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**Proceedings Paper:**

Watson, JCE and Al-Azraqi, M (2011) Lateral fricatives and lateral emphatics in southern Saudi Arabia and Mehri. In: Seminar for Arabian Studies. Seminar for Arabian Studies, 22-24 Jul 2010, British Museum, London. Archaeopress , 425 - 432 . ISBN 9781905739332

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**PROCEEDINGS**  
**OF THE**  
**SEMINAR FOR ARABIAN STUDIES**

**VOLUME 41**  
**2011**

Papers from the forty-fourth meeting of the  
Seminar for Arabian Studies  
held at the British Museum, London,  
22 to 24 July 2010

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ISSN 0308-8421

ISBN 978-1-905739-40-0

## 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-dād* ‘the language of *dād*’ due to the perceived unusualness of the sound. From Sībawayhi’s description, early Arabic *dād* 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 *dād* continues to be attested in some recitations of the Qur’ān. For Arabic, the lateral *dād* described by Sībawayhi was believed to be confined to dialects spoken in Ḥaḍramawt. 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 *dād* in the southern Yemeni dialect of Ghaylḥabbān, 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 \*ḏ̣; 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, *dād*, 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 *dād* and of the ‘incorrect’ *dād*. In section three, we discuss the presence of the lateral *dād* 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 \*ḏ̣; 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 /ṣ/; 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: [ɬ]. Consider the following spectrograms of final geminate /s/, /š/, and /ṣ/ in the dialect of Mehri spoken in Gabgabāt, near Salālah in Dhofār (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 /s/ 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 /š/ 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

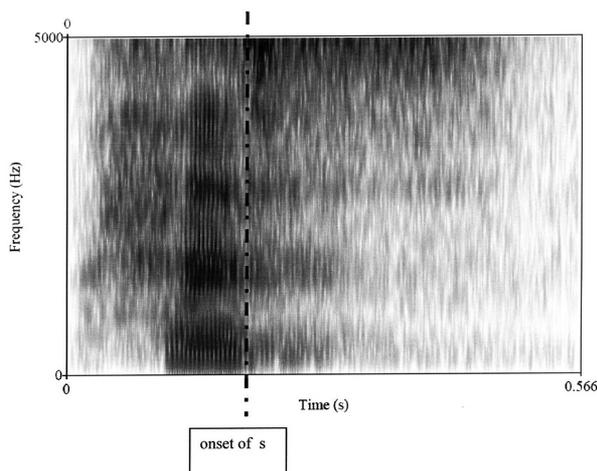


FIGURE 1. Spectrogram of ḥiss ‘he felt’

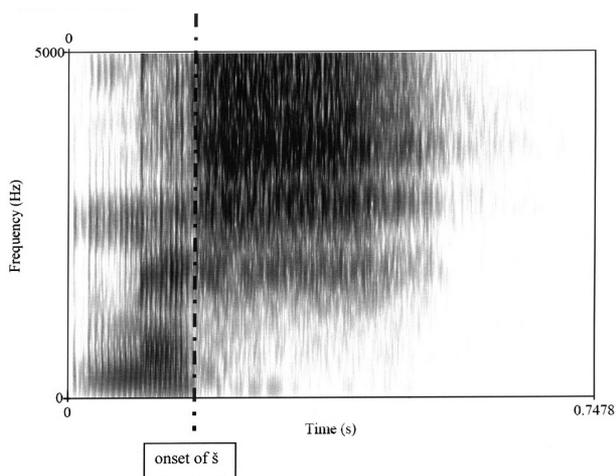


FIGURE 2. Spectrogram of nišš ‘he fell precipitously’

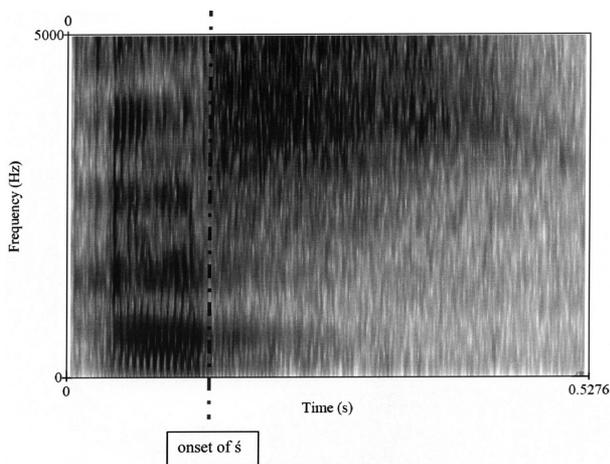


FIGURE 3. Spectrogram of ʿišš ‘he got up’

Salālah, and as an emphatic lateral sonorant in others. The words in 1–4 are differentiated principally by the initial consonant:

1. *sibb* ‘to insult’
2. *šubb* ‘be off [dog]’
3. *šibb* ‘he climbed’
4. *šabb* ‘it became warm [water]’

### Arabic as *luḡhat al-ḡād* and descriptions from the early Arab grammarians

Arabic *ḡād* is generally pronounced either as a voiced pharyngealized dental stop, or a voiced pharyngealized interdental fricative. The fact that Arabic was traditionally described as *luḡhat al-ḡād*, however, indicates that the grammarians considered this sound unique. There are several reasons for assuming that early Arabic *ḡād* 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 *ḡād* show that the edge of the tongue was by the molars, giving a lateral articulation. Thus, Sībawayhi (1982) describes the correct articulation of *ḡād* in eighth-century Arabic as: ‘the beginning of the edge of the tongue and the adjoining molars is the place of articulation of the *ḡād*. *ḡād* is *majhūr* (unbreathed) and it is also *rakhw* (lax) and *muḡbaq* (lidded, emphatic)’ (trans. Dickins 1990: 237). Cantineau (1960) interprets this as describing a lateral or lateralized velarized voiced interdental fricative [ḡ<sup>l</sup>]. Furthermore, ‘incorrect’ pronunciations of *ḡād* include alongside *al-dāl al-mufakkkhamah* (emphatic *dāl*) and *al-zāy al-mufakkkhamah* (emphatic *zāy*), *al-lām al-mufakkkhamah* (emphatic *lām*). This sound was said to have been used by people known as al-Zayālaʿ (Ibn al-Jazari 1405 AH). Further evidence for the laterality of *ḡād* is in the pronunciation of Arabic loans involving *ḡād* in various languages. In Spanish, \*ḡ is realized as [ld], as in: *qāḡī* ‘judge’ > *alcalde*, *aḡ-ḡayʿa* ‘estate, hamlet’ > *aldea*; Akkadian *ruḡdayu* goes back to Arabic *ruḡāy* (Steiner 1977); and in some African languages \*ḡ is realized as [l] in Arabic loans, as in Fulfulde: *farilla* < *fard* ‘obligation’, and Hausa: *hāyila* < *ḡayḡ (a)* ‘menstruation’ (Versteegh 2006: 545). <

### Lateral *ḡād* within Arabic dialects

For Arabic, the lateral or lateralized *ḡād* described by the early Arab grammarians was believed to be confined to dialects spoken in Ḥaḡramawt (Landberg 1901; El-Jindi 1983; Habtour 1988). As late as 2006, Versteegh writes:

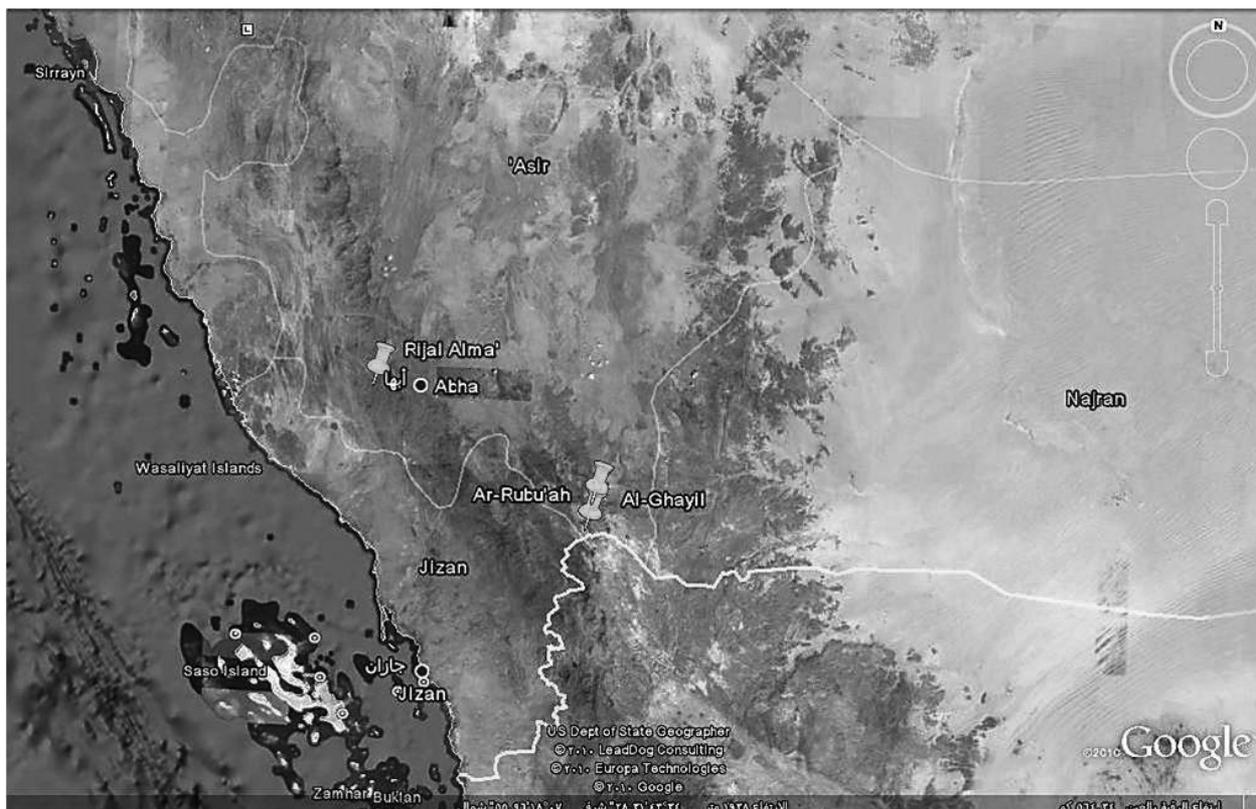


FIGURE 4. Saudi Tihāmah dialects investigated.

‘It is not surprising that this special sound disappeared in the New Arabic dialects, which all merged the reflexes of Classical Arabic *ḍ* and *ḍʿ* and ‘The only alleged exception to the general merger is the dialect of Daḥīna, which according to Landberg (1901; 1905–1913) has /l/ as reflex of Classical Arabic /ḍ/ and /ḍʿ/ as reflex of /ḍ/’ (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 *ḍād* 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 *ḍād* 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 \**ḍ* and \**ḍʿ*. 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 \**ḍ* 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 Naīm. 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 \**ḍʿ* 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/](http://www.fon.hum.uva.nl/)

praat). From Al-Azraqi's initial research it was already known that dialects of the Saudi Tihāmah exhibited lateral reflexes of Arabic \*ḏ, 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 \*ḏ and \*ḏ̤, 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) ḏād in three different dialects, and two dialects in which the cognates of \*ḏ and \*ḏ̤ were distinct.

At the same time, Yahya Asiri was completing his PhD thesis at the University of Salford on the dialect of Rijal Alma<sup>3</sup>, 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 \*ḏ and \*ḏ̤, with the reflex of \*ḏ being a voiced lateralized pharyngealized interdental fricative, and the reflex of \*ḏ̤ a voiceless lateralized pharyngealized interdental fricative.

The lateral emphatics we discovered in this area are: a pharyngealized lateral sonorant [ɬ], a voiced lateralized pharyngealized dental fricative, transcribed here as [ḏ<sup>l</sup>], a voiceless lateralized pharyngealized dental fricative, transcribed here as [ḏ̤<sup>l</sup>], and a voiceless dental fricative with median friction, a sound which gives the impression of strong sibilance, tentatively transcribed here as [s<sup>l</sup>]. In most cases the lateral(ized) sounds correspond to \*ḏ, but in some cases (see al-<sup>c</sup>Izzi below) they correspond to \*ḏ̤, and in other cases the cognate of \*ḏ in some words is lateral and in others non-lateral (see al-Rubū<sup>c</sup>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-mufakhkhamah* (emphatic *lām*). The following exchange took place between the interviewer and the language consultant:

5. Interviewer — *antū ḏīfā?*ḥ 'you [were] guests'  
 Consultant — *ḥan ḥīfā(ḥ)* 'we [were] guests' *al-luh*
6. Interviewer — *šūru ḏ-ḏuhur awlā m-xalf am-ḏuhur*  
 'before noon or after noon?'  
 Consultant — *lā billāh / ṭgaddaynā baṣḏ al-luh* 'no by God, we have lunch after noon'

In the dialect of al-<sup>c</sup>Izzi, the cognate of \*ḏ 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 \*ḏ as in: *antū*

7. *s'āmī* 'thirsty' (\*ḏāmī)

In al-Rubū<sup>c</sup>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. *faḥil* 'blessing' (\*faḥil)  
 9. *aḏ-ḏamān* 'social welfare' (\*al-ḏamān)

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

9. *ḏ'aym* 'pain' (\*ḏaym)  
 10. *ḏ̤'aym* 'has been affected'

These are very similar to the cognates of \*ḏ and \*ḏ̤ in Asiri's dialect of Rijal Alma<sup>3</sup>, for which he provides the following (in some cases) near-minimal pairs (Asiri 2009). Note that while *ḏ'* usually corresponds to \*ḏ, as in: *yiḏ'ārib* 'he fights' and *ṣaḏ'ḏ'an* 'she bit', and *ḏ'* to \*ḏ̤, there is not always a clean correspondence:

11. *ḏ'arf* 'circumstance' (\*ḏarf) versus *ḏ̤'āmī* 'thirsty' (\*ḏāmī)  
 12. *fāḏ'* 'it m. overfilled' (\*fāḏ) versus *māḏ'* 'he churned'  
 13. *tanūḏ'* 'she reminds' versus *tamūḏ'* 'she churns'

Of particular interest to us is the fact that three neighbouring dialects exhibit three main lateral or lateralized reflexes of \*ḏ within a very small geographical area, and that Rijal Alma<sup>3</sup>, 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 Gabgab

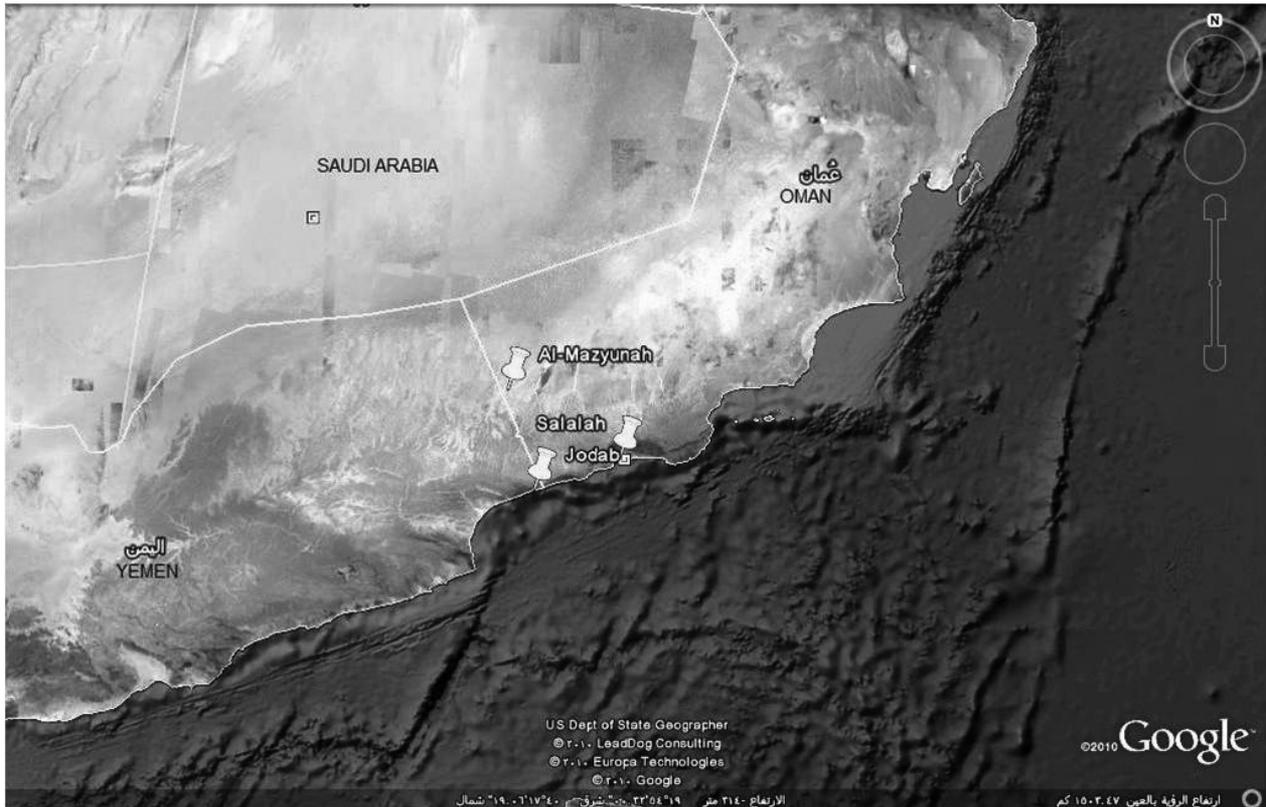


FIGURE 5. Mehri dialects investigated.

near Salālāh 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/](http://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<sup>2</sup> and in the speech of the younger generation of al-Rubūṣah. This can be seen in the spectrogram of *d̪ōfar* ‘plait’ in figure 6. Women speakers of this dialect tend to produce an affricate which is

sometimes realized as voiceless, and strongly resembles the [ʧ] of Gabgabāt. In the following three spectrograms, arrows indicate the mid-point of the articulation of the sound in question.

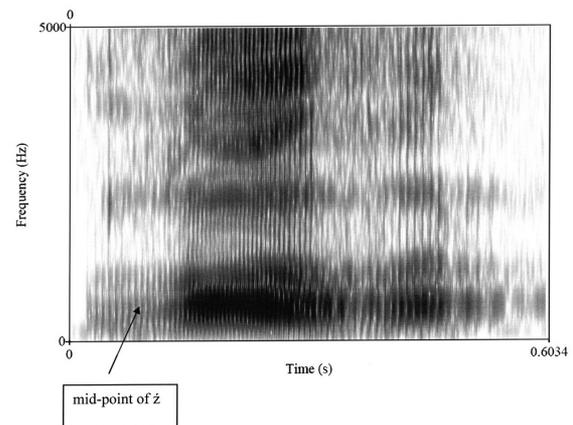


FIGURE 6. Spectrogram of *d̪ōfar* ‘plait’

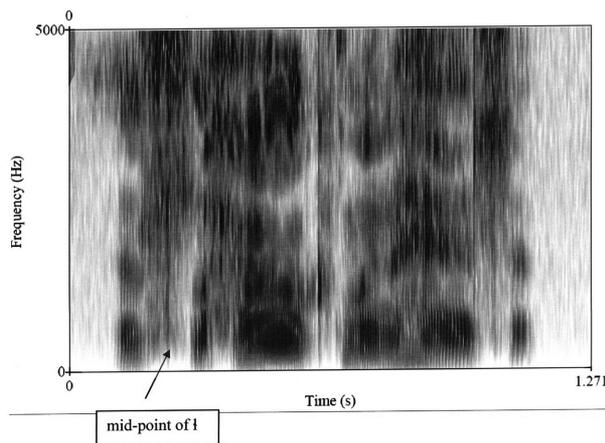


FIGURE 7. Spectrogram of *aṭaḥ ūk min hāsan*  
'what is the laughing for?'

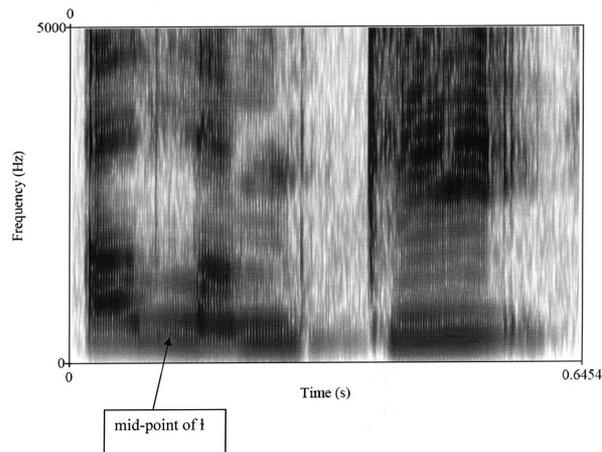


FIGURE 8. Spectrogram of *ālamkī*  
'we/you [dual] used to'

In the Mehreyyet of Gabgabat, near Salālah, the lateral emphatic is realized as a voiceless lateral dental fricative, with slight affrication, as in: *aṭaḥūk min hāsan* 'what's the laughing for?':

In the Mehreyyet of Ndēd, near Mazyūna on the border with Yemen, the lateral emphatic is realized mainly as a pharyngealized lateral sonorant, as in: *ālamkī* 'we/you [dual] used to':

### Conclusion

In this paper, we have presented the initial findings of a project for which we have considerably more questions than answers. What we have shown is that lateral and lateralized emphatics are far more prevalent in dialects of Peninsular Arabic than previously thought; that some dialects do (continue to) make ancient distinctions between \*ḏ and \*ḏ̣; and that the degree of variation in the realization of lateral emphatics is not peculiar to the Arabic dialects but is also found in at least one Modern South Arabian language. For Mehri, research shows greater variation in the pronunciation of the emphatic lateral than previously

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 \*ḏ and \*ḏ̣; to establish the extent to which the lateral(ized) emphatics in these dialects correlate with cognates of \*ḏ; 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.

### Acknowledgements

We are very grateful to Barry Heselwood, Yahya Asiri, Alex Bellem, and Samia Naīm for help and advice at various times, and to our funders, the Leverhulme Trust for a research fellowship for Watson (2007–2008), and the King Faisal Research Centre. Thanks also to James Dickins for comments on an earlier draft of the paper.

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