Level 2 output form.

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[4] All of the postlexical rules, that is, except for Final Vowel Shortening, which depends in part on stress and on where the word is in the utterance.

Perfect		1	2 m.	2 f.	3 m.	3 f.
Affixes	s.	-t	-t	-tī	-Ø	-it
	p.	-nā	-tū	-tan	-ū	-an
Regular Verbs	s.	rakabt	rakabt	rakabtī	rakab	rakbit
	p.	rakabnā	rakabtū	rakabtan	rakbū	rakban
Geminate Verbs	s.	šallēt	šallēt	šallētī	šall	šallit
	p.	šallēnā	šallētū	šallētan	šallū	šallan
Hollow Verbs	s.	zurt	zurt	zurtī	zār	zārit
	p.	zurnā	zurtū	zurtan	zārū	zāran
Final-y Verbs	s.	bakēt	bakēt	bakētī	bakā	bakyit
	p.	bakēnā	bakētū	bakētan	bakyū	bakyan
Initial Weak Verbs	s.	waqaʕt	waqaʕt	waqaʕtī	waqaʕ	waqʕit
	p.	waqaʕnā	waqaʕtū	wagaʕtan	waqʕū	waqʕan

Figure 4-1. Perfect Verbal Inflection

[rakab][it]	→	rakbit	'she rode'
[rakab][ū]	→	rakbū	'they(m.)rode'
[rakab][an]	→	rakban	'they(f.)rode'
[ṣaqay][ū]	→	ṣaqyu	'they(m.)watered'
[nasay][an]	→	nasyan	'they(f.)forgot'
[wagaʕ][it]	→	wagʕit	'she/it(f.)hurt'

This is also true of derived forms that fulfill these conditions, such as:

III.	[sāʕad][it]	→	sāʕdit	'she helped'
VI.	[tθāwab][u]	→	tθāwbū	'they(m.)yawned'

Final-y verbs. Final-y verbs of all forms are characterized by two further modifications. Low Vowel Coalescence applies postlexically to the preconsonantal /ay/ sequences of the first and second person forms, changing them to /ē/. The inflected form [baɣay][t] postlexically /baɣēt/ 'I wanted'. This is also true of the derived forms shown below (the second column shows the forms after undergoing Coalescence):

II.	[sawway][t]	→	sawwēt	'I did'
III.	[nāday][t]	→	nādēt	'I called'
V.	[tɣadday][t]	→	tɣaddēt	'I had lunch'
VIII.	[štaray][t]	→	štarēt	'I bought'
QII.	[tqahway][t]	→	tqahwēt	'I had coffee'.

A few Form I final-y verbs, such as [laqay] 'to find, meet', [nasay] 'to forget', and [baqay] 'to remain', have alternate forms with /ī/ instead of /ē/ in the first and second person, and these forms also have no vowel between the first and second radicals.[5] The affixed forms for [nasay], including these alternate forms, are:

	1	2 m.	2 f.	3 m.	3 f.
s.	nasēt, nsīt	nasēt, nsīt	nasētī, nsītī	nasā	nasyit
p.	nasēnā, nsīnā	nasētū, nsītū	nasētan, nsītan	nasyū	nasyan

If an alternative underlying stem shape for the first and second person forms of these verbs is RRiR, then the postlexical application of Coalescence produces the correct form: [nsiy][t] is postlexically [nsīt] by Coalescence. Interestingly, the same verbs have /i/ as the second vowel in the perfect in LA: /nasiya/, /laqiya/, and /baqiya/. We can explain these facts by saying that, for these verbs at least, the leveling of the perfect vowel melody for Form I did not extend to high vowels immediately preceding final /y/. As we saw in §3.3.2, this was also true for final-y verbs of Forms II, III, VII, VIII, X, and QI, which had /i/ preceding the /y/. But because these Form I perfect verbs represent only a small subset of final-y verbs,

[5] Forms with such a stem vowel, e.g. *[nasīt] or *[nisīt] 'I forgot', were judged incorrect by my speakers when suggested to them. By the same token, the expected MA forms, e.g. [nasēt], were judged incorrect without the stem vowel, e.g., *[nsēt].

the rule of Final-Y Vowel Raising (Level 1) that applies to the various Forms in the imperfect would apply in this case only to a few verbs. These verbs would need to be marked in the lexicon as such, and this still would not resolve the question of the deletion of the initial perfect vowel. Given these considerations, it seems preferable to represent these alternate stems as such in the lexicon, that is, as stems having the syllabic shape RVRR and the vowel melody {i}.

Another rule that applies to final-y verbs is the monophthongization of /ay/ when the inflectional suffix is [Ø], as it is in the 3rd singular masculine form. The preceding vowel in these instances is lengthened to /ā/. By these rules, a perfect stem such as [baɣay][Ø] becomes [baɣā] 'he wanted' at Level 3. Other examples are:

I.	[naway][Ø]	→	nawā	'he intended'
	[ɣafay][Ø]	→	ɣafā	'he slept'
	[θaray][Ø]	→	θarā	'it (m.) leaked'
	[šaħay][Ø]	→	šaħā	'he skinned'
	[qalay][Ø]	→	qalā	'he fried/roasted'
II.	[ṣallay][Ø]	→	ṣallā	'he prayed'
III.	[nāday][Ø]	→	nāda	'he called'
V.	[tɣadday][Ø]	→	tɣaddā	'he had lunch'
VII.	[nmaħay][Ø]	→	nmaħā	'it (m.) was erased'
VIII.	[štaray][Ø]	→	štarā	'he bought'
X.	[stakfay][Ø]	→	stakfā	'it (m) was enough'

QI.	[qahway][Ø] →	qahwa	'he served coffee'
QII.	[tqahway][Ø] →	tqahwā	'he had coffee'

The /y/, then, never appears in the 3rd singular masculine form, and the /ā/ is long if a clitic is attached, as in /baɣā-ha/ 'he wanted it (f.)'. The rule of Final /y/ Deletion is as follows:

ay-Monophthongization (Level 2)

ay → ā / R__][Ø]

This rule resembles Intervocalic Glide Deletion in that a sequence of /aG/ plus some third element becomes /ā/. In fact, in LA that third element is another /a/ in the 3rd person singular, as in /baɣaya/, and the result is /ā/, e.g. /baɣā/. However, the final short /a/ has dropped off as have final short vowels in general in the spoken dialects. Final /y/ Deletion also applies to imperfect verbs (cf. §4.1.2), and to nominal stems (cf. §4.3).

Preceding a vowel-initial suffix, however, the /y/ is normally retained, as in /baɣyu/ 'they (m.) wanted'. However, alternate inflected forms without the /y/ are also heard in Muscat, e.g. /baɣu/, although the source of these alternants appears to be dialects outside of MA and OA (cf. §6.2.3 for further discussion).

Geminate verbs. Geminate verbs inflected in the perfect resemble the surface shape of affixed final-y verbs. The first and second person forms—that is the ones having consonant-initial suffixes—are characterized by /ē/ preceding the suffixes as shown in Table 4-1, for example /šallēt/ 'I took'. As there is no

underlying source for this long vowel in geminate verbs, it can be hypothesized to derive on analogy with the final-y verbs. This is additionally motivated by the fact Inter-Geminate Vowel Deletion (Level 1) deletes the stem vowel between the identical consonants, and so the combinations of RVR_iR_i + C would produce an extra-heavy cluster, e.g., */šalit/ 'I carried'. To preserve triradicality, then, the /ay/ is attached before the consonant-initial inflectional endings. Although this morpheme is always /ē/ on the surface, it never appears in other than a coalescing environment, i.e. preceding a consonant, so positing underlying [ay], though an abstraction, produces the proper surface forms and suggests an analogy with final-y verbs.

There is in fact evidence that this /ē/ attached to geminate verbs actually has been reinterpreted as a final-y ending in some cases. The perfect inflected verb /ḏannēt/ 'I thought', related to the LA root ḏ -n, is a homomorph of both the MA root ḏ-n realized as a Form I verb, as in /ʔaḏinn/ 'I think' and the root ḏ-n-y realized as a Form II verb, as in /ʔaḏanni/ 'I think'. Both relationships are morphophonologically legitimate, but the Form II final-y verb of the root ḏ-n-y (rare if found at all in other varieties of Arabic) appears to be based on the reinterpretation as a radical of the /y/ from the [ay] inserted in the first and second person perfect forms of the Form I root ḏ-n. The original source of the [ay] morpheme that has been grafted onto these verbs is, after all, the final-y verbal paradigm. Another example is:

bayyāʕ g-guhh γašš-nī ~ γaššā-nī
seller the-watermelons(coll.) cheated(m.s.)-me

'The watermelon seller cheated me.'

In this example, the verbs /γašš/ and /γašša/ both have the first and second persons /γaššēt/ 'I/you (m.s.) cheated', /γaššētī/ 'you (f.s.) cheated', and so on, but the first is a Form I verb having the root γ-š and the second a Form II verb with the root γ-š-y.

The extension of the /ē/-endings to geminate perfect stems is a general feature of the Arabic colloquial dialects. This is expressed in the following rule of /ay/-Insertion.

/ay/-Insertion (Level 2)

$$\emptyset \rightarrow ay \;/\; V\,R \quad {}_{i}R_{i}\,]_{Perfect}[\_\_\,C$$

In MA this morpheme is even more productive and can also optionally be attached to other stem types in the first and second persons, as shown below.

I.	katabnā	~	katbēna	'we wrote'
	qumt	~	qāmēt	'I/you (m.s.) stood'
II.	labbaqtī	~	labbaqētī	'you (f.s.) turned on'
III.	qābalt	~	qāblēt	'I/you (m.s.) saw'
V.	tʕaṭṭašt	~	tʕaṭṭašēt	'I/you (m.s.) sneezed'
VI.	tθāwabtū	~	tθāwbētū	'you (m.p.) yawned'

VIII.	ftakarna	~	ftakrēnā	'we thought'
X.	staʕmalt	~	staʕmalēt	'I/you(m.s.)worked'

Note that in the case of the hollow verb [qām] of Form I, the ending is attached to the long stem [qām] to form [qāmēt] rather than the short stem [qum] normally used in the first and second persons. For these verbs, the forms with /ē/ are less frequent than the other forms; my speakers did not ordinarily use them in our sessions. However, all of my speakers found these forms acceptable when asked, and volunteered them as alternatives.

/ay/-Insertion also applies in MA to the biconsonantal roots k-l 'to eat' and x-ð 'to take', as exemplified below.

	1	2m.	2f.	3m.	3f.
s.	kalēt	kalēt	kalētī	kal	kalit
p.	kalēnā	kalētū	kalētan	kalū	kalan

These forms are more common than the triconsonantal forms /ʔakalt/ 'I ate' and so on.

Geminate verbs of Forms I, VII, VIII, and X all end in pairs of identical consonants (cf. Table 3-1) and thus undergo /ay/-Insertion. Examples are:

I.	[ṭašš][tī]	→	ṭaššētī	'you(f.s.)splashed'
	[dall][nā]	→	dallēnā	'we guided'
VII.	[nʕaḏḏ][tan]	→	nʕaḏḏētan	'you(f.p.)were bitten'

VIII.	[ɣtašš][tū]	→	ɣtaššetū	'you(m.p.)were cheated'
X.	[stamarr][t]	→	stamarrēt	'I/you(m.s.)continued'

Hollow verbs. Hollow verbs of Form I have two perfect stems: the long stem with medial /ā/ occurring with the [Ø] and vowel-initial suffixes (that is, the third person suffixes), and the short stem, consisting of the first radical, a high short vowel, and the third radical, occurring with the consonant-initial suffixes of the first and second persons. The example from Table 4-1 is the root z-w-r, which has the long stem [zār] in the 3rd person and the short stem [zur] in the 1st and 2nd persons. The quality of the short high stem vowel generally depends on the following tautosyllabic consonant and thus is determined by the postlexical backing rule. Examples are shown below.

	Perfect/Imperfect	1 s. perf.	
I.	ṭāh/yṭīh	ṭuht	'to fall'
	zād/yzīd	zidt	'to add'
	xāf/yxāf	xuft	'to be afraid'
	nād/ynūd	nidt	'to doze'
	ṣām/yṣūm	ṣumt	'to fast'
	fāz/yfūz	fizt	'to win'
	ṣāq/yṣūq	ṣuqt	'to drive'

In a few cases /u/ occurs preceding a nonbacking (or fronting) consonant, as in /quit/ 'I said', the short stem of which is [qui] and the root of which is q-w-l. In

these cases, the short vowel /u/ corresponds to the medial glide radical /w/. This is one of the few cases in which /u/ occurs in an environment where the backing rule would condition /i/ (cf. §2.1.3). Like the other examples of this, the /u/ is found in LA and is probably retained due to the influence of LA on the dialect.

Derived hollow verbs of Forms VII, VIII, and X have similar characteristics. The long stems of these verbs have /ā/ as the stem vowel. The short stems have vowels corresponding in height to the imperfect vowels (cf. Table 3-2). In Forms VII and VIII /a/ is the short stem vowel, and in Form X it is /i/. Examples of these forms are:

	Perfect/Imperfect	1 s. perf.	
VII.	nšāf/yinšāf	nšaft	'to be seen'
VIII.	xtār/yaxtār	xṭart	'to choose'
X.	starāh/yistrīh	struḥt	'to relax'

The short stems of the perfect verbs of Forms I and X are derived by means of a raising rule:

Perfect Stem Vowel Raising (Level 2)

$$\bar{a} \rightarrow \quad i \ / \ \_\_ \ R \ ]_{\text{Perfect, Forms I, X}} \ [\ C$$

The backness of the vowel is then determined postlexically by the backing rule.

The short stems of the perfect aspect of Forms VII and VIII verbs, exemplified above, are derived by means of a rule of vowel shortening.

Perfect Stem Vowel Shortening (Level 2)

$$\bar{V} \rightarrow V \quad / \quad \_\_ \; R \;]_{\text{Perfect, Forms VII, VIII}} \; [\; C$$

An example is the following derivation: [xtār] (Level 1) → [xtār][t] (Level 2) → [xtart] 'I chose'.

Irregular verbs. The verb /ge/ 'to come' is irregular, particularly in the 3rd person.

	1	2 m.	2 f.	3 m.	3 f.
s.	gīt	gīt	gītī	gē	gāt
p.	gīnā	gītū	gītan	geyyū	geyyan

Like the hollow verbs, /ge/ has a separate underlying stem for the first and second persons, namely [giy]. By Coalescence, [giyt] becomes /gīt/ 'I came'. In the third person, the underlying stem is [gayy], except for the 3rd singular feminine, for which the stem is [gā].

The root of this verb as reflected in the perfect stem allomorphs is somewhat problematic and appears to be a composite of roots or of various interpretations of the same root. The root in MA appears to be g-y, but the allomorphic variation in the perfect stem resembles that of hollow verbs. The expected first person form would be */gayyēt/ if the verb were indeed geminate, but instead it is /gīt/. It is as though the perfect stem, underlyingly [gayay], was interpreted as the hollow

verb [gāy] in the 1st and 2nd persons and the geminate verb [gayy] in the 3rd person.

An interesting explanation that might account for this dual interpretation of the root is that it is a residue of an earlier paradigmatic alternation among geminate stems, attested in LA, of the type /jarra/ 'he pulled' and /jarartu/ 'I pulled'.[6] In these cases, the short vowel between the two identical consonants is not deleted preceding a consonant-initial suffix. It is in just this environment—preceding consonant-initial suffixes—that the "hollow" variant occurs, i.e. [gayay] → [gāy]. Another consideration is the fact that in LA the root is ǰ-y-ʔ, hollow with glottal stop as the third radical. Historically, then, it appears that the second and third radicals were not identical. On the other hand, other verbs which in LA have glottal stop as the third radical are final-y in MA, such as /qara/ 'to read', which in MA has the root q-r-y and in LA the root q-r-ʔ. The incomplete merger of the second and third radicals of the root g-y-ʔ appears to have resulted in divergent perfect stems.

The 3rd singular feminine stem [gā] also reflects the hollow stem, possibly derived from something like [gayaʔ], which by an earlier version of intervocalic Glide Deletion became [gāʔ] and finally [gā] with the weakening of glottal stops in MA and other dialects. When the suffix [it] is attached, the short vowel of the

[6] The correlation of this stem alternation to the stem shape alternations of the verb /ge/ was pointed out to me by Bruce Hayes.

suffix is deleted. The rule of Affix Vowel Deletion, discussed below, states that a short affix vowel is deleted when it is preceded by a long vowel.

Affix Vowel Deletion (Level 2)

$$V \rightarrow \emptyset \;/\; \bar{V}][\_\_C$$

[+short]

By this rule [gā] followed by the affix [it] becomes [gāt] 'she came'.

Based on the stems given above, the derivation of the 3rd person inflected forms is as follows:

3 s.m.	3 s.f.	3 p.m.	3 p.f.	
[gayy][Ø]	[gā][it]	[gayy][ū]	[gayy][an]	Level 2
	[gā][t]			Affix Vowel Deletion
[gayy]	[gāt]	[gayyū]	[gayyan]	Level 3
/gayy/	/gāt/	/gayyū/	/gayyan/	Postlexical
/gay/		---	---	Final Consonant Shortening
/gē/	---	---		Coalescence
---		/geyyū/	/geyyan/	Low Vowel Centralization
/ge/[7]		/geyyu/		Final Vowel Shortening

[7] In fact there are two possible outcomes for the underlying stem [gayy], both of which can be heard in MA: /gēy/ and /ge/ (cf. the derivations for /šayy/ 'thing' in cf. §2.2.3).

The imperatives of the verb /ge/ are the suppletive forms /taʕāl, taʕālī, taʕālū, taʕālan/ 'come (m.s., f.s., m.p., f.p.)', which are also found in LA.

4.1.2 Imperfect and imperative

The imperfect and imperative inflected forms for verbs of the five root types are illustrated in Table 4-2. The verbs in the table are shown in their surface inflected uncliticized forms, that is, after the Level 2, Level 3, and postlexical rules, except Final Vowel Shortening which is utterance-sensitive, have applied with no clitics having been attached at Level 3. The derivations of Form I verbs and verbs of the derived forms are described and exemplified in the following discussion. At Level 2, prefix vowel quality, Syncope, and Final /y/ Deletion rules apply, but, as we shall see, some questions of syllable structure, including prefix and stem vowel deletion, are not resolved until clitic attachment at Level 3. Also at Level 3 prefix vowels in open syllables are deleted (cf. §5.1.1).

In general, the quality of the imperfect active prefix vowels for Form I verbs is low as given in §4.1 above, but for verbs of the derived forms it is high, with the exception of the 1st singular prefix [ʔa], the vowel of which is low. The four imperfect prefixes and their vowel qualities in the imperfect active are as follows:

Imperfect and Imperative		Imperfect					Imperative	
		1	2 m.	2 f.	3 m.	3 f.	m.	f.
Affixes	s.	ʔa- -Ø	ta- -Ø	ta- -ī	ya- -Ø	ta- -Ø	-Ø	-ī
	p.	na- -Ø	ta- -ū	ta- -an	ya- -ū	ya- -an	-ū	-an
Regular Verbs	s.	ʔarkab	tarkab	trakbī	yarkab	tarkab	rkab	rakbī
	p.	narkab	trakbū	trakban	yrakbū	yrakban	rakbū	rakban
Geminate Verbs	s.	ʔašill	tšill	tšillī	yšill	tšill	šill	šillī
	p.	nšill	tšillū	tšillan	yšillū	yšillan	šillū	šillan
Hollow Verbs	s.	ʔazūr	tzūr	tzūrī	yzūr	tzūr	zūr	zūrī
	p.	nzūr	tzūrū	tzūran	yzūrū	yzūran	zūrū	zūran
Final-y Verbs	s.	ʔabkī	tabkī	tbikyī	yabkī	tabkī	bkī	bikyī
	p.	nabkī	tbikyū	tbikyan	ybikyū	ybikyan	bikyū	bikyan
Initial Weak Verbs	s.	ʔōqaʕ	tūqaʕ	twaqʕī	yūqaʕ	tūqaʕ	wqaʕ	waqʕī
	p.	nōqaʕ	twaqʕū	twaqʕan	ywaqʕū	ywaqʕan	waqʕū	waqʕan

Figure 4-2. Imperfect and imperative verbal inflection

Prefix		Person, Number, and Gender
Form I	Derived Forms	
ʔa-	ʔa-	1 s.
na-	ni-	1 p.
ta-	ti-	2 s.m./f., 2 p.m./f., 3 s.f.
ya-	yi-	3 s.m., 3 p.m./f.

Examples are:

I.	ʔa-glis	'I sit'
	na-briz	'we sit in a shop selling'
	ta-bšam	'you (m.s.)/she eat(s) a lot'
	ya-šbah	'he resembles'
V.	ʔa-tkallam	'I speak'
	yi-tkallam	'he speaks'
VI.	ni-tχābar	'we greet one another'
VII.	yi-nšall	'it (m.) is taken'
VIII.	ʔa-štri	'I buy'
	yi-štri	'he buys'
X.	ti-staħmaq	'you (m.s.) she are/is angry'
QII.	ʔa-tqahwa	'I have coffee'
	ni-tqahwa	'we have coffee'

There are, however, numerous exceptions to these generalizations, and in many cases it appears that prefix vowel quality is not fixed, but is variable in height for all but the 1st singular prefix.

Exceptions to low vowel quality in Form I for the three prefixes with variable vowel quality are generally motivated by the quality of the stem vowel and the quality of the initial root consonant, that is, the consonant immediately following the prefix vowel.

Exceptional high prefix vowels, when they occur, are likely to be found in Form I verbs: 1) verbs having /w/ or /y/ as the initial radical (i.e., the initial weak verbs); 2) verbs having an initial root consonant from among the consonants /θ, ð, s, z, š, l, n, t, d, k, g, j/ (the fronting class of consonants described in §2.1.3), especially those verbs having a low stem vowel; and 3) verbs having /u/ as the stem vowel and all of whose root consonants are members of the set of consonants /b, m, f, ṭ, ṣ, ḍ, r, q, x, γ, ħ, ʕ, h, ʔ/ (the backing class of consonants described in §2.1.3). Examples of these three exceptions are shown below.

1)	yības (<yi-ybas)	'it(m.)dries'
	tūgaʕ (<ti-wgaʕ)	'she/it(f.)hurts/you(m.s.)hurt'
2)	yi-šrab	'he drinks'
	yi-lʕab	'he plays'
	yi-nham	'he calls'
	yi-lqā	'he meets'
3)	yu-ħruq	'it(m.)burns'

nu-ṣbur	'we wait'
tu-rquṣ	'she dances /you (m.s.) dance'
yu-hrub	'he run away'

If the stem vowel varies, then the prefix vowel does too, as in /tu-rquṣ/ 'she dances' which has the alternant /ta-rqaṣ/.

In other words, the most common prefix vowel—stem vowel quality combinations among Form I MA verbs are:

a — a, i/u	
i — a	(Exceptions 1, 2)[8]
u — u	(Exception 3)

Within phonological limits defined by the quality of the contiguous consonant, vocalic assimilation and dissimilation are in effect in prefix vowel raising. Where the stem vowel is /a/, the raised prefix vowel is /i/, and the result is polarity or dissimilation, and where the stem vowel is /u/, the prefix vowel is also /u/, resulting in assimilation. The /i/—/a/ sequence may be reinforced by the /i/ (prefix vowel)—/a/ (stem vowel) sequences of the derived verbs. Although high vowels are found in the prefixes of other Form I verbs, high vowels more commonly and consistently are found in verbs of these two configurations, and are obligatory when the initial radical is a glide.

[8] Initial weak verbs (Exception 1) normally have the stem vowel /a/.

Form I Prefix Vowel Raising (Level 2)

a. $V \rightarrow [+high] \; / \; \_\_ \;] [\; G \ldots]_{\text{Form I Imperfect}}$

b. $V \rightarrow [+high] \; / \; \_\_ \;] [\; R \;\; a \;\; R \;\; a \;\; R]_{\text{Form I Imperfect}}$ (Optional)
[+fronting]

c. $V \rightarrow [+high] \; / \; \_\_ \;] [\; R_b \; u \;\; R_b \; u \;\; R_b]_{\text{Form I Imperfect}}$ (Optional)

The two rules b) and c), although optional, appear to be in the process of producing standard vocalic patterns in the language. In fact, they are similar to the vowel melodies for stems discussed in §3.1.3.

A high prefix vowel, on the other hand, may be lowered when the initial stem consonant is a back consonant, that is, a member of the set /q, x, γ, ħ, ʕ, ʔ, h /. This applies to the derived verbs as well as to the Form I exceptions noted above.

Prefix Vowel Lowering (Level 2) (Optional)

$V \rightarrow [+low] \; / \; \_\_ \;] [\; R$
[+back]

Examples are:

I.	yaqrab	'he came near'
VIII.	yaγtašš	'he was cheated'

The prefix vowel quality of the internal passive in the imperfect is /u/ for all prefixes, although it may be /i/ preceding a fronting consonant. Examples are shown below.

I.	n-naxla	tu-sqa	kull yōm
	the-palm tree	f.s.pass.-water	every day

'The palm tree is watered every day.'

bēt-ī	mā yu-bāʕ
house-my	not m.s.pass-sell(pass.)

'My house is not for sale.'

VIII.	sayyārt-ī	mā	tu-štara
	car-my	not	f.s.(pass)-bought

'My car was not bought.'

The 1st person prefix also has the vowel /u/, as in /ʔuḏrab/ 'I was beaten', although as mentioned previously in the discussion of the passive verb in §3.3.2, the internal passive is less common in the 1st and 2nd persons.

Syncope applies to the imperfect and imperative verbs in much the same way as it does in the perfect. In Forms I, III, VI, VII, and VIII regular verbs it deletes the final stem vowel when vowel-initial suffixes are attached. Some examples are:

I.	[ya][rasam][an]	→	yarasman	'they (f.) draw'
III.	[yi][saʕad][ū]	→	yisaʕdū	'they (m.) help'
VI.	[yi][tnāzaʕ][ū]	→	yitnāzʕū	'they (m.) quarrel'
VII.	[yi][nturis][ū]	→	yintursū	'they (m.) are filled'
VIII.	[yi][ftikur][ū]	→	yiftikrū	'they (m.) think'

However, at this level Syncope does not apply to any environment other than preceding a vowel-initial suffix. This means that an inflected verb such as [ya][tiris][ū] undergoes Syncope at Level 2 to become [yatirsū], the surface form of which is /ytursu/ 'they fill'. However, the form [ya][tiris][Ø] 'he fills', for example, does not undergo Syncope. Although the surface form of 'he fills' is indeed /yatris/, a form that has undergone Syncope, the stem vowel is not syncopated at Level 2. Indeed, this same vowel appears in the surface form if a vowel-initial clitic is attached at Level 3, e.g., [yatiris][oh] becomes [ytirs-oh]. In other words, vowel-initial clitics attached at Level 3 have the same effect on the stem that vowel-initial inflectional affixes have at Level 2. If the initial stem vowel of [ya][tiris]Ø] were deleted at Level 2, then it could not appear at Level 3. In order to prevent [ya][tiris][Ø] 'he fills' from becoming [yatris] at Level 2 and thus losing a vowel that may appear on the surface, the Level 2 Syncope rule must be restricted to only apply to stems ending in -VR that have vowel-initial suffixes attached. This can be ensured by requiring in the Syncope rule that bracketing intervene between the consonant and vowel following the syncopated vowel. In this case, then, no right to left condition of application need be specified.

Syncope (Level 2) V → Ø / V C __ C][V

This form of the rule also covers Syncope in the perfect verbs at Level 2. In Table 4-2, the verbs to which this rule applies (Form I regular, final-y, and initial weak) are shown in the form they assume after the Level 3 Syncope rule has applied.

Alternatively, no Syncope rule need be applied at Level 2 at all because the Level 3 Syncope rule, operating from right to left, is inclusive of all of the cases covered by the Level 2 rule cited above (cf. §5.1.1) . This has the advantage of eliminating a rule (i.e., Syncope (Level 2)) that requires reference to bracketing, and in any case the syllabic structure of these forms cannot be fully resolved until Level 3.

Forms such as [ya][tiris] 'he fills' are therefore unchanged at Level 2 and enter Level 3 as [yatiris]. At Level 3 if a vowel-initial clitic is attached, as in [yatiris][oh], this becomes by Syncope [yitirs][oh], and finally on the surface /yturs-oh/ 'he fills it (m.)'. If no clitic, or a consonant-initial clitic is attached at Level 3, as in [yitiris][hā], then the initial stem vowel is deleted, as in [yatris][hā], which on the surface is /yatris-ha/ 'he fills it (f.)'. The deletion of the initial stem vowel occurs at Level 3, where Syncope is less restricted than at Level 2. In MA, the surface syllabic structure of non-suffixed forms whose imperfect stem shape entering Level 2 is RVRVR[9] is in fact not resolved until the clitics, if any, are attached at Level 3 (cf. §5.1).

Level 1 Syncope, however, cannot be eliminated. It applies to forms like [sta][kamal] → [stakmal] 'to complete'. If it did not apply, then at Level 2 the incorrect derivation [stakamal][oh] → *[stakami-oh] 'he completed it (m.)' would result, instead of the correct [stakmal][oh] → [stakmal-oh] 'he completed it (m.)'.

---

[9] Verbs fulfilling this condition are the imperfect and imperatives of regular and initial weak verbs of Forms I, VII, and VIII.

The imperative verbs operate in the same way. In the case of the singular masculine imperative, no inflectional suffix is attached to the stem, and no vowel is deleted at Level 2. However, when a vowel initial suffix is attached at Level 2 or a vowel-initial clitic is attached at Level 3, the second stem vowel is deleted. The imperative [tiris][ī] thus becomes [tirsī] 'fill (f.s.)' at Level 2, and at Level 3 [tiris][oh] becomes [tirs-oh] 'fill (m.s.) it (m.)'.

At Level 2, geminate and hollow verbs do not have the shape RVRVR and so do not undergo the same stem alternations as verbs of the other root types. The structure of these verbs has been determined by vowel deletion at an earlier level (Level 0) in the derivation (cf. §3.2).

Final-y verbs are inflected like regular verbs in all suffixed forms. The /y/ in these instances acts like a strong radical, e.g. [bakay][ū] becomes [bakyū] 'they (m.) cried'. However, where no inflectional suffix is attached, if the short vowel preceding the /y/ is /i/, as it is in Forms II, III, VII, VIII, X, QI, and some verbs of Form I (cf. Table 3-2), the sequence /iy/ is subject to High Vowel Coalescence postlexically, unless followed by a vowel-initial clitic. On the other hand, when the preceding vowel is /a/, as it is in Forms V, VI, QII, and some verbs of Form I, and no suffix is attached, then the rule of Final /y/ Deletion applies. Examples are:

I.	[yi][baqay][Ø]	→	yubqā	'he remains'
V.	[ti][tmaššay][Ø]	→	titmaššā	'she takes a walk'
VI.	[yi][tʕāfay][Ø]	→	yitʕāfā	'it (m.) was eclipsed'
QII.	[yi][tqahway][Ø]	→	yitqahwā	'he had coffee'

The irregular verbs, [xuð] 'to take' and [kil] 'to eat' have the imperfect forms [yāxuð] and [yākil] and the imperatives [xuð] and [kil]. When vowel-initial suffixes are attached, Syncope applies, as in [yāxðū] 'they (m.) take' and /xuðū/ 'take (m.p.)'. [kil] also has the common alternate imperfect form [yūkil] 'he eats'. This alternant is distinct from the passive imperfect form [yūkal] 'it (m.) is eaten'. The long prefix vowel in the imperfect of these verbs appears to reflect glottal stop as the initial radical (cf. §2.1.1 note 4).

The imperfect stem of the root g-y is [gīy] 'to come'. The paradigm of this verb is:

	1	2 m.	2 f.	3 m.	3 f.
s.	ʔagī	tagī	tagīyī	yagī	tagī
p.	nagī	tagīyū	tagīyan	yagīyū	yagīyan

The Form I verb from the root b-γ-y 'to want' has an irregular alternate imperfect form. In the imperfect alternant, the /γ/ has dropped out of this verb, such that the paradigm is:

	1	2 m.	2 f.	3 m.	3 f.
s.	ʔabā	tibā	tibī	yibā	tibā
p.	nibā	tubū	---	yubū	---

This form of the verb also appears in the OA dialect of Al-Khābūrah (Brockett 1985) and in dialects of the Gulf (Johnstone 1967a).

4.2. Participial affixes

Like the imperfect verbs, participles[10] in Arabic have both prefixes and suffixes.

The prefix for all participles except those of Form I verbs (cf. §3.4) is [mi]. The inflectional suffixes attached to the participles to indicate gender and number are the same for all verbs. These suffixes have the shapes Ø or V(V)C. As in the imperfect and imperative, all suffixes except [Ø] are vowel-initial.

singular masculine	[Ø]
singular feminine	[ah]
plural masculine	[īn]
plural feminine	[āt]

Examples are:

I.	[maqnūṣ][īn]	→ maqnūṣīn	'hunted (m.p.)'
II.	[mi][ʕallim][ā]	→ mʕallimāt	'teaching (f.p.)'
V.	[mi][tkassir][Ø]	→ mitkassir	'broken (m.s.)'
	[mi][tmaddid][ah]	→ mitmaddid	'stretched out (f.s.)'
QI.	[mi][targim][īn]	→ mitargimīn	'translating (m.s.)'

[10] The meaning of the participles depends on the context. Verbally they are generally used to express the present or present perfect, and nominally the actor (active participle) or recipient of the action (passive participle). Here, the active participle is translated with the present participle in English and the passive participle by means of the past participle.

As with the imperfect and imperative verbs, Syncope (Level 2) applies to suffixed participles of verbs of Forms I (active only; cf. Table 3-3), III, VII, and VIII. Examples are shown below.

I.	[bāɣiy][ah]	→	bāɣyah	'wanting (f.s.)'
III.	[mi][sāʕid][āt]	→	msāʕdāt	'helping (f.p.)'
VII.	[mi][ntiris][īn]	→	mintirsīn	'filled (m.p.)
VIII.	[mi][štiɣil][īn]	→	mištiɣlīn	'working (m.p.)'

Participles are subject to the same syllabic restructuring as the imperfect, discussed in the previous section. Initial stem vowel deletion, however, applies only to Forms VII and VIII, since Form I participles have the stem shape RVVRVR rather than RVRVR. Examples of such forms are:

VII.	[mi][ntiris][Ø]	→	/mintris/	'filled (m.s.)'
	[mi][ntiris][īn]	→	/mintursīn/	'filled (m.p.)'
VIII.	[mi][štiɣil]	→	/mištɣil/	'working (m.s.)'
	[mi][štiɣil][āt]	→	/mištuɣlāt/	'working (f.p.)'

Final-y active participles have /i/ before the /y/ and so are subject to High Vowel Coalescence in the same way that the imperfect verbs are. The passive participles, however, although they have /a/ preceding the final /y/, differ from the imperfect in that the participial /a/ has been lengthened at Level 1 (cf. 3.4), as in /msowwāy/ 'done'. Therefore, these forms do not undergo Final /y/ Deletion.

The irregular verbs have the following participles (cf. §3.4):

Active		Passive	
mākul	'eating'	mākūl	'eaten'
māxuð	'taking'	māxūð	'taken'
gāy	'coming'	---	

The inflected forms of these participles are quite regular, however. For example, the inflected forms of [mākul] are /mākul, māklah, māklīn, māklāt/ , and for gāy: /gāy, gāyah, gāyīn, gāyāt/.

4.3 Nominal affixes

Nominal inflection consists of suffixes only. The same gender and number inflectional affixes that are attached to the participles are attached to nominal stems, that is [Ø] masculine singular, [ah] feminine singular, [īn] masculine plural, and [āt] feminine plural. However, whereas all participles take this same inflection, only a subset of the nominal stems are externally inflected. As we saw in §3.5, many nouns have internally inflected or "broken" plurals. Externally inflected nominal patterns include the more productive nominal and the adjectival patterns. Among these are the adjectival patterns RVRRān, RāRiR, RaRūR, RaRRūR, and others. Examples are given below.

m.s.	f.s.	m. p.	f.p.	
tatūn	tatūnah	tatūnīn	tatūnāt	'tiny, baby'
barðūl	barðūlah	barðūlīn	barðūlāt	'lazy'

taʕbān	taʕbānah	taʕbānīn	taʕbānāt	'tired'
yābis	yābsah	yābsīn	yābsāt	'dry'

Syncope applies to nominal stems preceding a vowel-initial suffix.

Some nominal stems, as for example the nominal pattern denoting occupation RaRRāR and the adjectival pattern RaRīR, are internally inflected for the masculine plural but externally inflected for the feminine singular and feminine plural, as in:

m.s.	f.s.	m.p.	f.p.	
luṣṣ	luṣṣah	lṣūṣ	luṣṣāt	'thief'
kabīr	kabīrah	kubār	kabīrāt	'big, old'
farrāš	farrāšah	farārīš	farrāšāt	'sweeper (i.e., worker)'

Unlike verbs, nominals stems in MA can end in either of the two glides /w/ or /y/. In either case, when there is no suffix or the suffix is [Ø] the glide is deleted following /a/ and the /a/ is lengthened. That is, the rule of /ay/-Monophthongization applies, although since it includes /w/ it needs to be expanded to /aG/-Monophthongization.

/aG/-Monophthongization (Level 2)

$$aG \rightarrow \bar{a} \ / \ R\_\_][Ø]$$

Examples are:

[ɣaday]	→	ɣadā	'lunch; midday meal'
[ʕaṣay]	→	ʕaṣā	'stick'
[šitaw]	→	šitā	'winter' (cf. šitwī 'winter,wintry' (adj.))

Chapter 5

Clitics and Phrases

The clitic inventory of MA includes clitics attached at the end as well as at the beginning of the inflected forms. The enclitics following the inflected forms consist of the dependent forms of the personal pronouns, certain object markers in combination with those pronouns, and the dual number clitic. The proclitics, which by definition precede the inflected form, include the future verbal marker, the definite article, and the demonstrative particles. In terms of lexical phonological levels, the clitics are attached at Level 3 to the output of Level 2. This chapter describes the clitics and the morphophonological rules that apply at Level 3 along with certain phrasal phenomena. The output of Level 3 serves as input to the postlexical rules described in Chapter 2.

5.1 Pronominal and other enclitics

The largest and most common group of enclitics are the dependent forms of the personal pronouns. These pronominal enclitics refer to the direct object when directly attached to an inflected verbal form or participle, to the possessor when attached to a nominal, and to the object of the preposition when attached to a preposition. The paradigms of the forms attached to verbs, nominals, and prepositions are identical except for the first person singular enclitic, which for verbs is [nī] and for prepositions and nominals is [ī]. The pronominal enclitics, like

most of the inflectional suffixes (cf. §4.1), have the shape (C)VX. The paradigm is shown below.

	1	2 m.	2 f.	3 m.	3 f.
s.	-nī (verbal), -ī (nominal/ prepositional)	-ak	-iš	-oh	-hā
p.	-nā	-kum	-kin	-hum	-hin

These clitics and their various functions are exemplified in Table 5-1 and described in the following five subsections.

The pronominal enclitics may be also preceded by an object marker such as the indirect object marker [il][1] when attached to verbs or participles, as in:

gībī-l-hum	ʕuṭur
bring(f.s.)-to-them(m.)	perfume

'Bring (f.s.) them (m.) perfume.'

The cliticization of case-marked pronominalized objects is described for verbs in §5.1.2 and for participles in §5.1.3.

The dual number enclitic [ēn] is attached to nominals as well as particples used as nominals and is described in §5.1.5.

[1] In MA, [il] functions primarily to mark the indirect object. Unlike other varieties of Arabic in which this marker also functions as a preposition having the meaning 'for, belonging to', in MA the prepositions /ħāl/, sometimes /māl/, and, less frequently, /ħaqq/ are used instead.

	Verb		Preposition		Nominal	
1 s.	šāfit-nī	'she saw me'	ħāl-ī	'for me'	bēt-ī	'my house'
2 m.s.	šāfitt-ak	'she saw you'	ħāl-ak	'for you'	bēt-ak	'your house'
2 f.s.	šāfitt-iš	'she saw you'	ħāl-iš	'for you'	bēt-iš	'your house'
3 m.s.	šāfitt-oh	'she saw him'	ħāl-oh	'for him'	bēt-oh	'his house'
3 f.s.	šāfit-hā	'she saw her'	ħāl-hā	'for her'	bēt-hā	'her house'
1 p.	šāfit-nā	'she saw us'	ħāl-nā	'for us'	bēt-nā	'our house'
2 m.p.	šāfit-kum	'she saw you'	ħāl-kum	'for you'	bēt-kum	'your house'
2 f.p.	šāfit-kin	'she saw you'	ħāl-kin	'for you'	bēt-kin	'your house'
3 m.p.	šāfit-hum	'she saw them'	ħāl-hum	'for them'	bēt-hum	'their house'
3 f.p.	šāfit-hin	'she saw them'	ħāl-hin	'for them'	bēt-hin	'their house'

Table 5-1. Pronominal Enclitics

5.1.1 Verbal direct objects

A pronominal enclitic may be attached directly to any inflected verb and, as mentioned above, then functions as the direct object of that verb. Some examples are shown below.

Perfect:	gamalnā-hum	'we gathered them (m.) together'
	ṭaššētī-nī	'you (f.s.) splashed me'
	qābalt-iš	'I saw you (f.s.)'
	dallēt-iš	'I guided you (f.s.)'
	ṣaḥḥaht-oh	'I corrected him/it (m.s.)'
	ħayyā-kum	'he gave you (m.p.) life'[2]
Imperfect:	thubbī-nī	'you (f.s.) love me'
	ydarras-hum	'he teaches them (m.)'
	yqanṣū-hum	'they (m.) hunt them (m.)'

---

[2] This word occurs frequently in the expression of greeting:

ħayyā-kum aḷḷāh b-il-xēr
give=life(3 m.s.perf.)-you(m.p.) God with-the-good

'May God give you (m.s.) a good life'

Additional analogous greetings are:

ṣabbaħ-kum aḷḷāh b-il-xēr
'May God grant you a good morning'

and

massā-kum aḷḷāh b-il-xēr
'May God grant you a good evening.'

	tkaiwatī-hin	'you (f.s.) wring them (f.) out'
Imperative:	xallī-hā	'leave (m.s.) her/it (f.s.)'
	rāwī-nā	'show (m.s.) us'

These cliticized verbs undergo no modification at Level 3. However, certain other syllabic combinations condition modifications to either the clitic or the preceding inflected verb.

One kind of modification occurs when a sequence of two vowels is created by the attachment of a vowel-initial clitic to an inflected form ending in a vowel. The sequence is that of a long vowel (since all final verbal vowels are long) followed by a short vowel (the enclitic vowel). When this happens, the short enclitic vowel is dropped. Examples are shown below, where in the first column the inflected form and the Level 3 morpheme are given, and in the second column the output of Level 3 is shown.

Perfect:	[staʔgarnā][oh]	→	staʔgarnā-h	'we rented it (m.s.)'
	[nādyū][iš]	→	nādyū-š	'they(m.) called you (f.s)'
Imperfect:	[ʔarāwī][ak]	→	ʔarāwī-k	'I show you (m.s.)'
Imperative:	[waddī][oh]	→	waddī-h	'Bring him/it (m) back'

The rule that applies in these instances is the same rule of Affix Vowel Deletion that applies at Level 2, which states that when a short-vowel-initial suffix follows a long vowel the short vowel is deleted. In fact, the only place that the sequence long vowel-short vowel comes up when affixes or clitics are attached at

Levels 2 and 3, so that the rule of Affix vowel deletion does not need to be explicitly restricted to these levels.

Affix Vowel Deletion (Levels 2, 3)

$$\underset{[+\text{short}]}{V} \rightarrow \emptyset \quad / \quad \bar{V} \;][\_\_$$

The enclitics that begin with a short vowel are the singular second person masculine and feminine clitics [ak] and [iš], and the singular third person masculine clitic [oh]. As with the inflectional endings, vowel-initial enclitics also provide an environment for Syncope when the previous form ends in VC. Examples are shown below.

[laħaq][iš]	→ laħq-iš	'it (m.s) descended on you (f.s)'
[ʔaxābar][ak]	→ ʔaxābr-ak	'I shake your (m.s.) hand'
[tirīs][oh]	→ tirs-oh	'fill (m.s.) it (m.s.)'

The Level 2 Syncope rule if also applied at Level 3 covers at least these cases:

Syncope (Level 2) $\quad V \rightarrow \emptyset \quad / \quad V\,C \_\_ C \;][\; V$

An alternative to Syncope is found, however, when the VC preceding the vowel-initial clitic is an inflectional affix rather than a stem—in other words when the C preceding the clitic is not a radical. The result in that case is that the affix consonant is lengthened, which then eliminates the environment for Syncope.

The Level 2 verbal inflectional suffixes having the shape VC are the perfect feminine singular suffix [it], and the second and third person plural suffix [an]. Examples of this combination are shown below and in Table 5-1 column one for the verb [šāfit].

Perfect:	[nādētan][oh]	→	nādētann-oh	'you (f.p.) called him'
	[rāwyit][ak]	→	rāwyitt-ak	'she showed you (m.s.)'
	[kalit][oh]	→	kalitt-oh	'she ate it'
Imperfect:	[yirāwyan][iš]	→	yrāwyann-iš	'they (f.s.) show you (f.s.)'
Imperative:	[šarban][oh]	→	šarbann-oh	'drink (f.p.) it (m.)'

The rule describing the lengthening of affix consonants is given below.

Pre-Clitic Consonant Lengthening (Level 3)

$$C_i \rightarrow C_iC_i \;\; / \;\; V \_\_ \;][\; V$$

Conditions: 1) C_i is not a root consonant (R).

2) Precedes Syncope.

An effect of this rule is to peserve the vowel, and therefore the syllabic shape, of the inflectional endings, which would otherwise be subject to Syncope. It also has the effect of making the pre-clitic syllable heavy, as does Syncope.

As mentioned in the previous chapter, the internal syllabic structure of such forms as [yatiris] 'he fills', inflected at Level 2, is finally resolved only after clitic attachment at Level 3. If the inflectional suffix is [Ø] in the imperfect or imperative, then stem vowel deletion for Forms I, VII, and VIII (except for

geminate and hollow verbs), i.e., those having the stem shape $-V_iRV_jR$ entering Level 2, depends on the shape of the clitic, if any. When the clitic is vowel-initial, then the final stem vowel (V_j) is deleted by Syncope, as with all verbs (e.g., [yatiris][oh] → [yatirs-oh] 'he fills it (m.)'. However, if no clitic is attached or if the clitic is consonant-initial, then in imperfect and imperative verbs only[3] the initial stem vowel (V_i) is deleted (e.g., [yatiris][hā] → [yatris-hā] 'he fills it (f.)'). In Form I imperfect verbs this can be accomplished by means of a Syncope rule that covers at least those cases covered by Syncope as formulated for Level 1:

$$\text{Syncope (Levels 3)} \quad V \rightarrow \emptyset \quad / \quad V\ C\ \_\_\ C\ V$$

Condition: Applies from right to left.

[3] The initial stem vowel (V_i) is normally not deleted in the perfect in MA, although it is in some other OA dialects.

In other instances of vowel deletion at Level 3, however, the conditions for Syncope (Level 1) are not met, either because the preceding syllable is closed or because there is no preceding syllable.

Form VII and VIII regular imperfect verbs, and Form X hollow and geminate imperfect verbs undergo vowel deletion even though the preceding syllable is closed. Examples are:

VII.	[yintiris]	→	yintris	'it (m.) is filled'
VIII.	[yištiɣil]	→	yištɣil	'he works'
X.	[tistarīħ]	→	tistrīħ	'she relaxes'
	[yistamarr]	→	yistmarr	'he continues'

It should be noted that in fact there are alternants of Forms VII and VIII used occasionally in MA in which the vowel is not deleted. Examples are:

yintris	~	yintaras	'it (m.) is filled'
yindxil	~	yindaxil	'it (m.) is/can be entered'
yiftkir	~	yiftakar	'he remembers'

These alternants generally follow the MA vowel melody for derived verbs, in which the stem vowels are leveled to /a/, but there is some variation on that point, as the final vowel in /yindaxil/ above demonstrates. These alternate stems are

probably the result of exposure to LA and other dialects, most of which preserve the short stem vowel in the open syllable in forms VII and VIII.

Verbs in MA, then, as is clear from the above examples have vowels deleted in more environments than Syncope (Level 1) allows. Nevertheless, there are still some cases in which short vowels in open syllables are not normally deleted and these are illustrated below.

[yaktub][oh]	→	yaktub-oh	'he writes it (m.)'
[yitargam][oh]	→	ytargam-oh	'he translates it (m.)'
[xawwaf][oh]	→	xawwaf-oh	'he frightened him'

The prefix vowels of these verbs are deleted, but the final stem vowel is not, except in fast speech (cf. §2.2.2).

The various environments in which a short vowel in a syllable following a closed syllable is deleted at Level 3 are schematized below (R is a radical and C is an affix consonant).

V R _ R V	Form I Imperfect
V C R _ R V	Form VII Imperfect
V R C _ R V	Form VIII Imperfect
V C C _ R V	Form X Imperfect (hollow/gem)

The case in which vowel deletion does not occur is:

V R R _ R V	Forms I, QI, QII

The main distinguishing characteristic of the environment in which vowel deletion does not occur is that the short vowel breaks up what would otherwise be a cluster of three root consonants. This, then, is the primary restriction on Syncope at Level 3.

Syncope (Level 3)

$$V \rightarrow \emptyset \quad / \; V\,(C_i)\,C_j \_\_ C_k \; V$$

Conditions: 1) C_i (if present), C_j and C_k are not all three root consonants (R).
2) Applies from right to left.

Another case of vowel deletion not covered by Syncope is the deletion of prefix vowels in imperfect verbs of Forms I, II, III, and QI. In these forms, the prefix vowel is in an open syllable that is the first syllable of the word. Examples are shown below.

I.	[yaħumil][oh]	→	yħumi-oh	'he carries it (m.)'
II.	[yixayyam]	→	yxayyam	'he camps'
III.	[yizāban]	→	yzāban	'he bargains'
QI.	[yiqarqaħ]	→	yqarqaħ	'he knocks'

The rule is as follows:

Prefix Vowel Deletion (Level 3)

$$V \rightarrow \emptyset \,/\, [C \quad \_\, C\, V \ldots]_{\text{Imperfect}}$$

The surface form of the masculine singular imperative points up an interesting fact about imperfect and imperative verbs of the stem shape $-V_iRV_jR$ in MA. This fact is that only one stem vowel ever appears on the surface at one time. This is true even in the imperative, where no affix or clitic is attached that would provide an environment for Syncope. In the masculine singular imperative of regular Form I verbs, for example, the initial stem vowel is deleted to produce a stem of the shape RRV_jR, e.g. /tris/ 'fill (m.s.)' and not */tiris/. However, the initial vowel must be available at Level 2 in the event that a vowel-initial clitic is attached at Level 3, in which case the resulting form has the shape $[RV_iRR][VC]$, as in /turs-oh/ 'fill (m.s.) it (m.)'.

The deletion of the initial stem vowel in Form I imperative stems like [tiris] → tris 'fill (m.s.)' may in fact be derivable in a different manner. The imperative of all verbs is identical in form to the second person imperfect verb except that it lacks the imperfect prefixes. A possible derivation of the imperative would be by deleting the second person prefixes at Level 3 after Syncope (Level 3) has deleted the initial stem vowel, V_i. This kind of parasitic derivation requires that the morphological rule of deaffixation or subtraction apply after the phonological rule of Syncope applies at the same level. The lack of corroborative or independent evidence for such a derivation, however, would suggest simply that the rule of imperative vowel deletion and that of prefix vowel deletion are part of a single process of short vowel deletion in initial open syllables in imperfect and imperative verbs.

Prefix Vowel Deletion (Level 3)

$$V \rightarrow \emptyset \quad / \; [\,C\,(C)\,\_\,C\,V\,\ldots]_{\text{Imperfect/imperative}}$$

According to this rule, an initial short vowel in an open syllable is deleted in imperfect and imperative verbs. In no case would the deletion of this vowel result in a three-radical cluster, since one of the consonants in this environment is always an affix consonant.

5.1.2 Case-marked verbal objects

When a verb has a pronominalized object that is not directly attached to the verb, but instead is marked with the indirect object marker [il], then the indirect object marker along with the pronoun is cliticized onto the verb, as in:

[katab][[il][kin]] → katb-il-kin 'he wrote to you (f.p.)'

mū tubɣā-l-oh 'What do you (m.s.) want for it (m.)?'

what want(2 s.m.)-for-it(m.)

The pronominal enclitic in this case is prepositional rather than verbal; that is, the first person enclitic is [ī], as in /qūl-l-ī/ 'tell (m.s.) me', and not *[nī], as in /thubb-nī/ 'you love (m.s.) me'.

When the verb ends in a non-geminated consonant cluster, Pre-Clitic Consonant Lengthening applies to the indirect object marker when it precedes a vowel-initial clitic, as in:

katabt-ili-oh 'I/you (m.s.) wrote to him'

However, when the verb ends in a single consonant and the pronominal clitic is vowel-initial, then either Syncope or Pre-Clitic Consonant Lengthening applies to the object marker:

katb-ili-oh 'he wrote to him'

katab-i-oh 'he wrote to him'

In the first case, /katb-ili-oh/, the lengthening rule lengthened the /i/, and Syncope then applied to the stem vowel. In the second case, /katab-i-oh/, the /i/ of the object marker was deleted by Syncope, and the environment conditioning Pre-Clitic Consonant Lengthening was eliminated. Interestingly, Pre-Clitic Consonant Lengthening optionally fails to apply in just those cases (i.e., when the verb ends in a single consonant) in which Syncope can apply to produce an optimal syllabic structure.

Note that the [ili] affix demonstrates that the Pre-Clitic Consonant Lengthening rule only applies after short vowels, e.g. /tubγā-i-oh/ 'you (m.s.) want it (m.)' and not */tubγā-ii-oh/. This feature can thus be added to the rule as follows:

Pre-Clitic Consonant Lengthening (Level 3)

$$C_i \rightarrow C_iC_i \quad / \quad \underset{[+short]}{V} \quad \_\_ \;][\; V$$

Conditions: 1) C_i is not a root consonant (R).

2) Precedes Syncope.

A verb may have both pronominalized direct and indirect objects. As in LA, a pronominalized direct object is marked by [iyyā] when it does not directly follow the verb stem. The indirect object precedes the direct object in this case, as in:

kisfī-l-ī-yyā-hā hem(f.s.)-for-me-d.o.mkr-it(f.)	'Hem (f.s.) it (f.s.) for me.'
nādyū-l-ī-yyā-h called(3m.p.)-for-me-d.o.mkr-him	'They (m.) called him for me.'

5.1.3 Participial objects

Active participles used verbally also take pronominalized objects. Table 5-2 shows pronominalized direct objects attached to the four inflected forms of the active participle of the Form III verb [mrābaʕ] 'accompanying'. However unlike the verbs, the participles take the marker [in] preceding the pronominalized objects. For example:

[mrābaʕ][in][nī]	→	mrābʕ-in-nī	'he is accompanying me'
[mkansal][in][hā]	→	mkansal-in-hā	'he has cancelled it (f.)'
[mnādyāt][in][hā]	→	mnādyāt-in-hā	'they (f.) are calling her'

In this form, Syncope has applied to the participle [mrābaʕ], which ends in VC, to produce [mrābʕ][in][nī]. The source of this [in] is the [-n] ending on indefinite nouns attested in LA, called *tanwīn* in Arabic. As Brockett (1985) states for the

	Active Participles			
	m.s.	f.s.	m.p.	f.p.
1 s.	mrābʕ-in-nī	mrābʕat-in-nī	mrābʕīn-nī	mrābʕāt-in-nī
2 m.s.	mrābʕ-inn-ak	mrābʕat-inn-ak	mrābʕīn-n-ak	mrābʕāt-inn-ak
2 f.s.	mrābʕ-inn-iš	mrābʕat-inn-iš	mrābʕīn-n-iš	mrābʕāt-inn-iš
3 m.s.	mrābʕ-inn-oh	mrābʕat-inn-oh	mrābʕīn-n-oh	mrābʕāt-inn-oh
3 f.s.	mrābʕ-in-hā	mrābʕat-in-hā	mrābʕīn-hā	mrābʕāt-in-hā
1 p.	mrābʕ-in-nā	mrābʕat-in-nā	mrābʕīn-nā	mrābʕāt-in-nā
2 m.p.	mrābʕ-in-kum	mrābʕat-in-kum	mrābʕīn-kum	mrābʕāt-in-kum
2 f.p.	mrābʕ-in-kin	mrābʕat-in-kin	mrābʕīn-kin	mrābʕāt-in-kin
3 m.p.	mrābʕ-in-hum	mrābʕat-in-hum	mrābʕīn-hum	mrābʕāt-in-hum
3 f.p.	mrābʕ-in-hin	mrābʕat-in-hin	mrābʕīn-hin	mrābʕāt-in-hin

Table 5-2. Participles with Pronominal Enclitics

Khābūran dialect of OA, *tanwīn* is not rare in OA but is heard occasionally on indefinite nouns. Attached to participles, it differentiates the verbal from the nominal usage of the participle, as in:

mʕallim-in-hā	'he is teaching/has taught her'
mʕallim-hā	'her teacher (m.)'

In the nominal example /mʕallim-hā/, the noun is definite by virtue of the possessive pronoun, whereas in the verbal example /mʕallim-in-hā/, it is still indefinite since /hā/ is the direct object.

The [in] marker, like the indirect object marker [il], undergoes Pre-Clitic Consonant Lengthening before vowel-initial enclitics, as in /mrābʕ-inn-ak/ 'he is accompanying you (m.s.)'.

The masculine plural form of the participle, shown in the third column in Table 5-2, has the inflectional ending [īn], followed by another [n], followed by the pronominal enclitic when the pronominal enclitic is vowel-initial, as in /mrābʕīn-n-ak/. There appear to be two possible sources for the [n]. One is that the [n] is a result of consonant lengthening before a vowel-initial enclitic and the other is that it is derived from the [in] participial object marker. When the pronominal enclitic is consonant-initial, then there is no [n], as in /mrābʕīn-kum/ 'he is accompanying you (m.s.)'.

Ascribing the [n] to pre-clitic consonant lengthening at first glance seems feasible because it would account for the alternation preceding vowel-initial and

non-vowel-initial pronominal enclitics. However, the rule of Pre-Clitic Consonant Lengthening does not apply after a long vowel, so could not produce correct forms like /mrābʕīn-n-ak/. On the other hand, the analysis of [n] as derived from [in] is easily justified preceding vowel-initial clitics because in that case the /i/ is in an open syllable and is deleted by Syncope, e.g. [mrābʕīn][in][ak] → /mrābʕīnnak/. However, this analysis presents a problem in that preceding consonant-initial clitics the expected form would be, e.g., */mrābʕīn-in-kum/ (cf. /mrābʕāt-in-kum/ 'they (f.) are accompanying you (m.s.)' in column four of Table 5-2), but it is instead /mrābʕīn-kum/. It appears, then, that the syllable [in] in this case is deleted by a kind of haplology, following the syllable /Rīn/.

[in]-Deletion $\quad$ [in] → Ø / Rīn] $_{\text{Participle}}$ — [C

We can explain the lack of the [in] clitic by virtue of the fact that historically the masculine plural form of the participle did not take *tanwīn*, but instead took /ūna, īna/ as its endings. This gap in fact supports the derivation of [in] from *tanwīn*. Diachronically, then, [in] was never added to the masculine plural participle, but synchronically the motivation for not attaching it appears to have been lost, since *tanwīn* is only sporadic in MA and OA. However, it appears that the morphological rule of [in] attachment is restricted to masculine singular, feminine singular, and feminine plural participles:

[in]-Attachment

Ø → [in] /] $_{\text{M.S., F.S., F.P. Participle}}$ — [X . .] $_{\text{Pronominal enclitic}}$

The feminine nominal and participial ending [ah] becomes [it] preceding a clitic or another nominal which functions as its possessor (cf. §5.3). This transformation happens also in LA, and although historically and phonologically the direction of change was most likely [it] > [ah] in the non-bound forms, synchronically, the normal unbound form has [ah], and [it] marks the genitive relationship. In MA, then, this rule appears to be morphological rather than phonological. Table 5-2 the second column shows the cliticized forms, e.g., /mrābʕat-in-nī/ 'she is accompanying me'. In this example, the suffix is /at/ instead of /it/ because of the adjacent pharyngeal consonant. Other examples of this bound form of the feminine affix are:

[mrāwah][in][oh]	→ [mrāwit-n-oh]	'she is showing him'
[kātbah][in][oh]	→ [kātbit-n-oh]	'she is writing it'
[mkansalah][in][oh]	→ [mkansalit-n-oh]	'she has cancelled it'

The Level 3 rule that changes the [ah] to [it] is the rule of [ah]-Transformation:

[ah]-Transformation

$$[ah] \rightarrow [it] \ / \ \_\_]_{\text{Fem. affix}} [X\ldots]_{\text{Pronominal enclitic}}$$

Following [-at], the [in] marker has alternate syllabifications like the [l] marker described above, depending on whether Pre-Clitic Consonant Lengthening applies or not.

mrābʕat-n-oh	(Syncope)
mrābʕat-inn-oh	(Pre-Clitic Consonant Lengthening)
	'she is accompanying him"

The /n/ of the [in] participial enclitic marker assimilates to /l/ preceding the [l] of the indirect object marker. Examples are:

[kātib][in][l][oh] → kātb-ill-oh 'he is writing to him'

This does not happen when the /n/ is a radical, e.g., /wazan-lī/ 'he weighed [s.t.] for me'. The rule of [in]-Assimilation can be expressed as follows:

[n]-Assimilation

$n \rightarrow l \;/\; \_\_]_{\text{Participial Enc. Mkr.}} [\, l \,]_{\text{Ind. Obj. Mkr.}}$

The participles used nominally take the dual enclitic [ēn]. This is discussed further in the discussion of nominal enclitics in §5.1.5.

5.1.4 Prepositional and adverbial objects

Pronominal enclitics attached to prepositions indicate the object of the preposition. (The preposition may occur uncliticized with nominal objects as well). Examples are shown in Table 5-2, column two, and below.

[ħēt][iš]	→	ħēt-iš	'beside you (f.s.)'
[biyyā][kum]	→	wiyā-kum	'with you (m.s.)'
[biyyōl][ī]	→	biyōl-ī	'with me'

[ʔalī][hā]	→	ʔalī-hā	'on her'
[fī][nā]	→	fī-nā	'in us'

Prepositional pronominal enclitics differ from verbal pronominal enclitics in that the first person enclitic is [ī] rather than [nī], as in /ħāl-ī/ 'for me'. When this enclitic is attached to a preposition ending in a long vowel, such that the result is a sequence of two long vowels, a glide is inserted between the two long vowels. The glide inserted is /y/ unless the preceding long vowel is /ū/, in which case the intervening glide is /w/ (cf. §5.1.5). Examples are:

[ʔalī][ī]	→	ʔalī-yī	'on me'
[fī][ī]	→	fī-yī	'in me'
[biyā][ī]	→	biyā-yī	'with me'

The rule of Glide Insertion can be stated as follows:

Glide Insertion (Level 3)

$$\emptyset \rightarrow \underset{[\alpha\,\text{round}]}{G} \quad / \quad \underset{[\alpha\,\text{round}]}{\bar{V}_i} \text{ --- } \bar{V}_j$$

For the prepositions that have the syllabic shape CV, i.e. [bi] 'with, by means of' and [la] 'to, for', the short vowel of the preposition is unchanged before a consonant-initial clitic but deleted preceding another vowel:

[bi][kum]	→	bi-kum	'with you (m.s.)'
[la][hum]	→	la-hum	'to them (m.)'

[bi][ī]	→	b-ī	'with me'
[ia][iš]	→	i-iš	'to you (f.s.)'

This can be stated in the following rule:

Pre-Clitic Vowel Deletion

$$\underset{[+\text{short}]}{V} \rightarrow \emptyset \quad / \; [C\_\_][V$$

The prepositions [min] 'from' and [ʕan] 'about' undergo Pre-Clitic Consonant Lengthening preceding vowel-initial clitics. e.g., /minn-ak/ 'from you (m.s.)', /ʕann-oh/ 'about him/it (m.s)'. In addition, [min] is found as a kind of adverbial demonstrative in the expressions /minnī/ 'from here, this way' (cf. /hnī/ 'here'), /minnāk/ 'from there, that way' (cf. /hnāk/ 'there').

The pronominal enclitics are also attached to the adverb [baʕd], meaning 'yet'. The enclitic refers then to the subject of the sentence.

baʕd-hum mā migannadīn	'They haven't yet been enlisted.'
yet-them not enlisted(m.s.)	

In the first person, the verbal pronominal enclitic [nī] rather than the prepositional/nominal [ī] is attached to this adverb, i.e., /baʕd-nī/. Adverbs can be attached to other adverbs in other OA dialects, but not in MA.

tow-nī gāy	'I (m.) am coming now.'
now-me coming (m.s.)	

5.1.5 Possessives and the dual nominal enclitic

The third column of Table 5-1 illustrates the pronominalized possessive enclitics attached to the noun [bēt] 'house'. Some other examples are shown below.

[guhh][oh]	→	guhh-oh	'his watermelons'
[buxūr][nā]	→	buxūr-nā	'our incense'
[qandīl][ak]	→	qandīl-ak	'your (m.s.) lantern'
[kanz][ī]	→	kanz-ī	'my pressed dates'

The dual ending [ēn], while not frequent, is productive in MA. This clitic is attached to singular nominals and precedes the pronominal enclitic, if any:

[bank][ēn]	→	bankēn	'two banks'
[tatūn][ēn][ī]	→	tatūn-ēn-ī	'my two babies'

As with the verbs, Syncope (Level 3) applies when a nominal inflected form ends in VC and has a vowel-initial clitic attached.

[rigil][ēn]	→	rigl-ēn	'two legs'
[nafar][ēn]	→	nafr-ēn	'two people'
[qalam][ī]	→	qalm-ī	'my pen'

Like imperfect and imperative verbs, short vowels in initial open syllables may also be deleted in nominal stems. In nominal stems, though, such deletion is optional:

Initial Vowel Deletion (Level 3) Optional

V → Ø / [C (C) _ C V . . .] Imperfect/imperative, Nominal

Condition: Optional for nominal stems.

Examples are:

[malābis]	→	malābis ~ mlābis	'clothes'
[ħarīm]	→	ħarīm ~ ħrīm	'women'
[kabīr]	→	kabīr ~ kbīr	'big; old'

As with verbs, Affix Vowel Deletion applies when a vowel-initial clitic is attached to a nominal stem ending in a long vowel:

[ʕaṣā][ak]	→	ʕaṣāk	'your (m.s.) stick'
[ɣadā][iš]	→	ɣadāš	'your (f.s.) lunch'

Glide Insertion also applies to nominals with clitics attached when two long vowels occur in sequence. This vowel sequence occurs when the clitics [ī] 'my' or [ēn] (dual) are attached to a nominal ending in a long vowel:

[ɣadā][ī]	→	ɣadāy-ī	'my lunch'
[gadū][ī]	→	gadūw-ī	'my waterpipe'
[garū][ēn]	→	garūw-ēn	'two small dogs'
[ṭawī][ī]	→	ṭawīy-ī	'my well'
[šurṭī][ēn]	→	šurṭīy-ēn	'two policemen'

This rule also applies sometimes when the clitic begins with a short vowel, e.g. [ṭawī][oh] → /ṭawīy-oh/ 'his well'.

As with the participles, the feminine singular inflectional suffix [ah] becomes [it] preceding enclitics .

[guħħah][nā]	→	guħħit-nā	'our watermelon
[garšah][hum]	→	garšit-hum	'their (m.) bottle'
[darīšah][kum]	→	darīšit-kum	'your (m.p.) window'
[mqamšah][hā]	→	mqamšit-hā	'her spoon'

Like the indirect object marker and unlike the third feminine singular verbal suffix [it], the nominal suffix [it] may either undergo either Syncope (Level 3) or Pre-Clitic Consonant Lengthening preceding a vowel-initial clitic.

[sannūrah][ēn]	→	sannūritt-ēn	'two cats'
		sannūrt-ēn	'two cats'
[digāgah][ī]	→	digāgitt-ī	'my chicken'
		digāgt-ī	'my chicken'

In cases where Syncopee (Level 3) applies and a three-consonant cluster would result, as an alternative to Pre-Clitic Consonant Lengthening a short high vowel may intervene between the first and second consonants of the cluster.

[ʕakfah][oh]	→	ʕakfitt-oh	'his bundle'
	→	ʕakuft-oh	'his bundle'

[rāyhah][oh]	→	rāyhitt-oh	'its (m.) scent'
		rāyaht-oh	'its (m.) scent'
[qaryah][ī]	→	qaryitt-ī	'my village'
		qarīt-ī	'my village'
[quṭrah][ēn]	→	quṭritt-ēn	'two drops'
		qṭurt-ēn	'two drops'

The intervening vowel is a short high vow el, although it is lowered to /a/ when adjacent to /ħ/, e.g., / rāyaħt-oh/ 'its (m.) scent' above. There are two possible sources for this intervening vowel, metathesis and epenthesis.

The metathesis solution is really a kind of resyllabification in which the sequence /CC[it]/ becomes /CiCt/, where [it] is the feminine nominal affix. This solution accounts for both the loss of the suffix vowel and the quality of the intervening vowel. However, metathesis would have to be ordered before Pre-Clitic Consonant Lengthening since metathesis is motivated by the existence of the open syllable and the lengthening rule closes the syllable. But the application of metathesis would have to be optional since otherwise it would prevent the application of the lengthening rule to these forms.

Epenthesis, on the other hand, assumes that Syncope (Level 3) has applied to delete the affix vowel and inserts a short high vowel between the first two consonants of the resulting three-consonant cluster. This solution, while less tidy perhaps than the metathesis solution, has the advantage of also applying in

nominal environments for which there is no internally available source for the intervening vowel. Such clusters are found, for example, when consonant-initial clitics are attached to certain nominals of the shape CVCC and when the definite article [l] (cf. §5.2) is attached to nominals beginning with an initial cluster:

[ʕašb][hum]	→	ʕašub-hum	'their (m.) grass'
[l][harīm]	→	lu-hrīm	'the woman'

That this rule does not apply to verbs can be seen in such cliticized forms as [katabt][hā] → katabt-hā 'I wrote it'. Also, the situation in which there are two alternatives for reeyllabification is similar to that that we saw for verbs in §5.1.2 in /katb-ill-oh/ and /katab-l-oh/ and for participles in §5.1.3 in /mrābʕat-inn-oh/ and /mrābʕat-n-oh/. In all three situations, there are alternates in which Pre-Clitic Lengthening applies and in which it does not apply. In the verbal and participial cases, Pre-Clitic Consonant Lengthening fails to apply when the preceding consonant is not part of a cluster. Syncope then produces an optimal syllable structure. In the nominal situation, however, Pre-Clitic Consonant Lengthening can fail to apply even when the preceding consonant is part of a cluster. In this case Syncope then applies and it is a second rule, the Epenthesis rule, that resolves the resulting cluster.[4]

Insertion of an epenthetic vowel is optional for nominals in which the second consonant of the cluster is a denti-alveolar fricative.

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[4] I am indebted to Bruce Hayes for calling my attention to the depth of conspiracy among these nominal resyllabification rules.

[kanz][hā]	→	kaniz-hā ~ kanz-hā	'her pressed dates'
[xubz][hin]	→	xubiz-hin ~ xubz-hin	'their (f.) bread'
[šams][hā]	→	šamis-hā ~ šams-hā	'its (f.) sun'

A high vowel is also inserted between two nominal-final consonants when no clitic is attached:

[ʕašb]	→	ʕašub	'grass'
[kanz]	→	kaniz ~ kanz	'pressed dates'
[xubz]	→	xubiz ~ xubz	'bread'
[šams]	→	šamis ~ šams	'sun'

Without an Epenthesis rule, it would be difficult to motivate these alternations when no affix is attached, since the short high vowel is then in a closed syllable. Also, Epenthesis helps to explain a vowel quality alternation in certain other nominals.

These other nominals have the underlying shape RaRaR, but when consonant-initial clitics are attached they have alternate RaRiR forms.

[šabak][hā]	→	šabak-hā	~	šabik-hā	'her net'
[qamar][hum]	→	qamar-hum	~	qamur-hum	'their moon'
[falag][hum]	→	falag-hum	~	falig-hum	'their canal'

A possible explanation of this phenomena is that these nominals have an alternate stem of the shape CVCC that undergoes Epenthesis when the clitics are attached.

No vowel is inserted when the first consonant is a sonorant and the second an obstruent.

[ward][hā]	→	ward-hā	'her flowers'
[bank][hum]	→	bank-hum	'their (m.) bank'
[lanč][hum]	→	lanč-hum	'their (m.) motorboat'

Because the Epenthesis rule is necessary in any case, it is the less costly and probably more likely solution. The rule of Epenthesis is stated below:

Epenthesis (Level 3)

$$\emptyset \rightarrow \underset{[+\text{high}]}{V} \quad / \quad C_i \_\_ C_j \ (C_k \ V..) \ ]_{\text{Nominal}} \ \#$$

Conditions:
1) Rule is optional when C_j is a fricative.
2) C_iC_j do not form a sonorant-obstruent sequence.
3) C_i is not identical to C_j.

Derivations of the two alternate cliticized feminine nominals are thus:

[qaryah][oh]	[qaryah][oh]	
		Level 3
[qaryit][oh]	[qaryit][oh]	[ah]-transformation
[qaryitt][oh]	---	Pre-Clitic C-Lengthening
	[qaryt][oh]	Syncope
	[qariyt][oh]	Epenthesis
		Postlexical
	[qarīt][oh]	High Vowel Coalescence
qaryitt-oh	qarīt-oh	'his village'

5.2 Proclitics

The only verbal proclitic in MA is the future particle [ba],[5] which is attached to the imperfect inflected verb, as in:

[ba][tašūf]	→	ba-tšūf	'you (m.s.)/she will see'
[ba][našill]	→	ba-nšill	'we will take'
[ba][yqayyaḏ]	→	ba-yqayyaḏ	'he will spend the summer'

The most commonly used proclitic is the definite article [l], which is attached to nominals and to participles used as nominals. As in most varieties of Arabic, the definite article in MA totally assimilates to a following coronal consonant. The

[5] In some interior OA dialects [ʔa] instead of [ba] has been reported as the future particle (David Insall, personal communication).

coronal consonants are those that involve movement of the tip of the tongue, namely /θ, ð, ḏ, t, ṭ, d, s, ṣ, z, r, l, n, š /. Examples are: /θ-θam/ 'the mouth', /ḏ-ḏabi/ 'the gazelle', /š-šams/ 'the sun', /z-zōr/ 'the palm branch', /s-sēħ/ 'the desert', /r-rabšah/ 'the trouble', but /l-maṣri/ 'the donkey', /l-falag/ 'the irrigation canal', /l-yōm/ 'the day; today', /l-kaħal/ 'the kohl', /l-γurfah/ 'the room', /l-qorṭās/ 'the paper'. The rule expressing this assimilation is given below.

Definite Article Assimilation (Level 3)

$$l \rightarrow \underset{[\alpha f]}{C} \;/\; \_\_ \,]_{\text{Def.art.}} [\; \underset{\substack{[\alpha f] \\ [+\text{coronal}]}}{C}$$

In MA, the definite article is sometimes dropped, especially in utterance-initial position, e.g., /bēt li-gdīd/ 'the new house' instead of the expected /l-bēt li-gdīd/, since nominals in Arabic normally agree in definiteness with their head.

Epenthesis applies when the definite article is part of a three-consonant cluster.

[l][gadīd]	→	li-gdīd	'the new one (m.)'
[l][ħarīm]	→	lu-ħrīm	'the women'

The demonstrative proclitic [hā] 'this' can be attached to other demonstrative elements, to definite nominals or to the third person personal independent pronouns to add emphasis. In the case of the third person pronouns, which all begin with /h/, the initial /hV/ disappears.

ðāk l-yōm	'that day'
hā-ðāk l-yōm	'that day'
hā-ðēlāk l-ħarīm	'those women'
hā-l-bēt	'this house'
hā-wwah	'he, it (m.), this one here'
hā-wwa r-rādyo	'this radio here'
hā-yyah	'she, it (f.), this one here'
hā-yya l-ħur mah	'this woman here'
hā-mmah	'they (m.), these (m.) here'
hā-mma r-rigāl	'these men here'
hā-nnah	'they (f.), these (f.) here'
hā-nna lu-ħarīm	'these women here'

A more emphatic demonstrative pronominal proclitic is the particle [ʔak]. When this particle is attached, the /h/ of the personal pronouns is dropped.

ʔak-uwwah	'he, it (m.), that one there'
ʔak-uwwa l-bēt	'that house there'
ʔak-iyyah	'she, it (f.), that one there'
ʔak-ummah	'they (m.), those (m.) there'
ʔak-innah	'they (f.), those (f.) there'

5.3 Phrases

Two prominent kinds of phrasal phenomena in Arabic are 1) the "cliticization" of words, especially prepositions and particles, onto other words; and 2) the genitive construction. Some of the rules that apply in MA to clitics apply also to these kinds of phrases.

Prepositions and particles are attracted to following nominals, verbs, participles, or adverbs. When this happens, the particle or preposition may become part of the following word to the extent that Syncope and other rules apply, even across word boundaries. Examples are the preposition /bi/ 'in, with', and the particles /mā/ 'not' and /wa/ 'and', shown below.

bi-i-bēt	'in the house'
kill wāḥad b-dīn-oh each one with-religion-his	'Each one has his (own) religion'
nabγi	'we want'
mā nbγi	'we don't want'
ma-mbγi	'we don't want' (fast speech)
hina	'here'
w-hina	'and here'

Certain prepositions assimilate to a following nominal. The final /n/ of the prepositions /min/ 'from' and /ʕan/ 'about, away from' is dropped preceding a nominal having the definite article. We can posit here a two-stage process in which

the /n/ assimilates to the following definite article (that has already assimilated to the nominal) and then the resulting sequence of identical consonants is degeminated syllable finally by the postlexical rule of Final Degemination. Examples are the following:

min + l-bēt	→	mil-l-bēt	→	mi-l-bēt	'from the house'
ʕan + ṭ-ṭarīq	→	ʕaṭ-ṭ-ṭarīq	→	ʕa-ṭ-ṭarīq	'on the road'

The assimilation rule is given below.

/n/-Definite Article Assimilation (Level 3)

$$n \rightarrow C \ / \ \_\_ \ ]_{\text{Preposition}} \ [\ C_{\text{Definite Article}}$$

The preposition /fī/, as in /fī-nā/ 'in us' becomes /fi/ when followed by a nominal:

fil-bēt	'in the house'
fin-nhār	'during the day'
fiṣ-ṣēf	'in the summer'
fi maṣqaṭ	'in Muscat'

The genitive construction, known in Arabic grammar as the iḍāfa construction, is a syntactic construction whereby two nominals are bound to one another, the second nominal bearing a genitive relation to the first. The first nominal is in the "construct" or bound state, that is, it takes no definite article or clitic, and if it has the feminine affix [ah] attached, it undergoes [ah]-

transformation. The second nominal takes the definite article or clitic, if any. Examples are:

madrasit	il-bādri	'the mission school'
school(constr.)	the-padre	
garšit	zigāg	'a glass bottle'
bottle(constr.)	glass	
zōg	mʕallimt-oh	'his teacher's (f.) husband'
husband	the-teacher(f.)-his	
sāʕit	yidd	'a wristwatch'
clock(constr.)	hand/arm	

In MA, a periphrastic construction using the prepositions /ħāl/ or /māl/ 'for, belonging to' is also common, as in:

sāʕa	māl mēz	'a table clock; a clock'
clock	for table	
sāʕit	mēz	'a table clock; a clock'
clock(constr.)	table	

Finally, some phenomena are sensitive to phrasal or utterance boundaries. For example, the final [h] off-glides of the feminine suffix [ah] (like /sāʕah/ 'clock' in /sāʕah māl mēz / above) and the masculine singular possessive suffix [oh] are generally deleted except in phrase- or utterance-final position.

Chapter 6

Arabic Morphophonology and Muscat Arabic (MA)

An Arabic dialect can be characterized in terms both of its individual morphological and phonological features and of how these features interact with one another. In this study, I have endeavored to describe the morphophonological properties of MA, including the particular features of MA morphology and phonology and how these features are organized into rules that apply at various specific levels of derivation. Of special interest are the phenomena of vowel quality variation, stress assignment, glide permutations, and the properties that modify syllabic structure, such as syncope, epenthesis, and length variation. In this final chapter, I summarize these morphophonological properties in MA and then compare select properties of MA to similar phenomena occurring in other Arabic dialects, in order to begin to examine these properties in the larger context of Arabic morphophonology. The chapter concludes with some thoughts on the effects of the phonological properties of a spoken Arabic dialect exemplified by MA on the underlying morphophonological structure and its implications for Arabic morphophonology in general and MA in particular.

6.1 Muscat Arabic (MA) morphophonology

As we have seen in the preceding chapters, some of the major morphophonological properties that characterize MA involve vowel quality, glides,

and the resyllabifying processes of syncope and, to a lesser degree, epenthesis and consonant length alternation. In contrast, stress assignment plays a relatively small role in this dialect. These properties are summarized here according to their overall effects in MA.

Vowel quality . A notable characteristic of MA, one that is also found in other spoken dialects but which is virtually nonexistent in the literary language, is the influence of consonant quality on the quality of adjacent vowels, particularly short vowels. Consonant quality in many cases determines vocalic backness and, to a lesser degree, vowel height. The correltion with backness is true to the extent that the consonantal inventory in MA can be classified into complementary sets of backing and non-backing, or fronting, consonants according to their backing or fronting assimilatory effects on contiguous short vowels. Pharyngeal consonants also have a lowering effect on adjacent short vowels. All of this is at the surface phonological or, in lexical phonological terms, postlexical level.

Underlyingly, however, the primary contrast among short vowels is in vowel height. Although there are remnants of a three-vowel system (a-i-u) among the short vowels, in most environments the primary contrast is along the single axis of vowel height (a-i), and the two high vowels /i/ and /u/ do not contrast. The five long vowels, on the other hand, contrast underlyingly both in height and backness except adjacent to the backing consonants, which lower high long vowels to mid long vowels.

Even underlying vowel height variation has been leveled in certain verbal stems in MA. The underlying vowel of the all perfect active verbs in MA is /a/. This includes Form I verbs, which in LA and in other spoken Arabic dialects have high vowels. In MA, high vowels in the perfect are confined to the still extant internal passive, the vowel melody of which is (i) or (u-i). In addition in MA the vowels of all imperfect active verbs except those of Form I differ from those of other varieties of Arabic because they are all /a/. In LA and most other Arabic dialects, the vowel melody for these verbs is (a-i). In a nonconcatenative framework, this can be expressed by saying that the vowel melodies of the active perfect and imperfect verbal stems in MA, except the Form I imperfect, have been simplified to (a).

The vowels of the Form I imperfect active in MA are in somewhat of a state of flux, although certain patterns can be observed. One effect of the leveling of underlying vowel melodies has been to dissolve any vowel quality relation between the perfect and imperfect stems of Form I verbs. In LA, for example, for certain classes of verbs, an /i/ in the perfect correlates with /a/ in the imperfect, e.g. /šariba, yašrabu/ 'to drink', and an /u/ in the perfect with an /u/ in the imperfect, e.g., /kabura, yakburu/ 'to grow'. In MA, these verbs in their perfect and imperfect forms are /šarab, yišrab/ and /kabar, yakbur/. The general lack of underlying contrast for backness and the leveling of the perfect vowel melody have created a situation in which vowel quality in the Form I imperfect is determined in some environments lexically and others by consonant quality.

Where neither is determinate, more than one possible vocalization may be found for a given Form I verb.

Assimilation and dissimilation are found among the underlying vowel melodies in that some vowel combinations are preferred over others. This is mirrored in the quality of prefix vowels in the imperfect and their relation to imperfect stem vowel quality, especially in Form I verbs. There, although the most common prefix vowel quality is /a/, alternate prefix-stem vowel quality patterns are /i-a/ and /u-u/.

Glides and the glottal stop . Among the non-vocalic elements in Arabic, the glides and the glottal stop are the least stable. The various permutations of glides in MA include neutralization, deletion, insertion, and coalescence.

Glide permutations can be summarized in a kind of continuum of segment neutralization or weakening among the glottal stop, the glides, and vowel length such that an element to the left may become an element to the right in some environment but not vice versa.

Weakening hierarchy:

ʔ > w > y > vowel length > Ø

The conditions under which the various neutralizations occur are:

ʔ > w : In the root r-ʔ-y 'see', which in Form I is raʔā 'to see' but in Form III is rāwā 'to show'.

> y : In final position following a vowel, qaraʔ > qaray 'to read', māʔ > māy 'water', and the root g-y-ʔ > g-y-(y) 'to come'

> vowel length :

In syllable-final position, following a short vowel, as in /ʔakal, yūkil/ 'to eat' and raʔs > rās 'head'

> Ø : In final position when not a radical, as in wuzarāʔ > wizrā 'ministers'.

w > y : 1) In all final weak verbs, the final radical;

2) In Form I active and passive participles, the medial radical e.g. /xāyuf/ and /maxyūf/ are the participles of the Form I verb xawaf 'to fear' (cf. /xawwaf/ 'to frighten').

3) In Form X hollow verbs, the medial radical.

> vowel length :

1) In the rule of Final Glide Deletion, Level 2.

2) In the postlexical rule of Coalescence (nominal stems).

> Ø : In the rule of Glide Deletion, Level 1.

y > vowel length :

1) In the rule of Final /y/ Deletion, Level 2.

2) In the postlexical rule of coalescence.

> Ø : In the rule of Glide Deletion, Level 1.

vowel length > Ø :

In utterance-final position according to the postlexical rule of Vowel Shortening.

In the weakening of these segments, MA does not go as far as some other dialects (cf. §6.2.3). Also, there are two exceptions to this hierarchy. One is that in the passive participles of final-y derived verbs [-ay] becomes [-ăy]. The second is the rule of Glide Insertion at Level 3, which inserts /y/, and under certain conditions /w/, between long vowels at clitic boundaries.

Resyllabification . Syncope, epenthesis, and length alternation in consonants and vowels are the main processes that modify syllable structure in MA. Of these, the most extensive process is Syncope, which occurs at three lexical phonological levels. At Level 0 Syncope applies to the syllabic stem bases; at Level 1 it applies to derivationally-affixed stems; and at Level 3 to the inflected and cliticized forms except those in which it would create heavy root-consonant clusters (defined as RRR, where R is a root consonant). Syncope is notably absent at Level 2. Postlexically, in fast speech Syncope applies to the remaining short vowel in open syllables such that vowel reduction may occur or an RRR cluster may result. The form of the Syncope rule differs somewhat at each level. The lexical

phonological framework allows this process to have different effects at different levels. However, at all levels the primary factor that conditions Syncope is the syllabic structure itself. Other potential factors, such as stress or vowel quality, have little or no role to play. Stress assignment in MA is a postlexical phenomenon. In addition, stress is variable and not rigidly tied to syllable weight and position.

Epenthesis and Pre-Clitic Consonant Lengthening also modify syllable structure, but to a much more limited degree. Both of these processes apply only at Level 3, where clitics are attached. Epenthesis serves to break up RRC and RR# clusters in nominal stems by inserting a short high vowel between the two root consonants. Pre-Clitic Consonant Lengthening applies to inflectional affixes of the shape VC when a vowel-initial clitic follows. The two processes behave in a somewhat complementary fashion. In certain cases, such as preceding the feminine nominal suffix [it], Consonant Lengthening is optional. If it fails to apply, then Syncope applies, providing an environment for Epenthesis, which then breaks up the resulting cluster.

Postlexically, long consonants are shortened word-initially and word-finally and long vowels undergo shortening word-finally.

Syncope (Level 3), Epenthesis, and Pre-Clitic Consonant Lengthening are sensitive to whether or not a nonvocalic segment is a radical. In general, root consonants in MA cover a larger inventory and have different properties than other consonants. For example, they undergo lengthening only at Level 1 and this lengthening is not phonologically-motivated but forms the basis for a

morphological distinction. At Level 3, only affix consonants can be lengthened. There are restrictions on consonant quality within the same root and on three-consonant clusters when all of the consonants are radicals. Clearly, the concept of the root is an important one in MA morphophonology.

6.2 Selected comparisons with other spoken Arabic dialects

When compared to similar properties found in other modern spoken Arabic dialects, some aspects of the morphophonological properties of MA can be more clearly defined and examined. Although such comparisons are difficult to make without taking into consideration the entire analysis of a given dialect, nevertheless some preliminary observations can be made. Three phenomena common to a number of Arabic dialects and which differ among these dialects in interesting ways are compared here: the syncopation of short vowels in open syllables, stem internal resyllabification, and the deletion of medial and final stem glides.

6.2.1 Syncope, stress, and vowel quality

In the modern spoken Arabic dialects, short vowels in open syllables are vulnerable to deletion. This is in contrast to LA, where short vowels in open syllables are generally permitted, as in the following LA perfect verbs:

fahima	'he understood'	kataba	'he wrote'
fahimat	'she understood'	katabat	'she wrote'
fahimtu	'I understood'	katabtu	'I wrote'

One important factor which conditions short vowel deletion in the spoken dialects but does not play such a role in LA is stress. With some notable exceptions,[1] stress in Arabic follows the rule given for MA at the beginning of §2.3. This rule states that stress applies to the syllable that is most preferred according to the following criteria, given in order of preference: 1) an extra-heavy final syllable; 2) the right-most heavy syllable; and 3) the first syllable of the word.

Maltese, as described by M. Brame (1973), is an example of an Arabic dialect for which stress is the conditioning factor in short vowel deletion. The examples given below are perfect inflected forms of the stems [zifin] 'to dance' and [ħataf] 'to grab':

zífen	'he danced'	ħátaf	'he grabbed'
zífnet	'she danced'[2]	ħátfet	'she grabbed'
sfínt	'I danced'	ħtáft	'I grabbed'

[1] One such exception is the fact that in Egyptian Arabic a light penultimate syllable is stressed when it follows a heavy antepenult, as in /maktába/ 'library'. The expected stress according to the general Arabic stress rule would be /máktaba/, which stress is indeed found in other dialects. However, although Egyptian Arabic is one of the dialects compared here, this variant aspect of the stress rule is not relevant to the discussion.

[2] This form is not actually given in Brame's 1973 article, but is hypothesized based on the rules and other paradigms given.

Brame's syncope rule states that unstressed short vowels are elided in open syllables:

Syncope (Brame: Maltese)

$$\underset{[-\text{stress}]}{V} \rightarrow \emptyset \qquad / \_\_ \, C\,V$$

In the Egyptian Arabic of Cairo, described by E. Broselow (1976, 1979) short vowel deletion depends not only on stress, but also on vowel height. The following inflected verbs derived from the stems [fihim] 'to understand' and [katab] 'to write' illustrate this:

fíhim	'he understood'	kátab	'he wrote'
fíhmit	'she understood'	kátabit	'she wrote'
fihímt	'I understood'	katábt	'I wrote'

The syncope rule given by Broselow states that unstressed high short vowels are elided but only in an open syllable following another open syllable:

Syncope (Broselow: Egyptian)

$$\underset{\substack{+\text{high} \\ -\text{stress}}}{V} \rightarrow \emptyset \; / \; VC\_\_CV$$

In Levantine Arabic, low short vowels are also elided in open syllables, but high short vowels may or may not be elided and are generally elided under

different conditions than high short vowels. J Cantineau (1939) described the dialects which make a distinction between high and low vowel syncopation as "differential" and those which do not as "nondifferential." The description by Brame (1973) of Palestinian Arabic shows it to be a differential dialect:

fíhim	'he understood'	kátab	'he wrote'
fíhmit	'she understood'	kátabit	'she wrote'
fhímt	'I understood'	katábt	'I wrote'

M. Kenstowicz and K. Abdul-Karim (1980) survey a number of other Levantine dialects, in order of increasing application of the syncopation of /a/. These range from Damascus Arabic, where /a/ is deleted only when it occurs in the second open syllable before the 3rd feminine singular perfect suffix [at], as in [katab][at] → [katbet] 'she wrote'; to the dialects of northern Lebanon where /a/ is also syncopated as the initial vowel of RaRaR perfect verbs, e.g. [ḍarab][na] → [ḍrab-na] 'we hit', and before the feminine nominal suffix, e.g., [maktab][e] → [makitbe] 'library'; to Kfar-Ṣghāb where it additionally applies before clitics, e.g. [ḍarab][ak] → [ḍarb-ak] 'he hit you (m.s.)'; to Šhīm, where the rule of low short vowel syncope is extended to the imperfect, e.g., [yiflaḥ][u] → [yifilḥu] 'they plow'.

A more complex case is found in Bedouin Hijazi Arabic (BHA), as described by H. Al-Mozainy 1981. In this Arabic dialect, the rules for deleting high and low short vowels in open syllables are different, and the quality of short vowels in

open syllables is further constrained by a raising rule. The verbs having the stems [samiʕ] 'to hear' and [saħab] 'to pull' are inflected as follows:

símiʕ	'he heard'	sáħab	'he pulled'
sámʕat	'she heard'	sħábat	'she pulled'
simíʕt	'I heard'	saħábt	'I pulled'

The syncope rule for high short vowels in open syllables states simply that they are deleted in open syllables:

High Vowel Syncope (Al-Mozainy: BHA)

$$\underset{[+\text{high}]}{V} \rightarrow \emptyset \quad / \_\_ \; C \; V$$

Short low vowels, on the other hand, are deleted in open syllables preceding another open syllable containing a short low vowel:

Low Vowel Syncope (Al-Mozainy: BHA)

$$\underset{[-\text{high}]}{V} \rightarrow \emptyset \quad / \_\_ \; C \; \underset{[-\text{high}]}{V} \; C \; V$$

The BHA raising rule, which is ordered after Syncope, states that a short low vowel becomes high in an open syllable except when the preceding or following consonant is a pharyngeal, laryngeal, or uvular and at the same time the following vowel is /a/:

Raising (Al-Mozainy: BHA)

$$V_i \rightarrow [+\text{high}] \,/\, C_i \_\_ C_j V_j$$

[-high]

Condition: C_j is not a pharyngeal, laryngeal, or uvular
and V_j is not [-high]

Gulf Arabic has a similar raising rule (Johnstone 1967a and 1967b). Derivations illustrating these three rules in BHA are:

'I heard'	'she heard'	'she pulled'	
[samiʕ][t]	[samiʕ][at]	[saħab][at]	
---	samʕat	---	High Vowel Syncope
---	---	ṣhabat	Low Vowel Syncope
simiʕt	---	---	Raising
simíʕt	sámʕat	ṣhábat	Stress

Table 6-1 summarizes different aspects of short vowel deletion in open syllables in the dialects discussed here. In the upper part of the table, the varieties of Arabic discussed in this section are identified according to whether they allow unstressed /i/ or /a/ in open syllables. In the lower part of the table, the applications of two possible conditioning factors for syncope are indicated for each variety of Arabic except LA, which does not have a general rule of syncope.

In Table 6-1 it can be seen that varieties of Arabic vary according to their effects on unstressed short vowels. Three of the varieties represented (Egyptian,

	LA	Egyptian	Levantine	Maltese	BHA	MA
Allowable Short Vowels in Open Syllables:						
Unstressed /i/	yes	some	no	no	yes	some
Unstressed /a/	yes	yes	some	no	some	some
Factors Conditioning Syncope:						
Vowel height	—	yes	yes	no	yes	no
Stress	—	yes	yes	yes	no	no

Table 6-1. Short Vowel Occurrence in Selected Varieties of Arabic

Levantine, and BHA) are differential, in Cantineau's terms, and three are nondifferential (LA, Maltese, and MA). As the upper half of the table shows, even within these groupings, a range of possibilities of treatment of unstressed high and low vowels is represented. Stress conditions syncope in three varieties (Egyptian, Levantine, and Maltese), but not in BHA or MA.

MA is nondifferential but it does allow some unstressed short vowels in open syllables, the main restriction on syncope being the three-root-consonant constraint discussed in §5.1.1. In addition, stress does not play a role in syncope. In MA, syncope is based primarily on syllabic structure.

6.2.2 Stem-internal resyllabification

Like other spoken Arabic dialects, MA has constraints on surface syllable structure which modify it according to preferred syllable patterns. This has led to regular alternations in certain stems when vowel-initial inflectional affixes and clitics are attached:

yaktub	'he writes'
ykitbu	'they write'
ykitb-oh	'he writes it'

The stem in this case has two realizations, [ktub] and [kitb], and MA verbs having the syllable structure RVRVR at Level 1 have alternate syllabic shapes depending on whether or not a vowel-initial suffix or clitic is attached.

Syllabic stem alternations have been observed for other dialects as well, such as Maltese (M. Brame 1973):

titlef	'you lose'
titilf-u	'you lose it'

In Maltese, however, this alternation is confined to stems in which the second consonant is a member of the set /r, l, m, n/. Brame derives the second form by means of a rule of metathesis.

CRVC → CVRC (R = r, l, m, n)

Another dialect group in which consonant quality conditions metathesis is in the eastern Arabian dialects of the Gulf described by Johnstone (1967a). In this dialect, when the first radical is a pharyngeal consonants, the stem shape is modified:

	yaktib	'he writes'	yaktəbūn	'they write'
but:	yħalib	'he milks'	yħalbūn	'they milk'
	yʕarif	'he knows'	yʕarfūn	'they know'

In Palestinian Arabic, on the other hand, the syllabic alternation does not depend on the quality of the adjacent consonant, but results from separate processes of syncope and epenthesis, which are independently motivated in the dialect. Brame (1973) proposes a derivation consisting of stress assignment, syncope, and epenthesis (which, like the MA Epenthesis rule, inserts a short high

vowel between the first and second consonants of a CCC or CC* sequence) to apply to such forms as [tiktib][u] → [tiktibu] → [tiktbu] → [tikitbu] 'they write.' Kenstowicz and Abdul-Karim (1980) expanded Brame's analysis to include a number of other dialects of Levantine Arabic and confirm the epenthesis derivation.

In MA, as in Levantine Arabic, the syllabic alternations are not dependent on adjacency to a particular consonant, but are found in all stems of certain types. Metathesis[3] is not a good solution because it does not explain why forms such as /yistakmalu/ 'they complete' and /ytargamu/ 'they translate' do not become optimize their syllabic structure to become */yistkamlu/ and */yitragmu/ but instead remain /yistakmalu/ and /ytargamu/. Nor does metathesis account for the variation in vowel quality in such stems as /yarkuḏ/ 'he runs', /yrakḏū / 'they run'. This is also a problem with an analysis that inserts the vowel epenthetically.

In MA, although epenthesis is found, the main process that modifies syllabic structure is syncope. As we saw in the preceding section, syncope in MA is not conditioned by stress or by vowel quality. It seems that in MA stem internal short

[3] Shaaban (1977) in his analysis of coastal Omani Arabic proposes of a rule of metathesis to account for these alternations so that speakers can "avoid having open syllables within a word" (p. 97). However, in addition to the objections cited in this seciton, in Shaaban's account of OA the motivation for metathesis is unclear. His argument (pp.94-5) against an analysis that would insert the resyllabified vowel epenthetically is that the three-consonant clusters that would result from vowel deletion, e.g., in /tinfxu/ 'you (m.p.) blow', are permissible in OA. This argument would seem equally to apply to metathesis.

vowels in open syllables, such as the initial vowels in stems of the shape RVRVR, have not been suppressed by the influence of phonology as they have in other varieties of Arabic.

6.2.3 Glide deletion

Final glide radicals are weakened to some degree in all spoken dialects of Arabic. In some dialects that have undergone further changes, positing an underlying glide seems unjustifiable. MA, however, is relatively conservative in this respect.

In Gulf Arabic as described by Johnstone (1967a), final glides have disappeared in the 3rd person perfect and in the imperfect paradigm:

3rd perfect:	s.	p.	'to know'
3 m.	dara	daraw	
f.	darat	(daran)	

Imperfect	s.	p.	'to remain'
1	abga	nabga	
2 m.	tabga	tabgōn	
f.	tabgēn	(tabgan)	
3 m.	yabga	yabgōn	
f.	tabga	(yabgan)	

In Egyptian Arabic as described by Broselow (1976), the final glide is found in some perfect verbs, but in others it is not:

nisyit ~	nisit	'she forgot'
nisyu ~	nisu	'they forgot'
banit		'she built;
banu		'they built'

In the imperfect, however, the final glide is not found in these dialects:

tinsa	'you (m.s,) forget'	tibni	'you (m.s.) build'
tinsi	'you (f.s.) forget'	tibni	'you (f.s.) build'
tinsu	'you (p.) forget'	tibnu	'you (p.) build'

In MA, as described in Chapters 4 and 5, the final weak verbs retain the glide in all cases in which an inflectional affix follows. The rule of Final Glide Deletion deletes a final glide at Level 2 if no affix is attached. However, there are alternate forms in which the glide is dropped, for which examples are shown below:

I.	[baqay][it]	baqyit ~	baqit	'she remained'
	[nasay][an]	nasyan ~	nasan	'they (f.) forgot'
	[γafay][ʊ]	γafyʊ ~	γafʊ	'they (m.) slept'
	[mašay][ʊ]	mašyu ~	mašʊ	'they (m.) walked'

One way of expressing this phenomenon is by an optional rule of Final /y/ Deletion which deletes the glide at Level 1:

Final /y/ Deletion $y \rightarrow \emptyset$ / R a __] Optional

Then when an inflectional affix is attached at Level 2, the rule of Pre-Clitic Vowel Deletion, which applies before clitics at Level 3, would apply. An example derivation of /baqit/ 'she remained' would be:

[baqay]	<u>Level 1</u>:
[baqa]	Final /y/ Deletion
[baqa][it]	<u>Level 2</u>:
[baqit]	Pre-Clitic Vowel Deletion

The difference between MA and other dialects such as the Gulf dialects and Egyptian Arabic can be expressed in a similar manner as these alternates within MA. In the preferred paradigms in MA the rule of Final Glide Deletion occurs at Level 2, whereas in the alternate forms without glides, the glide is suppressed at Level 1. In other words, dialects may have similar rules to one another but might be distinguished by the level at which the rule applies. And within a single dialect, alternative forms may be derived by a difference in the level of application of a given rule.

6.3 Conclusions

As we saw in the last section, at least some of the phonological influences on spoken Arabic dialects are similar across dialects. Influences common to the spoken dialects include the effects of consonant quality on adjacent vowels, underlying vowel quality modifications, the weakening of the glides and glottal stop, stress assignment, length variation among consonants and vowels, and syncope, epenthesis, and metathesis. Individual dialects, however, have various of these influences to varying degrees, and dialects differ as to how the various phonological processes involved are organized with respect to one another.

The main influences that specifically characterize MA are the backing assimilation of vowels to adjacent consonants; the leveling of underlying vowel quality among active verbal stems; the lengthening of affix consonants preceding vowel-initial clitics; vowel lengthening before a final glide in the passive participles of derived verbs; and syncope. Epenthesis and weakening of glides are found but are not so prevalent as in some other dialects. MA is also characterized by the lack of fixed stress assignment; in this it can be said to resemble West Arabian as opposed to the Eastern dialects, as described by Rabin. Syncope in MA is not influenced by stress but by rather syllabic structure and is indifferent to vowel quality.

Overall, the phonological influences in MA are organized in such a way as to allow the underlying Arabic morphophonological structure to be relatively transparent. An example of a combination of changes that would make that

structure opaque is the shortening of a long vowel formed as the result of coalescence. In that case, the presence of the underlying glide would no longer be felt. In MA there are very few if any such changes. One implication that this has for a description of the dialect is that an underlying nonconcatenative model of the morphophonology similar to that developed by McCarthy for LA is not too abstract for this dialect. In fact, there is evidence that the concept of the root is influential in the phonology of MA. Several processes tend to preserve and even reinforce root identity, such as restrictions on heavy root clusters and on the lengthening of radicals, and the assimilation of vowel quality to adjacent consonants. Within a given stem in MA, the identity of the root and an optimal or flexible syllable structure appear to be more important than an invariable morpheme syllable structure.

As we have seen in this study, even in a dialect with a more transparent underlying morphophonological structure such as MA there is change. The study of the specific changes in MA as well as those of other dialects and how these changes are related to one another within a given dialect and across dialects can contribute to a greater understanding of Arabic morphophonology and its evolution.

References

Abboud, Peter F. 1979. The verb in northern Najdi Arabic. Bulletin of the School of Oriental and African Studies, University of London 42:3.467-99.

Al-Khabori, Bilquis Jawad. 1984. The English-language-teaching situation in Oman, with special reference to the improvement of secondary English. Los Angeles: University of California M.A. Thesis.

Allen, Calvin H., Jr. 1978. Sayyids, shets, and sulṭāns: Politics and trade in Masqaṭ under the Āl Bū Sa'īd, 1785-1914. University of Michigan doctoral dissertation.

Al-Mozainy, Hamza Qublan. 1981. Vowel alternations in a bedouin Hijazi Arabic dialect: abstractness and stress. University of Texas at Austin doctoral dissertation.

Al-Tajir, Mahdi Abdalla. 1982. Language and linguistic origins in Baḥrain. The Baḥārnah dialect of Arabic. Library of Arabic Linguistics, Monograph No. 5. Boston: Kegan Paul International.

Barth, Fredrik. 1983. Sohar. Culture and society in an Omani town. Baltimore: The Johns Hopkins University Press.

Bat-El, Outi. 1986. Extraction in Modern Hebrew Morphology. University of California, Los Angeles master's thesis.

Bidwell, Robin. 1978. Bibliographical notes on European accounts of Muscat 1500-1900. Arabian Studies 4.123-59.

Blanc, Haim. 1969. The fronting of Semitic *g* and the *qāl-gāl* dialect split in Arabic. Proceedings of the International Conference on Semitic Studies held in Jerusalem, 19-23 July 1965, 7-37.

Brame, Michael. 1973. On stress assignment in two Arabic dialects. A festschrift for Morris Halle, ed. by Stephen R. Anderson and Paul Kiparsky, 14-25. San Francisco: Holt, Rinehart and Winston, Inc.

Brockett, A. A. 1985. The spoken Arabic of Khābūra on the Bāṭina of Oman. Journal of Semitic Studies, Monograph No. 7.

Brode, Heinrich. 1902. Der Mord Sejid Thueni's und seine Sühne. Eine Erzählung im Omandialekt. Mittheilungen des Seminars für orientalische Sprachen zu Berlin 5:2.1-24.

Broselow, Ellen. 1976. The phonology of Egyptian Arabic. University of Massachusetts doctoral dissertation.

_____. 1979. Cairene Arabic syllable structure. Linguistic Analysis 5:4.345-82.

Campbell, C. G. 1952. From town and tribe. London: Ernest Benn Ltd.

_____. 1954. Told in the market place. London: Ernest Benn Ltd.

Cantineau, Jean. 1939. Remarques sur les parlers de sédentaires syro-libano-palestiniens. Bulletin de la Société de Linguistique de Paris 40.80-88.

_____. 1946. Esquisse d'une phonologie de l'arabe classique. Bulletin de la Société de Linguistique de Paris 43.93-140. Reprinted 1960, Études de linguistique arabe by Jean Cantineau, 165-204. Paris: Librairie C. Klincksieck.

Costa, P. M. 1983. Notes on settlement patterns in traditional Oman. A paper presented to the Conference on Oman Studies, Muscat, November 1980. Journal of Oman Studies 6:2.247-68.

Cotheal, Alexander I. 1854. Treaty between the United States of America and the Sultân of Maskaṭ: The Arabic text accompanied with a translation and introduction. Journal of the American Oriental Society 4.314-56.

Cottrell, Alvin J., ed. 1980. The Persian Gulf states. A general survey. Baltimore: The Johns Hopkins University Press.

De Jong, Everdene. 1958. Spoken Arabic of the Arabian Gulf. Beirut: American Press.

De Young, Anne. 1977a (revised). Spoken Omani Arabic for medical personnel. Muscat: available from the Oman Family Bookshop.

_____. 1977b. Medical work Arabic crash course, abbreviated. Adapted for use in Oman by Anne de Young. Dhahran: Education Department, Aramco.

Duster, Joachim and Fred Scholz, eds. 1980 (with periodic updates). Bibliographie uber das Sultanat Oman. Hamburg: Deutsches Orient-Institut.

Eickelman, Dale F. 1985. From theocracy to monarchy: Authority and legitimacy in inner Oman, 1935-1957. International Journal of Middle East Studies 17.3-24.

Fleisch, Henri. 1961. Traité de philologie arabe. Vol. I. Préliminaires, phonétique, morphologie nominale. Beirut: Imprimerie Catholique.

Galloway, Douglas. 1977. An introduction to the spoken Arabic of Oman. MS.

Ghazeli, Salem. 1977. Back consonants and backing coarticulation in Arabic. University of Texas at Austin doctoral dissertation.

Glover, Bonnie. 1981. Spoken Arabic of Oman. An introductory course. Peace Corps/Oman. MS. Prepared under Peace Corps Contract Nos. 81-041-1043 and 80-041-1080.

Goodison, R. A. C. 1958. Arabian dialect studies—Arabian Peninsula. Middle East Journal 12.205-13. Reprinted 1962, Arabic dialect studies. A selected bibliography, ed. by Harvey Sobelman, 31-47. Washington D. C.: Center for Applied Linguistics.

Greenberg, Joseph H. 1950. The patterning of root morphemes in Semitic. Word 6.162-81.

Greenman, Joseph. 1979. A sketch of the Arabic dialect of the central Yamani Tihāmah. Zeitschrift fur arabische Linguistik/Journal of Arabic Linguistics 3.47-61.

Hawley, Donald F. 1978. Courtesies in the Gulf Area. A dictionary of colloquial phrase and usage. London: Stacey International.

Heath, Jeffrey. 1987. Ablaut and ambiguity. Phonology of a Moroccan Arabic dialect. Albany: State University of New York Press.

Holes, Clive. 1980. Phonological variation in Baḥraini Arabic: The [j] and [y] allophones of /j/. Zeitschrift für arabische Linguistik/Journal of Arabic Linguistics 4.72-89.

_____. 1983. Baḥraini dialects: Sectarian difference and the sedentary/nomadic split. Zeitschrift für arabische Linguistik/Journal of Arabic Linguistics 10.7-38.

Ingham, Bruce. 1980. Languages of the Persian Gulf. The Persian Gulf states. A general survey, ed. by Alvin J. Cottrell. 314-33. Baltimore: The Johns Hopkins University Press.

_____. 1982. North east Arabian dialects. Library of Arabic Linguistics, Monograph No. 3. Boston: Kegan Paul International.

Insall, D. H. 1983. The code languages of Oman. A paper presented to the Conference on Oman Studies, Muscat, November 1980. Journal of Oman Studies 6:1.111-21.

Jakobson, Roman, C. Gunnar M. Fant, and Morris Halle. 1952. Preliminaries to speech analysis: The distinctive features and their correlates. Massachusetts Institute of Technology Acoustics Laboratories Technical Report No. 13.

Jayakar, A.S.G. 1889. The O'mánee dialect of Arabic. Journal of the Royal Asiatic Society, n.s., 21.649-880.

_____. 1903a. The Shaḥee dialect of Arabic. Journal of the Bombay Branch of the Royal Asiatic Society 21.246-77.

_____. 1903b. 'Ománee Proverbs. Journal of the Bombay Branch of the Royal Asiatic Society 21.435-98. Reprinted 1987, Omani Proverbs. Cambridge, England: The Oleander Press.

Johnstone, T. M. 1963. The affrication of "kāf" and "gāf" in the Arabic dialects of the Arabian Peninsula. Journal of Semitic Studies 8:2.210-26.

_____ 1965. The sound change of j > y in the Arabic dialects of peninsular Arabia. Bulletin of the School of Oriental and African Studies, University of London 28.233-41.

_____ 1967a. Eastern Arabian dialect studies. London: Oxford University Press.

_____. 1967b. Aspects of syllabication in the spoken Arabic of 'Anaiza. Bulletin of the School of Oriental and African Studies, University of London 30:1.1-16.

_____. 1977. Harsūsi lexicon. London: Oxford University Press.

_____. 1981. Jibbāli lexicon. London: Oxford University Press.

Kallmer, Robert. 1977a. The Omani Dialect. Peace Corps/Oman.

_____. 1977b. The Omani Dialect. Part Two. Peace Corps/Oman.

_____. 1977c. The Omani Dialect. Writing. Peace Corps/Oman.

Kaye, Alan S. 1988. Review of A. A. Brockett, The spoken Arabic of Khābūra on the Bāṭina of Oman. Journal of Afroasiatic Languages 1:1.66-70.

Kenstowicz, Michael and Kamal Abdul-Karim. 1980. Cyclic stress in Levantine Arabic. Studies in the Linguistic Sciences 10:2.55-76.

Kiparsky, Paul. 1982. Lexical morphology and phonology. In Linguistics in the Morning Calm, ed. by I.S. Yang. Seoul: Hanshin.

Landen, Robert Geran. 1967. Oman since 1956. Disruptive modernization in a traditional Arab society. Princeton, NJ: Princeton University Press.

McCarthy, John J. 1979a. Formal problems in Semitic phonology and morphology. MIT doctoral dissertation.

_____. 1981. A prosodic theory of nonconcatenative morphology. Linguistic Inquiry 12:3.373-418.

Miles, S. B. 1919. The countries and tribes of the Persian Gulf. London: Frank Cass & Co. Ltd. Reprinted 1966.

Ministry of Information and Culture, Sultanate of Oman. 1979. Oman. A seafaring nation.

Mitchell, T. F. 1975. Principles of Firthian linguistics. Longman Linguistics Library 19. London: Longman.

Mohanan, K. P. 1986. The theory of lexical phonology. Boston: D. Reidel Publishing Company.

Moritz, B. 1892. Sammlung arabischer Schriftstucke aus Zanzibar und Oman. Lehrbucher des Seminars für orientalische Sprachen zu Berlin, Band 9. Berlin: W. Spemann.

Peace Corps. 1973. Omani Arabic basic course. Beirut.

Praetorius, Franz. 1880. Über den arabischen Dialekt von Zanzibar. Zeitschrift der deutschen morgenlandischen Gesellschaft 34.217-31.

Prochazka, Theodore, Jr. 1981. The Shī'ī dialects of Bahrain and their relationship to the eastern Arabian dialect of Muḥarraq and the Omani dialect of al-Ristāq. Zeitschrift für arabische Linguistik/Journal of Arabic Linguistics 6.16-55.

Qafisheh, Hamdi A. 1975. A basic course in Gulf Arabic. Tucson: The University of Arizona Press.

_____. 1977. A short reference grammar of Gulf Arabic. Tucson: The University of Arizona Press.

_____. 1979. Gulf Arabic. Intermediate level. Tucson: The University of Arizona Press.

Rabin, Chaim. 1951. Ancient West-Arabian. London: Taylor's Foreign Press.

Reinhardt, Carl. 1894. Ein arabischer Dialekt gesprochen in 'Omān und Zanzibar. Lehrbücher des Seminars für orientalische Sprachen zu Berlin, Band 13. Berlin: W. Spemann. Reprinted 1972, Amsterdam: Philo Press.

Rhodonakis, N. 1908. Der vulgararabische Dialekt im Dofâr (Ẓfâr). I. Prosaische und poetische Texte, Übersetzung und Indices. Kaiserliche Akademie der Wissenschaften, Südarabische Expedition, Band 8. Wien: Alfred Hölder.

_____. 1911. Der vulgararabische Dialekt im Dofâr (Ẓfâr). II. Einleitung, Glossar und Grammatik. Kaiserliche Akademie der Wissenschaften, Südarabische Expedition, Band 10. Wien: Alfred Hölder.

Rössler, Walter. 1898. Nachal und Wād il Ma'āwil. Eine Erzahlung im Omandialekt. Mittheilungen des Seminars für orientalische Sprachen zu Berlin 1:2.56-90.

_____. 1900. Die Geschichte von der Pockenkrankheit. Eine Erzahlung im Omandialekt. Mittheilungen des Seminars für orientalische Sprachen zu Berlin 3:2.1-42.

Sachau, Eduard. 1898. Über eine arabische Chronik aus Zanzibar. Mittheilungen des Seminars für orientalische Sprachen zu Berlin 1:2.1-19.

Shaaban, Kassim Ali. 1977. The phonology of Omani Arabic. University of Texas at Austin doctoral dissertation.

Silvestre de Sacy, A.I. 1827. Chrestomathie arabe ou extraits de divers écrivains arabes tant en prose qu'en vers avec une traduction et des notes. Tome 3. Paris: Debures Frères.

Skeet, Ian. 1974. Muscat and Oman. The end of an era. London: Faber and Faber.

Smeaton, B. Hunter. 1973. Lexical expansion due to technical change, as illustrated by the Arabic of Al Hasa, Saudi Arabia. Bloomington: Indiana University Publications, Language Science Monographs, Vol. 10.

Smith, G. R. 1978. The Omani manuscript collection at Muscat. Part I. A general description of the MSS. Arabian Studies 4.161-90.

_____. 1983. Masqaṭ in the Arab lexicographers and geographers. A paper presented to the Conference on Oman Studies, Muscat, November 1980. Journal of Oman Studies 6:1.145-8.

Vollers, K. 1895. Review of Reinhardt (1894). Zeitschrift der deutschen morgenländischen Gesellschaft 49.484-515.

Wilkinson, J. C.. 1977. Water and tribal settlement in south-east Arabia. A study of the aflāj of Oman. Oxford: Clarendon Press.

_____. 1978. The Omani manuscript collection at Muscat. Part II. Early Ibāḍi Fiqh Works. Arabian Studies 4.191-208.

_____. 1987. The Imamate tradition of Oman. Cambridge: Cambridge University Press.

Yule, Henry and A. C. Burnell. 1886. Hobson-Jobson. A glossary of colloquial Anglo-Indian words and phrases and of kindred terms, etymological, historical, geographical and discursive. Second edition, 1903, ed. by William Crooke. London: John Murray.

Appendix A

Morpheme and Rule Summary

Morphemes (R = radical: X = C or V)			Section: Page
RV(X)RVR	Verb	Level 0	3.1.1: 89
CVC(C)	Nominal	Level 0	3.1.1: 89
CV(X)CV(V)C	Nominal	Level 0	3.1.1: 89
[t]RV(X)RVR	Verb	Level 1	3.3.1: 115
[sta]RV(V)RVR	Verb	Level 1	3.3.1: 115
[n]RVRVR	Verb	Level 1	3.3.1: 115
[ma]RVRVR	Nominal	Level 1	3.4:
[ʔa]RaRR	Nominal	Level 1	3.5.2: 153
RaRR[ā]	Nominal	Levels 1, 2	3.5.2: 153
RVRR[ān]	Nominal, N-plural	Level 1	3.5.2: 153
RiRR[ā]	N-plural	Level 1	3.5.2: 153
[ʔa]RVRaaR	N-plural	Level 1	3.5.2: 153
[ʔa]RVRiR[ah]	N-plural	Level 1	3.5.2: 153
[ta]RVRīR	V-Noun (II)	Level 1	3.4: 142
[ta]RaR_2R_2ūR	V-Noun (V)	Level 1	3.4: 142
[ta]RVRūR	V-Noun (V)	Level 1	3.4: 142

[ta]RāRuR	V-Noun (VI)	Level 1	3.4:	142
R[t]iRāR	V-Noun (VIII)	Level 1	3.4:	142
[ta]RVRaR[ah]	V-Noun (QII)	Level 1	3.4:	142
[m]RāRaR[ah]	V-Noun (III)	Level 1	3.4:	142
[n]RiRāR	V-Noun (VII)	Level 1	3.4:	143
[sti]RaRāR	V-Noun (X)	Level 1	3.4:	143
____[ī]	Nominal (→ Adj)	Level 1	3.5.2:	158
____[ah]	Nominal	Level 1	3.5.2:	158
____[t]	V-perf-2	Level 2,	4.1.1:	168
		precedes other V-perf-2		
____[ū]	V-2,3 p.m.	Level 2	4.1.:	166
____[an]	V-2,3 p.f.	Level 2	4.1:	166
____[ī]	V-2 s.f.	Level 2	4.1:	166
____[t]	V-perf-1 s.	Level 2	4.1.1:	168
____[nā]	V-perf-1 p.	Level 2	4.1.1:	168
____[it]	V-perf3 s.f.	Level 2	4.1.1:	168
[yV]____	V-imp-3 m.	Level 2	4.1.2:	182
[yV]____	V-imp-3 p.f.	Level 2	4.1.2:	182
[tV]____	V-imp-2	Level 2	4.1.2:	182
[tV]____	V-imp-3 s.f.	Level 2	4.1.2:	182
[nV]____	V-imp-1 p.	Level 2	4.1.2:	182
[mi]____	Part. (not Form I)	Level 2	4.2:	193

[ma]_____	Part-pass-Form I	Level 2	4.2:	193
_____[ah]	Participle; adj	Level 2	4.2:	193
_____[īn]	Part-pl-m	Level 2	4.2:	193
_____[āt]	Part-f.p.; Nom.	Level 2	4.2:	193
[l]_____	Nominal (def.art.)	Level 3	5.2:	227
_____[ēn]	Nominal (dual)	Level 3,	5.1.5:	219
		precedes pronominal clitics		
_____C[ī]	Nominal (1 s.)	Level 3	5.1:	198
_____V[yī]	Nominal (1 s.)	Level 3	5.1:	198
_____[in]	Participle	Level 3,	5.1.4:	216
		precedes pronominal clitics		
_____[il]	V, Part (I.O)	Level 3,	5.1.2:	210
		precedes pronominal clitics		
_____[nī]	V, Part, Prep; (1 s.)	Level 3	5.1:	198
_____[ak]	V, Part, N, Prep; (2 s.m.)	Level 3	5.1:	198
_____[iš]	V, Part, N, Prep; (2.s.f.)	Level 3	5.1:	198
_____[oh]	V, Part, N, Prep; (3 s.m.)	Level 3	5.1:	198
_____[hā]	V, Part, N, Prep; (3.s.f.)	Level 3	5.1:	198
_____[nā]	V, Part, N, Prep; (1 p.)	Level 3	5.1:	198
_____[kum]	V, Part, N, Prep; (2 p.m.)	Level 3	5.1:	198
_____[kin]	V, Part, N, Prep; (2 p.f.)	Level 3	5.1:	198

_____[hum]	V, Part, N, Prep; (3 p.m.)	Level 3	5.1:	198
_____[hin]	V, Part, N, Prep; (3 p.f.)	Level 3	5.1:	198

<u>Rules</u> (R - radical; G - glide) <u>Section: Page</u>

C-Insertion (Level 0) 3.1.2: 99

$$\emptyset \rightarrow C \;/\; \underset{\underset{R_2}{|}}{C} \_\_$$

Vowel Association (Level 0) 3.1.3: 104

$$\begin{array}{c} (V) \quad V \; C \;] \\ \backslash \quad | \\ \{ V_i - V_j \} \end{array}$$

Syncope (Levels 0,1) 3.2: 105

$$V \rightarrow \emptyset \;/\; V\; C \_\_ C\; V$$

Condition: Applies from right to left.

Glide Deletion (Levels 0, 1) 3.2: 107

$$G \rightarrow \emptyset \;/\; \underset{[+low]}{V} \_\_ \underset{[+low]}{V\; C\;]}$$

Vowel Fusion (Levels 0, 1) 3.2: 108

$$\underset{[\alpha f]}{V} \quad \underset{[\alpha f]}{V} \rightarrow \underset{[\alpha f]}{\bar{V}}$$

Postglide High Vowel Deletion (Levels 0, 1) 3.2: 108

$$\underset{[+high]}{V} \rightarrow \underset{[+high]}{\emptyset} \;/\; V \;\; G \;\_\_\; C\,]$$

Inter-Geminate Vowel Deletion (Level 1) 3.2: 109

$$\underset{[+short]}{V} \rightarrow \emptyset \;/\; V\; R_i \;\_\_\; R_i\,]$$

Conditions: 1) Applies before Syncope.

2) Does not apply to $[RaR_iaR_i]_{Nominal}$

Form VIII Prefix Metathesis (Level 1) 3.3.1: 117

$[t\,][R \rightarrow [R\,[t] \;/\; \text{Form VIII}$

R_i - G Stem Modifications (Level 1) 3.3.1: 117

Form VII: $G\;V \rightarrow V\;G \;/\; [n][\_\_ \;/\; \text{Form VII}$

Form VIII: $w \rightarrow t \;/\; [\,\_\_[t] \;/\; \text{Form VIII}$

Imperfect Vowel Quality (Level 1) 3.3.2: 125

a) $V \rightarrow [+low] \;/\; \underset{[+back]}{\_\_\;\; R \;\; (V\,R)}\;]_{\text{Form I imperf. active}}$

b) $V \rightarrow [+low] \;/\; \underset{[+phar]}{R \;\_\_\; R}\;]_{\text{Form I imperf. active}}$

c) $V \rightarrow [+high] \;/\; R \;\_\_\; R \;\; (V\;R)\;]_{\text{Form I imperf. active}}$

$$\begin{Bmatrix} [-back] \\ [-emph] \\ [-r] \end{Bmatrix} \begin{Bmatrix} [-front] \\ [-back] \\ [-emph] \\ [-liquid] \end{Bmatrix}$$

b) $V \rightarrow [+low] \;/\; G\ V\ R\ \_\_\ R]$ Form I imperf. active

Form X Vowel Raising (Level 1) 3.3.2, 3.4: 131

$V\ y\ V\ R]$ Imperf. active & Act. Participle, Form X

$\{a\} \rightarrow \{i\}$

Final-Y Vowel Raising (Level 1) 3.3.2: 131

$V \rightarrow [+high] \;/\; \_\_\ y]$ Imperf. active, Forms II, III, VII, VIII, X, QI

Glide Neutralization (Level 1) 3.3.2, 3.4: 135, 140

$w \rightarrow y \;/\; \_\_\ V\ R]$ Perfect passive and participles, Form I

Active Participle Vowel Lowering (Level 1) 3.4: 140

$V \rightarrow [+low] \;/\; y\ \_\_\ R]$ Act. Participle, Forms VII, VIII

Passive Participle Vowel Lengthening (Level 1) 3.4: 141

$V \rightarrow \bar{V} \;/\; \_\_\ y]_{Pass.part.}$

[+low]

Nominal Stem Vowel Deletion (Level 1) 3.5.1: 151

$V \rightarrow \emptyset / [C\ \_\_\ C\ \bar{V}\ C]$ Nominal

Metathesis (Level 1) 3.5: 154

$a\ R_i \rightarrow R_i\ a \;/\; ?a]\,[R\ \_\_\ R_j]$ Nominal color/defect

/aG/-Monophthongization (Level 2) 4.1.1: 173

$a\,G \rightarrow \bar{a} \;/\; R\ \_\_\ ]\,[\emptyset]$ 4.3: 196

[ay]-Insertion (Level 2) 4.1.1: 175

$$\emptyset \rightarrow \text{ay} \quad / \quad V\, C_i\, C_i\,]_{\text{Perfect}}\, [\_\_\, C$$

Rule optional in environment: $V\,C\,]\,[\_\_\,C$.

Perfect Stem Vowel Raising (Level 2) 4.1.1: 178

$$\bar{a} \rightarrow i \quad / \quad \_\_\, R\,]_{\text{Perfect, Forms I, X}}$$

Perfect Stem Vowel Shortening (Level 2) 4.1.1: 179

$$\bar{V} \rightarrow V \quad / \quad \_\_\, R\,]_{\text{Pefect, Forms VII, VIII}}\, [\, C$$

Affix Vowel Deletion (Levels 2, 3) 4.1.1: 181

$$V \rightarrow \emptyset \;/\; \bar{V}\,]\, [\_\_\, C$$ 5.1.1: 203

[+short]

Form I Prefix Vowel Raising (Level 2) 4.1.2: 187

a. $V \rightarrow$ [+high] / $\_\_\, [\, G \ldots]_{\text{Form I Imperfect}}$

b. $V \rightarrow$ [+high] / $\_\_\, [\, R\, a\, R\, a\, R\,]_{\text{Form I Imperfect}}$ (Optional)

[+fronting]

c. $V \rightarrow$ [+high] / $\_\_\, [\, R_b \cup R_b \cup R_b\,]_{\text{Form I Imperfect}}$ (Optional)

Prefix Vowel Lowering (Level 2) 4.1.2: 187

$V \rightarrow$ [+low] / $\_\_\,]\, [\, R$ (Optional)

[+back]

Pre-Clitic Consonant Lengthening (Level 3) 5.1.1: 204

$C_i \rightarrow C_i C_i \;/\; V \_\_ \,]\, [\, V$ 5.1.2: 211

[+short]

Conditions: 1) C_i is not a root consonant (R)

2) Precedes Syncope (Level 3)

Syncope (Level 3) 5.1.1 208

$V \rightarrow \emptyset \;/\; V\,(\,C_i\,)\,C_j \_\_ C_k\, V$

Conditions: 1) C_i (if present), C_j and C_k are not all three root consonants (R).

2) Applies from right to left.

Initial Vowel Deletion (Level 3) 5.1.1, 5.1.5: 208

$V \rightarrow \emptyset \;/\; [\,C \_\_ C\, V \ldots]_{\text{Imperfect/Imperative, Nominal}}$

Condition: Optional for nominal stems.

[in]-Attachment (Level 3) 5.1.3: 214

$\emptyset \rightarrow [\text{in}] \;/\;]_{\text{M.S., F.S, F. P.Participle}} \_\_ [\,X \ldots]_{\text{Pronominal Enclitic}}$

[ah]-transformation (Level 3) 5.1.3, 5.3: 215

$\text{ah} \rightarrow \text{it} \;/\; \_\_ \;]_{\text{Fem.affix}}\; [\,X \ldots]_{\text{Pronominal enclitic}}$

[n]-Assimilation (Level 3) 5.1.3: 216

$n \rightarrow l \;/\; \_\_ \,]\,[\,l$

Glide Insertion (Level 3) 5.1.4: 217

$\emptyset \rightarrow \underset{[\alpha\,\text{round}]}{G} \;/\; \bar{V}_i \_\_ \underset{[\alpha\,\text{round}]}{\bar{V}_j}$

Pre-Clitic Vowel Deletion (Level 3) 5.1.4: 218

$$\underset{[+short]}{V} \rightarrow \emptyset \;\; / \;\; [C\_\_\,]\,[\,V$$

Epenthesis (Level 3) 5.1.5: 225

$$\underset{[+high]}{\emptyset} \rightarrow \quad V \;\; / \;\; C_i \;\; \_\_ \;\; C_j \;\;]\;(\,C_k\;V\,..)\;]_{Nominal}$$

Conditions: 1) Rule is optional when C_j is a fricative.

2) C_iC_j do not form a sonorant-obstruent sequence.

3) C_i is not identical to C_j.

Definite Article Assimilation (Level 3) 5.2: 227

$$\underset{[\alpha f]}{l} \rightarrow \quad \underset{[+coronal]}{C} \;\; / \;\; \_\_ \;\;]_{Def.art.}\;[\;\; \underset{[\alpha f]}{C}$$

/n/-Definite Article Assimilation (Level 3) 5.3: 218

$$\underset{[\alpha f]}{n} \rightarrow \quad C \;\; / \;\; \_\_ \;\;]_{Preposition}\;\; [\,\underset{[\alpha f]}{C}]_{Def.\ Art.}$$

High Short Vowel Backing (Postlexical) 2.1.3: 53

$$\underset{[+high]}{V} \rightarrow \underset{[+back]}{V} \;\; / \;\; \_\_ \;\; C \;\; (C)\;]_{syl}$$

$$\left\{ \begin{array}{c} \begin{bmatrix} +back \\ -low \end{bmatrix} \\ [+labial] \\ [+emphatic] \\ /r/ \end{array} \right\}$$

High Short Vowel Lowering (Postlexical) 2.1.3: 55

$$\underset{[+\text{low}]}{V} \rightarrow V \;/\; \underset{[+\text{pharyngeal}]}{C}$$

High Long Vowel Centralization (Postlexical) 2.1.4 56

$$\underset{[+\text{high}]}{\bar{V}} \rightarrow [-\text{high}] \;/\; C \begin{Bmatrix} \begin{bmatrix} +\text{back} \\ -\text{low} \end{bmatrix} \\ [+\text{emphatic}] \\ /r/ \end{Bmatrix}$$

Reduction (Postlexical) 2.2.2: 62

$$\underset{[-\text{stress}]}{V} \rightarrow \check{v} \;/\; \_\_\, C\, V$$

Syncope (Postlexical) 2.2.2: 63

$$\underset{[-\text{stress}]}{V} \rightarrow \emptyset \;/\; \_\_\, C\, V$$

Condition: Fast speech.

Final Vowel Shortening (Postlexical) 2.2.3: 64

$$\bar{V} \rightarrow V \;/\; \_\_\; \#\#$$

Low Vowel Centralization (Postlexical) 2.2.2: 66

$$\underset{[+\text{low}]}{V} \rightarrow [-\text{low}] \;/\; \_\_\; G_l\,]_{syl}$$

Coalescence (Postlexical) 2.2.3: 66

$$\underset{[\alpha\text{high}]}{V} \quad \underset{[\beta\text{front}]}{G} \rightarrow \bar{V} \ / \ \_\_ \ ]_{syl} \ C$$

$$\begin{bmatrix} \alpha\text{high} \\ \beta\text{front} \end{bmatrix}$$

Condition: C is not identical to G.

Final Degemination (Postlexical) Optional 2.2.2: 67

$$C_i \ C_i \rightarrow C_i \ / \ \_\_ \ ]_{syl}$$

Initial Degemination (Postlexical) 2.2.2: 68

$$C_i \ C_i \rightarrow C_i \ / \ \#\# \ \_\_$$

Appendix B

Sample Texts

Text 1.	Closing the City Gates
Text 2.	On the Road
Text 3.	Our Pet Gazelle
Text 4.	Summer Heat
Text 5.	Visit to Fangah

Text 1. Closing the City Gates

qábil sábuʕ sanawā́t kā́n fī másqáṭ yistáʕmalú yḏ́úrbu n-nṓbah sā́ʕa θlā́θa min il-lḗl ʕárabi. yáʕni bā́b il-kabī́r kā́n ysádd. sā́ʕa θlā́θa mil-lḗl kān bā́b l-kbī́r ysádd wa túḏ́rab in-nṓbah. w-báʕd ma txállaṣ túḏ́rab in-nṓbah, yúḏ́arbán l-madā́fuʕ θlā́θ marrā́t. túftáḥ fi-l-bā́b kbīr il-fárxa ṣ-ṣ́ɣīra min il-bā́b. w-kúll wā́ḥid illi yrī́d yádxil dā́xil min bā́b l-kbī́r lā́zim yáḥmil máʕ-o qandī́l. min báʕd ma túḏ́rab in-nṓbah wa yḏ́árban l-madā́fuʕ. w-illi mā́ ʕánd-oh qandī́l lā́zim ydáwwar qandī́l ʔō yšū́f iš-šúrṭi.

Seven years ago in Muscat [i.e., ca. 1980] they used to beat the drum at three o'clock at night Arab time [i.e., three hours after sunset]. That is, the Big Gate was closed at three o'clock at night. The Big Gate was closed and the drum was beaten. After the drum finished beating, the cannons were fired three times. In the Big Gate the small door would open and anyone who wanted to enter by the Big Gate had to carry with him a kerosene lantern after the drum beat and the cannons fired. Anyone who did not have a kerosene lantern with him had to find a lantern or see the police.

Text 2. On the Road

márra rāyħín náħna ʔila mṣánʕah w-ragáʕna fi-l-lēl. dawwárna ʕála s-sayyā́ra w-ragáʕna fi-l-lḗl. w-lámma mašḗna fi-ṭ-ṭarī́q min ṭarī́q maṣánʕa ʔila másqáṭ xárbit ʕalḗ-na s-sayyā́ra fi-ṭ-ṭarī́q w-kā́n fi máʕ-na ħórma fī́ha wágaʕ r-rábba. w-báʕdḗn kull sayyā́ra tṭúff ʕalḗ-na mā́ tā́xuð-ná. kúll sayyā́ra tṭúff ʕalḗna nʔáššar ʕalḗha ma tā́xuð-ná. w-báʕdḗn ħaṣṣálna sayyā́ra w-kā́nit bass táħmil nafrḗn w-náħna kúnna zā́yid min nafrḗn. baʕdḗn kḗf nífʕal? ħaṣṣálna sayyā́ra θā́niya rakábna fī́ha náħna ʔárbaʕt anfā́r. ʔil-mára illi kā́n fī́ha wágaʕ r-rábba. w-baʕdḗn rúħna bi-s-sayyā́ra waṣṣalnā́-ha ʔila mustášfa xṓla w-ragáʕna náħna ʔila másqáṭ wa l-bā́qi mín-na bā́tu fi mṣánʕah li yṓm is-sábt w-ǰéyyu yṓm is-sábt ṣabā́ħ.

Once we were going to Al-Musan'a and returned at night. We found a car and returned at night. When we were going on the road from Al-Musan'a to Muscat our car broke down on the road. With us was a woman who was having labor pains. Then every car that passed us by did not take us. Every car that passed us by we signaled to but it did not take us. Then we got a car able to carry only two people, but we were more than two people. So how could we do [it]? We got another car and four of us got in it [and] the woman who has having labor pains. Then we went in the car and took her to Khoulah Hospital. We returned to Muscat and the rest of us stayed overnight in Al-Musan'ah until Saturday and came [back] Saturday morning.

Text 3. Our Pet Gazelle

nitkállam ʕan ħéwānāt li tʕíš fi ʕamán. miθil wa-ð-ðábi wal-ɣazál wal-wáʕil. kān máʕna ɣazál w-kánit máʕna ðábyah ṣɣīrah. ħaṣṣál-ha ʔabūw-i min ʕánd wáħid šáwi. Ṣɣírah. wa tíšrab ħalíb. ʕaṭít-ha ʔúmm-i b-il-ɣáršah ħalíb. míθil ṭ-ṭáfil iṣ-ṣayír. kúll yóm tirðáʕ-ha b-il-márðăʕah lén kábrit. yóm kábrit, ṣárit šēṭánah. kánit táqham min fóq, min fóq fōq is-súṭħ li táħt. w-kúllna nxáf ʕalé-ha ʔan tmút. w-kán ma ybáyan še fíha. šēṭánah. baʕdén ǰéyyu nás bayyu yištrúha min ʕándăna. ʔanglíz. w-má nbɣí nbíʕha. kunna nħábbha. baʕdén ʔaxáðha ʔaxūw-i ilal-ʕarāq. wa-hnák fil-ʕarāq ma ʕándhum yímkin, wal-ʔúla. baʕdén kān bárd šadíd fi-l-ʕarāq w-ʔáθθar ʕalí-ha w-ʕawwár-ha kaθír. baʕdén mátit. min ðák l-waqt má ħaṣṣálna ɣér-ha. nríd ɣér-ha w-má ħaṣṣálna.

We're talking about the animals of Oman, like the gazelle, the gazella dorcas, and the tahr [i.e., a rare species of mountain goat found in Oman]. We had a gazelle and a gazella dorcas--a small one. My father got her from a mountain beduin. She was small and she drank milk. My mother would give her milk from a bottle, like a small child. Every day she would nurse her from the nursing bottle until she grew up. When she grew up, she was a devil. She would go and jump from the top, from the tip top of the roof to down below. We were afraid for her

that she would die. And it meant nothing to her. A devil. Then some peoople came who wanted to buy her from us. English. But we didn't want to sell her. We loved her. Then my brother took her to Iraq. In Iraq there weren't any perhaps, [she was] the first. Then it was very cold in Iraq and it hurt her. Then she died. Since that time we haven't gotten another one. We'd like another but we haven't gotten [one].

Text 4. Summer Heat

fi másqáṭ fil-ʕásima ʔašádd il-ħárr min al-báṭnah wa min ʕamán. ʕašán il-gibál. hná il-gibál qaríbeh. hnák al-gibál ʔábʕad. baʕdén hína ykún fi ṣéf l-háwa, fil-lél w-fi-n-nhár mitsáwi. w-lákin fi-l-béṭnah, fi-ʕamán yityáyyar. ʔíða fi-n-nhár ħárr, fi-l-lél ʔábrad. fi-ṣ-ṣéf nnám ʕála s-suṭúħ, w-lákin l-ʔān ma náqdar nnám ʕála s-suṭúħ ʕašán bʕúð kaθír. nnám táħt il-mráwaħ ʔō fi mkéyfát. yištádd il-ħárr fi-š-šáhar ǰún. kull sána yábtdi min méy, w-ǰún w-ǰúlay ħárr šadíd. lákin is-sánah ybádi min ʔébril.

In Muscat, in the Capital, the heat is stronger than the Batinah or Oman because of the mountains. Here the mountains are nearby, there the mountains are farther away. Moreover, here in summer the air at night and during the day is constant, but in the Batinah, in Oman it varies. When it's hot during the day, it's cooler at night. In the summer, we sleep on the roofs, but now [i.e., in April] we cannot sleep on the roofs because there are lots of mosquitoes. We sleep under the fan or in air conditioning. It gets very hot in June. Every year the heat begins in May, and June and July are very hot, but this year it is beginning in April.

Text 5. Visit to Fangah

ʔána márra zárt fánga. gălást fí-ha θláθt iyyám. wa-tmaššét wa-rúht ʕand il-ʕén wa-hnák šúft il-ħarím yistúqyan min al-ʕén. wa-baʕdén hnák fi másgid. yitgáddadan min al-ʕén wa-ysíran yṣállyan fi-l-másgid, qaríb al-ʕén. tʕággábt min al-ħarím yidáxlan fil-másgid, yáʕni ma še samáʕt min qábil ħarím ysíran fi másgid fi ʕamán. lákin šúfthum ʔána b-ʕéni w-kúnt máʕhum hŭnák. (al-másgid l-il-ħarím fáqaṭ kán.)

Once I visited Fangah. I stayed there three days. I walked around and went to the spring, and there I saw the women drawing water from the spring. And then there was a mosque there. They [the women] were purifying themselves at the spring and going to pray in the mosque, near the spring. I was amazed at the women entering the mosque. I mean, I had not heard of it before, women going into a mosque in Oman. But I saw them with my own eyes, and I was there with them. (The mosque was for women only.)

Appendix C

Lexical List of Examples: MA - English

Order of Phonemes: ʔ a ā b d ð ḍ e ē f g ɣ h ħ ʕ i ī ǰ k l m
n o ō q r s ṣ š t ṭ θ u ū w x y z

Appendix C is a partial list of the MA examples used in this study, containing brief definitions of those words not defined in the text in Tables 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 4-1, 4-2, and 5-2, and in Texts 1 through 5 of Appendix B. Entries are listed according to the order of phonemes given above. Verbs are listed under their perfect stems followed by the imperfect, and the roman numeral designation of the Form is given for other than Form I verbs. Nominals are listed under their singular stems followed by the plural, or masculine followed by the feminine, or collective followed by the unit form, unless otherwise indicated.

		Section
ʔ		
ʔab/ʔabū-	father	Table 3-4, Text 3
ʔabʕad	farther away	Text 4
ʔabrad	cooler	Text 4
ʔabyaḍ, beḍā	white (m.,f.)	Table 3-5
ʔaɣnā	richer	Table 3-5
ʔaħmar, ħamrā	red (m,f)	Table 3-5
ʔaʕrag, ʕargā	lame (m,f)	Table 3-5
ʔambā, ʔambāh	mangoes (coll., unit): also /lamba, lambāh/	Table 3-5
ʔana	I (pronoun)	Text 5
ʔanglīz	English (sg. & coll.)	Text 3
ʔarbaʕah, ʔarbaʕ	four	Text 3
ʔaṣɣar	smaller; younger	Table 3-5
ʔašadd	stronger	Text 4
ʔaššar, yʔaššar (ʕala)	to signal (to), II	Text 2
ʔaṭwal	taller; longer	Table 3-5
ʔaθθar, yʔaθθar (ʕala)	to affect, II	Text 3
ʔawwal, ʔūla	first	Text 3
ʔax/ʔaxū-	brother	Text 3

ʔaxað/xað, yāxuð	to take	Text 2
ʔaxaff	lighter (in weight)	Table 3-5
ʔēbril	April	Text 4
ʔiðā	if, when	Text 4
li, ʔili	to, for	Text 2
ʔilli, lli, li	that, who, (def. relative pro.)	Text 1
ʔō	or	Text 1
ʔumm	mother	Text 3

b

baɣa, yubɣa/yabɣī	to want	Text 3
baʕdēn	then, later, so	Text 3
bakā, yabkī	to cry	Tables 4-1, 2
bandīrah, banādīr	flag	Table 3-5
bank, bnūk	bank	Table 3-4
bard	cold (nom.)	Text 3
barmīl, barāmīl	oil drum	Table 3-4
bašam, yabšam	to overeat	Table 3-1
baxīl, buxlā	miserly (s., p.)	Table 3-6
bāb, bībān	door	Table 3-4, Text 1
bādā, ybādī	to begin	Text 4
bāʕ, ybīʕ	to sell	Text 3
bāqi	rest, remainder	Text 2
bāqil	beans	Table 3-4
bāt, ybīt	to spend the night	Text 2
ʔal-bāṭnah	the Batinah coastal plain	Text 4
bāyan, ybāyan	to mean, III	Text 3
bēsah, biyas	baisa, currency unit (001 riyal)	Table 3-4
bʕūð, bʕūð	mosquitoes (coll., unit)	Text 4
bi, b-	with, by	Text 3
bisur	dates	Table 3-4
bībīh	grandmother	Table 3-4
bīdār, bayādīr	agricultural worker (s., p.)	Table 3-4
bīðām	custard apples (coll.)	Table 3-4
bōš	camels (coll.)	Table 3-4
btadā, yabtadī	to begin, VIII	Text 4

d

dabbūsah, dabābīs	pin (i.e. safety pin)	Table 3-4
dallah, dalal	coffeepot	Table 3.4:
darā, yadrī	to be aware, wake up (intr.)	Table 3-2

daxal, yadxil	to enter	Texts 1, 5
dawwar, ydawwar	to find, look for, II	Texts 1, 2
dāxil	inside	Text 1
dihin	butter, ghee	Table 3-4
dišdāšah, dašādīš	man's long garment	Table 3-4
ð		
ðāk	that	Text 3
ðin/ʔiðin, ʔaðān	ear	Table 3-4
ð̣		
ð̣abī, ð̣abyah	gazelle (Gazella dorcas) (m.f.)	Text 3
ð̣arab, yað̣rub	to beat, strike	Text 1
f		
fahmān	understanding	Table 3-3
faʕal, yifʕal	to do	Text 2
falag, ʔaflāg	irrigation channel	Table 3-4
fangah	Fangah, town in Oman	Text 5
faqaṭ	only	Text 5
farḥān	joyful	Table 3-5
farrāš, farārīš	sweeper, janitor	Table 3-4
farxah	small opening, door	Text 1
fataḥ, yuftaḥ	to open	Text 1
fawālah	light snack of coffee and fruit	Table 3-5
fākhah, fawākih	fruit (s.,p.)	Table 3-5
fi	in	Texts 1, 4
fīfāy	papayas (coll.)	Table 3-4
findāl	sweet potatoes (coll.)	Table 3-4
fōq	top, above	Text 3
ftakar, yuftkir	to remember, VIII	Table 3-3
ftikār	remembering (v.noun)	Table 3-3
g		
ge, yigi	to come	Text 2
gabal, gibāl	mountain	Text 4
gaddad, ygaddad	to renew, purify, II	Table 3-1,2,Text 5
galas, yiglis (gilis)	to sit, stay	Text 5
gargūr, garāgīr	shark	Table 3-4
grēw	puppies (coll.)	Table 3-4
gūʕān	hungry	Table 3-5
gūnīyah, gawāni	sack	Table 3-5

γ		
γalūg	earlobe	Table 3-4
γanī	rich	Table 3-4
γaršah, γaraš	bottle (s.,p.)	Table 3-6
γayyab, yγayyab	to lose (tr.), II	Tables 3-1,2
γayyar, yγayyar	to change around, vary, II	Text 4
γazāl	gazelle	Text 3
γālī	expensive	Table 3-4
γēr	other than, another	Text 3
γubār	dust	Table 3-4
γurfah, γuraf	room	Table 3-6
h		
ħakā, yaħkī	to tell	Tables 3-1, 2
hawā	air, weather	Text 4
hinā	here	Text 4
hōri, hawāri	small boat	Table 3-4
htamm, yihtamm	to concern, VIII	Tables 3-1,2
hunāk	there	Texts 3, 4, 5
ħ		
ħabb, yħabb	to love	Text 3
ħalīb	milk	Text 3
ħallāw, ħalālīw	candy (ħalwa) maker	Tables 3-4, 6
ħalwā, ħalāwi	Omani sweet	Table 3-6
ħamal, yaħmil	to carry	Text 1
ħarīmah	midwife	Table 3-5
ħarr	heat	Text 4
ħaṣīr, ħuṣrān	straw mat	Table 3-6
ħaṣṣal, yħaṣṣal	to get, obtain, II	Texts 2, 3
ħawwal, yħawwal	to transfer, move, II	Table 3-1
ħārr	hot (adj.)	Table 3-4
ħēwān, ħēwānāt	animal (s.,p.)	Text 3
ħāyuṭ, ħīṭān	wall (s.,p.)	Table 3-4
ħurmah, ħarīm	woman (s., p.)	Table 3-5, Text 2
ħurrān	feeling hot	Table 3-5
ʕ		
ʕadad	number, numeral	Table 3-4
ʕalašān/ʕāšān	on account of, for the sake of	Text 4
ʕamān	Oman	Texts 3, 4, 5
ʕan	about	Texts 3, 6

ʕand	at, with, on	Text 1
ʕarabi	Arab (adj.)	Text 1
ʔal-ʕarāq	Iraq	Text 3
ʕāṣmah, ʕawāṣim	capital (i.e., Muscat)	Text 4
ʕawwar, yʕawwar	to hurt, II	Text 3
ǰ		
ǰūlāy	July	Text 4
ǰūn	June	Text 4
k		
kabar, yakbur	to grow up, get big	Text 3
kabīr	big; old	Text 1
kān, ykūn	to be	Text 1
kaθīr	many	Text 4
kēf	how	Text 2
kidf, kudūf	shoulder	Table 3-4
kitāb, kutub	book	Table 3-6
kull	each, every; all	Text 1
kummah, kamīm	boy's/man's embroidered hat	Table 3-6
l		
laḥāf,	woman's headcloth	Table 3-4
lākin	but	Text 4
lamma	when	Text 2
laqa, yilqa	to meet	Tables 3-1, 2
lāzim	necessary	Text 1
lēl	night	Texts 1, 4
lēn	until	Text 3
lēsu, lawāsi	woman's head coveing	Text 3-4, 6
lisān, ʔalsinah	tongue	Table 3-6
li	to, for	Text 3
līf	palm fiber	Table 3-4
lōlōh	pearl(s) (baby talk)	Table 3-4
m		
mā	not	Texts 1, 2, 3, 5
magmar, magāmir	incense burner (s.,p.)	Table 3-5
maʕ	with	Textx 1,,2
mara	woman	Text 2
marðaʕah	baby bottle	Text 3
markit, marākit	market	Table 3-4
marrah, marrāt	time (occasion); once	Texts 1, 2

masak, yamsik	to grasp, hold	Table 3-1
masgid, masāgid	mosque	Text 5
maṣqaṭ	Muscat	Text 2, 4
maša, yamši	to walk, go	Text 2
mašɣūl	busy	Table 3-5
matrūs	full (passive participle)	Tables 3-3, 5
māt, ymūt	to die	Text 3
mēy	May (month)	Text 4
mðabħah	slaughtering house	Table 3-5:
midfaʕ, madāfuʕ	gun, cannon	Text 1
min	from	Text1
minazz, manāzz	cradle (s.,p.)	Tables 3-5, 6
mitsāwī	even, constant	Text 4
miθil	like (prep.)	Text3
mkēyfah, mkēyfāt	air conditioner (s., p.)	Text 4
mrābuʕ	accompanying (act. part)	Table 5-2
mrāwaħ	fan	Text 4
mqamšah	spoon	Table 3-5
msāʕdah	helping (v.noun)	Table 3-3
ʔal-mṣanʕah	al-Muṣana'ah, town on Batinah	Text 2
mšabbah	hand fan	Table 3-5
muftāħ, mafātīħ	key	Table 3-5
mustašfā xōlah	Khoulah Hospital	Text 2
muxba, maxābī	pocket	Table 3-5
n		
nafar, ʔanfār (dual: nafrēn)	person, fellow	Text 2
nahār	day	Text 4
naħnā	we	Text 2
namūnah, namāyin	kind, type	Table 3-6
nargīl, nargīlah	coconuts (coll., unit)	Table 3-5
nād, ynūd	to doze	Tables, 3-1, 2
nāda, ynādi	to call, III	Tables 3-1, 2
nām, ynām	to sleep	Text 4
nās	people	Text 3
nāwal, ynāwal	to give, bring to, III	Table 3-1, 2
nkabb, yinkabb	to be poured out, VII	Tables 3-1, 2
nmāħā, yínmħī/yinmaħī	to be erased, erasable, VII	Tables 3-1, 2
nōbah	drum beat	Text 1
nðāf, yinðāf	to be seen, visible, VII	Tables 3-1, 2
ntaras, yintris/yantaras	to be filled, VII	Table 3-1, 2

ntirās	being filled (v.noun)	Table 3-3
q		
qabil	before	Text 1
qabīlah, qabāyil	tribe	Table 3-6
qafal, yaqfil	to lock	Tables 3-1, 2
qaffār, qafāfīr	tracker	Table 3-4
qafīr, qufrān	small basket	Table 3-4, 6
qaham, yaqham	to jump	Text 3
qahwā, yqahwī	to host for coffee, QI	Table 3-1, 2
qalam, ʔaqlām	pen	Table 3-6
qandīl, qanādīl	kerosene lantern	Table 3-4, Text 1
qarīb	near, nearby	Text 4
qēḏ, quyūḏ	summer	Table 3-4
quddām/qiddām	front; in front of, across from	Table 3-4
qurṭāṣ	paper (coll.)	Table 3-4
r		
raḏaʕ, yurḏaʕ	to nurse, suckle	Text 3
rafraf, yrafruf	to flutter the eyelids, QI	Table 3-1, 2
ragaʕ, yurgaʕ	to return	Text 2
raggāl, ragāgīl	man	Table 3-4
rakab, yarkab	to get in, ride	Text 2
raṭab	fresh dates	Table 3-4
———, yrīd	to want (perf. not used)	Text 1
rāḥ, yrūḥ	to go	Text 2
riyāl, riyālāt	riyal, Omani unit of currency (= $2.87; after Jan. 1986 $2.60)	Table 3-4
s		
sabʕah, sabuʕ	seven (m., f.)	Text 1
ʔis-sabt	Saturday	Text 2
sadd, ysidd	to close	Tables 3-1,2, Text 1
sakkar	sugar	Table 3-4
samaʕ, yismaʕ	to hear	Text 5
sanah, sanawāt	year	Text 1
ʔis-sanah	this year	Text 4
sannūrah, sanānīr	cat	Text 3-6
sayyārah	car	Text 2
sāʕah, sāʕāt	hour	Text 1
sāʕad, ysāʕad	to help, III	Table 3-3
sār, ysīr	to go	Tables 3-1, 2

sāmān	belongings	Table 3-4
sifār	traveling (v.noun)	Table 3-3
sōlaf, ysōluf	to tell, QI	Table 3-1, 2
sqēw	chicks	Table 3-4
staħmaq, yistaħmaq	to be furious, X	Tables 3-1, 2
staʕmal, yistaʕmal	to use, be used to X	Text 1
staʕmāl	using (v.noun)	Table 3-3
stakāwad, yistakāwid	to be ambivalent, Xa	Tables 3-1, 2
stakfa, yistakfi	to be satisfied, X	Tables 3-1, 2
stamarr, yistamarr	to continue, X	Tables 3-1, 2
staqa, yistqi	to draw water, VIII	Text 5
starāħ, yistrīħ	to rest, relax, X	Tables 3-1, 2
stōgaʕ, yistōgaʕ	to be hurt, X	Tables 3-1, 2
suħħ	dried dates	Table 3-4
suṭħ, suṭūħ	roof (s., p.)	Text 4
ṣ		
ṣabāħ	morning	Text 2
ṣayīr, šuyār	small; young	Table 3-4, 6
ṣaħrā	desert	Table 3-5
ṣalla, yṣalli	to pray, II	Tables 3-1, 2
ṣār, yṣīr	to become	Text 3
ṣēf	summer	Text 4
ṣyīr	small; young	Text 1
š		
šadīd	strong	Texts 3, 4
šahar	month	Text 4
šall, yšill	to take, bring, carry	Tables 4-1, 2
šangūb, šanāgīb	crab	Table 3-4
šanṭah, šunuṭ	bag, purse, suitcase	Table 3-6
šarab, yišrab	to drink	Tables 3.2:
šāf, yšūf	to see	Text 1
šākūš	hammer	Text 3-4
šāwī, šawāwī	mountain beduin	Text 3
še/šēy	thing	Texts 3, 5
šēṭān, šēṭān	devil; naughty (m.,f.)	Text 3
šēlah, šiyal	scarf	Table 3-6
šitā	winter	Table 3-4
štadd, yištadd	to be/become strong, VIII	Text 4
štayal, yištyil/yištayal	to work, VIII	Text 3-1,
štara, yíštri/yištari	to buy, VIII	Tables 3-1, 2, Text 3

šurṭi	police, policeman	Text 1
t		
taħsūn	improvement (v.noun)	Table 3-3
taħt	under, below, bottom	Text 3
taras, yatris	to fill	Table 3-3
tarās	filling (v.noun)	Table 3-3
targam, ytargam	to translate, QI	Table 3-3
targamah	translating, translation (v.noun)	Table 3-3
tatūn	baby, small child	Text 3-4
taxbīr	informing (v.noun)	Table 3-3
tfawwal, yitfawwal	to have coffee and fruit, V	Tables 3-1, 2
tfayyaq yitfayyaq	to have free time, V	Tables 3-1, 2
tgaddad, yitgaddad	to purify oneself, V	Text 5
tɣaddā, yitɣaddā	to have the midday meal, V	Text 3-1, 2
tɣayyar, yitɣayyar	to change around, vary, V	Text 4
tʕallam, yitʕallam	to learn, V	Tables 3-1, 2
tʕallum	learning (v.noun)	Table 3-3
tʕaggab, yitʕaggab	to be amazed, surprised, VI	Text 5
tʕāwan, yitʕāwan	to help one another, VI	Tables 3-1, 2
tkallam, yitkallam	to talk, speak, V	Text 3
tlāqa, yitlāqa	to meet one another, VI	3.2:
tmaddad, yitmaddad	to stretch out, nap, V	Tables 3-1, 2
tmaššā, yitmaššā	to walk around, V	Text 5
tnāwal, yitnāwal	to take, VI	Table 3-3
tnāwul	taking (v.noun)	Table 3-3.
tqahwā, yitqahwā	to have coffee (and dates), QII	Text 3-1, 2
trangaħ, yitrangaħ	to swing	Table 3-3
tranguħ	swinging (v.noun)	Table 3-3
tsōlaf, yitsōlaf	to chat, QII	Tables 3-1, 2
ttaṣal, yittṣal/yittaṣal (fī)	to contact s.o., VIII	Tables 3.-1, 2
tuffāħ	apples (coll.)	Table 3-4
turs, turūs	small circular shield	Table 3-6
twaṣṣax, yitwaṣṣax	to get dirty, V	Tables 3-1, 2
twalwal, yitwalwal	to groan in childbirth, QII	Tables 3-1, 2
twalwīlah	groaning (v.noun)	Table 3-3
twāħa, yitwāħi	to have time, be available, VI	Table 3-1, 2
txarbaṭ, yitxarbaṭ	to be confused, senile, QII	Table 3-1, 2
txābar, yitxābar	to greet one another, shake hands, VI	Table 3-1, 2

ṭ

ṭarīq	road	Text 2
ṭawi, ṭōyān	well (nom.)	Tables 3-4, 6
ṭawīl, ṭuwāl	tall; long (s., p.)	Tables 3-4, 6
ṭaff, yṭuff	to pass by	Text 2
ṭufil/ṭafil, ʔaṭfāl	child	Table 3-4, 6, Text 3

θ

θalāθah	three	Text 1
θallāgah	refrigerator	Table 3-5
θam, ʔaθāmī	mouth	Table 3-4
θānī, θānyah	second	Text 2

w

wa, w-	and	Texts 1-5
wagaʕ, yūgaʕ	to hurt, be painful	Tables 3-1, 2
wagaʕ ir-rabba	labor pains	Text 2
waʕil	mountain goat	Table 3-4, Text 3
waqaʕ, yūqaʕ	to fall, happen	Tables 4-1, 2
waqt, ʔōqāt	time, occasion	Text 3
waṣṣal, ywaṣṣal	to transport, bring, II	Table 3-1, 2, Text 2
wazīr, wizra	government minister	Table 3-4, 6
wāfaq, ywāfaq	to agree, III	Table 3-1, 2
wāgid	much, many; very; a great deal	Table 3-4
wāḥid	one	Text 1

x

xabbar, yxabbur	to tell, inform, II	Tables 3-1, 2
xað/ʔaxað, yāxuð	to take	Text 2
xallaṣ, yxallaṣ	to finish, II	Text 1
xarab, yuxrub	to break down	Text 2
xarbaṭ, yxarbuṭ	to confuse, QI	Tables 3-1, 2
xangar, xanāgur	Omani man's dagger	Table 3-4
xābar, yxābur	to greet, shake hands with, III	Tables 3-1, 2
xādum, ʕaxdām	servant, slave	Table 3.4:
xāf, yixāf	to fear	Tables 3-1, 2
xafīf, xufāf	light (in weight)	Tables 3-4
xtār, yuxtār	to choose, VIII	Tables 3-1, 2
xōf	fear	Table 3-3

y

yabas, yības	to become dry	Tables 3-1, 2

yaʕni	that is (lit., it means)	Text 1
yābis	dry	Table 3-4
yōm, ʾayyām	day	Text 3
yōm is-sabt	Saturday	Text 2
z		
zār, yzūr	to visit	Tables 3-5, 4-1,2, Text 5
zāwyah	corner	Table 3-5
zāyid	more	Text 2
zētūn	guavas (coll.)	Table 3-4
zikmah, zikām	head cold	Table 3-5, 6
zikmān	having a head cold	Table 3-5