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Arabic's Disappearing /q/

Causes and Effects of the Lack of /q/ in Modern Arabic Dialects

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***Abstract:** Due to the complex nature—being defined by two place features—of the voiceless uvular stop /q/, it has been lost in almost every modern dialect of Arabic. What was once realized as /q/ is now one of three main reflexes: /k/, /g/, or /ʔ/. These reflexes arose from the preservation of one of /q/'s two defining place features. The former two preserve the oral node and [dorsal] feature; the latter, the pharyngeal node and [pharyngeal] feature. Due to the lack of /q/ among the dialects but common presence in Modern Standard Arabic (MSA) and Classical Arabic (CA), the language of the Qur'ān, realizing /q/ as [q] has become a sign of intelligence and formality among speakers of Arabic, as noted by Holes (2004). A resurgence of /q/ in colloquial Arabic has been largely due to the omnipresence of MSA, as well as the prestige it carries. The relationship between MSA and the dialects, as seen with /q/, gives insight into societies with such pronounced diglossia, as well as the effects that a prestigious standard has on unstandardized colloquial speech and dialects.*

Spoken by nearly 300 million people in the Middle East and North Africa, Arabic is a major world language of increasing importance on a global scale. In addition, it is the liturgical language of Islam, causing Arabic to be spoken in Muslim communities around the world. Close living relatives of Arabic include Hebrew, Aramaic, and Amharic, while more distance relatives in the Afro-Asiatic family include Coptic, Hausa, and Somali. In addition to its standard written form, Modern Standard Arabic (typically abbreviated to MSA), speakers of Arabic speak one of Arabic's numerous dialects, which are incredibly diverse. MSA derives from Classical Arabic, the variety of Arabic spoken in the first millennium and used in the Qur'ān. This paper will discuss one of the major differences between dialects of Arabic: the incredibly varied realization of the phoneme denoted in the Arabic script as *qāf*, its forms shown in Figure 1. In MSA and Classical Arabic, *qāf*

denotes the voiceless uvular stop, /q/ (Ryding 2005), a pronunciation which has only been preserved in

Isolated	Final	Medial	Initial
ق	ق	ق	ق

Figure 1: The four forms of *qāf*.

fringe dialects of Arabic—northern Iraq, Yemen, Oman, and parts of the Maghreb (Holes 2004). In all other dialects, Classical Arabic's /q/ has shifted to one of three main phones: [k], [g], or [ʔ]. The realization of /q/ as [k] is common in Bedouin dialects (Holes 2004), while [g] is common throughout the Arabian Peninsula and along the Persian Gulf (Holes 1984), with [ʔ] being typical in the Levant (McLoughlin 1982). This paper will analyze the shift in pronunciation of *qāf* in different dialects of Arabic as well as the effects these sound changes have caused, primarily through the analysis of the model of these phones according to feature geometry. It will also detail the continued presence of /q/ in certain contexts in modern dialects.

First of all, the distinctive features of [q] must be examined. [q] is a voiceless uvular stop, with a place node as shown in Figure 2 below. As it has two place features corresponding to its

place node, [q] can be considered a “complex consonant”. As a complex consonant, it is particularly “volatile” and subject to sound change. The [dorsal] feature is unique in that it is shared between the oral and pharyngeal nodes, as dorsal consonants serve as a sort of middle ground between the two, having traits from both. The

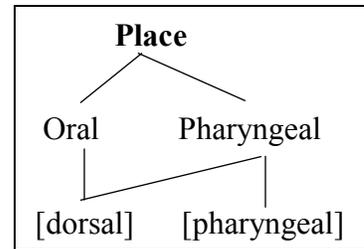


Figure 2: The place node of [q].

diagram shown in Figure 2 is similar to the model created by McCarthy (1988). Rose’s (1994) model is similar, except with the [pharyngeal] feature replaced by a feature for retracted tongue root, denoted [RTR]. If approached from a diachronic view, /q/ originated as the emphatic counterpart of /k/ (Versteegh 2014). As Arabic realizes the emphatics as pharyngealized versions of their non-emphatic counterparts, /q/ can then be seen as /k/—whose place node contains the oral sub-node and the [dorsal] feature—with an added pharyngeal node, similar to what is seen in Figure 2, though without the connection between the pharyngeal node and the [dorsal] feature. As the [dorsal] feature is one of both the oral and pharyngeal nodes, it can then be hypothesized that [q] originated from [k^ʕ] when a link was formed between the pharyngeal node and [dorsal] feature. As the [coronal] feature cannot be linked to the pharyngeal node, this early sound change could not occur with Arabic’s other emphatics, all of which are coronals.

Before getting into the different reflexes of /q/, it is worth mentioning the cases where dialects that have had /q/ shift to [k], [g], or [ʔ] retain [q] in some cases. According to Omar (1973), the last phoneme acquired by children learning Egyptian Arabic is /q/, which only becomes consistently articulated as [q] by age 6 or 7. According to her, “the lateness in acquisition is no doubt due to the extreme rarity of the phoneme.” This is notable, as this means speakers of Egyptian Arabic, though they do not typically use [q] in their dialect, still preserve it in a handful of words. The most notable word that retains [q] even in dialects that typically lack it is *Qur’ān*. A

word with such cultural significance among speakers of Arabic is thus largely immune to the sound changes typical of the dialect. In this case, the preservation of [q] seems to be due to a preservation of the pronunciation of the word itself, rather than a preservation of the phoneme. A related phenomenon that backs the hypothesis that the pronunciations of culturally significant words are deliberately preserved is the preservation of the spelling of *Allāh*¹ in the Arabic script, as seen in Figure 3. This spelling preserved the letter called “dagger alif”, which is no longer used in the language at large. According to Holes (2004), dialects that lack [q] in standard usage also typically preserve it in highly specialized words. For instance, while /ħaqq/ ‘(legal) right’ is typically pronounced as [ħaʔʔ] in Egyptian Arabic, the word /ʔiqṭʕa:/ ‘feudalism’ preserves the /q/ with a typical pronunciation of [ʔiqṭʕa:]. Holes (2004) attributes much of this preservation to the omnipresence of MSA in the Arabic world. Many words that retain [q] are borrowings from MSA into the dialects, are specialized enough that their sounds would not change due to lack of use, or are culturally significant enough that the original pronunciation is deliberately preserved.



Figure 3: Standard spelling of “Allāh” (left) compared with the equivalent spelling using modern spelling conventions (right).

Arguably, the most obvious sound change for /q/ is the shift from the voiceless uvular stop

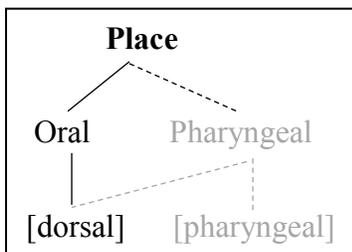


Figure 4: The place node of [k], with the features dropped from [q].

[q] to the voiceless velar stop [k]. As stated above, /q/ originated the emphatic equivalent of /k/, it typically patterns with the dorsals, and [k] is the pronunciation speakers of languages that lack [q] often approximate it as (compare Arabic *Qurʿān* and *Al-Qāhira* with English “Quran”/“Koran” and “Cairo”). This reflex is common

¹ The word *Allāh* is also notable in that it retains an emphatic l [lʕ], being pronounced [alʕlʕa:h]. This sound is not found in any other word in the language.

among rural communities, such as those in Palestine. Figure 4 shows the place node of [k] in black. In order for [q] to become [k], the pharyngeal node becomes delinked (denoted by the dashed line), causing the pharyngeal node and its features to be dropped (denoted in grey with dashed lines). What is left after the pharyngeal node is dropped is the place node of [k]. According to Watson (2002), /q/ being fronted to [k] often indicates /k/ is fronted as well in some or all positions², becoming $[\widehat{tj}]$. As $k \rightarrow \widehat{tj}$ is a more drastic change, required many more features to be added and dropped³ when compared to $q \rightarrow k$, it is likely that the cause of the former shift was to preserve the distinction between the two phonemes, whereas the latter shift was due to purely phonetic reasons (i.e. simplifying a complex consonant).

Though [k] is likely the most obvious reflex of /q/, it is notably less common than its voiced counterpart, [g]. Classical Arabic's /q/ has shifted to [g] in many dialects in the Arabian Peninsula and along the Gulf Coast, as documented by Holes (1984). The place node for [g] is identical to the node for [k] shown in black in Figure 4. [g] is differentiated from [k] with its laryngeal node, which gives it the [voice] feature. As the [voice] feature also has to be added to [q] when it shifts to [g], one might assume this change to be less common than a simple $q \rightarrow k$. However, as seen above with the shift from $k \rightarrow \widehat{tj}$, these shifts seem to operate under an important constraint: structure preservation. Preserving the distinction between /q/ and /k/ seems to be an important constraint, as does preservation of phonemes not directly involved in /q/'s shift. As the shift from $k \rightarrow \widehat{tj}$ violates the second constraint, the change $q \rightarrow g$ is more optimal. It preserves the distinction between /q/ and /k/ that would be lost if the change were a simple $q \rightarrow k$. It also preserves the

² $[\widehat{tj}]$ is typical in all positions in Palestine. It is an allophone of /k/ in the environment of front vowels in Jordan, Iraq, and the northern Arabian Peninsula.

³ A multi-step change such as $k \rightarrow c \rightarrow \widehat{tj}$ is more likely, but such a change requires two steps while $q \rightarrow k$ only requires one.

structure of /k/, instead of violating it as $k \rightarrow \widehat{tj}$ does. The only constraint violated is preserving /q/, so this constraint must be of lower importance in these dialects. Due to these constraints, /q/ has become /g/ instead of /k/ in a large number of Arabic dialects. As noted by Watson (2002), a few traces of /g/’s origin as /q/ can be found in these dialects. Just as the pharyngeals⁴, /q/ tends to “color” vowels, usually by backing and/or lowering them. For instance, the phoneme /a/, typically realized as [æ], is realized as [ɑ] after uvulars and pharyngeals. In dialects with the reflex /g/, /a/ is still colored, so /ga/ is pronounced [gɑ], while /ka/ is [ka] or [kæ]. Interestingly, dialects with the /g/ reflex often do not preserve /q/ even in culturally significant words. For instance, Watson (2002) notes that speakers of San’ani Arabic pronounce even *Qur’ān* with a /g/, as /al gurʔa:n/.

The final major reflex of /q/ is the glottal stop /ʔ/, common in the Levant and Egypt. The place node for [ʔ] according to McCarthy’s (1988) model is shown in black in Figure 5. The sound change $q \rightarrow ʔ$ may seem a little less obvious than $q \rightarrow k$ or $q \rightarrow g$, as [q]’s primary feature is [dorsal]. In becoming [ʔ], [q] loses the oral node. When the oral node is delinked, the [dorsal] feature goes with it, causing it to be delinked from the pharyngeal node. Then, as there is a lack of a primary feature once [dorsal] is delinked, the [pharyngeal] feature is promoted, becoming the primary feature.

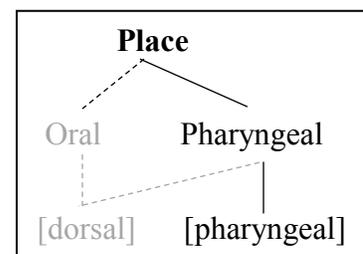


Figure 5: The place node of [ʔ], with the features dropped from [q].

The resulting consonant is [ʔ]. Figure 5 shows the delinking of the oral node (denoted by the dashed line) and the loss of the oral node and [dorsal] feature (denoted in grey with dashed lines). As noted above, these dialects often preserve /q/ as a marginal phoneme, restricted to important cultural terms and highly-specialized words. Of note is the lack of preservation of the distinction between /q/ and /ʔ/ in these dialects. As dialects with a /g/ reflex preserve the distinction between former

⁴ This is likely a result of /q/’s origin as a pharyngealized k.

/k/ and /q/ by creating a voicing distinction when the place distinction is lost, it can be theorized that a similar process would occur when the reflex is /ʔ/. However, as a voiced glottal stop is impossible to articulate, /q/ must remain [ʔ], losing the former distinction between the two phonemes.

As stated earlier on, dialects that lack /q/ often preserve /q/ as a marginal phoneme in certain words. In addition to that, the presence or lack of /q/ in speech is strongly correlated with formality. Versteegh (2014) cites a study from 1985 that gave results as shown in Figure 6. With increasing

oral level	source material	/q/ percentage
informal MSA	e.g., newscasting, university lectures (arts)	45
formal educated colloquial	e.g., university lectures (science)	44
informal educated colloquial	e.g., intra-group conversations among professors	35
formal literate colloquial	e.g., popular television programmes	34
informal literate colloquial	e.g., intra-group conversations among shopkeepers	22
formal illiterate colloquial	e.g., conversations between employers and employees	23
informal illiterate colloquial	e.g., intra-group conversations among workers	0

Figure 6: Presence of /q/ in different social situations in Egyptian Arabic. From Versteegh (2014) pg. 245 citing Elgibali (1985).

formality and education, the presence of /q/ increases steadily. Level of formality and level of education each appear to increase the frequency of /q/ by approximately 10% when compared to the next lowest level matching in the other trait. That is, for example, formal educated colloquial is approximately 10% higher than both informal educated colloquial and formal literate colloquial. This obvious relation between /q/ and formality and education likely stems from the near-total lack of /q/ in any modern dialects. The only place it would come up is in formal contexts where the standard dialect, MSA, is spoken, thus giving the phoneme a connotation of formality. In addition, /q/'s almost universal presence in words such as *Qur'ān* likely contribute to the formal undertones.

While /q/ was a major phoneme of Classical Arabic and still is one in its daughter, Modern Standard Arabic, it has been lost in nearly every dialect of the language, from Iraq to Libya. Due to /q/'s complex nature, having both oral and pharyngeal features, the phoneme has been simplified through the delinking of one of the two nodes under the place node. As such, it appears in modern dialects as one of three main reflexes: /k/, /g/, or /ʔ/. Because of this loss of /q/, the presence of it in a word or in a conversation denotes formality, whether it be in the word *Qur'ān*, the holy text of Islam, or in a lecture at a prestigious university. With the increasing presence of Modern Standard Arabic in the Middle East, as conversations between people of different dialects become more common, /q/ has slowly begun creeping back into colloquial speech through loanwords from the standard. Perhaps this resurgence of /q/ together with the level of education it connotes shall lead it becoming a phoneme common throughout Arabic dialects once again.

Annotated Bibliography

Flynn, Darin. 2012. *Phonology: The distinctive features of speech sounds*. Calgary: University of Calgary Press.

Flynn's textbook serves as a course and overview of distinctive features and their effects in phonology, such as allophony and sound changes. Each chapter is dedicated to a different set of features. These chapters detail what these features mean as well as the variations they cause and receive among different languages. The chapters each have sections dedicated to the different features within the chapter's set, with these sections detailing each specific feature.

This book's section on pharyngeals and consonants possessing the [RTR] feature are useful for my paper, as they can be used to explain the variants in Arabic dialects' realizations of /q/. The data in the book can also be used to draw parallels between Arabic's emphatics and /q/, as /q/ ultimately derives from an emphatic /k/.

Holes, Clive. 1984. *Colloquial Arabic of the Gulf and Saudi Arabia*. London: Routledge & Kegan Paul Ltd.

This book is a course in colloquial Arabic dialects spoken around the Gulf of Persia and in Saudi Arabic. It targets those learning Arabic with no prior experience with the language, rather than linguists. As such, it is filled with everyday vocabulary and useful basic grammar explained in layman's terms. The beginning of the book has an overview of the sounds used in Gulf Arabic, both in IPA and layman's terms (e.g. “j [dʒ] j in ‘jet’ or g in ‘barge’”).

While this book is not targeted towards linguists, I can use the initial overview of the phonemes of Gulf Arabic. The book also describes a few “educated” variants (i.e. variants typical in MSA or Classical Arabic) and their colloquial equivalents, including the realization of /q/.

Holes, Clive. 2004. *Modern Arabic structures, functions, and varieties*. Washington, D.C.: Georgetown University Press.

This book is a linguistic overview of the Arabic language, including Modern Standard Arabic as well as some details on the different dialects. It includes chapters on the history of the Arabic language, the phonology of MSA and phonemic variation in the dialects, a chapter each for verb and noun morphology, and syntax, among other things. The book is, in Holes’ words, “data-driven rather than theory-driven”, and as such it simply gives the reader a picture of the Arabic language, rather than presenting a new theory or a solution to a problem. The phonology chapter predominately details the phonology of MSA, though there is a section on the phonologies of the dialects and a section on phonological variation between dialects.

This book is very useful for its phonology chapter, especially the sections on differences between MSA and the dialects and between different dialects. There is an entire subsection dedicated to the different realizations of /q/, which is particularly pertinent for my paper’s topic.

McCarthy, John J. 1988. Feature geometry and dependency: A review. *Linguistics Department Faculty Publication Series*. Paper 38.

http://scholarworks.umass.edu/linguist_faculty_pubs/38 (21 Apr. 2015.)

This article is an overview of feature geometry, describing what feature geometry is, what its implications are, and what problems in linguistics it can be used to solve. It goes over the basic operations in feature geometry, in particular the linking and delinking of nodes in the feature tree. McCarthy examines how the different tiers of a feature tree allow certain restrictions, such as Arabic's prohibition of roots containing more than one bilabial consonant, to be explained by the Obligatory Contour Principle. It also discusses the place nodes of several consonants, such as the place node of [k^w] ultimately mapping to both [dorsal] and [labial].

McCarthy's article is extremely useful, as his description of [q]'s place node fits perfectly with the data seen in Arabic. That is, as he describes [q]'s place node as having a [dorsal] component as well as a [pharyngeal] component, the variation between [q], [k], [g], and [ʔ] can be explained by a delinking of one of the two place node's sub-nodes.

McLoughlin, Leslie J. 1982. *Colloquial Arabic (Levantine)*. Boston: Routledge & Kegan Paul

Plc.

This book is a manual and course in the Levantine dialects of Arabic. Targeting learners of Arabic rather than linguists and other scholars of the Arabic language, it mainly consists of day-to-day vocabulary and grammatical structures useful for someone looking to learn basic Arabic. It also makes a number of comparisons between Levantine Arabic and Modern Standard Arabic, citing differences in both pronunciation and grammar. The beginning of the book also has an overview of the sounds of Levantine Arabic explained in layman's terms.

Similar to Holes' book on Gulf Arabic, this book is mainly useful for my purposes for its overview of Levantine Arabic's phonemes, in particular the explanation of the pronunciation of

qāf. The book's examples of differences between Levantine Arabic and Modern Standard Arabic can also be used.

Omar, Margaret K. 1973. *The acquisition of Egyptian Arabic as a native language*. Washington, D.C.: Georgetown University Press.

Omar's book focuses on the development of speech among native speakers of Egyptian Arabic, including the lexicon, phonology, syntax, and morphology. In addition, it compares and contrasts the speech of the children studied with that of the adults in their area, as well as with the acquisition of speech by native speakers of other languages. It discusses the periods at which the children acquired different sounds, as well as the eventual frequencies of each of these sounds.

The section on the allophonic realizations of phonemes and the section on the acquisition of different phonemes will be used to detail the loss of [q] in Arabic dialects. In particular, the book details the acquisition of each phoneme, with /q/ not being acquired until age 6.6, and even then only in the word 'Qur'ān'.

Rose, Sharon. 1994. Guttural contrasts. *Toronto Working Papers in Linguistics* 13. 147-172.

Rose's article is similar to McCarthy's; in fact, it references McCarthy several times. It, too, incorporates feature geometry, but Rose's article focuses primarily on the 'guttural' consonants (i.e. pharyngeals, laryngeals, and uvulars). Rose posits a retraced tongue root feature, written [RTR], to replace McCarthy's [pharyngeal] and [radical] features. She then redraws the feature trees for several guttural consonants with this [RTR] feature included. In addition, the

article describes the presence of this [RTR] feature among Semitic languages, as well as its effect on surrounding consonants and vowels.

Rose's article is predominately useful as a counterexample for McCarthy's article. However, her article draws similarities between [q] and [ʕ] due to their mutual possession of the [RTR] feature, whereas McCarthy's model draws similarities between [q] and [ʔ], due to their mutual lack of the [radical] feature. As McCarthy's model fits better with the data found for Arabic, Rose's model serves best as an alternate proposal which fails to account for this variation.

Ryding, Karin C. 2005. *A reference grammar of Modern Standard Arabic*. Cambridge, United Kingdom: Cambridge University Press.

Ryding's work is a full grammar of Modern Standard Arabic, detailing everything from phonology to sentence structure to parts of speech to verb forms, moods, and inflections. It is a comprehensive source of data on the structures of the Arabic language. While it does not present any theories or new data, it is, as might be expected from the title, a comprehensive reference, which can be used in conjunction with articles and books which present new theories.

I use this book mainly for its data, particularly in the phonology section. It is a particularly large source of data, as it is a comprehensive reference grammar rather than a linguistic overview or a language-learning course.

Versteegh, Kees. 2014. *The Arabic language*. Edinburgh: Edinburgh University Press.

Kees' work focuses on the historical development of Arabic in both its standard form and its dialects, as well as on the differences between these that have arisen due to these historical changes. Additionally, it discusses the emergence of the current standard dialect, Modern Standard Arabic from its roots in Classical Arabic. The book mainly serves as an overview of the history of Arabic, though it does discuss the dialectal differences in relation to these historical developments.

I use this book for its sections on dialectal differences, in particular the parts of the book dedicated to the changes of the phoneme /q/, which has been a particularly 'volatile' phoneme in Arabic's history, having undergone significant change in almost every dialect. Kees' section on the development of MSA from Classical Arabic is also useful, as it explains why MSA has numerous archaic features that have been almost universally lost among the dialects.

Watson, Janet C. E. 2002. *The phonology and morphology of Arabic*. New York: Oxford University Press.

Similar to Kees' work, Watson's book is an overview of the Arabic language, focusing on Modern Standard Arabic, Cairene Arabic, and San'ani Arabic. It contains overviews of the phonology and morphology of the language, as well as of the 'emphatic' feature of Arabic. In addition, there is a chapter dedicated to the phonological features present in Arabic, including root, stricture, laryngeal, and place features. The section on place features is particularly detailed. There are also chapters on lexical and post-lexical phonology. As it is an overview of Arabic, it serves mainly to present data, rather than to present a theory.

This book is particularly useful due to its chapter on phonological features. It contains plenty of useful data in the phonology chapter while the features chapter ties in well with

McCarthy's and Rose's article. The chapter on emphatics is also useful, as Arabic's /q/ originated as emphatic /k/, meaning it preserves a number of features common among the emphatics.