Mah Meri

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Mah Meri (m̥ãʔ məri)[1] belongs to the Aslian branch of Mon-Khmer within the Austroasiatic family. It is classified as a Southern Aslian language, along with Semelai, Semoq Beri and Temoq (Benjamin 1976). Mah Meri is spoken by the Mah Meri ethnic group in scattered settlements along the south-west coast of the Malay peninsula stretching from Port Kelang to Bukit Bangkong, Sepang in the state of Selangor, Malaysia. The island of Sumatra lies a short distance away across the Malacca Strait. The Mah Meri language, which may have as many as 2,185 speakers, has no written tradition and is highly endangered.

The variety of Mah Meri described here is that of a young male speaker, aged 36 years, from Kampong Orang Asli Bukit Bangkong, Sepang, Malaysia. He also translated and read the sample text. This material is included in Kruspe (in preparation) and Kruspe (forthcoming).

The analysis of Mah Meri phonetics and phonology in this Illustration includes some preliminary instrumental analysis (see also Stevens, Kruspe & Hajek 2006), but is otherwise based primarily on auditory evaluation.

Consonants

	Bilabial	Labial-velar	Denti-alveolar	Alveolar	Alveolo-palatal	Palatal	Velar	Glottal
Plosive	p b		t	d			k g	ʔ
+aspirated	pʰ		tʰ				kʰ	
Nasal	m̥ m			n̥ n		ɲ̊ ɲ	ŋ̊ ŋ	
Tap				ɾ				
Fricative				s				h
Affricate					tɕ dʑ			
+aspirated					tɕʰ			
Approximant		ʍ w				j	ɰ	
Lateral approximant				l̥ l				

[1] The nomenclature of this ethnic group and their language is problematic. The speakers are officially named Mah Meri. In colonial literature, they are referred to as Besisi (Skeat 1897, Skeat & Blagden 1906). This is rendered elsewhere as Hma' Betise' (Wazir Jahan Karim 1981) and Betsisi' (Nowak 1984). In Kampong Orang Asli Bukit Bangkong, some elders know of the ethnonym Besisi, however most people use the term Mah Meri to outsiders. Amongst themselves, they identify with /m̥ãʔ hɛ/ (people 1PL) 'our people'; the language is /tɕakap m̥ãʔ hɛ/ (speak people 1PL) 'our people's speech'.

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/p/	/pɔk/	[pɔʔk̚]	‘penniless’
/pʰ/	/pʰũj/	[pʰũj̃]	‘be pleasant (smell)’
/b/	/bɔ̃k/	[bɔ̃ⁿʔk̚]	‘type of owl’
/m/	/mɔ̃k/	[mɔ̃ⁿʔk̚]	‘Nibung palm, *Oncosperma tigillarium*’
/m̥/	/m̥ɔ/	[m̥ᵇɔː]	‘breakline’
/t/	/tut/	[tuʔt̚]	‘set alight’
/tʰ/	/tʰĩŋ/	[tʰĩŋ]	‘to fly’
/d/	/duʔ/	[duʔ]	‘to flee’
/n/	/nũt/	[nũⁿʔt̚]	‘coconut grub’
/n̥/	/n̥ɛ̤tɕ/	[n̥ᵈɛ̤ⁱʔɕ̚]	‘to reach’
/tɕ/	/tɕɯk/	[tɕɯʔk̚]	‘to halt’
/tɕʰ/	/tɕʰek/	[tɕʰeʔk̚]	‘to plant’
/dʑ/	/dʑɯ̰k/	[dʑɯ̰ʔk̚]	‘to stand’
/ɲ/	/ɲə̰h/	[ɲə̰h]	‘to turn up suddenly’
/ɲ̊/	/ɲ̊əh/	[ɲ̊ᵈᶻə̰h]	‘to be heavy’
/k/	/ka/	[kaː]	‘fish’
/kʰ/	/kʰap/	[kʰaʔp̚]	‘to get bitten’
/g/	/gạp/	[gạʔp̚]	‘glue’
/ŋ/	/ŋãk/	[ŋãⁿʔk̚]	‘to fall backwards’
/ŋ̊/	/ŋ̊ɔ̃tɕ/	[ŋ̊ɔ̃ⁱⁿʔɕ̚]	‘to be silent’
/ʔ/	/ʔɔh/	[ʔɔh]	‘to blow’
/s/	/sɤ̰k/	[sɤ̰ʔk̚]	‘hill’
/h/	/hɤ̰k/	[hɤ̰ʔk̚]	‘hornet’
/l/	/lạk/	[lạʔk̚]	‘side’
/l̥/	/l̥ạk/	[l̥ạʔk̚]	‘eagle’
/ɾ/	/ɾɔk/	[ɾɔʔk̚]	‘function featuring a rock band’
/j/	/jɔh/	[jɔh]	‘tortoise’
/ɥ/	/ɥɔh/	[ɥʷɔh]	‘branch’
/w/	/wɔʔ/	[wɔʔ]	‘not yet’
/ʍ/	/ka ʍạk/	[kaː ʍạʔk̚]	‘type of fish’

Stops and affricates

In non-final position, /t/ and /tʰ/ are denti-alveolar or, more accurately, apico-dental lamino-alveolar plosives (although not marked in our transcription). The voiced plosive /d/ is apico-alveolar. The alveolo-palatal affricates /tɕ tɕʰ dʑ/ are produced with laminal contact in the anterior of the palatal area. Our introduction of a series of affricates, based on phonetic evidence, is a departure from the usual treatment of these segments in Aslian (and other Mon-Khmer languages) as palatal plosives /c ɟ/ with fricated allophones in non-final position [cᶜ ɟᶻ] (see, for instance, Burenhult 2001 for Jahai, and Kruspe 2004 for Semelai, both Aslian).

The aspirated voiceless plosives /pʰ tʰ tɕʰ kʰ/ are infrequent in initial position, and for most speakers are in free variation with the unaspirated stops, e.g. /tʰi/ ∼ /ti/ ‘hand’.

In final position, the plosives /p t k/ are always glottalised [ʔp ʔt ʔk] and usually also checked (see below for further discussion). The denti-alveolar plosive may be realised as apico-alveolar in final position, possibly due to the constriction of the co-occurring glottal

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stop. The alveolo-palatal affricate has no fricative release in final position and is realised as a glottalised alveolo-palatal plosive, e.g. /ɯəʈɕ/ [ɯə^{i}ʔɕ̚] 'type of bird', and also with occasional final aspiration when the syllable onset is a fricative, e.g. /sɛ̤ʈɕ/ [sɛ̤^{i}ʔɕ^{h}] 'endpoint'.

We adopt a fronted voiceless glottalised palatal plosive [ʔɕ] to represent the basic final allophone here.

We also note the presence of nasal pre-plosion on final plosives /p t k/ and the final affricate /tɕ/ when preceded by a nasal vowel. The plosive is usually realised phonetically as glottalised, e.g. /hãp/ [hã^{m}ʔp̚] 'not have, not exist', but given that in most instances the final oral plosive is less audible it is represented here by a superscript: /mẽt/ [mẽ^{n}ʔt̚] 'eye'.

Fricatives

In word-final position the alveolar fricative /s/ has an allophone [ʲ͡h], a short pre-palatalised glottal fricative, e.g. /ləpas/ [ləpaʲ͡h] 'after'. Such an allophone is commonly reported in Mon-Khmer languages elsewhere, e.g. Halang (Cooper & Cooper 1966) and Mnong Rolom (Blood 1976) spoken in Vietnam. In our language, its onset can have a wide constriction line extending from the palatal to alveolar region. The tip of the tongue is lowered, and the body is raised. Lingual articulation is usually back, but occasionally more fronted extending almost to the apical region. Although primarily realised as [ʲ͡h], variation is encountered and it may occur as a spread pre-palatal or alveolo-palatal fricative [ʲ͡ç] with optional supralaryngeal frication.

Nasals

Nasals exhibit a voicing distinction at each point of articulation: bilabial /m m̥/, apico-alveolar /n n̥/, lamino-palatal /ɲ ɲ̊/ and dorso-velar /ŋ ŋ̊/. The voiceless nasals always have a voiced offset; the onset varies between voicelessness and pre-aspiration of the nasal, e.g. /ɲ̊əh/ [ɲ̊^{dʑ}ə̤h] ~ [^{h}ɲ̊^{dʑ}ə̤h] 'be heavy'.

At each point of articulation before oral vowels, there are orally released voiced and voiceless post-ploded allophones of the nasals [m^{b} m̥^{b}], [n^{d} n̥^{d}], [ɲ̊^{dʑ}] and [ŋ^{g} ŋ̊^{g}], except for the alveolo-palatal point which lacks a voiced post-ploded counterpart, e.g. /mo/ [m^{b}oː] 'too', /m̥ɔ/ [m̥^{b}ɔː] 'breakline', /nəl/ [n^{d}əl] 'a bit', /n̥ụp/ [n̥^{d}ụʔp̚] 'to be ripe', /ŋəʔ/ [ŋ^{g}əʔ] 'elder (voc.)', /ŋ̊əʔ/ [ŋ̊^{g}əʔ] 'to be partially ripe'. The presence of voiced post-ploded offset appears to result from a continuation in supralaryngeal constriction after closure of the nasal passage prior to the onset of the following vowel. This oral post-plosion, particularly in connected or rapid speech, is often, however, difficult to perceive, although the following vowel always remains fully oral, e.g. [ŋəʔ] alongside more careful [ŋ^{g}əʔ] for /ŋəʔ/ 'elder (voc.)'. The presence of post-ploded nasals in Mah Meri appears to be part of a wider areal phenomenon in the region, including neighbouring Sumatra (see Eades & Hajek 2006 for details).

In word-initial position, voiceless nasals are syllabic before a following homorganic stop, e.g. /ŋ̊kiʔ/ [ŋ̩̊kiʔ] '3rd person pronoun'.

Other consonants

/ɾ/ in the onset of the syllable varies from a tap [ɾ] to a light trill [r] to an alveolar approximant [ɹ]. For some speakers, when intervocalic, it occurs in free variation with the velar approximant /ɯ/: /sərə̤k/ [sərə̤ʔk̚] ~ [səɯə̤ʔk̚] 'to be tall'. In rare syllable-final position, /r/ is a strident trill (not specifically marked here), e.g. /jər/ [jə̤r] 'goose bumps'.

/l/ is apico-alveolar. Its voiceless counterpart /l̥/ is confined to word-initial position: /l̥uh/ [l̥uh] 'storm'. As with the voiceless nasals, phonetically this segment fluctuates between a voiceless [l̥] or pre-aspirated onset [^{h}l̥], e.g. /l̥a̤k/ [l̥a̤ʔk̚] ~ [^{h}l̥a̤ʔk̚] 'eagle'. However, the lateral offset is always voiced.

The velar approximant /ɯ/ has a labialised allophone [ɯ^{w}] before rounded vowels, e.g. /ɯɔh/ [ɯ^{w}ɔh] 'branch'.

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Vowels

Table 1 Register 1 vowels.

	Front		Central		Back —round		Back +round	
High	i	ĩ			ɯ	ɯ̃	u	ũ
			ɨ					
Mid High	e	ẽ					o	õ
			ə	ə̃				
Mid Low	ɛ	ɛ̃					ɔ	ɔ̃
Low			a	ã				

Table 2 Register 2 vowels.

	Front	Central	Back —round	Back +round
High	i̤		ɯ̤	ṳ
Mid High	e̤			o̤
		ə̤		
Mid Low	ɛ̤			ɔ̤
Low		a̤		

/i/ /dʑapit/ [dʑapiʔt˥] ‘to be webbed’
/ĩ/ /tompʰĩt/ [tõmpʰĩⁿʔt˥] ‘to be lying on the ground’
/i̤/ /tɕi̤t/ [tɕi̤ʔt˥] ‘to be cooked’

/e/ /ket/ [keʔt˥] ‘a little’
/ẽ/ /ʔẽt hã/ [ʔẽⁿʔt hɑ̃ː] ‘poor thing!’
/e̤/ /ʔiʔe̤t/ [ʔiʔe̤ʔt˥] ‘no, not’

/ɛ/ /dʑɛtɕ/ [dʑɛʲʔɕ˥] ‘to be bored’
/ɛ̃/ /ʔɛsɛ̃tɕ/ [ʔɛsɛ̃ʲⁿʔɕ˥] ‘bird sp.’
/ɛ̤/ /sɛ̤tɕ/ [sɛ̤ʲʔɕ˥] ‘endpoint’

/a/ /luwat/ [luwaʔt˥] ‘mangrove worm’
/ã/ /luwãt/ [luwãⁿʔt˥] ‘to feel nauseous’
/a̤/ /luwa̤t/ [luwa̤ʔt˥] ‘front’

/ə/ /ɯətɕ/ [ɯəʲʔɕ˥] ‘bird sp.’
/ə̃/ /ʔẽt hə̃/ [ʔẽⁿʔt hə̃ː] ‘poor thing!’
/ə̤/ /ɯə̤tɕ/ [ɯə̤ʲʔɕ˥] ‘to throb’

/ɯ/ /tɕɯk/ [tɕɯʔk˥] ‘to halt’
/ɯ̃/ /təlakɯ̃k/ [təlakɯ̃ⁿʔk˥] ‘to choke on (s.th.)’
/ɯ̤/ /dʑɯ̤k/ [dʑɯ̤ʔk˥] ‘to stand’

/i̥/ /dʑabi̥k/ [dʑabi̥ʔk˥] ‘to be drunk’

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/u/	/bəkut/	[bə̯kuʔt̚]	‘to be blunt’
/ũ/	/suʔũt/	[suʔũⁿʔt̚]	‘to stink’
/u̯/	/tuŋkʰu̯t/	[tũŋkʰu̯ʔt̚]	‘to make (a fire)’
/o/	/kokotɕ/	[kokoⁱʔɕ̚]	‘to dig’
/õ/	/kõtɕ/	[kõ ⁱⁿʔɕ̚]	‘to gulp down’
/o̯/	/ho̯tɕ/	[ho̯ⁱʔɕ̚]	‘vagina’
/ɔ/	/sɔp/	[sɔʔp̚]	‘to wear’
/ɔ̃/	/kəsɔ̃p/	[kə̯sɔ̃ᵐʔᵖ̚]	‘to retract into (s.th.)’
/ɔ̯/	/kɔ̯p/	[kɔ̯ʔp̚]	‘to get’

Mah Meri has ten basic vowel qualities and a two-way voice register complex (see below). There is only one instance of /i̤/, a short close slightly lowered high central unrounded central vowel, found in a recently innovated term /dʑabi̤k/ [dʑabi̤ʔk̚] ‘be drunk’. The vowels /ə ə̯/ are variable in quality in terms of height and backness, and are often perceived as somewhat raised or lowered in mid-range height between a slightly fronted unrounded mid-close [ɤ], [ə] or mid-open back vowel [ʌ].

The central nasal vowel /ə̃/ [ə̯̃] occurs rarely in the lexicon. It is otherwise only found in connected discourse as a clitic at the end of some clauses. Examples of this vowel can be found in the sample text, where it often appears with exaggerated length. Speakers describe its function as rhetorical, usually indicating some kind of tailing off.

All vowels exhibit a short high front [ⁱ]-offglide when followed by an alveolo-palatal consonant, e.g. /kakatɕ/ [kakaⁱʔɕ̚] ‘to scratch’. This is a common feature in Mon-Khmer languages (see Kruspe 2004 on related Aslian language, Semelai; Crowley 2000 on Tampuan in Cambodia; and Blood 1976 on Mnong Rolom in Vietnam).

Voice register

Voice register, or simply register on its own, is a common areal feature amongst members of the Austroasiatic family (particularly the Mon-Khmer group, e.g. Ferlus 1979) but is not normally considered to be a feature of Aslian languages. The phenomenon is best described as a complex of different laryngeal and supralaryngeal features such as voice quality, vowel quality and length, and pitch. Any one or more of these properties may or may not dominate over the others in any specific register and this hierarchy varies from language to language. Indeed, it is often difficult to reliably determine the effects of each on its own and it is more fruitful to think of them as interacting together.

Register 1

From an auditory perspective, Register 1 vowels are typically, although not always, characterised by a clear tense voice quality, shorter duration, and lower pitch. They are also subject to fewer phonotactic restrictions: (i) they occur in both final and non-final syllables, (ii) a phonemic oral versus nasal distinction is found for all vowels, with the exception of the central unrounded vowel /ɨ/ and (iii) in word-final position they are found before a larger inventory of coda consonants, when compared to Register 2 vowels.

Register 2

Register 2 vowels give the impression of being laxer, longer and higher in pitch than their Register 1 counterparts. They often have a breathy articulation, which is most clearly audible in the lower vowels, but less so as vowel height increases. Overall, breathy voice in Mah Meri is always realised as slight breathy voice, never strong or heavy.

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Register 2 vowels are restricted to the final syllable, for which the only possible coda is a voiceless plosive or voiceless affricate. The consonant in question has a muted articulation and although it may exhibit simultaneous glottalisation or checking like plosives following Register 1 vowels, e.g. /wa̤k/ [wa̤ʔkˉ] 'person (classifier)', it may also appear unchecked as [wa̤ʔk].

The perceptual differences between Register 1 and 2 are often very subtle, even in careful speech. In connected speech, they do not seem to be particularly noticeable. Preliminary acoustic investigation reported by Stevens et al. (2006) of register in the speech of our Mah Meri speaker confirms our difficulty in reliably identifying and separating the two registers, even though they are used contrastively in well-established minimal pairs, e.g. /luwat/ 'mangrove worm' vs. /luwa̤t/ 'front'.

Contrary to expectations, duration was not at all a reliable cue across the eight vowel pairs examined, e.g. /u/ was much shorter than /ṳ/ (−86 ms) but /a/ was much longer than /a̤/ (+91.5 ms). Moreover, although spectral appearance of Register 2 tended to show less defined formants, with some additional weakening of second and higher formants, the pattern was not always consistent. With respect to fundamental frequency, this was found, as predicted, to be higher on average in Register 2 at each of the three measurements points (vowel onset, midpoint, and offset). While the effect was the most consistent of the ones identified and then inspected, it was nevertheless not significant at any point in the vowel ($p > 0.05$) and also varied in degree across vowel pairs.

Other prosodic features

Nasality

Nasality is not predictable, given the presence of contrastive nasal vowels, and there is no evidence of nasal spread across glottals, e.g. /mã-ʔətɕ/ [mã-ʔə̤ʲʔɕˉ] 'to defecate'. Apparent left-to-right spread when the onset of the final syllable is a glottal phoneme were disproved. Syllable cutting tests reveal that the final vowel is phonemically nasal, e.g. /mɛ̃ʔɛ̃h/ [mɛ̃ʔɛ̃h] 'to feel distended'.

It is worth noting that many speakers, particularly women, exhibit a high-pitched nasalised speech style often resulting in the neutralization of the phonemic distinction between oral and nasal vowels in natural speech.

Stress and syllable weight

Word-level stress is non-distinctive and predictable: it is fixed on the final syllable which in turn is always bimoraic (heavy), e.g. /luˈwat/ 'mangrove worm'. As a result, stressed final vowels in open syllables are lengthened – they are usually fully long, but can also appear optionally as semi-long e.g. /ka/ [ˈkaː] ~ [ˈkaˑ] 'fish'.

Transcription of a recorded passage

The passage recorded and transcribed here is the 'The North Wind and the Sun', translated by the speaker into Mah Meri from Indonesian. The transcription is phonemic. The symbol = is used to indicate a clitic boundary. Single | and double ‖ are used to mark the most significant phrasings. While the choice of one or the other is sometimes difficult, the latter is often marked by extreme final lengthening, especially of the final vowel. This is particularly evident in the case of the clause-final rhetorical clitic /ə̃/ discussed previously. /pa̤t/ is a phrase-final emphatic marker marked by a sharp rise in intonation. As a result, it frequently gives the impression of a phrase break, as is often marked in the text.

buwaʔ ʔutarə | ŋ̊ãn mɛ̃t ʔauɥiʔ ŋãheʔ | humãʔ nã=ləbeh kwat ʔalə | dalap ŋ̊kiʔ baba. ‖ dala̤p nãke | tibaʔ m̥ãʔ tɕɔʔ jɔ, ‖ bəgəbũn | badʑuʔ səʔ. ‖ buwaʔ ʔutarə |

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ŋ̊ãn mɛ̃t ʔauɥiʔ pa̤t pakat kɔdah ‖ dalạ̈p baba ke nɔ̃ŋ, ‖ nã=mãnĩʔ mũj moh bɛ mạ̈ʔ tɕɔʔ jɔ ke nɔ̃ŋ | katɔh badʑuʔ=hãn=ə̃. ‖ nã=nãke lɛh ləbeh kwat ʔalə dariʔ nã=ʔasi̤k=ə̃. ‖
ləpas ke nɔ̃ŋ | mə̃limp^{h}ũj dah buwaʔ ʔutarə ke nɔ̃ŋ, ‖ ʔɔh sot hidʑup həl. | tapiʔ baʔ kwat buwaʔ ke nɔ̃ŋ mə̃limp^{h}ũj, | baʔ gəbũn mo | mạ̈ʔ tɕɔʔ jɔ | sɔp badʑuʔ, ‖ gəbũn | tutup | krɛt=hãn=ə̃. ‖ las kaliʔ | ŋ̊kiʔ, | buwaʔ ʔutarə ke nɔ̃ŋ, | ŋ̊ãn dah ʔaga lawãn=ə̃. ‖ ləpas ke nɔ̃ŋ, | mɛ̃t ʔauɥiʔ pa̤t mãntɕa ʔarɛh, ‖ sot panãs prɛk həl.
‖ dʑa̤p nãke kələ | mạ̈ʔ tɕɔʔ jɔ ke nɔ̃ŋ pa̤t | katɔh badʑuʔ=hãn kɔdah. ‖ ŋ̊kiʔ gəbũn ŋɔt dah, ‖ səbap ʔauɥiʔ panãs prɛk həl. ‖ dʑadiʔ | buwaʔ ʔutarə pa̤t | ŋãkoʔ kalah, ‖ mɛ̃t ʔauɥiʔ=lɛh nã=nãhəl=ə̃ ‖ kwat ʔalə | dalạ̈p | ŋ̊kiʔ baba ‖ nãke.‖

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