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Lateral fricatives and lateral emphatics in southern Saudi Arabia and Mehri

JANET C.E. WATSON & MUNIRA AL-AZRAQI

Summary
Arabic was traditionally described as *lughat al-ḏād* ‘the language of ḏād’ due to the perceived unusualness of the sound. From Sībawayhi’s description, early Arabic ḏād was clearly a lateral or lateralized emphatic. Lateral fricatives are assumed to have formed part of the phoneme inventory of Proto-Semitic, and are attested in Modern South Arabian languages (MSAL) today. In Arabic, a lateral realization of ḏād continues to be attested in some recitations of the Qurān. For Arabic, the lateral ḏād described by Sībawayhi was believed to be confined to dialects spoken in Ḥadramawt. Recent fieldwork by Asiri and al-Azraqi, however, has identified lateral and lateralized emphatics in dialects of southern ‘Asīr and the Saudi Tihāmah. These sounds differ across the varieties, both in their phonation (voicing) and manner of articulation — sonorants and voiced and voiceless fricatives — in their degree of laterality, and in their phonological behaviour: the lateralized ḏād in the southern Yemeni dialect of Ghayl Ήabbān, for example, has a non-lateralized allophone in the environment of /r/ or /l/. Recent phonetic work conducted by Watson on the Modern South Arabian language, Mehri, shows a similar range of cross-dialect variety in the realization of the lateral(ized) emphatic. In this paper, we discuss different reflexes of lateral(ized) emphatics in four dialects of the Saudi Tihāmah; we show that some of these dialects contrast cognates of *ḏ* and *ḏąt*; and we show that lateral emphatics attested in dialects of the Modern South Arabian language, Mehri, spoken in areas considerably to the south of the Saudi Tihāmah, show a similar degree of variation to that of the Arabic dialects of the Saudi Tihāmah.

Keywords: Arabic, Mehri, ḏād, lateral fricatives, lateral emphatics

Introduction

In this paper, we begin by discussing the presence of lateral fricatives and lateral emphatics in Semitic. We then examine examples of lateral fricatives and the lateral(ized) emphatic in a dialect of the Modern South Arabian language, Mehri. In section two, we consider the early Arab grammarians descriptions of ḏād and of the ‘incorrect’ ḏād. In section three, we discuss the presence of the lateral ḏād in Arabic dialects and show that its geographical area is considerably larger than previously assumed. Looking at our data, we then show that the realizations of lateral emphatics in dialects of the Saudi Tihāmah vary considerably within a very small geographical area and that some dialects distinguish between cognates of *ḏ* and *ḏąt*; finally we examine cross-dialectal realizations of the lateral emphatic in three dialects of Mehri. We conclude with suggestions for future research.

Lateral fricatives in Semitic

Semitic had three contrasting non-emphatic s-sounds, one of which, based on working with cognates, was most probably a lateral fricative (Steiner 1977). The Modern South Arabian languages are the only extant Semitic languages to maintain a three-way series of plain sibilants: a dental sibilant /s/, an alveopalatal sibilant /š/, and a lateral sibilant /ś/; this latter is similar in articulation to the Welsh double l in words such as Llanelli, llid and Lloyd, and represented in the International Phonetic Alphabet as ‘l’ with a belt: [ʃ]. Consider the following spectrograms of final geminate /š/, /š/, and /ś/ in the dialect of Mehri spoken in Gabgabat, near Salālah in Dhofar (Zufār), Oman. The sound files were all produced by a 45-year-old male speaker during a single recording session. The onset of the sibilants is to the immediate right of the inserted dotted line on the spectrograms; we can see that the /š/ in *hiss* has the highest pitch (shown by the high frequency of the start of the darkest part of the spectrogram corresponding to the consonant); and /ś/ has the lowest pitch (shown as the relative low frequency of the start of the darkest part of the spectrogram corresponding to the consonant).

The Modern South Arabian languages also have an emphatic counterpart to Š, cognate with Arabic *ḏ*. This is realized as a pharyngealized lateralized fricative in some dialects, including the dialect of the male speaker from...
Salālah, and as an emphatic lateral sonorant in others. The words in 1–4 are differentiated principally by the initial consonant:
1. sīb ‘to insult’
2. šubb ‘be off [dog]’
3. sīb ‘he climbed’
4. šabb ‘it became warm [water]’

**Arabic as lughat al-ḍād and descriptions from the early Arab grammarians**

Arabic ḍād is generally pronounced either as a voiced pharyngealized dental stop, or a voiced pharyngealized interdental fricative. The fact that Arabic was traditionally described as lughat al-ḍād, however, indicates that the grammarians considered this sound unique. There are several reasons for assuming that early Arabic ḍād was realized as a lateral or lateralized velarized or pharyngealized consonant: the Arab grammarians were very careful in their description of the articulation of consonants, and various descriptions of the articulation of ḍād show that the edge of the tongue was by the molars, giving a lateral articulation. Thus, Sibawayhi (1982) describes the correct articulation of ḍād in eighth-century Arabic as: ‘the beginning of the edge of the tongue and the adjoining molars is the place of articulation of the ḍād. ḍād is majhūr (unbreathed) and it is also rakhw (lax) and muḥbaq (lidded, emphatic)’ (trans. Dickins 1990: 237).

Cantineau (1960) interprets this as describing a lateral or lateralized velarized voiced interdental fricative [l]. Furthermore, ‘incorrect’ pronunciations of ḍād include alongside al-dāl al-mufakhkhamah (emphatic dāl) and al-zāy al-mufakhkhamah (emphatic zāy), al-lām al-mufakhkhamah (emphatic lām). This sound was said to have been used by people known as al-Zayāla (Ibn al-Jazari 1405 AH). Further evidence for the laterality of ḍād is in the pronunciation of Arabic loans involving ḍād in various languages. In Spanish, *ḍ is realized as [ld], as in: qāḍī ‘judge’ > alcalde, ad-ḍayl ‘estate, hamlet’ > aldea; Akkadian ruldayu goes back to Arabic ruḍāy (Steiner 1977); and in some African languages *ḍ is realized as [l] in Arabic loans, as in Fulfulde: farilla < far ‘obligation’, and Hausa: ḥaylā < ḥayl (a) ‘menstruation’ (Versteegh 2006: 545).

**Lateral ḍād within Arabic dialects**

For Arabic, the lateral or lateralized ḍād described by the early Arab grammarians was believed to be confined to dialects spoken in Ḥadramawt (Landberg 1901; El-Jindi 1983; Habtour 1988). As late as 2006, Versteegh writes:
cameras to record monologues and conversations. She asked them to focus where possible on words involving standard Arabic *Ρ and *·. Twenty hours of audio-visual data based on interviews and word lists were produced. The informants ranged in age from 20 to 80, and in educational levels from illiterate to university level. All informants, irrespective of educational level, exhibited lateral or lateralized reflexes of *Ρ in their speech. Al-Azraqi used Pinnacle Studio 11 to illustrate articulation of the sounds in video clips and presented her initial findings at the Association de Dialectologie Arabe conferences in Vienna (2006) and Colchester, Essex (2008).

In April 2009, Al-Azraqi came over to the UK for a weekend meeting with Janet Watson and Samia Naïm. During this time, we transcribed one relatively short passage of speech individually and later compared our results. We then carried out initial impressionistic and acoustic phonetic analysis of *· cognates with the help of an instrumental phonetician from the University of Leeds, Barry Heselwood, and using the computer programme PRAAT for acoustic analysis (www.fon.hum.uva.nl/)

‘It is not surprising that this special sound disappeared in the New Arabic dialects, which all merged the reflexes of Classical Arabic  and  and ‘The only alleged exception to the general merger is the dialect of Daţîna, which according to Landberg (1901; 1905–1913) has /I/ as reflex of Classical Arabic /d/ and /d/ as reflex of /q/’ (Versteegh 2006: 544). The sound has, however, recently been discovered in parts of Asir and the Saudi Tihāmah (Al-Azraqi 2007; 2010; Asiri 2009).

Al-Azraqi, a native of Abhā in ‘Asir, first became aware of the lateral articulation of  around her region when listening to her husband talking to a friend from the Saudi Tihāmah on the phone. She heard him pronouncing the cognate of  as a distinctly lateralized fricative, and when she asked him about it was told that he was imitating the person he was speaking to. A short time later she arranged for recordings to be made in three villages in the Saudi Tihāmah. As a Saudi woman she was unable to travel and record men on her own — and women were reluctant to be recorded. She therefore engaged five male fieldworkers from the area and supplied them with video cameras to record monologues and conversations. She asked them to focus where possible on words involving standard Arabic *d and *đ. Twenty hours of audio-visual data based on interviews and word lists were produced. The informants ranged in age from 20 to 80, and in educational levels from illiterate to university level. All informants, irrespective of educational level, exhibited lateral or lateralized reflexes of *đ in their speech. Al-Azraqi used Pinnacle Studio 11 to illustrate articulation of the sounds in video clips and presented her initial findings at the Association de Dialectologie Arabe conferences in Vienna (2006) and Colchester, Essex (2008).

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**Figure 4. Saudi Tihāmah dialects investigated.**
praat/). From Al-Azraqi’s initial research it was already known that dialects of the Saudi Tihāmah exhibited lateral reflexes of Arabic *ḍ, however, until 2009 the degree of variation, the degree of laterality, and the interaction of voicing and laterality had not yet been determined. It was also unclear whether any of the dialects exhibited distinct reflexes of *ḍ and *ḍ, something held to be impossible by Versteegh (2006, see above) and Al-Wer (2004). Our initial work in 2009 showed three main realizations of the lateral(ized) ḍād in three different dialects, and two dialects in which the cognates of *ḍ and *ḍ were distinct.

At the same time, Yahya Asiri was completing his PhD thesis at the University of Salford on the dialect of Rijal Alma‘, another dialect in the Saudi Tihāmah, but some distance from the area in which Al-Azraqi’s fieldworkers collected their data. His work showed distinct lateralized reflexes of *ḍ and *ḍ, with the reflex of *ḍ being a voiced lateralized pharyngealized interdental fricative, and the reflex of *ḍ a voiceless lateralized pharyngealized interdental fricative.

The lateral emphatics we discovered in this area are: a pharyngealized lateral sonorant [H], a voiced lateralized pharyngealized dental fricative, transcribed here as [ḍ], a voiceless lateralized pharyngealized dental fricative, transcribed here as [ḍ], and a voiceless dental fricative with median friction, a sound which gives the impression of strong sibilance, tentatively transcribed here as [s]. In most cases the lateral(ized) sounds correspond to *ḍ, but in some cases (see al-‘Izzi below) they correspond to *ḍ, and in other cases the cognate of *ḍ in some words is lateral and in others non-lateral (see al-Rubū‘ah older generation below).

The dialect of al-Ghayil exhibited a pharyngealized lateral sonorant which is most probably the sound described by Ibn al-Jazarī (1405 AH) as al-lām al-mufakkhkhamah (emphatic lām). The following exchange took place between the interviewer and the language consultant:

5. Interviewer — antū ḍīfāʔaʔ ‘you [were] guests’
   Consultant — ḥān līfān(i) ‘we [were] guests’ al-luh
6. Interviewer — šāru ḍ-ḍuhur awlā m-xalīf am-ḍuhur ‘before noon or after noon?’
   Consultant — lā bi:līh / ṭgaddaynā bašd al-luh ‘no by God, we have lunch after noon’

In the dialect of al-‘Izzi, the cognate of *ḍ is lateral, while the cognate of *p is not: here a voiceless lateral dental fricative with median friction contrasts with a voiced pharyngealized dental fricative cognate of *ḍ as in: antū

7.  ṡāmī ‘thirsty’ (*ḍāmī)

In al-Rubū‘ah, there appear to be two age-conditioned varieties. Among the older generation a pharyngealized lateral sonorant contrasts with a voiced pharyngealized dental fricative, as in:

8. faṭil ‘blessing (*faḍil)

9. aḍ-damān ‘social welfare’ (*al-damān)

Among the younger generation two lateralized pharyngealized consonants contrast: a voiced lateralized pharyngealized dental fricative reflex of *ḍ with a voiceless lateralized pharyngealized dental fricative reflex of *ḍ, as in the following minimal pair provided by one of Al-Azraqi’s informants:

9. ḍaym ‘pain’ (*daym)
10. ḍaym ‘has been affected’

These are very similar to the cognates of *ḍ and *ḍ in Asiri’s dialect of Rijal Alma‘, for which he provides the following (in some cases) near-minimal pairs (Asiri 2009). Note that while ḍ usually corresponds to *ḍ, as in: yiḍ’ārib ‘he fights’ and ṯaḍ’ān ‘she bit’, and ḍ to *ḍ, there is not always a clean correspondence:

11. ḍ’arf ‘circumstance’ (*ḍ’arf) versus ṭāmī ‘thirsty’ (*ḍāmī)
12. ṭād ‘it m. overfilled’ (*fād) versus māf ‘he churned’
13. tanū‘ ‘she reminds’ versus tamū‘ ‘she churns’

Of particular interest to us is the fact that three neighbouring dialects exhibit three main lateral or lateralized reflexes of *ḍ within a very small geographical area, and that Rijal Alma‘, considerably to the north-west of Al-Azraqi’s area, also exhibits lateralized emphatics. Our future work involves discovering the geographical spread and density of dialects which exhibit lateral(ized) emphatics within the area, and the degree of phonetic variation.

The lateral emphatic in dialects of Mehri

We initially examined lateral fricatives in Mehri as part of the discussion of lateral fricatives in Semitic. Recent impressionistic and acoustic phonetic work, however, showed that dialects of Mehri exhibit a similar range of variation in realization of the emphatic lateral to the Arabic Saudi Tihāmah dialects. The Mehri dialects examined here are the dialect of Jōdab in Hawf in the easternmost province of Yemen, the dialect of Gabgabat
near Salālah in Dhofar, Oman, and the dialect of Ndēd on the border of Yemen in Dhofar. Male and female informants ranged in age from 20 to 45, and in education levels from basic education to university level. Audio data was gathered by Watson from Yemen in 2008 and from Dhofar between January and April 2010. The data included semi-structured interviews and elicited sentences and word lists. Data was recorded onto an Olympus LS-10 recorder or directly onto a Sony laptop using Adobe Audition 1.5 software, and was saved as raw data in WAV format. Phonetic analysis was done using PRAAT for acoustic analysis (www.fon.hum.uva.nl/praat/).

The dialects investigated showed three main variants: the Mahriyōt dialect in Hawf exhibits a voiced lateralized pharyngealized fricative, but with considerably less friction than the voiced lateralized pharyngealized fricative attested in Rijal Alma‘ and in the speech of the younger generation of al-Rubū‘ah. This can be seen in the spectrogram of ḍlōfar ‘plait’ in figure 6. Women speakers of this dialect tend to produce an affricate which is sometimes realized as voiceless, and strongly resembles the [h] of Gabgabat. In the following three spectrograms, arrows indicate the mid-point of the articulation of the sound in question.
assumed, and initial findings from the Mahriyōt dialect of Hawf suggest that pronunciation differences may be linked to gender. Our future research intends to establish the geographical distribution of lateral(ized) emphatics in the Saudi Tihāmah, and the geographical distribution of dialects that exhibit phonemic distinctions between *Ρ and *·; to establish the extent to which the lateral(ized) emphatics in these dialects correlate with cognates of *Ρ; to establish through instrumental phonetic analysis the different phonetic correlates of lateral(ized) emphatics in these dialects; and to determine the extent to which these correlate with the phonetic correlates of the lateral(ized) emphatic in dialects of Mehri.

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