

THE NATURE OF ARABIC SONORANT CONSONANTS

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Abstract

This is an introductory article on the nature of Arabic /m/, /n/, /l/, and /r/ sounds. It is fairly descriptive. Two subsequent articles, by the same author, will deal with sound changes, namely **interchangeability**, and **epenthesis and deletion**. The present study gives a historical view on how the sounds were described by early Arabic grammarians and then shows their articulatory and binary features. It also lists their variations and discusses metathesis. Moreover, it shows the acquisition of these consonants by children with attention to gliding, transposition, deletion, metathesis, epenthesis, and assimilation. Finally, it illustrates the frequency of the sonorants in the language and the constraints on their occurrence.

1. Historical View

The four sonorant consonants, namely /m/, /n/, /l/, and /r/, exist in all Semitic languages. Abdu t-Tawwāb (1985:226) gives the following account:

/m/	malaʔa	Arabic	'to fill up'
	mälē	Hebrew	
	mlä	Aramaic	
	mal'a	Ethiopic	
	malü	Akkadian	
/n/	nafax	Arabic	'to blow'
	nāfah	Hebrew	
	nfah	Aramaic	
	nafha	Ethiopic	
	bapāhu	Akkadian	
/l/	lubb	Arabic	'mind; kernel; core; prime'
	lēb	Hebrew	
	lebbä	Aramaic	
	leb	Ethiopic	
	libbu	Akkadian	

/r/	räs	Arabic	'head'
	räš	Hebrew	
	tīšā	Aramaic	
	re's	Ethiopic	
	rēšu	Akkadian	

Medieval Arab grammarians classify the phonemes of Arabic according to their articulation, and Bakalla (1982) provides us with a master key to this heritage. However, their phonetic description focuses upon the points of articulation. Some of these works written between 700 - 1200 C.E. are:

- 1 - Sibawaih: ʔal-Kitāb
- 2 - Ibn Jinni: Sirr Sinācat ʔal-ʔiçrāb
- 3 - Al-Khalīl Bin Aḥmad Al-Farāhidi: Kitābʔal-Çayn
- 4 - Az-Zamakhshari: Mufasssal
- 5 - Al-Mubarrad: ʔal-Kāmil
- 6 - Ibn Sina: Risālah fi ʔasbāb Hudūθ ʔal-Hurūf

The following two categories present some of the distinguishing features that grammarians give to the four sounds under questions.

1. On the basis of the point of articulation.
 - "ðulaqiyyah", 'apical' or roughly 'liquids': /n/, /l/ and /r/
 - "šafawiyyah", 'labial': /m/
2. On the basis of the manner of articulation and distinctive features.
 - "bayniyyah", 'sonorants' (literally 'medial') : all four
 - "munxafiqah", 'non-emphatic' (low): all four (but mostly /l/, /r/)
 - "šahīḥah", 'consonantal' (true): all four
 - "munḥarifah", 'lateral' : /l/
 - "mukarrarah", 'trilled' : /r/
 - "ḡunnah", 'nasal' : /m/ and /n/
 - "xafīfah", 'lax' (light) : /m/, /n/, and /l/
 - "ḥaqīlah", 'tense' (heavy) : /r/
 - "majhūrah" 'voiced' : all four

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With reference to certain secondary features of articulation, some have commented on the four sounds as:

- "muraqqaqah", 'lightened' (bright, clear, light) : /m/ and /n/
- "mufaxxamah", 'thickened; emphatic' (dark, heavy) : /l/ and /r/

2. Articulatory Features

Before proceeding with further analysis, it may be appropriate to examine the nature of the production of these four sounds. To begin with, the four phonetic segments are presented in minimal pairs from the dialect of Rufaydah (henceforth D), a tribe in the southern region of Saudi Arabia:

Initially	/m/	māš	'not well'
	/n/	nāš	'(he) mentioned'
	/l/	lāš	'nothing'
	/r/	rāš	'he saw you (sg. fm.)'
Medially	/m/	šamç	'wax'
	/n/	šanç	'horrible'
	/l/	šalç	'tear, rip'
	/r/	šarç	'legislation'
Finally	/m/	šam	'north'
	/n/	šan	'(he) turned bad'
	/l/	šäl	'(he) picked up (s.th.)'
	/r/	šär	'(he) gave consultation, advice'

Minimal pairs were chosen from D over Modern Standard Arabic (MSA) and Classical Arabic (CA) because it has been postulated that "the L [D] phonology is the basic system and the divergent features of H [MSA and CA] phonology are either a subsystem or a parasystem" (Ferguson, 1959:335). Dialects often have sounds that do not occur in MSA such as /g/ ; and they often lack sounds that occur in MSA. This is especially true in cases such as using /z/ in D for /ð/ of MSA, as in Hijāzi and Egyptian dialects. In this regard, Ingham alludes to the non-occurrence of /θ/ and /ð/ in the Makkan dialect (Ingham, 1971). Therefore, speakers of that dialect say "laziz" for the MSA form "laðið" 'delicious, delectable'. Moreover, MSA and CA both have the four sonorant consonants in their phonetic systems.

Each of the four consonants is a well defined sound in the inventory of segmental phonemes in D as well as in the standard variety of Arabic.

By contrasting the four sonorants in the above list of minimal pairs, in terms of voice, place of articulation, and manner of articulation, the sounds can be identified as:

- /m/ a voiced bilabial nasal
- /n/ a voiced apico-alveolar nasal
- /l/ a voiced apico-alveolar lateral
- /r/ a voiced apico-alveolar trill

In the case of the two nasals, the mouth is closed at some point so the air is ejected through the nasal cavity with the soft palate lowered. The tip of the tongue (the apex) makes a trill of at least two taps with the pressure of air producing the Arabic /r/.

3. Binary Features

The phonetic classification matrix in (table 1) is built according to the theory developed by Chomsky and Halle (1968). The plus sign indicates that the sound in the vertical column has the feature in the horizontal row category (Al-Qaḥṭani, 1982:39).

Binary Features of Sonorant Consonants

	m	N	l	r
Consonantal	+	+	+	+
Sonorant	+	+	+	+
Anterior	+	+	+	+
Coronal	-	+	+	+
High	-	-	-	+
Continuant	+	+	-	-
Voice	+	+	+	+
Strident	-	-	-	-
Nasal	+	+	-	-

Table 1

An examination of the features in table 1 indicates that the four sounds share five common features as summarized in table 2 below.

Common Features of Sonorant Consonants

m	n	l	r
+ cons			
+ son			
+ ant			
+ voi			
- str			

Table 2

It even suffices to say that they form a natural class in the sense that they are the only

sounds in Arabic bearing the features

+ cons
+ sons

The sonorant sound, with resonance, produced with a configuration of the vocal tract cavity that allows spontaneous voicing. This resonant quality of the sonorant feature includes nasals, liquids, semivowels, and vowels. As can be inferred from the nature of these sounds, the feature of sonority is musical.

4. Variations of Sounds

The lateral /l/ and the trill /r/ are produced in two varieties or allophones for each. The two phones of /l/ are not contrastive, and the same holds for the two phones of /r/. In other words, this variation does not change meaning. Since each variant of /l/ is found in mutually exclusive environments, it can be demonstrated that they are in **complementary distribution**. The same applies for /r/. This is acceptable as long as there are no minimal pairs found in the language to demonstrate a separate phonemic status for the variants. The contexts for each variant are listed below. Examples are given from D.

4.1 The Lateral /l/

Arabic has **light**, 'bright', or 'clear' [l] "**muraqqaqah**", and **dark** or 'heavy' [l̥] "**mufaxxamah**". As far as the point of articulation is concerned, the light or clear [l] is interdental, whereas the dark [l̥] is alveolar. The light [l] is produced with the tongue tip or blade touching the alveolar ridge with the air escaping over the sides of

the tongue. The front of the tongue is relatively high and the back somewhat lowered. The dark variety is a velarized alveolar lateral; it is produced with a concave slope in the middle of the tongue. In American English, an approximation of the dark allophone occurs in "golf", "ball", "hulk", and "pull".

The two allophones occur not only in the standard variety of Arabic but in dialects as well. By regressive assimilation the light [l] becomes dark [l̥] before emphatic consonants and after short vowels as in rule [1] below. Emphatic consonants, "mufaxxamah" 'thickened', are /t̤/, /ð̤/, /d̤/, and /s̤/. They are the 'thick' forms of the 'lightened' "muraqqaqah", /t/, /ð/, /d/, and /s/ respectively.

$$[1] \left[\begin{array}{l} + \text{vocalic} \\ - \text{tense} \end{array} \right] \longrightarrow \left[\begin{array}{l} + \text{emphatic} \end{array} \right]$$

Examples are given in (1.1 - 9) from D.

- | | | | |
|-------|----|--------|--|
| (1.1) | t̤ | ǧaɫt̤ | 'he made a mistake' |
| 2) | | muɫt̤ | 'naked' |
| 3) | | qaɫaɫ | 'he came in (as a quest)' |
| 4) | ð̤ | ǧaɫð̤ | 'to become thick' |
| 5) | | ǧaɫið̤ | 'it thickened' |
| 6) | s̤ | qaɫs̤ | 'dragging along, trailing on the ground' |
| 7) | | maɫaʃ | 'slipped away, escaped' |
| 8) | ɖ | *qaɫɖ | |

Due to the lack of examples with /ɖ/ two hypothetical words [labelled with asterisks] are given in (1.8 & 9). In other instances, almost all speakers pronounce "?aɫɫah" 'God' with dark [l̥], while some pronounce "qaɫb" 'heart' with dark [l̥] as commonly used in the Gulf area.

4.2 The Trill /r/

In most occurrences of the /r/ sound in Arabic it is a trill, and in few others a flap. Unlike the rolled or flapped sounds of /r/ as in many languages, the Arabic /r/ is of a more trilling nature in most of its occurrences in dialects, MSA, and CA. The Spanish "pero" 'but' and "perro" 'dog' show the difference between the alveolar flap and alveolar

[8] - tense
- round

- | | | | |
|-------|------|-----------------------|---|
| | | C | # |
| (8.1) | qabr | 'grave' | |
| 2) | qidr | 'cooking pot' | |
| 3) | ħijr | 'lap' | |
| 4) | muhr | 'foal, colt' | |
| 5) | mahr | 'dower, bridal money' | |

8. And above all, when /r/ is geminated, the trilling becomes prominent with the articulator making lengthy trills. The examples in (9.1 & 2) are from the Hijāzi dialect, (9.3 & 4) from the Southern dialect of Saudi Arabia, and (9.5 & 4) in MSA.

- | | | |
|-------|----------|--|
| (9.1) | barrā | 'outside' |
| 2) | ?arrākib | 'the passenger' |
| 3) | barrād | 'tea pot' |
| 4) | xarrāt | '(adj.) not telling the truth' |
| 5) | farraṭ | 'to give up, abandon (s.th.)' |
| 6) | ?arrax | 'to date (a letter), write the history of (s.th.)' |

Because the structural description (SD), in the left side, and structural change (SC), in the right side, of the domain of the above seven rules are different, it was not possible to collapse all the rules into one.

However, rules [2] and [3] alone are collapsed in rule [9], and rules [4], [5], and [6] are collapsed in rule [10] below.

[9] $\left[\begin{array}{l} + \text{vocalic} \\ - \text{front} \end{array} \right]$

[10] $\left[\begin{array}{l} + \text{vocalic} \\ - \text{tense} \end{array} \right] \rightarrow \text{C}$

In the following three environments, however, /r/ tends to be of a flap nature /r/.

1- If it is followed by the short high vowel /i/.

$\left[\begin{array}{l} + \text{vocalic} \\ + \text{high} \end{array} \right]$

[11] - tense

- | | | |
|--------|-------|------------|
| (10.1) | marin | 'flexible' |
| 2) | rimθ | 'log raft' |

2- If it is preceded by the short high vowel /i/ and followed by a consonant.

[12] $\left[\begin{array}{l} + \text{vocalic} \\ + \text{high} \\ - \text{tense} \end{array} \right] \text{ — C}$

- | | | |
|--------|--------|--------------------------------------|
| (11.1) | mirzāb | 'water-spout, (roof) gutter' |
| 2) | mirtāh | '(he) be relaxed, under no pressure' |
| 3) | mirhād | 'path tub, wash basin' |

3- If it comes in final position or is followed by a consonant and preceded by a long high vowel (/i/ and /ü/).

[13] $\left[\begin{array}{l} + \text{vocalic} \\ + \text{high} \\ + \text{tense} \end{array} \right] \text{ — } \left\{ \begin{array}{l} \# \\ \text{C} \end{array} \right\}$

- | | | |
|--------|--------|--------------------|
| (12.1) | ħamīr | 'donkeys' |
| 2) | çayr | 'wild ass, onager' |
| 3) | çīr | 'caravan' |
| 4) | bīrhum | 'their well' |
| 5) | çaşfür | 'bird' |

5. Metathesis

The four sonorants undergo many sound changes in a number of phonological processes. Metathesis is chosen as an example of these phonological processes. This process refers to the alternation in the sequence of sounds within a word. It is generally known in Arabic as "**qalb**", or "**?iqlāb**", and precisely "**?al-qalb ?al-makāni**", changing places. This involves redistribution of consonants. In other words, it is a change of the linear order of segments by permutations of one type or another. Below, in

(13.1 - 5), two segments reverse positions. In (13.6 - 27) one of the sonorant consonants changes positions.

In certain cases, the metathesis is apparent only by reference to cognates in other languages. Abdu t-Tawwāb (1983:58) says that the Proto-Semitic form in (13.7) has similar cognates in Hebrew and Aramaic. Moreover, he (ibid) explains that the reconstructed form in (13.18) has the cognates from Hebrew 'bēreh', Aramaic 'burkā', and Ethiopic 'bērk'.

nl ~ ln

(13.1) banalti → balanti 'penalty'

l ~ n

- 2) finīlah → filīnah 'underwear "T shirt"'
- 3) fanāyil → falāyīn 'underwear "T shirts"'
- 4) laḥnah → naḥlah 'curse'

r ~ l

5) silindir → sirindil 'cylinder'

m

- 6) ?anīmya → ?amīnya 'anemia'
- 7) *ḥim → maḥ 'with'
- 8) ydassim → ydammis 'enrich (s.th.) with fat'

n

- 9) zanjabil → janzabil 'ginger'
- 10) tanaḥnah → taḥnaḥ 'to hem, say "ahem" ' II
- 11) naḥjah → ḥanjah 'female sheep, ewe' Syrian

l

- 12) taxallaḥ ~ talaxxabaḥ ~ taxallbaḥ 'to mix things up' V
- 13) xallaḥ ~ laxbaḥ ~ xalbaḥ II
 - 14) talawwā → ?altawā 'to twist (o.s.)' V → VII
 - 15) ?ahbal → ?ablah 'dim-witted, weak-minded'
 - 16) ?iltaḥaf → talaḥḥaf 'to wrap o.s. (in)' VII → V
 - 17) fahlawi → falhawi 'skillful; well-versed' Syria

r

- 18) *burkah → rukbah 'knee'
- 19) rāyid → dāyir 'wanting' Sudanese
- 20) ?arānib → ?anārib 'rabbits' Egyptian
- 21) kabrīt → karbīt 'box of matches'
- 22) xayzarān → xayrazān 'cane, reed; rattan'
- 23) narfaz → nafraz 'got nervous'
- 24) kahrab → karhab 'electricity'
- 25) ḥawāri → ḥawāyir 'quarters, parts(of a city)'
- 26) ḥaqrab → ḥarqab 'scorpion'
- 27) mizrāb → mirzāb 'spout'
- 28) ḥawāri → ḥawāyir 'districts' Hijāz
- 29) ḡurl → ruḡl 'foreskin, prepuce'

In CA, the two forms in each pair in (13.30 - 32) have closely related meanings.

30) ḥawl ḥalw 'high'

- 31) waql walq 'climbing, mounting'
- 32) laqw lawq 'treatment'

Metathesis not only takes place within words but extends over word boundary in a form of consonant transposition.

- 33) ḥūqbā li n-najāḥ → ḥūqbāl in-najāḥ; 'outcome is success!'
- 34) waylun li ?ummih → wayl ummah 'woe unto his mother!'

(13.33) is in MSA, while (13.34) is in D. The same thing took place in English (Abdu t-Tawwāb 1983:105) as in (13.35 & 36) with the suprasegmental phoneme 'open (plus) juncture' as part of the metathesis.

- 35) a napron → an apron
- 36) an ekename → a nick name

The same thing applies to the French "la licorne" 'unicorn' (H. Bell: personal communication), and the Arabic "?iskandariyyah" 'Alexandria'.

6. Acquisition of Sounds

In regard to the four sonorant consonants, children acquire sounds, at the early stages, then the sound system and phonological patterns of the language at later stages. These stages exhibit the following six phonological processes (6.1 - 6) in D.

6.1 Gliding

In the acquisition of sounds children tend to glide /r/ and /l/ to /y/ and /w/ during the early stages of acquisition as in (14.1 - 6).

- (14.1) r → y rabbi yabbi 'my God'
- 2) l → y ḥalīb ḥayīb 'milk'
 - 3) r → w kabrīt kabwīt 'box of matches'
 - 4) l → w walad wawad 'boy'

The same gliding occurs in English in (14.5 & 6).

- 5) r → w bread bwid
- 6) ring wing

6.2 Transposition

Once they acquire these sounds they start interchanging them as in (15.1 - 11).

- (15.1) n → l naml laml 'ant'
- 2) nḥāl ḥāl 'shoe'

- 3) māzin māzil 'Mazen(man's name)'
- 4) l → n tilifūn tinifūn 'telephone'
- 5) r → l sayyārah sayyālah 'car'
- 6) kawrah kawlah 'ball'
- 7) kabīr kabīl 'big'
- 8) marīd malīd 'sick'
- 9) daktūr daktūl 'doctor, physician'
- 10) nūr nūl 'light'
- 11) rabbi labbi 'my God'

Those in (15.1,2 & 4) are examples of **consonant harmony** such as that in (15.12).

- 12) dug → gug 'knock'

In the first stage of acquisition, /r/ was glided to /y/ in (14.1), then changed to /l/ in a later stage in (15.11).

6.3 Deletion

- (16.1) m → ∅ kambyūtar → kabyūtar 'computer'
- 2) n → ∅ yjannin → yjinna 'it dazzles'
- 3) manšafah → maššafah 'towel'
- 4) l → ∅ ḥulwah → ḥuwwah '(3PS) pretty'
- 5) jīb la nā → jībna 'bring for us'
- 6) r → ∅ ?irkab → ?ikkab 'ride, get on'
- 7) ʕašīr → ʕašī 'juice'

The change in (16.1) is perhaps a reduction of an unacceptable consonant cluster.

6.4 Metathesis

- (17.1) maknasah → mankasah 'sweeper'
- 2) laban → balan 'buttermilk'

6.5 Epenthesis

- (18.1) ∅ → n qul li → qūlli → qūlni 'say to me'

This change, (18.1), is probably on the analogy of forms like those in (18.2 - 4) below, where "-ni" is the first person singular object suffix.

- 2) šilni 'carry me, pick me up'
- 3) ʕaṭni 'give me'
- 4) ḥibbni 'kiss me, love me' (D, MSA)

This process is a form of neutralization.

6.6 Assimilation

In a later stage of acquisition, children move from addition and deletion of sounds to more

complicated sound change processes (e.g. assimilation). The change in (19.1 & 2) exemplifies this. That change continues to the adult language in the Hijāzi and Sudanese dialects.

- (19.1) ?al-jannah → ?ajjannah 'Paradise'
- 2) ?al-jāmiḩah → ?ajjamḩah 'the university'

The /j/ sound is the only **"šamsi"** 'sun' letter (+ coronal), before which /l/ of the definite article "?al-" does not assimilate. However, it does in (19.1 & 2) in some dialects and in the acquisition of Arabic by children. According to the pattern congruity criterion, speakers perhaps try to fill holes or vacancies in the sound patterns of Arabic by this change. This illustrates the principle of Martinet that sound systems change in the direction of regularity.

7. Frequency of Sounds

For the etymologies of Arabic verbs and other subsequent derivations, the author has relied on the following sources: Al-Ashbīlī (1979), Ibn Jinnī (1952), and Al-Mousa (1984).

The term 'etymology', in Arabic **"?al-?ištiqāq"**, is synonymous with 'derivation', the formation of a new word from an existing word, root or stem, by the addition of an affix (prefix, infix, or suffix) or by other means. In the West, 'etymology' is traditionally used for the study of origins and history of the form and meaning of words. In this study, it will be used with the Arabic connotation. This includes processes of lexical constructions, in Arabic **"?an-naḩt"**, such as 'blending' and 'coinage'.

The Arabic phrase says it all: "ziyādatu l-mabnā ziyādatun fī l-maḩnā". This is roughly rendered as 'structure extension is meaning extension'. In (20.1), repeating the syllable in the structure of (b) is employed to mean repeating the action of 'pulling'.

- (20.1a) jarr 'to drag, pull (s.th.)'
- b) jarjar 'to pull (s.th.) back and forth'

Many verbs, mostly infinitives, in the language form sets of minimal pairs with a difference in one sound. That sound is commonly one of the so-

called in Arabic "**ḥurūf ʿaḏ-ḏalāqah**", roughly 'liquids' (sonorants + bilabials), (/b/, /f/, /m/, /n/, /l/, and /r/). These sets (20.2 - 8) often share one common meaning. The verbs in (20.2) share the general meaning of 'companionship, friendliness'.

2) lasam lamas malas masal salam samal
Those in (20.3) also share the common meaning of 'hit'.

3) lamak lakam malak makal kamal kalam
The ones in (20.4) mean "deviation from a particular position".

4) jaraf jalaf janaf
The ones in (20.5) mean 'holding together'.

5) jabal jaban jabar
Similarly, the four sounds are added in the derivation process to bilateral verbs having one meaning in common to make trilateral verbs as in (20.6 - 8).

Initially, /n/, /l/, and /r/ are prefixed to give the same meaning as the root verb (20.6)

- | | |
|-----------------|------------------------------|
| 6) Ḍall & naḍul | 'to be low, base' |
| farr & nafar | 'to flee' |
| ṭall & naṭal | 'to bespray; squeeze out' |
| ḥall & naḥal | 'to tear down, overthrow' |
| šarr & našar | 'to spread out (s.th.)' |
| jarr & najar | 'to drag; hew' |
| habb & lahib | 'to start, rush; catch fire' |
| mass & lamas | 'to touch' |
| fatt & rafat | 'to break (s.th.)' |
| fadd & rafad | 'to support, aid (s.o.)' |

Medially, /l/ and /r/ are infixes to give the same meaning as the root verb (20.7).

- | | |
|-----------------|------------------------------------|
| 7) šaqq & šalaq | 'to split lengthwise (s.th.)' |
| faqq & faraḡ | 'to separate, divide (s.th.)' |
| qaṭṭ & qaraṭ | 'to cut (s.th.) into small pieces' |
| qaṣṣ & qaraṣ | 'to pinch, nip (s.th.)' |
| šaqq & šariq | 'to choke' |

Finally, /m/ and /l/ are suffixed to the root verb in (20.8) to give the same common meaning, 'cut'.

- | | | | | |
|---------|---|-------|---|---------------|
| 8) qaṭṭ | , | qaṭam | & | qaṭal |
| qaṣṣ | , | qaṣam | , | qaṣal & qaṣar |
| kass | , | kasam | & | kasar |
| jaḏḏ | , | jaḏam | & | jaḏar |
| jazz | , | jazam | , | jazal & jazar |

A quadrilateral and quintilateral verb must have at least one of the "**ḥurūf ʿaḏ-ḏalāqah**" in its composition or structure.

To make different meanings, different sounds are added in fixed positions to stems formed of /m/ and /r/ as in (20.9 - 11).

Initially, to "-aram" (for the general meaning 'cut'):

- | | | | |
|----------|-------|-------|-------|
| 9) ḥaram | jaram | ḥaram | xaram |
| šaram | šadam | čaram | ğaram |

Medially, to "ra-am" (for the general meaning 'cut'):

- | | | | |
|-----------|-------|-------|-------|
| 10) ratam | raḥam | rajam | radam |
| rasam | rašam | raḡam | raḏam |
| rağam | raqam | rakam | |

Finally, to "rama-" (with different meanings):

- | | | | |
|-----------|-------|-------|-------|
| 11) ramaḥ | ramid | ramaz | ramaš |
| ramaḡ | ramaq | ramal | |

The sounds that are added to words in the process of affixation are ten:

- three sonorant consonants: /m/, /n/, and /l/,
- four other consonants: /ʔ/, /t/, /s/, and /h/, and
- the three long vowels: /i/, /ü/, and /ä/.

In the process of conjugation and affixation of morphemes both derivational and inflectional /m/ and /n/ are very often used as in the following cases (20.12 & 13).

- | | |
|-----------|------------------------------|
| 12) katab | 'write' |
| naktub | '(1PP) imperfect indicative' |
| taktubāni | '(2PD) " " "' |
| yaktubna | '(3PPM) "' |

subjunctive'

istaktabtuma	'(2PD) perfective'
maktübun	'past participle'
maktab	'office'

- | | |
|----------|----------------|
| 13) kän | '(past) to be' |
| kuntum | '2PPM' |
| kuntunna | '2PPF' |
| kunnä | '1PP' |

In verbs forms:

- | | | |
|-----|-----|-----------|
| 14) | VII | ?inFaÇaL |
| | XIV | ?iFÇanLaL |
| | XV | ?iFÇanLä |

Moreover, it was found that most, if not all, particles in Arabic are formed with one or more of the sonorant or bilabial consonants. For limitations of space they will be listed without their meanings in English. The following in (20.15) are simple prepositions, adverbs and nouns.

15) min ʕan ʔilā li bi maʕa lada ʕala muḏḏ nahu ʕind qibāl qabl bayn dūn ʔamām quddām warāʔ xalf ḥawl

The letter "l-" is prefixed to words to give ten different meanings (e.g. reason, possession, exclamation, etc.). The definite article "ʔal" 'the' is an extremely frequent particle with a sonorant consonant.

Other particles, some of which co-occur with nouns and verbs, are such as those in (20.16).

16) ma ʔin man lammā lann ʔan ʔallā laisa lā ʔam hall ʔammā ʔalā lawmā lawlā hallā ʔallā ball ʔinnamā ʔillā ǧayr mā ʕadā mā xalā law lā siyyamā

In addition, /m/ is prefixed to some verbs (a) to derive names of instruments (b) in (20.17).

- | | | |
|------|--------|---------------|
| 17a) | fataḥ | 'to open' |
| b) | miftāḥ | 'key' |
| a) | nafax | 'to blow' |
| b) | minfāx | 'wind pump' |
| a) | naqaš | 'to extract' |
| b) | minqāš | 'chisel' |
| a) | qaraṭ | 'to cut' |
| b) | miqrāt | 'nail cutter' |

The object pronoun "-nā" 'us' is suffixed to verbs as in (20.18 & 19).

18) raʔatnā 'she saw us'

19) ʔastaqbalnā 'he received us, we received s.o.'

The suffix "-än" is added to nouns to make proper names as in (20.20).

20) ʕuḫmān - nuḫmān - salmān - ǧaḏbān - jimḫān - fihrān flayḫān

In order to make antonyms, sonorant consonants are used as in (20.21) in MSA.

21a) namaq 'to embellish, adorn (s.th.)'

b) lamaq 'to rub, erase (s.th.)'

Moreover, blending and coinage as processes of lexical constructions, include the four sounds as in (20.22) in CA.

22) šalid + šadam → šaldam 'lion; hard; tough'

8. Sonorant Clusters

There seems to be no restriction on the occurrence of certain combinations and clusters of sonorant consonants, along with vowels necessary to make up syllables, except for one case. In the structure of words of Arabic origin (i.e. infinitives of CA), the syllable /na/ followed by a cluster of /rC/ is hardly found in Arabic. Those in (21. 1 - 9) are loan-words.

- | | | |
|------------|----------|-------------------------------|
| 17.1) | Narjis | 'narcissus' |
| | Persian | |
| 2) | nawraj | 'threshing machine, thresher' |
| 3) | narjil | 'coconut oil' Persian |
| (Sanskrit) | | |
| 4) | narjilah | 'hookah' Persian |
| (Sanskrit) | | |
| 5) | narbij | 'mouth piece of a nargile' |
| 6) | nard | 'backgammon, tricktrack' |
| 7) | nardīn | 'nard, spikenard' |
| 8) | narfazah | 'nervousness' |
| 9) | naranj | 'bitter orange' Persian |
| (Sanskrit) | | |

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LIST OF SYMBOLS AND ABBREVIATIONS

The phonetic transcription system:

Arabic Consonants

Place of Articulation

Manner of Articulation		Place of Articulation								
		Bilabial	Labiodental	Interdental	Alveolar	Alveo-palatal	Velar	Uvular	Pharyngeal	Glottal
Stops	VL				t ṭ		k	q		ʔ
	VD	b			d Ḍ					
Fricatives	VL		f	θ	s ṣ	š		x	ħ	h
	VD			ʕ ʁ	z			ġ	ʕ	
Affricate						j				
Nasals		m			n					
Lateral					l					
Trill					r					
Semivowels		w				y				

VL : Voiceless VD : Voiced * : Emphatic

Arabic Vowels

		Front	Central	Back
High	Short	i		u
	Long	ī		ū
Low	Short		a	
	Long		ā	

*	Unacceptable, ungrammatical; historical reconstructed form, protoform
#	Word boundary
I-XV	Arabic verb forms, patterns (I-X, and XI-XV)
1PPM/F	First person, plural, male/female
2PDF	Second person, dual, female
3PSM	Third person, singular, male
± ant	Anterior
C	Consonant
CA	Classical Arabic
± cont	Continuat
± cons	Consonantal
D	Dialect
fm.	Female
H	High 'Standard' (Ferguson)
imp.	Imperative
L	Low 'Dialect' (Ferguson)
ml.	Male
MSA	Modern Standard Arabic
o.s.	Oneself
s.th.	Something
sg.	Singular
± son	Sonorant
± str	Strident
± voi	Voice