What the Rawas Dialect Reveals about the Linguistic History of Rejang

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Core vocabularies of five major dialects of Rejang are derived from Proto–Malayo-Polynesian etyma mediated by a reconstructed protolanguage, Proto-Rejang, crucial evidence for which is provided by Rawas, a previously neglected dialect. Every etymon turns out to be reconstructable on the basis of just two dialects—either Rawas and Pesisir or (more often) Rawas and Kebanagung. One clear conclusion is that the Rawas area represents the oldest Rejang settlement in Sumatra. While a few minor claims made in previous work on Rejang historical phonology are corrected or refuted by the Rawas evidence, the most important findings are confirmed. Thus, (a) individual Rejang dialects have undergone more changes (splits and mergers) of Proto–Malayo-Polynesian vowels than any other known Austronesian group; (b) Proto-Rejang underwent two accent shifts, first to a Malay-type pattern (a modified form of penultimate word-stress) and then to the contemporary word-final stress pattern; and (c) complex conditions, including vowel harmony conditions, are needed to preserve regularity in the majority of sound changes affecting Rejang dialects.

"The dialect [that] is probably most important from a historical point of view ... is the Jang Abeus dialect, spoken in the upper reaches of the river Rawas. ... In 1941 it still had the final *-l* in such words as *biyol*, Lebong *biyoa* water."—P. Voorhoeve, pers. comm. reported in Blust 1984:448, n.2.

1. INTRODUCTION.[1] Rejang historical phonology (RHP) began with a pioneering article by Robert A. Blust (1984), in which contemporary Musi dialect data were derived from PMP via a set of (mostly regular) sound changes.[2] McGinn (1997) added

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2. Abbreviations and special symbols used in the paper are as follows: a colon (:) follows an accented vowel on the word level, e.g., V: vs. V (unaccented); end-rhyme = -V# or -VC#; n.c. = noncognate; n.d. = no data; PMP, Proto–Malayo-Polynesian. Dialects are shown as follows: P, Pesisir; L, Lebong; M, Musi; K, Kebanagung; R, Rawas; PL, Pesisir and Lebong; PLM, Pesisir, Lebong, and Musi, etc.

new dialect data from the Kebanagung, Pesisir, and Lebong dialects in the attempt to explain some of the reported irregularities in the development of the vowels. McGinn (1999, 2000) explored some possible external subgrouping relationships for Rejang. Finally, although McGinn (2003) presented a reconstructed Proto-Rejang, owing to space limitations, only Rawas evidence was included. This paper attempts to fill some gaps in the record by displaying evidence from five major dialects against which the reconstructions can be tested and earlier work on the language can be verified or revised.

Rejang should be of interest to linguists for at least three reasons. (i) The position of Rejang as a linguistic isolate raises questions about the origin, migration route, and closest linguistic affiliations of the group (McGinn 2003). (ii) Rejang exhibits more changes in the vowels than any other known Austronesian language: 27 splits of the original four PMP vowels are reflected in the Musi dialect, and 21 mergers (Blust 1984; McGinn 1997). (iii) Some apparently irregular vocalic developments affected pronouns and function words not only in Musi, but in all previously reported dialects, presenting prima facie evidence for recognition of nonphonetic conditions in the theory of sound change, contra the neogrammarian position.

McGinn (1997) attempted to explain the irregular Musi function words in terms of the placement of the reconstructed pre-Rejang accent (i.e., word-level stress pattern), which fell on the penultimate vowel in pre-Rejang (whereas in all contemporary dialects the accent falls on the final syllabic vowel). The consequences of this analysis will be explored in relation to the contribution of Rawas to the historical phonology of Rejang, because in Rawas, pronouns and other function words underwent the same regular changes as the content words.

More generally, it is fair to say that without Rawas, the dialects differ too little among themselves to offer much in the way of time depth, precluding any ambitions about reconstructing Proto-Rejang, not to mention establishing an external subgroup smaller than Malayo-Polynesian. With the addition of Rawas dialect evidence, the picture has changed dramatically. The time depth has increased; the relationships among the dialects have begun to gain some clarity; the reconstruction of Proto-Rejang has become feasible; and some of the evidence pertaining to possible subgrouping relationships with other Austronesian languages has become clarified.

1.1 LOCATION AND NUMBER OF REJANG SPEAKERS. When Richard Noss (1969) conducted a survey of language use in the late 1960s, there were 204,000 Rejang speakers living in Bengkulu and South Sumatra. Noss's estimate is consistent with Siddik (1980), but not Wurm and Hattori (1981), who give a much higher figure (one million). The higher number can perhaps be reconciled with the population of Bengkulu Province as a whole, including the city of Bengkulu with its majority Malay population, as well as the Kerinci, Serawai, Minangkabau, and transmigrated Javanese living in and around Rejang country.

1.2 DIALECT DIVERSITY. The pair-wise cognate percentages given in table 1 were derived from data obtained in the respective dialect areas from bilingual speakers (Rejang and Indonesian) based on a standardized list of 200 Indonesian sentences prepared by Amran Halim (n.d.) to elicit the Swadesh 200-word list.

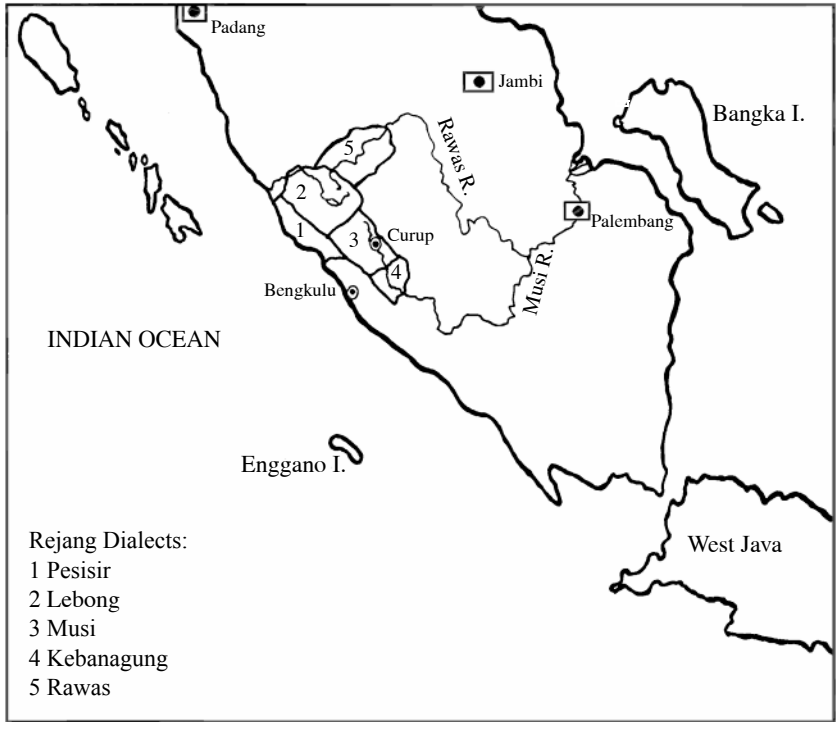
The degree of variation among the dialects reported in McGinn (1983, 1997) was too slight to impede mutual understanding. By contrast, the Rawas dialect is incomprehensible to other Rejangs. I have played a recorded Rawas text for Musi and Lebong speakers, always with the same result: they did not understand it. Vocabulary changes represent only part of the explanation, however. Many linguistic facts set Rawas apart from the other Rejang dialects. For instance, only Rawas retains the PMP diphthongs *iw and *uy as *iw*, *uy*; Rawas has a system of seven vowels (including

TABLE 1. PERCENTAGES OF SHARED HOMOSEMANTIC COGNATES

REJANG DIALECTS	Pesisir	Lebong	Musi	Kebanagung	Rawas
Pesisir	———	88%	87.5%	75.5%	70.0% [a]
Lebong	———	———	87.5%	78.0%	70.5%
Musi	———	———	———	82.0%	71.5%
Kebanagung	———	———	———	———	71.5%
Rawas	———	———	———	———	———

a Cognate percentages reported in McGinn (1983) are 5 to 10 percent higher than those presented here. At that time I had access to dialect speakers living in the capital city, Curup. The data in this paper were elicited from older speakers based on field work in each dialect area.

MAP OF REJANG COUNTRY



low front *ä*), whereas the other dialects have six; Rawas reflects PMP *-j as *-t* in contrast to *-g* or *-k* in the other dialects; Rawas retains *-l* (derived from PMP *-*R* and *-*l*) as suggested by P. Voorhoeve in the quotation above; and (also as mentioned earlier) Rawas pronouns and other function words underwent the expected regular changes affecting word-final vowels, as with Rawas *kəw* 'I' and *kuməw* 'you (HONORIFIC)' alongside *uku*, *kumu* in the other dialects. The general impression is that Rawas is not only the most divergent among the five dialects, but also (pronouns notwithstanding) the most conservative. The remainder of this paper will substantiate this impression concerning the central importance of Rawas in determining the linguistic history of the Rejang language.

1.3 SYNCHRONIC SKETCH OF THE FIVE DIALECTS

1.3.1 Contemporary consonant and vowel systems. The consonant systems are given in table 2. Secondary phonemes and phoneme sequences mark loan words (usually from Malay). For example, *sergap* 'attack' displays an instance of *r* and a sequence of two consonants within a morpheme; neither occurs in native Rejang words.

Most dialects have six vowels (a, ɛ, i, o, u, ə); Rawas has a seventh vowel *ä,* which regularly corresponds to *e* or *ia* or *ea* in the other dialects (see 2.4). Rawas *ä* is a low front vowel. The *ä–e* contrast was very clear to this observer, whereas the contrast between *ä* and *a* was difficult to hear; mostly *ä* sounded like *a;* and either phoneme could manifest as low central [ɐ] in rapid speech. Several Malay-speaking onlookers in Surulangun were as puzzled as I when Pak Daud insisted that *pät* 'bitter' and *pat* 'four' differed significantly in pronunciation. However, *a* (never *ä*) also varies freely with low back [ɒ] in certain phonetic environments. Phonologically, all doubts disappear: Rawas *pät* from PMP *paqit 'bitter' contrasts with *pat* from PMP *epat 'four'; and Rawas *bäläk* from PMP *balik 'return home' contrasts with *balak* 'accident; occurrence' (source unknown). Also important for what follows is the contrast between Rawas *ä* and *e,* although minimal pairs were not found: examples include Rawas *kedeʔ* 'bad person' vs. *patäh* 'broken'; and *kämäy* 'IPL.EXCL' vs. *etéʔ* 'small'. A seven-vowel system as witnessed in Rawas has been reconstructed for PR (see table 4 below).

1.3.2 Contemporary diphthongs and accentuation. Although it is not always obvious, in all Rejang dialects the accent falls on the final syllabic vowel of the word. The placement of the accent depends on syllable structure, and in particular on the prior identification of syllabic and nonsyllabic vowels (see section 4).

TABLE 2. CONTEMPORARY CONSONANT SYSTEMS

	PESISIR, LEBONG, MUSI					KEBANAGUNG					RAWAS				
STOPS &	p	t	c	k	ʔ	p	t	c	k		p	t	c	k	ʔ
AFFRICATES	b	d	j	g		b	d	j	g		b	d	j	g	
FRICATIVES		s					s			h		s			h
PLAIN NASALS	m	n	ñ	ŋ		m	n	ñ	ŋ		m	n	ñ	ŋ	
BARRED NASALS	m̄	n̄	ñ̄	ŋ̄		m̄	n̄	ñ̄	ŋ̄		m̄	n̄	ñ̄	ŋ̄	
LIQUID			l					l					l		
SEMIVOWELS	w		y			w		y			w		y		

Some consequences of syllabification and stress placement rules are as follows. First, morphemes like *dəw* '[dəu̯] 'many' and *oa?* [ʔoa̯ʔ] 'far' are monosyllabic and hence in metrical terms bear no word-level accent: instead, the observed contrast is between a vowel and a semivowel. Second, morphemes like *umə́a?* [ʔumə:a̯ʔ] 'home' and *tidóa* [tido:a̯] 'sleep' are disyllabic, with the accent falling on the second (final) syllabic vowel, as expected. Finally, canonical CVCVC morphs receive the accent on the final syllable as expected, as with Musi *monó?* [mono:ʔ] 'chicken', *səlón* [səlo:n] 'claw', *taŋə́n* [taŋə:n] 'hand'.

The complete set of Rejang diphthongs appears in table 5 (from PMP diphthongs) and table 13 (from PMP vowels).

1.4 LEXICAL-PHONOLOGICAL CONDITIONS IN REJANG HISTORICAL PHONOLOGY. As noted originally by Blust (1984), most vocalic changes in Rejang must be defined in terms of what he called "PMP sequences"; these are disyllabic (foot-length) and partially articulated speech segments such as *-aCi, *-aCiC, *-uCeC, and so on. In this paper, these sequences are expanded in number and in quality (to include also the reconstructed accent) and labeled "gestalt conditions" (GCs). Two considerations make it necessary to find a replacement for Blust's term "PMP sequences." (i) Whereas PMP sequences refer to sequences of (reconstructed) PMP phonemes, GCs almost always refer to nondistinctive prosodic features as well. (ii) Initially derived from PMP sequences, GCs may arise in any historical stage of a language, for example, in early pre-Rejang, late pre-Rejang, Proto-Rejang, or in one or all contemporary dialects (where they would be described synchronically as Morpheme Structure Conditions). GCs refer to one or all of the following: the last two syllables of the word; the accent; the pairing of the vowels (**a-i*, **u-ə*, etc.); the shape of the final syllable (open or closed); and the velarity (i.e., the binary feature [± velar]) associated with the word-final consonant (if present).

It is assumed that Rejang underwent two prosodic shifts at different times in its early history (before Proto-Rejang), and that each of these shifts led to natural segmental changes affecting vowels and consonants. In particular, stressed vowels became strengthened, and unstressed vowels became weakened or lost (McGinn 1997). The sheer number of vocalic shifts in Rejang raises questions about the external history of the language (see 4.4 for discussion). Other questions unfortunately cannot be answered here (but see 4.4.2). As noted by Paul Kiparsky, "what remains puzzling on all accounts is the persistence of (vocalic) shifts … in certain languages … and their total absence in others, such as Japanese. It has been speculated … that this persistence is ultimately traceable to certain properties of the prosodic system" (Kiparsky 1988:383).

Early changes in the history of Rejang contributed to a high degree of lexical vowel harmony in Proto-Rejang that is largely, but not entirely, reflected in the contemporary dialects. In particular, the first nine changes listed in table 3 are shown together with a tenth change that occurred after dialect split. All were governed by gestalt conditions.

Table 3 is discussed in sections 2.4.6.3 and 3.2.1. Table 3 schematizes the general outlines of Rejang's linguistic history presented in McGinn (1997, 1999, 2000), extended now to accommodate the new evidence from Rawas. At first, the Rawas evi-

dence shown in (10) appears to contradict our earlier analysis, because Rawas vowels were not affected at all. Upon closer examination, however, it is clear that Rawas provides exactly the right kind of *negative* evidence needed to "prove the rule." McGinn (1997) claimed that the two vocalic changes illustrated in (10) were conditioned in part by the feature [+velar] associated with word-final -C (including PMP *-R, *-j, *-k). But in Rawas, it is clear that consonantal change has intervened, namely, PMP and PR *-j became *-t* in Rawas, whereas PR *j > *-g* or *-k* in the other dialects. The explanation is that Rawas failed to undergo the harmonization pattern (10) parallel to the other dialects because PMP *-j had changed to *-t* in Rawas, in effect "bleeding" the rule.

Theoretically, then, the Rejang evidence supports a theory of sound change that includes a restricted class of phonologically (and typologically) definable conditions — called here gestalt conditions (GCs)—operating over the domain of the word or word-base, perhaps in different ways at different time periods in the history of a language.

2. PROTO-REJANG In his *Vergleichende Lautlehre des Austronesischen Wortschatzes*, Otto Dempwolff presented the material as if (*als ob*) just three languages were necessary and sufficient to reconstruct a valid protolanguage (vol. 1), and *as if* only eleven more languages were needed to confirm the reconstructions (vol. 2). A similar simplification (on a much smaller scale to be sure) is implicit throughout this paper with respect to the reconstruction of Proto-Rejang. In fact, every feature of Proto-Rejang can be justified based on evidence from just two dialects—either Rawas and Pesisir, or Rawas and Kebanagung. As it happens, these are the only dialects that share a boundary with a dialect of Malay. By contrast, the remaining two (Musi and Lebong) may be viewed as "test dialects" with respect to our reconstructed Proto-Rejang. These two dialects occupy the political and geographic heartland in Kabupaten Rejang-Lebong (see 4.4.3).

Of the three "criterion" dialects—Rawas, Pesisir, and Kebanagung—Rawas typically provides the best (and sometimes the only direct) witness for a given feature of Proto-Rejang. In fact, the direct contributions of Pesisir and Kebanagung can be summarized in just a few sentences. Pesisir bears witness to just *three* features of Proto-

TABLE 3. SCHEMATIC HISTORY OF PROTO-REJANG VOWELS

		GESTALT CHANGES IN EARLY PRE-REJANG		PMP	PRE-REJANG	
A	1	First Stress shift (to Malay-type pattern)		*manuk	*ma:nuk	'chicken'
	2	Syllable reductions		*daqan	*dan	'branch'
	3a	*a Neutralization	*-V:CaC[–velar] > *-V:CəC	*taŋan	*ta:ŋən	'hand'
	3b	*a Neutralization	*-V:Ca # > -V:Cə	*mata	*ma:tə	'eye'
		GESTALT CHANGES IN LATE PRE-REJANG		PMP	PROTO-REJANG	
B	4	Second Stress Shift (to last syllabic V)		*taŋan	*taŋə:n	'hand'
	5	CVCV Harmony I	*a-i: > i-i:	*talih	*tili:	'rope'
	6	CVCV Harmony II	*a-u: > u-u:	*sapu	*supu:	'broom'
	7	CVCVC Harmony I	*a-i: > *ä-ä:	*laŋit	*läŋä:t	'sky'
	8	CVCVC Harmony II	*a-u: > *o-o:	*manuk	*mono:k	'chicken'
	9	CVCVC[–velar] Harmony III	*i-ə: > -ä-ä:	*ipen	*äpä:n	'tooth'
C	10	CVCVC[+velar] Harmony IV	*u-ə: > o-o: = u-ə:	*pusej	*pusə:j	'navel'
					pusət (RAW)	
					posog (KEB)	
					posok (PLM)	

Rejang that have been lost or obscured in Rawas. Pesisir retains: (a) *-ʔ* from PR *-ʔ and PMP *-q (Rawas *-h*); (b) *i* and *u* in the end-rhymes *-iaʔ* and *-uaʔ* from PR *-iʔ and*-uʔ reflecting PMP *-iq and *-uq respectively (R *-ăh*, *-oh*); and (c) *-i* and *-u* from PR *-i and *-u in the set of personal pronouns, for example, *si* '3SG', *uku* '1SG' (R *səy*, *kəw*). Kebanagung, on the other hand, bears witness to *four* features of Proto-Rejang that have been lost or altered in Rawas. Thus in Kebanagung (a) *h* regularly reflects PR *r from PMP *r, *R in all consonant positions (Rawas *l, ʔ,* or Ø in corresponding positions); (b) *-i* regularly reflects PR *-i from PMP *-a when the penult was *u, as in *dui* 'two', *tui* 'old', *buŋi* 'flower' (R *duəy*, *tuəy*, *buŋəy*); (c) *-k* regularly reflects PR and PMP *-k[3] (R *-ʔ*); and (d) *-g* regularly reflects PR and PMP *-j (R *-t*). All other features of PR are reflected with varying degrees of transparency in contemporary Rawas.

2.1 RECONSTRUCTED PR SYSTEMS. Proto-Rejang had several typologically important features: seven vowels (attested in Rawas); a high degree of vowel harmony in the lexicon—even higher than attested in any contemporary dialect; word-level stress (accent) on the final syllabic vowel (attested in all dialects); and just two diphthongs—far fewer than attested in any contemporary dialect. See section 3 for discussion.

2.1.1 Phonemic inventory. The phonemes of Proto-Rejang are given in table 4. PR *ʔ was a glottal stop; PR *r was presumably a velar liquid (reflected as *h* or *ʔ* or Ø in contemporary dialects); PR *ä was low, front, and unrounded (reflected as *ä* in Rawas); and the series *m̄, *n̄, *ñ̄, *ŋ̄ represents the barred nasals (Coady and McGinn 1983). They are regular reflexes of PMP consonant sequences *-mb-, *-nd-, *-nz-, and *-ŋg-, respectively.

2.1.2 The seven vowels of Proto-Rejang. PR had an inventory of seven vowels (witnessed in Rawas): *a, *e, *i, *o, *u, *ə, *ä. Given that PMP had four vowels (*i, *u, *a, *e [schwa]), it is obvious that PR *o, *e, and *ä are innovations. Two facts are especially noteworthy about the innovating set. First, the relationship between PR *ä and *e is problematic; in particular, most instances of PR *ä are inherited from PMP, whereas PR *e is attested only in borrowed words from Malay or from unknown sources, such as PR *kidek 'evil; dirty'.

TABLE 4. PROTO-REJANG CONSONANTS, VOWELS, AND DIPHTHONGS

PROTO-REJANG CONSONANTS (23)

STOPS & AFFRICATES	*p	*t	*c	*k	*ʔ	
	*b	*d	*z	*g	*j	[gʸ][a]
FRICATIVES		*s				
PLAIN NASALS	*m	*n	*ñ	*ŋ		
BARRED NASALS	*m̄	*n̄	*ñ̄	*ŋ̄		
LIQUIDS			*l	*r		
SEMIVOWELS	*w		*y			

PROTO-REJANG VOWELS (7)

HIGH	*i		*u
MID	*e	*ə	*o
LOW	*ä		*a

PROTO-REJANG DIPHTHONGS (2)

*iw	*uy

a Blust (1991b:132) describes PMP *j as a voiced palatalized velar stop that occurred word-finally and between vowels.

3. Kebanagung *-k* provided crucial evidence explaining an apparently irregular change affecting kin terms (McGinn 1997:68).

Second, the following pan-dialectal constraint applies when the relevant vowels are available.

> Given *e* or *o* or *ä* as the penultimate vowel in a word, only like vowels are permitted in ultimate position.

This constraint governs not only native words like *monok* 'chicken' and *läŋät* = *leŋet* 'sky' but also many borrowed words like *topoŋ* 'western-style hat' (Malay *topi*) and *mugo mugo* (Malay *moga-moga* 'hopefully').[4] Also included are PR words of unknown origin, such as PR **kidek* > PLM *kideʔ* = Kebanagung *kidek* = Rawas *kedeʔ* 'evil'.

2.1.3 Proto-Rejang diphthongs and accent. The accent (word-level stress) is assigned to the final syllabic vowel of the word in Proto-Rejang, as in all contemporary dialects (1.4.3). The accent almost certainly contributed to the spread of diphthongization of final vowels after dialect split. See section 3.

2.2 PROTO-REJANG DIPHTHONGS. PR diphthongs either reflect PMP diphthongs or are the result of vowel coalescence following loss of intervocalic **-q-* or **-h-*. Like much else in the reconstruction of Proto-Rejang, the Rawas evidence proves crucial, in part because it diverges sharply from the other dialects, and in part because it is conservative. Rawas retains PMP and PR diphthongs **iw* and **uy* as *iw* and *uy*, respectively. Thus, although Rawas reflects only two PMP diphthongs as diphthongs (vs. three in each of the other dialects), it does so conservatively.

This section gives the diachronic rules that explain the following display:

> PMP DIPHTHONGS: *iw, *uy, *aw, *ay
> REGULAR REFLEXES IN PR: *iw, *uy
> REGULAR REFLEXES IN RAWAS: *iw, uy

(1) PMP *aw and *iw merged as PR *iw (witnessed by Rawas *iw*).
(2a) PMP *ay and *uy merged as PR *uy (witnessed by Rawas *uy*).
(2b) PMP sequences *-aqi and *-ahi became *ay before merging with *uy (witnessed by Rawas *uy*), as with PMP *taqi > PR *tuy (Rawas *tuy*); see appendix 31, 222, 243.

After the dialects split, the following changes account for the attested outcomes shown in table 5.

TABLE 5. REGULAR REFLEXES OF PMP DIPHTHONGS

PMP	PR	PES	LEB	MUSI	KEB	RAWAS	
*danaw	*daniw	*danəw*	*danəw*	*danuo*	*danəa*	*daniw*	'lake'
*kahiw	*kiiw	*kiəw*	*kiəw*	*kiuo*	*kiəa*	*kiiw*	'wood'
*qatay	*atuy	*atəy*	*atəy*	*atie*	*atəe*	*atuy*	'liver'
*hapuy	*upuy	*opoy*	*opoy*	*opoy*	*opoy*	*upuy*	'fire'
AND AFTER LOSS OF PMP INTERVOCALIC *-q-:							
*tinaqi	*tənuy	*tənəy*	*tənəy*	*tənie*	*tənəe*	*tənuy*	'guts'

Appendix 1, 11, 45, 61, 99, 121, 134, 177, 200, 251

4. One exception is Rawas *beloʔ* 'turn' from Malay *belok* (expected ***beleʔ*). Note that the expected form would not, in Rawas, be homophonous with inherited *bälläʔ* from PMP *balik 'return'.

PESISIR AND LEBONG
1. PR *iw > əw
2. PR *uy > əy
3. PR gestalt *u-uy > -oCoy

KEBANAGUNG
1. PR *uy > əe
2. PR *iw > əa
3. PR gestalt *u-uy > o-oy

MUSI
1. PR *uy > ie
2. PR *iw > uo
3. PR gestalt *u-uy > o-oy

RAWAS (NO CHANGE)
1. PMP/PR *iw and *uy > iw, uy, respectively

2.3 CONSONANTAL CHANGE. The following consonantal changes can be attributed to Proto-Rejang. Special reference will be made to the evidence from Rawas and Kebanagung, because (with only one exception—see 2. below) the PR reflexes can be derived on the basis of evidence from these two dialects alone.

2.3.1 Summary of consonantal changes in Proto-Rejang

1. PMP *h disappeared unconditionally in PR: PMP *hasaq > R *asəʔ* 'sharp'; PMP *talih > R *tilə* 'rope'; PMP *buhek > R *buk* 'head hair'.

   Appendix: 14, 41, 45, 50, 97, 116, 118, 146, 167, 249, 200, 236

2. PMP *q became PR *ʔ in word-final position and disappeared elsewhere. However, Rawas and Kebanagung display *-h* instead of expected glottal stop. The explanation may be attributed to the broad spectrum of contiguous languages with borrowed *h* for expected *ʔ* under areal pressure from Malay (Blust 1992:37). See 2.3.2.2 for discussion.

PMP	PR	PES	LEB	MUSI	KEB	RAWAS	
*Rumaq	*rumaʔ	*umaʔ*	*umaʔ*	*umaʔ*	*umah*	*umah*	'house'
*taneq	*tanaʔ	*tanaʔ*	*tanaʔ*	*tanaʔ*	*tanah*	*tanah*	'earth'

   Appendix: 7, 18, 29, 32, 34, 42, 43, 44, 57, 60, 69, 85, 91, 135, 136, 126, 150, 168, 172, 174, 187, 200, 211, 219, 243, 234, 244, 245, 246, 253, 248, 250, 255, 256

3. PMP *k > PR *k (all positions) is attested by Kebanagung. In the other dialects, including Rawas, word-final PMP and PR *-k > *-ʔ*, thus partially merging with PMP *-q.

PMP	PR	PES	LEB	MUSI	KEB	RAWAS	
*anak	*anak	*anaʔ*	*anoʔ*	*anaʔ*	*anak*	*anaʔ*	'child'
*balik	*bäläk	*beleʔ*	*beleʔ*	*beleʔ*	*belek*	*bäläʔ*	'return'
*buhuk	*buk	*buʔ*	*buʔ*	*buʔ*	*buk*	*buʔ*	'head hair'

   Notice that in Lebong PMP/PR *a regularly became o before *-k but not *-q: *anak > *anoʔ* beside *Rumaq > *umaʔ* 'house' (**umoʔ* is unattested). In the phonological system of Kebanagung *-k* = [ʔ]; thus *buk* [buʔ], *belek* [beleʔ], *anak* [anaʔ] as the result of an allophonic rule (McGinn 1997:68). Phonologically, therefore, Kebanagung retains traces of earlier distinctions among PMP *-q, *-k, and *-j, to which we next turn.

4. PMP *j became PR *g between vowels but was retained as PR *-j in word-final position before splitting into Rawas *-t*, Kebanagung *-g* [k] and PLM *-k* [k].

	PMP	PR	PES	LEB	MUSI	KEB	RAWAS	
A	*qapeju	*pəgu	*pəgaw*	*pəgaw*	*pəgəw*	n.c.	*pəgəw*	'gall'
	*ŋajan	*gän	*gen*	*gen*	*gen*	*gen*	*gän*	'name'

B	*pusej	*pusəj	*posok*	*posok*	*posok*	*posog*	*pusət*	'navel'
	*qulej	*uləj	*olok*	*olok*	*olok*	*olog*	*ulət*	'caterpiller'
	*lalej	*daləj	*dalək*	*dalək*	*dalək*	*daləg*	*dalət*	'housefly'

Appendix: 58, 79, 162, 170, 172, 181

5. PMP *p and *b remained unchanged in PR in all positions except under a specific morphological condition, namely, word-initially in transitive verbs. PMP *p-[5] and *b-[6] were reanalyzed as prefixes (hence disappeared lexically).

PMP *puluq	>	PR *puluʔ 'ten'	R *poloh* 'ten'
PMP *piliq	>	PR *iliʔ 'choose'	R *äläh* 'choose'

Appendix: 39, 85, 80, 86, 255

6. PMP *w > PR *b regularly in initial position. Intervocalic PMP *w regularly disappeared in trisyllables (*ka-wanan > *kanən* 'rightside'). In disyllables, PMP intervocalic *w was regularly retained as PR *w but (irregularly) became -b- in one known case (PR *ñabi 'soul').

PMP *wahiR	>	PR *biol 'water'	R *biol*
PMP *hawak	>	PR *awak 'body'	K *awak*
PMP *ñawa	>	PR *ñabi 'soul'	R *ñabəy*

Appendix: 12, 20, 38, 98, 102, 123, 159, 215

7. PMP *ñ was retained as PR *ñ word-initially but became *n between vowels.

PMP *ñamuk	>	PR *ñomok 'mosquito'	R *ñomoʔ*
PMP *ñawa	>	PR *ñabi 'soul'	R *ñabəy*
PMP *ma-añud	>	PR *monot 'float away'	K *monot*

Appendix: 149, 159, 160

8. PMP *l was retained as PR *l in all positions, as attested in Rawas. In all dialects except Rawas word-final PMP and PR *l disappeared.

PMP *gatel	>	PR *gatal 'itch'	R *gatal*

Appendix: 19, 26, 27, 28, 35, 46, 47, 48, 59, 78, 102, 104, 128, 129, 131, 135, 136, 173, 240, 245[7]

9. PMP *r (presumably alveolar) is reflected as PR *r (presumed to be velar or possibly uvular; hereafter [+velar] for concreteness) in all consonant positions; after dialect split PR *r developed regularly in each dialect. In Kebanagung PR *r > *h* in all three positions; in the other dialects PR *r > *ʔ* between vowels and Ø elsewhere.

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5. Morphological variants reflecting PMP *piliq and PR *iliʔ include Pesisir *miliaʔ* (active) ~ *niliaʔ* (passive) ~ *kiliaʔ* (imperative) ~ *piliaʔ* (nominal).
6. It is noteworthy that all words beginning *bəm...* or *pəm...*, although historically probably infixed with *-əm-* 'active', have undergone reanalysis into two prefixes, e.g., Musi *bəmonoaʔ* 'die off' = {bə-} + {m(ə)-} + {onoaʔ}.
7. Many Rawas words with final *-l* derive from Malay or from unknown sources:

RAWAS	PLMK	MALAY	
tiŋal (syn. *diəm*)	tiŋa	tinggal	'wait, stay, live'
batal	bata	bantal	'pillow'
məsol	məsoa	cari	'look for; hunt'
tokol	—	palu	'hammer'
nugal	—	tugal	'to dibble; plant by dibbling'
macol	buko	buka	'to open; take off (clothes)'
tukäl	—	tukil	'bamboo wine-making instrument'
kacäl	kacea	kancil	'mouse-deer'
cukäl	kikoa	gali	'dig'

PMP *rimba	>	PR *riñ̃a	K *hiñ̃o*	'jungle'
PMP *zari	>	PR *ziri	K *jihəy*	'finger'
PMP *tirus	>	PR *tirus	K *tihus*	'tapering'[8]
PMP *bener	>	PR *bənər	K *bənəh*	'true'

Appendix: 6,30,190,138,207, 231,258; cf. also 194, 230.

10. PMP *R was retained as PR *r in initial position. Intervocalically and word-finally, PMP *R split into PR *r and *l under complex conditions as discussed in section 2.3.2.3.

PMP *Ratus	>	PR *rotos	K *hotos*	'hundred'
PMP *baqeRu	>	PR *bəlu	K *bələw*	'new'
PMP *libeR	>	PR *libər	K *libəh*	'wide'

Appendix: 20, 29, 32, 36, 40, 51, 67, 70, 71, 109, 130, 131, 134, 175, 188, 193, 200, 202, 221, 228, 234, 250

11. PMP *z became PR *d word-initially in CV(C)VC canons; elsewhere PMP *z was retained as PR *z except in the intervocalic cluster *-nz-, which became PR *ñ̃. Thus, PMP *z > d / #__V(C)VC,[9] *z > z elsewhere.

	PMP	PR	PES	LEB	MUSI	KEB	RAWAS	
A	*zalan	*dalən	dalən	dalən	dalən	dalən	dalən	'road'
	*zaRum	*dolom	dolom	dolom	dolom	dolom	dolom	'needle'
	*zaqit	*mən-dät	məñet	məñet	məñet	məñet	məñät	'sew'
B	*zari	*ziri	jiʔay	jiʔay	jiʔəy	jihəy	jiʔəy	'finger'
C	*quzan	*uzən	ujən	ujən	ujən	ujən	ujən	'rain'
	*tazem	*tazəm	tajəm	tajəm	tajəm	tajəm	tajəm	'sharp'
	*pinzem	*iñ̃əm	iñ̃əm	iñ̃əm	iñ̃əm	iñ̃əm	iñ̃əm	'borrow'

Also appendix: 114, 244

12. Voiced stops devoiced in final position.

PMP *bukid > PR bukit 'hill', R *bukit*
PMP *tunked > PR *tokot 'staff, cane', R *tokot*

13. A number of processes resulted in original CVCCV(C) and CVCeCVC canons reducing to a CVCVC or a CVCV template.

(a) "Prenasalized voiceless obstruents reduced to the simple obstruent" (Blust 1984:428).

PMP kempu > PR *kəpu 'grandchild', R *kəpəw*

Appendix: 107,201,204

(b) "Prenasalized voiced obstruents shifted to the corresponding barred nasal" (Blust 1984:428).

PMP *embun > PR *əm̄un 'cloud', R *əm̄un*

Appendix: 75, 76, 86, 166, 180, 190, 233, 235; see also 87.

(c) "The first of successive consonants in a reduplicated monosyllable was dropped" (Blust 1984:428).

PMP *tektek > PR *tətok 'chop, hack', R *tətoʔ*
PMP *tuktuk > PR *tutuk 'pound rice', R *tutúʔ*

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8. A discrepancy is hereby noted between my data and Blust's (1984:427) with respect to the Musi words for 'finger' and 'tapering'. My data shows Musi *jiʔəy* and *tiʔus* with the expected regular development of -ʔ- from PMP *-r-, whereas Blust recorded *jiəy* and *tius*.

9. Given that PMP *Z and *z have collapsed into a single phoneme *z in recent literature (Blust 1999), the GC shown here is needed to preserve regularity for the Rejang outcomes.

(d) CVCeCVC trisyllables regularly reduced to CVCCVC (schwa syncope[10]) followed by cluster reduction. (See also 2.4.1.)

PMP *tupelak > *tuplak > PR *tulak 'push; reject', Rawas *tulaʔ*
PMP *timeRaq > *timRaq > PR *timaʔ 'tin', Rawas *timah*

14. The following irregular consonant changes have been noted in all dialects, hence presumably occurred in PR.

PMP *k- > PR *g:	PMP *kutu > PR *gutu	(R *gutəw*)	'head louse'
PMP *d- > PR *t:	PMP *deŋeR > PR *təŋoa	(K *təŋoa*)	'hear'
PMP *-j- > PR zero:	PMP *pajay > PR *pay	(R *pay*)	'rice plant'
PMP *l- > PR *d:	PMP *lalej > PR *daləj	(R *dalət*)	'housefly'
PMP *-l- > PR *n:	PMP *qateluR > PR *tənol	(R *tənol*)	'egg'
PMP *-w > zero:	PMP *laRiw > PR *lili	(R *liləy*	'run'
PMP *n- > PR *l-:	PMP *nipis > PR *mə-lipis	(R *məlipis*)	'thin'
PMP *b- > PR *-w-:	PMP *bahi 'female'	(R *-wuy* in *səlawuy*	'woman')
PMP *-p- > PR -b-:	PMP *ma-kapal > PR *kəbol	(R *kəbol*)	'thick'
PMP *-nd- > -d-:	PMP *pandak > PR *pədak	(R *pədaʔ)*	'short'

In addition, the following irregular consonant changes were introduced after dialect split in the named dialects.

PR *b- > Ø in PLM:	PMP/PR *busuk	>	PLM *usuʔ*	'rotten'
PR *r- > Ø in Kebanagung:	PR *rumaʔ	>	K *umah*	'house'

All other consonants remain unaltered in all dialects.

2.3.2 Residual problems with reference to consonantal changes in PR. This section discusses problems arising from the proposed PR consonant system. The solutions offered are tentative.

2.3.2.1 Split of PMP *R into PR *r and *l. All contemporary dialects contain one liquid—lateral *l*—from two sources in PMP, namely, *l and *R. Some of the derivations are complex, and there are residues from the proposed analysis that are duly noted. As noted in the previous section:

1. PMP *l was retained as PR *l in all positions (attested by R *l*).
2. PMP *r was retained as PR *r in all positions (attested by K *h*).

These retention facts, unproblematic in themselves, are crucial for the analysis of the fate of PMP **R*.

3. Word-initially PMP *R- was retained as PR *r- ([+velar]). PR *r- is reflected by Kebanagung *h*- corresponding to Ø in the other dialects. An unexplained loss of PR *r- occurs in Kebanagung *umah* (expected ***humah*) from PMP *Rumah 'house'.

PMP	PR	P&L	MUSI	KEB	RAWAS	
*Rakit	*rakit	eket	eket	heket	äkät	'raft'
*Ratus	*rotos	*otos*	*otos*	*hotos*	*otos*	'hundred'
*Rumaq	*(r)umaʔ	*umaʔ*	*umaʔ*	*umah*	*umah*	'house'

4. Between vowels PMP *-R- split between PR *-r- and *-l- conditioned by a morph-shape (gestalt) condition. According to McGinn (1997:87), PMP intervocalic *R became *l* except in the following two environments:

10. Schwa Syncope remains an active (synchronic) rule applying across morpheme boundaries in contemporary Rejang, as in Musi {-əm-} 'active' + {təŋoa} 'hear' —> *təmŋoa* 'to hear'.

*-R- disappeared in trisyllables

*-R- > *-h- in the environment CV_VC when the initial consonant was a noncoronal obstruent (*p-, *b-, *k-, [ʔ]*g-)

In this paper we have substituted PR *-r- for the *-h- of the earlier analysis, but the substance is unchanged. In table 6 the data in McGinn (1997:87, table 10) are updated to include the Rawas data and new reconstructions with *r replacing *h). The Rawas reflexes of PMP *-*R*- show a split identical to those of Pesisir, Lebong, and Musi. Only Kebanagung is different, exactly as reported in McGinn (1997), which gains support from the new evidence. Set C contains two unexplained residues of the analysis (expected K ***bələt* and ***dələs*). This pair of outcomes can probably be explained as regularized early borrowings from Malay *berat* and *deras*.

5. In word-final position PMP *-R split between PR *-r and *-l. See table 7. In McGinn (1997:86)—which lacked Rawas data—the question was: under what conditions did PMP *-*R* become *h* in Kebanagung and Ø in the other dialects? Given our analysis so far, the right question seems to be: Under what conditions did PMP *-R split into PR *-l and *-r? Consider the complementation facts in sets A and B. All the forms in set A display PR *-ol and all the forms in set B show PR *-ir, *-ur, or *-ər. PMP *-R thus evidently changed to PR *-l before derived *o, but became PR *-r elsewhere. This analysis assumes that pre-Rejang *-oR appeared before the consonantal split. Thus the split of PMP *R into PR *r, *l, and zero was overwhelmingly regular.

TABLE 6. SPLIT OF PMP *-*R*-

	PMP	PR	PES & LEB	MUSI	KEB	RAWAS	
A	*keRiŋ	*kəriŋ	kəʔiŋ	kəʔiŋ	kəhiŋ	kiʔiŋ	‘dry’
	*peRes	*pərəs	n.c.[a]	pəʔəs	n.c.	n.c.	‘squeeze’
	*buRuk	*buruk	buʔuʔ	buʔuʔ	buhuk	n.c.	‘decayed’
B	*waRej	*balət[b]	balət	balət	balət	n.c.	‘root, vine’
	*waRi	*bili	bilay	biləy	biləy	biləy	‘day’
	*baqeRu	*bəlu	bəlaw	bələw	bələw	bələw	‘new’
	*daRaq	*dalaq	daləaʔ	daləaʔ	dalah	dalah	‘blood’
	*zaRum	*dalum	dolom	dolom	dolom	dolom	‘needle’
	*laRiw	*lili	lilay	liləy	n.d.	liləy	‘run’
	*beRay	*luy	ləy	lie	ləe	luy	‘give’
	*ma-iRaq	*milaq	miləaʔ	miləaʔ	n.c.	n.c.	‘red’
	*qasiRa	*sili	silay	siləy	siləy	n.c.	‘salt’
C	*beReqat	*bərət	bəʔət	bəʔət	bəhət	n.c.	‘heavy’
	—	*bənəg	bənək[c]	n.c.	n.c.	bənək	‘heavy’
	*deRes	*dərəs	n.c.	dəʔəs	dəhəs	dəʔəs	‘swift (current)’

a No cognate.
b PR *-t from PMP *-j is irregular (expected PR -j).
c In Leb only.

2.3.2.2 Malay influence in early pre-Rejang reflected in PR consonants

1. Three PR kin terms show irregular final *-k instead of expected *-ʔ from PMP *-q. For example, Kebanagung *bapak* 'father', *kakak* 'elder sibling', *mamak* 'mother's brother' occur instead of expected ****bapəʔ, **maməʔ, **kakəʔ*. The explanation for the irregularity is early borrowing from Malay *bapak*, *mamak*, *kakak*. See McGinn (1997) for discussion.

2. Rawas and Kebanagung show *-h* regularly corresponding to *-ʔ* from PMP **-q* in the other dialects. Whereas this derives in a straightforward way from PMP **q*, it is less clear how it relates to Proto-Rejang. There are three possible ways to account for the correspondence set ʔ=ʔ=ʔ=h=h, none particularly satisfactory. The set reflects either (i) PR *-h from *-q, (ii) PR *-ʔ from *-q, or (iii) a retention, namely PR *-q from *-q. Probably (i) should be rejected on the grounds that *h > *ʔ* is not a common change (although it has occurred in Raratongan, and in Chamic—see Thurgood 1999:89). And possibility (iii) offers no new insight and therefore should be available only as a last resort. That leaves (ii), which like (i) suffers the consequence of an unlikely regular change, namely **ʔ > -h* in two Rejang dialects (Rawas and Kebanagung). However, there is another fact to be considered based on a suggestion by Blust (1992:37). Blust has suggested that *-h* has replaced the regular reflexes of PMP *-q in many languages over a broad and not always contiguous area in Java, Sumatra, and Borneo. Because this pattern represents a partial irregularity in language after language, it may be explained as an areal feature spread by the prestige of Malay, whose early history included the change *-q > *h* (see Adelaar 1992). Accepting this theory, and applying it to Rejang, I assume that PMP *-q became *-ʔ in Proto-Rejang, which then was replaced by *-h* in Kebanagung and Rawas via borrowing from Malay. (Note that these two Rejang dialects just happen be the only ones in direct contact with Malay.) One advantage of the borrowing theory is that it helps to account for the

TABLE 7. SPLIT OF PMP *-R

	PMP	PR	PL	MUSI	KEB	RAWAS	
A	*wahiR	*biol	bioa	bioa	bioa	biol	'water'
	*niuR	*niol	nioa	nioa	nioa	niol	'coconut'
	*ikuR	*ikol	ikoa	ikoa	ikoa	ikoʔ[a]	'tail'
	*dapuR	*dopol	dopoa	dopoa	dopoa	dopol	'hearth'
	*qateluR	*tənol	tənoa	tənoa	tənoa	tənol	'egg'
	*dəŋeR	*təŋol	təŋoa	təŋoa	təŋoa	n.c.	'hear'
B	*huluR	*ulur	ulua	oloa	uluh	ulua	'lower'
	*qapuR	*upur	upua	opoa	opoh	upua	'chalk'
	*tiDuR	*tidur	tidua	tidoa	tiduh	tidua	'sleep'
	*libeR	*libər	libəa	libəa	libəh	libəa	'wide'
	*qiliR	*ilir	n.c.	elea	ilih	n.c.	'downstream'
C	*bibiR	*bibir	bibia	bebea	(ŋus)	bibia	'lips'

a A borrowing.

peculiar distribution of Rawas *h*, which occurs only word-finally. This fact would be surprising except for the assumption that Rawas *-h* is a borrowed phoneme.

In contrast, Kebanagung shows *h* in all positions, reflecting partial merger of PMP *R and *r as PR *r. Continuing with the consequences of the borrowing theory, in Kebanagung (but not Rawas) our presumed borrowed *-h* extended its distribution through replacement of PR *r by h in all positions. (In the other dialects, PR *r became *ʔ* between vowels and zero elsewhere.) As a consequence of all these developments, *r* does not occur in native words, but is a sure sign of borrowing in Rejang, as in *sərgap* 'attack' (all dialects) from Malay *sergap*.

3. Two outcomes showing PR intervocalic *-l- might be explained in terms of early Malay influence.

MALAY	PR	RAWAS	PMP	
lari	*lili	liləy	*laRiw	'run'
kura-kura	*kuli	kuləy	—	'turtle'

Early borrowing from Malay *lari* as PR *lili is the probable source of Kebanagung and Rawas *liləy*, which would account for the apparent loss of *-w (cf. PMP *laRiw 'run'). Furthermore, Rawas *-l-* corresponding to Malay *-r-* suggests that the pre-Rejang form was *laRi (with velar or uvular *R).

4. Rawas *añut* (expected ***monot*) from Malay *hanyut* 'drift away' from PMP *ma-qañud.

5. PM *bəʔət* 'heavy', K *bəhət* 'heavy' (expected ***bələt*) from Malay *berat* 'heavy'; cf. PMP *bɛRɛqat. The origin of PR *bənəg (> R *bənək*, L *bənək* 'heavy') is unknown.

6. PMP *ajeŋ > PR *araŋ (R *dɑ̊aŋ*) 'charcoal' (expected ***agəŋ*) from Malay *arang*.

7. PMP *tawad > PR *tawər (K *tawəh*) 'haggle' (expected ***tawət*) from Malay *tawar*.

2.4 CHANGES AFFECTING PMP VOWELS IN PROTO-REJANG. The PMP inventory of four vowels (*i, *u, *a, *ɛ [ə]) evolved into a seven-vowel system in PR by the addition of PR *o and *ä (low front unrounded) plus a new phoneme PR *e introduced by early borrowing (see section 5). It is interesting that no new diphthongs developed between PMP and PR. Nineteen vocalic changes separating PMP and Proto-Rejang (PR) are illustrated in this section (2.4) followed by discussion (2.5). Rawas and Kebanagung dialect evidence is especially prominent in this section for reasons given in section 2. (See section 3 for seventeen additional vocalic changes separating PR from contemporary Rawas.)

2.4.1 PR reflexes of PMP *a (= 7). PMP *-a is reflected as zero and six PR vowels (all except *ɛ), namely: *a, *ä, *i, *o, *u, and *ə. The changes were conditioned by the accent in every case, but the accent pattern is presumed to have changed from an earlier one of a Malay type to the contemporary pattern. [11]

11. In early pre-Rejang, the accent fell on the final syllabic when the penult was schwa; otherwise on the penult. See McGinn (1997, 2000).

2.4.1.1 Vocalic changes reconstructed for early pre-Rejang and conditioned by Malay-type accent

1. *a > Ø *qaCV:CV(C) (prepenultimate *V unstressed)
*ma-V:CV(C) (prepenultimate *V unstressed)

The prepenultimate sequence PMP *qa- disappeared regularly. Moreover, in PMP affixes *mi-, *um- (for which see below), and *ma-, the vowel disappeared before a base-initial vowel.

PMP *qapeju > PR *pəgu: > R *pəgəw*
PMP *ma-iRaq > PR *milaʔ > P *miləaʔ* 'red'

Appendix: 136, 146, 149, 150, 172, 200, 202, 221

2a. *a > *ə *CaCV:CV(C) (prepenultimate *V unstressed)

PMP *baqeRu > PR *bəlu > R *bələw* 'new'

Appendix: 17, 28, 29, 40, 130, 136, 145, 149, 173, 200, 226

More generally, prepenultimate PMP *a, *i, and *u became PR *ə except where schwa syncope (2.3.1 [14]) applied first.

PMP *tuqelaN > PR *təlan > R *təlan* 'bone'
PMP *tinaqi > PR *tənuy > R *tənuy* 'intestines'

To anticipate somewhat, two other cases of schwa syncope bled prepenultimate neutralization of PMP *i and *u.[12]

PMP *tupelak > *tuplak > PR *tulak > R *tulaʔ* 'push
PMP *timeRaq > *timRaq > PR *timaʔ > R *timah* 'tin'

2b. *a > *ə *-V:CaC[-velar] (ultimate *a unstressed)

PMP *bulan > bu:lən > PR *bulə:n > R *bulən* 'moon'
PMP *anak >*a:nak > PR *ana:k > R *anaʔ* 'child'
PMP *takebas > *təba:s > PR *təba:s > R *təbas* 'clear-cut'
PMP *daqan >*dan > PR *dan > R *dan* 'branch'

Appendix: 3, 43, 46, 47, 57, 59, 60, 69, 81, 88, 97, 98, 104, 110, 115, 123, 117, 136, 139, 145, 150, 164, 166, 167, 168, 180, 193, 204, 213, 215, 219, 225, 226, 229, 234, 238, 239, 246, 253, 256; see section 2.4.6.1 for discussion

2c. *a > *ə *-VCa (all vowels unstressed in function words; see 3.3)

PMP *(k)ita > PR *itə > R *itə* 'IPL.INCL'
PMP *ni-a > PR *nə > R *nə* '3SG (AGT-POSS)'
PMP *duha > pre-Rejang *du:ə

Appendix: 113, 156

See 3a. below for further changes affecting content words, and section 3.3 for pronouns and other function words.

2.4.1.2 Vocalic changes reconstructed for late pre-Rejang and conditioned by contemporary accent

3a. *-a > *-ə > *-ə: > *i: (last step applied to output of 2c)

	1 *-V:Ca	> 2 *-V:Cə	> 3 *-VCə:	> 4 *-VCi:	
PMP	*duha	> *du:ə	> *duə:	> PR *dui:	> K *dui* 'two'
PMP	*tuqa	> *tu:ə	> *tuə:	> PR *tui:	> K *tui* 'old'
PMP	*buŋa	> *bu:ŋə	> *buŋə:	> PR *buŋi:	> K *buŋi* 'flower'

Appendix: 49, 72, 130, 140, 159, 238

12. Blust (1982) describes a similar process of syllable reduction in the history of Malay.

Outcomes 2b, 2c, and 3a are obviously closely related. When described together, they bring several issues into focus, including the following. (i) 1st Stress Shift to Malay-type pattern; (ii) 2nd Stress Shift to contemporary pattern; (iii) neutralization of unstressed vowels; (iv) strengthening (eventual diphthongization) of stressed vowels; and (v) nonparticipation of grammatical function words (=clitics) in vocalic strengthening rules. Tables 8a and 8b display the skeletal history just described. Crucially for the theory developed here and in McGinn (1997), word-level stress (accent) is assigned metrically within the disyllabic base; thus monosyllables like *ba* were exempt (see 4.3). Stressed vowels are represented by a colon. The crucial step is underlined in table 8a. Under the influence of the reconstructed Malay-type accent in early pre-Rejang, word-final vowels were stressed when the penultimate vowel was *ə (schwa); otherwise the penultimate vowel was stressed. These assumptions underlie the following derivation of the Rawas diphthong *əy* from PR *i and PMP *-a.

PMP				PR		Rawas
*-a	> -ə	> -ə:	>	-i:	>	əy
|	|	|		|		|
(accent unknown)	unstressed	stressed		stressed		stressed

First, unstressed *-a regularly became *ə (schwa). Then, after the accent shifted (in late pre-Rejang), stressed *-ə: became *-i and later (after dialect split) became *əy* in Rawas (3.2). The reason the pronoun *itə ~ tə* escaped diphthongization is that all function words (including pronouns) behaved like unstressed or destressed clitics in Proto-Rejang, hence systematically escaped the earliest vocalic changes affecting stressed vowels. See McGinn (1997) and 2.4.6.1 below.

These same themes also come into play in the PR outcomes of 2b., as shown in table 8b. Again the major issue concerns the conditions for neutralization of unstressed reflexes of PMP final-syllable **a*—in this case, when the final syllable was closed (final -C is nonvelar); it did not affect stressed vowels (**təba:s*) nor monosyllables, which bear no metrical stress at all. Again, the crucial step is underlined in table 8b. The unity of the processes displayed in tables 8a and 8b was expressed as a single formula in McGinn (1997), and remains valid after reviewing the Rawas data. See 2.4.6.1 and 4.2.2.

3b. *a > *i *-aCi: (*a unstressed)

PMP *talih > *ta:li > PR *tili: > R *tilәy* 'rope'

Appendix: 38, 40, 258

TABLE 8A. TWO STRESS SHIFTS IN RELATION TO THREE REGULAR PR OUTCOMES FOR PMP **-a* IN OPEN FINAL SYLLABLES

PMP (accent unknown)	*teka	*ba	*(k)ita	*duha
Early pre-Rej (Malay-type accent)	*təka:	*ba	*itə	*du:ə
Late pre-Rej (contemporary accent)	*təka:	*ba	*itə	*duə:
Proto-Rejang	*təka:	*ba	*itə	*dui:
Contemporary Kebanagung	təko	ba	itə	dui
Contemporary Rawas	təkaw	ba	itə	duəy
	'come'	'EMPHATIC'	'IPL.INCL'	'two'

4. *a > *u *-aCu: (*a unstressed)

   PMP *sapu > *sa:pu > PR *supu: > R *supəw* 'broom'

   Appendix: 52, 119, 247

5. *a > *o *-aCu:C (*a unstressed)

   PMP *manuk > PR *mono:k > R *monoʔ* 'chicken'

   Appendix: 70, 71, 148, 149, 191, 205

6. *a > *ä *-aCi:C (*a unstressed)

   PMP *laŋit > * la:ŋit > PR *läŋä:t > R *läŋät* 'sky'

   Appendix: 25, 26, 124, 144, 188

7. *a > *a Elsewhere, PMP *a was retained as PR *a.

Two noteworthy retentions of PMP *a concern (i) monosyllables such as PMP *ba, and (ii) "oxytone" bases with open final syllables, such as PMP *təka. Such forms regularly retained *-a in PR (table 8a above); after dialect split PR *-a was retained in monosyllables (all dialects), but *-a became *aw* in Rawas disyllabic bases (corresponding to *-o* in the other dialects—perhaps with *aw as intermediate step).

PMP *teka > PR *təka: > Kebanagung *tako* = R *takaw* 'come'
PMP *ba > PR *ba > Kebanagung *ba* = R *ba* 'emphatic particle'

Appendix: 106, 128, 190, 218, 224, 233; cf. 56

2.4.2 PR reflexes of PMP *e (schwa) (= 5). PMP *e [ə] is reflected as zero and four PR vowels, namely: *a, *o, *ä, *ə.[13] The changes occurred in late pre-Rejang and were conditioned by the contemporary accent. In all contemporary Rejang dialects (hence PR) the accent falls predictably on the final syllabic vowel of the word.

1. *e [ə] > Ø *əCV:C (schwa unstressed)

   PMP *emis > *əmi:s > PR *mis > Rawas *mis* 'sweet'
   PMP *mi-hepi > *mi-əpi: > PR *mipi > Rawas *mipəy* 'dream'

   Appendix: 146, 147, 167

2. *e [ə] > *a *-VCə:C (schwa stressed)

   PMP *taneq > PR *tana:ʔ > R *tanah* 'earth'

   Appendix: 135, 211; cf. 78, 252

3. *e [ə] > *o *-əCə:C[+velar] (schwa stressed)

   PMP *tektek > PR *təto:k > Rawas *tətoʔ* 'chop, hack'
   PMP *wahiR > *wəyəR > *wəyoR > PR *biol* > Rawas *biol* 'water'

   Appendix: 80, 223, 227; see 2.4.6.4 for discussion

TABLE 8B. TWO STRESS SHIFTS IN RELATION TO TWO REGULAR PR OUTCOMES FOR PMP *-*a* IN CLOSED FINAL SYLLABLES

PMP (accent unknown)	*hasap	*anak	*daqan	*takebas
Early pre-Rej (Malay-type accent)	*a:səp	*a:nak	*dan	*təba:s
Late pre-Rej (contemporary accent)	*asə:p	*ana:k	*dan	*təba:s
Proto-Rejang	*asə:p	*ana:k	*dan	*təba:s
Contemporary Kebanagung	asə:p	ana:k	dan	təba:s
Contemporary Rawas	asə:p	ana:ʔ	dan	təba:s
	'smoke'	'child'	'branch'	'clear-cut'

13. PMP *-e (schwa) did not occur word-finally.

4. *e [ə] > *ä *-iCə:C[–velar] (schwa stressed)

PMP *ipen > PR *äpä:n > R *äpän* 'tooth'

Appendix: 14, 15, 16, 86, 131, 143; see 3.2.1 for discussion.

5. *e [ə] > *ə (elsewhere)

PMP *bales > PR *balə:s > R *bələs* 'reply'
PMP *lesuŋ > PR *ləsu:ŋ > R *ləsuŋ* 'mortar'

2.4.3 PR reflexes of PMP *i (= 4). PMP **i* is reflected as zero and three PR vowels, namely: *ä, *ə, *i. The changes were conditioned by the accent in every instance.

2.4.3.1 Vocalic changes reconstructed for early pre-Rejang and conditioned by Malay-type accent

1a. *i > *ə *CiCV:CV(C) (prepenultimate *V unstressed)

PMP *tinaqi > *tənaqi > *tənai > PR *tənuy > R *tənuy* 'intestines'
cf. PMP *timeRaq > *timRaq > PR *timaʔ > P *timəaʔ* 'tin'

Appendix: 3; see 2.4.1 for discussion

2.4.3.2 Vocalic changes reconstructed for late Pre-Rejang and conditioned by the contemporary accent

1b. *i > ə *CiCV:(C) (*i unstressed)

PMP *lima > PR *ləma: > R *ləmaw* 'five'
PMP *silun > PR *səlo:n > K *səlon* 'claw'
PMP *gilap > PR gələ:p > P *gələp* 'flash'

Appendix: 81, 128, 199; see Blust (1984:437) and below n. 18

2. *i > *ä *-aCi:C (*i stressed)

PMP *laŋit > PR *läŋä:t > R *läŋät* 'sky'

Appendix: 25, 26, 124, 144, 188; see 2.4.6.3 for discussion

3. *i > Ø niV (all vowels unstressed in function words)

PMP *ni-a > *na > PR *nə > R *nə* '3SG (AGT-POSS)'
PMP *ni-hu > *niu > PR *nu > K *nu* '2SG (AGT-POSS)'

See 3.3 for discussion.

2.4.4 PR reflexes of PMP *u (= 4). PMP *u is reflected as zero and three PR vowels, namely: *o, *ə, *u. *The* changes were conditioned by the accent in every instance.

2.4.4.1 Vocalic changes reconstructed for early pre-Rejang and conditioned by Malay-type accent

1. *u > Ø *uCV:CV(C) (prepenultimate *V unstressed)

PMP *um-imem > PR *minəm > K *menem* 'drink'

Appendix: 143, 150; see 2.4.11

2. *u > *ə *CuCV:CV(C) (prepenultimate *V unstressed)

PMP *tuqelaN > PR *təla:n > Rawas *təlan* 'bone'

Appendix: 219; see 2.4.1 for discussion

2.4.4.2 Vocalic changes reconstructed for late pre-Rejang and conditioned by the contemporary accent

3a. *u > *o *-aCu:C (*u stressed)

PMP *manuk > PR *mono:k > R *monoʔ* 'chicken'

Appendix: 70, 71, 148, 149, 191, 205

3b. *u > *o *-i(C)uC[+velar]

PMP *ikuR > PR *iko:l > K *ikoa* 'tail'
PMP *niuR > *nio:R > PR *niol > R *niol* 'coconut'
Appendix: (84), (157); cf. also (87)

4. *u > *u (elsewhere)

PMP *kamu > PR *kumu > R *kuməw* '2SG.HON' (3.2.3)
PMP *sapu > PR *supu: > R *supəw* 'broom' (3.2.3)
PMP *lesuŋ > PR *ləsu:ŋ > R *ləsuŋ* 'mortar'
PMP *buhek > PR *buk > R *buʔ* 'head hair'
PMP *quzan > PR *uzən > R *ujən* 'rain'

2.4.5 Low-frequency vocalic changes and other residues. Although low-frequency changes may be inappropriate to describe in terms of a "regularity hypothesis," they may be viewed as typologically characteristic of the language in question. This section lists a number of analytic residues, including cases wherein early changes triggered re-syllabification in Proto-Rejang.

1. The mid front vowel PR **e* is not derivable from PMP. It is assumed to have existed in PR as an early borrowing from unknown sources. More generally, accounting historically for the contemporary contrast between *e* and *ä* in Rawas is a major problem discussed in 5.0.

2. A number of cases of vowel coalescence followed the loss of PMP intervocalic laryngeals.

2a. Intermediate *CaiC > PR *CäC or *CəyəC

PMP *paqit > *pait > PR *pät > R pät (=PLMK pet) 'bitter'.
PMP *nahik > *naik > PR *näk > R *näʔ* = PLM *neʔ* = K *nek*) 'climb'

However, in at least one other example *CaiC > CəyəC (Blust 1984:429).

PMP *wahiR > *waiR > *wəyəR > *wəyoR > PR *biol > R *biol* 'water'
cf. PMP *lain > PR *lain > Pesisir *lain* 'other'

Note that parallel changes did not affect *CauC.

PMP *taqun > PR *taun > PLMK *taun* 'year' (R *ton*)
PMP *lahud > PR *laut > R *laut* 'sea'
PMP *daun > PR *daun > R *daun*

2b. Intermediate *Cau > PR *Co

PMP *kahu > *kau > PR *ko > PLMK *ko* '2SG' pronoun

Later in Rawas, PR *ko underwent lexical replacement by *kabən*. (See 3.3.2.)

2c. Intermediate *Cai > PR *Cuy

PMP *bahi > *bai > PR *səla-wuy > R *səlawuy* 'woman'
PMP *tinaqi > *tinai > PR *tənuy 'stomach'. See 2.1.3.
cf. PMP *ay regularly became *uy (2.2)

3. Two words ending with diphthongs underwent different vocalic changes than words ending with simple consonants:

3a. PMP **kahiw* > **kaiw* > PR *kiiw > Rawas *kiiw* 'wood' (not ***käw*) contrasts with the regular outcome for intermediate CaiC.

3b. PMP **hapuy* > **apuy* > PR *upuy > Rawas *upuy* 'fire' (not PR ***opoy*) contrasts with the regular outcome for intermediate *CaCuC > CoCoC, as with *manuk > PR *monok 'chicken'. See discussion of vowel harmonization in 2.4.6.

4. Another gestalt condition triggered *u-Lowering (McGinn (1997:82).

*u > o /iC__C [+velar]# where [+velar] = reflexes
| of PMP velars and *R
[-stress]

This rule accounts for PR *o from PMP *u in the following outcomes.

PMP	PRE-REJ	PR	MUSI	P&L	KEB	RAWAS	
—	*i:ndok	*iñok	*iñoʔ*	*iñoʔ*	*iñok*	*iñoʔ*	‘mother’
*biluk	*i:lok	*ilok	*iloʔ*	*iloʔ*	n.c.	*beloʔ*[14]	‘turn, veer’
*niuR	*ni:oR	*niol	*nioa*	*nioa*	*nioa*	*niol*	‘coconut’

Elsewhere in the same environment PMP *u is reflected as PR *u, as with PMP *buRuk > PLMK *buʔuʔ* ‘decayed’; PMP *lesuŋ > PR *ləsuŋ (R *ləsuŋ* ‘mortar’.

The rule presumably occurred in early pre-Rejang, hence the GC included the Malay-type accent. Thus, unstressed ultimate *u was lowered to o when preceded by high front *i and followed by a velar or *R and word boundary. The change involved a degree of “action at a distance,” because *u was affected only when the (stressed) penult was *i.[15] See McGinn (1997, table 7) for discussion.

5. The PMP end-rhyme *-*el* became PR *-*al* in the only known example.

PMP	PR	PLM	KEB	RAWAS	
*gatel	*gatal	*gata*	*gata*	*gatal*	‘itch’

6. The PMP end-rhyme *-ej was retained as PR *-əj in the only known example. In contrast, a parallel end-rhyme, namely PMP *-eq, regularly became PR *-aʔ.

	PMP	PR	PLM	KEB	RAWAS	
	*lalej	*daləj	*dalək*	*daləg*	*dalət*	‘housefly’
cf.	*taneq	*tanaʔ	*tanəɑʔ*	*tanah*	*tanah*	‘earth’

7. PMP *-a is irregularly reflected as PR *-a (expected *-i) in one form: PMP *dada > PR *dada ‘chest; breast’.

2.4.6 Discussion: Toward “perfect” harmony in the Proto-Rejang lexicon. All Rejang dialects exhibit a high degree of vowel harmony in the lexicon. Yet the degree of vowel harmony may have been greater at an earlier stage between PMP and PR, called pre-Rejang in McGinn (1999). In this paper, the middle ground is occupied by Proto-Rejang, where two systems of vowel harmony split the lexicon:

System A [non-*a]			System B [based on *a]
*i		*u	
*e	(*ə)	*o	(*ə)
			*a

Note that *any* change producing schwa within the disyllabic word-base automatically harmonized it, because schwa was—and is—the neutral vowel (thus equally at home in system A or system B); and also because all prepenultimate vowels (affixal vowels, for example) were schwa in PR, as in contemporary dialects. Note, too, that whereas harmonization of PMP *a-i and *a-u vowel pairs as PR *u-u or *o-o and *ä-ä or *i-i, respectively, affected previously unharmonic vowel pairs, other PMP vowel pairs were

14. Rawas *beloʔ* is borrowed from Malay *belok* ‘turn’.
15. Penult *i > *e* when adjacent to *(ə)l is probably regular. Cf. *silun > *səlon* ‘claw’; *gilap > giləp > *gələp* ‘flash’; *lima > *ləmo* ‘five’.

in effect "preharmonized" (e.g., PMP and PR *a-a, *u-i, *u-ə, *i-ə, *ə-u, among others); moreover, other PMP vowel pairs underwent vocalic shifting without thereby failing to contribute to the emerging harmony of the lexicon, including two vocalic dissimilation changes. Thus the outcomes of PMP *ə-əC[+velar] > PR *ə-o (e.g., PMP *təktək > PR *tətok 'chop, hack') and PMP *i-uC[+velar] > *i-oC (e.g., PMP *niuR > PR *niol 'coconut') satisfied system A.

Readers can satisfy themselves with respect to the degree of vowel harmony of the reconstructed PR lexicon by simply perusing the appendix, where it will be noticed that a substantial set of unharmonic PR forms reflect PMP *-a as *-i (e.g., *mati from PMP *mata 'eye'). But the members of this set derive from etyma that were harmonized earlier, such as pre-Rejang *matə. We turn to this topic next.

2.4.6.1 From PMP to early pre-Rejang: Some early vocalic changes. Probably the earliest set of changes leading to vowel harmony effectuated neutralization of last-syllable PMP *a in open and closed syllables. In particular, after the shift to the Malay-type stress pattern, last-syllable PMP *-a and *-aC became *-ə and *əC, respectively. Although the conditions are complex in both cases, they can be captured by a single formula (McGinn 1997). First, consider each change individually.

(i) *-V:CaC[-velar] > *-V:CəC[-velar]
PMP *quzan > pre-Rejang *u:zən 'rain' (table 8b above and table 9b below)

(ii) *-V:Ca > *-V:Cə
PMP *mata > pre-Rejang *ma:tə 'eye' (table 8a above and 2.4.1)

When the final syllable was closed, the change failed to occur under the following conditions: when *a was stressed (as in intermediate pre-Rejang *təba:s 'clear-cut'); when *a stood alone in a monosyllable (where the concept of word-level stress differentiation is theoretically vacuous, as in pre-Rejang *dan 'branch'); and when the final consonant was velar (pre-Rejang *a:nak) (see table 9b). When the final syllable was open, on the other hand, as in PMP *mata, the change failed to occur under the following conditions: when *a was stressed (as in pre-Rejang *təka:); and when *a was preceded by a consonant cluster (as in pre-Rejang *ti:mba) (see table 9a). These effects can be represented in the following formula (repeated from McGinn 1997:75).

$$*a > ə \,/\, -V(C)\underset{|}{\_\_\_}(C[\text{-velar}])\#$$
$$[\text{-stress}]$$

(Malay-type accent)

In table 9b, sets B and C indicate that the change did not occur when the word-final consonant reflected a PMP velar; recall that PMP *q was a voiceless back velar stop (Blust 1991b); hence the forms in set C were excluded (after dialect split the vowel diphthongized in PLM but not K&R [3.2.3.1]). Sets D and E indicate that monosyllables and "oxytones" regularly escaped the change, for reasons of the accent. Thus, given the Malay-type pattern at the time the change occurred, the etyma in set E were accented on the ultimate vowel in pre-Rejang; therefore the change did not apply. As for set D, the change did not affect monosyllables, which

lack metrical (word-level) accent (4.2). Note that *təbaŋ* falls in two sets: set B by virtue of the final consonant and set E by virtue of the penult vowel.

2.4.6.2 Interlude: Rule order vs. rule complementation. McGinn (1997:71) argued that syllable-reduction rules producing monosyllables (e.g., K *dan* from PMP *daqan) and oxytones (e.g., K *tələn* from *tuqelaN) must be ordered before the merger of PMP *-aC and *-əC as PR *-əC. The Rawas data support this analysis without exception. Even more interestingly, the partial merger in question was complemented by other changes discussed in 3.2.1 and 4.2.2. Notably, the vowel assimilation process that produced PMP *qutek > K *otok* 'brain' was restricted to etyma ending with reflexes of PMP and PR velars *k and *j *in all dialects except Rawas*, which underwent a different set of changes. The Rawas evidence is conclusive that harmonization of PMP *qutek > M *otoʔ*

TABLE 9A. PARTIAL MERGER OF PMP *a AND *e AS PR *ə WHEN THE FINAL SYLLABLE WAS OPEN

PMP	PRE-REJ	PR	PES	LEB	MUSI	KEB	RAWAS	
*duha	*du:ə	*dui:	duay	duay	duəy	dui	duəy	'two'
*mata	*ma:tə	*mati:	matay	matay	matəy	matəy	matəy	'eye'
*teka	*təka:	*təka:	təko	təko	təko	təko	təkaw	'come'
*timba	*ti:mba	*tim̄a:	tim̄o	tim̄o	tim̄o	tim̄o	tim̄aw	'pail'

Appendix: 17, 28, 45, 49, 72, 106, 128, 130, 156, 159, 190, 197, 202, 216, 218, 224, 233, 238

TABLE 9B. PARTIAL MERGER OF PMP *a AND *e AS PR *ə WHEN THE FINAL SYLLABLE WAS CLOSED

	PMP	PR	PES	LEB	MUSI	KEB	RAWAS	
A	*qasep	*asəp	asəp	asəp	asəp	asəp	asəp	'smoke'
	*panas	*panəs	panəs	panəs	panəs	panəs	panəs	'hot'
	*taŋan	*taŋən	taŋən	taŋən	taŋən	taŋən	taŋən	'hand'
	*quzan	*uzən	ujən	ujən	ujən	ujən	ujən	'rain'
B	*anak	*anak	anaʔ	anoʔ	anaʔ	anak	anak	'child'
	*hawak	*awak	awaʔ	awoʔ	awaʔ	awak	awak	'body'
	*panzaŋ	*pañaŋ	pañaŋ	pañaŋ	pañaŋ	pañaŋ	pañaŋ	'long'
	*hisaŋ	*isaŋ	isaŋ	isaŋ	isaŋ	isaŋ	isaŋ	'gills'
	*təbaŋ	*təbaŋ	n.d.	təbaŋ	təbaŋ	n.d.	təbaŋ	'fell (tree)'
C	*daRaq	*dalaʔ	daləaʔ	daləaʔ	daləaʔ	dalah	dalah	'blood'
	*dilaq	*dilaʔ	diləaʔ	diləaʔ	diləaʔ	dilah	n.c.	'tongue'
	*ma-iRaq	*milaʔ	miləaʔ	miləaʔ	miləaʔ	n.c.	n.c.	'red'
	*Rumaq	*(r)umaʔ	uməaʔ	uməaʔ	uməaʔ	umah	umah	'house'
D	*hikan	*kan	kan	kan	kan	kan	kan	'fish'
	*daqan	*dan	dan	dan	dan	dan	dan	'branch'
	*hepat	*pat	pat	pat	pat	pat	pat	'four'
	*qayam	*yam	yam	yam	yam	yam	yam	'toy'
E	*tebaŋ	*təbaŋ	n.d.	təbaŋ	təbaŋ	n.d.	təbaŋ	'fell (tree)'
	*takebas	*təbas	təbas	təbas	təbas	təbas	təbas	'clear-cut'
	*tuqelaN	*tələn	tələn	tələn	tələn	tələn	tələn	'bone'

Appendix: 3, 18, 22, 27, 32, 43, 46, 47, 57, 59, 60, 79, 88, 96, 104, 105, 117, 123, 139, 150, 151, 164, 166, 168, 180, 193, 195, 204, 207, 213, 215, 219, 225, 226, 229, 234, 235, 239, 246, 253, 256

occurred later than *-aC > *-əC, and therefore (as argued on independent grounds in earlier work), rule ordering ('bleeding order') is not a possible explanation for the failure of examples such as PMP *bulat > PR *bulət 'round' and PMP *quzan > PR *ujən 'rain' to become harmonized as unattested ***bolot* and ***ojon* in Kebanagung, Musi, Lebong, and Pesisir. This argument is developed fully in 4.2.2.

2.4.6.3 Second stress shift and vowel harmony. Some GCs contrast solely in terms of whether the final syllable is open or closed. As recognized by Blust (1984), PMP vowel pairs *a-i and *a-u evolved differently in CVCV and CVCVC canons. See examples 5 and 6 of table 3 and, in 2.4.1, changes 3b. and 4. In CVCV morphs, the PMP vowel pairs *a-u and *a-i became PR *u-u and *i-i prior to diphthongizing the final vowels (see 3.2.4 below). Schematically:

2nd Stress Shift	-V:-V- > -V-V:-	
*a Harmonization	a-u: > u-u:	*sapu: > *supu: 'broom'
	a-i: > i-i:	*tali: > *tili: 'rope'
Diphthongization (de-Harmonization)		*supu: > *supaw* 'broom' (P&L)
		*tili: > *tilay* 'rope' (P&L)
		*supu: > *supəw* (MKR)
		*tili: > *tiləy* (MKR)

By contrast, in CVCVC morphs the same PMP vowel pairs became PR **o-o* and **ä-ä*, respectively, as shown in 7 and 8 of table 3 and, in 2.4.1, 5. and 6. Schematically:

2nd Stress Shift	-V:-V- > -V-V:-	
*a shift/backing	*-aCu:C > *-ɔCu:C	*manu:k > *mɔnu:k 'chicken'
*a shift/fronting	*-aCi:C > *-ä:CiC	*laŋi:t > *läŋi:t 'sky'
Harmonization	CɔCu:C > CoCo:C	*mɔnu:k > mono:k 'chicken'
	CäCiC > CäCäC	*läŋi:t > läŋä:t 'sky'

2.4.6.4 Dissimilation without deharmonization. Two rather similar rules called **u* Lowering and *ə Backing in McGinn (1997) introduced further instances of PR mid back **o*. Both involved dissimilation; however, unlike later instances of dissimilation, the outcomes satisfied vowel harmony system A (see 2.4.6).

		PMP	pre-Rej	
*u Lowering:	*-i:CuC[+velar] > *-iCɔC	*ikuR	*i:koR	'tail'
		PMP	PR	
*ə Backing:	*-ə-ə:C[+velar] > ə-oC	*tektek	*təto:k	'chop'

*u Lowering was conditioned by the Malay-type stress pattern (see 2.4.6). *ə Backing presumably applied later because it affected stressed schwa. Evidence for *ə Backing is shown in table 10.[16] Note how *ə Backing affected set A but not B in table 10.

16. Table 10 is adapted from McGinn (1997, table 14) with Rawas data added.

Given the vowel-pair PMP *e-e* (both schwa), **ə* Backing changed (backed) the stressed member when followed by a PMP velar (PMP **R* was presumably velar). The velarity condition explains the failure of the change to affect the forms in set B.

3. FROM PROTO-REJANG TO CONTEMPORARY RAWAS Much of Rawas's linguistic history has already been accounted for in the previous sections; this is inevitable given the methodological convenience of illustrating our reconstructed PR using Rawas evidence wherever possible (section 2). Moreover, apart from minor advancements noted in 4.1 below, the history of the other dialects is well known from previous studies (Blust 1984; McGinn 1997; 4.2 below). What remains to be accounted for are just the special features of Rawas, that is, the systematic exceptions to patterns of continuity and change in the other dialects. The following changes occurred in Rawas (and only Rawas) after dialect split.

- Diphthongization of final *i and *u in grammatical function words (3.3; 4.2).
- Change of PMP/PR *-j > *t* bleeding **u-ə* harmonization (3.2.1).
- Retention of PR *-l "bleeding" diphthongization of the tautosyllabic vowel (3.2.3.1).

In addition, Rawas shares the following with Kebanagung.

- Borrowing (from Malay) of word-final *-h* (replacing PR **-ʔ* from PMP **-q*) accompanied by systematic failure of tautosyllabic vowels to diphthongize (3.2.3.1).

These four developments are described under two topics: harmonization of the PMP/PR sequence **uCe* in all dialects except Rawas, and diphthongization of PMP/PR final vowels. These topics are definitive of the Rejang language typologically, and are the major sources of dialect diversity. In particular, as noted in 1.0, Rawas's conservatism plays a major role in the description. To properly interpret some changes in the other dialects, it is always helpful—and sometimes necessary—to know what happened in Rawas.

3.1 SUMMARY OF PROTO-REJANG OUTCOMES IN RAWAS. For Rawas diphthongs from PR diphthongs, see 2.2; for Rawas consonants from PR consonants, see 2.3. The remainder of this section is devoted to the Rawas reflexes of PR vowels. The seven vowels of PR are reflected as 17 regular outcomes in Rawas, resulting in seven vowels and eight (new) diphthongs, summarized in table 11.

The following vocalic developments in Rawas are the unexplained residues of the analysis presented in this paper.

TABLE 10. EVIDENCE FOR **ə* BACKING

	PMP	PRE-REJ	PR	PLM	KEB	RAWAS	
A	*deŋeR		*daŋo:R*	*təŋoa*	*təŋoa*	n.c.	'hear'
	*pegeŋ		*pəgo:ŋ*	*goŋ*	*goŋ*	*goŋ*	'hold'
	*tektek	*tətək	*təto:k*	*tətoʔ*	*tətok*	*tətok*	'chop, hack'
	*wahiR	*wəyəR > wəyoR	*bio:l*	*bioa*	*bioa*	*biol*	'water'
B	*peRes		*pərə:s*	*pəʔəs*	n.c.	n.c.	'squeeze'
	*genep		*gənə:p*	*gənəp*	*gənəp*	*gənəp*	'complete'
	*gilap	*gələp	*gələ:p*	*gələp*	*gələp*	n.c.	'flash'
	*bener	*bənə:r	*bənə:a*	*bənəa*	*bənəh*	*bənəa*	'true'
	*tawed	*tawə:r	*tawə:a*	*tawəa*	*tawəh*	*tawəa*	'haggle'
	*libeR	*libə:r	*libə:a*	*libəa*	*libəh*	*libəa*	'wide'

1. Rawas *pokot* 'fish trap' (K *pukət*); expected ***pukət* from PR *pukət; see 3.2.2 for discussion. Other Rawas words showing vowel harmony unattested in the other dialects (and without clear conditions) are PR *kidek > R *kedeʔ* 'evil'; PR *kəʔiŋ > R *kiʔiŋ* 'dry'; PR *bəʔuʔ > R *buʔuʔ* 'ape'.

2. Rawas *mouy* 'crocodile' (K *buaəy*); expected ***buuy* from PR *buuy.

3. Malay influence may account for the following irregular vocalic outcomes in Rawas: (a) R *tandə* 'sign' (cf. PR/PMP *tanda 'sign'); expected R ***tandaw* (K *tando*); see table 14; probable source: Besemah Malay; (b) R *kait* 'fish hook'; also K *kait* (cf. PMP *kawit, PR *käwät 'hook'); expected R ***käwät* (P *kewet*); (c) all dialects including Rawas *tokot* 'staff, cane' (cf. PMP *tuŋked 'staff, cane'); expected ***tukət* (all dialects); see 3.2.2 for discussion.

3.2 PATTERNS OF VOCALIC CHANGE IN RAWAS. After dialect split, gestalt conditions (GC—see 1.5) continued to play a role in vocalic change in Rawas. In particular, all vocalic changes were conditioned by the contemporary accent. It is important to bear in mind that the accent, being predictable on the final syllable of the word, does not appear in the phonemic representations (see 1.3.3).

As mentioned in section 3, two classes of vocalic change having unique effects in Rawas were (i) diphthongization of vowels (which affected each dialect in different ways); and (ii) harmonization of the PMP/PR vowel-pair *u-ə (which affected four of five dialects—all except Rawas). Let us begin with the latter, which is particularly striking for the way in which the Rawas evidence sheds light on the other dialects.

TABLE 11. REGULAR DEVELOPMENT OF VOWELS AND DIPHTHONGS IN RAWAS

		SEC.	RAWAS DEVELOPMENT	KEBANAGUNG COGNATE
PR *a (2)	*-a > aw	3.2.3	PR *təka > *təkaw* 'come'	(cf. K *təko*)
	*a > a	2.4.1	PR *mati > *matəy* 'eye'	(cf. K *matəy*)
PR *ə (3)	*ə > əa	3.2.3	PR *bənər > *bənəa* 'true'	(cf. K *bənəh*)
	*ə > a	3.2.1	PR *utək > *utaʔ* 'brain'	(cf. K *otok*)
	*ə > ə	3.2.1	PR *pusəj > *pusət* 'navel'	(cf. K *posog*)
		3.3.2	PR *itə > *itə* 'IPL.INCL'	(cf. K *itə*)
PR *i (5)	*i > əy	3.2.3	PR *tili > *tiləy* 'rope'	(cf. K *tiləy*)
	*i > ia	3.2.3	PR *bibir > *bibia* 'lip'	(cf. K *bebea*)
	*i > ä	3.2.3	PR *piliʔ > *päläh* 'choose'	(cf. K *peleah*)
	*i > äy	3.3.2	PR *kimi > *kämäy* 'IPL.EXCL'	(cf. K *keme*)
	*i > i	—	PR *isi > *isəy* 'contents'	(cf. K *isəy*)
PR *u (4)	*u > əw	3.2.3	PR *supu > *supəw* 'broom'	(cf. K *supəw*)
	*u > ua	3.2.3	PR *ulur > *ulua* 'lower'	(cf. K *oloa*)
	*u > o	3.2.3	PR *puluʔ > *poloh* 'ten'	(cf. K *poloah*)
	*u > u	—	PR *ləsuŋ > *ləsuŋ* 'mortar'	(cf. K *ləsung*)
PR *o, *e, *ä (3)	*o > o		PR *monok > *monoʔ* 'chicken'	(cf. K *monok*)
(all retentions)	*e > e		PR *kidek > *kedeʔ* 'rotten'	(cf. K *kidek*)
	*ä > ä		PR *läŋät > *läŋät* 'sky'	(cf. K *leŋet*)
			PR *äpän > *äpän* 'tooth'	(cf. K *epen*)

3.2.1 Harmonization of PMP vowel pairs **u-e* and **i-e*. We return next to examples 9. and 10. of table 3. A complete display of the relevant data is provided in table 12, especially sets A and D. As indicated in sets A and D, the two harmonization processes operated in parallel in all dialects except Rawas, where *u-ə failed to harmonize.[17] This fact has clear implications for relative ordering of the two processes.

Before dialect split. As shown in sets A-C in table 12, the vowels in PMP/PR vowel-pair **i-ə* underwent mutual assimilation, becoming PR **ä-ä*, reflected as Rawas *ä-ä* and PLMK *e-e*, when the specific GC was met. The following schematizes the harmonization process.

PMP *-iCeC[–velar] > PR *-äCä:C[–velar]
where [–velar] = reflexes of PMP consonants *except* velars

After dialect split. As shown in sets D–E of table 12, in all dialects except Rawas the vowels in PMP/PR vowel-pair *u-ə underwent mutual assimilation, becoming PR *o-o, when the specific GC was met. The following schematizes the harmonization process.

PR *-uCə:C[+velar] > -oCo:C[+velar]
where [+velar] = reflexes of PMP velars and *-R (or PR *-r)

Set B of table 12 illustrates the claim that the final [+velar] consonant PMP *-R or PR *-r (both [+velar]) blocked harmonization of *i-ə. Thus PMP/PR *libəR did not undergo vowel harmonization because the etymon ended with *-R ([+velar]). Next, compare the outcomes for 'drink' in set A and 'borrow' in set

TABLE 12. HARMONIZATION OF PMP/PR **i-ə* AND **u-ə*

	PMP	PR	PLM	KEB	RAWAS	
A	*ipen	*äpän	epen	epen	äpän	'tooth'
	*isep	*äsäp	esep	esep	äsäp	'suck'
	*hiket	*äkät	eket	eket	äkät	'to tie'
	*um-inem	*minəm	menem	menem	n.c.	'drink'
B	*libeR	*libər	libəa	libəh	libəa	'wide'
	*pinzem	*piñəm	iñəm	iñəm	iñəm	'borrow'
	*lalej	*daləj	dalək	daləg	dalət	'housefly'
	*gilap	*giləp>*gələp	gələp	gələp	n.c.	'flash'
C	*kizep	*kijəp	sə-kijəp	kəndərijəp	kədip	'blink'
	*kilat	—	gələp	smitoa	kilət	'lightning'
	*tikam	*tujaq	tikəm	tujah	tujah	'to stab'
D	*pusej	*pusəj	posok	posog	pusət	'navel'
	*qulej	*uləj	olok	olog	ulət	'maggot'
	*qutek	*utək	otoʔ	otok	utak	'brain'
E	*puket	*pukət	pukət	n.c.	pokot	'dragnet'
	*bulat	*bulət	bulət	bulət	bulət	'round'
	*quzan	*uzən	ujən	ujən	ujən	'rain'
	*buhek	*buk	buʔ	buk	buʔ	'head hair'
F	*tuŋked	*tokot	tokot	tokot	tokot	'staff, cane'

17. Rawas *pokot* and *tokot* are exceptions (table 12).

B. Apparently, *i-ə harmonization was blocked by intervening consonant clusters (which eventually became postploded nasals (Coady and McGinn 1983, Blust 1997). Thus *iñəm* (all dialects) from PMP *p-inzem resisted harmonization in conformity with the rule (which allows for -C- but not -CC- between harmonizing vowels). Next, PR *daləj from PMP *lalej failed to harmonize because it had the wrong penult vowel (*a rather than *u or *i).

Set D of table 12 illustrates the parallel effects with respect to *u-ə harmonization in the harmonizing dialects (see 3.2.2). Notice that Rawas offers indirect evidence in support of McGinn's (1997) analysis of *u-ə harmonization. In particular, Rawas's nonparticipation in *u-ə > *o-o* harmony is predicted, given the fact that word-final PMP/PR *-j changed to Rawas *-t*. This change altered a crucial part of the gestalt; in particular, it changed the final consonant from [+velar] to [–velar], in effect bleeding the rule. By contrast, in the harmonizing dialects, the PMP/PR vowel-pair *u-ə underwent mutual assimilation as illustrated in sets D–F of table 12. Set D illustrates the change; set E illustrates the blocking effect of final nonvelar -C.

Here, as elsewhere in Rejang historical phonology, systematic exceptions seem to outnumber the forms undergoing a regular change. Thus the outcome for 'head hair' has a straightforward explanation, given that syllable reductions preceded all harmonization rules (McGinn 1997, 1999, 2000). Thus PMP *buhek was reduced to PR *buk before the harmonization schema could apply (accordingly, ***bok* is unattested). See 3.5.1 for discussion of the role played by rule ordering in the analysis. Another interesting case is PMP *gilap 'flash' > *gələp* in most dialects. This form must have been *giləp in pre-Rejang, and if so, it should have become unattested ***gelep* by *i-ə harmonization. The fact that it did not is explained by an earlier rule changing penult **i* > *ə* (cf. 3.2.1), which bled harmonization by altering relevant segments, in effect altering the gestalt. Therefore *gələp* may be regular. Finally, I assume that the exceptional outcomes in set C of table 12 were due to borrowing or analogy. In particular, the PLM words for 'stab' and the Rawas word for 'lightning' appear to be partly regularized borrowings from Malay *tikam* and *kilat*; and the various outcomes for 'blink' may have been influenced by morphology (but if so the mechanism is unclear).

3.2.2 Rawas *pokot* and *tokot*. The analysis is not without its problems stemming from the Rawas lexicon, however. Consider the Rawas outcomes *tokot* 'staff, cane' and *pokot* 'fish trap' (table 12 sets E and F). The anticipated outcomes are unattested ***tukət* and ***pukət,* parallel to R *bulət* 'round' and *ujən* 'rain'. Recall that the GC governing harmonization of the gestalt -uCə:C[+velar] predicts (falsely) that PR **pukə:t* should not harmonize, a prediction that is upheld by *pukət* in all dialects except Rawas.

McGinn (1997:85) accounted for PKM *pukət* as regular and for *tokot* as a borrowing from Malay *tongkat* that was then regularized in conformity with contemporary (synchronic) morpheme structure restrictions prohibiting (a) voiceless intervocalic nasal clusters and (b) penultimate mid-vowels paired with any vowel except the selfsame ultimate vowels (cf. Malay *topi* = Rejang *topong* 'western style hat') and many other examples. See 2.1.2. Perhaps Rawas *pokot* as well can be discounted as a Rawas borrowing from Malay *pukat*.[18]

3.2.3 Contemporary diphthongs from Proto-Rejang vowels. Table 13 shows every known diphthong type derivable from a simple vowel in contemporary Rejang. The diversity of the dialects is greatest in the manner in which diphthongs developed from vowels. This claim is amply illustrated in table 13, and underlies two related claims made in this paper, that (i) the majority of Rejang diphthongs developed after dialect split, and (ii) the only diphthongs in PR were derived from PMP diphthongs (2.2).

As table 13 shows, Rawas again proves the exception to broad tendencies in the postsplit vocalic development of the five dialects. Four observations are especially noteworthy: (i) in all dialects *except Rawas,* PR *-a regularly became *-o* corresponding to *aw* in Rawas (set A of table 13); (ii) whereas PR *-i and *-u regularly diphthongized in all dialects (set B), *only in Rawas* did the process become generalized to include pro-

TABLE 13. REJANG DIPHTHONGS REFLECTING PMP VOWELS

	PMP	PRE-R	PR	PES	LEB	MUSI	KEB	RAWAS	
A	1. *teka		*təka:	təko	təko	təko	təko	təkaw	'come'[a]
B	2. *isi		*isi:	isay	isay	isəy	isəy	isəy	'contents'[b]
	3. *mata	> matə	*mati:	matay	matay	matəy	matəy	matəy	'eye'[c]
	4. *duha	> duə	*dui:	duay	duay	duəy	dui	duəy	'two'[d]
	5. *si-ia		*si	si	si	si	si	səy	'3SG/PL'
	6. *kami		*kimi	keme	keme	keme	keme	kämäy	'1PL.EXCL'
C	7. *qulu		*ulu:	ulaw	ulaw	uləw	uləw	uləw	'head'[e]
	8. *aku		*uku	uku	uku	uku	uku	ukəw	'1SG'
	9. *kamu		*kumu	kumu	kumu	kumu	kumu	kuməw	'2HON'
D	10. *bibiR		*bibir	bibia	bibia	bɛbɛa	n.c.	bibia	'lips'
	11. *hiliR		*ilir	n.c.	n.c.	elea	ilih	n.c.	'upstream'
	12. *huluR		*ulur	ulua	ulua	oloa	uluh	ulua	'to lower'
	13. *qapuR		*upur	upua	upua	opoa	k-opoh	upua	'chalk'
	14. *niuR		*niol	nioa	nioa	nioa	nioa	niol	'coconut'
	15. *dapuR		*dopol	dopoa	dopoa	dopoa	dopoa	dopol	'hearth'
	16. *kawil		*käwäl	kewea	kewea	kewea	kewea	n.c.	'fishhook'
	17. —		*käkäl	kekea	kekea	kekea	kekea	käkäl	'foot'
	18. —		*kəbol	kəboa	kəboa	kəboa	kəboa	kəbol	'thick'[f]
	19. *bener		*bənər	bənəa	bənəa	bənəa	bənəh	bənəa	'true'
	20. *tawed		*tawər	tawəa	tawəa	tawəa	tawəh	tawəa	'haggle'
	21. *libeR		*libər	libəa	libəa	libəa	libəh	libəa	'wide'[g]
	22. *hasaq		*asaʔ	asəaʔ	asəaʔ	asəaʔ	asah	asah	'sharpen'[h]
	23. *taneq		*tanaʔ	tanəaʔ	tanəaʔ	tanəaʔ	tanah	tanah	'earth'
	24. *putiq		*putiʔ	putiaʔ	putiaʔ	puteaʔ	puteah	putäh	white'[i]
	25. *pənuq		*pənuʔ	pənuaʔ	pənuaʔ	pənoaʔ	pənoah	pənoh	'full'[j]

a Appendix: 4, 56, 106, 128, 190, 217, 218, 233; cf. also 224
b Appendix: 38, 40, 89, 112, 132, 146, 159, 245, 258
c Appendix: 49, 72, 130, 238
d Appendix: 49, 72, 238
e Appendix: 29, 40, 52, 65, 172, 203, 206, 220, 248
f Appendix: 35, 36, 71, 84, 101, 102, 104, 157, 221, 223, 228, 249, 250
g Appendix: 30, 36, 131, 186, 215
h Appendix: 7, 18, 43, 57, 69, 123, 136, 150, 163, 173, 193, 234
i Appendix: 85, 168, 174, 187
j Appendix: 174, 178, 244, 255

18. Blust (1984:434) assumes that Musi *pukət* was borrowed from Malay *pukat.*

nouns and other clitics (see 5–6 and 8–9 of table 13, and 3.3 below); (iii) in all dialects *except Rawas,* word-final PR *-l disappeared and PR tautosyllabic *o and *ä diphthongized to *oa* and *ea* respectively, whereas in Rawas, PR word-final *l was retained and the vowels did not diphthongize (see 15–17 of table 13 and 3.2.3.1); and (iv) in all dialects *except Rawas and Kebanagung,* PR *-ʔ (from PMP *-q) was retained as *-ʔ* and tautosyllabic high vowels *u and *i diphthongized in diverse ways, whereas in Rawas and Kebanagung, PR *-ʔ was replaced by a borrowed phoneme *-h* (2.3.2.1) and the adjacent high vowels did not diphthongize, at least not in Rawas (they diphthongized anyway in Kebanagung). See 22–25 of table 13 and 3.2.3.1.

The issues that require further discussion are taken up in the next few subsections, namely: (i) the role of final consonants in diphthongization; (ii) secondary harmonization; and (iii) diphthongization of final vowels in grammatical function words (which is a problem not for Rawas but for the other dialects).

3.2.3.1 Diphthongization of *-VC where *-C = PR *-r ,*-l, *-ʔ. Consider set D of table 13. An important generalization is that loss of PR *-l or *-r is associated with diphthongization of the tautosyllabic vowel. This holds for all dialects, and suggests that consonantal changes preceded diphthongization in each case. For example, in Rawas, three instances of loss of PR *-*r* are associated with three diphthongs in set D, namely, PR *-ər became *æa*; PR *-ir became *ia*; and PR *ur became *ua*. The same principle accounts for Kebanagung's two diphthongs in set D compared to three in Musi and five in Pesisir and Lebong. The analysis depends heavily on our reconstruction of word-final PR *-r and *-l. Recall that PR *-r derives from two PMP sources: *-r and*-R; likewise, PR *-l derives from two PMP sources: *-R and *-l (see 2.3.2.1).

3.2.3.2 Secondary harmonization. The Rawas outcomes for 'white' and 'choose' are especially interesting with respect to secondary harmonization of the penult vowels. The simplest solution that is plausible phonetically is to assume that the end-rhymes PR *-iʔ and *-uʔ developed differently in Rawas (whereas they developed in parallel in the other dialects). In particular, PR *puluʔ 'ten' became Rawas *poloh* by the shortest possible route via intermediate *puluh and *puloh. By contrast, PR *iliʔ 'choose' became *äläh* by first diphthongizing the end-rhyme, yielding *iliaʔ similar to PR *bibir > Rawas *bibia*. After diphthongization, intermediate *iliaʔ underwent the remainder of its derivation by the shortest route, namely via intermediate *iliah > iläh > *äläh*. The advantage of early diphthongization is that it motivates *ä* from PR **i* in a dialect with an established phoneme *e* (albeit from unknown sources). The alternative absolute shortest-route derivation may be possible but seems less plausible phonetically. Another argument for this solution is that a similar disjunction is observed in the case of *u-ə harmonization and *i-ə harmonization (3.2.3.1). In all dialects except Rawas, these two vowel pairs harmonized in parallel, becoming *o-o* and *e-e,* respectively; but in Rawas, *i-ə harmonized (as *ä-ä*) but *u-ə did not harmonize at all. A third argument concerns the central step in the derivation of PR *-iʔ, namely, coalescence of peak and coda of the derived diphthong *-iah as *-äh. A partial precedent for coalescence may be found in the fact that intervocalically PR *-ai- regularly coalesced as ä in Rawas, as in PMP *paqit > PR *pait > Rawas *pät*. This analysis entails the derivations given in table 14.

It is hardly surprising to discover that another GC governed secondary harmonization in Rawas, Kebanagung, and Musi. Thus the intermediate vowel pairs *i-ea (Musi *ileaʔ) and *u-oa (Kebanagung *puloah) did not harmonize independently of surrounding consonants; rather, secondary harmonization of the penult vowel was conditioned by the end-rhyme, that is, not only the diphthong but the tautosyllabic consonant. Thus PR *kidek 'rotten' showing final vowel-pair *i-e and word-final *-k did not trigger harmonization of Musi *kideʔ* and Kebanagung *kidek* (Musi ***kedeʔ* and Kebanagung ***kedek* are unattested). And even Rawas *kedeʔ* from PR *kidek, which did undergo late harmonization of the penult vowel (2.4.5), cannot be generalized together with *äläh* for obvious reasons. Instead, to account for Rawas *äläh* from PR **iliʔ* it is plain that the syllables harmonized only when the gestalt included just the right end-rhyme.

3.3 PERSONAL PRONOUNS. The last correspondence sets to be considered in this section concern the personal pronouns, including 5, 6, 8, and 9 of table 13, where again the uniqueness of Rawas is on display. The pronouns present a problem pointed out by Blust (1984:441)(cf. McGinn 1997:75f). For reasons discussed in 4.2.1, pronouns resisted diphthongization of PR *-i and *-u in all dialects *except Rawas.* This issue clearly does not concern Rawas, at least not directly. Nonetheless, the Rawas evidence is extremely important for the light it sheds on Proto-Rejang and the histories of the other dialects.

As in many Western Austronesian languages, Rejang personal pronouns come in a long form (roughly, subject) and a short-form (nonsubject).[19] Table 15 displays the correspondences among pronouns in the five dialects. Table 16 gives the Rawas pronouns in relation to the reconstructed protolanguages PMP and PR.

Problems of lexical replacement notwithstanding (3.3.2 below), it is clear that Rawas pronouns underwent the regular diphthongization rules affecting PR *-i and *-u. Equally important, as table 17 demonstrates, in Rawas other grammatical classes

TABLE 14. EFFECTS OF SECONDARY HARMONIZATION

WITHOUT SECONDARY HARMONIZATION		
PMP	*putiq 'white'	*pənuq 'full'
PR	*putiʔ	*pənuʔ
P&L	*putiʔ > putiaʔ	*pənuʔ > pənuaʔ
Musi	*putiʔ > *puteʔ > puteaʔ	*pənuʔ > *pənuaʔ > pənoaʔ
Keban	*putiʔ > *putih > *puteh > puteah	*pənuʔ > *pənuh > *pənuah > pənoah
Rawas	*putiʔ > *putiaʔ > *putiah > putäh	*pənuʔ > *pənuh > pənoh
WITH SECONDARY HARMONIZATION		
PMP	*piliq 'choose'	*puluq 'ten'
PR	*iliʔ	*puluʔ
P&L	*iliʔ > iliaʔ	*puluʔ > puluaʔ
Musi	*iliʔ > *iliaʔ > *ileaʔ > eleaʔ	*puluʔ > *puloʔ > poloaʔ
Keban	*iliʔ > *ilih > *iliah > *ileah > eleah	*puluʔ > *puluh > *puluah > *puloah > poloah
Rawas	*iliʔ > *iliaʔ *iliah > *iläh > äläh	*puluʔ > *puluh > *puloh > poloh

19. The alternation is by no means grammaticalized; each pronoun can fulfill either function as governed by discourse rules.

behaved similarly, again in contrast with the other dialects, where function words (including pronouns) generally escaped diphthongization of *-i and *-u (see 4.2).

What is patently clear is that in Rawas, the function words developed diphthongs by the same rules as other grammatical classes. More generally, because all diphthongization rules in all dialects developed after dialect split, it follows that the explanation for the regular developments in Rawas may not apply in other dialects, especially in those dialects where putative regularities have been observed.

3.3.1 Residual problems

1. The most pressing problem is to account for the failure of diphthongization in pronouns and other function words in all dialects except Rawas. This problem is addressed in 4.2.

TABLE 15. CONTEMPORARY PERSONAL PRONOUNS

	PLMK		Rawas	
	SUBJECT-OBJECT	AGENT-POSSESSIVE	SUBJECT-OBJECT	AGENT-POSSESSIVE
1SG	uku	ku	ukəw	kəw
2SG	ko	nu	kabən	kabən
2SG.HON	kumu	kumu	kuməw	kuməw
3SG	si	nə	səy	nə
1PL.INCL	itə	tə	itə	tə
1PL.EXCL	keme	keme	kämäy	kämäy
2PL	udi	udi	galəygaləy	galəygaləy
2PL.HON	kumukumu	kumukumu	galəygaləy kuməw	galəygaləy kuməw
3PL	si	nə	səy	nə

TABLE 16. RAWAS PERSONAL PRONOUNS AND THEIR ETYMA

PMP	PR	PRE-RAWAS	RAWAS	
*aku	*uku		ukəw	'I'
*kahu	*ko		kabən	'you (SG)'
*ni-hu	*nu		kabən	'you (SG)'
*(ka)mu	*kumu (HON)		kuməw	'you (SG.HON)'
*si-ia	*si		səy	's/he; they'
*ita	*itə		itə	'we (INCLUSIVE)'
*kami	*kimi	*kiməy	kämäy	'we (EXCLUSIVE)'
*kamu	*udi	*kumukumu	kuməwkuməw	'you (PL)'
*si-iDa	*si; tobo o		səy; tobo ə	'they; that group'

TABLE 17. REJANG FUNCTION WORDS

PR	PES	LEB	MUSI	KEB	RAWAS	
*nak~taŋ di	naʔ di	naʔ di	naʔ di	nah di	taŋ dəy	'(at) there'
*apa~api	api	api	api	api	apaw	'who'
*adäy	ade	ade	ade	ade	adäy	'there is/are'
*ba	ba	ba	ba	ba	ba	'emphasis particle'
*unu	unu	unu	unu	unu	n.d.	'hesitation particle'

2. Rawas *kämäy* from PR *kimi is unexpected, as is *keme* in the other dialects (expected **kimәy* in Rawas and **kimi* in PLMK). See 4.2.1 for discussion. The existential verb Rawas *adäy* = PLMK *ade* likewise shows the expected regular correspondence *äy* = *e*, as with Rawas *äpän* = PLMK *epen* 'tooth'. However, there are insufficient data to determine whether *kämäy* represents a regular development based on pre-Rawas **kimәy* from PR **kimi*.
3. Two lexical replacements affecting 2nd person pronouns remain mysterious: PLMK *udi;* and Rawas *kabәn* (expected **kaw*). Possibly Rawas *kabәn* is an internal borrowing based on *kabәn* 'friend' (cf. Ujan Mas Malay *kaba,* McGinn 1991:219).
4. Another replacement is variable. Rawas *si* = *sәy* 'he/she/it; they' can be used in the singular or plural. When the context demands that the plurality be emphasized, the phrase *tobo ə* 'that group' is common in Rawas (=*tobo o* in the other dialects).
5. Finally PR **kəbol* (if from PMP **kapal*) shows unexplained **b* from **p* and **o* from **a*.

PMP	PR	PES	LEB	MUSI	KEB	RAWAS	
*ma-kapal	*kəbol	kəboa	kəboa	kəboa	kəboa	kəbol	'thick'

4. CONSEQUENCES OF THE ANALYSIS. It was mentioned in section 2 of this paper that every feature of Proto-Rejang can be justified based on evidence from Rawas and one other dialect—either Pesisir or (most often) Kebanagung. As it happens, these are the only dialects that share a boundary with a dialect of Malay. Some consequences of this fact are discussed in 4.4.3 below. It was also mentioned that without Rawas the remaining dialects differ too little among themselves to offer much in the way of time depth. If those dialects were all linguists had to go on, it might be concluded that the Rejangs were relatively recent arrivals in Sumatra. The pioneering work of Blust (1984) on the Musi dialect, however, might suggest the opposite, given the extremely high number of changes (over 100 according to McGinn 1999) separating Rejang-Musi from Proto-Austronesian. With the discovery of Rawas, the possibilities have narrowed and start to become reconciled with the linguistic facts: the time depth is increased; the reconstruction of Proto-Rejang becomes feasible; and certain practical questions can be raised, such as: How long have the Rejangs been in Sumatra? Where did they come from? What language or language group is their closest linguistic relative? These and other questions are addressed below as we attempt to extract the most important consequences from the historical phonology presented in this paper.

Four topics will occupy us in this concluding section. All are concerned with the linguistic contributions of Rawas with respect to the goal of developing a valid and useful historical phonology for the Rejang language of Sumatra. First, analytical improvements are considered in relation to previous research (4.1). Second, empirical confirmations of earlier work are revisited in light of the new evidence from Rawas (4.2). Third, potential contributions of Rejang to the theory of sound change are considered (4.3). Fourth, the usefulness of our reconstructed PR is considered in

relation to certain practical questions pertaining to the origin and likely closest linguistic relatives of the Rejang (4.4).

4.1 ANALYTICAL ADVANCEMENTS IN RELATION TO PREVIOUS WORK. Four claims made in earlier work by McGinn (1997, 1999, 2000) have been abandoned or modified here. Two concern laryngeals and two concern diphthongs.[20]

1. The opening statement in McGinn (1997) that "every known Rejang dialect has a single laryngeal, namely, *h* or *ʔ*…" must be abandoned because Rawas has both *-h* (in word-final position only) and *ʔ* (word-medially as well as word-finally).
2. Pre-Rejang **h* has been abandoned and replaced by Proto-Rejang **r* in light of the limited distribution of Rawas *h*. This paper has reconstructed PR **r* in all positions reflecting PMP *r, *R, and *l; later, Rawas and Kebanagung borrowed *-h* from Malay (cf. Blust 1992); and later still, Kebanagung substituted *h* for PR *r in all positions. A crucial assumption is that PR *r was [+velar]; thus PR *r plays the same role assigned to PMP/PR *R in McGinn (1997) with respect to the conditioning of vocalic changes. See 2.3.2.2.
3. Two metatheses suggested by McGinn (2000: appendix 2) have been abandoned in light of the Rawas evidence. The problem was (and is) to account for Kebanagung *ponoy* 'dove' from PMP *punay; and also for Kebanagung *kiəa* 'wood' from PMP *kahiw. The possibility of metathesis collapsed in light of the fact that Rawas retains PMP diphthongs *uy and *iw unaltered. It is now straightforward to derive Rawas *punuy* and *kiiw* from PR *punuy and PR *kiiw, from which all other dialect outcomes follow as described in 2.1.3.
4. A final improvement derives straightforwardly from the fact that PMP *ey and *ew have been removed from the inventory of PMP diphthongs (Blust, pers. comm.); they have been collapsed with PMP *ay and *aw, respectively. This move simplifies the derivation of Rejang diphthongs from PMP diphthongs. (Rejang provided no evidence for PMP *ey and *ew.)

4.2 EMPIRICAL CONFIRMATIONS. We turn next to consider a number of cases where the new dialect evidence from Rawas, although diverging from the other dialects, does so in such a way as to strengthen specific claims made in earlier work on the historical phonology of Rejang (that is, before any Rawas data were available).

4.2.1 Rawas pronouns and other function words. At first the Rawas function words appear to present counterexamples with respect to earlier analyses of RHP, but on closer inspection the problem vanishes in light of the claim that Rawas simply generalized regular diachronic rules by relaxing phonological conditions that held in PR and that continue to hold in the other dialects.

As pointed out in 3.3, diphthongization of word-final PR *-i and *-u was not limited to content words in Rawas (as it was in the other dialects), but extended to all morpheme classes equally. When properly understood as postsplit effects, the Rawas facts are consistent with the analysis of the other dialects in earlier work. As

20. In analyzing Rejang diphthongs McGinn (1997) followed Blust (1984) and not McGinn (1983).

pointed out in my earlier paper, "the analysis is consistent with the striking fact that Rejang function words and content words differ in canonical shape. With few exceptions (notably *o*), content words almost always end with a diphthong if not a consonant, whereas function words almost always end with vowels; and only function words have been observed ending with schwa. Thus ... the synchronic generalization is consistent with the claim of regularity. ... Although their histories diverged (=content words, function words), the divergence had a phonetic basis, and in particular, all reflexes of PMP vowels in the pronouns were regular." (McGinn 1997:77)

What is unique about Rawas, then, is that the conditions changed (generalized). Two closely related arguments support this claim. First, all diphthongization of PR vowels occurred after dialect split. In all dialects except Rawas, those diphthongization rules were conditioned by the accent, which falls on the last syllable of content words; hence only stressed vowels diphthongized. Therefore, there is a ready explanation why pronouns and other function words were exempted from diphthongization rules in PLMK; as clitics, function words bear no inherent (word-level) stress pattern. They may receive stress within the domain of the sentence (intonation) but not at the word (lexical) level, which is presumably the proper domain for the study of sound change. It follows that there are phonetic grounds for the claim that pronouns and other function words were systematically exempted from rules applying to stressed vowels in Pesisir, Lebong, Musi, and Kebanagung. The second argument concerns an interesting bit of new information that is highly welcome, namely, Rawas's 1P.EXCL pronoun *kämäy* from PR *kimi and PMP *kami. This outcome supports the reconstruction of PR **kimi*, thus completely regularizing the pronouns at the level of PR.

The conclusion I draw from these two arguments is that the Rawas facts are consistent in every important detail with earlier claims about the pronouns of pre-Rejang (now Proto-Rejang).

4.2.2 Rawas as best witness for Rejang historical phonology. Most of this paper has focused on the uniqueness of Rawas in relation to the other dialects. In this section, the focus shifts to the conformity of Rawas, especially those specific cases where it is clear that Rawas directly confirms earlier work on the historical phonology of Rejang. The following are the major aspects of Rejang historical phonology as presented by McGinn (1997, 1999, 2000). All are supported by the Rawas evidence.

1. Pre-Rejang underwent two accent shifts: (a) 1st stress shift to Malay-type pattern, regularly followed by neutralization of unstressed PMP *a except before velars, as with PMP *mata > pre-Rejang *ma:tə 'eye'; PMP *taŋan > pre-Rejang *ta:ŋən 'hand'. (b) 2nd stress shift to contemporary Rejang pattern, followed by V-V harmonization of certain vowel pairs and then diphthongization affecting certain word-final syllables, as with PMP *laŋit > pre-Rejang *laŋi:t > PR *läŋät 'sky' and *isi > *isi: > Rawas *isəy* 'contents'.
2. As expected in accord with (1), unstressed vowels weakened (deleted, neutralized, or harmonized), and stressed vowels became strengthened (diphthongized, deneutralized).

3. No fewer than ten vocalic shifts were conditioned by complex morph-shape conditions labeled gestalt conditions (GCs) rather than merely locally by strictly adjacent segments. See 4.3.2. A partial list of GCs is provided in table 3.
4. Two of the gestalt conditions can be generalized and captured in a single formula. The essential features of this claim, which may have important consequences for subgrouping, are partially repeated in table 18.[21] The Rawas outcomes are perfectly consistent with the earlier analysis presented in McGinn (1997), before anything was known about this dialect.
5. Rule order vs. rule complementation (revisited).[22] As mentioned in 2.4.6.2, two traditional tools of the Comparative Method are rule order and rule complementation. However, when two (or more) rules are in complementary distribution, all claims about (external) rule order become obviated. The following illustrates the point with two conditioned changes presented in McGinn (1997).

   (1) PMP *qutək > Musi *otoʔ* 'brain' only when *-C is [+velar]
   PMP *libəR > Musi *libəa* 'wide'

   (2) PMP *bulan > Musi *bulən* 'moon' (not ***bolon*) only when *-C is [-velar]
   PMP *anak > Musi *anaʔ* 'child'

   Blust (1984) recognized that rule (2) regularly failed to apply before a velar consonant, but the fact that rule (1) applied *only* before velars was overlooked. The Musi facts only become clear in light of dialect evidence from Kebanagung, where PMP *-k is preserved as *-k* and *-j becomes *-g* (McGinn 1997:68). Further, Blust assumed (a) that Musi *pukət* was an unexplained exception, and (b) that change (1) must have preceded change (2) in the linear ordering (hence in relative chronology) in order to explain why Musi *bulən 'moon' failed regularly to become ***bolon*. McGinn (1997) proposed an alternative analysis, namely, that the environments are in complementary distribution with respect to the binary feature [±velar] associated with the word-ending consonants. If so, then two consequences followed: (a) Musi *pukət* was regular because the etymon ended with a

TABLE 18. RAISING OF PMP **a*

*a > ə / -V(C) __ (C[-velar])#
|
[-stress]

PMP	PRE-PR	PR	RAWAS	
*duha	*du:ə	*dui:	duəy	'two'
*mata	*ma:tə	*mati:	matəy	'eye'
*kita	*itə	*itə	itə	'IPL.INCL'
*ni-a	*ni-ə	*nə	nə	'3SG'
*taŋan	*ta:ŋən	*taŋə:n	taŋən	'hand'
*anak	*a:nak	*ana:k	anak	'child'
*teka	*təka:	*təka:	təkaw	'come'
*timba	*ti:m̃a	*tim̃a:	tim̃aw	'pail'
*daqan	*dan	*dan	dan	'branch'

21. This topic is explored in McGinn (2003) in connection with the search for a subgrouping hypothesis.
22. The form of the argument may be schematized as follows, where 1, 2, and 3 are sound changes. Situation A: 1. a > b / c__d; 2. b > e / c__d; 3. a does not become e / c__d; therefore, rule 2 preceded rule 1. Situation B: 1. a > b /c__d; 2. b > e / f__g; therefore, the ordering relation between rules 1 and 2 is indeterminate.

nonvelar consonant; and (b) linear ordering—crucially—was unnecessary to account for the failure of *bulən,* for example, to become ***bolon* in Musi.

The Rawas evidence mentioned in 3.2.1 is relevant for this argument. Rawas underwent rule (2) but not rule (1). This fact permits an improvement of McGinn's analysis by actually giving away the correct ordering, namely: change (2) preceded change (1). This is inescapable because (2) affected all dialects equally (hence may be reconstructed for PR) whereas (1) occurred after dialect split everywhere *except in Rawas* (where a different set of changes occurred). Also supported is the claim that changes (1) and (2) were in complementary distribution in the harmonizing dialects, exactly as proposed by McGinn (1997).

4.3 THEORETICAL CONTRIBUTIONS OF REJANG HISTORICAL PHONOLOGY. The data in this paper may be of theoretical interest with respect to the following three questions: (i) What is the proper domain for the assignment of word-level stress rules in Rejang (and other languages)? (ii) What is the proper relationship between stress rules and syllabification rules in Rejang (and other languages)?[23] and (iii) What is the status of gestalt conditions in the historical phonology of Rejang (and other languages)?

4.3.1 Stress and syllabification. As mentioned in the introduction to this paper, Rejang should be of interest to linguists if only because of its rich array of diphthongs, especially the ones that arose by regular changes from PMP vowels (3.2.3). My remarks here are limited to this set of innovating diphthongs. Three points bear repeating in this context: (a) because these diphthongs affected stressed vowels, they must have arisen after the stress had shifted to the final syllable; (b) because the innovating diphthongs differ from dialect to dialect, they must have arisen after dialect split (probably influenced by areal pressures [4.4.3]); and (c) because last-syllable stress is shared by all dialects, the stress assignment rule must be older than the innovating diphthongs.

The theoretical point to be made here is that the stress assignment rule at whatever level one examines seems to depend crucially on prior recognition of the segmental structure of words, and in particular, on the proper identification of syllabic and nonsyllabic vowels.[24] Once this is accomplished, assigning stress to "the last nonsyllabic vowel of the word" is straightforward: forms like *tidoa* are disyllabic once nonsyllabic [a̯] is recognized as the coda of a breaking diphthong, and forms like *oaʔ* are monosyllables.

The analysis not only simplifies the stress assignment rule for Rejang, it also supports the empirical claim of Bromberger and Halle (1989) concerning the derivational relationship between syllabification rules and stress assignment rules in the theory of (synchronic) phonology. We can add the point that ontogeny repeats phylogeny in the Rejang case. In PR the stress assignment rule arose before the breaking diphthongs.

23. In focus here is not the deeper question of how to define a diphthong—that would take us too far afield—but rather how a diphthong when defined as "a phoneme consisting of a syllabic vowel and a nonsyllabic vowel" interacts with stress in the historical phonology of a language.

24. James W. Harris (1985:31) stated the following about Spanish: "Essentially, the paradox is that the rules of stress and diphthongization must each refer to the output of the other."

4.3.2 Word-level stress is "metrical." In the historical phonology of Rejang, the phenomenon of multiple reflexes of PMP last-syllable **a* have been explained in terms of the word-level stress pattern operating at different times (2.4.6.1) This explanation depends on the assumption that word-level stress (also called accent) is assigned metrically within a disyllabic domain called a foot. Applied to disyllabic word bases, this theory states that stress, whether predictable or contrastive, must be assigned to either the penultimate vowel or the ultimate vowel. An important corollary is that monosyllables cannot bear metrical word-stress, by definition, because stress differentiates between the members of a pair of vowels within a specified domain.

This theory has an important consequence for Rejang historical phonology, namely, it explains why monosyllables did not participate in the changes affecting PMP last-syllable *a. The relevant outcomes include both original monosyllables such as PMP *ba 'interrogative particle' > PR *ba (not **bə) 'emphatic particle', and also derived monosyllables such as PMP *hekan > pre-Rejang *kan > PR *kan 'fish' (not **kən) beside PMP *taŋan > PR *taŋən 'hand'. See 2.4.6.1.

4.3.3 Gestalt Conditions and the Regularity Hypothesis. This section seeks theoretical support for the use of GCs in the historical phonology of Rejang, and discusses their potential contribution to the theory of sound change. Two ideas from Kiparsky (1988) guide the discussion.

(1) The Exceptionless Hypothesis (EH) must be distinguished from the Regularity Hypothesis (RH) (Kiparsky 1988:390). The EH is wedded to phonetic mechanisms that apply blindly and randomly (see 1.4). The RH is conceptually simpler, more open-ended, and less theory-dependent than the EH. The RH says that sound changes tend overwhelmingly to be regular—for whatever the reason—and that depending upon the theory one adopts, further restrictions on the scope and limits of sound change can and must be determined. *For example, in Kiparsky's theory, regular sound changes operate over the domain of phonological structures in the lexicon.*

(2) Sound change is structure-dependent (Kiparsky 1988:390). Furthermore, structure arises from implicational universals and from individual grammars.

In this subsection we attempt to apply these theoretical points to justify the existence and use of GCs in RHP. Our major empirical claim is that GCs are structures that refer to one or all of the following: the accent, the quality of the penult vowel, and the nature of the word-final consonant (if present). Once recognized, they play a major role because they induce regularity throughout in RHP (1.4 and table 3). Virtually all vocalic changes in Rejang were conditioned by GCs operating on the level of the disyllabic base (the prosodic foot), and resulted in a high degree of lexical vowel harmony in pre-Rejang and Proto-Rejang, which is largely, but not entirely, reflected in the contemporary dialects. The most dramatic demonstration of this point is found in Rawas's nonparticipation in *u-ə > *o-o* harmony (3.2.1). This fact was explained in terms of another fact unique to Rawas, namely, the change of word-final PMP/PR *-j > Rawas *-t*. This change altered the gestalt; in particular, the final consonant changed from [+velar] to [–velar], in effect bleeding the harmonization process exactly as predicted by the form of the rule as proposed in McGinn (1997) to account for the harmonization facts in Musi, Pesisir, and Kebanagung.

The conclusion I draw is as follows. To the extent that GCs contribute to the overall regularity of RHP they are consistent with the demands of RH. However, to the extent that they cannot be construed as purely phonetic conditions, their existence cannot be justified in terms of EH. It follows that GCs lie outside the bounds of the neogrammarian theory of sound change (EH). Expressed in more general terms, the right place to seek the motivation for GCs might lie neither in universal phonetics nor in the set of contrasts within a lexical-phonological system, but in what Roman Jakobson has called the "culminative" role of phonetic features. The following quotation by one of Jakobson's collaborators is probably relevant here. "In English, stress plays ... a culminative role in that it signals both the unity of the word and the number of words or word-groups in any given syntagm. In some languages, the device known as vowel harmony fills the similarly culminative role of indicating the unity of the word" (Waugh 1987:163).

4.4 Some practical considerations. The historical phonology presented in this paper should be welcomed by researchers interested in pursuing further practical questions such as: where did the Rejangs come from; how long have they been in Sumatra; which dialect represents the local homeland in Sumatra; what is the contact situation in Sumatra?

Preliminary answers are presented below in the form of four specific hypotheses guided by a general theory about a possible correlation between rate of linguistic change and distance traveled by out-migrating groups, proposed independently by Blust (1991a) and Ross (1991). The first concerns the problem of discovering an external subgroup and associated geographical point of origin for Rejang (4.4.); the second concerns the high number of innovations (over 100) separating PMP and any single contemporary Rejang dialect (4.4.3); the third posits the most likely "local homeland" within Rejang country (4.4.2.2); and the last deals with the contemporary contact situation together with the question about which Austronesian group was the first to arrive in southern Sumatra.

4.4.1 The search for an external subgroup smaller than PMP. The discovery of an external subgrouping hypothesis for Rejang may depend on two features that have been reconstructed for earlier stages of the language.

(a) In pre-Rejang, the accent fell regularly on the ultimate vowel when the penultimate vowel was schwa, otherwise on the penultimate (the Malay-type stress pattern).

(b) In pre-Rejang, PMP last-syllable *a underwent neutralization in two environments that can be generalized by a single formula (see 4.2.2, table 18). The two neutralizations constitute the central problem of Rejang historical phonology as defined by McGinn (1997): they applied very early in the historical phonology (before the stress shifted to the contemporary pattern); and one of them—*-a(C) > *-ə(C) except before velars—is typologically rare. In McGinn (2000, 2003) it is suggested that any language in the western Austronesian group that shared this pair of rules was eo ipso a candidate for subgrouping with Rejang. Such a language has indeed been reported in the literature by Christopher Court. Bukar-Sadong Land Dayak, spoken in the area around Serian, 3rd District Sarawak, Malaysian Borneo, betrays a similar (parallel or shared) history in two respects: PMP *-a regularly became schwa (PMP *duha > *duəh* 'two'); and PMP *-aC regularly

became -*ə*C except before velars (Court 1967). McGinn (2003) attempted but was ultimately forced to reject a direct subgrouping relationship between Bukar-Sadong Land Dayak and Rejang. At one and the same time, however, it was proposed that the early Rejangs probably migrated to Sumatra from someplace near the Land Dayak region of Borneo around 1,200 years ago.

4.4.2 On explaining high rates of linguistic change. Blust (1991a) and Ross (1991) suggest there is a significant correlation between rate of sound change in a language and the geographical (migration) distance from the homeland. Let us call this the Blust-Ross Hypothesis (BRH). For example, Madagascar, off the coast of Africa, is inhabited by speakers of closely related dialects of a single language; Taiwan (a much smaller island off the coast of China) is inhabited by speakers of 22 highly diverse, distantly related languages. Archaeologists report that Madagascar has been occupied by Austronesian speakers for about 1,000 years; for Taiwan the figure is more like 6,000 years. Details aside, such facts are just what should be anticipated given the BRH.

An important fact about Rejang is the relatively high number of phonological changes: over 100 for any single dialect (Blust 1984; McGinn 1997, 2000, 2003). Considering just the four PMP vowels, Rejang has undergone more vocalic splits (27) than any other known Austronesian language. As mentioned earlier in this paper, however, dialect diversity among Rejang dialects is relatively slight: only Rawas shows divergence severe enough to impede mutual understanding: roughly 70–72 percent of basic vocabulary is shared between Rawas and each of the other four dialects. A high rate of change coupled with a low level of dialect diversity leads to a prediction: the Rejangs must have traveled to southwest Sumatra from a distant location relatively recently. However, as pointed out by Robert Blust (pers. comm.), the prediction is not very compelling with respect to geography, particularly in light of arguments by McGinn (2003) that the Rejangs originated in Sarawak, Malaysian Borneo—a scant 600 miles away.

On the other hand, both Blust (1991a) and Ross (1991) have questioned whether geography is the crucial variable here; and Ross has offered an alternative. It can be added that Kiparsky (1988:383) believes that high rates of phonological change favor production, low rates favor perception. This bias is perhaps explained by Ross's alternative explanation—rejected by Blust—namely, that homeland languages are conservative because they are dominated by older speakers who tend to be intolerant of perceived mistakes in pronunciation and grammar. (In Kiparsky's terms, *adult language-perceivers [hearers] predominate in the homeland.*) By contrast, according to Ross, out-migrating language groups are dominated by younger adults with children, the latter being the major source of innovations. (In Kiparsky's terms, *younger language-producers [speakers] predominate in out-migrating groups.*) Combining these ideas, the crucial variable is probably not absolute geographical distance but psychological distance (isolation) from the homeland.

Returning to the Rejang case, a plausible scenario is that the group migrated en masse without further contact, and without leaving behind sufficient population to maintain their cultural and linguistic identity in the homeland. If so, then Rejang's

high number of innovations is consistent with its presumed geographical isolation from the original homeland (wherever it was).

4.4.3 Rawas As Local Homeland. The next question to ask is: which Rejang dialects are relatively more conservative, and which more innovative? Based on the BRH, conservative dialect(s) should point toward the local homeland, whereas the more innovative dialects should represent the communities that ventured out from there. As emphasized throughout this paper, Rawas is the most divergent dialect in phonology, grammar, and vocabulary—but is this caused by conservatism, innovation, or contact with Malay? The evidence suggests that all three factors have played a role, but that conservatism is the most prominent.

A telling argument for Rawas's conservativism was mentioned in section 2: Every PR etymon can be reconstructed on the basis of just two dialects—either Rawas and Pesisir or (more often) Rawas and Kebanagung. The argument can be stated in another way, as follows: It is impossible to derive the Rawas data from an alternative PR reconstructed on the basis of any two, three, or four of the remaining dialects. To repeat just one rather typical example: In all dialects *except Rawas,* word-final PR **-l* from PMP **-l* and **-R* disappeared, and adjacent vowels PR *o and *ä diphthongized to *oa* and *ea* respectively; but Rawas retained PR word-final *l and the adjacent vowels did not diphthongize (see 3.2.3). Readers can work out for themselves the impossibility of predicting Rawas *biol* 'water' given only PLMK *bioa* and PMP **wahiR.*

If this argument is accepted together with the BRH, the conclusion is clear. The upper reaches of the Rawas River (Bioa Abəs) represents the first area settled by the Rejangs in Sumatra.

4.4.4 Neighbors in Sumatra: Contact issues. If Rawas, Kebanagung, and Pesisir represent the "outlier" dialect areas, the Lebong and Musi dialects occupy the Rejang heartland. They are centrally located; they are highest in elevation at the headwaters of the Ketaun and Musi rivers; and they occupy the political center (called Kabupaten Rejang-Lebong). There is even a working gold mine there. Importantly for purposes of this paper, the Lebong and Musi areas share no boundary with Malay-speaking populations: every point of contact with the world beyond Rejang-Lebong is either another Rejang dialect or uninhabited jungle (see figure 1).

In this section are listed some linguistic elements in Rejang that appear to be the result of areal pressures. The first two played important roles in the development of Rawas.

(a) Borrowed *-h* obviated diphthongization of PR *-Vʔ in Rawas and Kebanagung—the two dialects in closest contact with Malay.

(b) Borrowed PR *e (a mid front unrounded vowel) in the inventory of PR vowels contrasted with inherited PR *ä from PMP *i, *a, *ə via a number of regular vocalic shifts. However, the source (donor) language remains to be discovered.

(c) Rejang's diphthongs—particularly the large number derived from PMP vowels (see table 13)—might well receive an interpretation in terms of areal pressure. An important claim that bears repeating is that these diphthongs arose after dialect split in Rejang, hence represent late changes. It is highly likely that they developed in part in response to the larger social milieu that included linguistic contact (intermarriage,

etc.) with at least two neighboring languages likewise displaying large numbers of diphthongs, namely, Kerinci (Prentice and Hakim 1978; Blust 1984:440) and Minangkabau Malay.

(d) As pointed out in 3.3.2, three Rejang pronouns are unexplained: PLMK *nu* (expected ***mu*); PLMK *udi* '2PL'; and Rawas *kabən* '2SG' (expected ***kaw*). Possibly Rawas *kabən* is an internal borrowing based on *kabən* 'friend' (cf. Ujan Mas Malay *kaba* (McGinn 1991:219); and PLMK *nu* '2SG' may be borrowed from Lampung *niku*.

Blust (1992) has argued that Malayic speakers were relatively late arrivals in Sumatra. If so, the Rejangs likely preceded them. This view is consistent both with linguistic facts and with legends on both sides. Rejangs refer to themselves as *tun asləy* 'original people', and the Besemah Malays appear to agree. According to William Collins (1998), some Besemah megaliths are called *makam Rejang* ('Rejang graves'), and Besemah legends explain how the Rejangs were displaced by Besemah founder Atung Bungsu by means of a cleverly worded oath. Whatever the causes, Rejang farmers came to occupy the highlands while Malay farmers took the surrounding lowlands; and several other major language groups (the Komering, the Kerinci, and the Lampungese) found their way into the country as well. Meanwhile, the Malay-speaking Javano-Malay empire of Sriwijaya rose and fell in Palembang, the unrivaled center of prestige in the region (Coedes 1992).

5. POSSIBLE ALTERNATIVES FOR PROTO-REJANG VOWELS AND DIPHTHONGS This section presents some alternatives for deriving the Rawas vowels and diphthongs from Proto-Rejang and ultimately PMP. The alternatives are presented as less plausible than the analyses that appeared in the body of the paper. The discussion will be guided by two principles that serve to impose limits on linguistic reconstructions.

Realism: Protolanguages must conform to the expectations of attested languages. This is a theoretical (a priori) condition marking as highly suspicious the reconstruction of phonemes or arrays of phonemes that are not to be found in attested languages anywhere on earth. Moreover, because grammars tend overwhelmingly to display motivated structures, it follows that protolanguages should be the same. My claims that the PR vowel inventory consisted of seven vowels in an ordered array, and that the PR lexicon was governed by vowel harmony, represent two proposals for a structured protolanguage named PR. A protolanguage failing to yield plausible structures fails to be realistic.

Uniformitarianism: Protolanguages must be motivated by the evidence of the set of languages and dialects presumably derived from them. In this respect, PR **ä* is a plausible reconstruction because the Rawas dialect bears direct witness to it. By contrast, PR **-j* from PMP **-j* is not supported by *-j* in any of the dialects but rather by a phonetically ambivalent formal correspondence, namely, PMP/PR **-j* > *k=g=t.* In fact, PMP **-j* is puzzling phonetically and may always remain problematic (Blust 1991b:132).[25] It has proved its usefulness in Rejang historical phonology (and repeated for other Austronesian language groups) as a way of capturing the formal

regularity of a phonetically disjunctive correspondence set. But it remains problematic from the standpoint of the uniformitarian principle.

Four interesting cases arise in RHP showing how the two principles mentioned above can come into conflict. The first two have to do with the seven-vowel system reconstructed for PR; the remaining two have to do with diphthongs derived from PMP vowels. (a) Why not replace PR *-i with *-ə from PMP *-a (e.g., *matə from PMP *mata 'eye') at the level of Proto-Rejang? (Recall that *-ə represents an essential intermediate step in the derivation of Rawas *əy* from PMP *-a.) (b) Why not reconstruct diphthongized end-rhymes PR -*iaʔ and *-uaʔ to underlie Pesisir and Lebong -iaʔ and -uaʔ corresponding to Rawas *-äh* and *-oh?* (Recall that in the body of the paper these diphthongs were derived from PR *-iʔ and *-uʔ, respectively.) (c) Why not reconstruct PR *ɔ alongside *ä to yield an eight-vowel system for PR? (d) Why not remove PR *ä and thereby posit a six-vowel inventory for Proto-Rejang? These four alternatives are considered in turn below.

(a) PR **mati:* 'eye'. Why not reconstruct PR **matə:* from PMP **mata* 'eye' parallel to PR **itə* from PMP **(k)ita* 'IPL.INCL'? As pointed out in 4.2.2, Rawas *matəy* 'eye' represents the regular outcome based on a sequence of rules that includes *matə: (with stress on the ultimate vowel) as intermediate form. But *matə: was pre-Rejang; the proposed PR form was *mati:, which directly underlies Rawas *matəy.* The full derivation is: PMP *mata > ma:ta > *ma:tə > *matə: > PR *mati: > Rawas *matəy* 'eye'. It must be admitted that reconstructing *matə: instead of *mati: at the level of PR would be highly attractive from the *realist* perspective, because *matə: conforms to the vowel harmony structures posited for PR (unlike *mati:, which breaks the mold). However, realism does not imply perfection; real languages are often imperfect. After all, structures do undergo change; moreover, *mati: represents the prelude to several diphthongization processes that "conspired" to (partially) destroy vowel harmony.

The ultimate reason to prefer PR *mati: over *matə: is that the former involves less abstraction. In every dialect PR stressed *-i: from PMP *-a developed exactly the same as PR stressed *-i: from PMP *-i. Put in another way, *mati: represents the "safer" alternative from the uniformitarian perspective.

(b) PR *puluʔ 'ten' and PR *iliʔ 'choose'. Why not reconstruct PR *puluaʔ from PMP *puluq 'ten' and PR *iliäʔ from PMP *piliq 'choose'? This may be a question for phoneticians, for what is at stake is the derivation of Rawas *äläh* from either PR *iliʔ or *iliaʔ. Given PR *iliʔ we have a longer derivation that includes diphthongization: *iliʔ > *ilih > *iliäh > *iläh > *äläh.* Given PR *iliaʔ, the derivation is one step shorter: *iliäʔ > *iliäh > *iläh > *äläh.* Actually, there is little to choose between these two alternatives considered by themselves. However, the parallel case of PMP 'ten' is not quite so ambivalent. PR *puluʔ yields the simpler derivation: *puluʔ > *puluh > *puloh > *poloh. By contrast, PR *puluaʔ would require not only a longer derivation, but also a rather dubious reversal of simple vowel to diphthong

25. "(PMP) *j was a palatalized velar stop [gʸ]; ... it had no voiceless counterpart; ...(it was) an 'island' within the phoneme inventory."

and back again to simple vowel: PMP *puluq > *puluaʔ > *puluah > *puloah > *poloh*. A strict uniformitarian would perhaps argue that Rawas *poloh* shows no evidence of diphthongization, so why impose it on the derivation? A structural advantage is also gained by adopting this perspective here: it supports a potentially significant generalization, namely, all contemporary diphthongs from PMP vowels developed after dialect split.

Next, we consider the consequences of replacing PR's seven-vowel inventory (based on Rawas) with either an eight-vowel inventory (witnessed by none of the dialects) or a six-vowel inventory (witnessed by four of five dialects). In either alternative, the historical status of Rawas *ä* is the focus of attention.

(c) Why not reconstruct PR *ɔ parallel to *ä? As readers can easily work out for themselves, it is certainly plausible to propose a symmetrical eight-vowel system for PR, and also a set of diachronic rules with greater parallelism than the analysis presented in the body of the paper. For example, alongside regular changes like PMP *laŋit > PR *läŋät 'sky' there would be PMP *manuk > *mɔnɔk 'chicken' and an extra rule such that PR *ɔ > *o* was an unconditioned pan-dialectal rule paralleling the (absolutely necessary) unconditioned rule PR *ä > *e* that affected all dialects except Rawas. Notice that this alternative eight-vowel system is perfectly reasonable from the realist point of view, and may even be correct. But if so, it must overcome the uniformitarian objection that the proposed contrast between PR *ɔ and *o is not supported by any of the contemporary dialects. Strong arguments (not ventured here) would be required to overturn the uniformitarian objection in this case.

(d) Why not eliminate PR *ä and posit six-vowels for PR based on PLMK? The answer offered here is somewhat tentative. A six-vowel system (*i, *u, *ə, *e, *o, *a) is supported by contemporary PLMK. Given such a system for PR, Rawas *ä* would have developed after dialect split. One consequence is that the correspondence set *e-e = e-e = e-e = e-e = ä-ä* would have to reflect PR vowel-pair *e-e; moreover , a number of changes would be needed to account for the Rawas *ä* in these examples and several other types of cases. Such an analysis would work if every PR *e were derivable from PMP, but that is apparently not true. Consider the fact that PR *kidek became Rawas *kedek* and not **kädäk* or **kidäk*. The assumption that **e* and **ä* contrasted in PR (as in contemporary Rawas) explains why contemporary Rawas *ä* always reflects vowels inherited from PMP, whereas Rawas *e* never does. The explanation is straightforward on the assumption that Rawas is conservative, and continues to reflect the PR distinction between inherited phonemes (*ä-ä) derived directly from PMP vowels, and borrowed phonemes *e* and *e-e,* which did not exist in PMP and which, after entering pre-Rejang, remained distinct in PR, as in Rawas, while in the other dialects (inherited) *ä and (borrowed) *e merged as *e*. On these assumptions, it is reasonable to claim that PMP *laŋit became PR *läŋät 'sky' alongside borrowed PR *kidek, and then, after dialect split, the following two changes occurred. (i) In PLMK PR *läŋät became *leŋet* via unconditioned change *ä > *e*. (ii) In Rawas *kidek > *kedeʔ*. It just seems harder (perhaps impossible) to justify reconstructing PMP *laŋit to become PR *leŋet alongside PR *kidek, and then deriving the Rawas outcomes. How could puta-

tive PR *leŋet become *läŋät* via the change *e > *ä* while at the same time *kidek became *kedek* and not ***kädäk* or at least ***kidäk?*

A second objection to the six-vowel hypothesis concerns the phonetic motivation for outcomes like Rawas *äpän* (PLMK *epen*) from PMP **ipen* [ipən]. In a PR six-vowel system, PR *epen is perfectly harmonized, which leaves little room to motivate the change *e > *ä* needed in Rawas to produce *äpän*. The only possible motivation would be a theoretically highly dubious one, namely, a push-chain effect whereby nonnative words like *kedek* 'bad' (source unknown), *sen* 'money' (Dutch), and *laher* 'born' (Malay) had to be distinguished from native words like putative PR *epen by changing them to *äpän*. Since the days of Rask and Grimm, theories of linguistic change have sought to explain sound shifts on phonetic or (more recently) phonological grounds. Clearly such grounds are lacking in this account.

Therefore, if our analysis is accepted, PR had a seven-vowel system (including **ä*). It follows that after dialect split, all dialects except Rawas underwent unconditioned change PR *ä > *e*, thereby broadening the distribution of PR *e. By contrast, in Rawas there were four types of vocalic changes that broadened the distribution of *ä*. First, vowel coalescence produced Rawas *ä* from the PR sequence *-ai-, as with Rawas *nä?* from PR *naik (< PMP *nahik 'climb'), and Rawas *pät* from PR *pait (< PMP *paqit 'bitter'). Second, the Rawas word-final rhyme *-äh* as in *putäh* 'white' and *äläh* 'choose' regularly reflects PR *-i? from PMP *-iq (PMP *putiq 'white' and PMP *piliq 'choose'). Third, the derivation of Rawas *äläh* (= PLMK) from PR *ili? (< PMP *piliq 'choose') shows an instance of the vowel-pair *ä-ä* developing after dialect split in Rawas (whereas *läŋät* 'sky' developed before split). Finally, the pronoun *kämäy* shows another instance. Presumably PR *kimi (from PMP *kami 'IPL.EXCL') by diphthongization (> *kiməy) followed by an unexplained harmonization change modeled on an earlier perfectly regular change (PMP and PR *ipən > *äpän* 'tooth').

So far, our survey of sources of Rawas *ä* and *e* has turned up *e* only from borrowed sources, whereas *ä* occurs in both borrowed words and inherited words.[26] This general situation is best explained by three assumptions adopted throughout this paper: (a) PR *ä contrasted with PR *e; (b) the distribution of *ä* from PR *ä expanded in Rawas; and (c) the distribution of *e* from PR **e* expanded in the other dialects through an unconditioned change of PR *ä > *e* (see set A, table 12).

I should like to conclude this paper with a quotation from *Nature* writer Rebecca L. Cann (2000): "Words do not fossilize. Yet they leave evidence of their evolution in the populations that speak them, in much the same way that genes reveal the evolutionary history of the populations that transmit them." A standard assumption in historical phonology, well supported by the evidence of this paper, is that dialect differences develop from (mostly) regular changes that may affect each dialect slightly differently (Blust 1991b, 1999). By following standard techniques of linguistic reconstruction, aspects of the linguistic history of a set of dialects (such as the five Rejang dialects under investigation here) can sometimes be reconstructed, and aspects of the past thereby revealed. In addition, lexicostatistical and glottochronological techniques,

26. Rawas *ät* 'dirty; worn out' is from an unknown source (cf. Malay *jahat*), as are *käkäl* 'foot' (cf. Malay *kaki*) and *kacäl* 'mouse-deer' (cf. Malay *kancil*).

although admittedly crude and inexact, may allow such results to be combined with evidence from other fields (such as archaeology and genetics) to be mapped onto a graph representing years of separation (Bellwood, Fox, and Tryon 1995). The evidence thus extracted from various fields will someday provide the necessary facts and arguments for understanding the external history of the Rejang: where they came from, how long they have occupied the Barisan highlands of southwest Sumatra, and whether they preceded or followed the other language groups presently occupying the surrounding lowlands. Consideration of such questions has been touched upon in this paper only in terms of possible consequences that may reasonably follow from the linguistic evidence. But the answers provided here represent only the first, somewhat tentative, proposals in relation to these broader issues. At one and the same time, an important goal will have been met if the questions raised in this paper serve to encourage future research in linguistics, archaeology, anthropology, history, and education relating to the Rejang people and their Sumatran neighbors.

APPENDIX: RECONSTRUCTIONS WITH REJANG WORDLISTS

Note: PMP vocabulary is taken from Blust (1982, 1984, 1999) and from the archived material in Blust's (n.d.) *Austronesian Comparative Dictionary.* This last is an invaluable on-line resource requiring permission from the author, hereby gratefully acknowledged.

	PMP	PR	PES	LEB	MUSI	KEB	RAWAS	
1.	*anay	*anuy	anəy-anəy	makoʔ	anie	anəe-anəe	anuy	'termite'
2.	*haŋin	*aŋin	aŋin	aŋin	aŋin	aŋin	aŋin	'wind'
3.	*anak	*anak	anaʔ	anoʔ	anaʔ	anak	anaʔ	'child'
4.	*i-sai	*api/sapa	n.d.	api	api	api	sapaw apəy	'who?' 'who? HON'
5.	*qajeŋ	*araŋ	aʔaŋ	aʔaŋ	aʔaŋ	ahaŋ	aʔaŋ	'charcoal'
6.	*qarep	*arəp	aʔəp	loʔ	aʔəp	ahəp	naʔ	'hope'
7.	*hasaq	*asaʔ	asəaʔ	asəaʔ	asəaʔ	asah	asah	'sharpen'
8.	*asep	*asəp	asəp	asəp	asəp	asəp	asəp	'smoke'
9.	*qatep	*atəp	atəp	atəp	atəp	atəp	atəp	'roof'
10.	*ati	*ati	ati	ati	ati	ati	əlum	'not yet'
11.	*qatay	*atuy	atəy	atəy	atie	atəe	atuy	'liver'
12.	*hawak	*awak	awaʔ	awoʔ	awaʔ	awak	badən	'body'
13.	*kua/ *kuja	*away ipə/ *ci inan	n.d.	awəy ipə	awəy ipə	awəy ipo	ci inan	'how?'
14.	*hiket	*äkät	eket	eket	eket	eket	äkät	'to tie'
15.	*ipen	*äpän	epen	epen	epen	epen	äpän	'tooth'
16.	*isep	*äsäp	esep	esep	esep	esep	äsäp	'suck'
17.	*ba	*ba	ba	ba	ba	ba	ba	'emphatic'
18.	*babaq	*babaʔ	bəaʔ	bəaʔ	bəaʔ	bah	pi-bah	'below'
19.	*bales	*baləs	baləs	baləs	baləs	məŋaləs	baləs	'reply'
20.	*waRej	*balət	balət	balət	balət	balət	bania	'root'
21.	—	*baluŋ	baluŋ	baluŋ	n.d.	baluŋ	n.d.	'thigh'
22.	*bapa-q	*bapak	bapaʔ	bapaʔ	bapaʔ	bapak	bapaʔ	'father'
23.	*bataŋ/ *puqun	*bataŋ/ *pun	pun	pun	bataŋ	pun	bataŋ	'tree trunk'
24.	*bahu	*bau	baw	baw	bəəw	bahəw	bəəw	'odor'

	PMP	PR	PES	LEB	MUSI	KEB	RAWAS	
25.	*baniŋ	*bänäŋ	beneŋ	beneŋ/kuʔo	beneŋ	beneŋ	labəy/kuʔaw	‘tortoise’
26.	*balik	*bäläk	beleʔ	beleʔ	beleʔ	belek	bäläʔ	‘return’
27.	*balanak	*bəlanak	bəlanaʔ	bəlanaʔ	bəlanaʔ	bəlanak	bəlanaʔ	‘mullet’
28.	*balaŋa	*bəlaŋi	n.d.	n.d.	bəlaŋəy	n.d.	bəlaŋəy	‘clay pot’
29.	*baqeRu	*bəlu	bəlaw	bəlaw	bəlaw	bələw	bələw	‘new’
30.	*bener	*bənər	bənəa	bənəa	bənəa	bənəh	bənəa	‘correct’
31.	*benaqi	*bənuy	bənəy	bənəy	bənie	bənəe	bənuy	‘sand’
32.	*beReqat	*bənəg/bərət	bəʔət	bənək	bəʔət	bəhət	bənək	‘heavy’
33.	*beduk	*bəruk	bəʔuʔ	bəʔuʔ	bəʔuʔ	bəʔuʔ	buʔuʔ	‘ape’
34.	*bitiqis	*bətis	bətis	bətis	bətis	bətis	käkäl	‘calf (leg)’
35.	*betul	*bətul	bətoa	bətoa	bətoa	bətoa	bənəa	‘true’
36.	*bibiR	*bibir/ŋus	bibia	bibia	bebea	ŋus	bibia/ŋus	‘lips’
37.	*binehiq	*biniʔ/bəniʔ	biniaʔ	biniaʔ	beneaʔ	beneah	bənäh	‘seed’
38.	*waRi	*bili	bilay	bilay	biləy	biləy	biləy	‘day’
39.	*biluk	*ilok	iloʔ	iloʔ	iloʔ	sipaŋ	beloʔ	‘return’
40.	*baRani	*bini	binay	binay	binəy	binəy	binəy	‘brave’
41.	*wahiR	*biol	bioa	bioa	bioa	bioa	biol	‘water’
42.	*bituqen	*bitaŋ	bitaŋ	bitaŋ	bitaŋ	bitaŋ	bitaŋ	‘star’
43.	*buaq	*buaʔ	buaʔ	buaʔ	boaʔ	boah	buah-buah	‘fruit’
44.	*buqaya	*buay	buay	buay	buayo	buaəy	mouy	‘crocodile’
45.	*bahi	*buy	bəy	anoʔ sela-wəy	bie	kəpik	anaʔ səla-wuy	‘female’
46.	*bulan	*bulən	bulən	bulən	bulən	bulən	bulən	‘moon’
47.	*bulat	*bulət	bulət	bulət	bulət	bulət	bulət	‘round’
48.	*bulu	*bulu	bulaw	bulaw	buləw	buləw	buləw	‘feather’
49.	*buŋa	*buŋi	buŋay	buŋay	buŋəy	buŋi	buŋəy	‘flower’
50.	*buhek	*buk	buʔ	buʔ	buʔ	buk	buʔ	‘head hair’
51.	*buRuk	*buruk	buʔuʔ	buʔuʔ	buʔuʔ	buhuk	ät	‘bad; worn out’
52.	*batu	*butu	butaw	butaw	butəw	butəw	butəw	‘stone’
53.	—	*[ci/kə]kuŋ	cikuŋ	cikuŋ	n.d.	kəkuŋ	n.d.	‘throat’
54.	—	*cua/laŋ	cua	cua	coa	coa	laŋ	‘not’
55.	*esa~isa	*da	n.d.	do	do	do	daw	‘one’
56.	*dada	*dadə	dado	dado	dado	dado	dadaw	‘chest’
57.	*(d)aRaq	*dalaʔ	daləaʔ	daləaʔ	daləaʔ	dalah	dalah	‘blood’
58.	*lalej	*daləj	dalək	dalək	dalək	daləg[dalək]	dalət	‘housefly’
59.	*zalan	*dalən	dalən	dalən	dalən	dalən	dalən	‘road’
60.	*daqan	*dan	dan	dan	dan	dan	dan	‘branch’
61.	*danaw	*daniw	danəw	danəw	danuo	danəa	daniw	‘lake’
62.	—	*das	n.d.	das	das	das	das	‘(on) top’
63.	*darat	*darət	n.d.	n.d.	daʔət	dahət	daʔət	‘inland’
64.	*dahun	*daun	dawən	dawən	dawən	dawən	daun	‘leaf’
65.	*debu	*dəbu	dəbu	abaw	ŋəbu	sahabuk	dəbəw	‘dust’
66.	*walu	*dəlapən	dəlapən	dəlapən	dəlapən	dəlapən	lapən	‘eight’
67.	*deRes	*dərəs	n.d.	n.d.	dəʔəs	dəhəs	dəʔəs	‘swift current’
68.	—	*di	di	di	di	di	dəy	‘there’
69.	*dilaq	*dilaʔ	diləaʔ	diləaʔ	diləaʔ	dilah	lidah	‘tongue’
70.	*zaRum	*dolom	dolom	dolom	dolom	dolom	dolom	‘needle’
71.	*dapuR	*dopol	dopoa	dopoa	dopoa	dopoa	dopoa	‘hearth’
72.	*duha	*dui	duay	duay	duəy	dui	duəy	‘two’
73.	*dukut	*dukut	dukut	dukut	dukut	dukut	dukut	‘grass’
74.	*qiliR	*ilir	lot	məŋilot	elea	ilih/lot	pi-lot	‘downstream’
75.	—	*əm̃əm	n.d.	n.d.	əm̃əm	əm̃əm	əm̃əm	‘burn’

	PMP	PR	PES	LEB	MUSI	KEB	RAWAS	
76.	*embun	*əm̃un	əm̃un	əm̃un	əm̃un	awan	əm̃un	‘cloud’
77.	*enem	*num	num	num	num	num	num	‘six’
78.	*gatel	*gatal	gata	gata	gata	gata	gatal	‘itch’
79.	*ŋajan	*gän	gen	gen	gen	gen	gän	‘name’
80.	*pegeŋ	*goŋ	goŋ	goŋ	goŋ	goŋ	goŋ	‘hold’
81.	*gilap	*gələp	gələp	kəlap-kəlip	gələp	gəmiləp	kəlap-kəlip	‘flash’
82.	*genep	*gənəp	gənəp	gənəp	gənəp	gənəp	gənəp	‘complete’
83.	*qudip	*idup	idup	idup	idup	idup	idup	‘alive’
84.	*ikuR	*ikol	ikoa	ikoa	ikoa	ikoa	ikuʔ	‘tail’
85.	*piliq	*iliʔ	iliaʔ	iliaʔ	eleaʔ	eleah	äläh	‘choose’
86.	*p-inzem	*iñ̃əm	iñ̃əm	iñ̃əm	iñ̃əm	iñ̃əm	iñ̃əm	‘borrow’
87.	—	*iñok	iñoʔ	iñoʔ	iñoʔ	iñok	iñoʔ	‘mother’
88.	*hisaŋ	*isaŋ	isaŋ	isaŋ	isaŋ	isaŋ	isaŋ	‘gills’
89.	*isi	*isi	isay	isay	isəy	isəy	isəy	‘contents’
90.	—	*iso/bukən	iso	iso	iso	iso	bukən	‘not a’
91.	*qituŋ	*ituŋ	ituŋ	ituŋ	ituŋ	ituŋ	rikin	‘count’
92.	*apa	*jano	jano	jano	jano	jano	igän	‘what?’
93.	*kutkut	*gaut	gaut	gawət	gaut	gahut	kaut	‘scratch’
94.	*kutu	*gutu	gutaw	gutaw	gutəw	gutəw	gutəw	‘louse’
95.	*kabut	*kabut	kabut	kabut	kabut	kabut	kabut	‘fog’
96.	*kaka-q	*kakak	kakaʔ	kakoʔ	kakaʔ	kakak	kakaʔ	‘eld. sib.’
97.	*hikan	*kan	kan	kan	kan	kan	kan	‘fish’
98.	*ka-wanan	*kanən	kanən	kanən	kanən	kanən	kanən	‘rightside’
99.	*kasaw	*kasiw	kasəw	kasəw	kasuo	kasəa	kasiw	‘rafter’
100.	—	*kagən	kagən	kagən	kagən	kahagən	tukuʔ	‘neck’
101.	—	*käkäl	kekea	kekea	kekea	kekea	käkäl	‘leg; foot’
102.	*kawil	*käwäl	kewea	kewea	kewea	kewea	panciŋ	‘to fish’
103.	*kawit	*käwät	kewet	kewet	kewet	kait	kait	‘fish hook’
104.	*ma-kapal	*kəbol	n.d.	kəboa	kəboa	kəboa	kəbol	‘thick’
105.	—	*kəkaʔ	kəaʔ	kəaʔ/lətəaʔ	kəaʔ	kah	latay	‘floor’
106.	*kena	*kəna	kəno	kəno	kəno	kəno	kənaw	‘strike
107.	*kempu	*kəpu	kəpaw	kəpaw	kəpəw	kəpəw	kəpəw	‘grandchild’
108.	—	*kərətə	kətə	kutə	kətə	kəhətə	galəy	‘all’
109.	*keRiŋ	*kəriŋ	kəʔiŋ	kəʔiŋ	kəʔiŋ	kəhiŋ	kiʔiŋ	‘dry’
110.	*esak	*k-əsak	k-əsaʔ	k-əsoʔ	k-əsaʔ	k-əsak	k-əsaʔ	‘cook’
111.	—	*kətot	kətot	kətot	n.d.	kətot	n.d.	‘knee’
112.	*kami	*kimi	keme	keme	keme	keme	kämäy	‘we EXCL’
113.	*kita	*kitə	itə	itə	itə	itə	kitə	‘we INCL’
114.	*kizep	*-kizəp	kijəp	sə-kijəp	sə-kijəp	də-kijəp	goa/kədip	‘blink’
115.	*zaqat	*kidek	n.d.	kideʔ	kideʔ	kidək	kedeʔ/ät	‘evil’
116.	*kahiw	*kiiw	kiəw	kiəw	kiuo	kiəa	kiiw	‘wood’
117.	*kilat	*kilət	giləp	kilat	kilat	səmitoa/kilət	kilət	‘lightning’
118.	*kahu	*ko	ko	ko	ko	ko	kabən	‘you SG’
119.	*kamu	*kumu	kumu	kumu	kumu	kumu	kuməw	‘you SG.HON’
120.	*asu	*kuyuk	kuyuʔ	kuyuʔ	kuyuʔ	kuyuk	kucaʔ	‘dog’
121.	*laŋaw	*laŋiw	laŋəw	laŋəw	laŋuo	laŋəa	laŋiw	‘horsefly’
122.	*lahud	*laut	laut	laut	laut	laut	laut	‘sea’
123.	*lawaq	*lawaʔ	lawəaʔ	lawəaʔ	lawəaʔ	lawah	ləlabah	‘spider’
124.	*laŋit	*läŋät	leŋet	leŋet	leŋet	leŋet	läŋät	‘sky’
125.	*lain	*ləyən	ləyən	luyən	ləyən	də-bətəe	lain	‘other’
126.	*lebiq	*ləbiʔ	ləbiaʔ	ləbiaʔ	ləbeaʔ	ləbeah	ləbäh	‘more
127.	*lem	*(pi)ləm	ləm	ləm	ləm	hələm	piləm/oləm	‘inside’

	PMP	PR	PES	LEB	MUSI	KEB	RAWAS	
128.	*lima	*ləma	ləmo	ləmo	ləmo	ləmo	ləmaw	‘five’
129.	*lesuŋ	*ləsuŋ	ləsuŋ	ləsuŋ	ləsuŋ	ləsuŋ	ləsuŋ	‘mortar’
130.	*ma-Raya	*li	lay	lay	ləy	ləy	ləy	‘big’
131.	*libeR	*libər	libəa	libəa	libəa	libəh	libəa	‘wide’
132.	*laRi(w)	*lilay	lilay	lilay	liləy	liləy	liləy	‘run’
133.	*nipis	*mə-lipis	mipis	mipis	mipis	mipis	mə-lipis	‘thin’
134.	*beRay	*luy	ləy	ləy	lie	ləe	luy	‘give’
135.	*leceq	*ləcaʔ	n.d.	n.d.	ləcəaʔ	ləcah	ləcah	‘soaked’
136.	*qali-metaq	*litaʔ	litəaʔ	litəaʔ	litəaʔ	litah	litah	‘leech’
137.	—	*luaʔ	n.d.	n.d.	loaʔ	loah	titah	‘command’
138.	*lurus	*lurus	n.d.	n.d.	luʔus	luhus	luʔus	‘straight’
139.	*mama-q	*mamak	tama	mamoʔ	mamaʔ	mamak	waʔ	‘mo .bro.’
140.	*mata	*mati	matay	matay	matəy	matəy	matəy	‘eye’
141.	*matay	*matuy	matəy	matəy	matie	matəe	matuy	‘die’
142.	—	*may	may	moy	may	may	may	‘to’
143.	*um-inem	*mänäm	menem	menem	menem	menem	əñuk biol	‘drink’
144.	*zaqit	*mən-dät	məñet	məñet	məñet	məñet	məñät	‘sew’
145.	*ma-iRaq	*milaʔ	miləaʔ	miləaʔ	miləaʔ	abaŋ	abaŋ	‘red’
146.	*mi-hepi	*mipi	mipay	mipay	mipəy	mipəy	mipəy	‘dream’
147.	*emis	*mis	mis	mis	mis	mis	mis	‘sweet’
148.	*manuk	*monok	monoʔ	monoʔ	monoʔ	monok	monoʔ	‘chicken’
149.	*ma-añud	*monot	monot	monot	monot	monot	añut	‘drift; wash away’
150.	*um-utaq	*mutaʔ	mutəaʔ	mutəaʔ	mutəaʔ	mutah	mutah	‘vomit’
151.	—	*nak/taŋ/lə	naʔ	naʔ	naʔ	nak	taŋ/lə	‘at’
152.	—	*nam	nam	nam	nam	nam	nam	‘able to’
153.	—	*nam pət	nam pət	nam pət	nam pət	nam pət	nam pət	‘know (person)’
154.	*nipay	*napuy	n.d.	duŋ	nopoy	nopoy	ular	‘snake’
155.	*nahik	*näk	neʔ	nəʔ	neʔ	nek	näʔ	‘climb’
156.	*ni-a	*nə	nə	nə	nə	nə	nə	‘3 SG’
157.	*niuR	*niol	nioa	nioa	nioa	nioa	niol	‘coconut’
158.	*ni-hu	*nu	nu	nu	nu	nu	kabən	‘2 SG’
159.	*ñawa	*ñabi	ñabay	ñabay	ñabəy	ñabəy	ñabəy	‘soul’
160.	*ñamuk	*ñomok	ñomoʔ	ñomoʔ	ñomoʔ	ñomok	ñomoʔ	‘mosquito’
161.	—	*ŋike	pələlos	ŋike	ŋike	ŋike	ŋeceʔ	‘tell lie’
162.	*ulej	*olok	olok	olok	olok	olog [olok]	ulət	‘caterpillar’
163.	—	*padaʔ	padəaʔ	padəaʔ	padəaʔ	padah	padah	‘say’
164.	*panas	*panəs	panəs	panəs	panəs	panəs	panəs	‘hot’
165.	*panaw	*paniw	panəw	panəw	panuo	panəa	paniw	‘walk’
166.	*panzaŋ	*pañaŋ	pañaŋ	pañaŋ	pañaŋ	pañaŋ	pañaŋ	‘long’
167.	*hepat	*pat	pat	pat	pat	pat	pat	‘four’
168.	*pataq	*patiʔ	patiaʔ	patiaʔ	pateaʔ	pateah	patäh	‘break’
169.	—	*parak	n.d.	n.d.	paʔaʔ	pahak	kədət	‘near’
170.	*pajay	*pay	pay	pay	pay	pay	pay	‘rice plant’
171.	*paqit	*pät	pet	pet	pet	pet	pät	‘bitter’
172.	*qapeju	*pəgu	pəgaw	pəgaw	pəgəw	ahəy-ahəy	pəgəw	‘gall’
173.	*palaqepaq	*pələpaʔ	pələpəaʔ	pələpəaʔ	pələpəaʔ	pələpah	pələpah	‘palm frond’
174.	*penuq	*penuʔ	pənuaʔ	pənuaʔ	pənoaʔ	pənoah	pənoh	‘full’
175.	*peRes	*pərəs	nəməs	niua	paʔəs	nəhah	nəcit	‘squeeze’
176.	—	*piə	pio	pio	pio	pio	*piə	‘here’
177.	*pisaw	*pisiw	pisəw	pisəw	pisuo	pisəa	pisiw	‘knife’
178.	*puluq	*puluʔ	puluaʔ	puluaʔ	poloaʔ	poloah	poloh	‘ten’
179.	*punay	*punuy	ponoy	ponoy	ponoy	ponoy	punuy	‘dove’

	PMP	PR	PES	LEB	MUSI	KEB	RAWAS	
180.	*pandak	*pəñaʔ	pəñaʔ	təməaʔ	pəñaʔ	pədak	pədaʔ	‘short’
181.	*pusej	*pusəj	posok	posok	posok	posog	pusət	‘navel’
182.	*puket	*pukət	jilay	jaʔiŋ	pukət	jaləy	pokot	‘dragnet’
183.	*pulut	*pulut	pulut	pulut	pulut	pulut	pulut	‘bird lime’
184.	*puqun	*pun	pun	pun kiəw	pun	pun	bataŋ	‘tree’
185.	—	*purukən	pukən	pukən	pukən	puhukən	pukən	‘pouch of chicken’
186.	*puter	*putər	putəa	putəa	putəa	n.d.	putəa	‘turn’
187.	*putiq	*putiʔ	putiaʔ	putiaʔ	puteaʔ	puteah	putäh	‘white’
188.	*Rakit	*räkät	eket	eket	eket	heket	äkät	‘raft’
189.	—	*rezaŋ	jaŋ	jaŋ	jaŋ	həjaŋ	jaŋ	‘Rejang’
190.	*rimba	*riⁿa	iⁿo	iⁿo	iⁿo	hiⁿo	iⁿaw	‘forest’
191.	*Ratus	*rotos	otos	otos	otos	hotos	otos	‘hundred’
192.	—	*ruʔ	uaʔ	uaʔ	oaʔ	hoah	jaoh	‘far’
193.	*Rumaq	*rumaʔ	uməaʔ	uməaʔ	uməaʔ	umah	umah	‘house’
194.	—	*sarəp	saʔəp	saʔəp	saʔəp	sahəp	saʔəp	‘to litter’
195.	—	*sələk	n.d.	sələʔ	n.d.	sələk	n.d.	‘gizzard’
196.	*siwa	*səmilən	səmilən	səmilən	səmilən	səmilən	səmilən	‘nine’
197.	*si-ia	*si	si	si	si	si	səy	‘3 SG’
198.	*si-ida	*si/tobo ə	si/tobo o	si/tobo o	si/tobo o	si/tobo o	səy/tobo ə	‘3 PL’
199.	*silun	*sələn	sələn	sələn	sələn	sələn	kukəw	‘claw; nail’
200.	*ma-Ru-qanay	*-manuy	sə-manəy	səmanəy	sə-manie	səboŋ	sə-manuy	‘male’
201.	*sempit	*səpit	səpit	səpit	səpit	səpit	səpit	‘narrow’
202.	*qasiRa	*sili	silay	silay	siləy	siləy	gaʔəm	‘salt’
203.	*silu	*silu	silaw	silaw	siləw	siləw	siləw	‘rheumatic pain’
204.	*sintak	*sitak	tə-kañət	sitoʔ	sitaʔ	sitak	sitaʔ	‘to jerk’
205.	*sabuŋ	*soboŋ	soboŋ	soboŋ	soboŋ	soboŋ	soboŋ	‘cockfight’
206.	*sapu	*supu	supaw	supaw	supəw	supəw	supəw	‘broom’
207.	*surat	*surət	n.d.	n.d.	suʔət	suhət	suʔət	‘write’
208.	*susu	*susu	susaw	susu puan	susəw	susəw	kajut puan	‘breast milk’
209.	*tazem	*tajəm	tajəm	tajəm	tajəm	tajəm	tajəm	‘sharp’
210.	*tales	*taləs	taləs	taləs	taləs	taləs	kəladəy	‘taro’
211.	*taneq	*tanaʔ	tanəaʔ	tanəaʔ	tanəaʔ	tanah	tanah	‘earth’
212.	*tanem	*tanəm	tanəm	tanəm	tanəm	tanəm	tanəm	‘to plant’
213.	*taŋan	*taŋən	taŋən	taŋən	taŋən	taŋən	taŋən	‘hand’
214.	*taqun	*taun	taun	taun	taun	taun	ton	‘year’
215.	*tawad	*tawər	tawəa	tawəa	tawəa	tawəh	tawəa	‘haggle’
216.	*tawa	*tawi	taway	taway	tawəy	tawəy	tawəy	‘laugh’
217.	*bukid	*təba	təbo	təbo	bukit/təbo	təbo	təbaw	‘hill’
218.	*teka	*təka	təko	təko	təko	tiⁿoa	təkaw	‘come’
219.	*tuqelaN	*tələn	tələn	tələn	tələn	tələn	tələn	‘bone’
220.	*telu	*təlu	tələw	tələw	tələw	tələw	tələw	‘three’
221.	*qateluR	*tənol	tənoa	tənoa	tənoa	tənoa	tənol/tenoa	‘egg’
222.	*tinaqi	*tənuy	tənəy	tənəy	tənie	tənəe	tənuy	‘intestines’
223.	*deŋeR	*təŋoa	təŋoa	təŋoa	təŋoa	təŋoa	tiʔuʔ	‘hear’
224.	*tanda	*taña	taña	n.d.	taño	taño	tañə	‘sign’
225.	*tebaŋ	*təbaŋ	n.d.	təbaŋ	təbaŋ	n.d.	təbaŋ	‘fell (tree)’
226.	*takebas	*təbas	təbas	təbas	təbas	təbas	təbas	‘clear-cut’
227.	*tektek	*tətok	tətoʔ	tətoʔ	tətoʔ	tətok	tətoʔ	‘chop, hack’
228.	*tiduR	*tidur	tidua	tidua	tidoa	tiduh	tidua	‘sleep’
229.	*tikam	*tikəm/tuzáʔ	tikəm	tikəm	tikəm	tujah	tujah	‘to stab’
230.	—	*tiruk	tiʔuʔ	tiʔuʔ	tiʔuʔ	tihuk	tiʔuʔ	‘ear’

	PMP	PR	PES	LEB	MUSI	KEB	RAWAS	
231.	*tirus	*tirus	tiʔus	tiʔus	tiʔus	tihus	cituŋ	'tapering'
232.	*talih	*tili	tilay	tilay	tiləy	tiləy	tiləy	'rope'
233.	*timba	*timña	n.d.	n.d.	timña	n.d.	timñaw	'well pail'
234.	*timeRaq	*timaʔ	timəaʔ	timəaʔ	timəaʔ	timah	timah	'tin'
235.	*timbak	*timñak	timñaʔ	timñoʔ	timñaʔ	timñak	timñaʔ	'shoot'
236.	*hiup	*t-iup	tiup	k-əmñus	tipu	k-əmñus	tiup	'blow'
237.	*tuŋked	*tokot	tokot	tokot	tokot	tokot	tokot	'staff, cane'
238.	*tuqah	*tui	tuay	tuay	tuəy	tui	tuəy	'old'
239.	*tupelak	*tulak	tulaʔ	tuloʔ	tulaʔ	tulak	tulaʔ	'reject'
240.	*tupul	*tupul	n.d.	puʔaw	topoa	topoa	topol	'dull, blunt'
241.	*tuktuk	*tutuk	tutuʔ	tutuʔ	tutuʔ	tutuk	tutuʔ	'pound rice'
242.	*tutup/ *tiŋkeb	*tutup/ *təkəp	tutup	təkəp	tutup	təkəp	tutup	'to close'
243.	*taqi	*tuy	təy	təy	tie	təe	tuy	'feces'
244.	*tuzuq	*tuzuʔ	tujuaʔ	tujuaʔ	tojoaʔ	tojoah	tojoh	'seven'
245.	*qubi	*ubi	ubay	ubay	ubəy	ubəy	ubəy	'yam'
246.	*qudaŋ	*udaŋ	udaŋ	udaŋ	udaŋ	udaŋ	udaŋ	'shrimp'
247.	*aku	*uku	uku	uku	uku	uku	kəw	'I SG'
248.	*qulu	*ulu	ulaw	ulaw	uləw	uləw	uləw	'head'
249.	*huluR	*ulur	ulua	ulua	oloa	uluh	ulua	'to lower'
250.	*qapuR	*upur	upua	opoa	opoa	opoh	upua	'chalk, lime'
251.	*hapuy	*upuy	opoy	opoy	opoy	opoy	upuy	'fire'
252.	*utek	*utək	otoʔ	otoʔ	otoʔ	otok	utaʔ	'brain'
253.	*quzan	*uzən	ujən	ujən	ujən	ujən	ujən	'rain'
254.	*busuk	*(b)usuk	usuʔ	usuʔ	usuʔ	busuk	busuʔ	'rotten'
255.	*bunuq	*unuʔ	m-unuaʔ	m-unuaʔ	m-onoaʔ	m-onoah	m-onoh	'kill'
256.	*qayam	*yam	yam	yam	yam	yam	mainan	'toy'
257.	—	*zibaʔ/daŋ	jibəaʔ	jibəaʔ	daŋ	daŋ	jibah/usah	'Don't!'
258.	*zari	*ziri	jiʔay	jiʔay	jiʔəy	jihəy	jiʔəy	'finger'

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