

INTERCHANGEABILITY AMONG ARABIC SONORANT CONSONANTS

Duleim Masoud Al-Qahtani(*)

This paper aims at studying the interchangeability among the Arabic /m/, /n/, /l/, and /r/ sounds. It presents copious data. The varieties of Arabic include dialects, MSA, and CA. The phonological process responsible for most changes is assimilation. Most changes are conditional or explained by some sound change processes like neutralization, dissimilation, analogy, haplology, and the phenomenon of gemination. Phonological rules of most sound changes are stated and then drawn in notation. The change is illustrated in all permutations and combinations among the four except from m to l, m to r, and r to m. The study is narrowly descriptive.

I. INTRODUCTION

The term interchangeability shall mean alternation, transposition or substitution of one sound for the other. The changes discussed in the present work will be restricted to the interchange among sonorant consonants; that is, those among /m/, /n/, /l/, and /r/. Alternation of non-sonorants to the four sounds or that of the four to the non-sonorants is beyond the limited scope of this paper. Changes will include the three varieties of Arabic when possible.

Interchangeability (i.e. transposition or alternation) here means changing A to B (e.g. n → m), where both A and B are distinct sounds in the language. This is different from changing C to D (e.g. θ → t), where C is in MSA and D is in dialects. It is also different from changing F to H (e.g. j → y), where F and H are both in the same dialect. The latter case is a phonological variation where F and H are said to be allophones of F (i.e. j) as in the Bahraini dialect (Holes, 1980).

(*) Jubail Industrial College, Saudi Arabia

1.1 Language Variety

The author recognizes three categories of Arabic (Al-Qaḥṭānī, 1988:7). The three are Classical Arabic (henceforth CA), Modern Standard Arabic (MSA), and dialects (D). He is a native speaker of the Rufaydah dialect in Qaḥṭān. The dialect of this tribe (Rufaydah) will be the departure point to include the areas of Shahrān, Qaḥṭān, Ḥasir, Jizān, and Tuḥāmāh, all in the southern region of Saudi Arabia. Examples of change will include dialects first, then MSA, and finally CA. This order may be disrupted when first changes within word boundary are discussed from the three categories, and then those across word boundary.

Arabic dialects include Bahraini, Egyptian, Iraqi, Gulf dialects in general, Lebanese, Saudi dialects, Sudanese, Syrian, and Yemeni. Saudi dialects include Hijāzi, Najdi, dialects of the Eastern Province, Ḥasiri, and mostly that of Rufaydah. The examples from the Yemeni dialect, in particular, are taken from Sharafu d-Dīn (1984). Other sources of a few examples from different dialects are Abdu t-Tawwāb (1983) and (1988). Some of those on CA are from Al-Ashbīlī (1979), Ibn Jinnī (1952), Al-Mousa (1984), Shāhīn (1985), and above all, from the script of the Holy Qurʾān. Dictionaries that were useful in checking

meanings are Al-Rāzi (1992), (Arabic-Arabic), and Wehr (1974), (Arabic-English). If reference is made to a change as taking place in "D", then it will mean the dialect of Rufaydah, that of the author, in its broad sense. In cases where the variety of language is not specified, it will be MSA, the standard (common) variety for all Arab countries.

1.2 Phonological Processes

The phonological processes that describe, or are found to be responsible for most of the sound changes in the present work are: transposition, analogy, epenthesis, deletion, metathesis, gliding, neutralization, haplology, assimilation, dissimilation, consonant and syllable harmony, apocope, and syncope.

However, it appears that there is some interference between most of these processes whenever a term is chosen over the other in the discussion. Interference is of two degrees:

1. Minor: when two processes are similar or have the same effect. In certain cases, 'haplology' does the same thing as 'dissimilation'. Moreover, 'neutralization' is a form of 'analogy'. Similarly, 'consonant harmony' is a non-contiguous regressive consonant 'assimilation'. Not to mention that 'deletion' is another term for 'elision', and 'epenthesis' for 'insertion'. Here, the distinction is

merely a matter of difference in terminology.

2. Major: when two distinct processes describe the same sound change. One example is when the 'transposition' of a sound is caused by 'assimilation'. Another example is that 'deletion' of a sound could take the form of 'syncope' or 'apocope' depending on the position of that deleted sound. The phenomenon of assimilation which is intrinsic to the nasal class is fairly widely observed as universal in language.

Interference led to the classification of all the phonological processes involved into the following two classes:

A. Form Processes: those which only describe or label the 'form' or nature of change. It answers the question 'what is the change?'. The form processes are transposition, epenthesis, metathesis, deletion, gliding, syncope, and apocope.

B. Function Processes: those which describe the 'cause' or influence of change. The cause is somehow, and in most cases, attributed to the influence of another contiguous sound or other contiguous sounds. It answers the question 'why did the change occur?'. The function processes are assimilation, dissimilation, haplology,

consonant harmony, neutralization, and analogy.

One way to avoid this interference is by classifying all the changes of the sounds in question under the four major form processes:

1. Transposition. (The subject of this paper)
2. Epenthesis. (Part I in a forthcoming paper)
3. Deletion (Part II " " " ")
4. Metathesis. (In a previous paper)

All the other phonological processes will be subsumed under those four whenever they are needed to describe a change.

II. INTERCHANGEABILITY

When one sound is used in place of another, or assimilated to another by the influence of a neighboring sound progressively or regressively, the process is known as **transposition**. This is known in Arabic as **"?ibdāl"** 'changing one to another'. At this point, it may be necessary to allude to one possible analysis of the assimilation of a sound to another, in a way that the first sound is lost and the next is geminated. Two processes are involved, namely transposition and deletion. However, for our purpose here, this process is treated as a minor phase of transposition.

2.1 $m \rightarrow n$

Our knowledge of Arabic sound changes in general and interchangeability of sonorant

consonants in particular is as old as our knowledge of Semitic languages can go. Abdu t-Tawwāb (1985:227) says that the Arabic "ʔin" 'if' corresponds to the Hebrew "im", the Ethiopic "ema", and the Akkadian "šumma".

Here, the change may be regular or conditional (i.e. directly explained by way of some phonological rules) or sporadic (i.e. justified by a phonological process [e.g. analogy] that does not necessarily require immediate and clear cut conditions). The difference between the two is that regular change takes place everywhere in the same environment whereas sporadic does not.

This change of $m \rightarrow n$ is from the written to the spoken form of the language. That is, the written /m/ is pronounced /n/ in certain environments. To distinguish between this class of change and the one in $n \rightarrow m$, (2.2) below, it should be noticed that the base or original form is the written, while the output is the spoken form. Therefore, some base forms have /m/, others have /n/ which both undergo the same change to the opposite (e.g. before /b/).

By examining these examples:

(Written) (Spoken)

(1.1) lambah → lanbah 'lamp'

2) turumbah → turunbah 'pump; rubber washer'

3) țarambıl → țaranbıl 'plastic, rubber'

4) jambari → janbari 'shrimp (from the Italian "gambero")'

5) zambıl → zanbıl 'basket made of palm leaves'

6) jaunbāz → junbāz 'gymnastics'

7) jāmbw 'jumbo'

8) šambu → šanbu 'shampoo'

it seems that the change takes place in one particular environment. That is, /m/ dissimilates to /n/ after a short lax non-rounded vowel before /b/. This is a case of dissimilation in the sense that a bilabial (m), with the influence of another bilabial (b), changes to an alveolar (n).

$$[1] \quad m \rightarrow n \quad / \quad \left\{ \begin{array}{l} + \text{vocalic} \\ - \text{tense} \\ - \text{round} \end{array} \right\} \quad \text{---} \quad b$$

We may add that all the above examples are loan-words.

In (1.9 & 10):

9) mumtāz → muntāz 'excellent'

10) mumkin → munkin 'possible'

/m/ changes to /n/ after /mu-/ and before voiceless stops (/t-/ and /k-/). The same change with velarization took place when (1.10) was borrowed from Arabic to Indonesian with the same meaning as in (1.11).

11) mumkin → muġin

+ vocalic - tense + round	t k + cons - voice - cont - emphatic - glottal - tense
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[2] m → n / m

The vowel condition in (1.1-11) does not seem to be a significant part of the environment. However, other changes (1.13-17) do not seem to be popular among speakers of the language. (1.13) exists in some Egyptian dialects. Example (1.12) shows the change in the Lebanese and Jizāni dialects.

12) ktābkum → ktābkun 'your (2PP) book'

13) māsuwrah → nāṣuwrah 'pipe'

14) mutazammit → muzzannit 'narrow-minded'

15) ʾumāmāh → ʾumānāh 'a name of an area in Riyadh'

16) ʾaramku → rānku 'Aramco (name of a firm)'

17) jīm → jīn 'the Arabic letter, "jīm"'

The change in (1.17) takes place only when the phrase "sīn jīm" is used. These two letters are the initials of the Arabic two words "suʾāl & jawāb" 'question & answer' respectively. In this case, the change of /m/ to /n/ in "jīm" is probably on the analogy of /n/ at the end of "sīn". Analogy in Arabic is "qiyās". This is also a form of **neutralization**, when two phonological units lose their contrast.

In CA, it is not known for certain which, in each pair in (1.18 & 19), is the original.

18) dahmaj → dahnaj 'to hurry steps (camel)'

19) sirhān → sirhām 'wolf'

The same, (1.20), is in D and MSA.

20) samkari → sankari 'tinsmith'

21) ʿimād → ʿind 'at; with'

The word "ʿind" in (1.21) has come from the Hebrew "ʿimmādī" 'with me' (Bergsträsser 1929:32). The change in (1.22) below is morphologically conditioned. In the process of deriving the plural from the singular, 'sample' on the pattern "maFäÇil", /m/ was changed to /n/ (1.23) is in the dialect of Şaṣīd in Egypt.

22) sanābil ← '(pl. of) sample'

23) fāṭmah → fāṭnah "Faṭimah", a woman's name'

2.2 n → m

This class of change only takes place in the spoken form of the language. The change occurs within word boundary and across words in the flow of speech. The following is within words. Words with no change are given only to help indentify environments of change.

(2.1) sunbulla → sumbulah '(sg.) ear, spike (of grain)'

2) sanābil → '(pl.) ears, spikes'

3) qanābil → 'bombs'

4) qunbulah → qumbulah 'bomb' Turkish

- 5) ḥanbal → ḥambal 'cotton rug; man's name'
- 6) qanbar → qambar 'name of a person or place'
- 7) zanbūr → zambūr 'hornet'
- 8) zanbarak → zambarak 'spiral spring'
- 9) ṣanbar → ṣambar 'ward; man's name'
- 10) šanbar → šambar 'chamber' English
- 11) ḏanb → ḏamb 'sin, misdeed'
- 12) ḏanab 'tail, end'
- 13) minbar → mimbar 'pulpit, platform'
Ethiopic
- 14) janbiyyah → jambiyyah 'dagger'
- 15) janābi 'daggers'
- 16) janb → jamb 'side'
- 17) naba? 'piece of news'
- 18) ?anbā? → ?ambā? 'news'
- 19) nabt 'plant, germination'
- 20) sanbūsik → sambūsah 'triangular
meat pie with a wavy bread crust'
- 21) sanābik 'hoofs, awls; skiff boats'
- 22) sanbūk → sambūk 'hoof, awl; skiff boat'
- 23) ṣinab 'grape(s)'
- 24) ?annab 'to blame, upbraid (s.o.)'
- 25) ?anbiyā? → ?ambiyā? 'prophets'
- 26) nibrās 'lamp, light; model'
- 27) ṣanbasah → ṣambasah 'lion' Ethiopic
- 28) ?unbüb → ?umbüb 'pipe'
- 29) ?anbāši → ?ambāši 'corporal (a military
rank)' Turkish
- 30) ?anbār → ?ambār 'warehouse,
storehouse'
- 31) yanbaḡi → yambaḡi 'it is proper'
- 32) ?unabbi?uk → ?umbi?uk 'I inform,
notify you'
- 33) tunbāk → tumbāk 'tobacco' Persian

- 34) tanbal → tambal 'lazy' Turkish
- 35) ?anbāt → ?ambāt 'the Nabateans'
- 36) ?anba → ?amba 'title in the Coptic Church'
- 37) trunbit → trumbit 'drum, bass drum'

In words where the transposition does not take place, the change is blocked because the sequence of sounds, under question, does not meet the condition. The changed form of (2.37) is known in the written Syrian dialect.

Here, it is easy to justify the change as regressive assimilation of /n/ to /m/ before /b/. The /b/ sound may either be in final position or followed by a vowel.

$$[3] \quad n \rightarrow m / \left(\begin{array}{c} + \text{vocalic} \\ - \text{tense} \end{array} \right) \text{ — } b \left\{ \begin{array}{c} V \\ \# \end{array} \right\}$$

It seems that this change, described in [3], is universal across many languages as a way of simplifying the pronunciation. It occurs in English, whether the bilabial stop is voiced or voiceless, as in (2.38 - 44). Again, the vowel condition may not be necessary for the change.

- 38) in + possible → impossible
- 39) in + proper → improper
- 40) in + balance → imbalance
- 41) in + formal → informal
- 42) con + fort → comfort
- 43) con + pel → compel
- 44) con + bine → combine

Even in French, rule [3] applies. The Arabic "ṭanbūr" 'a long-necked, stringed instrument resembling the mandolin' was gallicised to 'ṭambūr'. It also takes place across a word boundary in colloquial English as in (2.45 & 46) below.

45) ten bikes → tem bikes

46) ten mice → tem mice

However, in (2.47 - 58) the environment of change is different.

47) qurunful → qurumful

'carnation; clove' Hindi

48) minfāx → mimfāx 'air pump'

49) xanfar → xamfar 'to snuffle, snort'

50) xunfus → xumfus 'dung beetle, scrub'

51) sanfūr → samfūr 'name of a cartoon character'

52) ɕunf → ɕumf 'violence; harshness'

53) qunfuð → qumfuð 'hedgehog'

54) ?infāq → ?imfāq 'spending'

55) ɣaɖanfar → ɣaɖamfar 'lion'

56) yanfuð → yamfuð '(he) goes, passes'

57) munfatih → mumfatih 'open-minded'

58) kunfidrāliyyah → kumfudrāliyyah
'confederation'

The /n/ sound changes to /m/ after a short vowel and before /f/. The /f/ sound is either in final position or followed by a vowel.

$$[4] \quad n \rightarrow m / \left[\begin{array}{c} + \text{vocalic} \\ - \text{tense} \end{array} \right] f \left\{ \begin{array}{c} V \\ \# \end{array} \right\}$$

The above two rules, [3] and [4], can then be collapsed into one, [5]

$$[5] \quad n \rightarrow m / \left[\begin{array}{c} + \text{vocalic} \\ - \text{tense} \end{array} \right] \left[\begin{array}{c} b \ f \\ + \text{ant} \\ - \text{cor} \\ - \text{con} \end{array} \right] \left\{ \begin{array}{c} V \\ \# \end{array} \right\}$$

The /n/ sound also changes when verbs are changed from form I, "FaḌaL" 'to do ...', (a), to form VII, "?inFaḌaL" 'to be...', (b), as in (2.59- 64). The change from (a) to (b) is a change from action to process verbs.

MSA (written) MSA (spoken)

59a) baram 'to twist'

b) ?anbaram → ?ambaram 'to be twisted'

60a) baṭaḥ 'to lay (s.th.)'

b) ?anbaṭaḥ → ?ambaṭaḥ 'to stretch out, lie'

61a) balaḥ 'to swallow'

b) ?anbalaḥ → ?ambala 'was swallowed, gulped down'

62a) bahar 'to dazzle (s.o.)'

b) ?anbahar → ?ambahar
'to be over-whelmed, dazzled'

63a) faraṭ 'to strip off'

b) ?anfaraṭ → ?amfaraṭ
'to be stripped off from (s.th.)'

64a) fataḥ 'to open'

b) ?anfataḥ → ?amfataḥ 'it opened'

In (2.65 - 71) change extends over word boundary.

65) min badri → mim badri 'at (from)
an early time'

66) min baçd → mim baçd 'after (that)'

67) min bayn → mim bayn
'from, among, between..'

68) min fummik → mim fummik
'from your (2PSM) mouth'

69) min fahad → mim fahad
'from Fahad'

70) min fahad → mim fahad
'which Fahad?'

71) bi man fih → bi mam fih
'with everybody in it'

In (2.70), the suprasegmental phoneme, pitch, may be behind blocking the change.

The change also occurs in reading or speaking with "ḥarakāt" or "taškīl" (i.e. syllabification vowels), and "tanwīn", adding /n/, phonetically but not orthographically, to the end of words (i.e. case endings, or nunnation). In the recitation of the Holy Qurʾān readers say:

72) ḥalīmūn bi → ḥalīmum bi ḍāt iṣṣudūr
(S.LXVII.13)

'(He certainly) has knowledge of the secrets of (all) hearts'

73) naṣfaḥan bi → la naṣfaḥam bi
nnāṣīyah (S.XCVI.15)

'He will drag (him) by the forelock'

74) sāʾilun bi → saʾala sāʾilum bi ḥaḍābin

wāqīḥ (S.LXX.1)

'a questioner asked about a Penalty to befall'

However,, those in (2.75 - 77) do not seem to follow a certain rule. In fact, one single word may witness many sound changes. In (2.77), two sound changes, namely $n \rightarrow m$ and $n \rightarrow r$, may produce three different forms.

75) ṣaṇṭah → ṣamṭah 'suitcase' Turkish

76) bistin → bistim 'piston' English

77) banzīn → banzīm 'gasoline'

barzīm

barzīn

78) naqāniq → maqāniq 'hot dog'

79) ṣaṭarṭūn → ṣaṭarṭūm 'masking tape'

The change in the last four (2.76 - 79) is either initial or final, while in the first, (2.75), /n/ acts like a syllabic peak. Sonorant sounds are musical with resonance in their production. "In most cases, a vowel serves as the peak of a syllable, but it is also possible for sonorant consonants to be syllabic peaks.. Syllabic consonants occur in certain unstressed syllables in English" (Wolfram & Johnson, 1982:36) as in (2.80 - 84).

80) mountain → māwnʾn

81) seven → šivmʾ

82) robin → rábm

83) button → báʾn

84) table → táybl

The change in (2.77 & 78) is a case of dissimilation. **Dissimilation** is the process in which segments change to become less like the neighboring segments. It is known in Arabic as "**?at-taxäluf**". It is generally less common than assimilation "**?at-tamäöul**" in Arabic. Abdu t-Tawwäb (1983:40) conveys expressions used by early Arabic grammarians to describe this phonological process as "**karähiyyat ?at-taqçif**", "**?ijtimäç ?al-?amöäl makrüh**", "**karähiyyat ?ijtimäç harfayn min jinsin wähid**", and "**?istiöqäl ?ijtimäç ?al-miölayn**". All amount to one thing; that is, 'avoiding producing two identical/similar sounds in adjacent positions [translation is the author's]. Not only similar sounds but also syllables. In MSA, "**?adis ?ababa**" 'Addis Ababa', the capital of Ehtiopia, is changed to "**?abäba**". Not to ignore the primary stress on the first syllable of 'Ababa', length was added in Arabic to the first syllable as a way of dissimilation. This is also possible in some dialects of English. Dissimilation also occurs over the word boundary as in "**?ilä ?an**" → "**layn**" 'till' in D. Also in "**?al laöi maçah**" → "**illi maçah**" 'that (is) with him'. The latter example also involves elision.

Assimilation of /n/ to /m/ also takes place over word boundary. In family names where "bin" 'son of' comes before names starting with

/m/ , n/ assimilates to /m/ as in (2.85 & 86). The same occurs in compounds as in (2.87 - 92) below.

- 85) bin muḥammad → bim muḥammad
- 86) bin muṣṭafa → bim muṣṭafa
- 87) çan man → çamman 'from whom?'
- 88) çan mā → çammā 'about what..'
- 89) man maçah → mam maçah 'who is with him'
- 90) ?in minkum → ?im minkum 'that some of you'
- 91) ?ayyin min → ?ayyim min
'whoever it may be'
- 92) min maöäqah → mim maöäqah
'from its taste'
- 93) ?anbayr ~ ? ambayr 'indicator, needle'
- 94) ?iṣṭanbül ~ ? iṣṭambül 'Istanbul'

2.3 n → l

This group of examples, (3.1 - 7), displays the change within the word boundary. The first one, (3.1), is in initial position, the second, (3.2), in medial, and the last five (3.3 - 7), in final position.

- (3.1) naṣunäl → laṣunäl 'a brand name "National"'
- 2) çinwän → çilwän 'address'
- 3) finjän → finjäl 'cup'
- 4) bän → bäl 'ben (eucalyptus) tree'
- 5) jarkan → jarkal 'jerrican (gerry can)'
- 6) xawwänun kafür → xawwäl 'unreliable, disloyal'
- 7) riç il ḥjün → ḥjül 'name of a place in Makkah'

The change in (3.1 - 3) is a clear case of dissimilation. The change in (3.2) is also true of Sudanese dialect found around the Khartoum area especially among uneducated speakers. The change in (3.6 & 7) can best be realized in context. The two words bearing the change are hardly used in isolation. The context in (3.6) is a phrase in the Holy Qurʾān (S.XXII.38). That change takes place only when it is recited by some illiterate in prayers.

The change across morpheme boundary occurs when changing the verb from form I, (a), to form VII, (b), as in (3.8 - 12).

8a) labaθ 'to hesitate'

b) ?anlabaθ → ?allabaθ 'to be hesitant, linger'

9a) labas 'to put on (s.th.)'

b) ?anlabas → ?allabas 'was put on, worn'

10 a) ladağ 'to sting'

b) ?anladağ → ?alladağ 'was stung, bitten (by snake)'

11a) lazaq 'to adhere'

b) ?anlazaq → ?allazaq 'was adhered, pasted on'

12a) labad 'to stick, adhere'

b) ?inlibid → ?illibid '(imp. 2PSM) stick together'

Here, /n/ assimilates to the neighboring sound, /l/, which thus becomes geminated.

13) min ladunnā → mil ladunnā
'from, on our part'

14) min ladunk → mil ladunk ' " " your " '

15) yakun lahu → yakul lahu 'he is capable of'

$$[6] \quad n \rightarrow l \quad / \quad \left[\begin{array}{c} + \text{vocalic} \\ - \text{tense} \end{array} \right] \quad \text{---} \quad l \quad \left[\begin{array}{c} + \text{vocalic} \\ - \text{tense} \end{array} \right]$$

It is clear that assimilation of the type found in rule [7] below results in contiguous identical consonants, which is well-known as **gemination**, in Arabic "tašdīd". While gemination usually occurs in more casual and rapid styles in English, with no difference in meaning, it is phonemic in Arabic. It is contrastive and has a semantic effect in the sense that it makes a difference in meaning. It occurs only in medial and final positions. Gemination that is a result of sound change, as discussed earlier, is not phonemic. In other words, it results in no change in meaning.

$$[7] \quad x \rightarrow C i \quad / \quad \text{---} \quad C i$$

In Arabic, gemination involves no break between the two consonantal lengths, but only one continuous stretch that is homogeneous and uninterrupted. English has gemination only between words as in (3.16).

16) sell legs vs sell eggs

Gemination in Arabic occurs within words and, as in many other languages, has semantic effect as in (3.17 - 19).

17a) ḥadaθ 'event'

b) ḥaddaθ '(he) talked to (s.o.)'

18a) xalal 'imbalance, fault, shortcoming'

b) xallal '(he) added vinegar to (s.th.)'

19a) ʕan 'for; via; on the authority of'

b) ʕann 'to take shape, arise, appear'

In the derivation of form II, "FaÇÇal", from form I, "FaÇal", the second (middle) radical consonant is always geminated (doubled) to give the general meaning of 'repetition' of the action. It also gives the impression that the subject makes the object do or be something. Another rule of thumb, is that in all the derivations of pattern V, "taFaÇÇal", a reflexive of pattern II (ta + II), the prefix /ta-/ is added and the third consonant (second radical) is always geminated (doubled) to indicate the relative length of action. It also implies that the doer of the action is the agent and the object at the same time. In other words, the verb has to do with oneself; that is, the subject does the action to himself; the action is reflected on the subject physically or mentally. The subject takes a certain form of being.

Gemination, however, is different from the examples in (3.20 - 29 & 36) below, where there is a delay in the production of the two identical sounds appearing in adjacent positions. Producing the two resembles producing one except for the added considerable length. In fact, the articulator touches the point of articulation to produce the first in a first step then departs from there in a second step to produce the second. The two steps are continuant in one process. Those in (3.30 - 35) are clear cases of gemination. (3.32) is in D. (3.34) is in D while the CA form is "mullah".

- 20) m muqaddam muxābarāt 'lieutenant colonel (intelligence)
 21) qā'im maqām 'filling the space of..
 22) qā'imqām 'administrative officer at the head of a district
 23) qām mim makānah ← min 'he stood up from his place
 24) qāmim makānah (adj.) he swept his place
 25) n lan nu?min 'we will not believe
 26) kitāban naqra?uh 'a book we read
 27) çayn najm 'the well or spring of Najm
 28) l çill lah '(imp.) repeat for him
 29) jil liçb 'playful generation
 30) çillah 'disease; reason
 31) qallah ← qāl lah 'he said to him
 32) qallah 'a tiny bit
 33) mallah ← man lah 'who is for him?
 34) mallah 'bread baked in hot ashes
 35) mallah '(imp. 2PSM) dictate to him
 36) r ?amir rafḥā 'governor of Rafḥā

The change of regressive assimilation occurs in English in the same environment.

- 37) in + legal → illegal
 38) in + literate → illiterate

In CA it is not known for sure which, in each pair in (3.39 - 41), is the original.

- 39) ṭabarzan ~ ṭabarzal 'white hard sugar' Persian
 40) hatan ~ hatal 'to rain heavily'
 41) xāmin ~ xāmil 'weak, languid (man)'

In colloquial English, /n/ is sometimes changed to /l/ as in (3.42).

- 42) chimney → chimley 'and sometimes even 'chimbley'

2.4 n → r

Abdu t-Tawwāb (1987:60) points out that some lately discovered inscriptions show that the Aramaic language used "bir" to mean the Arabic "ʔibn" 'son (of)' which lately has another variant "bin" 'son of'.

Within word boundary, /n/ is changed to /r/ as in (4.1 - 3).

- (4.1) mihnāh → mihrah 'profession'
 2) nxāmāh → rxāmāh 'mucus, sputum'
 3) banzīn → barzīn 'gasoline'

The change in (4.1 & 2) is a form of dissimilation; that is changing one of the neighboring nasals to a different segment. The same word in (4.3) undergoes another change of n → m in (2.77). While no more than one consonant is permissible in initial position in CA, dialects violate this rule of consonant clustering as in (4.2).

In the process of affixation, /n/ assimilates to the following /r/ when form I of the verb, (a), is changed to form VII, (b), as in (4.4 - 7).

- 4a) rabaṭ 'to tie'
 b) ʔanrabaṭ → ʔarrabaṭ 'was tied, fastened (to)'
 5a) radd 'to return (s.th.) back'
 b) ʔanradd → ʔarradd 'was sent back'
 6a) raqaṣ 'to patch'
 b) ʔanraqaṣ → ʔarraqaṣ 'was patched (a garment)'
 7a) rakaz 'to set up (s.th.)'

b) ʔanrakaz → ʔarrakaz 'was set up'

8) labankum 'your buttermilk (ml.)'

9) labanatkum 'your buttermilk (fm.)'

10) laban rā ʔib → labarr ʔib 'curdled buttermilk'

11) laban raxiṣ → 'inexpensive buttermilk'

12) ʔil-laban raxiṣ → ʔillabar raxiṣ

'the buttermilk is inexpensive' D

13) binrūḥ~ birrūḥ 'we will go'

14) bin rāyid → birrāyid 'son of Rāyid'

This is also observed in Sudanese dialect;

e.g. (4.15 & 16).

15) ʔinrafaṣ ṣawtu → ʔirrafaṣ '(if) he raised his voice'

16) mirrāṣu wallā min karrāsu

'from his head or his book'

[8] n → r / V _____ r V

It also drops with other sounds along the way as in (4.17).

17) min ʔal rās → mirrās 'from the head'

[9] n → r / $\left(\begin{array}{c} + \text{vocalic} \\ - \text{tense} \end{array} \right) \# \left(\begin{array}{c} r \\ + \text{cons} \\ + \text{son} \\ - \text{nasal} \end{array} \right) \left(\begin{array}{c} + \text{vocalic} \\ - \text{tense} \end{array} \right)$

The same change takes place in English as in (4.18 & 19).

18) in + regular → irregular

19) in + responsible → irresponsible

2.5 l → m

In the area of Tuhāmah, /l/ of the definite article "ʔal" 'the' is changed to /m/ in (5.1 - 3). This change dates back to the time of the Prophet Moḥammad (pbuh) as it appeared in one of his sayings. The change in (5.3) is popular in some recent Arabic dialects. Abdu t-Tawwāb (1987:128) mentions that the change of "ʔal" to "ʔam" is a process called in Arabic "ʔaṭ-ṭamṭamāniyyah" ascribed to the Arabic tribes Ṭayʔ, ʔazd, and Ḥimyar in the south of the Arabian Peninsula.

- (5.1) ʔal-ṣiyām → ʔumṣiyām 'the fasting'
 2) ʔal-safar → ʔumsafar 'the travel'
 3) ʔal-bāriḥ → ʔim-bāriḥ 'yesterday'

2.6 l → n

Most of the cases of this change occur in final position. (6.2) is popular in the south of S.A. and Palestine.

- (6.1) zirfāl → zirfān
 'small ring; door lock' Persian
 2) burtuqāl → burtukān 'oranges'

The following examples (6.3 - 5) are proper names in D, and common in the Sudanese among uneducated speakers.

- 3) jibrīl → jibrīn
 4) ʔismāḥīl → ʔismāḥīn
 5) ʕuzrāʔīl → ʕuzrāʔīn

Even in CA names would undergo the same change (6.6 - 9).

- 6) ʔisrāʔīl → ʔisrāʔīn
 7) mikāʔīl → mikāʔīn
 8) ʔisrāʔīl → ʔisrāʔīn
 9) šurāḥīl → šurāḥīn

The change also occurs in loan-words (6.10 - 19).

- 10) rayl → rayn 'rail'
 11) ʔinjīl → ʔinjīn 'gospel' Greek
 12) dīzal → dayzan 'diesel' German
 13) qawl → qawn 'goal, score' English
 14) sintrāl → sintrān 'operator, central' English
 15) narjīl → narjīn 'coconut oil'
 16) narjīlah → narjīnah 'hookah'
 17) mawwāl → mawwān 'waving of tone
 in songs, a poem (often colloq. lang.)'
 18) kāhil → kāhin
 'upper part of the back; withers'
 19) darbīl → darbīn 'binoculars'

In positions other than final (6.20 - 26) occur. (6.26) occurs in the dialect of Jordan, Palestine, and Syria.

- 20) salsabīl → sansabīl 'name of a spring in
 Paradise' Persian
 21) xanšlaylah → xanšlaynah
 'name of an area in Riyadh'
 22) luḡūb → nuḡūb 'great
 pains, trouble'
 23) tasalqaṭ → tasanqaṭ 'take an angle to
 look at...'
 24) ḥalak → ḥanak 'total blackness (crow)'
 25) ḥaṭalat ~ hatanat 'to rain heavily'
 26a) milḥ 'salt'
 b) malīḥ → mliḥ → mniḥ 'nice, pleasant'

The word in (6.10) is a name of a street in Riyadh close to the railway station. The change in (6.20 & 21) is a form of dissimilation; that is, changing one of the two /l/ sounds present in the word to a different segment.

The change of /l/ to /n/ does not take place everywhere in the same environment. Therefore, no general rule can be given.

Across morpheme boundary, /l/ is assimilated to the neighboring /n/ so the latter, after the elision of /a/, is geminated as in (6.27 & 28).

27) jāb aw la nā → jābawnnā

(lit.) brought they to (for) us 'they brought... for us'

28) hāt i la nā → hātinna

bring you for us '(imp. 2PSF) bring for us'

[10] $l \rightarrow n / \left[\begin{array}{c} + \text{ vocalic} \\ - \text{ cons} \end{array} \right] \text{ } ______ n \left(\begin{array}{c} + \text{ tense} \end{array} \right)$

In Jordanian Arabic, the change in (6.29) takes place.

29) lanā → ?ilnā → ?innā 'for us'

30) ?al šalāh → ?in šalāh 'the prayer'

31) ?al θawr → ?in θawr 'the bull, steer; ox'

32) ?al sayyārah → ?in sayyārah 'the car'

The changes in (6.30 - 32) take place in the tribes of Saḥār in Yemen, where the "?al" is changed to "?in". Also (6.33) has come from

the Aramaic "šalmā" and the Hebrew "sélém" (Bergsträsser 1929:38). Moreover, in (6.34) /l/ has changed to /n/ (ibid.)

33) šalam → šanam 'idol, image'

33a) šallahat 'bowl; plate; yard; food' Hebrew

b) šalāhā ~ šahnā Aramaic

c) šahl Ethiopic

d) šahn Arabic

2.7 l → r

Three examples (7.1 - 3) were found of this sort of change within word boundary.

(7.1) bakīl → bakīr 'name of a tribe in Yemen'

2) ṣaqūl → ṣaqūr
'name of a movie character'

3) kartayl → kartayr 'curtail'

Across word boundary, /l/ is assimilated to /r/ regressively when a bound or free morpheme ending in /l/ precedes a free morpheme beginning with /r/ as in (7.4 - 14). (7.15) is a Lebanese dialect. (7.16) is in the Gulf area. (7.17) is a change from CA to D.

4) ?al raqṣ → ?arraṣ 'the dancing'

5) ?al rafḍ → ?arraḍ 'the refusal'

6) kul rafḥah → kur rafḥah 'every lift'

7) kul rafsah → kur rafsah 'every kick'

8) qul rās → qur rās 'say "rās" 'head''

9) qul raff → qur raff 'say "raff" 'shelf''

10) kul rummān → kur rummān
'(imp. 2PSM) eat pomegranate'

11) kul rās → kur rās '(imp. 2PSM) eat head'

12) kurrās 'notebook'

- 13) bal ruddah → bar ruddah 'rather send it back'
 14) bal rān → bar rān 'rather seized, overcame'
 15) layt → rayt 'I wish'
 16) xalçah → xarçah
 'alarming, startling, taking aback'
 17) buṣṭāl → buṣṭār 'boot'

[11] l → r / V _____ r V

2.8 r → n

As far as the available data is concerned, this change is found to occur within word boundary.

- (8.1) yaṇṣaf → yinṣaf
 '(prog. 3PSM) to sip (a soup)'
 2) šarār → šanār 'sparks'
 3) mirjal → minjal 'cooking
 kettle; cauldron, boiler'

The change in (8.2) is a form of dissimilation; that is changing the first /r/ to become less like the second one.

2.9 r → l

The change of /r/ to /l/ takes place in loan-words mostly from English. Machines and automobiles were introduced to most Gulf countries over 80 years ago. With them, they brought foreign names for the spare parts. Speakers who interchange these sounds may not have heard the original pronunciation of these foreign words clearly when they adopted them for use in their language for the first time.

Once they used this deviated form of pronunciation for some time it tended to be accepted by listeners and thus received acknowledgement. This is true in the case of old speakers who always blame this on the flow of foreign words. If anyone tries to correct these mispronunciations, they reply: "I am too old to speak a 'sharp' language". This way they insist on not blocking the deviation. Hence, it is retained with them for the rest of their lives. The change in (9.1 - 4) is in final position. The ones in (9.3, 7 & 8) are Sudanese too.

- (9.1) xarçah → xalçah 'alarming,
 startling, taking aback'
 2) darakktar → darakktal 'tractor'
 3) rabar → rabal 'rubber'
 4) hanqar → hanqal 'hangar'
 In positions other than final (9.5 - 8).
 5) karbraytar → karblaytar 'carburetor'
 6) brujiktar → blujiktar 'projector'
 7) zanbarak → zambalak 'spiral spring'
 8) radaytar → ladaytar 'radiator'
 9) länd krūzar → krūzal
 'a brand name of an automobile'
 10) karaffs → kalaffs 'clery; club card'

The change in (9.2, 3, 5, 8 & 9) is clearly a way of dissimilating one /r/ to become less like the other one present in the same word. The word in (9.7) undergoes two changes /n/ to /m and /r/ to /l/.

The same change occurs in English as in (9.11). This word came from "Middle English

'pelegrim', from Old French 'peligrin', from Late Latin 'pelegrinus', alteration of Latin 'peregrinus', PEREGRINE" (The American Heritage Dictionary). This quotation helps in casting light on the many historic sound changes in the history of one single word.

11) Latin 'peregrinus' → English 'pilgrim'

The above changes, in (9.11), remind us of the change of /r/ to /l/ in other languages. The substitution of /l/ sound for the English /r/ by some Chinese native speakers is due to the lack of the latter in the inventory of sounds in this language. For example, 'lice' is used for 'rice'.

III. CONCLUSION

In all the sound change processes illustrated above, sounds either change to others, assimilate to neighboring sounds or become geminated. The change is found to take place in the directions shown below. (Asterisks mark unattested changes).

m	→	n
*m	→	l
*m	→	r
n	→	m
n	→	l
n	→	r
l	→	m
l	→	n

l	→	r
*r	→	m
r	→	n
r	→	l

In the previous pages, changes are either stated in terms of phonological rules or attributed to some phonological processes of sound change. Most of the changes discussed are regressive assimilation, of the nature stated in rule [7]. Changes occur both within words and across word boundary.

The interchangeability (i.e. alternation) between /m/ and /n/ is facilitated by the fact that they both share the feature of nasality, "gunnah", in Arabic. "?að-ðalāqah" consonants share other features. Three, /n/ , /l/ , and /r/, are apical sounds produced with the tip of the tongue. The other three, /b/ , /m/ , and /f/ , are bilabials and labiodental. These six sounds form a major core of sounds in the crude etymology of Arabic lexicography and in the system of affixation and derivation.

Sound changes in human languages mostly take place in the spoken medium. Some changes discussed above are apparent in the written form throughout the last fourteen centuries of the history of Arabic. This classification of the language into spoken and written leads to the doctrine of ill-formed (Kaye, 1972) languages, in the present case CA. CA is not the mother tongue of any of its native

speakers; neither, for that matter, is MSA. Furthermore, the source for CA and MSA for speakers of Arabic dialects all over the Arab World is the written form inherited from old scripts and developed in more recent prescriptive reference books. For this reason, the base forms, in the structural description of sound rules, tend to be those of the written form of Arabic. The structural sound change is represented as spoken either in MSA or dialects. Even people with little education use the standard (original) form when they write. This fact alone stands for the psychological reality of the phoneme.

Some sound changes are sporadic or spontaneous in the sense that no phonetic conditions are specified. Others are regular or combinatory in the sense that they always occur in specified conditional environments. Russ concludes that "regularity [emphasis the author's] ... should be treated in terms of the extent of a sound change on a scale which ranges from complete regularity, through phonetically and morphologically conditioned changes, to irregular, or lexically conditioned changes" (1980:165). In fact the changes discussed in this work are distributed along the lines indicated by Russ though a great bulk of them are phonetically conditioned.

Born with the same innate faculty for speaking, native speakers of many different

languages, though they may be far apart, make common changes in their sound systems.

Interchangeability of the four Arabic sonorant consonants is, therefore, found to be one of the frequent changes among Arabic consonants. Dialects and MSA have shown that sonorant consonants greatly affect the system and patterns of sounds in Arabic phonology. This is not to deny that the alteration of the four sounds has been very helpful in the etymology to produce new words and meanings. However, the dichotomy between etymology and sound change in the early history of Arabic is not sharply distinguished enough for us to be able to comment upon it. For example, it is not certain if the mutual approximation of meaning between the following pairs is a result of sound change or deliberate etymology.

(10.1a)	m & n	ʔiqlām	'information'
	b)	ʔiqlān	'announcement'
2a)	n & l	tamwīn	'supply'
	b)	tamwīl	'financing'
3a)	l & r	hadīl	'to coo (pigeon)'
	b)	hadī	'roaring'
4a)		falaj	'split'
	b)	faraj	'relief'

No matter how difficult a step of this nature may be, one is tempted to speculate on the reasons behind some of these sound changes. However, some reasons are general in the sense that they are applicable to all sound changes.

Others are special in the sense that they describe the changes discussed in the present work in particular. (The number of reasons is approximate and by no means inclusive).

1. Some old Arabic literary texts have reached us with some changes and distortions. This has resulted in some perversion and phonetic corruption of some words. This is known in Arabic as "*ʔat-taḥrīf*"; that is, changing in the shape of the orthographically similar Arabic letters such as d & r, d & l, n & z, and m & q. For example, in CA the forms "*ʔaz-zawr*" and "*ʔaz-zawn*" were used to mean 'idol, image'.

2. Another similar phenomenon is haplography known in Arabic as "*ʔat-taṣḥīf*"; that is, changing in the graphic dots or diacritic marks assigned to Arabic letters of similar shapes such as b, t, & θ, and j, ḥ, & x, etc.

These two phenomena came about through handwriting of books before the invention of printing machines. Though they pertain to writing, they resulted in sound changes later in the language. Abdu t-Tawwāb (1985:228) gives the examples in (10.5 - 7) as related or reported from old Arabic in two different forms.

- | | | |
|----------|---------|---------------|
| 5) ḡaym | ~ ḡayn | 'clouds' |
| 6) ʔājim | ~ ʔājin | 'changing' |
| 7) qātim | ~ qātin | 'black, dark' |

3. In the recitation of the Holy Qurʔān "*tajwīd*", 'tune' or 'melody' may be one of the reasons behind sound change. This is called "*ʔal-laḥn*" in Arabic. It means the 'melody' or 'grammatical errors', 'solecism'. Here, it has the former connotation. Modulation is the nunnation for the trilling or quavering prolongation and modulation of the voice. Sonorants are musical and, therefore, subject to change in the recitation of the Qurʔān.

4. With the Islamic conquests and the spread of Islam, non-Arabs had to speak Arabic and read the Qurʔān. This resulted in some changes and catachresis. One of these processes is called in Arabic "*ʔal-luxluxāniyyah*", especially in shifting the degrees of stress.

5. In the Arabic poetry, there are instances of sound changes to accommodate the poetic rhyme and meter. Examples (10.7 & 8) exemplify this. The verse in (10.7) is from the Arabic poet Jarīr. He uses identical sounds for musical effect at the end of the last two words in the two lines. The two words are originally "*ʔal-ḥitāba*" and "*ʔaṣāba*", respectively. The verse in (10.8) is said by another Arabic poet called Ruwʔabah bini l-Ḥajāj. The last two words in the two lines were originally one, "*ʔin*" 'even though'.

- 7) ʔaqilli l-lawma ḥaḍilun wa l-ḥitāban
wa qūli ʔin ʔaṣabtu laqad ʔaṣāban

- 8) qālat banātu l-ḥammī yā salmā wa ʔinin
kāna faqīran muḥdiman qālat wa ʔinin

6. Borrowing. Needless to say, much was said on borrowing in the linguistic literature. However, it helps to remember the examples in (9.1 - 10).

7. Language acquisition by children. Before acquiring a complete linguistic knowledge of the language, children often formalize their own rules especially the passive (less common) patterns on the analogy of an existing active (more common) patterns. These deviations, certainly, result in sound changes if they acquire popularity among speakers. For example, children often use the wrong adjective pattern as (10.9) where "FaḤLān" is used for "FāḤiL".

- 9) ṣālilī → ṣalḥān 'useable, good for use'

This change is probably on the analogy of the permissible variation between other forms such as "jāʔiḥ" ~ "jayḥān" 'hungry'.

8. Imperfect language learning by non-native speakers of Arabic. Non-Arabs, therefore, would change the Arabic velar,

uvular, and pharyngeal sounds to lighter sounds that are easy on their tongues. Hence, solecism spread.

9. Speakers of dialects often change sounds as a way to avoid unfavorable or taboo expressions. In D "samḥah" is used for "sabḥah" 'seven' for that number is believed to be unlucky and ominous.

The following are special reasons pertaining to interchangeability in particular.

1. Sonorant consonants (SC) change with the influence of neighboring sounds. (assimilation) (1.1 - 6 and 2.1 - 37).
2. SCs change on the analogy of established forms in the language. (analogy & neutralization) (1.16).
3. SCs may change when they act like syllabic peaks. (2.75).
4. SCs may change if they are present in another position in the same word. (dissimilation) (2.77 & 78 and 4.1 & 2).

All in all, it seems that most changes are geared towards simplifying the mechanisms of pronunciation.

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LIST OF SYMBOLS AND ABBREVIATIONS

The phonetic transcription system:

Arabic Consonants
Place of Articulation

Manner of Articulation		Bilabial	Labiodental	* Interdental	* Alveolar	Alveopalatal	Velar	Uvular	Pharyngeal	Glottal
Stops	VL				t ṭ		k	q		ʔ
	VD	b			d ḍ					
Fricatives	VL		f	θ	s ṣ	ʃ		x	ħ	h
	VD			ð ḏ	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	D	Dialect
#	Word boundary	fm.	Female
I-XV	Arabic verb forms, patterns (I-X, and XI-XV)	imp.	Imperative
1PPM/F	First person, plural, male/female	ml.	Male
2PDF	Second person, dual, female	MSA	Modern Standard Arabic
3PSM	Third person, singular, male	pbuh	Peace be upon him (the Prophet)
± ant	Anterior	pl.	Plural
C	Consonant	prog.	Progressive
CA	Classical Arabic	S.	Sūrah (Chapter of the Holy Qurʾān)
± cont	Continuant	s.o.	Someone
± cons	Consonantal	s.th	Something
± cor	Coronal	sg.	Singular
		V	Vowel

Notes

¹This article is the second in a series of three on Arabic sonorant consonants.

The first, **The Nature of Arabic Sonorant Consonants**, was published in N°50

The third, **Epenthesis and Deletion of Arabic Sonorant Consonants** is to appear in N°55.

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الإسم الكامل	الوظيفة	العنوان	أرقام التواصل
د. عباس الصوري	مدير مكتب تنسيق التعريب - الرباط-	ص.ب: 290 - الرباط	هاتف 037-77-24-22 037-77-24-23 فاكس: 037-77-24-26
أ. عبد الحق العدوة	أستاذ بكلية الآداب - مكناس	كلية الآداب - مكناس	هاتف: 055551866
أ. عبد الحميد العبدوني	أستاذ مساعد في التعليم العالي.	عمارة G رقم 9 مجموعة الوفاق - سيدي سعيد.	هاتف: 055551866
أ. عبد العزيز العماري	أستاذ اللسانيات	64 تجزئة فارس - سيدي سعيد- مكناس	هاتف: 055551866
د. عبد الغني أبو العزم	أستاذ التعليم العالي	18، زنقة البريهي - الرباط	هاتف (مكتب) 037-703790 هاتف (منزل) 037-733335 فاكس 037-736709
د. عز الدين البوشيخي	أستاذ جامعي	إقامة ابن سينا 1- عمارة دال 1 رقم 7 - مكناس	هاتف (مكتب) 055536968 هاتف (منزل) 055524065 فاكس: 055537252
أ. القراط ميمون	أستاذ مساعد في التعليم العالي	8، زنقة القاهرة رقم 5 مكناس- المنزه	هاتف (منزل) 055403772
أ. محمد الشاوي	أستاذ مساعد في التعليم العالي	كلية العلوم - شعبة الفيزياء - مكناس	هاتف: 061259493
أ. محمد الوادي	أستاذ مساعد في التعليم العالي	كلية الآداب - مكناس	هاتف : 063662212
أ. نوح فكيروش	أستاذ مادة الفنون التشكيلية	ص.ب: 40009 - بني امحمد - كلية الآداب - مكناس	هاتف: (مكتب) 055-536968 هاتف: (منزل) 055403755 فاكس : 055537252
أ. أسلمو ولد سيدي أحمد	تخصصي أول في مكتب تنسيق التعريب	ص.ب: 290- الرباط	هاتف (مكتب) 037772422 037772423 فاكس: 037772426

لجنة مكتب تنسيق التعريب التنظيمية

- محمد سالم الحبش - أمينة الرياحي
- محمد أفسحي - مولاي حسن العلوي