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Consonant identity in Arabic (dialect) phonology: Elemental!

This paper tackles Arabic consonant identity, focusing on resonance (the elements I, U and A) in consonants, and the different behaviour this evokes cross-dialectally.

A salient feature of the Arabic sound system is the presence of a set of emphatic consonants, usually said to be characterised predominantly by secondary pharyngealisation / velarisation. The 'primary' emphatics are a set of 'pharyngealised' coronal obstruents (*ṭ ṣ ḍ ð*,[1] depending on the dialect) which trigger a spreading process sometimes called 'emphasis'. Consonants susceptible to 'emphasis' are called 'secondary' emphatics (typically at least *ṛ ḷ ṃ ḅ*, depending on the dialect and the analysis).

However, there exist many examples of problematic data that pose an obstacle to analysis. Firstly, many dialects have a number of lexemes said to be at least partly emphatic, but in which there is no 'primary' emphatic. Compare some typical examples often cited for various dialects:

(1a)	*ḅāḅa*	'Daddy'	(1b)	*bāb-a*	'his door'
	ṃayy	'water'		*mayyit*	'dead (m.s.)'
	ṇāy	'flute'		*nāyim*	'asleep (m.s.)'
	jāṛī	'my neighbour (m.s.)'		*jāri*	'flowing (m.s.)'[2]

As per (1a), such 'emphatic' examples always involve a low vowel, but the low vowel *per se* does not trigger 'emphasis' (1b). Secondly, in some dialects, apparent 'emphaticness' seems to arise from certain consonant combinations, without the presence of a ('primary') emphatic coronal obstruent. This is exemplified in Baghdadi Arabic 'emphatic' (2a) vs. non-emphatic (2b) combinations:

(2a)	*ġaṃṃaḷ*	'he got lice'	(2b)	*kammal*	'he completed'
	ġaḅuḷ	'before'		*balad*	'country'
	ḅuṛaṃ	'he plaited'		*risam*	'he drew'

This paper argues that, aside from variant and gradient *phonetic* spread of the pharyngealisation associated with ('primary') emphatics, one major problem is the assumption that there is one process involved in such data, i.e. 'emphasis', typically approached as if it were one phenomenon occurring in isolation. Using data from Baghdadi Arabic, I focus on the role of emphatics within the overall sound system, and argue that phonological words in Arabic consist of resonance domains necessarily associated with one resonance quality (i.e. the element I, U or A). The resonance identity of consonants within a domain is crucial in determining the extent and spread of these domains, and thus the perception of 'emphaticness' or 'non-emphaticness'.

Essentially, while the coronal obstruent emphatics have an A identity, the labials have an U identity. Perceptually, both A and U resonances are 'back' (and non-'front'). Therefore, examples of what is often called 'emphatic' where there is no 'primary' emphatic trigger are in fact non-I (= non-'front') domains. Crucially, I show that 'frontness' (the I element) also spreads across domains – a process called *imāla* ('inclination') by the Arab grammarians, but hitherto disregarded in generative

[1] As per Arabic transliteration, emphatics are denoted by a subscript dot; macrons denote long vowels.
[2] Cowell (1964: 7); transliteration adapted. Similar examples abound in the literature.

analyses of ‘emphasis’. However, dialects differ with respect to the presence of an U domain and thus the blocking effects on the spread of I.

A brief comparison of some Damascene data (3–4a) reveals a different pattern from Baghdadi (3–4b):

(3a)	*ṭābe*	(3b)	*ṭōḍa*	‘ball’
(4a)	*baʔʔālīye*	(4b)	*ḍaġġāl*	‘grocery’

The Damascene data in (3a) shows a final front vowel preceded by a non-back labial, while the Baghdadi cognate shows a final back vowel preceded by a back labial. I argue that in Baghdadi (3b), the labial is in an U domain into which a domain-final I can’t spread. However, Damascene does not have U domains, only A and I domains, so here the domain-final I may spread left and affect the (non-‘back’) labial before being blocked from further spreading by the A domain of the first syllable.

In Damascene (4a), there is no consonantal A domain, and we therefore see leftward *imāla* (I-spread) throughout the word, including the initial labial. By contrast, in Baghdadi (4b), the presence of the initial U consonant followed by the velar and then a long low (A-identified) vowel acts as an U domain and prevents the I present in the coronal lateral (in Arabic) from spreading and causing *imāla*.

Overall, the Arabic consonantal system is fundamentally characterised by resonance qualities which participate in a number of ‘identity’ processes. The cross-dialectal differences make the issue of ‘resonance’ in Arabic sound systems particularly interesting from a typological perspective.

References

al-Nassir, A.A. (1993). *Sibawayh the Phonologist: A Critical Study of the Phonetic and Phonological Theory of Sibawayh as Presented in his Treatise Al-Kitab*. London / New York: Kegan Paul International.

Blanc, H. (1964). *Communal Dialects in Baghdad*. Cambridge, MA: Harvard University Press.

Cantineau, J. (1946). *Les parlers arabes du Hōrān: Notions générales, grammaire*. Paris: Librarie C. Klincksieck.

Cantineau, J. & Y. Helbaoui (1953). *Manuel élémentaire d’arabe oriental (parler de Damas)*. Paris: Librarie C. Klincksieck.

Cowell, M.W. (1964). *A Reference Grammar of Syrian Arabic*. Georgetown University Press.

Davis, S. (1995). ‘Emphasis Spread in Arabic and Grounded Phonology’. *Linguistic Inquiry* 26: 465–98.

Harris, J. (1994). *English Sound Structure*. Oxford: Blackwell.

Harris, J. & G. Lindsey (1995). ‘The Elements of Phonological Representation’. *Frontiers of Phonology: Atoms, Structures, Derivations*. (eds) J. Durand & F. Katamba. London: Longman. 34–79.

Shahin, K.N. (2002). *Postvelar Harmony.* Amsterdam: John Benjamins.

Woodhead, D.R. & W. Beene, eds (1967). *A Dictionary of Iraqi Arabic*. Washington, DC: Georgetown University Press.

Younes, M. (1993). ‘Emphasis Spread in Two Arabic Dialects’. *Perspectives on Arabic Linguistics V.* (eds) M. Eid & C. Holes. Amsterdam: John Benjamins. 119–45.