

The Phonology of Tioman Malay and the Reconstruction of Proto-Malay.

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Introduction.

It has been repeatedly demonstrated that careful attention to the phonetic details of even the most remote linguistic varieties can provide information relevant to the reconstruction of the systems of proto-languages. In this brief note, some of the phonetic data collected in a survey of the villages of Tioman Island, off the southeast coast of the Malay peninsula, are presented and partially analyzed.¹ Certain apparent innovations and retentions in this dialect suggest a reappraisal of some parts of the phonology of Proto-Malay, the language immediately ancestral to all the contemporary dialects of Malay. Three phonetic characteristics of Tioman Malay are discussed here: 1) The phonemic status of /ʔ/ and /k/ in final position; 2) The occurrence of central vowels in closed final syllables; and 3) The split of *i and *u in non-final syllables.

1. The phonemic status of /ʔ/ and /k/

In the standard dialects of Malay and in most peninsular dialects of Malay, /k/ in final position occurs only as [ʔ]. The complementary distribution of the allophones of /k/, namely [k] and [ʔ], is well-demonstrated (M.Yunus 1980:59).² Moreover, when the suffixes -an or -i are attached to words ending in glottal stops, [k] reappears.³ For example:

[masaʔ]	'to cook'
[masakan]	'cooking, cuisine'
[kəʔ]	'to rap, knock'
[kəʔkan]	'knocking, a knock'
[masəʔ]	'to enter'
[dimasəki]	'be entered' (Locative patient)

In short, in these dialects of Malay, [k] and [ʔ] do not contrast in final position (except in a few recent loanwords). However, in Tioman Malay, a strongly checked [kʔ] does appear in final position, for example:

[badakʔ]	'rhinoceros'
[dudukʔ]	'to sit'
[baʔekʔ]	'good, healthy'
[hotakʔ]	'brain'
[naməkʔ]	'mosquito'
[naʔekʔ]	'to ascend, climb, ride'

Other words, however, occur with a final glottal stop. Note the following examples:

[maʔ]	'mother'
[bapaʔ]	'father'
[bukaʔ]	'to open'
[εsεʔ]	'contents, flesh (animals)'
[εʔ]	'that'
[ketaʔ]	'we (inclusive)'

In fact, there are a few examples of apparent minimal pairs distinguished only by /k/ and /ʔ/ in final position. For example:

[k^əʔakʔ] 'burnt rice adhering to the interior
of the pot'

[k^əʔaʔ] 'a kind of macaque (Macaca
fascicularis?)'

There are also words with final vowels: that is, [ʔ] is not an obligatory phonetic closure. For example, we find:

[matəʔ]	'eye'
[tali]	'rope'
[bulu]	'feather'
[tuəʔ]	'old'
[api]	'fire'
[gutu]	'louse'

Thus, in comparison to standard Malay, in the final position there are four correspondences:⁴

	SM	TM
1.	ʔ	k
2.	ʔ	ʔ
3.	ø	ø
4.	ø	ʔ

Correspondence sets 1-3 suggest fairly clear reconstructions for the phonology of Proto-Malay. For the correspondence of ? : k, *k is reconstructed. In the case of ø : ø, the words are assumed to have ended in vowels. For the correspondence (No. 2) ? : ?, a reconstruction of *? seems appropriate. So far, then, the following examples are relevant:

Proto-Malay

1. *duduk	SM	dudo?	,	TM	duduk	'to sit'
2. *ma?	SM	ma?	,	TM	ma?	'mother'
3. *mata	SM	mata	,	TM	matə^	'eye'

The reconstruction of *k and ø in final position, of course, coincides with the generally accepted notion of Proto-Malay. The reconstruction of *?, however, requires some comment. In 1937, Dempwolff noted the occurrence of final [ʔ] in Malay kinship terms; this he considered an exception to the normal reflex of vowel final words. Blust (1979) provided firm evidence for the reconstruction of *q, a vocative marker, in Proto-West Malayo-Polynesian. In the case of those words which are kinship terms, such as [maʔ] and [bapaʔ], the final [ʔ] is a reflex of this vocative marker.⁵ That is, historically *? is a grammatical marker now permanently suffixed to kinship terms reconstructed with final vowels.

There remain, however, words displaying the ? : ? correspondence which do not involve kinship terms. Note, for example:

SM	TM	
[tidaʔ]	[daʔ]	'no'

This example suggests another morphosyntactic function of *ʔ.

Ikranagara (1980) has pointed out that in Jakarta Malay [ʔ] occurs finally with kinship terms and certain grammatical particles. In this case, [tidaʔ]/[daʔ] might be compared with the negatives of Jakarta Malay [əŋgaʔ] and [kagaʔ]. In support of this comparison, we note that in texts of Deli Malay (Roolvink:1953:9-10), a dialect spoken in and near the north Sumatran city of Medan, there occurs [tida] with no final stop. This may indicate that in some dialects [ʔ] was permanently suffixed while in others it was permanently lost.⁶ In addition, there are several other grammatical particles in Tioman Malay which end with a glottal stop; where comparisons are available in Standard Malay the words end in vowels. For example:

SM	TM	
[lagi]	[lagiʔ]	'again, moreover'
[juga]	[jugaʔ]	'also, too'
[pula]	[pulaʔ]	'furthermore, on the other hand'
--	[laʔ]	'stress marker'
--	[eʔ]	'question marker'

Consequently we assume that at one stage in Tioman Malay certain grammatical markers, especially those occurring as phrase markers, ended in [ʔ].⁷

Another example of the ? : ? correspondence, however, may indicate borrowing. The occurrence of [ʔ] in TM [otaʔ] 'brain' is irregular. One would predict [kʰ] as the regular reflex of *k in * qutək. The expected form actually does occur as [hotakʰ] : see above. Consequently [otaʔ] is considered a loanword from another dialect of Malay, possibly Johor Malay.

There remains the fourth correspondence: SM \emptyset : TM ?. This has been touched upon above; in some cases the occurrence of [ʔ] can be associated with a syntactic marker (jugaʔ, pulaʔ, eʔ, etc.). But there are other cases of nouns and verbs unexpectedly ending in ?; note the examples cited above: [bukaʔ] 'open', [esɛʔ] 'contents', [kɛtaʔ] 'we'; these can be compared to Standard Malay [buka], [isi] and [kita].

This problem is a complex one, partially explored by Zorc (1981) in his discussion of final glottals in Iban, a language of Sarawak (Borneo), very closely related to Malay. In Iban, as in Tioman Malay, there is a three way contrast between final /k/, /ʔ/ and \emptyset (Asmah 1981). On the other hand, the occurrence of final glottal stops (where final vowels are expected) in Tioman Malay may be compared to the final glottal stops of Jakarta Malay. Macdonald and Soenjono (1967:11) observe that when speaking Indonesian,

"... the Sundanese and Djakartanese may close syllables with a glottal stop which in cognate words in standard Indonesian are open."

Adelaar (To appear) has devoted considerable research to the problems inherent in Zorc's analysis as well as the incompatibility of that analysis with the Jakarta Malay material. In the end, however, he reconstructs about fifty Proto-Malay forms which contain final *q (that is *ʔ), although standard Malay usually displays \emptyset in that position. Determining the relationship of those reconstructions to the occurrences of -ʔ# in Tioman Malay must await the collection of a more extensive vocabulary of that dialect. Nonetheless, it appears that at first glance Tioman Malay agrees with Iban in displaying -ʔ# in certain lexical items.⁸ In that case, Tioman Malay provides support for Adelaar's reconstructions of Proto-Malay *q in final position.

In any case, it is clear that the Tioman material suggests a revision in the phonology of Proto-Malay. Certainly, *ʔ, a (vocative?) kinship marker must be reconstructed while kinship terms are to be reconstructed with final vowels. Furthermore, there are grounds for considering *ʔ, a grammatical marker, responsible for the occurrence of [ʔ] in some Tioman and Standard Malay particles. Finally the correspondence of -ʔ# in Tioman Malay with *q reconstructed in Proto-Malay (Adelaar To appear)

points to the necessity of more careful research regarding -ʔ#.

2. Central vowels in closed final syllables.

In standard Malay and many other dialects, Proto-Austronesian *ə in the final syllable became a. But in Proto-Austronesian *ə in final syllables only occurs when followed by a consonant. Hence, the [ə], [ʌ] or [ɨ] which appears in final open syllables in some Malay dialects reflects a recent innovation, the shift of *a# to a central vowel. So, for example, in several Malay dialects in the southern part of the Malay peninsula, including Johor, Melaka, Pahang and Tioman Malay, forms such as matɨ/matə (*mata 'eye') or duɨ/duə (*DəwSa 'two') are the regular reflexes of forms containing *-a#. However, in addition to this predicted reflex of final /a/, Tioman Malay displays many more occurrences of central vowels.

There are two allophones of /a/ followed by /ɣ/ : [a^ə] (or [a:]) and [ə]. After nasals, liquids, vowels, semi-vowels and voiceless stops, fricatives and affricates, the reflex of *-ar# is [a^ə]; that is a low central vowel with a slight mid-central off-glide, sometimes heard as lengthening. For example:

SM	TM	
[akar]	[aka ^ə]	'root'
[besar]	[bəsa ^ə]	'large'
[ular]	[ola ^ə]	'snake'
[tawar]	[tawa ^ə]	'insipid'

However, after voiced stops and affricates, the reflex is [ə], a mid-central vowel, sometimes lengthened.

SM	TM	
[gəbar]	[gəbə]	'blanket'
[lebar]	[libə]	'wide'
[kumbar]	[kumbə]	'sago stem' ⁹
[pagar]	[pagə]	'fence'
[gambar]	[gambə]	'picture, photo'
[sebar]	[sibə]	'broadcast (rice)'
[xabar]	[kabə]	'say' ¹⁰

This -ə# contrasts with the regular reflex of *-a#, that is [ɪ], a high central vowel, also sometimes lengthened. Note, for example, the following pairs of words.

[tibə]	'cast (a net)'
[tibɪ]	'arrive'
[magə]	'to fence in'
[magɪ]	'become yellow (ripen)'
[mangə]	'coconut stem'
[mangɪ]	'mango'
[landə]	'a kind of black sea worm'
[landɪ]	'undergo (a typhoon)'

[kəjə]	'pursue, chase'
[kəjɪ]	'work, profession'

The phonetic rule involved might be stated as:

$$\left[\begin{array}{l} -\text{consonantal} \\ +\text{vocal} \\ +\text{low} \\ -\text{high} \\ -\text{front} \\ -\text{back} \end{array} \right] \rightarrow [+high] / \left[\begin{array}{l} + \text{occlusive} \\ + \text{voice} \end{array} \right] - \left[\begin{array}{l} +\text{vocal} \\ +\text{high} \end{array} \right] \#$$

When stated thus in a features notation, it is clear that the change described here is an example of assimilation.¹¹ A later optional rule deletes the final central vowel.

A central vowel also unexpectedly occurs in stressed, non-final syllables. In most disyllabic words containing no consonant clusters¹² *a in the penultimate syllable becomes [ʌ], a low central vowel. Note, for example, [batu] (SM [batu]) 'stone', [daɣah] (SM [daɣah]) 'blood', [dʌʷɔn] (SM [daun]) 'leaf', [gʌgakʰ] (SM [gagaʰ]) 'crow', [m:ʌcaŋ] (SM [mbacaŋ]) 'a kind of mango', etc. In some cases words containing [ʌ] form near minimal pairs with other words containing *ə in the penultimate syllable. (In addition to the difference in vowel height, stress also differs in that it never falls on [ə] whereas [ʌ] is stressed). Note these examples:

[gʌʏam]	'salt'
[gɛram]	'furious'
[gʌdun]	'a kind of edible tuber'
[gɛdun]	'a rice storage shed'
[bʌdakʰ]	'rhinoceros'
[bɛdakʰ]	'facial powder'
[bʌʏi]	'fruit fly'
[bɛʏi]	'give'
[ʏʌʏom]	'needle'
[ʏɛʏom]	'post-partum ablution ritual'
[gʌli]	'dig'
[gɛli]	'ticklish, disgusted'
[gantɪŋ]	'lead weight (fishing)'
[gɛntɪŋ]	'1. roof tile, 2. a village on Tioman Island'
[bʌlay]	'ceremonial house'
[bɛlay]	'caress'
[bʌʏat]	'1. west, 2. a kind of plant'
[bɛʏat]	'heavy'
[ɲʌʏaŋ soŋsaŋ]	'a kind of flower'
[ɲɛʏaŋ]	'attack'

However, in addition to the three allophones of /a/ outlined here ([ə], [ʌ], [ɛ]), [ə] also appears in final closed syllables.

This central vowel appears to be a retention of PAN *ə. The conditions for the retention are specific; stated informally they are: *ə > ə /CəC__C#. Only in words which contain *ə in the penultimate syllable is *ə retained in the final syllable. So, for example, we cite:

PAN	TM	
*pəzəm	[pəʝəm]	'close (eyes)'
*təbəl	[təbəl]	'thick'
*təbəs	[nəbəs]	'cut down'
*sədəp	[sədəp]	'tasty'
*gəngəm	[gəngəm]	'squeeze in fist'
*dəndəm	[dəndəm]	'hold a grudge'

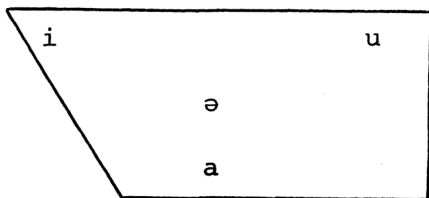
To these might be added [ləbəm] 'bruised' and [bəmbən] 'a kind of medicinal plant'. Note that in words reconstructed with *ə in the final syllable but not in the penultimate syllable, [ə] does not occur in Tioman Malay, for example, *Daləm > [dʌlam] 'interior' and *asəm > [masam] 'sour'.

At this point, it seems necessary, on the basis of the data from Tioman Malay, to reconstruct *ə in Proto-Malay in those lexical forms of the shape *CəC(C)əC. The strength of such a reconstruction may be tested by comparing the relevant words to lexical forms

in other dialects displaying [ə] in final closed syllables, in particular the dialects of Jakarta, Bangka and Sekak. Certainly even without such a comparison, there are problems. In a few cases the generalization observed here does not fit; for example PAN *təktək becomes [tətək'] 'cut down' whereas *DapDap is reflected in [dədəp] 'a kind of tree, Erythrina indica'. Only the collection of a much larger corpus of Tioman Malay can resolve these problems.¹³

3. The split of *i and *u in non-final syllables.

It has already been noted elsewhere (Collins 1981, Adelaar To appear) that Proto-Malay should be reconstructed with a four vowel system.¹⁴ This results in an array of vowels similar to that reconstructed for Proto-Austronesian, that is



In standard Malay, the occurrence of /e/ and /o/ as reflexes of *i and *u respectively must be considered the result of a late innovation. The basis for reconstructing a four vowel system is the fact that in numerous dialects of Malay *i and *u have not undergone the unconditioned split implied above, namely *i > i, e and *u > u, o. Among the dialects which do not display this

innovative split are Kerinci, Brunei, Bacan, Ulu Trengganu, Urak Lawoi', Semende and Banjar Hulu (Adelaar To appear). That these geographically non-contiguous dialects of Malay as well as the closest relative of Malay, Iban, display a retention of *i and *u as /i/ and /u/ constitutes solid evidence for reconstructing Proto-Malay with only two high vowels.

As Adelaar (To appear) has pointed out, a second reason to reject the split of *i and *u as innovations in Proto-Malay is that in the dialects which do display i and e as reflexes of *i and u and o as reflexes of *u the split took place in different ways, and the lexical distribution of high and mid-vowels is different.

Tioman Malay, like standard Malay and some other dialects, displays the innovative split of *i and *u; but in Tioman Malay almost all penultimate high vowels were lowered. Consequently, in addition to the words with mid-vowels found in standard Malay, e and o occur in numerous other lexical items of Tioman Malay. Note these few examples:

PAN		SM	TM
*qutək	'brain'	otaʔ	hotakʔ
*quRaŋ	'person'	oraŋ	oYaŋ
*SikuR	'tail'	ekor	ekoʔ
*liqəR	'neck'	leher	lehe ^ə

PAN		SM	TM
*kulit	'skin'	kulit	kolet
*mutaq	'vomit'	muntah	motah ¹⁵
*Rumah	'house'	rumah	yomah
*qutan	'forest'	(h)utan	otan
*putiq	'white'	puteh	poteh
*qisəp	'suck'	(h)isap	esap
*ikət	'tie'	ikat	ekat
*tikam	'stab'	tikam	tekam
*ikan	'fish'	ikan	ekan
*quDip	'alive'	(h)idup	edop

There are, however, other words in which both standard Malay and Tioman Malay maintain *u and *i. For example:

PAN		SM	TM
*qijuŋ	'nose'	(h)idoŋ	idoŋ
*dilaq	'tongue'	lidah	lidah
*SaDiRi	'stand' ¹⁶	-diri	-diyyi
*bunuq	'kill'	bunuh	bunuh
*tumbuk	'pound'	tumbo?	numbok
*buka	'open'	buka	buka?

It is reasonable to conclude that standard Malay and Tioman Malay did not undergo the split of *u and *i at the same time. The alternative possibility is to consider that they underwent the

innovation together but Tioman Malay later innovated by extending the shift of penultimate high vowels to even more lexical items. Evidence against this second argument rests in the fact that there are occurrences of high vowels in penultimate position in Tioman Malay precisely in words containing mid-vowels in standard Malay. For example:

	SM	TM
'capable of'	boleh	buleh
'shake'	goyan	guyan
'a kind of fish'	toda?	tudak
'shoot'	temba?	timbang

This suggests that Tioman Malay and standard Malay underwent separate innovations in which high vowels of some lexical items shifted to corresponding mid-vowels. If this is true, then the argument that Proto-Malay must be reconstructed with only two high vowels, *i and *u (and no non-central mid-vowels) receives further support. At least it is clear that standard Malay and Tioman Malay did not undergo the same innovative split; each shifted the high vowels in its own idiosyncratic manner.

Concluding remarks.

Without hesitation any student of Malay would recognize the language of Tioman Island as a dialect of Malay. Compared to the rather

elaborate phonetic innovations in some Malay dialects, for example Kedah or Kelantan Malay, Tioman Malay displays few disconcerting sound changes. There have been no massive mergers of final consonants, no shifts to "exotic" pharyngeal or palatal fricatives, no diphthongization of final high vowels. In short, at first glance, Tioman Malay is a plain, conservative dialect of Malay. But it is precisely the conservatism of Tioman Malay which is, under close inspection, most remarkable.

Tioman Malay displays phonological retentions which require considerable revision in our notion of the language ancestral to it and to all the Malay dialects. The occurrence of phonemic contrasts between [k'] and [ʔ], of central vowels in closed final syllables and of certain high, not mid, vowels in penultimate syllables necessitates a recasting of the phonology of Proto-Malay. It is, perhaps, no coincidence that such a reformulation brings the structure of Proto-Malay closer to that of its nearest congeners, in particular Iban.

Nonetheless, while it is true that the reconstruction of proto-languages depends on adequate dialect research, we must be wary about formulating changes based only on a restricted data base.

(See Haudricourt 1965.) More intensive research is called for, in particular on the east coast and in the hinterland of Johor, in the Anambas and Natuna island groups, in the Riau and Bangka island

groups and along the coast of Sarawak. The conclusions drawn in this paper require empirical testing. Still the chief point remains: the reconstruction of Proto-Malay can not rely on the data contained in the increasingly homogeneous dictionaries of standard Malay recently published in Kuala Lumpur and Jakarta.

Notes

1. This preliminary survey was conducted in June 1982 as part of a linguistic training program sponsored by Dewan Bahasa dan Pustaka, Kuala Lumpur. Five villages on Tioman Island were visited and data were also collected in sessions with informants from two nearby islands, Pulau Aur and Pulau Pemanggil. A more detailed report is now in preparation. My thanks go to my colleagues, Pn. Ainon Mohamed and En. Manshoor Arshad, as well as to my chief informants, En. Mohd. Yatim Mat Asar and En. Mansor Ali Omar.
2. Macdonald and Soenjono (1967:11-12), however, suggest that there is a glottal stop phoneme in Indonesian.
3. It should be noted that in some dialects this is not the case; /masak + an/, for example, is pronounced [masaʔan]. In still others a consonant cluster occurs: [masaʔkan]. Although M. Yunus (1980:59) claims that this latter pronunciation is "influenced by the spelling of the word", this seems unlikely. Farid (1980:9-13) discusses this phenomenon in Johor Malay, although perhaps a simpler solution would postulate suffixes which begin with a glottal ({-ʔan}, etc.) rather than vowel-initial suffixes and various dialect-specific rules for creating, then eliminating, consonant clusters.

4. A fifth, rarer correspondence is not discussed here, namely $r : ?$, as in [air] : [ai?] 'water' and [ekɔr] : [eko?] 'tail'. This should be compared with similar phenomena in Sarawak Malay and other dialects (Madzhi 1972, Mastura 1979).
5. The problems involved in assuming [?] as the reflex of Proto-Western Malayo-Polynesian *q are not relevant here; refer to Blust 1979.
6. Compare this to the argument (Collins 1981) that those Malay dialects displaying kinship terms which end in vowels (nini, datu, ua, etc.) reflect the non-vocative, hence, unaffixed variant.
7. In colloquial Malay, the three particles spelled with final vowels actually end in [?]. This suggests that the use of [?] as a grammatical marker deserves further attention.
8. For example,

Proto-Malay (Adelaar)	Tioman Malay	
*bapaq	bapa?	'father'
*baruq	bɔɣɔ?	'hibiscus'
*bukaq	buka?	'open'
*isiq	ɛsɛ?	'meat, contents'
*kitaq	kɛta?	'we'

Proto-Malay (Adelaar)	Tioman Malay	
*naŋkaq	naŋkaʔ	'jackfruit'
*nasiq	nasiʔ	'cooked rice'
*pakuq	pakoʔ	'fern'
*pəɲuq	pəɲoʔ	'sea tortoise'
*saguq	saguʔ	'sago'
*sawaq	sawaʔ	'python'

9. In standard Malay kumbar means 'a kind of Salacca palm'.

10. In standard Malay this Arabic loanword means 'news' and secondarily 'inform'.

11. This rule appears to have wider application. Final diphthongs also display similar allophonic variation, for example:

A. kəɖeɣ	'shop'
sideɣ	'hang out (to dry)'
biɖeɣ	'a screen to separate grains from stalks'
ola ^ə cindeɣ	'a kind of snake'
kandəw	'a squirrel (<u>Petaurista petaurista</u>)'
kəbəw	'water buffalo'
iɟəw	'green'
ɣanjəw	'stake trap'
B. pətay	'a kind of tree'
ponay	'a kind of dove'
su ^w ay	'accustomed to'

səyay	'lemon grass'
ɣimaw	'tiger'
bəkaw	'a kind of mangrove tree'
pesaw	'knife'
ɣesaw	'be anxious'

In comparing set A and Set B it is apparent that the low central vowel of the diphthong is raised to a mid-central vowel after voiced consonants. If the rule presented here were rewritten to describe the relevant environment, both final diphthongs (ay and aw) as well as final /aɣ/ ([a^ə]) would be included. For

example:

$$\left[\begin{array}{l} + \text{ occlusive} \\ + \text{ voice} \end{array} \right] \text{ — } \left[\begin{array}{l} - \text{ consonantal} \\ + \text{ high} \end{array} \right]$$

12. There are some exceptions to this generalization. In some cases, even /a/ preceding consonant clusters undergoes reduction, for example, [ɟambu] 'guava' (SM [ɟambu]), [lamba?] 'a kind of ground orchid' (SM [lamba]). In other cases, /a/ does not undergo reduction as in [katakʔ] 'frog', [sagu?] 'sago', [ɲaməkʔ] 'mosquito', etc. At this point, these exceptions remain unexplained.

13. It is worth noting here that Steinhauer (1980:351), in discussing the reflex of PAN *ə in Jakarta Malay, writes:

To my knowledge all phonetically reliable data on other Malay dialects and Malay based creoles ... show that there the original *ə in final stem-syllables merges with (the reflection of) *a.

It would appear, however, that Tioman Malay displays only partial merger. Steinhauer (1980:352) further proposes that one of the possible reasons for the apparent retention of *ə in final syllables of Jakarta Malay is:

direct inheritance of an unknown archaic Malay dialect, which could have been located in the Jakarta area itself or in the Malay core area.

In view of the data collected on Tioman Island and the striking parallelism in Bangka Malay (Sakura 1967, Lembaga Bahasa 1978) the relationship of Jakarta Malay with these dialects requires closer examination.

14. This refers only to the oral phonemes; the probable existence of a nasal series of vowel phonemes is set aside here.
15. The word [muntah] was also recorded, presumably a borrowed form.
16. In Proto-Austronesian *SaDiRi meant 'post'.

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