The typology of partial geminates:
new data and generalizations from Omani Mehri (Modern South Arabian)

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Partial geminates are usually mentioned in the literature only in passing, on the occasion of the study of geminates in general. The question of their typology as well as that of their characteristics compared to those of full geminates is still not entirely clear at the present state. This article provides a case study from Omani Mehri, an endangered, underdocumented and understudied Modern South Arabian language.[1] As for their segmental make-up, partial geminates are generally taken to be of one of the two following types: homorganic nasal + stop or lateral+stop clusters. I argue that Omani Mehri presents two types of partial geminates that passed unnoticed until now: (i) [-voiced, -ejective] CC-clusters (hence ©©-clusters), (ii) *l*+glide clusters. As for the phonological behaviour of partial geminates, the question is whether they behave differently from full geminates in any phonologically relevant respect: does the fact that they share only a subset, and not all, of their features trigger a difference at the phonological level? (see *e.g.* the discussion in Kirchner 2000). I review the phonological properties of partial geminates in Omani Mehri and argue that they behave like geminates. At an empirical level, the results are based on the standard literature (*ML*, Rubin 2010, 2018, Watson 2012) as well as on original fieldwork conducted between 2012 and 2017.

2. Geminates. Mehri geminates are either lexically given or phonologically derived (Rubin, 2010, Watson 2012). Their relevant properties are listed below:

a. distribution:

#__	__#	V__V
ssó:fər *travel* √sfr pf 3ms	də́ll *know* √dl pf 3ms	dəllú:t *know* √dl pf 3fs

b. representation: CC. Mehri has a system of Tonic Lengthening with Closed Syllable Shortening: a stressed V is lengthened in CV syllables, it is short in CVC syllables. In word-final position, (i) CVC counts as an open syllable and a stressed V is lengthened, *e.g.* dəllú:t (ii) CVCC counts as a closed syllable and a stressed V is not lengthened, *e.g.* rəkə́zk. The stressed V preceding a final geminate is always short, *e.g.* in biliteral verbs: də́ll. This unambiguously shows that the final geminate behaves like a CC cluster: the length analysis better accounts for the facts than the moraic weight analysis (Davis 2011).

c. integrity: *$C_iəC_i$. In Mehri, the branches of a geminate may not be broken by an unstressed schwa. I show that this constraint is responsible for various processes, *e.g.* the well-known "transfer of gemination" (*ML*: xlvii, Rubin 2010: 160-161 *a.o.*). Consider for instance the t-infixed verb form CátCəC (√rkz rátkəz *stand upright*). The mapping of a biliteral root to this template does not yield *$C_1átC_2əC_2$ but $C_1áttəC_2$: √fk *fátkək → fáttək *be released* pf 3ms.

d. no half-lenition: In Omani Mehri, coda *l* is vocalized to *w*: *šəlbúd → šəwbú:d √lbd *be hit* pf 3ms. If *l* is part of a geminate, no vocalization takes place: dəllú:t, *dəwlú:t. Note that *wl* sequences are well-formed, *e.g.* məhtəwlí:ta √ħwl *be mad* fut 3fs. The absence of *l*-vocalization in dəllú:t thus cannot be ascribed to a general phonotactic constraint against **wl*.

3. [-voiced, -ejective] CC. (©=$C_{[-voi, ejec]}$) The two © of a ©©-cluster obviously share a subset of their features: [-voi, -ejec]. We need to establish that they constitute a branching structure.

3.1. Like geminates, ©©-clusters are attested word-initially, word-finally and word-internally:

a. #__: ktú:b *write* √ktb pf3ms | __#: nə́θk *bite* √nθk pf3ms | V__V: rátkəz *stand upright* √rkz pf3ms

b. ©©-clusters occupy 2 C-slots, as evidenced by the fact that they must be preceded by a short stressed V, never by a long stressed V: nə́θk *bite* is parallel to də́ll *know*.

c. Author (2014) examine a set of verbs (1a) that deviate from the expected pattern (1b):

(1)

a.			*mú:səħ	b.		
	məsħ	√msħ *rub*			nú:bəħ	√nbħ *bark*
	nə́θk	√nθk *bite*	*ní:θək		θí:bər	√θbr *be broken*

[1] Modern South Arabian (MSA, Semitic) is a family of six languages that are spoken in Yemen and Oman. It is divided into two branches, Western MSA (Mehri, †?Harsusi, †?Bathari, Hobyot) and Eastern MSA (Jibbali, Soqotri).

fásk √fsk *separate people fighting* *fó:sək fó:ləg √flg *make a separation between teeth*

The deviant forms are of the shape Cə©© and Cá©© instead of Cú:CəC, Cí:CəC and Có:CəC resp. The forms in (1a) are characterized by ©©# ; ©ə© is never observed in the "normal" pattern, hence: *©ə©. As a consequence, the forms in (1a) display ə́ and á instead of ú: / í: and ó:. (In Mehri, the realization of stressed vowels depends on the syllabic context: ú: / í: in open syllables alternate with ə́ in closed syllables and é: / ó: alternate with á, *cf*. *ML*: xiv).

3.2. ©-consonants have different places of articulation, they share [-voi, -ejec]. This sharing constitutes a branching structure: ©©-clusters are partial geminates. The exact phonetic identity of the feature subsuming [-voi, -ejec] still remains to be defined (see Watson & Heselwood 2016 for discussion); however it is clear that it involves the glottis. The glottis must therefore be considered a place feature in its own right in the typology of partial geminates.

4. *l*+glide clusters. I show that *l* shares featural content both with *j* and *w,* and that *l*+{*j,w*} behave like geminates. The argument is based on a precise examination of *l*-vocalization.

4.1. *l*-vocalization. Walsh-Dickey (1997) and Backley (2011) mention *l*-vocalization in Mehri. Both analyses are problematic because they are ignorant about a relevant subset of the data. Walsh-Dickey (1997: 39) notes that *l* alternates with *w* in weak positions: "The Coronal node is lost in coda position, leaving only the Dorsal node. The sonorant dorsal segment then surfaces a [w]." However, coda *l* does not always reduce to *w*. In particular, it never does so if it is followed by *j,w* (2). (Note that *wj* and *ww* are well-formed, *e.g*. gáwja *be hungry* pf 3ms).

(2) a. šχəljé:t *šχəwjé:t *divorce* √χlj pf 3fs b. šəlwú:m *šəwwú:m *blame oneself* √lwm pf 3ms

I propose to ascribe the fact that *l* resists lenition in (2) to the property characterising geminates reviewed in **§2.d** above: in (2), coda *l* is part of a branching structure. This implies providing independent evidence for the assumption that *l* contains both a palatal and a dorsal feature. This evidence comes from a fact that went unnoticed in Walsh-Dickey (1997) and Backley (2011): depending on the position of stress, *l*-vocalization yields 2 different outputs ; (3a) after epenthetic ə, *l* surfaces as [w], which unambiguously reveals it has a dorsal feature, (3b) after stressed á, *l*-vocalization results in [é:]: *l* adds a palatal feature to underlying /á/.

(3) a. /šəlbú:d/ → šə**w**bú:d b. /jəšálbəd/ → jəšé:bəd *be hit* √lbd pf 3ms ; sbj 3ms

4.2. As for the relevant phonological properties, *l*+glide sequences pattern with geminates. Note in particular that they are not contour segments. Rather they are to be analyzed as CC-clusters. This can be seen from the fact that they must be preceded by a short stressed V, *e.g*. jas'áljən, *jas'ó:ljən √s'lj *pray* ipf 3ms (*cf*. **§2.b**). (Inalterability in **§2.c** does not apply: /ləj/ → [li], *e.g*. šəħá:ləf √ħlf *make an alliance vs* /šəħá:ləj/ → šəħá:li √ħlj *ask for a description of st.*)

4.3. *l* has both a dorsal and a palatal feature: it shares content with following *w, j*. This sharing constitutes a partial geminate, as evidenced by the fact that *l* resists lenition in this context.

5. The study of MSA, a lesser-known language family, has theoretical implications on general phonology. I established two generalizations: (a) [-voi, -ejec] CC and *l*+*j,w* must be added to the typology of partial geminates, (b) in Mehri partial geminates behaves like geminates. These generalizations were tested on a database constituted between 2012 and 2017 (figures in (4)). Time permitting, I conclude with a brief presentation of the structure of this database.

(4) *Omani Mehri database*

	adjectives	nouns	verbs
ML - entries / forms	333 / 773	1777 / 2578	3538 / 6958
fieldwork (2012-2017) - paradigms / forms		138 / 826	217 / 6367

References: Author 2014 | Backley 2011. *An Introduction to Element Theory*. Edinburgh Univ. Press | Davis 2011. Geminates, *The Blackwell Companion to Phonology*, Blackwell, 873-897 | Kirchner 2000. Geminate Inalterability and Lenition, *Language* 76:3, 509-545 | *ML*=Johnstone 1987. *Mehri Lexicon and English-Mehri Word-List.* London: SOAS | Rubin 2010. *The Mehri Language of Oman*. Brill | Rubin 2018. *Omani Mehri*. Brill | Walsh-Dickey 1997. *The Phonology of liquids*. UMass, PhD | Watson 2012. *The Structure of Mehri*. Harrassowitz | Watson & Heselwood 2016. Phonation and glottal states in Modern South Arabian and San'ani Arabic. *Perspectives on Arabic Linguistics XXVII.* Benjamins, 3-36.