The Arabic /dˤ/ Revisited: A Critical Review

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Abstract. The aims of this article are to revisit the controversy surrounding the Arabic emphatic consonant *daad* (/dˤ/) and to examine which Arabic speakers are more likely to pronounce /dˤ/ correctly when reading from a Modern Standard Arabic (MSA) text. These objectives are fulfilled by: (1) examining /dˤ/ from a historical perspective by addressing ideas which previous scholars such as Sībawayhi and Ibn Ya'ish proposed, as well as examining various suggestions put forward by modern linguists and (2) analysing recordings of news bulletins delivered in MSA by newsreaders who are native speakers of different Arabic dialects. The article concludes that to make broad generalisations relating to /dˤ/ and apply them to all Arabic speaking communities is a far-fetched attempt to say the least, if not strongly based on solid empirical evidence. Further, the fact that even numerous native Arabic speaking adult professionals make errors when reading *daad* from a formal text heightens the controversy. It also has pedagogical implications for the way children and adults are taught MSA across the Arab world. The story goes beyond pedagogy to include the persistent fossilisation of the vernacular pronunciations of *daad*.

Keywords and phrases: Arabic, *daad*, controversy, emphatic, vernaculars

Introduction

The objectives of this article are two-fold: (1) to revisit the controversy surrounding the Arabic emphatic consonant *daad* (/dˤ/) (which is addressed in the literature review) and (2) to identify the Arabic spoken variety of newsreaders who are more likely to pronounce /dˤ/ "correctly" or otherwise when reading from a Modern Standard Arabic (MSA) text. On this note, Hamdan and Amayreh (2007) observe that even MSA is often spoken with regional accents and pronunciation.

It is important to fulfill the first objective in an attempt to go some way in resolving this controversy given that a recent and objective review and evaluation of all the relevant literature appears to be lacking. Hence, the article examines /dˤ/ both from a historical and a contemporary perspective by exploring various proposals advanced by modern linguists. The second objective sheds light on how /dˤ/ is currently realised by native Arabic speaking newsreaders of various vernaculars/ dialects (used interchangeably) to assess the extent to which their colloquial varieties affect their performance when reading MSA. Given that they are adult professionals, errors in producing /dˤ/ may have pedagogical implications for the way children and adults are educated across the Arab world.

Some of the earliest Arabic language grammarians focused on Arabic /dˤ/ in terms of place and manner of articulation. Sībawayhi (1988) for instance, highlights *muṭbaq* meaning "emphasis" as an important feature of /dˤ/ (/ɮˤ/).[1]

In this context, Mashaqba and Huneety (2016, 294) state that:

> Emphasis is a distinctive feature of Semitic languages which defines segments produced with a primary articulation in the dento-alveolar region and a secondary articulation that involves some constriction in the upper region of the pharynx.

Jaber, Omari and al-Jarrah (2019) suggest that emphasis is a morphophonemic process in that the domain of emphasis spread is the morpheme rather than the syllable or the word.

Drawing on Steiner (1977), Alqahtani (2015, 131) posits that "the phonetic property of modern Arabic *ḍāḍ* is an innovation …the original sound (was) probably a voiced lateral fricative".[2] It has been suggested that the consonant /dˤ/ is particular to Arabic, referred to by many scholars as *lughatul dˤād* (the language of *daad*), due to the belief regarding its absence in other languages (al-Nassir 1985, 82). Bergstrasser (1929, 10) supports this proposition by stating that /dˤ/ is a unique sound, not located in any other language. However, Alqahtani (2015) argues otherwise, stating that other languages such as those among the Caucasus, Adyghe and Kabardian also contain voiced laterals (cf. Ladefoged 1996). In an attempt to find some middle ground, al-Sharif (2017) suggests that this sound is associated with the Arabic language because of its more frequent presence than in other languages.

Interestingly, Alqahtani (2015) mentions that until recently, the proto sound from which /dˤ/ is derived, was believed to be obsolete. In fact, in the 12th century, Ibn

Makki (1981) claims that /dˤ/ vanished entirely from the speech of people during that period. He states (1981, 105):

> A symbol that was wiped out and a sign that was effaced from the expressions of all the people, the educated and common people. You hardly ever even find someone pronouncing a /dˤ/ by differentiating it from the /ðˤ/. The only one to produce it /dˤ/ from its place of articulation is the proficient and sharp-witted while writing or reading the Qur'an only. The common people and most of the educated …do not differentiate between them in a book or Qur'an.

Al-Wer (2004) also argues that the variant, as described by Sībawayhi, does not exist in any spoken Arabic dialects. On reflection, we tend to agree with Horesh and Cotter (2016, 371) that "many Arabic vernacular varieties are still undescribed". In support of this, Asiri (2009) and al-Azraqi (2010) both found the presence of a sound resembling the old /dˤ/ in Southern Arabian dialects. Alqahtani (2015, 149) purports that "it was found that the realisation of the Classical Arabic /dˤ/ in these villages has linguistic characteristics similar to that described by old grammarians". Furthermore, Alqahtani found this phoneme (a lateral fricative) in existence in the speech of two southern communities from ʿAsīr in Saudi Arabia.

After its apparent disappearance, al-Tamimi (2001) claims that /dˤ/ was "re-introduced" into the Arabic language system via a process of "linguistic distinctiveness" through "accent divergence", terms initiated and expanded by Giles, Bourhis and Taylor (1977, 129) who state that accent divergence emphasises one's "identity and allow(s) an ingroup speaker to feel psychologically distinct from an outgroup member". This analysis proposes that linguistic distinctiveness might better explain how /dˤ/ was "saved from extinction after its apparently complete merger with /ðˤ/" (al-Tamimi 2001, 113). In other words, al-Tamimi (2001) suggests that certain Arabian tribes reintroduced /dˤ/ in order to distinguish themselves from others. However, he recognises that such a claim needs more substantiated evidence. Whatever the case, we are inclined to support the claim that since a sound resembling the old /dˤ/ was found recently in Southern Arabian dialects, this suggests that it did not completely disappear after all (cf. Asiri 2009; al-Azraqi 2010; Alqahtani 2015 – for empirical evidence). However, we suggest that further evidence is also needed to establish the extent to which the sound found in these communities actually does descend from the original /dˤ/.

In light of the stated objectives, this article seeks answers to the following questions:

1. What are the components of the /dˤ/ controversy and to what extent can a critical review of related studies contribute to resolving this controversy?

2. Which newsreaders who speak numerous Arabic varieties are more likely to correctly pronounce /dˤ/ when reading from an MSA text?

The article proceeds with the next section which clarifies the methods used in the current study and follows by the presentation of a critical review of the literature on /dˤ/. Next, this article also provides a brief description of al-Wer's (2004) study on the status of /dˤ/ in the speech of native Arabic speaking newsreaders, but from a smaller sample and less dialectal varieties and afterwards. The findings of our empirical data collection—the production of /dˤ/ in five minute recordings of news bulletins from 70 male and female native Arabic-speaking newsreaders of at least 14 spoken vernaculars—are presented and discussed in the next section. The last section offers conclusion and recommendations.

Methodology

In answering the first question of the study, a critical review of related studies is provided in an attempt to resolve this controversy and to clarify the status of /dˤ/. In doing so, we reviewed the material discussed by scholars in the traditional literature, in addition to assessing relevant modern day studies. We found that the debate surrounding /dˤ/ surfaces on a number of different levels; scholars have deliberated on various components relating to this sound, namely: (1) the manner and place of articulation of /dˤ/, (2) the confusion between /dˤ/ and /ðˤ/ and (3) weak /dˤ/ and its linguistic and social implications, as well as other modern day variations of /dˤ/ on account of regional and contextual distinctions.

In answering the second question, we analysed five minute recordings of news bulletins from 70 male and female native Arabic-speaking newsreaders of different Arabic dialectal varieties from 14 countries. From the sample of 70, there were five newsreaders from each country representing regional realisations. At least two out of five for each group were of a different gender, whether male or female. Because of the minimal number in each group, we have not reported gender differences. The general dialectal heritage of speakers was identified through examination of their online published biographies, largely found on the news channel websites they were newsreaders for, as well as listening to: (1) a number of their own different broadcasts and (2) other newsreaders from the same region for confirmation. We examined their speech for the frequency with which they were able to read *daad* correctly, as opposed to pronouncing it as [ðˤ] and tallied the frequencies. Table 1 shows the vernacular and number of the newsreaders whose readings were recorded and analysed.

Table 1. Vernacular and number of newsreaders

Vernacular	Number of speakers
Moroccan	5
Jordanian	5
Syrian	5
Egyptian	5
Lebanese	5
Algerian	5
Libyan	5
Saudi Arabian	5
Iraqi	5
Emirati	5
Bahraini	5
Omani	5
Yemeni	5
Tunisian	5

Critical Review of the Literature

The objective of the following section is to present a discussion of the controversy of /dˤ/ with regard to three components: (1) the manner and place of articulation of /dˤ/, (2) the confusion between /dˤ/ and /ðˤ/ and (3) weak /dˤ/ and its linguistic and social implications and other modern day variations of /dˤ/ on account of regional and contextual distinctions.

The manner and place of articulation of /dˤ/

It has been suggested that /dˤ/ is a "voiced velarised lateral fricative" (Al-Nassir, 1985), most likely homorganic with dark /l/, as in *Ɂallah* which refers to "God". Al-Farahidī (1988, 58) also referred to its place of articulation as *shajariyah* (i.e. palatal). In identifying the phonetic characteristics of /dˤ/, Sībawayhi (1988, 433) describes the articulation of /dˤ/ as "between the front part of the side edge of the tongue and the molars next to it" going on to say that either sides of the tongue can be used (ibid.). Both Ibn Jinnī (1957) and Ibn Yaʾīsh (1882) affirmed Sībawayhi's description of /dˤ/ in that it can be produced from either the left or right side of the tongue. Al-Sakākī (1317 AH) also placed the articulation of /dˤ/ along both sides of the tongue but argued that no other letter is completely homorganic with it. Although Sībawayhi (1988) suggests that /dˤ/ had no plain counterpart,

Alqahtani (2015, 133) observes that "these descriptions of /dˤ/, however, contradict the present day realisation found in most modern Arabic dialects, which is a dental emphatic stop sound /dˤ/". Alqahtani goes on to say that this modern realisation of /dˤ/ is taught to school students as the correct pronunciation of this sound. Furthermore, Hamdan and Amayreh (2007) report a tendency for younger generations to produce /dˤ/ as its non-velarised correlate, i.e. a dental stop.

Sībawayhi's (1988) suggestion that /dˤ/ exits through the molars makes it similar to lateral lām as he holds. Cantineau (1953) also suggests that the older form of /dˤ/ was a combination of /ðˤ/ and /l/. Sībawayhi specifically refers to the feature of laterality being shared between /l/ and /dˤ/. He suggests that some Arabs may in fact exchange /dˤ/ with /l/ in an attempt to avoid a cluster of two velarised consonants. Alqahtani (2015) points out that this depiction does not overtly indicate the lateral nature of /dˤ/. Nevertheless, Sībawayhi's observations of the "emphatic" nature of /dˤ/ may suggest the lateral characteristic of this sound. Sībawayhi (1988, 436) maintains that:

> [W]a lawla ilʾiṭbāq laṣārat al ṭāʾu dālan wal ṣadu sīnan wal ḏāʾu ḏālan wa laxarajat al ḍādu mina il kalām liʾannahu laysa šayʾun min mawḍiʿiha ġayruha.

> Were it not for emphasis, ṭāʾ would be articulated as dāl, ṣād as sīn, ḏāʾ as ḏāl and ḍād would not be part of the inventory since no other sound is articulated at this place (of articulation) without emphasis. (Translation from al-Wer and al-Qahtani 2016)

Furthermore, according to Versteegh (1999), the description given by Sībawayhi of /dˤ/ is unclear. He writes (1999, 274):

> It is not altogether clear exactly which pronunciation of the ḍāḍ is indicated in this description, but since he emphasizes the role of the side of the tongue, a certain degree of laterality must have been involved.

He also adds that scholars such as Cantineau (1953) asserted the lateral nature of /dˤ/. Yet, al-Tamimi (2001) argues that contact between Arabs and new non-Arab Muslims resulted in the loss of lateralisation. Corriente (1978, 51) further states that "in order to facilitate its realisation, lateralisation was inhibited…and instead there may have been a relaxation of dental occlusion, which necessarily led to a continuant with an articulation very close to or identical with /ðˤ/". We may conclude that from a historical perspective, much of the research conducted points towards the laterality of /dˤ/, but more temporary studies advocate that modern day /dˤ/ can be characterised as an emphatic dental stop. This is especially the case in

the context of MSA and what Arabic-speaking children are taught in an educational setting. Having said that however, the distinction between spoken Arabic dialects is not always so sharply defined, given the confusion between /dˤ/ and the voiced emphatic interdental fricative /ðˤ/, as explained in the next section.

The problem of /dˤ/ and its merger with /ðˤ/

Alqahtani (2015, 132) who draws on the work of Anīs (1947) in her analysis, states that /dˤ/ has "undergone a series of developments since the eighth century up to its modern realisation". As touched upon earlier, she further adds that "…the old *ḍāḍ* as described by the early grammarians of Arabic, is rarely found in any form of modern Arabic".

Sībawayhi suggests that /ɮˤ/ tends to "overlap and merge with the outlets of other letters" (cited in al-Nassir 1985, 432). Al-Nassir (1985) argues that the original /ɮˤ/ as described by Sībawayhi must have been unique and demanding to pronounce. This may have been especially the case for Arabic speakers whose dialects did not originally contain /ɮˤ/ and hence it was a marked form.

Even in modern day Arabic varieties, markedness is still an issue. For instance, in Levantine varieties /dˤ/ and /ðˤ/ are both usually realised as [ðˤ] by rural and Bedouin speakers and hence /dˤ/ can be viewed as the marked form given its absence. In contrast, /dˤ/ and /ðˤ/ are both generally realised as [dˤ] by urban speakers and hence /ðˤ/ stands as the marked form given its absence. Consequently, the extent to which markedness surfaces with regard to each of the two sounds depends on an individual's dialect.

Al-Sharif (2017, 10) argues that some Arabs did in fact muddle up both sounds. As a result, at least until the 1960's, over 30 essays were written on the differences between /dˤ/ and /ðˤ/ (Abdul Tawwab 1968, 23–35). Al-Nassir (1985, 86) claims that these records "indicate that speakers of Arabic found some difficulties in this area". In any case, the main concern was how to differentiate between /dˤ/ and /ðˤ/ which is argued by some to be an obvious indication that the two sounds merged together (ibid.). Versteegh (1999) further upholds that the merger between /dˤ/ and /ðˤ/ must have occurred at an early stage. He argues that this is apparent from statements found in such works "which suggest that Arabic speakers confused the two sounds" (Alqahtani 2015, 142).

Versteegh's suggestion may be supported by Brown's (2007) assessment that the two phonemes /dˤ/ (lateral) and /ðˤ/ (interdental) have been used since the fourth century AD. Alqahtani (2015, 143) in referring to the work conducted by al-Wer

(2004) suggests that "if Arabic *ḍāḍ* indeed descends from a lateral sound (as seems to be the case), the loss of lateralisation of *ḍāḍ* simply merged the emphatic phonemes *ḍāḍ* and *ḏ̣ā*".[3] More significantly, al-Wer (2004, 6) believes that "the existence of a stage where /dˤ/ and /ðˤ/ were distinguished phonemically becomes precarious". She goes on to suggest that (2004, 7):

> Written Classical Arabic suggests a phonemic distinction between /ḍ/ and /ðˤ/ and at first sight, the phonetic descriptions by the ancient grammarians are suggestive of the existence of this distinction. Nevertheless, it is surprising from this viewpoint that none of the spoken dialects has maintained this contrast.

Nonetheless, a number of /dˤ/ and /ðˤ/ minimal pairs are listed by the 10th century writers al-Zāhid (d. 345/957) and al-Ṣāḥib (d. 385/995) (cited in Brown 2007). Brown (2007) insists that al-Zāhid and al-Ṣāḥib simply maintain that there is a semantic distinction with the intention of illustrating that /dˤ/ and /ðˤ/ are separate phonemes. Even so, we believe that it is general knowledge that there are numerous minimal pairs containing /dˤ/ and /ðˤ/ such as *ḥadˤara* meaning "he came" and *ḥaðˤara* meaning "he prohibited", *dˤalla* meaning "he went astray" and *ðˤalla* meaning "he stayed", *dˤanna* meaning "showed misery" and *ðˤanna* meaning "was unsure", *alghaydˤ* meaning "little" and *alghayðˤ* meaning "anger", amongst others. These words surely show that the two sounds are two different phonemes since in the above cases they change the meaning of the words they appear in. Having said that, it also appears that in many cases, free variation occurs between the two sounds since many native speakers of spoken Arabic do not perceive a change in meaning when one is exchanged for the other. In Jordanian Arabic for example, if a speaker was to say *akhdˤār* or *akhðˤār* meaning "green", *baydˤ* or *bayðˤ* meaning "egg", *dˤabiʕ* or *ðˤabiʕ* meaning "hyena" and *Ramadˤān* or *Ramaðˤān* meaning "fasting month", s/he would not be taken as producing two different words in each pair.

El-Gindi (1982) also mentions the existence of seven different readings of the Qur'an in which /dˤ/ and /ðˤ/ are used interchangeably to represent both the interdental and the lateral sounds. However, al-Tamimi (2001) further reports on observations made by Ibn al-Jazarī (AD 833) that amongst Qur'anic readings, some established reciters read a verse including the word *dˤaneen* "meager" with /ðˤ/, although the meaning would be altered to "suspicious". He goes on to state that gradually, this kind of merger became very apparent in the ninth and 10th centuries and even an accepted fact later on. As a consequence, Ibn Makki in the 12th century warned Muslims of confusing /dˤ/ with /ðˤ/ in the opening chapter of the prayer, *al-Fātiḥa*. It appears that al-Makki was specifically referring to the word *adˤ-dˤāllīn*

meaning "those who went astray", as opposed to *aðˤ-ðˤāllīn* meaning "those who remained". Exchanging /dˤ/ with /ðˤ/ in this instance he claimed, would not be accepted by God (cited in al-Tamimi 2001, 116).

Al-Tamimi (2001) refers back to Ibn Makki's observation that his warning regarding the prayer had failed to reach "the common people and (even) most of the educated". The consensus by Islamic scholars is that incorrectly producing a letter in the Qur'an is unlawful and in the prayer, if the meaning of a word is changed in *Al-Fātiḥa* this will invalidate the prayer (ibid.). Hence, it may be down to the extent the individual reciter is aware of these judgments, as to whether he/she is conscientious enough to distinguish between the two sounds and whether replacing one sound with the other changes the meaning of the word or not. Further exploration of the course of the evolution of /dˤ/ as realised by Qur'anic reciters would shed more light on the controversy surrounding /dˤ/ and would certainly furnish grounds for further research.

Given the conflicting beliefs surrounding the proposed merger between /dˤ/ and /ðˤ/, we suggest that this distinction does not have to be as black and white as certain writers seem to inadvertently suggest. Apparently, the distinction is more evident in Standard Arabic than it is in the spoken varieties, thanks to the diaglossic nature of Arabic. In particular circumstances, /dˤ/ and /ðˤ/ appear to be phonemes, since replacing one with the other definitely leads to a change in meaning, as exemplified in the above discussion. Yet, at other times, the replacement of one sound with the other does not alter the meaning of a particular word, indicating an allophonic relationship between the two sounds. This depends of course on the words they appear in, as well as taking into consideration regional variations, as discussed in more detail as follows.

Weak /dˤ/ and a further note on other variations

Both Ibn Jinnī (1957, 46) and Ibn Ya'īsh (1882, 123–125) allude to the reality of *dˤāḍ ad-dˤaʿīfa* which refers to "weak *daaḍ*"; a sound that is associated with an "unaccepted" type of speech. Sībawayhi also argued that weak /dˤ/ is undesirable, since the outcome of pronouncing it as /ðˤ/ is a modification of the original sound (cf. al Sharif 2017, 12). Ibn Ya'īsh (1882) attempted to delineate the phonetic value of this weak /dˤ/ by suggesting that it is pronounced as either /tˤ/ (the voiceless counterpart of /dˤ/) or a sound between /ʒˤ/ and /ðˤ/ by speakers who experienced adversity when attempting to enunciate the original sound (cf. Alqahtani 2015, 133). Drawing on Sībawayhi's comment that weak /dˤ/ is "pronounced with force", al-Tamimi (2001, 11) also suggests that an additional characteristic of weak /dˤ/ is that it exhibits a higher degree of emphasis than that of the proper /ʒˤ/.

Alqahtani (2015) argues that these sounds are most conceivably differing allophones of /dˤ/, ascertained by some scholars such as Versteegh (2006) to be the first stage of a merger between /dˤ/ and /ðˤ/. It is implied that when a hearer comes across a pair of sounds challenging to distinguish "they either merge or one of them acquires a new feature which makes the distinction easier to perceive" (Alqahtani 2015, 134). Al-Nassir (1985) shows how /dˤ/, for instance, (1) merged with /ðˤ/ and (2) changed from a fricative into a plosive [dˤ]. Ibn Ya'īsh (1882, 1463) illustrates the status of /dˤ/ as well as its derived form, advocating that "the weak /dˤ/ occurs in the dialect of people who find it too difficult to produce the original one, so they pronounce it sometimes as /ðˤ/". The latter pronunciation is found in the spoken varieties of present-day Iraq and many other parts of Arabia. Anīs (1947) also supports the idea that a number of Bedouins and speakers of Iraqi Arabic pronounce /dˤ/ in a similar manner to /ðˤ/, as well as the old form of /dˤ/, i.e. the sound as originally described by Sibawayhi. Similarly, the variable /ðˤ/ in these areas is also realised as [ðˤ]. In Moroccan Arabic, /dˤ/ and /ðˤ/ are both generally realised as [dˤ] given its lack of interdentals (al-Wer 2004). In contrast, in Tunisian Arabic, both /dˤ/ and /ðˤ/ are realised as [ðˤ] (Maamouri 1967).

In some urban areas of Western Arabia, the East Mediterranean, greater Syria, Egypt and most of urban North Africa, /dˤ/ is realised as [dˤ] or a velarised [d]. /ðˤ/ is also generally realised as [dˤ], or at times [zˤ] (Anīs 1947). Hussein (1980) and Hamdan and Amayreh (2007) suggest that in Jordan, /dˤ/ is realised as /ðˤ/ more or less unconditionally in Fallahi and Bedouin speech communities, whereas members of the urban speech community however, pronounce /dˤ/ as it is realised in MSA, i.e. a dental emphatic stop and at times [d], particularly women. Moreover, in formal settings, speakers of all dialects may be expected to pronounce /dˤ/ as a dental emphatic stop, given that this is how it is recognised in MSA and thus taught at school. The variable /ðˤ/ has the same realisation in Bedouin and Fallahi dialects (i.e. [ðˤ]), whereas in urban varieties it is predominantly pronounced as [dˤ] and sometimes [zˤ].

In the Gulf, both /dˤ/ and /ðˤ/ are generally realised as [ðˤ] (Al-Nassir 1985). In the northern part of Yemen, there are two manners of producing /dˤ/; a "popular" non-pharyngealised reflex (Behnstedt 1987) produced in everyday settings and a "formal" one used for reciting the Qur'an (Al-Nassir 1985). In the latter articulation, the tongue is pressed against the right side cheek, possibly reminiscent of the lateral feature of the old /dˤ/ (ibid.). Lateral /dˤ/ has also been found in the south and southwest of Oman and Yemen, as well as in the areas of Hadrami, Mehri and Shihri in Southern Arabia (cf. Watson and al-Azraqi 2011); it is not however, present in northern Saudi Arabian dialects (Alqahtani 2015).

Bergstrasser (1929, 10) also refers to the Arabic speakers of Hadramout whose pronunciation of /dˤ/ bears resemblance to the old one with the earmarks of a velarised *lām*. He goes on to suggest that such a sound was present in the dialectal inventory of the Arabs of Andalusia. Růžička (1909) was in fact the first researcher to examine Arabic loanwords in Spanish, with /dˤ/ realised as *ld*, which further supports the description of /dˤ/ as a lateral feature. Al-Nassir (1985, 99) states that "the combination [-ld-] in some Spanish lexical items borrowed from Arabic is traced to the Arabic [/dˤ/]. The Spanish word *Alcalde* (for example) is related to the Arabic word *al-Qa:di:* (judge)".

Al-Nassir (1985) maintains that no satisfactory explanation was put forward by the early grammarians to account for this shift in the sound of /dˤ/. Sībawayhi (1988) did however notice this alternation, stressing the atypical manner of articulation of /dˤ/ which caused it to partially merge with neighbouring consonants. As a result, al-Nassir (1985, 84) asserts that the "present realisation of /dˤ/ is either identical with *ḏā* or it is produced as a velarised *dal*". However, as mentioned previously, "some traces of the old /dˤ/ are found in the way followed by some Qur'anic reciters in producing this sound" (ibid.).

It can be concluded that regional modern day variations of /dˤ/ include [dˤ], [d], [tˤ] and [ðˤ]. Recent studies also suggest that lateral /dˤ/ still exists in some speech communities. These allophones or at least some of them may also vary within the speech of a single speaker, depending on the context they find themselves in. For example, in more formal situations, such as Qur'anic recitations and educational contexts, /dˤ/ may be articulated as a dental emphatic stop or more laterally (similar to the old /dˤ/). In more informal scenarios [d], [tˤ] and [ðˤ] may emerge, also referred to as weak /dˤ/ by various traditional scholars. These variations, while considered as improper varieties of /dˤ/, emerged from the trouble encountered by both native and non-native speakers alike in attempting to pronounce the original sound. Hence, it appears that within the context of schooling, Arabic-speaking children should be given more practice in the pronunciation of /dˤ/ in order to make them aware of its place and manner of articulation. In this context, we suggest that emphasis be given to the voiced dental emphatic stop variant due to its popularity in official settings; which exists in Standard Arabic school textbooks and the Holy Qur'an, to help such children distinguish it from its phonemic cognate [ðˤ], the voiced dental emphatic fricative. Children should also be made more aware of how /dˤ/ is produced in their own dominant dialects, as opposed to its pronunciation in Standard Arabic.

Al-Wer's (2004) Study on the Realisation of /dˤ/ in the Speech of Native Arabic Speaking Newsreaders

Al-Tamimi (2001, 124) explains that "though the orthographic system shows a difference between /dˤ/ and /ðˤ/, people usually confuse them, depending on their dialect, even while reading a written text". Al-Wer (2004, 4) supports this claim by stating that "a phenomenon which is readily observable in the Arabic dialects which have the interdental sounds…is that the speakers of these dialects very often read the orthographic representation of *daad* as [ðˤ]". With this observation in mind, a study by al-Wer (2004) centred on the production of either /dˤ/ or /ðˤ/ by native Arabic speaking newsreaders on national satellite television stations, either delivering formal speeches or reading news bulletins. Part of the first set of recordings highlighted four Moroccans' production of /ðˤ/, whilst the focus of part of the second set of recordings of Jordanian, Tunisian, Iraqi and Yemeni newsreaders (two speakers of each locality) was the production of /dˤ/. Al-Wer (2004, 4) argues that the results are interesting "given that reading tasks [are] a domain in which speakers usually monitor their speech quite closely" and yet speakers still made "errors" as such. All the Moroccans read MSA /ðˤ/ as [dˤ] given the lack of interdentals in their dialectal stock. Conversely, Tunisians were most likely to read /dˤ/ as [ðˤ] (100%), followed by Yemenis (94%), Iraqis (76%) and lastly Jordanians (37%).

Al-Wer suggests that Jordanians were probably least likely to make errors since modern urban Jordanian dialects are experiencing a state of variability concerning the interdental sounds. We may also propose that Jordanians were the least likely (out of all the dialects under investigation) to confuse /dˤ/ and /ðˤ/ since a clear distinction is made between /dˤ/ and its variants within the community. That is to say, traditionally speaking, the way /dˤ/ is pronounced by a Jordanian Arabic speaker distinguishes him or her (whether accurate or not) as belonging to a Bedouin, rural or urban speaking dialect and such speakers are very aware of this. It is also the case that in Jordan, a clear distinction is made between standard /dˤ/ and /ðˤ/ as used in education and formal settings. We may also propose that although the reader is not given details about the exact in-country dialects of the speakers in al-Wer's (2004) study, it may be the case that the Jordanian newsreaders were in fact urban speakers (where /dˤ/ is the norm) and hence they were simply adhering to their own dialects. Al-Wer (2004, 6) concludes that "if a phonemic distinction between [dˤ] and [ðˤ] ever existed, these speakers clearly have no cognitive access to such a distinction". The following section presents the results of data collected from a larger sample of native Arabic speaking newsreaders from an array of vernaculars to see if the same results obtained in al-Wer's study apply.

The Status of /dˤ/ in the Recordings of Newsreaders Speaking Various Arabic Dialects

The second objective of the study was to investigate how /dˤ/ prevails in the speech of native Arabic speaking male and female newsreaders, who speak various vernaculars, when reading formal MSA news bulletins. The rationale for choosing a formal context (in this case, news bulletins) was to examine the extent to which educated native speakers of Arabic (who associate themselves with different spoken dialects) are able to adjust their speech in a formal context where MSA pronunciation is expected. This is opposed to the dialectal variants speakers would employ in everyday informal conversation.

This objective was fulfilled on the basis of data collected from live news broadcastings on various channels. A segment of five minutes was recorded from each broadcast and analysed for the frequency of which 16 instances (the average amount of instances across all subjects' readings) of *daad* were realised as either [dˤ] or [ðˤ] per segment. Given that 16 instances per segment were analysed in the readings of five newsreaders per general Arabic dialect, there were 80 possible instances of /dˤ/ in total for each group (i.e. 5 × 16). Table 2 shows the vernacular (labelled after the respective country) of each group of newsreaders and the frequency of whether *daad* was realised as [dˤ] or [ðˤ].

Table 2. Numbers and percentages of realisations of *daad* in terms of vernacular

Vernacular	[dˤ]*		[ðˤ]	
	Numbers	**Percentages**	**Numbers**	**Percentages**
Moroccan	80	100	–	–
Jordanian	73	91	7	9
Syrian	72	90	8	10
Egyptian	71	89	9	11
Lebanese	70	87.5	10	12.5
Algerian	57	71	23	29
Libyan	56	70	24	30
Saudi Arabian	54	67.5	26	32.5
Iraqi	23	29	57	71
Emirati	19	24	61	76
Bahraini	17	21	63	79
Omani	14	17.5	66	82.5
Yemeni	11	14	69	86
Tunisian	–	–	80	100

Note: *Correct reading of *daad*

Table 2, for the most part, shows that the total possible number of instances of *daad* was most likely to be realised correctly (i.e. [dˤ]) by Moroccans (100%), followed by Jordanians (91%), Syrians (90%), Egyptians (89%), Lebanese (87.5%), Algerians (71%), Libyan (70%) and Saudi Arabians (67.5%). Alternatively, *daad* was most likely to be realised incorrectly (i.e. [ðˤ]) by Tunisians (100%), followed by Yemenis (86%), Omanis (82.5%), Bahraini (79%), Emirati (76%) and Iraqis (71%).

Reflecting upon these results in more depth, it appears that speakers of varieties who exhibited a high production of [dˤ] were either: (1) adhering to the standard or (2) simply maintaining their own dialectal variant. Moroccan Arabic for instance, has an absence of interdental sounds which explains why there were no instances of the incorrect [ðˤ] and hence [dˤ] was pronounced correctly in 100% of all possible instances. This result supports al-Wer's (2004). In the Levantine dialects, Jordanian, Lebanese and Syrian, *daad* is generally realised by urban speakers as [dˤ], but as [ðˤ] by rural and Bedouin speakers (Cantineau 1956; Nasr 1959; Obrecht 1968; Daher 1988; al-Wer 1991; Zawaydeh 1998). Given the high percentages of [dˤ] in each of these groups, we may suggest that the majority of speakers were most likely of the urban variety, or possibly found it easier to regulate their speech to maintain the standard. Egyptian Arabic (especially of the Cairene variety) does not generally contain the variant [ðˤ] (Harrell 1957; Lehn 1963; Royal 1985; Watson 2002; Youssef 2006), which may explain the high instances of correct /dˤ/ production. The same can be said for Algerian dialects which generally produce /dˤ/ correctly, i.e. the way it is realised in MSA (Mechri 2018), although regional differences mean that at times, /dˤ/ is also produced as [ðˤ] (Droua-Hamdani et al. 2009; Ferrat and Guerti 2013). Although some Libyan dialects such as the Benghazi and Zliten varieties produce /dˤ/ as [ðˤ] (Abumdas 1985; Algryani 2014), in the capital Tripoli, /dˤ/ is realised as [dˤ] (Laradi 1983). This may explain why, although the majority of instances of /dˤ/ were pronounced correctly, there were still also instances of [ðˤ].

Saudi Arabian dialects can generally be divided into two major varieties; Hejazi and Najdi. In the former, the variant of the variable /dˤ/ is [dˤ] such as Meccan Arabic (Bakalla 2002) and speakers generally maintain a distinction between [dˤ] and [ðˤ]. However, in the latter, it is suggested that [dˤ] has been completely lost (al-Motairi 2015) and hence, in all cases of spoken speech, speakers replace /dˤ/ with [ðˤ]. Saudi newsreaders in the present sample most likely consisted of a mix of Hejazi and Najdi speakers. Those newsreaders who did read /dˤ/ correctly were either Hejazi or Najdi speakers trying to adhere to the standard pronunciation (perhaps influenced by the distinction between /dˤ/ and /ðˤ/ in the Holy Qur'an whose recitation is highly emphasised in Saudi Arabia, especially in schools, universities

and mosques) or Hejazi speakers simply maintaining their own dialectal variant, i.e. [dˤ]. This result may explain why there were more instances of [dˤ] in the broadcasts of Saudi newsreaders, than the other Gulf dialects.

The Tunisian Arabic in contrast, /dˤ/ is realised as [ðˤ] (Maamouri 1967; Ghazeli 1977), which explains why there were no instances of [dˤ] in the Tunisian newsreaders' bulletins (this result supports al-Wer [2004]). The fact that none of the newsreaders took note of the MSA pronunciation of /dˤ/ may indicate a lack of necessary association between MSA and more formal contexts.

Oman can be generally divided into Shihhi (similar to varieties spoken in the United Arab Emirates [UAE]) and Dhofari Arabic (similar to varieties spoken in Yemen). The former variety only contains the variant [dˤ], whereas the latter only contains the variant [ðˤ] (al-Balushi 2016). Dhofari Arabic is considered to be the most common across Oman and this explains why the majority of newsreaders produced *daad* as [ðˤ]. Other dialectal varieties found in the Persian Gulf (Iraq, UAE and Bahrain) (Anīs 1947; Hussain 1985) and Yemen (al-Nassir 1985; Watson 2002) have a tendency to replace /dˤ/ with [ðˤ], although it is evident that some newsreaders from these dialects attempted to conform to MSA by producing /dˤ/ correctly.

To sum up, it appears that newsreaders of dialectal varieties which already contain the variant [dˤ] were at an advantage in pronouncing the MSA variable /dˤ/, as opposed to speakers of dialects which only contain the variant [ðˤ]. Al-Wer (2004, 7) concludes that this is because "in the case of the emphatic consonants, there is no…evidence on which speakers can make a phonemic split when required, e.g. speaking or even reading the standard variety". Hence, another possibility for the results may be related to the extent MSA is taught and implemented in schools in different Arabic speaking countries. If children's exposure to MSA is kept to a bare minimum (whether in or out of school), then it is the case that they will only have the knowledge of their own dialect to fall back on when attempting to read MSA. On the contrary, the more children are exposed to and given practice in MSA (whether reading or writing), the more they will be made aware of the differences between MSA and dialectal varieties and be able to make informed choices when reading formal texts.

Data reported by Fowler Al-Hawamdeh and Hamdan (2018) on the status of /dˤ/ in the speech of Jordanian youth reveals that both Bedouin and rural university students experience difficulty in pronouncing /dˤ/ correctly when reading a formal MSA passage, given that their own dialectal variety of /dˤ/ is [ðˤ]. It is however surprising that even educated adult speakers whose job it is to report news in

MSA also find it demanding to regulate their speech when producing /dˤ/. Fowler Al-Hawamdeh and Hamdan, further suggest that the mistakes in reading /dˤ/ by some native Arabic speaking young people may be ascribed to a psycholinguistic phenomenon known as "reading miscues" – a disparity between what appears in the written text and what students say during oral reading (cf. Goodman 1973). Pronouncing /dˤ/ as [ðˤ] is an example of a graphic miscue where readers make an error due to there being more than one variety of pronunciation (standard vs. dialectal variants) for the same graphic item. This mistake particularly occurs in the reading of dialectal speakers. It appears evident from the data provided in this study that the miscue that occurs between /dˤ/ and /ðˤ/ in the reading of youngsters is also applicable to educated professionals whose job it is to read MSA news bulletins live on national television, where one would normally expect a heightened sense of awareness and sharp monitoring of one's own reading (cf. al-Wer 2004; Omari and Jaber 2020).

Conclusion, Recommendations and Implications

The current article fulfilled its objectives by: (1) providing a comprehensive and critical review of the literature regarding /dˤ/ and (2) presenting data on the status of /dˤ/ in the speech of native Arabic speaking newsreaders of various dialectal varieties. The first objective included providing a critical review of the place and manner of articulation of /dˤ/, the phonological and sociolinguistic implications of weak /dˤ/ and the suggested merger between /dˤ/ and /ðˤ/. Other modern day variations of /dˤ/ were also taken into consideration in light of regional and contextual distinctions. It can be presumed that, historically speaking, there is substantial evidence for the laterality of /dˤ/ but more recent research suggests that its modern day realisation is an emphatic dental stop, specifically when reference is made to MSA.

We also deduce that the opposing points of view put forward relating to the proposed merger between /dˤ/ and /ðˤ/ do not have to be as clear cut as some researchers inadvertently seem to allude to (cf. Brown 2007, al-Zāhid [d. 345/957] and al-Ṣāḥib [d. 385/995] for example). It is a fact that the replacement of one sound with the other in some instances does not lead to a change in meaning of given lexical items, e.g. *akhdˤar* or *akhðˤa:r* meaning "green" and *dˤabiʕ* or *ðˤabiʕ* meaning "hyena". However, there are also some very clear examples of a phonemic distinction between /dˤ/ and /ðˤ/. Hence, the two former mentioned sounds may at times act like allophones, whilst in others they are clearly phonemes, e.g. *dˤalla* meaning "he went astray" and *ðˤalla* meaning "he stayed". This depends of course on the words they appear in, as well as the dialectal variations of individual speakers. Furthermore, based on region and at times context, modern day variations of

/dˤ/ include [dˤ], [d], [tˤ] and [ðˤ]. Some studies also suggest that lateral /dˤ/ still exists in some speech communities, yet it is perhaps the case that more thorough studies are needed with larger samples to ascertain the degree to which the sound found in these communities actually does descend from the original /dˤ/. The data provided for the second objective of the study revealed that native Arabic speaking newsreaders who already have [dˤ] (including Moroccans, Egyptians and the Levantine varieties) in their dialectal inventory are at an advantage when it comes to reading /dˤ/ correctly. This is opposed to newsreaders whose dialects contain the [ðˤ] variant of MSA /dˤ/ (such as some of the gulf dialects), who although reading MSA texts on live television, at times fail to suppress their dialectal varieties, whether consciously or not. The major implication of the current study is that the status of /dˤ/ is still in flux. It may be argued that one unified /dˤ/ does still not exist, even in more formal contexts. Readers still continue to realise it differently even in the most formal of contexts, let alone in frequent and informal contexts such as everyday conversation. Examining even more formal contexts such as Qur'anic recitations may also reveal whether and to what extent the problem persists.

We suggest that such a problem may be due to reading miscues, leading us to conclude that on a pedagogical level, more work need to be done in schools and other educational institutions. The collected data of Arabic speaking professional newsreaders from a wide range of dialects revealed inconsistencies in the way /dˤ/ was produced, even though all were reading from MSA texts. The implication of this finding is that Arabic-speaking children may be disadvantaged when it comes to formal schooling, depending on their dialectal heritage. Hence there is a discrepancy in reading performance between those speakers who come from [ðˤ] speaking backgrounds and those for whom [dˤ] already exists in their vernaculars. Given this point, Arabic-speaking children should be given practice in the place and manner of articulation of MSA /dˤ/, as well as how to be more attentive to the production of /dˤ/ when reading MSA. Children should also be made consciously aware of the difference between words where /dˤ/ and /ðˤ/ are allophonic (i.e. meaning is not affected) and those where /dˤ/ and /ðˤ/ are phonemic (i.e. meaning is altered). This may to some degree, prepare them for later school years, university, the workplace and other formal contexts, perhaps especially beneficial for individuals working in the media and television for instance, which we have witnessed in the current study.

One of the objectives of the study was to highlight the extent to which dialectal realisations of /dˤ/ emerge in even the most formal of circumstances, in this case newsreaders reading from MSA texts. This is why focus was placed on the subjects' country of origin as opposed to factors such as region or gender, in order to show that a general discrepancy exists, i.e. to see how Standard Arabic is influenced by

the general linguistic scene of a given country. Although the current study presents important preliminary results, we recognise that, as a limitation of the study, there could have been tighter control over regional variation and gender which the researchers would like to see addressed in future research.

As an overall conclusion, we advocate that in spite of all that has been suggested regarding /dˤ/, its status is still somewhat problematic. However, the modern status of /dˤ/ is beginning to become clearer, especially with an increasing focus on the distinction between /dˤ/ and /ðˤ/ in Standard Arabic. Having said this, it appears that even many educated speakers often fail to distinguish between the two sounds. Given the amount of debate surrounding /dˤ/ in the wider Arab world, we draw on Horesh and Cotter's (2016, 371) statement that "many Arabic vernacular varieties are still undescribed". Hence, we conclude that an attempt to make broad generalisations relating to this sound and applying them to all Arabic speaking communities should be avoided, without firstly drawing on solid empirical evidence which has to await further research.

Notes

1. The /ɮˤ/ symbol is used for the emphatic lateral fricative realisation of /dˤ/ (i.e. the historical realisation) (see Alqahtani 2015).
2. The modern Arabic *ḍāḍ* is another way to write *daad* and /ḍ/ is another symbol used for /dˤ/.
3. The emphatic phoneme *ḏā* refers to /ðˤ/.

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