The Evolution of Ḍād:
A Synchronic and Diachronic Analysis of the Emphatic Arabic Ḍād

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Abstract: The purpose of this study is to: (1) examine how the original ḍād consonant and its description evolved from how Sibawayh documented it, and (2) discuss the historical context surrounding the distribution of the ḍād across the Arabic-speaking world. The ḍād is one of the most controversial consonants in the Arabic language, and therefore is a fascinating linguistic phenomenon to study. Almost none of the current dialects resemble the probable original variety introduced when the Arabic language was spread throughout the Middle East and North Africa around the birth of Islam. In the course of this study, the phonetics and phonology of the Arabic emphatic consonant ḍād will be analyzed in detail, as well as the broader history of this emphatic across the Arabic-speaking world. Specifically, the historical context surrounding the development of the consonant will be examined. In addition, ideas about both the contact situation surrounding the consonant and factors that may have influenced its present realization will be explored.

التطور لصوت الضاد تحليل تزامني وزماني لصوت الضاد العربية المفخمة

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المستخلص: تهدف الدراسة إلى محورين أساسين: المحور الأول هو التركيز على التطور الصوتي لصوت الضاد وكذلك تقديم وصف علمي دقيق للتطور التاريخي منذ عصر سيبويه. المحور الثاني يركز على التطور الصوتي للضاد في العالم العربي. يعتبر صوت الضاد أحد الأصوات العربية الذي تدور حوله الاختلافات الصوتية. صوت الضاد ظاهرة صوتية تتطلب التركيز لدراستها حيث أن هناك اختلاف لوصف الضاد في اللهجات العربية الحالية. فمعظم هذه الاختلافات قد أدخلت وتزامنت مع انتشار الإسلام في جميع إنحاء الشرق الأوسط وشمال إفريقيا. وفي سياق هذه الدراسة سوف يتم تحليل صوتي دقيق لصوت الضاد من خلال علم الصوتيات وعلم الأصوات. وكذلك تتبع التطور الصوتي التاريخي في جميع إنحاء العالم العربي. وسوف يتم فحص السياق التاريخي المحيط لتطور صوت الضاد. بالإضافة إلى ذلك سوف يتم استكشاف الآراء ذات الصلة التي كان لها دور في بلورة وضع صوت الضاد الاجتماعي والجغرافي في العام العربي.

الكلمات المفتاحية: الأصوات العربية المفخمة، صوت مفخم بين أسناني مصوت، صوت مفخم أسناني وقفي، نطق الضاد، اللغة العربية الجنوبية القديمة، انتشار العربية بواسطة الإسلام، حقيقة الأصوات بين أسنانية.

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Introduction

The purpose of this study was to: (1) examine how the original ḍād consonant and its description evolved from how Sibawayh documented it, and (2) discuss the historical context surrounding the distribution of the ḍād across the Arabic-speaking world. The ḍād is one of the most controversial consonants in the Arabic language, and therefore is a fascinating linguistic phenomenon to study. Almost none of the current dialects resemble the probable original variety introduced when the Arabic language was spread throughout the Middle East and North Africa around the birth of Islam. In the course of this study, the phonetics and phonology of the Arabic emphatic consonant ḍād will be analyzed in detail, as well as the broader history of this emphatic across the Arabic-speaking world. Specifically, the historical context surrounding the development of the consonant will be examined. In addition, ideas about both the contact situation surrounding the consonant and factors that may have influenced its present realization will be explored.

1.1 Emphatic Consonant Ḍād: The Phenomenon

Literary Arabic has four primary emphatic consonants: /ḍ, ð̣, ṣ, ṭ /. In order to explore fully this emphatic consonant, it is necessary to state in the first place what an emphatic consonant even is. What makes a consonant emphatic has much to do with places of articulation. Specifically when one is dealing with the context of Arabic, an emphatic consonant is a consonant that has a primary articulation in the oral cavity as well as a secondary articulation more or less in the back of the vocal tract (Broselow 2008: 610), although there has been some controversy as to where exactly the secondary articulation is. The relevant controversy will be expounded upon in further detail as this study progresses.

The prestigious, formalized "dialect" of Arabic, sometimes labeled classical Arabic or Modern-Standard Arabic, among other things, will be referenced to as literary Arabic or by its Arabic name, *al-fuṣḥā,* in this study, since some controversy exists on the western classifications of *al-fuṣḥā*. Literary Arabic is limited only to writing, the news, academia, and most formal speech. This is not the everyday colloquial Arabic that is spoken by native Arabic speakers (McCarus 2008: 238). The Arabic-speaking world consists of many different dialects, sometimes

to the extent of there being many within a country, region, or even city. The dialectal differences are sometimes minor, but some differences can be so great across the Arabic-speaking world that, e.g., a speaker of colloquial Moroccan Arabic may not be able to communicate with a speaker of colloquial Iraqi Arabic if each speaks in their native dialect, even though they are both speakers of Arabic. Yet, if educated in *al-fuṣḥā*, both will be able to communicate well with each other. It is in this situation which constitutes a diglossia between the speakers' regional dialects and the *al-fuṣḥā* used as a substitute to communicate cross-dialectally. There are many geographical factors, across the spectrum of Arabic dialects, that influence the way in which ḍād is realized, and not every dialect pronounces ḍād in the same fashion.

1.2 The History of Ḍād

In examining the history of ḍād, it is first necessary to trace the ultimate origins of the Arabic language as a distinct entity. Arabic is part of the Semitic language family, and its origins are within the large Afro-Asiatic family which now stretches from western to eastern Africa, and then into western Asia. Given this vast spread, it is not surprising that there is some dispute as to whether the origins of Semitic were in the Arabian Peninsula or in what is now the Somalian/Ethiopian region (De young 1999). In any event, the Arabic language we know today reportedly originated in the northern part of Arabia and expanded in the seventh century all the way from modern day Iraq to modern day Morocco (Kay, Rosenhouse 1997). Arabic was spoken by a relatively small number of people until the seventh century, when it expanded with the spread of Islam. As Arabic is a holy language in Islam, it happened that with the spread of Islam came the spread of Arabic.

Within the language, there is a phonetic feature called *tafkhīm*, or pharyngealization. *Tafkhīm* was described in the eighth century by the famous Arabic grammarians al-Khalil Ibn Ahmad al-Farahidi (died 175/791) and Sibawayh (died 177/793); these are our earliest descriptions of the phenomenon. Although an accurate reconstruction of the emphatic consonants during this time period has been somewhat difficult arrive at, Sibawayh described the consonant ḍād by saying: "…and from the front part of the side edge of the tongue and the molars next to it is the outlet of the

ḍād". This phonetic description thus represents a voiced lateralized interdental fricative, which will, in this study, will be transcribed as /ðˡ/. Although some are critical of whether or not a lateral feature of ḍād existed, it is generally accepted by most linguists of Arabic, including Cantineau and Diakonoff (Corriente 1978: 50). It should be noted, however, that some scholars are in disagreement with this description. For example, Ibn Sina, through his study of anatomy and the human speech organs, concluded that: "the sound d is produced with complete obstruction of the airstream, and its exit is slightly forward than that of the /j/." (Alani 1994: 147). Al-Azraqi reports that the ancient dad of Southwest Arabia was " a voiced alveopalatal fricative lateral emphatic sound" (Al-Azraqi 2010: 62) The vast majority of the Arabic-speaking world no longer pronounces the ḍād with lateralization, and the sound is described for *al-fuṣḥā* as a voiced emphatic dental stop and is loosely transcribed as /ḍ/ since emphatics do not have any kind of universal diacritic. However, the ḍād is reportedly still realized as Sibawayh first described it in some dialects of Ḥaḍramawt, as well as on the island of Ṣoqṭrah (or Socotra), Yemen (p.c. Watson 2011).

1.3 The Purpose of this Study

Several questions will be raised concerning the realization of ḍād. It is apparent that Sibawayh's pronunciation of ḍād no longer exists in the vast majority of the Arabic speaking world, but how did ḍād evolve to its current realization in the dialects? In order to answer this que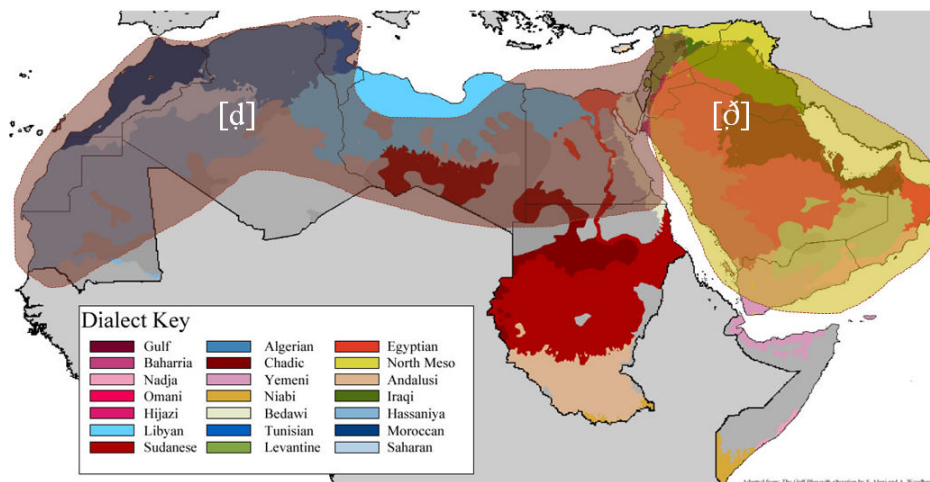stion, it is necessary to delve deep and to narrow one's focus on the root of this phenomenon. In examining how the ḍād evolved from its pronunciation in Sibawayh's description into the current descriptions of pronunciation that we have today, it is the goal of this paper to present new ideas as to the consonant's evolution.

A Description of the Phenomenon

There are different dialectal realizations of ḍād throughout the Arabic speaking world. Arabic linguist Abdulhamid Gadoua sums up the phenomenon of dialect variation by stating, "Nowadays, the most common pronunciation of [ḍ] around all Arabic dialects is to articulate it as [ð] if there are interdental consonants /ð/ and /θ/ in the dialect of the speaker, and to articulate it as an emphatic [ḍ] if there are no such consonants in the dialect of the speaker, i.e., if those consonants are substituted by /t/ or /s/ for /θ/ and /d/ or /z/ for /ð/" (Gadoua 2012: 1). This concept will be further expounded upon and demonstrated throughout this section.

2.1 Describing the Realization of Ḍād throughout the Arabic Speaking World

The following map gives a geographic overview of the dominant realizations of this particular emphatic consonant. It should be noted that, although the majority realization of the emphatic consonant is represented in this depiction in each region, only the urban dialects are accounted for, as the majority of the Bedouin dialects across the Arabic-speaking world universally realize ḍād as a voiced emphatic interdental fricative.

For purposes of identification, the /ḍ/ in the map above represents a voiced emphatic dental stop. Furthermore, the /ð̣/ represents a voiced emphatic interdental fricative. As noted previously, the /ð̣ˡ/ is representative of Sibawayh's initial description of the emphatic ḍād, which he characterized as a voiced lateralized dental fricative. This map is only meant to provide a general overview of the realization of ḍād, and there are perhaps isolated areas which realize the consonant in a manner contradictory to the data displayed above. However, the above data provides an interesting general overview of the ḍād and its distribution.

2.2 Examining the Distribution of Ḍād in the Arabian Peninsula

When we first examine the map characterizing realizations of the emphatic ḍād, we notice a very obvious general distribution of the ḍād consonant. In the east, the voiced emphatic interdental fricative is predominant, but in the north and the west, the voiced emphatic dental stop is heard often. More specifically, the Gulf nations of Yemen, Saudi Arabia, the United Arab Emirates, Qatar, Kuwait, and for the purposes of this study, Iraq, all realized the ḍād predominately as a voiced emphatic interdental fricative.

The predominant realization of ḍād in the Gulf is a voiced emphatic interdental fricative. However, there are places where ḍād is realized as a voiced emphatic dental stop. For instance, in the Hijazi dialect of Saudi Arabia, one commonly hears ḍād pronounced as a stop (Center for Advanced Study of Language 2007), mainly in large urban centers such as Jeddah and Mecca. Perhaps it could be postulated that the variation in the Hijaz between the use of the voiced emphatic dental stop and the use of the voiced emphatic interdental fricative is that Hijazi dialect speakers tend to use the voiced emphatic interdental stop when they attempt to speak the Najdi dialect in various social situations (presumably, when addressing speakers of Najdi, another regional dialect of Arabic predominately spoken in Saudi Arabia). Hence the Hijazi use of /ð̣/ would seem to constitute a borrowing (Center for Advanced Study of Language 2007). The remaining Gulf dialects all tend to realize ḍād as a voiced emphatic interdental stop, with some exceptions in the Emirati dialect and on an island off the coast of Yemen known as Ṣoqṭrah (or Socotra).

2.3 The Ḍād as Realized on the Island of Ṣoqṭrah

Ṣoqṭrah is located just off of the coast of Yemen in the Indian Ocean. Ṣoqṭrah's dialect of Arabic is unique because there, the ḍād is realized more or less exactly as Sibawayh first described it – a voiced lateralized interdental fricative. This and the Ḥaḍramawt in Yemen proper are largely the only known places where speakers still realize the ḍād as /ð̣ˡ/, and this can largely be attributed to their isolation from the outside world and their resulting lack of contact with other dialects. Linguist Dr. Janet Watson spent a considerable amount of time in Yemen studying the dialects, and almost amazingly, according to Watson, the ḍād is reportedly "still pronounced as Sibawayh described in Ḥaḍramawt and the island of Ṣoqṭrah" (p.c. Watson 2012).

2.4 The Ḍād as Realized in North Africa

The ḍād has an almost complete opposite distribution in the region of North Africa than it does in the Gulf region. With the exception of the Tripoli dialect, the ḍād, in urban dialects of North Africa, is almost uniformly pronounced as a voiced emphatic dental stop /ḍ/. In Cairene Arabic (the Arabic dialect spoken in the Egyptian capital of Cairo), the ḍād is never pronounced as a voiced emphatic interdental fricative, because Cairene Arabic, like many North African dialects, has lost all of its interdental fricatives from the original phonemic inventory of Arabic (Watson 2007: 20).

In the Maghreb, almost all of the sedentary dialects realize ḍād as a voiced emphatic dental stop, although some instances of devoicing have been examined in northern Algeria (Droua-Hamdani, Selouani, & Doudraa 2010: 160). Distinct from the Maghreb, is ḍād in Libya, where we see a mixture of ḍād being realized as a voiced emphatic dental stop and also as their Arabic speaking counterparts realize the consonant in the Gulf -- as a voiced emphatic interdental fricative. Gadoua says about this phenomenon, "In Libya....the latter[ð̣] pronunciation is common among urban dialects such as Tripoli and Misrata while the former [ḍ] pronunciation is common in rural dialects such as the Jabal al-Akhḍar (the green mountain) region in north eastern part of Libya" (Gadoua 2012: 1). Gadoua goes on to explain that many of the factors that can be attributed to this variation in realization have to do with ethnicity. The Arab populations have a tendency to pronounce the ḍād as a fricative, whereas the non-Arab populations

have a tendency to pronounce the ḍād as a stop (Gadoua 2012: 2). The Northern cities along the coast, excluding Tripoli, Misarata, al-Zawyiah, Darnah, and Tubruq, overwhelmingly articulate the ḍād as a stop (Gadoua 2012: 2). The desert regions in the middle and the southern parts of Libya mostly produce ḍād as a stop, which could perhaps be a result that "they are mostly from African ethnic groups such as Toubou and Tuareg [sic]" (Gadoua 2012: 2).

2.5 The Ḍād as Realized in the Levant

The Levant, which is composed of Jordan, Syria, Lebanon, and Palestine, offers an interesting linguistic front in which to examine the ḍād. In Jordan, the pronunciation of ḍād by Jordanians (that is, those who are Jordanian in ancestry and not Palestinian) is identical to how the sound is realized in the Gulf – namely, as a voiced emphatic interdental fricative (Center for Advanced Study of Language 2007). However, ethnic Palestinians in Jordan, most notably in the capital of Amman, will tend to realize the consonant as it is pronounced in urban Palestine, whose pronunciation is similar to that of the Egyptian dialect (Shahin 2008: 527).   To the north of the Levant, we find that, in sedentary dialects of both Syria and Lebanon, the ḍād is realized in the same fashion – a voiced emphatic dental stop.

A Historical Analysis

The Arabic language has a long and intricate history. Tracing the beginnings of the Arabic language is, to some extent, outside the scope of this paper, and, as such, the historical beginnings will only be touched upon in brief for a lack of concrete and reliable evidence. Likewise, the roots of many of the phenomena associated with the emphatic consonants are near impossible to trace. In this section, the development of the dad in the dialects emerging after the introduction of Arabic will be examined. Although an attempt to make a justifiably accurate representation of dialectology will be attempted, an important point to note, which Dr. Jonathon Owens makes in his work *A Linguistic history of Arabic* is as follows:

"Tracing the development of a dialect, it might be assumed that a dialect is a complete, discrete entity, comparable say to a building, which moves relatively changeless through time. Under this assumption there is a temptation to start with

whatever set of features one has used to define the dialect in question, and to assume that the same set of features will cohere through time, each changing in consonance with the others.

This may not be the case, however. Indeed, from a historical perspective one has to begin with the assumption that each component of language and each feature has its own history: lexis changes at a different rate from phonology, verbal morphology differently from nominal, and so on. The recognition of this is what lies behind Thomason and Kaufman's (1988) attempt at typologies of potential rates of change in different components of grammar."

As such, the purpose of this section is not reconstruction, but rather, examination and analysis.

3.1 The Origins of the Semitic Languages

Arabic is a Semitic language -- more specifically, a member of the Southwest group of the Semitic languages. The ancestors of the Semitic Languages reportedly diverged from the Afro-asiatic family sometime around 5400 BCE (Kitchen, Ehret, Assefa, & Mulligan 2009), and the Semitic Languages themselves reportedly emerged approximately 5750 years ago in the early Bronze Age, circa 3750 BCE. The Semitic Language group comprises approximately 70 languages spoken primarily in the Middle East (Fernando 2008: 262). Although there is a dispute regarding the initial location where the birth of the Semitic languages took place, some scholars believe that they were at least, to some extent, present during this time period in the Levant, and some scholars even maintain that this was the homeland of the Semitic languages (Kitchen, Ehret, Assefa, Mulligan 2009). However, other historians dispute this claim.

From the beginning, the ancestral Semitic Languages, or proto-Semitic, underwent great change and rapidly diversified early on (Kitchen, Ehret, Assefa, Mulligan 2009).   Four main branches of proto-Semitic quickly emerged: East, West, South, and Central. It is reported that, around 2450 BCE, the central branch of proto-Semitic diverged into Arabic, ancient Hebrew, Aramaic, and Ugaritic (Kitchen, Ehret, Assefa, & Mulligan 2009). With the divergence of central proto-Semitic, Arabic spread to the northern Arabian Peninsula (Kaye, Rosenhouse 1997) and provided the beginnings of Arabic as we

know it today. To date, Arabic is (in terms of speakers) the largest member of the Semitic language family (Gordon 2005).

3.2 The Origins and Spread of Arabic

The presence of Arabic, or more specifically, proto-Arabic -- is documented for the Arabian Peninsula around the second millennium BCE. This has been inferred from inscriptions and monuments that some scholars have traced to the Arabic language, although many of them could have actually been from some version(s) of South Arabian, Aramaic, or Greek (Fernando 2008: 263). However, further evidence from inscriptions in the later parts of the second millennium BCE attests to the fact that these inscriptions were, in fact, the beginnings of what many believe to have been the Arabic language (Fernando 2008: 262). Around the third century CE, inscriptions on stones and monuments reveal themselves to be much more clearly a form of Classical Arabic than of early proto-Arabic, and they have a similar syntax to that of Classical Arabic [or literary Arabic] (Fernando 2008: 263). For instance, the *l-* prefix begins to make its first appearance. The negative particle *lam* preceding an imperfect verb is seen on inscriptions southeast of Damascus and dating from the fourth century CE (Robin 1992: 116-117). The same inscriptions even show signs of internal verbal complements. However, many features of the writings are more akin to Aramaic, which was the language predominately spoken in the area southeast of Damascus at the time.

Nevertheless, a variety of Arabic that more closely resembles the Arabic of the Qur'an is found in the various popular texts from the pre-Islamic era in the Arabian Peninsula, during the fifth and sixth centuries CE. Most western dialects of Arabic spoken in the Arabian Peninsula are said to be in the dialect of the Qur'an, since they include the dialect of the Quraysh, the tribe of the Islamic Prophet Muhammad (Fernando 2008: 263).

The main source of evidence for pre-Islamic Arabic comes from Arabic poetry composed during the fifth, sixth, and early seventh centuries. The majority of the poets actually came from the eastern part of the Arabian Peninsula, as opposed to the western part, which is the presumed dialect of the Qur'an. This poetry was recorded in writing only during the eighth century, although it is said to have been passed down orally from earlier centuries. Some scholars dispute, however, whether or not Arabic can be examined on the basis of the written forms of this poetry, because, interestingly enough, all of the poetry gathered from the various different dialects showed complete linguistic homogeneity and thus reveals no deviations in either morphology or syntax (Fernando 2008: 264). Arabic scholar Taha Hussein poses an interesting question: If the Arabic poems are presented accurately, why don't they exhibit deviations across the different dialects? Hussein goes on to theorize that, since the poetic writings were transcribed in the eighth century, after the birth of Islam, perhaps a kind of "normalization" was applied to the texts in order to reflect the newly prestigious Classical Arabic of the Qur'an. By the eighth century, Qur'anic Arabic was viewed as an example of what "good Arabic" is (Fernando 2008: 264), so this theory seems feasible. The problem with examining pre-Islamic Arabic thus seems entirely apparent – there simply was not much material written down and recorded before the rise of Islam.

There are alternative theories, however. Some scholars have proposed a "poetic Arabic koiné" that allowed Arabs to communicate cross-dialectally (compare Ferguson 1959). This Arabic is theorized to have been strikingly similar in both morphology and syntax to the Arabic of the Qur'an, although with some phonetic differences (Fernando 2008: 264).

The Qur'an itself was recorded circa 650 CE under the Uthman caliphate (Fernando 2008: 264), and, around this time, Arabic began its expansion throughout most of the Middle East and North Africa. As derived from the works of Garbell in reference to the western Mediterranean dialects, Arabic was first the language of the rulers and later learned by the population. This type of gradual acquisition had a substantial impact on the regional realization of Arabic phonemes. The Muslim armies spoke a substantially different variety of Arabic than the native populations eventually came to speak (Fernando 2008: 265). Given both the newly created variety of Arabic spoken by the natives and the prestigious Qur'anic Arabic still considered a must for those reciting the Qur'an and interacting with government officials, a diglossia was created within the population (Fernando 2008: 265, compare Ferguson 1959's initial discussion of *diglossia*). However, there are theories that envision a diglossia as having existed long before Islam, as already mentioned above.

3.3   The Case for the Lateralized Ḍād

Arabic phonetics largely went unstudied by the west from the time that Sibawayh documented the description of the ḍād in the eighth century until the Orientalists in the Nineteenth century began to study the intricacies of the Arabic language.   The lateralization of the ḍād was examined by one of the most prominent Arabic philologists of his time in 1861 by Richard Lepsius, when he gave a lecture in which he hypothesizes that "in early Islamic times, the Arabic [ḍ] was an 'emphatic assibilated [l].'" (Steiner 1977: 2).   At the time, little attention seemed to have been paid to Lepsius's findings.   However, when the famed Orientalist Karl Volers adopted the idea in the late 19th century, the hypothesis was paid more attention to by the Arabist community in Europe.   By the time that Volers had claimed that the ḍād was lateralized, researchers in the southern Arabian peninsula had discovered the use of a lateral ḍād in Ḥaḍrami Arabic and in Mehri (Steiner 1977: 2-3).

Not only were (and in some cases, are) there instances of ḍād being used in the southern Arabian peninsula, but Arabist Rudolph Ruzicka, in the early twentieth century, was able to point out several instances of loanwords taken from Arabic into Spanish "in which Arabic [ḍ] is rendered as [ld]" (Steiner 1977: 3).   A clear, modern example can be found in the Spanish word *alcalde*, or 'mayor', which was borrowed from the Arabic *al-qāḍī* (القاضي) meaning 'the judge'.   This theory appears plausible, since in histories of the Maghreb region, notably as writeen by Abun-Nasr (1971), it has been reported that "the majority of the Arabs who settled in the [Iberian] peninsula were Yemenites" (Steiner 1977: 72), and the Yemeni dialects frequently had the occurrence of the lateralized ḍād in their speech. There are instances of Arabic loanwords in Malay that exhibit a lateralization for the ḍād, as well (Steiner 1977: 75).   Furthermore, a litany of African languages have also been found to exhibit loanwords the give evidence of a lateralized ḍād, which include Hausa, Kanembu, Kanuri, Songhay, Tega, Daza, Dyula, Mandinke, Wolof, Temne, Fula, Znaga, Kabyle, and Beni-Snous (Steiner 1977: 81-88).

In 1926 when N.V. Yushmanov provided evidence of the ḍād being rendered with [l] in Hausa, he used the term "zˡad protosémitique" making reference to the ḍād already being realized as a fricative in proto-semitic (Steiner 1977: 3).   This contradicts with Lepsius's initial hypothesis, though,

in which he believed that lateralized ḍād was created after the birth of Islam.   However, in 1956 Jacques Ryckmans and Riekele Borger identified the pre-Islamic god 'Ruldayu' with the pre-Islamic god Ruḍā from an Assyrian inscription in Adumatu (Steiner 1977: 3), an ancient Arabian city commonly known as Dumat al-Jandal in present-day northwest Saudi Arabia.   Borger's postulation from his discovery places the lateralization of the ḍād as occurring even as early as around the seventh century BCE – over two thousand years ago (Steiner 1977: 3).

The list of scholars who subscribe to the theory of the lateralized ḍād is quite extensive, including but not limited to: Bosworth (1974), Fischer (1968), Blanc (1967a), Fleisch (1965), Blachere (1952), Rabin (1951), Cantineau (1960), Leslau (1938), Bravmann (1934), Colin (1930a), Bergstrasser (1963), M. Cohen (1927), Yushmanov (1926), Ruzicka (1909), Vollers (1893), Konig (1877), and Lepsius (1861) (Steiner 1977) not to mention Sibawayh and al-Khalil. As a result, it seems apparent that not only is there an abundance of evidence to support a lateralized ḍād, but many other scholars in the field concur.

Contact Situation

In his work "The Arabic Koiné (1959)", Charles Ferguson states that "it has usually been assumed that the modern Arabic dialects are on the whole lineal descendants of Classical Arabic or a variety very similar to this.   Stated differently, this assumption holds that apart from borrowings and innovations the linguistic substance of the modern dialects is a direct continuation of an earlier stage of Arabic substantially identical with the Classical Arabic of the grammarians…until clear contradictory evidence is produced, this assumption will have to stand as the most reasonable working hypothesis" (1959: 616). However, Ferguson proposed an amendment to this hypothesis and went on to say: "most modern Arabic dialects descend from the earlier language through a form of Arabic…which was not identical with any of the earlier dialects and which differed in many significant respects from Classical Arabic but was used side by side with the Classical language during early centuries of the Muslim area" (1959: 616).

From this hypothesis, we can then logically assume that the modern dialects of the Arabic speaking world aren't necessarily direct descendants of Classical Arabic; rather they are more likely to be descendants

of the Arabic koiné that emerged during the spread of Islam and co-existed with Classical Arabic.

4.1 The Initial Arabic Koiné

It was theorized by Ferguson that there was a relatively homogeneous koiné, or common dialect, that developed during the first Islamic century and was used as conversational Arabic (1959: 618). Ferguson further claimed that most of the modern dialects are continuations of this koiné spread throughout the Muslim world in the first Islamic century -- with the exception of most modern Bedouin dialects (1959: 618). Likewise, Arabic linguist Ignacio Fernando agrees with Ferguson, stating, "When dealing with the different varieties of the [Arabic] language complex, it seems inaccurate to rely on the Classical or Qur'anic language as a model from which all other varieties have been derived" (2008: 262). Fernando elaborated on this theory by stating that Classical Arabic, being a holy language in the Islamic tradition, became "a model to imitate and also a pattern not to deviate from" (2008: 262). It was this reluctance that perhaps served as the basis for the evolution of the Arabic koiné into modern dialects, rather than from the Classical form of Arabic having served as such a basis.

Regarding ḍād, linguist Federico Corriente agrees with Sibawayh that there was, indeed, lateralization of the ḍād as described circa the eighth century. Little information exists to provide evidence as to when the dialects lost lateralization in ḍād, since the grammarians largely ignored the changing state of ḍād in the colloquial, and rather continued to describe the consonant as Sibawayh did, even though the description no longer coordinated with current realizations (Steiner 1977: 71). However, ninth century author al-Jahiz wrote an anecdote about the confusion between the /ḍ/ and the /ð̣/ in Baṣra, and his text is as follows:

وزعم يزيد مولى ابن عون قال:

كان رجل بالبصرة له جارية تسمى ظمياء فكان إذا دعاها

قال: يا ضمياء بالضاد.

فقال ابن المقفع: قل: يا ظمياء.

فناداها: يا ضمياء.

فلما غير عليه ابن المقفع مرتين أو ثلاثا

Furthermore, in the tenth century, Ibn Jinni recorded several different distinctions in colloquial speech between the /ḍ/ and the /ð̣/, observing /ḍ/ confused with /ð̣/, and in Egypt and northern Africa, the /ḍ/ is confused with /ṭ/ (Steiner 1977: 71). In the eleventh century, Ibn Sina describes the ḍād as a stop (Steiner 1977: 71). These appear to be rather isolated reports, though, and give scholars no clear indication as to when the lateralized ḍād ceased to coexist with the colloquial realizations (Steiner 1977: 71). By at least the fifteenth century, al-Farabi documented in 1478 CE that ḍād must be assimilated to a sound that is homogeneous (Corriente 1976: 76). Thereafter, it seems that palatalization took the place of lateralization in all areas of the Arabic phonemic inventory (Corriente 1976: 77), which gave ḍād somewhat of a strange position within the phonemic system. Lateralization was the secondary feature which had previously made ḍād a continuant, but, with the new palatalization feature being articulated with the consonant, one can only assume that it is this which made ḍād evolve into the more recognizable voiced interdental fricative (Corriente 1976: 77). Thus, without lateralization, the / ð̣ˡ / merged with /ð̣/.

4.2 Why was the Lateralized Feature of Ḍād Eliminated?

One of the most popular theories concerning the elimination of the lateral feature of ḍād is that it simply was too difficult and complex to imitate and articulate (Cantineau 1953: 79). It is theorized by Federico Corriente that the first step in the elimination of lateralized ḍād was that, "in order to facilitate [sic] its realisation, lateralisation was inhibited…and instead there may have been a relaxation of the dental occlusion, which necessarily led to a continuant with an articulation very close to or identical with…[/ð̣/]" (Corriente 1978: 51). Indeed, this hypothesized process is a reasonable one, and it represents a logical path for speakers to follow if a lateralized ḍād was abundantly complex.

Reproduction of a phoneme that is absent from a non-native speaker's native phonemic inventory can be a formidable task, since – psychologically speaking -- newly acquired speech is extremely difficult to segment into the correct phonemes and words, given that many of the phonemes sound alike to a non-native listener (Iverson et al. 2003: 1). As a result of this, it is extremely difficult to acquire the motor articulations of a phonetically unfamiliar

second language (Iverson, et al. 2003: 1). Thus, strong evidence shows that the reason for the loss of lateralization from ḍād was perhaps the difficulty of reproducing a unique new phoneme involving previously unused articulatory combinations.

Discussion

Although the above information provides an academically interesting postulation for the development of the ḍād, a few questions remain unanswered, and alternative theories to the provided explanation of the ḍād have been proposed, as well. One cannot ignore these alternative theories to the proposed conclusions, as only in comparing both theories can a strong argument be evaluated and, perhaps, validated.

5.1 Criticisms of the Grammarians

There has been some amount of criticism that has been aimed at the descriptions given to us about the grammarians. Corriente states that, "a strict linguist cannot fail to be disturbed by considering that virtually all our abundant information about the old stages of this language has been collected and edited, mostly during the 8th and 9th centuries, by native grammarians whose main concern was to set up a standardized socio-linguistically biased type of Arabic for formal register purposes" (Corriente 1976: 62). Corriente also hypothesizes that the ancient Grammarians, which would include Sibawayh, used a certain method to eliminate the non-prestigious forms when recording dialectal speech. When analyzing the probable initial realization of the dialects, one may in fact be making presumptuous allegations that generalize realization when using evidence from classical Arabic for the purposes of comparison (Corriente 1976: 62).

However, many other scholars believe that the Arabic grammarians were indeed correct in their catalogue of Arabic phonemes and phonemic descriptions. The fact the most every Arabic linguist uses the writings of the grammarians as a starting point is a testament to the generally accepted view of their accuracy. Many Arabic linguists further point the finger at western scholars for ignoring the teachings of the grammarians and dismissing them as bombast and misleading. Linguist Michael K. Brame from the Massachusetts Institute of Technology writes, "[I]t is my belief that Arabic grammar in particular has reached its lowest ebb under the thumbs of western scholars. Much of the subtlety and insight into the nature of the language which the Arabic grammarians give us has been almost totally neglected by western linguists" (1970: vii).

5.2 Reconstructing Proto-Languages

Furthermore, inconsistencies in reconstruction of proto-languages pose questions to any ideas as to the historical realization of phonemes in a language. In reconstructing any proto-language, it is difficult, if not impossible, to know *exactly* how a phoneme was articulated, since no recordings exist to be used as a control. The best one can do is use evidence existing in the present to construct an argument for articulation in the past. It is only with looking at this evidence that one can make inferences into the past. However, one cannot fail to acknowledge that, although evidence can present a convincing argument as to the *probable* realization of a phoneme, or its daughter phonemes, in the past one cannot be entirely sure of the correct articulation. Language is a mixture of both systematicity and arbitrariness (Janda 2012) and one would be remiss to ignore element of arbitrariness in postulating language change.

Conclusion

Perhaps, then, the evolution of ḍād is closely related to the phonemic structures of the previous languages in each region. It seems most logical that the lateralized ḍād was simply was too difficult and complex to imitate and articulate (Cantineau 1953: 79). It is theorized by Federico Corriente that the first step in the elimination of lateralized ḍād was that, "in order to facilitate [sic] its realisation, lateralisation was inhibited…and instead there may have been a relaxation of the dental occlusion, which necessarily led to a continuant with an articulation very close to or identical with…[/ð̣/]" (1978: 51). Indeed, this hypothesized process is a reasonable one, and it represents a logical path for speakers to follow if a lateralized ḍād was abundantly complex.

Further evidence suggests that the difficulty of articulating a lateralized ḍād is highly likely as a cause for its eventual replacement. Acquisition of Arabic by a non-native speakers happens in the same manner that one acquires any second language, and so the following statement by Muhammad al-Sharkawi about language change and second language acquisition seems most appropriate:

"…[A]fter the introduction of a certain language change, like the shift from interdental sounds to [plain] dentals, it is possible that a context is created where the two features exist side by side for a time. In a context like this, the role of the original language in the process of second language acquisition is selecting one of the two variables. If the substratum does not have the old variable, it is natural for its speakers to select the innovation*"* (1971: 118)

As discussed previously, very few languages, if any at all, exhibit an emphatic lateralized fricative. Reproduction of a phoneme that is absent from a non-native speaker's native phonemic inventory can be a formidable task, since – psychologically speaking -- newly acquired speech is extremely difficult to segment into the correct phonemes and words, given that many of the phonemes sound alike to a non-native listener (Iverson et al. 2003: 1). As a result of this, it is extremely difficult to acquire the motor articulations of a phonetically unfamiliar second language (Iverson, et al. 2003: 1). Thus, strong evidence shows that the reason for the loss of lateralization from ḍād was perhaps the difficulty of reproducing a unique new phoneme involving previously unused articulatory combinations.

So, it seems that al-Farabi's documentation on ḍād's requisite for assimilation to a sound that is homogeneous (Corriente 1976: 76) is quite plausible. Recall that, according to Corriente, palatalization took the place of lateralization in all areas of the Arabic phonemic inventory. Lateralization was the secondary feature which had previously made ḍād a continuant, but, with the new palatalization feature being articulated with the consonant, one could perhaps assume that it is this which made ḍād evolve into the more recognizable voiced interdental fricative (Corriente 1976: 77). Thus, minus lateralization, the / ẓˡ / merged with /ð/.

The Arabic world can be divided into three regions according to the realization of interdentals, and can be viewed as follows: "Ꞌraqi and [Arabian Peninsual] dialects retain interdentals, Egyptian [and] Levantine dialects replace interdentals with [sic] Taa, Daal, and Dhaad, [and] Maghreb dialect[s] replace interdentals with homorganic stops" (Alorifi 2008: 10, Heath 1997: 206). One cannot help but to notice that these interdental categorizations largely correspond with the realization of ḍād across the Arabic world. Thus, the correlation between ḍād and interdentality cannot be ignored.

Linguist P. Antoine Meillet, when speaking of language change, concluded that, "[W]hen language change takes place, things happen in an analogous manner" (Janda & Jose 2003: 5). In adopting this new point, we know that if the interdentality of /ð/ was lost at a certain point and replaced with /d/, and /θ/ exhibited the same loss when it was replaced with /t/, we can reasonably infer that the change of /ẓ/ to /ḍ/ happened in an analogous manner and at around the same time as the elimination of the other interdentals. Sound changes occur in an analogous and hence regular manner (p.c. Janda 2012). When phonemes are too difficult to articulate for a new speakers, or too inconvenient, then the realizations of these phonemes often change in such a way that they become analogous with other phonemes that are easier for new speakers to reproduce (Heselwood 1996: 35). When the dialects lost interdentality, the fricative became a stop, thus making the realization of the ḍād in these dialects a voiced emphatic dental stop. According to Steiner, the "classical pronunciation of [ḍād] as /ḍ/ is nothing other than the colloquial pronunciation" and that the reading traditions of ḍād as a stop are located in regions where the consonant is realized colloquially as a stop (Steiner 1977: 37).

It should come to no surprise that most dialects could not pick up on the lateralized feature of the ḍād. After all, Arabs pride themselves on calling their language "The Language of Ḍād" precisely because of its uniqueness. Although strong evidence has been presented to support the proposed reasons for the delateralization of ḍād leading up to its present realization, it is important to remember that, when examining any proto-language, one cannot affirm with genuine candor the complete accuracy of any pre-modern reconstruction. Rather, one can only present convincing evidence that supports reasons for a logical conclusion. As eloquently stated by Rulon Wells, "we know that language changes, but we know this by inference, not by direct observation, somewhat as we know that waterways wear away stone" (Janda & Jose 2003: 19).

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