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December 9, 1994

Nasal Assimilation in Quranic Recitation

Table of Contents

Introduction	1
The Quran	3
Recitation and <i>Tajwid</i>	7
Nasal Assimilation in Quranic Recitation	10
Arabic geminates	12
Nasal assimilation rules	15
Blocking of assimilation by pauses	24
Conclusion	26
Bibliography	29

Grateful acknowledgements to my father, my mother and my brothers, and to Hadass Sheffer and Donna Jo Napoli.

Introduction

This paper is concerned with the analysis of certain rules governing nasality and nasal assimilation during recitation of the holy Quran.¹ These rules are a subset of *tajwi:d*, a set of rules governing the correct prescribed recitation and pronunciation of the Islamic scriptures. The first part of the paper will describe the historical and cultural importance of the Quran and *tajwi:d*, with the proposition that a tension or conflict between the necessity for clarity and enunciation and the desire for beautification of the divine words of God is the driving force behind *tajwi:d*'s importance. Though the rules are functional rather than "natural," these prescriptive rules can be integrated into a study lexical phonology and feature geometry, as discussed in the second section, since prescriptive rules must work within those rules set by the language's grammar.

Muslims consider the Quran a divine and holy text, untampered with and unchangeable by humankind. Western scholars have attempted to identify it as the writings of the Prophet Muhammad, a humanly written text like any other. Viewing the holy Quran in this way ignores the religious, social and linguistic implications of its perceived unchangeability, and does disservice to the beliefs of many Muslims. On the other hand, modern linguistic studies see language as inherently changeable, and linguistic prescriptivism as a tool of social control. A divine scripture would lie outside the human prescription and its language, as passed down, would defy "natural" linguistic change that everyday spoken language undergoes:

While it is clear that the phonology of any language (including Arabic), among the other linguistic levels (the most widely recognized are phonology, grammar and semantics), is undergoing change within time, the Qur'an includes definitive information on earlier states of its sound system which has remained unchangeable. The state of a language at any (synchronic) moment must be seen against a background of its historical

¹ Proper transliteration: [qurʔa:n].

(diachronic) evolution. Such is not the case with the Qur'an, as far as its phonology -- in particular -- is concerned. It has remained constant. (Gouda, 1989: 17)

Gouda's claim is important to consider in terms of understanding ideas of the Quran's divine unchangeable, timeless coherence. However, such a claim is impossible to prove. Orthographic renditions of the Quran cannot completely convey its phonological nuances, and oral rendition must change slightly from generation to generation despite attempts to preserve the sound system without distortion.

The issue of Arabic diglossia is complicated by the debate presented above surrounding the language of the Quran. Because the holy book's language is deemed divine and perfect, dialects are of course deemed inferior. In addition, those dialects judged closest to the language of the Quran are seen by many as superior to those that differ most from Quranic language. Because Arabic has spread from a small geographic area in the Arabian peninsula before Islam's advent to a much larger area today which encompasses regions spanning from Morocco to Iraq, and because the Arab societies have traditionally centered around tribes or villages, dialectical differences between, say, Iraq and Morocco, are huge. It would be heretical to state that dialects are as valid as Quranic language, or to deny a hierarchy of dialects in relationship to Quranic language.

The following section gives an introduction to *tajwi:d'*s cultural context and its relationship to preserving the Quran.

The Quran

The Quran contains Islam's holy scriptures. Muslims believe that it was dictated to God's messenger Muhammad by the angel Gabriel (*Jibri:l*) between about C.E. 612 and 632.² The Quran holds immense importance throughout the Islamic World as the divine word of God, the primary source of Islamic theology and jurisprudence, a moral guide for humanity, and a means of worship for Muslims. From the Quran, as well as from the *hadi:θ*-- the sayings of the prophet Muhammad, peace be upon him -- Muslim scholars and laypeople derive Islamic moral, ethical, legal, political, social, and family laws. In addition, the Quran is considered a literary creation of great beauty, above anything achievable by humankind. Muslims point to the Quran's beautiful language as proof that it is the divine revelation of the one and only God.³ The language of the Quran is also considered to have been a challenge to the Arabs among whom Muhammad was sent as a messenger from God. The Arabs were known for their eloquence and their poetic skill; poets held high rank within their tribes and acted as spokesmen and communicators of news. When the Makkans first heard Muhammad recite the Quran publicly they accused him of being a poet or a sorcerer, attempting to entrap people with his magical words. With the Quran, God challenged the Arabs to attempt to write words a fraction as marvelous and beautiful as His own.

Pre-Islamic Arabia was a society with a strong oral literary tradition, as mentioned above. Orality played an important part in the preservation of the Quran as

² This was the period of Muhammad's prophethood, which began with the first revelation and ended with his death.

³ The Arabic word for God is "Allah," etymologically derived from "al-?ilā:h," meaning "the god." I use the English equivalent "God" rather than Allah, even though the latter is a familiar term in English, in order to avoid mystifying the Islamic deity as different from the Judeo-Christian God. They are essentially considered by Muslims to be the same being, though Muslims, like Jews, reject the deification of Jesus. Muslims believe that Jesus was only a messenger sent by God.

well. Various written sections of the Quran were compiled into one text for the first time after Muhammad's death on the order of Muhammad's successor as the leader of the Islamic state, the Caliph Abu Bakr, and this version as well as a number of other extent versions were standardized into the text used today by the third caliph, ṢUṭma:n. He sent ten copies of the written text to various provinces of his caliphate. Each text was accompanied by a scholar who had memorized the Quran. This is said to be the origin of the ten (sometimes seven) *qira:ʔa:t* or variants of the Quran, all of them based on the ṢUṭma:ni text. Early Arabic script had no markings for short vowels, and a number of sets of consonants shared the same symbol, thus leading to a number of possible readings -- however, variation could not exceed the possibilities presented by the script. Later, diacritical markings representing vowels and dots differentiating the consonants were added in order to preserve the text.

Aside from the *qira:ʔa:t*, the Quran is said to vary in the seven *aḥruf*, the existence of which is supported by a number of *ḥadi:ṯ*. Scholars have put forth a large number of interpretations for the *aḥruf* -- these interpretations include seven different ways of reading, seven Arabic dialects suitable for recitation, seven aspects of morphological and lexical variance (Gouda, 1989: 56-59). According to Nelson:

all of the *ḥadi:ṯ* on the subject indicate the following principles: all variants are of equal status in terms of their truth and rightness and all variation is the word of God as revealed Muhammad, with no human intervention involved. The principal justification given for the existence of the seven *aḥruf* was to make it easy for speakers of different dialects and abilities to understand and learn the Qur'an. (Nelson, 1985: 201)

As for the relationship between the *qira:ʔa:t* and the *aḥruf*, "[t]he *qira:ʔa:t* are drawn from the phonetic material of the *aḥruf*, and identified with particular reciters whose readings became well known and widely transmitted" (Nelson: 201).

Quranic scholars and Arabic linguists, following from discussions of the *qiraʿat* and the *ahruf*, have also debated the extent of the presence of various Arabic dialects in the Quran; however, it is widely believed that God revealed the Quran in the *Qurayshi*: dialect. *Quraysh* was the Prophet Muhammad's tribe, and according to current belief they were considered the most eloquent of the Arab tribes. If they were thought of in this way, it probably had much to do with their political and social importance in 7th century Makkah -- *Quraysh* constituted the biggest tribe in Makkah, and controlled the traditional places of worship of the pre-Islamic faiths, including serving the pilgrims during pilgrimage seasons.

The Quran's compilation into one standard text occurred at a time of Islamic expansion into non-Arabic speaking areas. Islamic leaders were most probably responding to the Islamicization of people who spoke Arabic dialects that differed from the language of the scripture, and of non-native Arabic speakers. They feared that the Quran's language would become corrupted by "incorrect" pronunciation. Here is where a paradox came into play: In order to preserve the Quran's language, it had to be recorded as a written text. However, the written text could not convey all the nuances of the oral tradition of transmission. Kristina Nelson writes:

The written text does not exist to preserve against change; it is taken for granted that oral tradition does that. Nor is the written text the ultimate referent of the oral. Oral tradition has served as the final arbitrator of the written traditions; only those fragments written down in the presence of the Prophet were accepted as material for the written text, and any differences in the fragments were settled by oral tradition. Muhammad spread the message by sending out reciters, not texts, and Caliph ʿUthmān sent with each copy of the standard text a reciter who could teach its recitation. (Nelson, 1985, p. 3)

The Quran was believed to have been recited to Muhammad by the angel Jibrīl, and the prophet recited the text to his believers and disciples, who memorized it and recited

it to their students, and so on and so forth.

Current textbooks on *tajwi:d* claim that the Quran has been orally related to current readers through generations of reciters in a chain going back to the Prophet Muḥammad, who learned the correct form of recitation from Jibri:l, who in turn learned it from God (al-Qa:ri?, 1972; Naṣr, 1992). According to these accounts, by following *tajwi:d*, a worshiper pronounces the Quran in the most eloquent of Arabic dialects by following the Prophet Muḥammad's dialect and pronunciation of the scriptures as he dictated them to various reciters among his disciples (*aṣṣaḥa:bah*, which refers to anyone who met the Prophet as a Muslim, or sometimes more broadly to anyone who converted to Islam during the Prophet's lifetime) (al-Qa:ri?, 1972). This leads us to *tajwi:d*'s importance as a Quranic science and a means to worship that brings one closer to God through precise recitation of His words.

Recitation and *tajwi:d*: sound as worship

Muslims worship by praying five times a day; in each prayer they must recite a specific number of chapters from the holy Quran. The five obligatory daily prayers are performed communally in mosques, and some scholars say that all men past the age of puberty must attend these prayers in mosque. Several prayers require the *ima:m* (prayer leader) to recite the Quran aloud while others require silent recitation. In addition to recitation during obligatory and other prayers, Muslims recite the Quran as a form of worship, and the Quran is recited at public occasions outside the mosque as well. Well-known reciters appear on television and radio throughout the Islamic World. Specific schools teach the Quran to young students through oral drills and children also learn the Quran as part as their regular curriculum. Memorizing the Quran is an important accomplishment. Many Quranic verses and *hadi:θ* sayings stress the importance of memorizing and reciting the holy Quran. One *hadi:θ* raises those who recite the Quran beautifully with correct pronunciation and vocal skill to the level of angels (al-Qa:ri?, 1972; Naşr, 1992).

The most widely used name for the Islamic scriptures -- *ʔalqurʔa:n* -- comes from the trilateral root /qrʔ/, which conveys recitation or reading. The story surrounding God's first revelation to Muḥammad relates that Jibri:l visited Muḥammad as he worshipped alone in a cave outside Makkah and spoke to him, ordering him to, "Read!"⁴ The illiterate Muḥammad replied that he did not know how, and the angel repeated his command twice more, then finally revealed the first words of the Quran: "Read: In the name of thy Lord who createth./ Createth man from a clot./ Read: And thy Lord is the Most Bounteous,/ Who teacheth by the pen,/ Teacheth man that

⁴ "ʔiqraʔ"

which he knew not”(96.1-5).

Reading and reciting the Quran contribute to important duties a Muslim must fulfill: the worship of God, the preservation of the scriptures, the passing on of the divinely inspired message from generation to generation. On an individual level, recitation brings one closer to God, and it is widely held that the “purposes of Qur’an reading can be better achieved if the recitation is made following the methods appropriate to divine speech” (Gouda, 1989: 11). In addition, *tajwi:d* is viewed as an aid to reading and comprehending the text. To learn *tajwi:d*, the student must listen to the recitation of others (Naşr, 1992: 35).

Nelson describes *tajwi:d* as,

the system of rules regulating the correct oral rendering of the Qur’an. . . *tajwi:d* preserves the nature of a revelation whose meaning is expressed as much by its sound as by its content and expression, and guards it from distortion by a comprehensive set of regulations which govern many of the parameters of the sound production, such as duration of syllable, vocal timbre, and pronunciation. (Nelson, 1985: 14)

Here we see the twin goals of beautification and correct transmission of the text. Such aspects as duration of syllable and vocal timbre add to the oral beauty of the recited scriptures, while clarity of pronunciation and distinction of one sound from another lend to preserving meaning. Mistakes and distortions in pronunciation of the Quran are divided by traditional scholarship into two groups: the first group includes all mistakes in pronunciation that vary the surface phonetic structure of a word, as in mispronouncing case endings (ungrammaticality), or pronunciations that any speaker should be aware of. The second group involves not following the rules of *tajwi:d*, and only those who have knowledge of these rules can be condemned for making this type of mistake (Naşr, 1992: 41). But since all Muslims are strongly urged to recite the

Quran and to do so correctly, it follows that neither type of mistake should be made during recitation, to the best of the reader's abilities.

The word *tajwi:d* comes from the root /jwd/ and suggests a sense of making something good or perfect. Gouda makes clear that "the root jwd contains no concept of reading or reciting, and the word *tajwi:d* itself did not occur in any part of the Qur'anic text." *Tajwi:d* stresses the importance of enunciating each phoneme from its point of articulation, and rules and processes governed by *tajwi:d* include nasality, assimilation, extra-long vowels (*madd*), pharyngealization, vowel epenthesis, pauses and a certain sense of rhythm. Most of the phonological processes of *tajwi:d* are specific to Quranic recitation, though a few exist in spoken Arabic. The remainder of this paper will examine phonological rules of *tajwi:d* by looking closely at nasal assimilation in Quranic recitation.

Nasal Assimilation in Qur'anic Recitation

Note: All examples are from the holy Quran, and transcriptions are based on the recorded recitation of the Sheikh ʿabdul-ba:ṣiṭ, an Egyptian reciter. Glosses are from Mohammed Marmaduke Pickthall's The Meaning of the Glorious Koran, and Mufassir Mohammad Ahmad's The Koran, with some amendments by myself. A literally translated gloss follows each example, with a more contextualized translation afterward.

In *tajwi:d*, as in Arabic phonology in general, consonant assimilation and gemination are connected processes. If the coda of one syllable and the onset of the next are identical, the two merge into a geminate, pronounced without release between the two consonants. Consonants that share place and differ in features, or that are similar in place or features may assimilate and geminate as well. These processes may occur across word and morpheme boundaries.

For future reference, the phonemic inventory of Classical Arabic is as follows:

Consonants and glides:

	Bilabial	Labiodental	Inter-dental	Dental/Alveolar	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	b			d ḍ t ṭ		k	q		ʔ
Nasal	m			n					
Trill				r					
Fricative			ð ḏ θ	z ḏ s ṣ	ʃ		ʁ χ	ʕ ħ	
Affricate					j				
Lateral				l					
Glide	w				y				

(from Ladefoged, 1993; Gouda, 1989)

Vowels:

i u
a

The most common form of assimilation, for which extensive rules exist, is the assimilation of the nasals, /n/ and /m/. /n/ occurs as indefinite case marker at the end of many words, and is the final consonant in many function words, so /n/ assimilation appears frequently. /m/ appears less often with distribution restricted by environment, and has fewer rules. *Tajwi:d* scholars divide /n/ assimilation into four basic groups which will be presented in section 3: *iðha:r*, *iḫfa:ʔ*, *idka:m* and *iqla:b*.

The approach to phonology which this paper employs is *lexical phonology*. This theory is concerned with the way in which the morphology and phonology of a language interact, including the ordering of morphological and phonological rules. Lexical phonology divides phonology into lexical and post-lexical components (Goldsmith, 1990: 218). Lexical rules occur at the word level while post-lexical rules occur at the phrasal level after the derivation of all lexical rules. The rules of *tajwi:d* to be described here are, I suggest, post-lexical rules.

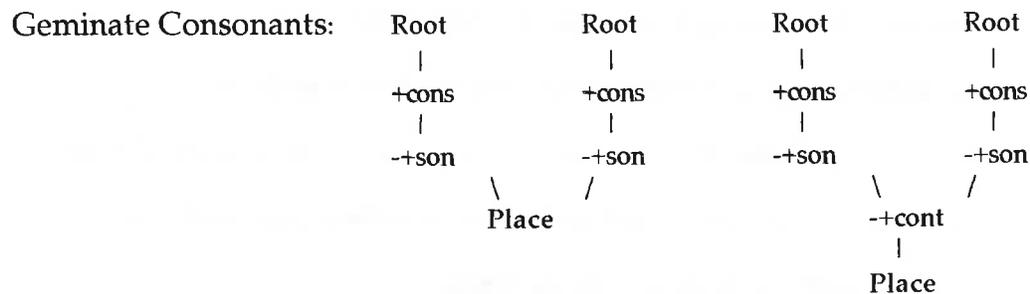
The majority of rules classed under *tajwi:d* pertain only to Quranic recitation and are not found in Classical Arabic or natural speech. The processes governed by these rules follow from semantic and aesthetic concerns connected to its divine perfection. The reader of Quranic verses exerts a conscious effort to enunciate the Quran clearly and beautifully. However, some rules stressed by *tajwi:d* scholars as necessary to correct recitation, such as assimilation and gemination of the definite article /l/ to a certain set of phonemes, and pharyngealization of vowels,⁵ occur in Classical Arabic as well as in Modern Standard Arabic and in the dialects. These rules are lexical, and I

⁵ The scope of pharyngealization in Quranic recitation differs from other forms of Arabic.

distinguish them from the post-lexical processes that govern extra-nasalization and extra-long vowels.

1) Arabic geminates

This section deals with consonant gemination in Classical Arabic, and does not address *tajwid* processes in particular. Selkirk (1990) puts forth a “two-root theory of length” which is useful for this discussion:



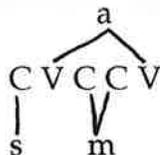
The double linking of Place or [continuant] is common to all geminates, full or partial. Full geminates involve the sharing of all features; partial geminates are structures where specifications for sonorancy and laryngeal features or nasality may differ in the two halves. (Selkirk, 1990: 189)

a) True geminates

A small number of Arabic roots are bilateral. These manifest themselves as trilateral through spreading of the second consonant. In some verbal forms and nominal forms the spread consonants surfaces as a geminate.

1a.1 /sm/

samma “he poisoned”





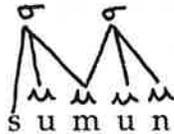
Arabic and other Semitic languages, as well as a few unrelated languages, according to a widely held theory (see McCarthy and Prince, 1990) possess separate underlying tiers for consonants and vowels. Vowels are inserted at a different level in the lexical phonology than consonants; this conception of the CV template allows for the invariability of Arabic morphological forms, and allows for forms such as:

1a.2 samamtu "I poisoned" (compare to 3rd person form above)

At the final lexical level, the vowel, consonant and morpheme tiers are conflated.

Nominals, as well as verbs, can show true geminates:

1a.3 summun⁶ "poison"(indefinite case)



b) Morphologically caused geminates

These can be derived in a number of ways.

1) Template-driven gemination:

Arabic verbs are formed from shaping the trilateral roots along various template Forms, of which Form I (CVCVC) is the base. Each particular template carries a certain semantic sense. A number of these forms include geminated consonants. For instance, Form 2, geminates the second consonant of the root (CVCCVC)⁷ :

⁶ Here /n/ is the indefinite case marker.

⁷ In Arabic nominals and verbs stem-final consonants are extrasyllabic. When preceding a vowel case or aspect marker, the consonant syllabifies with that vowel. When followed by a cliticized consonant or preceding a pause or stop, the stem-final consonant syllabifies with the last syllable of the stem.

1b.1 /ktb/



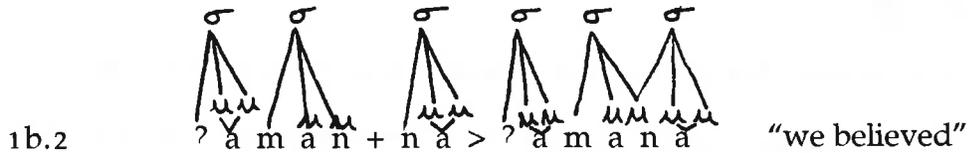
(form 1)



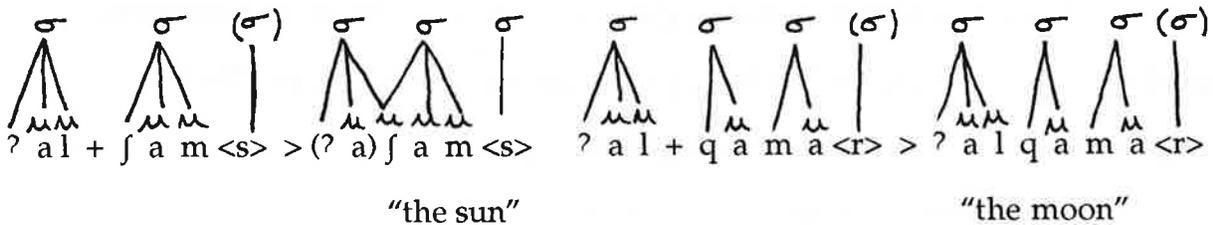
(form 2)

2) Cliticization-driven assimilation processes:

Geminates can also derive through cliticization, such as the suffixation of the nominal pronoun /na/ ("we") to a verb ending in /n/:

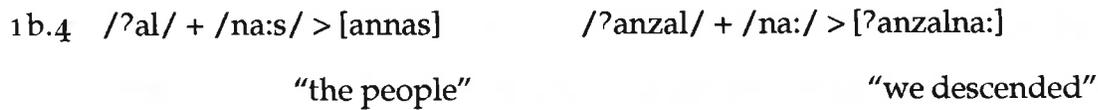


Another process that produces geminates is the full assimilation of the definite article /l/ to coronals. 1b.3



/l/ only undergoes this process when it constitutes the definite article morpheme.

Compare the following two words -- in the first /l/ assimilates to /n/; in the second it does not:



3) Intra-word /stem assimilation processes:

Cliticization also produces a few Arabic compounded function words (similar to English words such as "into," "onto") which contain geminates derived through a

complete assimilation process identical to *idḳa:m* (described in 3b).

1b.5 /an la:/ > [alla:] “not to”

/min ma:/ > [mimma:] “from which”

This process occurs lexically, unlike *idḳa:m* in Quranic recitation. The regressive assimilation which produces the geminates in these words is a process opposite to the dissimilation that applies to the English word “cannot,” where two identical consonants come into contact and one of them becomes null:

1b.6 /kæn nɒt/ > [kanɒt]

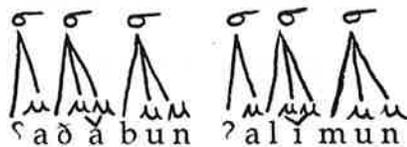
2) Nasal assimilation

The previous section described gemination processes that occur in Classical Arabic; now I will address the specific types of nasal assimilation prescribed for Quranic recitation by *tajwi:d*.

a) Non-assimilation: ixfa:ʔ

/n/ does not assimilate to the six gutturals. These are the uvular fricatives (voiced and unvoiced) /ʁ/ and /ħ/; the pharyngeals /ʕ/ and /ħ/; and the two laryngeals, fricative /h/ (unvoiced) and glottal stop, /ʔ/.

2a.1 /ʕaḏa:bun ʔali:mun/ “painful punishment”

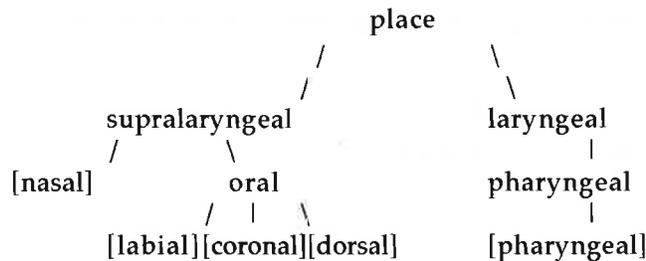


“.. and a painful punishment is theirs because they lie”(2.10)

McCarthy (1990) describes the six gutturals as a natural class on the basis of their grouping together in terms of various phonological rules in a number of languages. Following from this he proposes a distinctive feature theory based on place of articulation rather than articulator, because the gutturals do not share an articulator

yet their group behavior should be accounted for in a theory of feature geometry.

McCarthy suggests a notion of place of articulation derived from the articulator-based theory that assigns [pharyngeal] a place node. Using the Halle-Sagey model (from Sagey, 1986; Halle, 1992) we can account for nasals not assimilating to the gutturals:



The feature [nasal] is dependent on the supralaryngeal tier and cannot spread to [pharyngeal] on the laryngeal tier. This feature grouping accounts explains why *iḫfa:ʔ* is prescribed for the guttural consonants. The prescriptive rule organizes these phonemes by natural class.

b) Full assimilation: *idḫa:m*

/n/ assimilates completely to the sonorants: the liquids /l/ and /r/, the nasals /n/ and /m/, and the glides /w/ and /y/ -- in other words, to those classes equal to or higher than /n/ in the sonority hierarchy.⁸ This full assimilation is termed *idḫa:m*. Each of the above phonemes falls in to certain natural classes with /n/. /m/ and /n/ are both nasals; /l/ and /r/ share with /n/ the features [+coronal] and [+continuant]; the glides are [+continuant] and extremely sonorant. *Tajwi:d* scholars traditionally divide *idḫa:m* into two subsets: the first contains the glides and nasals, to which /n/ assimilates accompanied by extra-nasalization (*ḵunnah*); the second contains the liquids, to which /n/ assimilates with complete dropping of nasality.

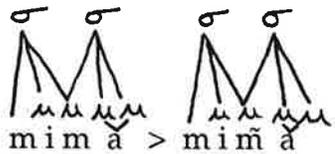
Extra-nasality in Quranic recitation: *ḵunnah*

Before describing *idḫa:m* further, it is important to mention the prominence of

⁸ From least sonorant: obstruents, fricatives, nasals, liquids, glides, vowels.

nasalization in Quranic recitation. The following quote conveys its value quite well: “It is said that it [*ḵunnah*]resembles the voice of the gazelle when it has lost its child”(Naṣr, 1992: 72) The level of nasalization varies with individual readers’ voice qualities, however certain *tajwi:d* rules, including some of the nasal assimilation rules to be discussed, call for *extra-nasalization*. Geminate /m/ and /n/ are extra-nasalized in all environments.

2b.1 /mimma:/ > [miṁṁā:] “from which”



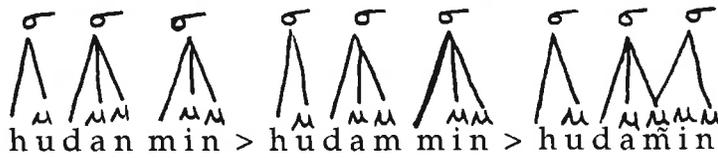
“Those who believe in the unseen and establish worship and spend of that we have bestowed upon them”(2.3).⁹

ḵunnah extends the length of the nasal consonant; conventionally this means making it nearly twice as long, but it may be longer, depending on the reciter (Nelson, 1985, 22). Extra-nasalization seems to enhance the aesthetic quality of recitation, but has no function in terms of clarifying meaning. Nevertheless, by enhancing a listener’s experience of the recitation, it may also be said to enrich that individual’s understanding of the spirit of the verses.

The geminates that result from assimilation of /n/ to the nasals and the glides are accompanied by *ḵunnah*. As mentioned above, a rule calls for the extra-nasalization of all geminate /m/ and /n/. This rule predicts extra-nasalization after applying *idḵa:m* to the clusters /nm/ and /nn/:

⁹ This quote and all others are from the holy Quran.

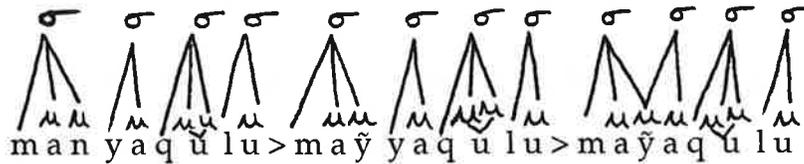
2b.2 /hudan min/ > [hudam̃ m̃in] "guidance from"



"These depend on guidance from their Lord"(2.5).

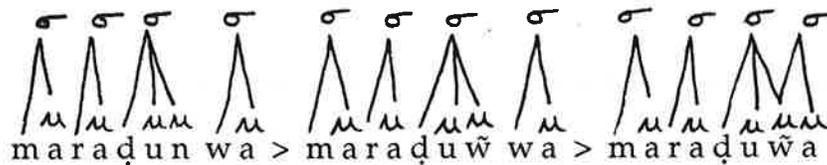
Less predictably, the glides become extra-nasalized after gemination due to *idka:m*.

2b.3 /man yaqu:lu/ > [maÿ ÿaqu:lu] "those who say"



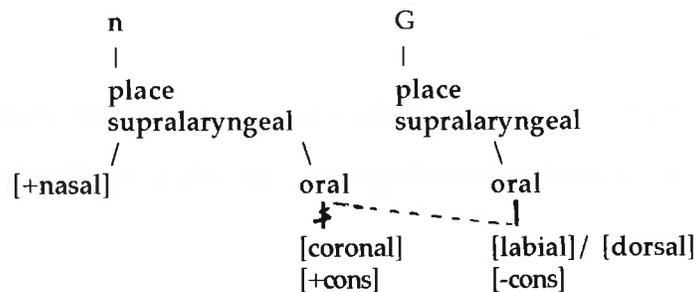
"And of mankind there are some who say: We believe in Allah and the Last Day, when they believe not"(2.8).

2b.4 /maraḍun wa/ > [maraḍuṽ w̃a] "sickness and"



"In their hearts is a disease"(2.10).

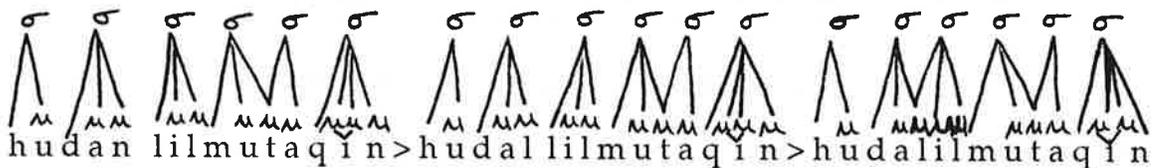
The close association of glides with vowels may contribute to this nasal spreading phenomenon. With the Halle-Sagey model, and following Padgett (1991) in placing [consonantal] under the place node, the process can be represented as follows:



Because nasality remains when /n/ assimilates to the glides, Al-Hamed (1986) amends the traditional grouping to place /y/ and /w/ with the group of phonemes to which /n/ partially assimilates. However, since *articulation* of /n/ completely disappears in these two cases, unlike the cases of partial assimilation to place which we will see in 2c, I prefer to leave them in their own category.

/n/ fully assimilates to the liquids /l/ and /r/ without nasal spread, and Al-Hamed reclassifies the liquids and nasals as one group defined by /n/'s complete assimilation to them.

2b.5 /hudan lilmuttaqi:n/ > [hudal lilmuttaqi:n] "guidance for the fearful"



"This is the scripture whereof there is no doubt, a guidance for those who ward off (evil)"(2.2).

2b.6 /min rabbihim/ > [mir rabbihim] "from their lord"



(see verse 2.5 above)

C C
 ʃ, ʃ
 n r

The assimilation of /n/ to the liquids produces regular geminate consonants. No emphasis that might be considered analogous to the extra-nasalization of nasal

geminates occurs.¹⁰

idk̄a:m (complete assimilation of both /n/ and /m/) occurs only across word boundaries while partial assimilation occurs both word internally and across word boundaries.¹¹ The following example illustrates *idk̄a:m* nonoccurrence when syllable final /n/ precedes syllable initial sonorant:

2b.7 /fi: ldunya/ “in the world”

“Thus God makes plain to you revelations, so that you may reflect/ Upon the world and the Hereafter”(2.219-20).

Naşr states that the blocking of *idk̄a:m* word internally prevents the creation of forms that would resemble words containing morphological geminates, and thus preserves meaning. In the Quran only four words appear in which blocking is necessary -- two with the cluster /nw/ and two with the cluster /ny/(Naşr, 1992: 58). All of these are nominals. Naşr does not mention the word internal clusters /nr/, /nl/ or /nm/. I assume that these either do not occur in the Quran or do not exist in Arabic. Word internal /nn/ and /mm/ would have geminated at an earlier point in the derivation.

c) Partial assimilation: ix̄fa:?

Fifteen consonants undergo partial assimilation when preceded by syllable final /n/, both word internally and across word boundaries. These are the bilabial fricative /f/; the inter-dental fricatives /θ/, /ð/, and the latter's emphatic counterpart /ḏ/; the dental stops /t/, /d/, and the emphatics /ṭ/ and /ḍ/; the alveolar fricatives /s/ and

¹⁰ It is worth noting that during Quranic recitation and according to rules of *tajwi:d*, /l/ and /r/ become pharyngealized in certain environments. In other words, they can undergo a process that contributes to beautification, as extra-nasalization is meant to do.

¹¹ Partial assimilation of /m/ to /b/ in Quranic recitation only occurs across word boundaries because the cluster /mb/ does not occur word internally in Arabic (Gouda, 1989: 191). This is a result of a rule in Arabic prohibiting root morphemes from containing more than one labial consonant (McCarthy, 1988: 88).

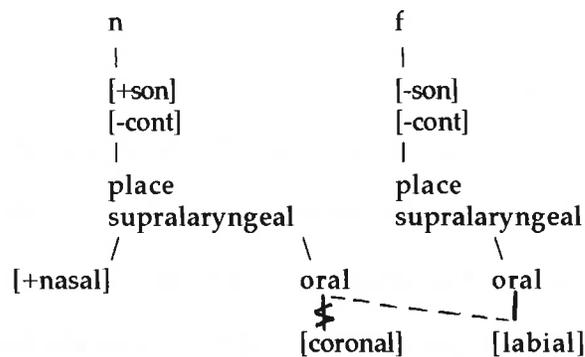
/z/, and the unvoiced emphatic /ṣ/; the palatal fricative /j/ and the palatal affricate /j/; the velar stop /k/; and the uvular stop /q/. /n/ assimilates to these phonemes in place, but the nasal consonant is only partially articulated with extra-nasalization. According to McCarthy's (1988) classification of Arabic consonants by root-morpheme cooccurrence, the consonants in this category are all the non-pharyngeal obstruents (labial, coronal, and dorsal). They include both [+cont] and [-cont] and both [+voice] and [-voice] obstruents. McCarthy classes the uvular stop /q/ as a dorsal obstruent -- /q/'s behavior in Qur'anic nasal assimilation rules corresponds to this placement. Although classical literature places /b/ in a separate class, in 2d I will show that /n/ assimilates to /b/ in the same way as to other oral obstruents.

The following examples show partial assimilation and extra-nasalization.

2c.1 /yunfiqu:n/ > [yũṣṣfiqu:n] "they spend"

(see verse 2.3 above)

Using the Halle-Sagey model shown above, the above process can be represented as follows:



2c.2 /tunḍirhum/ > [tuṣṣḍirhum] "warn them"

"As for the disbelievers, whether you warn them or not they do not believe" (2.6).

2c.3 /ʔunzila/ > [ʔuñzila] “was revealed”

“And who believe in that which has been revealed to you and that which was revealed before you. .”(2.4).

2c.4 /ʕaða:bun ʃadi:dun/ > [ʔaða:buñ ʃadi:d]¹² “heavy punishment”

“Those who reject the revelations of God, theirs will be a terrible punishment. God is mighty, able to requite (the wrong).”(3.4).

2c.5 /ʔin kuntum/ > [ʔiñ kuñtum] “if you (pl) are”

“And if you are in doubt concerning that which we revealed upon our worshiper. .”(2.23).

2c.6 /min qablika/ > [miñ qabəlika]¹³ “from before you”

(see verse 2.4 above)

Gouda describes *iχfa:ʔ* as:

The articulation of syllable-final /n/ in a way between [idka:m] and [iðha:r], where the tongue does not quite touch the alveolar ridge, and the vocal cavity holding the shape of the preceding vowel and the total sound articulated through the nasal cavity. (Gouda, 1989: 199)

Gouda classifies the allophones of /n/ produced by this process as velar, palatal, dental, interdental, and labiodental. If we want to describe this type of assimilation as assimilation to the place of the phoneme following the syllable final /n/, we must consider the fact that the alveolars share place with /n/, and so technically /n/ does not associate or disassociate from the place node, though in this case as in the case of *iχfa:ʔ* involving non-alveolars, the nasal produced by this process is *partially*

¹²The case marker [un] is dropped because this is the location of a pause (in the middle of the verse). Root final consonants in Arabic are extra-syllabic, so [d] is merely re-syllabified as the coda of the final syllable in the word [ʃadi:d]. Pauses also prevent assimilation in places where it would occur during connected recitation.

¹³Here a schwa epenthesis rule adds a very brief mid-vowel after syllable final /q/, /t/, /b/, /j/, and /d/. In addition, the consonant is emphasized by applying extra pressure at the articulator (Gouda, 164)

articulated, extra-nasalized, and the two consonants are produced with no release between them (similar to the production of geminates).

Nelson and Gouda both mention a difference between the articulation of vowels preceding nasals which have assimilated to emphatics and those preceding nasals assimilated to the corresponding non-emphatic consonants (Nelson, 1985: 22; Gouda, 1989: 190). Nelson differentiates between the extra-nasalization accompanying *iḫfa:ʔ* and that accompanying nasalized *idka:m*: in the former *ḩunnah* is carried by the preceding vowel, while in the latter the voiced nasal consonant carries it. However, Nelson does not describe the way in which the tongue anticipates the following consonant, producing partially articulated nasal allophones of /n/. I have chosen not to depict the vowel preceding *iḫfa:ʔ* as nasalized. Partial articulation makes the boundary between vowel and nasal allophone less clear, but I view extra-nasalization as a kind of secondary articulation used to beautify recitation by emphasizing geminates.

d) Partial assimilation of /n/ to /b/: *iqla:b*

Classical literature calls the process that occurs when syllable final /n/ and syllable initial /b/ meet *iqla:b*, a process whereby /n/ becomes /m/ in the environment of /b/, then undergoes *iḫfa:ʔ*. This process can be classed as *iḫfa:ʔ*.

2d.1 /ṣummun bukmun/ > [ṣuṛṛṛṛṛṛ bukmun] “deaf, dumb”

“Deaf, dumb and blind; they do not return”(2.18).

e) Assimilation of /m/: Lesser *idka:m* and *iḫfa:ʔ*

/m/ also undergoes changes classified as *idka:m* and *iḫfa:ʔ*. The former occurs when word final /m/ proceeds word initial /m/. In this case, assimilation is not observable, so the process is one of gemination and subsequent extra-nasalization only. *iḫfa:ʔ* is the partial assimilation of /m/ to /b/. The lips do not close fully on /m/, only

on /b/(Gouda, 1989: 190):

2e.1 /wa ma: hum bimū?minu:n/ > [huṃṃ bimū?minu:n] “and they are not
believers”

(see verse 2.8 above)

3) Blocking of assimilation by pauses

Pauses in recitation block assimilation. Prescribed pauses within verses are marked in the text,¹⁴ and in instances where a pause and [idʁa:m] coincide the orthographic markings for [idʁa:m] (a geminate diacritic above the onset of the second word) do not appear.

3.1 /ʃadi:dun (pause indicator) wa lla:hu/ > [ʃadi:d (pause) walla:hu]¹⁵

“..heavy. And God..”

(see verse 3.4 above)

The example above is one in which the pause also removes the syllable-final /n/ that would assimilate to the following consonant. Other pauses might create a syllable final /n/ or /m/ where none existed before through another rule that drops word final vowels before a pause or stop. However, the newly created coda would not assimilate to the following onset (if assimilation might normally occur between the two consonants), blocked by the pause but more importantly by the fact that the pause causes the environment in which assimilation might be possible; deletion of the pause removes that environment. When a reader pauses where no pause is indicated (to catch breath, for example), pausing still blocks assimilation, but the reciter usually repeats the phrase that occurred before the pause and follows the assimilation rule (if

¹⁴ Convention dictates stopping at the end of each verse, although the end of a verse does not necessarily denote the end of a sentence or idea. A very few verse endings are marked with a symbol that disallows stopping; this reflects a connection in meaning between the two verses divided by the verse ending.

¹⁵ [l] represents a pharyngealized allophone of /l/.

applicable) in the second, pauseless reading.

Conclusion

Nasal assimilation *ḥunnah* rules constitute only a small portion of *tajwi:d*, and *tajwi:d* is not the only factor governing acceptable Quranic recitation. According to Nelson (1985), it is categorically agreed upon that the most effective recitation incorporates melody (Nelson, 1985: 52). Emotional feeling, vocal skill and beauty, and the correct application of *tajwi:d* rules all contribute to correct recitation and enhance both the reader and listener's experience of the Quranic recitation. Two styles of recitation exist: *murattal* and *mujawwad*. The former is used primarily for teaching or private devotional recitation, while the latter is a performative style used in public contexts. *Mujawwad* recitation employs the Arabic melodic system¹⁶ and is intended to affect listeners; *murattal* is closer to regular speech in terms of vocal rhythms, and "the aim of the *murattal* style is the clear and accurate presentation of the text" (Nelson, 1985: 102). The recorded recitation used to transcribe Quranic verses for this paper is an example of *murattal* recitation.

Rules that lead to extra-nasalization (*ḥunnah*) respond to an aesthetic preference that deems nasality beautiful. *ḥunnah* lengthens segments, and since geminate vowels are also lengthened in certain environments, I conclude that such rules attempt to maximize sonorancy, probably for its contribution to a mellifluous reading. Judging these nasal assimilation and geminate vowel lengthening rules alone, the redundancy of these rules and their function in emphasizing aesthetic qualities leads me to class them as post-lexical. Most *tajwi:d* rules would fall under this categorization because

¹⁶ Though Quranic reciters employ melody as one aspect of beautification, conventions warn against making recitation of the Quran sound too much like music. These warnings are part of the *sama:f* polemic, which concerns the acceptability of all types of music within the Islamic tradition. Orthodox teachings prohibit music, though textual proof of its prohibition is limited and music plays an important role in transcendence in the Sufi tradition.

they are consciously followed by the reader during recitation, and they serve to beautify or to preserve meaning, or a combination of the two. An example of a rule that primarily serves preservation of meaning is *tajwi:d*'s stress on pronunciation of consonants from their 'proper' place of articulation (rather than allophonic pronunciations). Nasal assimilation and subsequent gemination, on the other hand lead to the formation of geminate consonants and extra-nasalized partial geminates that give a sense of flowing from one sound to the next. This does not explicitly contribute to preserving the text's meaning, but occasions where the loss of meaning is feared are blocked in *idk̄a:m*, which only occurs across word boundaries in order to avoid simulating already existent forms within a word.

Feature geometry can usefully describe processes of assimilation, and place of articulation plays a role in the grouping of consonants into the different types of assimilation that syllable final /n/ undergoes. This is complicated in *iḫfa:ʔ* where particular articulators or shapes of articulation are involved in producing the surface manifestation of the nasal. /n/, as an unmarked coronal nasal, mainly consisting of nasality and a default place, assimilates very easily. /m/ only assimilates to segments that share its place (/m/ and /b/), but does not assimilate to the labials /w/ and /f/. This could be explained by the types of articulation that produce assimilating and non-assimilating consonants – unlike /m/ and /b/, /f/ is labiodental, while the production of /w/ does not involve contact of the lips as the labial stops do. This type of explanation is not provided by feature geometry; nor do feature bundles offer an explanation for partial articulation of the nasal allophones produced by *iḫfa:ʔ*.

Using feature geometry and lexical phonology to describe some of the prescriptive rules of Quranic recitation governed by *tajwi:d* shows that these rules work within the natural classes of phonetic segments. Extra-nasality is not found

elsewhere in the Arabic language, but it may be described as a secondary articulation (analogous to secondary articulation in the emphatics) that serves an aesthetic purpose in Quranic recitation. Distinctive pronunciation is required by *tajwid* in order to preserve the Quran's meaning during recitation, but just as important as transmitting correct textual meaning is beautification of the oral rendering of the holy Quran. A reciter must combine both aspects in order to show loyalty to the Quran's divine nature.

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