VERHANDELINGEN
VAN HET KONINKLIJK INSTITUUT
VOOR TAAL-, LAND- EN VOLKENKUNDE

73

BERND NOTHOFER

THE RECONSTRUCTION OF PROTO-MALAYO-JAVANIC



'S-GRAVENHAGE - MARTINUS NIJHOFF 1975

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PREFACE

This book is a slightly revised and corrected version of my Ph.D. dissertation (Yale University, 1973). The work concerns the reconstruction of the phonemes of Proto-Malayo-Javanic, the last proto-language which Sundanese, Javanese, Malay, and Madurese directly continue.

Part 1 contains a lexicostatistical calculation of the degrees of relationship among the four languages under investigation and a brief description of the phonology and morphophonemics of each language.

Part 2 is devoted to the reconstruction of the Proto-Malayo-Javanic phonemes. It is shown that the distinction between the two Sundanese vowels ə and ɨ is not inherited and that Javanese loanwords are the main source of Sundanese words containing ə. It is also shown that evidence from Malayo-Javanic languages requires the reconstruction of a number of Proto-Malayo-Javanic phonemes which hitherto have not been reconstructed for proto-languages of higher order or the proto-language of highest order, i.e. Proto-Austronesian.

At the beginning of Part 2 we discuss the methodological principles applied in the determination of inheritance and borrowing.

The appendix contains the basic vocabulary lists for the four languages, a map showing previously assumed language boundaries separating Sundanese, Jakarta Malay,

Javanese, and Madurese and a revised map showing language boundaries as revealed in the course of this research as well as Sundanese dialect maps. An index of the Proto-Malayo-Javanic reconstructions follows.

The word index and the section entitled "Additional notes on the *B : *b distinction and new hypotheses regarding the reflexes of *w and *B" were added to the original text in 1974.

The topic of the dissertation was suggested to me by Professor Isidore Dyen. I wish to thank him for his constant and patient guidance of my analysis. I would like to thank Yale University, the National Science Foundation, the Concilium on International and Area Studies of Yale University, and the project "The Genetic Classification of Languages-Austronesian" directed by Professor Dyen and supported by the National Science Foundation, for their support of my graduate work and research. I am grateful to my fellow-student Curtis D. McFarland for all tangible and intangible support he has given me. I have profited from discussions with Shigeru Tsuchida. Finally, I would like to thank the Indonesian people, particularly my friend and assistant Adang Affandi from Bandung, for making my field work in West Java such a fruitful experience.

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I. Abbreviations

B. = Bangkalan (Mad. d.)

Bad. = Baduy (Snd. d.)

Band. = Bandung (Snd. d.)

Bant. = Banten (Snd. d.)

Baw. = Bawean (Mad. d.)

Bijd. = Bijdragen tot de Taal-, Land-, en Volkenkunde van Nederlandsch-Indië. The Hague.

Bog. = Bogor (Snd. d.)

Bug. = Buginese

Cian. = Cianjur (Snd. d.)

Cir. = Cirebon (Snd. d.)

Fi. = Fiji

Fu. = Futuna

(H) = High (SS)

ID = Isidore Dyen (only used in the citation of reconstructions)

Ind. = Indramayu

IPLS = Indo-Pacific Linguistic Studies, Part I (=Lingua 14)

Jak. = Jakarta (Mal. d.)

Kad. = Kadipaten (Snd. d.)

Kang. = Kangean (Mad. d.)

Ked. = Kedah (Mal. d.)

Kel. = Kelantan (Mal. d.)

(L) = Low (SS)

Lg. = Language. Baltimore.

(M) = Mid (SS)

Mad. = Madurese

Mad. d. = Madurese dialect

Mak. = Makassarese

Mal. = Malay

Mal. d. = Malay dialect

Mer. = Merina

Mlc. = Malacca

NgD. = Ngaju-Dayak

NJv. = New Javanese

NJv. (B) = literary

NJv. (D) = dialectal

NJv. (O) = archaic

N.S. = Negri Sembilan (Mal. d.)

OD = Otto Dempwolff (only used in the citation of reconstructions)

OJv. = Old Javanese

P. = Pamekasan (Mad. d.)

Pal. = Palembang

PAN = Proto-Austronesian

Pen. = Penang (Mal. d.)

PHN = Proto-Hesperonesian

PMJ = Proto-Malayo-Javanic

Pur. = Purwakarta (Snd. d.)

PWI = Proto-West-Indonesian

S. = Sumenep (Mad. d.)

Sa. = Saa

S.-B. = Southern Banten (Snd. d.)

Sm. = Samoan

Snd. = Sundanese

Snd. d. = Sundanese dialect

S.P. = Southern Peninsula (Mal. d.)

Sp. = Singapore (Mal. d.)

SS = status-style

Su. = Sumatra (Mal. d.)

Sum. = Sumedang (Snd. d.)

Tag. = Tagalog

TBt. = Toba-Batak

Tijd. = Tijdschrift voor Indische Taal-, Land-, en Volkenkunde, iutgegeven door het Bataviaasch Genootschap. Batavia.

To. = Tonga

U. = Ulawa

(VH) = Very High (SS)

(VL) = Very Low (SS)

ZES = Zeitschrift für Eingeborenen-Sprachen. Berlin.

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1. INTRODUCTION

1.1. This work is a study of the historical relationships among Sundanese, Javanese, Malay, and Madurese based on the methods of comparative linguistics. The cognate features of these four important languages are compared and investigated for their implications regarding their past history and in particular the last proto-language which all four languages directly continue. This last proto-language is referred to as Proto-Malayo-Javanic (PMJ).

1.2. The limitation to these four languages is based on a likely subgroup of which these four languages are the most important members. This subgroup was constituted in Dyen's lexicostatistical classification (1965b:26), in which some 250 languages were classified into subgroups on the basis of shared cognates in a list of 196 words of basic meanings. He named this subgroup the 'Javo-Sumatra Hesion'. It includes as coordinate members, Sundanese, Javanese, and a further subgroup, the 'Malayic Hesion' which includes Malay and Madurese among its members. The following list is extracted from Dyen's classification and shows all members of the 'Javo-Sumatra Hesion':

Javo-Sumatra Hesion

1. Malayic Hesion
    1. Malayan Subfamily
        1. Malay
        2. Minangkabau
        3. Kerintji
    2. Madurese
    3. Achinese
    4. Lampungic Subfamily
        1. Lampung
        2. Kroë
2. Sundanese
3. Javanese

Evidence from languages other than Malay, Madurese, Sundanese, and Javanese (Old Javanese and New Javanese) is not considered here because of the mass of data available for these four languages alone. The sparsity of data available for Kerintji, Lampung[1], and Kroë would have made consideration of these languages difficult in any case.

1.3. Dyen's lexicostatistical calculation of the relationships among Sundanese, Javanese, Malay, and Madurese showed the following percentages of cognation for the 200-word lists[2]:

	Snd.	NJv.	Mal.	Mad.
Snd.		37.1	36.8	34.9
NJv.			32	38.6
Mal.				48.4
Mad.				

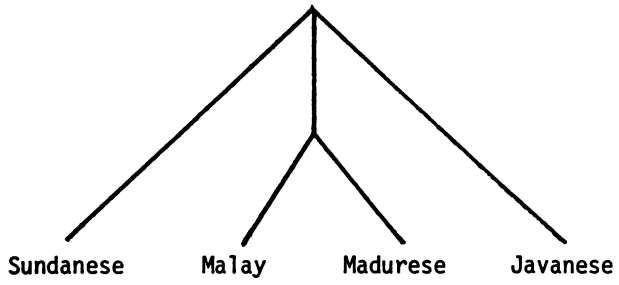
A new lexicostatistical calculation of the relationships among the four languages was made taking into account the regular correspondences established below and thus almost completely eliminating errors due to undetermined borrowings which can be detected by the presence of irregular correspondences. It tended to confirm Dyen's classification. In particular it supported subgrouping Malay with Madurese.

Dyen's percentage for the comparison of the Sundanese and Javanese lists, 37.1 percent, is however too high. Sundanese borrowed heavily from Javanese. After eliminating all words which are determinably borrowings the new percentage is 33 percent.

The following table shows the percentages of cognation among the four languages for both the 100-word lists[3] (lower-left hand corner) and the 200-word lists[4] (upper right-hand corner) as they were calculated after the determination of the regular correspondences. The percentages for the 100-word lists support those made for the 200-word lists. Those for the 100-word lists are proportionally higher because the vocabulary is less fragile:

	Snd.	NJv.	Mal.	Mad.
Snd.		33	37	36
NJv.	35		33	37
Mal.	40	37		47
Mad.	40	40	53	

A tree-configuration of the relationships among the four languages as determined by lexicostatistics is as follows:



The four languages

1.4. Sundanese. Sundanese is the first (i.e. the native) language of about 15 million people in the Pasundan region, West Java. In the north, the Sundanese speaking area reaches the Java Sea only in the area of Pamanukan. Otherwise, it is separated from the sea mainly by a thin strip of Javanese and the much deeper wedge-shaped area of Jakarta-Malay which includes Jakarta and thins toward the south with its southernmost tip just north of Bogor.

Map 1 shows the language borders between Sundanese and Javanese, and Jakarta Malay as they were found in a recent study.[5]

1.4.1. The Sundanese phoneme inventory.[6] The Sundanese vowels constitute a seven-term system:

i	ɨ	u
e	ə	o
	a	

The Sundanese consonants constitute a nineteen-term system:

p	t	c	k	q[7]
b	d	j	g	
m	n	ñ	ŋ	
	l r	s		h
w		y		

1.4.2. Distributional restrictions of individual phonemes. The phonemes c, j, ñ, and w do not occur preceding pause. The vowel u does not occur preceding w and the vowel i does not occur preceding y. The vowel ə does not occur following y and preceding q, h, or y and furthermore does not occur in sequence with any other vowel. The vowel o does not occur preceding w. No vowel immediately follows or precedes pause. The vowel e and o do not occur in sequence with the vowels i and u. There are no sequences of identical vowels.

1.4.3. Sundanese morphophonemic alternations[8]

1.4.3.1. Initial alternations. A major type of alternation involves the initials of bases whose post-pausal form has an initial p, t, c, s, k, q, and a number of bases whose post-pausal form has an initial b. This alternation appears in combination with an active prefix which itself has many alternants. For convenience we will call all of the alternants of the active prefix the N-alternation. The alternations are as follows:

(a) The N-alternation appears as m- before a base whose post-pausal form has an initial p and a number of bases whose post-pausal form has an initial b. After the active prefix alternant m-, the p or b of the post-pausal form is replaced by Ø: e.g., pakeq, makeq (L) 'to use'; bɨŋkɨt, mɨŋkɨt 'to bind'.

(b) The N-alternation appears as n- before a base whose post-pausal form begins with t. After the active prefix alternant n-, the t of the post-pausal form is replaced by Ø: e.g., tutup, nutup (L) 'to close'.

(c) The N-alternation appears as ñ- before a base whose post-pausal form begins with s or c. After the active prefix alternant ñ-, the s or c of the post-pausal form is replaced by Ø: e.g., susul, ñusul 'to pursue'; cokot, ñokot (L) 'to take away'.

(d) The N-alternation appears as ŋ- before a base whose post-pausal form begins with k or q. After the active prefix alternant ŋ-, the k or q of the post-pausal form is replaced by Ø: e.g., kirim, ŋirim (L) 'to send'; qinum, ŋinum (L) 'to drink'.

(e) The N-alternation appears as ŋa- before non-alternating initials. Examples of non-alternating initials are the following: bəcir, ŋabəcir 'to flee'; dapaŋ, ŋadapaŋ (L) 'to lie on the belly'; jiŋjiŋ, ŋajiŋjiŋ 'to lift up with the hand'; gɨiŋ, ŋagɨiŋ 'to wake up'; miñak, ŋamiñakan 'to oil s.t.'; nuhun, ŋanuhunkɨn 'to thank s.o. for', ñawaq, ŋañawaqan 'to reach for, attempt'; ŋaran, ŋaŋarankɨn 'to name

s.t., report'; lɨŋgɨh, ŋalɨŋgɨh 'to come together in order to begin to celebrate a feast'; raut, ŋaraut 'to bark, rind, split'; waŋwaŋ, ŋawaŋwaŋ 'to do s.t. without using a model'; yaktiq, ŋayaktikɨn 'to make become true'; hartiq, ŋahartiq 'to understand'.

1.4.3.2. Final alternations. The following final alternations appear before the suffixes -kɨn and -naq:

(a) If the pre-pausal form of a base ends in k, the k of the pre-pausal form is replaced by Ø before -kɨn: e.g., balik, malikɨn (L) 'to return s.t.'.

(b) If the pre-pausal form of a base ends in n, the n of the pre-pausal form is replaced by Ø before -naq: e.g., qaŋɨn, qaŋɨnaq 'his soup'.

(c) If the pre-pausal form of a base ends in q, the q of the pre-pausal form is replaced by Ø before -kɨn and before -naq: e.g., tojoq, nojokɨn 'to direct towards'; gədeq, gədenaq 'its size'.

1.4.4. The Sundanese material. The main source used for the Sundanese material was Coolsma 1913. It is useful to employ a set of symbols which is in part different from Coolsma's. In the following list of symbols which differ, the symbol used in this work precedes the colon and Coolsma's follows: j : dj; c : tj; y : j; ñ : nj; ŋ : ng; u : oe; ɨ : eu; ə : ĕ.

Furthermore in conformity with the phonemic analysis presented above I have used the following additional conventions in citing words from Coolsma. Coolsma's w and y have not been written after a

homorganic vowel[9]: e.g., his boewah 'fruit' is written buah; his bijuk 'rotten, smelling' is written biuk. A q has been inserted in Coolsma's sequence of identical vowels: e.g. his buuk 'hair' is written buquk. A q has been placed before his initial vowel: e.g., his isuk 'early morning' is written qisuk. Finally a glottal stop has been placed after his final vowel: e.g., his duwa 'two' is written duaq.

1.5. Javanese. Javanese is spoken by about 50 million people[10] in Central and East Java. It is also spoken in the thin strip along the north coast of West Java, with the exception of the areas around Pamanukan and Jakarta. There is also a significant number of speakers in Sumatra and in Dutch Guiana.

Map 2 shows the language borders separating Javanese, Madurese, Sundanese, and Jakarta Malay as they appeared in Salzner's Atlas.

1.5.1. The Javanese phoneme inventory.[11] Javanese has the following eight vowel phonemes:

i u
é ə ó
è ò
a

Javanese has the following twenty-six consonant phonemes:

p	t	ṭ	c	k	q[12]
b	d	ḍ	j	g	
m	n		ñ	ŋ	
mb	nd	nḍ	nj	ŋg	
		l r	s		h
w			y		

1.5.2. Distributional restrictions of individual phonemes.

(a) The vowel ə does not occur before pause or before q, except in interjections: e.g., həqə 'yes'.

(b) The phoneme h occurs initially only in interjections: e.g., həm 'yes'.

(c) The phoneme h occurs intervocalically only between identical vowels, usually a, rarely u, still more rarely between one of the other vowels. It occurs between different vowels only dialectally.

(d) The phoneme q occurs only in final position. In interjections it can also occur intervocalically.

(e) The phonemes ṭ, ḍ, c, j, n, y, and w do not occur in final position.

(f) The phonemes b, d, and g occur in final position only in the Western group of Javanese dialects (the dialects of Banjumas and Tegal) and correspond to final p, t, and k in the Eastern group. The latter can be subdivided into a Central subgroup (the dialects of Bagelen, Jogjakarta, Kedu, Surakarta, Semarang, and Djepara-Rembang) and an Eastern subgroup (the dialects spoken in the province of East Java). In the Central subgroup final p, t, and k alternate with b, d, and g when followed by a suffix: e.g., səbap 'cause', but (with the suffix -aké), səbabaké 'is caused'. In the Eastern subgroup p, t, and k always appear even when followed by a suffix: e.g., səbapaké. For convenience Javanese forms are cited with final b, d, and g instead of final p, t, and k.

(g) The phonemes mb, nd, nḍ, nj, and ŋg do not occur before pause.

(h) The penultimate vowels é and ó in an open or closed syllable in the Eastern subgroup correspond to i and u in the Central subgroup: e.g., Eastern subgroup séséh, Central subgroup siséh 'side'; Eastern subgroup sósóh, Central subgroup susóh 'nest'.[13]

(i) The phoneme k occurs before pause only after ə. According to Kiliaan (1919:53) Javanese -ək and -aq vary freely: e.g. ịdaq, idək 'to step on'. In the citation of Javanese forms we will list both alternants only if both are given in Pigeaud (n.d.).

1.5.3. Javanese morphophonemic alternations[14].

1.5.3.1. Initial alternations. The major initial alternation in Javanese involves the initials of bases whose post-pausal form begins with p, w, t, ṭ, s, c, or k. This alternation appears in combination with the N-alternation. The alternations are as follows:

(a) The N-alternation appears as m- before a base whose post-pausal form begins with p, w, or b, and a few bases whose post-pausal form begins with a vowel. After the active prefix alternant m-, the p or w of the post-pausal form is replaced by Ø and the b of the post-pausal form remains: e.g., piléh, miléh 'to choose'; wòcò, mòcò (L) 'to read'; bukaq, mbukaq (L) 'to open'; uléh, muléh (L) 'to return home'.

(b) The N-alternation appears as n- before a base whose post-pausal form begins with t, ṭ, d, ḍ, or j. After the active prefix alternant n-, the t or ṭ of the post-pausal form is

replaced by Ø and the d, ḍ, or j of the post-pausal form remains: e.g., tipés, nipés 'to become thin or flat', ṭinṭéŋ, ninṭéŋ 'to strike a note'; dadi, ndadi (L) 'to become worse'; ḍuwór, nḍuwóraké (L) 'to make higher'; jənəŋ, njənəŋaké (L) 'to name, call'.

(c) The N-alternation appears as ñ- before a base whose post-pausal form begins with s or c. After the active prefix alternant ñ-, the s or c of the post-pausal form is replaced by Ø: e.g., siléh, ñiléh (L) 'to borrow'; campór, ñampór 'to mix'.

(d) The N-alternation appears as ŋ- before a base whose post-pausal form begins with k or g, and before a base whose post-pausal form begins with a vowel. After the active prefix alternant ŋ-, the k of the post-pausal form is replaced by Ø and the g of the post-pausal form remains: e.g., kumbah, ŋumbah 'to wash'; górèŋ, ŋgórèŋ 'to fry in oil'; ólah, ŋólah 'to cook a dish'.

(e) The N-alternation appears as ŋa-, ŋə-, mə-, or a- before monosyllabic bases. The ŋa- and ŋə- alternants only appear with transitives and the mə- and a- alternants only appear with intransitives: e.g., kòn, ŋakòn (L) 'to order'; lap, ŋəlap 'to wipe'; ḍón, məḍón 'to descend'; dós, adós 'to take a bath'.

(f) The N-alternation appears as ŋə- or mə- before a base whose post-pausal form begins with l and r. The ŋə- alternant appears with transitives, the mə- alternant with intransitives: e.g., liwət, ŋəliwət 'to boil rice'; laku, məlaku (L)

'to walk'.

1.5.3.2. Final alternations. Many bases exhibit two forms, one that appears before pause and the other that appears before certain suffixes: the pronominal suffixes -ku (L) 'my', -mu (L) 'your, -né ∿ -é (L), -nipón ∿ -ipón (H) 'his'; the nominalizing suffix -an; the locative suffix -ni ∿ -i, the locative imperative suffix -nònò ∿ -ònò; the causative suffixes -qaké ∿ -aké (L), -qakən ∿ -akən (H); and the causative imperative suffix -qnò ∿ -nò. The alternations are as follows:

(a) If the pre-pausal form of a base ends in h, the h of the pre-pausal form is replaced by Ø before a vowel-initial suffix: e.g., kumbah, kumbaan 'laundry'.

(b) Base-alternations before -ku, -mu, -né ∿ -é:

(1) If the pre-pausal form of a base ends in ò, the ò and any preceding consecutive ò of the pre-pausal form is replaced by a: e.g., kòncò 'friend', kancaku 'my friend'.

(2) If the pre-pausal form of a base has é in the final closed syllable, this é of the pre-pausal form is replaced by i before the suffix -é (but not before -ku or -mu) for some speakers: e.g., muréd 'student', muridé (others murédé) 'his student'.

(3) If the pre-pausal form of a base has ó in the final closed syllable, this ó of the pre-pausal form is replaced by u for all speakers: e.g., səpór 'train', səpuré 'the train'.

(c) Base-alternations before -an:

(1) If the pre-pausal form of a base ends in ò, the ò of the pre-pausal form is replaced by Ø: e.g., təkò 'to come', təkan 'arrival'.

(2) If the pre-pausal form of a base has é or ó in the final closed syllable, the é or ó of the pre-pausal form is replaced by i or u respectively: e.g., tulés (L) 'to write', tulisan (L) 'writing'; raóp 'to wash one's face', raupan 'water in which face has been washed'.

(3) If the pre-pausal form of a base ends in i, the sequence i + a is replaced by è: e.g., bali (L) 'to return', balèn (L) 'change'. In some instances the sequence of vowels remains: e.g., dadi (L) 'to become', dadian 'ghost'.

(4) If the pre-pausal form of a base ends in u, the sequence u + a is replaced by ò: e.g., turu (L) 'go to bed', turòn (L) 'place to sleep'. In some instances the sequence of vowels remains: e.g., adu (L) 'to fight', aduan 'a fight'.

(5) If the pre-pausal form of a base ends in é, the sequence é + a is replaced by è: e.g., ómbé 'to drink', ómbèn 'a drink'. In some instances the sequence of vowels remains: e.g., gawé (O) 'to work', gawéan (L) 'action, work'.

(6) If the pre-pausal form of a base ends in ó, the sequence ó + a is replaced by ò: e.g., aŋgó (L) 'to use, aŋgòn

(L) 'act of doing'. In some instances the sequence of vowels remains: e.g., jəró (L) 'inside', jəróan 'intestines'.

(d) Base-alternations before -ni ∿ -i, -nònò ∿ -ònò, -nən ∿ -ən, and -nipón ∿ -ipón:

(1) If the pre-pausal form of a base ends in ò, this ò and any preceding consecutive ò of the pre-pausal form is replaced by a: e.g., bisò (L) 'can, be able to', dibisani 'be able to be done'.

(2) If the pre-pausal form of a base has é or ó in the final closed syllable, the é or ó of the pre-pausal form is replaced by i or u respectively: e.g., tulés (L) 'to write', nulisi 'to write on, to'; wisóh 'to wash one's hands', misui 'to wash hands (s.o. else's)'.

(3) If the pre-pausal form of a base ends in i or u, the i or u of the pre-pausal form is replaced by è or ò respectively: e.g., gəni (L) 'fire', ŋgənèni (L) 'to cook'; laku (L) 'to walk', ŋəlakòni (L) 'to undergo, endure'.

(4) If the pre-pausal form of a base ends in é or ó, the é or ó of the pre-pausal form is replaced by è or ò respectively: e.g., ómbé 'to drink', ŋómbèni 'to give a drink to'; jəró (L) 'inside', jəròni (L) 'to make deeper'.

(e) Base-alternations before -qaké ∿ -aké, -qakən ∿ -akən, and -qnò ∿ -nò:

(1) If the pre-pausal form of a base ends in ò, this ò and any preceding consecutive ò of the pre-pausal form is replaced by a: e.g., tòtò 'to arrange', nataqaké 'to arrange for s.o.'.

(2) If the pre-pausal form of a base ends in i or u, the i or u of the pre-pausal form is replaced by è or ò respectively: e.g., lali (L) 'to forget', ŋəlalèqaké (L) 'to try to forget'; təmu (L) 'to meet', nəmòqaké 'to find for s.o.'.

(3) If the pre-pausal form of a base ends in é or ó, the é or ó of the pre-pausal form is replaced by è or ò respectively: e.g., suwé (L) 'long time', ñuwèqaké (L) 'to cause to take a long time'; bódó 'stupid', mbódòqaké 'to make a fool of'.

(4) If the pre-pausal form of a base ends in ŋ or n, the ŋ or n of the pre-pausal form is replaced by q in some instances: e.g., takòn (L) 'to ask', nakòqaké (L) 'to ask for information'.

1.5.4. The Javanese material. The material for Javanese is mainly drawn from Pigeaud (n.d.). The orthography of the source has been modified in the citations. As in the case of Coolsma's symbols for Sundanese, Pigeaud's dj, tj, j, nj, ng, and oe have been replaced by j, c, y, ñ, ŋ, and u. Pigeaud's e has been replaced by the symbol ə. Furthermore the following modifications have been made to bring the material into a phonemic writing. Pigeaud's final k has been replaced by final q except when it occurs after ə: e.g., his pijak 'to separate'

is written piyaq, but his ibək 'full' is not modified. His i and u before a final consonant have been replaced by é and ó respectively: e.g., his balik 'on the contrary' is written baléq; his bakul 'trades-woman' is written bakól. His o before a final consonant has been replaced by ò: e.g., his baloŋ 'low level' is written balòŋ. His final a and any preceding consecutive a have been replaced by ò: e.g., his waca 'to read' is written wòcò.

Some of the Javanese material has been drawn from Jansz, particularly the names of animals, plants, and trees. Pigeaud lists only a few zoological or botanical terms. Furthermore, Jansz has been consulted for the quality of the penultimate vowel in words that are listed with o in Pigeaud's dictionary. Jansz distinguishes ó and ò in his transcription. In the quotation of words from Jansz the same substitutions as for Pigeaud are applied. In addition, n has been substituted for Jansz's ṇ and single consonants are written instead of double consonants.

1.6. Old Javanese. Old Javanese is a term which is employed to designate a language that is only known from texts. These texts are from different periods and of a rich variety in content and form. They have in common that all of them were written in the pre-Islamic period of Javanese history. A list of the texts used by Juynboll for his dictionary - from which the material presented in this work is drawn - can be found in the preamble to the dictionary (pp. VIII-XI).

1.6.1. The Old Javanese symbols. Old Javanese has the following vowel symbols: a, ā, i, ī, u, ū, ṛ, ṝ, ḷ, ḹ, e, āi, o, ə, and ö.

The consonant symbols are the following 34 symbols:

p	t	ṭ	c	k
ph	th		ch	kh
b	d	ḍ	j	g
bh	dh		jh	gh
m	n	ṇ	ñ	ŋ
		l,r		
		c,ṣ,s		h
w			y	

Anuswāra: ṃ Wisarga: h Anunāsika: ·

1.6.2. The phonetic characteristics of the Old Javanese symbols. The following presentation of the phonetic characteristics is based on H. Kern. The symbol a probably was pronounced like Sanskrit or Tegal Javanese a. Its pronunciation is that of a as it also occurs in Sundanese, Malay, Makassarese, and other languages of the area. Concerning the quantity of the vowel H. Kern points out that ā probably was pronounced like Makassarese ā, i.e., a long a. Since the single author writes sometimes a and sometimes ā in the same words, e.g., mati and māti, Kern concludes that the quantitative distinction between a and ā was disappearing in Old Javanese. According to him it is very doubtful that the distinctions in quantity as they were made by the poets of the 12th and 13th century actually agreed with the pronunciation of the time. The symbol i in open syllables probably was pronounced as in modern Javanese. In closed syllables however it probably represents a vowel whose pronunciation is closer to that of Sundanese or Madurese i in the same environment. The symbols u and ū probably were pronounced as in modern Javanese, at least in open sylla-

bles. The symbol ṛ can only be interpreted as a vowel in Sanskrit words. In inherited words it represented the sequence rə: e.g., ṛŋö, rəŋö. The symbol ṝ represented the sequence rö. The same holds for ḷ and ḹ which represented the sequence lə and lö. The symbol ə probably was pronounced like modern Javanese pepet. Kern posits that ö was pronounced like a long modern Javanese pepet. Short and long pepet are confounded in a number of instances, particularly when followed by a consonant: e.g., ahöb, ahəb. As opposed to the symbols presented so far, the phonetic characteristics of the two symbols e and o are difficult to determine. In modern Javanese we have é and è, ó and ò respectively. Kern believes that dialectal differences in the pronunciation of e and o probably already existed in the Old Javanese period. The symbol āi probably was pronounced ai. It occurs in Indic words. Even this ai (as well as the inherited ai) must have been weakened to e at a very early stage of Javanese as is indicated by the occurrence of rake besides rakai in the documents.

Aspirated consonant symbols only occur in Sanskrit loan words except for a few misspellings of inherited words. The unaspirated voiceless consonant symbols and the semivowels could have differed only little from the Sanskrit sounds, for the latter are assigned values that do not differ appreciably from those of modern Javanese. Final k was pronounced [k] as in Sundanese, and not [?] as in New Javanese or Malay. Kern's hypothesis is based on the fact that final k and final t are replaced by g and d respectively before w: e.g., tak + wruh appears as tag-wruh; tat + wruh appears as tad-wruh. [Here the writing with g and d respectively may follow the Sanskrit rules of sandhi.] Just as d is the voiced counterpart of t, g is the voiced

counterpart of k, and not q. Of the three sibilants only s is Javanese. All three sibilants were pronounced like modern Javanese s. According to Kern, the symbol h in initial position must have been a 'softer breath-expulsion' than Dutch or Indic h. As a final consonant h was pronounced clearly just as in modern Javanese. The anunāsika only occurs in the syllable om. The wisarga written at the end of a meaning unit or before a consonant is pronounced like a modern Javanese h.

1.6.3. Old Javanese morphophonemics[15]

1.6.3.1. Initial alternations. We will discuss base-alternations in combination with the N-alternation. We list only those alternations which are different from those of New Javanese:

(a) The N-alternation appears as an- ∿ man- before a base whose post-pausal form begins with s. After the active prefix alternant an- ∿ man-, the s of the post-pausal form is replaced by Ø: e.g., sāmbut 'grasp', nāmbut 'to grasp'.

(b) The N-alternation appears as aŋ- ∿ maŋ- before a base whose post-pausal form begins with d or j. After the active prefix alternant aŋ- ∿ maŋ-, the d or j of the post-pausal form remains: e.g., doh 'distance', aŋdoh 'to withdraw'; juru 'leader, head', aŋjuru 'to be at the head of, lead'.

1.6.3.2. Final alternations. The following alternations occur before the locative suffixes -i ∿ -ani, the causative suffix -akən, and the nominalizing suffix -an:

(a) Before -i:

(1) If the pre-pausal form of the base ends in a, the sequence a + i is replaced by è: e.g., lara 'pain',

ŋlare 'to wound'.

(2) If the pre-pausal form of the base ends in i, the sequence i + i is replaced by ī: e.g., pati 'dead', umatī 'to kill'.

(b) Before -akən, -ani, and -an:

(1) If the pre-pausal form of the base ends in i or u, the i or u of the pre-pausal form is replaced by y or w respectively: e.g., uni 'noise', maŋunyakən 'recited'; susu 'milk', sinuswakən 'was put to the breast'.

(2) If the pre-pausal form of the base ends in ö or o, the ö or o of the pre-pausal form is replaced by w: e.g., rəŋö 'to hear', parəŋwan 'fame, reputation'.

(3) If the pre-pausal form of the base ends in e, the sequence e + a is replaced by e: e.g., limbe, lumimbekən 'tightened'.

In Old Javanese manuscripts and in the traditional Javanese writing system we find double consonants before suffixes: e.g., OJv. ucappan (base: ucap), OJv. anuturrakən (base: tutur), OJv. maŋutussi (base: utus). For a similar phenomenon in Madurese, see section 1.8.3.3.

1.6.4. The Old Javanese material. As already indicated in 1.6. the Old Javanese material is taken from Juynboll. The symbols ŋ, n, and ə have been substituted for Juynboll's ng, ṇ, and ĕ respectively.

1.7. Malay. Malay is the first language of about 10 million people on the Malay Peninsula, in certain areas of Sumatra, coastal Borneo, Jakarta and Ambon, and other parts of the Indonesian Archipelago. Bahasa Indonesia or Indonesian is one of the standard dialects of the Malay language, the other being the Malay of Malaysia and Singapore.

1.7.1. The Malay phoneme inventory.[16] The Malay of the Malay Peninsula has the following six vowel phonemes:

	i			u
		e	ə	o
			a	

The consonant phonemes are:

p	t	c	k	q
b	d	j	g	
m	n	ñ	ŋ	
	l r			
	s			h
w		y		

1.7.2. Distributional restrictions of individual phonemes. The phoneme ə does not occur in the last syllable of a word. The phoneme q occurs optionally after and before pause. Finally, the phonemes b, d, c, j, g, and ñ do not occur in syllable final position.

1.7.3. Malay morphophonemic alternations[17]

1.7.3.1. Initial alternations. The major initial alternation in Malay involves the initials of bases whose post-pausal form begins with p, m, t, n, k, ŋ, s, and ñ. This alternation appears in combination with the N-alternation. The alternations are as follows:

(a) The N-alternation appears as məm- before a base whose post-pausal form begins with p or b. After the active prefix alternant məm-, the p of the post-pausal form is replaced by Ø and the b of the post-pausal form remains: e.g., pinjam, məminjam 'to borrow'; buka, məmbuka 'to open'.

(b) The N-alternation appears as mən- before a base whose post-pausal form begins with t, d, c, or j. After the active prefix alternant mən-, the t of the post-pausal form is replaced by Ø and the d, c, or j of the post-pausal form remains: e.g., tules, mənules 'to write'; dapat,məndapat 'to obtain'; cari, məncari 'to look for'; jual, mənjual 'to sell'.

(c) The N-alternation appears as məñ- before a base whose post-pausal form begins with s. After the active prefix alternant məñ-, the s of the post-pausal form is replaced by Ø: e.g., sapu, məñapu 'to brush'.

(d) The N-alternation appears as məŋ- before a base whose post-pausal form begins with k, g, or h, and before a base whose post-pausal form begins with a vowel. After the active prefix alternant məŋ-, the k of the post-pausal form is replaced by Ø and the g or h of the post-pausal form remains: e.g., kirem, məŋirem 'to send', gosoq, məŋgosoq 'to scrub'; hitoŋ, məŋhitoŋ 'to count'; isi, məŋisi 'to fill up'.

(e) The N-alternation appears as mə- before a base whose post-pausal form begins with m, n, ñ, ŋ, l, r, or w. The initial of the post-pausal form remains: e.g., minta, məminta 'to request'; naeq, mənaeki 'to go up against'; ñañi, məñañi 'to

sing'; ŋaŋa, məŋaŋa 'to open wide'; lateh, məlateh 'to train'; rokoq, mərokoq 'to smoke'; warna, məwarnakan 'to color'.

1.7.3.2. Final alternations. If the pre-pausal form of a base ends in q, the q of the pre-pausal form is replaced by k before the suffixes -i and -an for some speakers: e.g., dudoq, məndudoqi or məndudoki 'to occupy', pəndudoqan or pəndudokan 'occupation'.

1.7.4. The Malay material is quoted from Wilkinson. Several orthographic changes have been introduced. Wilkinson's ch, ny, ng, and ě have been replaced by c, ñ, ŋ, and ə respectively.

Furthermore, in conformity with the phonemic analysis presented above I have used the following additional conventions in the citation of words from Wilkinson. Wilkinson's final k and ' have been replaced by q: e.g. his buka' 'to open' is written bukaq and his dudok 'to sit' is written dudoq. Furthermore his i and u before a final consonant have been replaced by e and o respectively: e.g., his rampiŋ 'prettily slender' is written rampeŋ; his rambut 'hair' is written rambot. In several instances Wilkinson lists words with and without h. This fact is indicated by using parentheses around the h: e.g., (h)atap 'roof'. The symbols w and y have been substituted for his final u and i where other material shows that they are non-syllabic: e.g., bau 'to smell', but balay 'hall'.

1.8. Madurese. Madurese is spoken by about 6 million people in parts of East Java, the island of Madura, and on a large number of smaller islands in the vicinity, such as Kangean and Bawean (see map 2).

1.8.1. The Madurese phoneme inventory. Madurese has the following nine vowel phonemes:

i	ə	u
é	á	ó
è	a	ò

Stevens (1968:18) constructs three vowel collections: (1) 'alternating vowels' containing the vowels i, u, a, and ə; (2) 'non-alternating vowels' containing the vowels i, è, u, ò, ə, á, and a; and (3) 'special vowels' containing the vowels é and ó. Non-alternating and special vowels only occur in loan words.

The 'alternating vowels' have the following allophones: i: [i], [è]; u: [u], [ò]; a: [á], [a]; and ə: [ə^], [ə].

Madurese has the following twenty-six consonant phonemes:

p	t	ṭ	c	k	q[18]
b	d	ḍ	j	g	
bh	dh	ḍh	jh		
m	n		ñ	ŋ	
		l r	s		h
w			y		

1.8.2. Distributional restrictions of individual phonemes.

(a) The phoneme h only occurs in loan words except in West Madurese. In West Madurese final h occurs in contrast with final vowel, but only before pause. In the citation of Madurese material this contrast is indicated by writing a final h in parentheses: e.g., buḍi(h) 'back'.

(b) The phoneme w in inherited words only occurs after a homorganic vowel and a following different vowel.

(c) The phoneme y in inherited words only occurs after a homorganic vowel and a following different vowel and in morpheme final position.

(d) The phoneme ə does not occur immediately before another vowel, w, y, q, or hC.

(e) The phonemes i, è, á, and a do not occur immediately before w.

(f) The phoneme q does not occur in initial position.

(g) The phonemes ṭ, ḍ, ḍh do not occur before r or l.

(h) The sequence rd does not occur.

(i) Syllable-final c, j, jh, ṭ, ḍ, ḍh, b, d, and w do not occur except in a geminate cluster.

1.8.3. Madurese morphophonemic alternations[19]

1.8.3.1. Vowel alternations. The following vowel alternations appear in Madurese. The vowels è, ò, and a alternate with i, u, and á respectively after voiced and aspirated stops and after liquids, q, w, y, or no consonant, if the preceding syllable begins with a voiced or aspirated stop. The vowels i, u, and á alternate with è, ò, and a respectively in all other environments: e.g., ḍáq 'to' + rèya (L) 'this', ḍáqiyá (L) 'this way' (with the loss of base-initial r); buwáq, mòwaq 'to carry'.

1.8.3.2. Initial alternations. The major initial alternation is that which involves the initial of bases whose post-pausal form begins with p, t, ṭ, or k, and the initial of a few bases whose post-pausal form begins with b, dh, ḍ, jh, or gh. This alternation appears in combination with the N-alternation. The alternations are as follows:

(a) The N-alternation appears as m- before a base whose post-pausal form begins with p and before a few bases whose post-pausal form begins with b. After the active prefix alternant m-, the p or b of the post-pausal form is replaced by Ø: e.g., pə̀d̀dhaŋ, mə̀d̀dhaŋ 'to hit with a sword'; báca(h), maca(h) 'to read'.

(b) The N-alternation appears as n- before a base whose post-pausal form begins with t or ṭ and before a few bases whose post-pausal form begins with dh or ḍ. After the active prefix alternant n-, the t, ṭ, dh, or ḍ of the post-pausal form is replaced by Ø: e.g., tòtòp, nòtòp 'to close'; ṭaṭ̀ṭaŋ, naṭ̀ṭaŋ 'to be wide open'; dhuddhuq, nòddhuq 'to point'; ḍápaq, napaq 'to reach'.

(c) The N-alternation appears as ñ- before a base whose post-pausal form begins with c or s and before a few bases whose post-pausal form begins with jh. After the active prefix alternant ñ-, the c, s, or jh of the post-pausal form is replaced by Ø: e.g., còcò, ñòcò 'to stab'; sòqòn, ñòqòn 'to request'; jhujjhu, ñujjhu 'to stick, prick' (also: ajhujjhu 'to stick, prick').

(d) The N-alternation appears as ŋ- before a base whose post-pausal form begins with k and before a few bases whose post-pausal form begins with gh or h. After the active prefix alternant ŋ-, the k, gh, or h of the post-pausal form is replaced by Ø: e.g., kèrèm, ŋèrèm 'to send'; ghinḍ̀huŋ, ŋènḍ̀huŋ 'to carry on back or hip'; hòrmat, ŋòrmadhi 'to honor'; akò(h), ŋakò(h) 'to confess'.

(e) The N-alternation appears as a- before a base whose post-pausal form begins with a nasal or a liquid and before most bases whose post-pausal form begins with b, d, ḍ, j, g, bh, ḍh, jh, gh, and h: e.g., bájhiqághi, abájhiqághi 'to disgust'. For further examples, see Stevens (1968:91ff.).

In some instances doublets appear, one showing the alternation described under (a) through (d) depending on the consonant that appears initially in the post-pausal form of the base, the other showing the alternation described in this paragraph: e.g., bássaè, massaè or abássaè 'to wet'.

(f) The N-alternation appears as am- before a few bases whose post-pausal form begins with b or bh. After the active prefix alternant am-, the b or bh of the post-pausal form remains. There is always a competitive form with the a- alternant: e.g., bujá 'salt', ambujái saghárá(h) 'to salt the sea (i.e. to do s.t. useless)' or abujái 'to salt'; bhábhájái, ambhábhájái or abhábhájái 'to endanger'.

(g) The N-alternation appears as an- before a few bases whose post-pausal form begins with dh or jh. After the active prefix alternant an-, the dh or jh of the post-pausal form remains: e.g., dháddhi, andháddhiághi 'to bring about'; jhálá sòttra(h), anjhálá sòttra(h) 'to use a silk fishing net'.

(h) The N-alternation appears as aŋ- before a few bases whose post-pausal form begins with gh. After the active prefix alternant aŋ-, the gh of the post-pausal form remains: e.g., ghá̤dhui, aŋghá̤dhui 'to own, possess'.

1.8.3.3. Final alternations. Before the suffixes -án ∿ -an and -i ∿ -è the base-alternations are as follows. If the pre-pausal form of the base ends in a stop, the stop of the pre-pausal form is replaced by its voiced aspirated counterpart: e.g., tètèp, nètèbhi 'to give in custody', tètèbhán 'what is given in custody'; kəssòt, ŋəssòdhi 'to wipe off', kəssòdhán 'broom'; òròk, ŋòròghi 'to increase', òròghán 'an increase'.

Note that final consonants except q are doubled before dissyllabic suffixes such as -ághi ∿-aghi: e.g., tètèp, tètèppaghi 'to give s.t. into s.o.'s custody'; òntal, ŋòntallaghi 'to throw away'; but: bájhiq, abájhiqághi 'to disgust'. For double consonants before suffixes in Javanese, see section 1.6.3.2.

1.8.4. The Madurese material. The Madurese material is taken from Kiliaan 1904. The following orthographic changes have been made: j, jh, c, y, ñ, ŋ and ə have been substituted for his dj, djh, tj, j, nj, ng, and ę̆. Furthermore, the following changes have been made to bring the material into a phonemic writing: the diacritic over i and u has been ignored; á has been substituted for his ạ; è and ò have been substituted for his e and o respectively.

Conventions

1.9. The asterisk (*) is used in the meaning 'unattested'. In most contexts it will be clearly used as the equivalent of 'Proto-Malayo-Javanic'. In a few instances it is used in the meaning 'unattested' for an early Sundanese, Javanese, Malay, or Madurese word where the context does not permit confusion.

1.10. Four levels of reconstruction are distinguished throughout this study:

(a) Proto-Austronesian (PAN): a reconstruction is Proto-Austronesian if it is based on at least one cognate in an Indonesian language and one in a Melanesian and/or Polynesian language.

(b) Proto-Hesperonesian (PHN): a reconstruction is Proto-Hesperonesian if it is based on a Tagalog cognate beside a cognate in a West-Indonesian language, but no Melanesian or Polynesian cognates.

(c) Proto-West-Indonesian (PWI): a reconstruction is Proto-West-Indonesian if it is based on a Malayo-Javanic cognate and also a Toba-Batak, Ngaju-Dayak, or Merina cognate, but no cognate in Tagalog, Melanesian and Polynesian languages.

(d) Proto-Malayo-Javanic (PMJ): for the principles leading to a Proto-Malayo-Javanic reconstruction, see section 2.2.

1.11. Certain conventions are followed in the citation of reconstructions:

(a) If a reconstruction attributed to PMJ is identical to a reconstruction made by Dempwolff and/or Dyen for PHN or PWI the particular level of reconstruction follows the PMJ reconstruction in parentheses. In case it is PHN the Tagalog cognate is listed and if it is PWI the other West-Indonesian cognate is listed: e.g. *kuniŋ (PWI, NgD. kăniŋ-an 'brass') indicates that a reconstruction *kuniŋ is made on the basis of Malayo-Javanic evidence which is to be associated with an

identical PWI reconstruction made by Dempwolff and/or Dyen; *surun (PHN, Tag. sú:lon 'to go ahead, forward') indicates that a reconstruction *surun is made on the basis of Malayo-Javanic evidence which is to be associated with an identical PHN reconstruction made by Dempwolff and/or Dyen.

(b) If a reconstruction attributed to PMJ differs from a PHN or PWI reconstruction made by Dempwolff and/or Dyen the particular level of reconstruction follows the PMJ reconstruction in parentheses. If the reconstruction is PHN, the Tagalog cognate is listed after the level of reconstruction, and if it is PWI, a West-Indonesian cognate is listed after the level of reconstruction. The cognate is followed by Dempwolff's and/or Dyen's reconstruction: e.g.,*Bunkuk (PWI, TBt. bukkuk 'bent' : bunkuk) indicates that a reconstruction *Bunkuk is made on the basis of Malayo-Javanic evidence which is to be associated with a PWI reconstruction bunkuk made by Dempwolff and/or Dyen; *gaḍḍiŋ (PHN, Tag. gá:riŋ 'ivory' : gadiŋ) indicates that a reconstruction *gaḍḍiŋ is made on the basis of Malayo-Javanic evidence which is to be associated with a PHN reconstruction *gadiŋ made by Dempwolff and/or Dyen.

(c) If a reconstruction attributed to PMJ differs from one made by Dempwolff and Dyen for PHN or PWI, and if Dempwolff's and Dyen's reconstructions are non-identical, the PMJ reconstruction is given followed in parentheses by the particular level of reconstruction. As in (b), the Tagalog cognate is given

if the level is PHN, or a West-Indonesian cognate is given if the level is PWI along with the reconstruction made by Dempwolff (preceded by the abbreviation OD) as well as the reconstruction made by Dyen (preceded by the abbreviation ID). Thus, the reconstruction *rakit (PWI, TBt. rakkit 'raft' : OD Ra(ŋ)kit, ID [1953b] R_3akit) indicates that *rakit is reconstructed on the basis of Malayo-Javanic evidence which is to be associated with a PWI reconstruction *ra(ŋ)kit made by Dempwolff and a PWI reconstruction *R_3akit made by Dyen 1953b. Similarly *BaR_2aq (PHN, Tag. bá:ga 'charcoal': OD baRa, ID [1965a] baRaH) indicates that *BaR_2aq is reconstructed on the basis of Malayo-Javanic evidence which is to be associated with a PHN reconstruction *baRa made by Dempwolff and a PHN reconstruction *baRaH made by Dyen 1965.

(d) If a reconstruction attributed to PMJ can be associated with one made by Dempwolff and/or Dyen for PAN, the same conventions as stated above apply with the exception that only Dyen's reconstructions are considered. Furthermore, an eastern (Melanesian or Polynesian) cognate is cited. Thus, the reconstruction *ñiuR (PAN, Fi., Sa. niu 'coconut palm') indicates that *ñiuR is reconstructed on the basis of Malayo-Javanic evidence which is to be associated with an identical reconstruction made by Dyen and McFarland. Similarly, *Bəlliq (PAN, Sa. holi 'to buy' : bəli [?h]) indicates that a reconstruction *Bəlliq is made on the basis of Malayo-Javanic evidence which is to be associated with a PAN

reconstruction bəli[?h] made by Dyen and McFarland.

1.12. Dempwolff's reconstructions are written in Dyen's symbolism (1971:23) with the exception of Dempwolff's ṭ, ḍ, and h which are retained. Dyen's reconstructions are written in Dyen's symbolism with the exception of his T and D for which we write ṭ and ḍ respectively. This symbolism is adhered to in new reconstructions. However, different correspondences are assigned to some of Dyen's symbols (such as j or z).

1.13. The alternative choices in an ambiguous reconstruction are enclosed within brackets: e.g., *pə[rr, RR]ut means indeterminably *pərrut or *pəRRut.

1.14. Tentative or 'problematic' proto-phonemes are given, whenever we are not able to separate clearly the effects of secondary changes (analogical change or borrowing) from regular phonetic change. These tentative proto-segments are indicated by using subnumerals: e.g., *DəŋŋəR_1. Both possible tentative proto-segments are usually cited by postposition of the subnumerals in reconstructions which are uncertain in respect to one tentative proto-segment: e.g., *caiR_{13} means *caiR_1 or *caiR_3.

1.15. Hyphens are inserted to separate affixes from a base: e.g., um-iwö (= um + base) 'to take care'.

1.16. Morphologically complex forms are for the most part cited only for Old Javanese. For the other languages only the base is cited.

1.17. Of the languages under investigation Sundanese, Javanese, and Madurese have for certain meanings choices of words which are socially determined and depend on the relations between the speaker and the person addressed, and also on the status of the referee, i.e. the subject of discourse. This phenomenon has been referred to by terms such as language levels (Stevens 1965) or language types (Dutch taalsorten, Walbeehm 1897). We prefer the term 'status-style'. Five status-styles are distinguished in the citation of words in this study. The following table shows the names of the various status-styles in the three languages and the abbreviations used for each of them.

		Sundanese	Javanese	Madurese
Very High	(VH)	ləməs pisan	kròmò iŋgél	alòs tèŋghi
High	(H)	ləməs	kròmò	alòs
Mid	(M)	sədəŋ	madyò	təŋa
Low	(L)	kasar	ŋókó	kasar
Very Low	(VL)	kasar pisan	(grof)[19a]	unnamed[20]

Javanese is the language with the largest number of words which are marked with respect to a certain status-style. In all status-styles fewer words are involved in Sundanese and Madurese. Semantic categories, such as numbers or animals which are part of a household (e.g., chicken, dog, cat, etc.) and which have low-high pairs in Javanese, have only words which are unmarked as to status-style in

Sundanese and in Madurese. Sundanese has about 400 high-level words, Javanese has about 600, and Madurese has about 100 words.

It is generally inferred that the status-style distinction is a Javanese innovation which was borrowed by Sundanese and Madurese. Coolsma (1904:11) says:

> "The usage (of the status-style distinction - BN) by the Sundanese very probably originates from an imitation of the Javanese who according to history have had great influence on West Java in the past...The origin of this peculiar usage by the Javanese, i.e. to produce a distinction between people also on the language level, is explained by the caste-system which was brought to Java by the Hindus...75% of the approximately 400 Sundanese high-level words appear in Javanese. 72% of the approximately 400 low-level words are also found in Javanese."

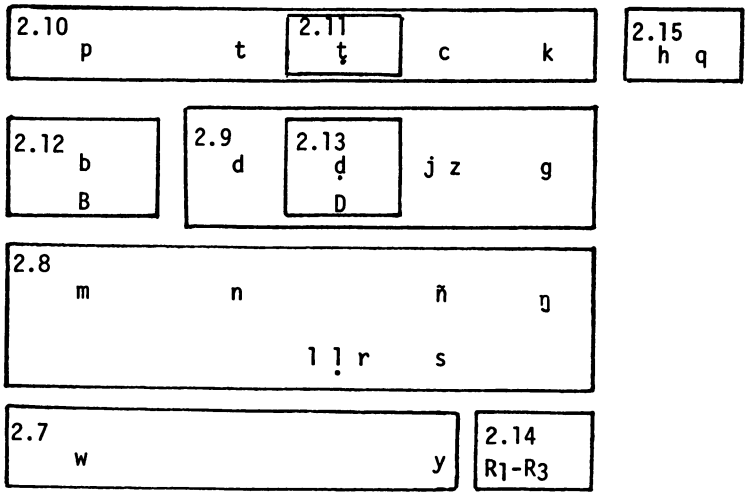
In this study all words, whether marked with respect to status-style or not, will be considered cognate unless there is evidence to the contrary.

2. RECONSTRUCTION

2.1. The reconstruction of Proto-Malayo-Javanic phonemes is divided into three sections: (1) vowels, (2) semivowels, and (3) consonants. Within each of the sections the reflexes of each phoneme are discussed. Those proto-phonemes for which the evidence seems undisputable are presented first. Only a limited number of reconstructions containing the particular phoneme under consideration are cited in these cases. Many more examples could be given, but such a listing would not contribute to the purpose of this work. For other proto-phonemes, an attempt has been made to give as many examples as possible, although no claim of exhaustiveness is made.

2.1.1. The following chart shows in which sections the PMJ vowels, semivowels, and consonants are presented. In general, the order is determined by procedure from simple to complex:

Semivowels and consonants:



Vowels:

2.6.

a	i	u	ə

Methodological principles

2.2. Since PMJ is a sub-proto-language or a meso-language, those elements which came from the proto-language, but survived in only one member-language (the so-called 'meso-language cases'), are reconstructed as PMJ on the basis of their comparison with cognates outside this subgroup: e.g., we reconstruct *qasuq (PAN, Sm. inu-asu-asu 'to sip, lap': Wasu[ ]), although only Javanese has a cognate: OJv. asu, NJv. asu (L) 'dog'. We are aware of the fact that any element which cannot be placed in the sub-proto-language is potentially a 'meso-language case', as cognates might be found outside this subgroup, but take this to be part of the unavoidable limitations on the application of the comparative method.

To reduce the effects of borrowing the following principles have been applied in determining PMJ reconstructions when no cognate is known to occur in any outside language. These principles are based on the historical relations which can reasonably be supposed to have existed among the peoples speaking the four languages under investigation. Malay and Javanese were the languages of empires which maintained political supremacy in the Indonesian Archipelago. Malay was the language of Srivijaya (approximately 7th century - 13th century) which dominated Sumatra, most of the Malay Peninsula, and West Java. Javanese was the language of the empire at Mataram, which is first mentioned about 890 A.D. and whose capital was later transferred to

Kediri in 929 where it remained until 1222. Javanese was also the language of the successor empires, Singasari (1222-1293) and Majapahit (1293-1520). The Kediri empire established commercial relations with Sumatra and the Malay Peninsula. At the turn of the first millenium the Javanese invaded Sumatra to attack Srivijaya which soon afterwards retaliated by attacking in Java. At the beginning of this millenium Srivijaya and Kediri (the latter under Airlangga) came to a rapprochement. According to the Nagarakertagama, a poem composed in 1365 by Prapanca, the kingdom of Singasari established suzerainty over Sumatra, parts of the Malay Peninsula, West Java, Bali, and Madura. It was probably at this time that Srivijaya lost its control over the Straits of Malacca and Sunda, both of which it had controlled for many centuries. Majapahit - according to the Nagarakertagama - comprised among others all of Sumatra, parts of the Malay Peninsula, Mentawai, West Java, Brunei, Madura, Bali, and the Bandas. Aside from the political developments in which it played an important role, Malay became the language used by traders and therefore became widely current throughout the islands as a means of communication between the speakers of different local languages. These historical facts lead to the assumption that both Sundanese and Madurese, the languages of people whose territories had been dominated by these empires, probably borrowed heavily from the language of their masters. Furthermore, the historical facts lead to the assumption that Malay and Javanese borrowed from each other, both empires having been in close contact and having intruded into each other's domain. On the basis of these assumptions we reconstruct a PMJ form if

comparable meaning-forms occur in two languages and could otherwise be explained as borrowings, but only:

(a) if one of the comparable meaning-forms occurs in Old Javanese and the other occurs in one of the other three languages: e.g., *timpaŋ, OJv. timpaŋ 'cripple', Mal. timpaŋ, tempaŋ 'limping, cripple'.

(b) if one of the comparable meaning-forms occurs in Sundanese and the other in Madurese: e.g., *tunDuh, Snd. tunduh, Mad. tònḍu 'sleepy'.

We also reconstruct a PMJ form if comparable meaning-forms occur in only two languages if for any combination with New Javanese and/or Malay [except for the combination Malay-Madurese which is excluded, because of the strong probability that these two languages formed a later subgroup (see section 1.3.)]

(a) the meaning is basic and there is no peculiar reflex which lends itself to a borrowing hypothesis: e.g., *huntuq, Snd. huntuq (L), OJv. huntu, NJv. untu 'tooth', or

(b) the meaning is non-basic and the words are not so similar as to lend themselves to a borrowing hypothesis: e.g., *[Bb]uncị̀, Snd. buncir 'to expand (of the walls of a sack, of a rice-barn, also of the stomach)', Mal. buncet 'distended (of the stomach)'.

If comparable meaning-forms occur in three or all four languages we reconstruct a PMJ form, if all the forms in the languages follow the posited regular development without showing any peculiar reflex: e.g., *kutaŋ, Snd. kutaŋ, NJv. kutaŋ (D), Mal. kutaŋ, Mad. kòtaŋ 'undervest'. In instances of unexpected reflexes, we have recourse to

the borrowing hypothesis (see below).

2.3. This section presents an example of the methodological principles used in the determination of borrowing and inheritance: (1) The correspondence system of a language is that which applies to its basic vocabulary. When many doublets are found whose differences cannot be explained as due to analogical changes, that member of the doublet is considered to be inherited if its elements correspond to the regular reflexes found in the rest of the basic vocabulary and that other member is considered to be borrowed if its elements do not correspond.

Since Sundanese has a large number of doublets whose differences cannot be explained as due to analogical change, it is a good example to demonstrate the application of this principle. In the following list of Sundanese doublets the entry following (A) indicates the inherited Sundanese reflex and the entry following (B) indicates the reflex which appears in words borrowed from Javanese. In a few instances we find a loan from Malay.

PMJ ə (see section 2.6.4.).

(A) i̤, (B) ə: (A) bi̤ni̤r 'full and good (of a rice-grain)' (B) bənər (L) 'true, right'; cf. NJv. bənər 'true, right'; (cf. *bənnər, p. 74)

(A) i̤ (B) u: (A) li̤si̤h, (B) lusuh 'worn out, used up, weak'; cf. NJv. lusóh (D) (O) 'rotten, worn out'; (cf. *ləssəh, p. 75).

(A) i before *u, (B) ə: (A) simbur, (B) səmbur; cf. NJv. səmbór

(O) 'to bespatter'; (cf. *səmbur, p. 141).

(A) ɨ, (B) a: (A) tanɨh 'earth, ground', (B) tanah 'land, area'; cf. Mal. tanah 'land'; (cf. *tanəh, p. 73).

PMJ h- (see section 2.15.1.):

(A) h-, (B) q-: (A) hasɨm 'sour', (B) qasəm 'tamarind'; cf. NJv. asəm 'tamarind', 'sour' (D); (cf. *hassəm, p. 186).

PMJ -əy (see section 2.7.2.4.2.):

(A) -eq, (B) -iq: (A) hateq (L), (B) qatiq 'liver, heart, feelings'; cf. NJv. ati (L) 'heart, feelings, soft inner parts (e.g. of bamboo), liver (e.g. as food)'; (cf. hatəy, p. 93).

PMJ D- (see section 2.13.):

(A) d-, (B) r- : (A) daŋdɨr 'the wild cotton tree', (B) randuq 'the cotton tree'; cf. NJv. randu 'cotton tree'; (cf. *DaŋDəR_2, p. 100).

PMJ -q- (see section 2,15.2.2.):

(A) -q-, (B) loss of the consonant followed by the contraction of the vowels: (A) ruqum, (B) qa-rum; cf. NJv. a-rṓm 'fragrant'; (cf. *ruqum, p. 179)

PMJ B- (see section 2.12.):

(A) b-, (B) w-: (A) bituq 'to fire a weapon, explode, erupt', (B) wətuq 'to come out'; cf. NJv. wətu (L) 'to appear, come out'; (cf. *Bəttuq, p. 126).

PMJ -R_2- (see section 2.14.2.):

(A) -r-, (B) loss of the consonant followed by the contraction of the two vowels: (A) taruh 'to bet', (B) toh 'to stake';

cf. NJv. tòh 'to bet, stake'; (cf. *taR$_2$uh, p. 163).

PMJ -əw (see section 2.7.1.3.3.):

(A) -oq, (B) -uq: (A) bañoq 'water', si-bañoq 'to wash one's hands', (B) bañuq 'water'; cf. NJv. bañu (L) 'water; (cf. *bañəw, p. 88).

In the 200-word Swadesh list for Sundanese [21] the following thirty-six words which have an etymology contain inherited reflexes:

PMJ ə > Snd. ɨ:

hasɨp 'smoke' (cf. *hasəp, p. 171); basɨh 'wet' (cf. *Bassəh, p. 185); bɨlah 'to split' (cf. *Bəllah, p. 125); bɨrat (L) 'heavy' (cf. BəR$_2$R$_2$at, p. 131); bɨtɨŋ (L) 'belly' (cf. *Bəttəŋ, p. 126); dɨkɨt (L) 'near' (cf. [Dḍ]əkkət, p. 157); hɨrɨt 'narrow' (cf. *həR$_2$R$_2$ət, p. 162); kɨrɨt 'to cut' (cf. *kərrət, p. 48); lɨŋɨn (L) 'hand' (cf. *ləŋŋən, p. 72); saɨtik 'few' (cf. *qəṭṭik, *qənṭik, p. 194); tanɨh 'earth' (cf. *tanəh, p. 73); sɨsɨh 'to wash' (cf. *səssəh, p. 72).

PMJ ə > Snd. i before u:

tiluq 'three' (cf. təlluq, p. 79).

PMJ h- > Snd. h-:

hasɨp 'smoke', see above; hateq (L) 'liver', see above; hejoq 'green' (cf. *hijaw, p. 54); hɨrɨt, see above; hirup 'to live' (cf. *huDip, p. 151); hujan 'rain' (cf. *huzan, p.

111); huluq 'head' (cf. *huluq, p. 170); huntuq (L) 'tooth' (cf. *huntuq, p. 38).

PMJ -əy > Snd. -eq:

hateq (L) 'liver', see above; bereq (L) 'to give' (cf. *BəR$_2$R$_2$əy, p. 126).

PMJ D- > Snd. d-:

dataŋ (L) 'to come' (cf. *Dataŋ, p. 149); daun 'leaf' (cf. *Daun, p. 148); deŋeq (L) 'to hear' (cf. *DəŋŋəR$_1$, p. 76); diq 'in, at' (cf. *Diq, p. 148); duaq 'two' (cf. *Duaq, p. 148).

PMJ B- > Snd. b-:

basɨh 'wet', see above; batuq 'stone' (cf. *Batuq, p. 128); bɨlah 'to split', see above; bentaŋ 'star' (cf. *Bintaŋ, p. 131); bɨrat (L) 'heavy', see above; bereq (L) 'to give', see above; bɨtɨŋ (L) 'belly', see above; binih 'seed (cf. *Binih, p. 126); bitis 'leg' (cf. *Bəttis, Bəntis, p. 193); boroq 'to hunt' (cf. *Burəw, p. 88); buah 'fruit' (cf. *Buah, p. 127); buluq 'feather' (cf. *Buluq, p. 129); buntut 'tail' (cf. *Buntut, p. 132).

PMJ -R$_2$- > Snd. -r-:

bɨrat (L) 'heavy', see above; bereq (L) 'to give', see above; hɨrɨt 'narrow', see above; quran sarereaq 'we (cf. *quR$_2$aŋ,

p. 163).

PMJ -əw > Snd. -oq:

boroq 'to hunt', see above; garoq 'to scratch' (cf. *garəw, p. 88).

Of the other items in the 200-word list which we have an etymology only three exhibit reflexes associated with loan words: gəlut 'to fight'; cf. NJv. gəlót 'to fight'; (cf. *gəllut, p. 119); kəmbaŋ 'flower'; cf. NJv. kəmbaŋ (L) 'flower'; (cf. *kəmbaŋ, p. 140); bənər (L) 'true, right', see p. 74.

There are ten more words which exhibit borrowed reflexes. All of them are identical in shape and meaning to Javanese words. It is interesting that none of them has a cognate in the other Malayo-Javanic languages or in languages outside the subgroup. They are ləbuq 'ashes, dust' [cf. NJv. ləbu '(thick) dust']; gədeq (L) 'big' [cf. NJv. gədé (L) 'big']; gətih 'blood' [cf. NJv. gətéh (L) 'blood']; qəndog 'egg' [cf. NJv. əndòg (L) 'egg']; hibər 'to fly' [cf. NJv. ibər 'to fly']; cəkəl (L) 'to hold' [cf. NJv. cəkəl (L) 'to hold']; təmbaŋ (L) 'to sing' [cf. NJv. təmbaŋ (L) 'to sing']; ləməs 'smooth' [cf. NJv. ləməs 'smooth, elegant']; ləmpəŋ 'straight' [cf. NJv. ləmpəŋ 'straight']; kandəl 'thick' [NJv. kandəl 'thick'].

The vast majority of the words in the list are composed of phonemes which never appear in instances of doublets. Thus, it is difficult to ascertain whether the form is truly inherited or has been borrowed: e.g., limaq 'five' contains reflexes which occur in words together with both set (A) and set (B) reflexes. Such lexical items do not have any bearing here.

(2) If no representative of a proto-segment which exhibits doublets occurs in the basic vocabulary, that member of the doublet is considered to be inherited which clearly contains other elements which can be determined to be inherited reflexes. So, for example, although we find two reflexes for PMJ -ay in Sundanese, it can be shown that -ay is the inherited reflex and -eq is the reflex appearing in loanwords. Consider the following example where we get a Sundanese doublet for PMJ -ay (see section 2.7.2.4.1.):

(A) -ay, (B) -eq: (A) balay 'little wall made of stones', (B) baleq 'bench, front-hall'; cf. NJv. balé (O) (D) 'bench, front-hall'; (cf. *balay, p. 90).

Since the segment -ay occurs in other words with inherited reflexes which cannot be considered borrowings, -ay must be considered the inherited form: e.g., Snd. hɨlay 'numerical coefficient for tenuous objects such as garments' is the reflex of *həllay (p. 91). It has been determined that Snd. ɨ is the inherited reflex of *ə.

(3) In languages with status-style distinctions the correspondence system is that which applies to the majority of its low words. Again, Sundanese will serve to demonstrate the application of this principle.

A check through R.A. Kern 1906 revealed that about 75% of the Sundanese very high and high words which are unambiguous in respect to whether they contain inherited reflexes or reflexes associated with loan words have reflexes associated with loan words.

There are instances of status-style doublets. The low word contains inherited reflexes and the high word reflexes associated with

loan words:

s‡s‡p (L), səsəp (H) 'to suck'; (cf. *səpsəp, p. 200).

(4) The correspondence system of a language is that which applies to most of its bound morphemes. It is expected that this will agree with the correspondence system of the basic vocabulary. For example, the following two Sundanese suffixes contain inherited reflexes:

*-kən, Snd. -k‡n, OJv. -a-kən, NJv. -a-kən (H), Mal. -kan, Mad. Kang. -a-ghən[22], Mad. Baw. -a-kən 'causative'.

*-ən, Snd. -‡n, OJv., NJv. -ən, Mal. kə- -an, Mad. -ən 'to be affected by'.

The PMJ morpheme structure

2.4. Three types of morphemes are distinguished in PMJ: monosyllables, dissyllables (original dissyllables or doubled monosyllables), and trisyllables.

The PMJ monosyllables consist of the sequence CVC where C is consonant (including semivowel) and V is vowel.

There are two types of dissyllables in PMJ. If the two V's are identical the sequence is [a] $CV_1(C)CV_1C$, and if the two V's are non-identical the sequence is [b] $CV_1(C)(C)V_{-1}C$. The parentheses mean optionally present.

The PMJ trisyllables consist of the sequence $CV_1(C)$ + [a] or [b] or (presumably) $CV_{-1}(C)(C)V_1(C)(C)V_{-1}C$ or $CV_{-1}(C)(C)V_1(C)CV_1C$.

The formulas imply: (1) no initial and no final vowels are permitted; (2) most vowel sequences are permitted if the vowels are non-identical, though there is no evidence for the occurrence of the fol-

lowing PMJ vowel sequences: *aə, *iə, *əi, *əu; (3) a cluster consists of no more than two consonants; (4) clusters occur only between vowels.

The most common PMJ consonant clusters are nasal clusters (i.e. nasal + non-nasal consonant) and the clusters which appear in doubled monosyllables (see section 2.18.). PMJ also has a large number of double consonants (see sections 2.5.1. and 2.16.). In PMJ dissyllabic bases there is evidence for only one cluster which is not a nasal cluster or a double consonant, namely the cluster *-ks- (e.g.,*ruksak, p. 120).

The consonants *ñ and *R_3 do not occur in preconsonantal, postconsonantal, and final position; *l̤ and *R_2 do not occur in initial, preconsonantal, and postconsonantal position; *j, *z, *c, *ṭ, *B, and *D do not occur in preconsonantal and final position; *w, *R_1, and *q do not occur in preconsonantal and postconsonantal position; *ŋ does not occur in postconsonantal position; and *y, *b, and *ḍ do not occur in preconsonantal position.

Thus, the following consonants occur in initial position: *w, *y, *m, *n, *ñ, *ŋ, *l, *r, *s, *d, *j, *z, *g, *c, *p, *t, *k, *ṭ, *B, *b, *D, *ḍ, *R_1, *R_3, *h, and *q.

The following consonants occur in preconsonantal position: *m, *n, *ŋ, *l, *r, *s, *d, *g, *p, *t, *k, and *h.

The following consonants occur in postconsonantal position: *y, *m, *n, *l, *r, *s, *d, *j, *z, *g, *c, *p, *t, *k, *ṭ, *B, *b, *D, *ḍ, and *h.

The following consonants occur in final position: *w, *y, *m, *n, *ŋ, *l, *l̤, *r, *s, *d, *g, *p, *t, *k, *b, *R_1, *R_2, *h, and *q.

All consonants occur in intervocalic position.

Madurese double consonants

2.5. Madurese is the only Malayo-Javanic language which distinguishes single from double consonants. All consonants occur doubled except q. There are languages outside the Malayo-Javanic subgroup that also distinguish single from double consonants, e.g., Ilocano, Buginese, and Makassarese. Most instances of double consonants in these languages can be associated with the position after PAN ə or PHN ə, e.g., PAN pənuq, Ilocano punno, Buginese pənno, Snd. pinuh, OJv. pənuh, NJv. pənóh (B), Mal. pənoh 'full' (cf. PMJ pənnuh, p. 79); PHN ləpas, Bug. ləppəq, Mak. lappasaq, Snd. lɨpas, OJv., NJv. ləpas, Mal. ləpas, Mad. ləppas 'free, loose'. In Madurese, as in other languages, there are also many instances of double consonants which do not occur after *ə.

2.5.1. Double consonants after PMJ ə. There are two possible hypotheses with respect to explaining the origin of double consonants after *ə. Either PMJ had double consonants after *ə and Madurese retained the double consonants, while the other Malayo-Javanic languages reduced them to a single consonant; or Madurese double consonants were developed after *ə. The first hypothesis is supported by Malay manuscripts in which words such as modern Malay bəsar, kərat, and təloq are spelled b.ss.r, k.rr.t, and t.ll.q respectively, i.e., with double consonants. Also in an Old Javanese document of the 10th century (Jayapattra) double consonants can be found after what appears as modern Javanese ə: e.g., the name Gallam [for modern Javanese Gəlam],

pajjah [for modern Javanese pəjah (H) 'dead'].[23]

There is no reason at this time not to reconstruct PMJ double consonants after PMJ ə except when the following consonant is *h or *q. There is no necessity to reconstruct *-hh-, or *-qq-, since evidence for these does not appear in Madurese, the only language with double consonants (c.f. *səhaR, p.174; and *kəqəŋ, p. 73). Thus we reach the following reconstructions:

*kərrət (PAN, Sa. qolo 'to cut off the ends': kəRət), Snd. kirit, OJv., NJv. kərət, Mal. kərat, Mad. kərraq 'to cut'.

*ləssuŋ (PHN, Tag. lusóŋ 'rice-mortar': ləsuŋ), Snd. lisuŋ, NJv. ləsóŋ, Mal. ləsoŋ, Mad. ləssòŋ 'rice-mortar'.

We also reconstruct double consonants after *ə in case a Madurese cognate is lacking: e.g., BəR$_1$R$_1$as, p. 126.

Since languages such as Ilocano, Buginese, Makassarese, and Madurese which have double consonants after *ə are geographically remote from one another, one might argue that not only PMJ but also proto-languages of higher order and perhaps the proto-language of highest order had double consonants after *ə. These double consonants were reduced to single consonants in all languages except for those mentioned above.

A possible argument against the reconstruction of double consonants after *ə was presented by Dyen (1971:44). Ilocano has puno 'full' and a syncopated form na-pno after a vowel-final prefix. This alternation could argue for an independent development of double consonants after vowels which reflect *ə, since "such an alternation is

unlikely to have developed if it would have brought three consonants together." (Id.) However, since double consonants also occur in positions other than after *ə and since such instances are not rare, one can still argue for a reconstruction with double consonants also after *ə.

For PMJ double consonants in other environments, see section 2.16.

2.5.2. Madurese double consonants by assimilation. In many instances Madurese double consonants can be attributed to the assimilation of the final consonant of the first syllable. This assimilation probably is the regular development in the B. and P. dialects:

*taptap, Snd. tatap, Mad. taptap, Mad. B. tattap 'to hit with the flat hand'.

*təstəs (PHN, Tag. tistís 'to tear up'), OJv. a-nətəs 'came out', NJV. tətəs 'well-cutting' (D), 'cut off', Mal. tətas 'slit open, rip up. Implies that the force is applied from the inner side, e.g., when a chick breaks out of its egg', Mad. təstəs, Mad. B. and Mad. P. təttəs 'to hatch'.

2.5.3. A Madurese double consonant as reflex of PMJ -ŋh-. In a single instance Madurese has a double consonant where Sundanese and Old Javanese have -ŋh-:

*taŋhiq, Snd. taŋhiq (H) 'to get up', OJv. a-taŋhi 'to awake', NJv. taŋi 'to get up', Mad. taŋŋè(h) 'to stay up all night'.

2.5.4. Madurese double consonants by analogy. The double consonants -tt- in Mad. pèttò(h), pèttòq 'seven' (from *pituq) and -ll- in Mad. bállu(h), bálluq 'eight' (from *$w_2$aluq) are perhaps analogical to the double consonants -ll- in Mad. təllò(h), tellòq 'three' (from

*təlluq) and -nn- in Mad.ənnəm 'six' (from *qənnəm).

The PMJ vowels

2.6. Dempwolff reconstructed four PAN vowels: PAN a, PAN i, PAN u, and PAN ə. Four vowels are also reconstructed for PMJ and it is posited that the PAN vowels continued into PMJ. The PMJ vowels are denoted by the same symbols. Dempwolff reconstructed this PAN vowel distinction based on a four-vowel system, because he found it sufficient to account for the vowel systems of the languages he investigated. He treated the origin of Malay e and o in non-final syllables (from *i and *u respectively) as 'Tendenzen zur Lautverschiebung' (2.22) and the origin of Javanese é, è, ó, and ò in non-final syllables and è and ò in final syllables (for *i and *u respectively) as 'unerklärte Ausnahmen' (1.86). Dyen (1953a:7 f.) treated them as different dialectal reflexes of *i and *u respectively. As will appear below, we have put forth hypotheses similar to those of Dyen's by attributing the origin of these vowels to secondary developments including dialectal and interlinguistic borrowing. Dyen 1949 showed that a PAN four-vowel reconstruction was sufficient to explain the origin of the Trukese nine-vowel system. In this section it will be shown that a PMJ four-vowel system probably is sufficient to account for the seven-vowel system of Sundanese (i, e, u, o, ə, a), the eight-vowel system of Javanese (i, é, è, u, ó, ò, ə, a), the six-vowel system of Malay (i, e, u, o, ə, a), and the nine-vowel system of Madurese (i, é, è, u, ó, ò, ə, á, a). For a tabulation of the reflexes of the PMJ vowels in the four languages, see section 3.

2.6.1. PMJ a

2.6.1.1. PMJ penultimate and ultimate a. PMJ penultimate and ultimate a appears as Sundanese, Old Javanese, and Malay a. PMJ ultimate a before PMJ -q (which disappeared in Javanese, Malay, and in Central and East Madurese, see section 2.15.2.3.) became NJv. -ò. PMJ penultimate a before PMJ ultimate a before PMJ -q also became NJv. ò. Otherwise PMJ penultimate and ultimate a appear as NJv. a. The Madurese reflexes are á and a (distributed according to the Madurese vowel alternation rule given in section 1.8.3.1.):

*qapaq (PAN, Sa. t-aha 'what': ?apa?), OJv. apa, NJv. òpò (L), Mal. apa, Mad. apa(h) 'what'.

*kitaq (PAN, To., Fu. kita 'I': kita?), Snd. kitaq, OJv. kita 'you', NJv. kitò 'we, us' (B), 'I, my, mine' (D), Mal. kita 'we; you and I', Mad. kèta 'I'.

*lambuŋ (PWI, TBt. lambuŋ 'side'), Snd. lambuŋ 'the hollow space under the ribs on the side', OJv. lambuŋ, NJv. lambóŋ, Mal. lamboŋ 'side, flank', Mad. lambhuŋ 'the sides of the body above the hip'.

*rampas (PHN, Tag. gá:pas 'cutting': Ra[m]pas), Snd. rampas 'to loot', OJv. r-in-ampas 'looted', NJv., Mal., Mad. rampas 'to loot'.

*siŋgah, Snd. siŋgah 'to go out of the way', OJv. s-um-iŋgah 'went out', NJv. siŋgah (O) 'to avoid', Mad. sèŋghá 'to withdraw'.

2.6.1.2. PMJ antepenultimate a. PMJ antepenultimate a appears as Sundanese and Old Javanese a, and became New Javenese and Malay ə,

and Madurese á or a (distributed according to the vowel alternation rule given in section 1.8.3.1.):

*galugaq, OJv. galuga, NJv. g(ə)lugò, Mal. gəluga, Mad. ghálughá(h) 'red dye'.

*tamiaŋ, Snd. tamiaŋ, OJv. tamyaŋ, Mal. təmiaŋ 'kind of bamboo'.

*tarimaq (PWI, NgD. tărima 'to receive': ta[r]ima), Snd. tarimaq (L), OJv. a-narima, NJv. t(ə)rimò (L), Mal. tərima, Mad. tarèma(h) 'to receive'.

Although Sundanese and Old Javanese cognates are lacking, a reconstruction with antepenultimate a has also been made in the following instance:

*Baliraŋ[24] (PHN, Tag. malí:laŋ 'sulphur': baliraŋ), NJv. wəliraŋ, Mal. bəleraŋ, Mad. báliráŋ 'sulphur'.

In the following comparison PMJ antepenultimate a and PMJ penultimate a contracted in earlier Javanese after the loss of *R:

*BaRaniq[25] (PAN, Fi. taŋ-ane 'man': baRani[?h]), OJv. wāni, NJv. wani (L), Mal. bərani 'brave'.

The following comparison is an instance of the contraction of a penultimate vowel with ultimate a in Javanese. PMJ antepenultimate a thus became a Javanese penultimate vowel and appears as a (see section 2.6.1.1.):

*pariaq, Snd. pariaq, NJv. paré, Mal. pəria, Mad. parèya(h) 'a gourd'.

2.6.2. PMJ i.

2.6.2.1. PMJ ultimate i. PMJ ultimate i appears as Sundanese and Old Javanese i, and became Madurese i or è (distributed according to the vowel alternation rule given in section 1.8.3.1). It appears as

New Javanese and Malay i when originally followed by PMJ -q (which was lost, see section 2.15.2.3.). Otherwise it became New Javanese é and Malay e:

*gantiq (PHN, Tag. gantí 'requital': ganti), Snd. gantiq (L) 'to change', OJv. g-um-anti 'to follow', NJv. ganti (D) 'in place of', Mal. ganti, Mad. ghántè(h) 'to replace'.

*jahit (PAN, Sm. sai-sai 'to bind together': zaqit), OJv. j-in-ahit 'cut apart (?)', NJv. jaét, Mal. jahet, Mad. jháiq 'to sew'.

*kamuniŋ, Snd., OJv. kamuniŋ, NJv. kəmunéŋ, Mal. kəmuneŋ, Mad. kamònèŋ 'kind of plant'.

*qujiq[26] (PHN, Tag. qú:riq 'carat': uzi), Snd. qujiq 'to examine metals', NJv. uji (O), Mal. uji 'to test silver or gold'.

New Javanese exhibits è as a dialectal reflex of PMJ i before consonants other than PMJ -q:

*gapit (PWI, TBt. gappit 'to pinch': ga[m]pit), Snd. Bad. gapit, NJv. gapét, gapèt (D) 'nipper, clamp', Mad. S. and Mad. Kang. ghápèq 'nipper'.

*guliŋ (PWI, TBt. guliŋ 'rolled'), Snd. gu-guliŋ 'roll-cushion', gu-guliŋ-an 'to roll, swing back and forth', OJv. an pa-guliŋ-an 'revolving', NJv. guléŋ 'roll-cushion', ŋ-gólèŋ, ŋ-gólèŋ (D) 'to swing back and forth, incline (of a ship), slanting', Mal. gulėŋ, goleŋ 'to roll over', Mad. ghuliŋ, Mad. S. ghu-ghuliŋ 'roll-cushion'.

*rapih, Snd. rapih 'to be good with one another, of one opinion', NJv. rapéh (D) (O), rapèh (D) 'completely free (of pain), clear, in order', Mad. rapè 'attached, devoted to'.

In instances like the following Sundanese exhibits e as reflex of ultimate *i:

*kuniŋ (PWI, NgD. kăniŋ-an 'brass'), Snd. koneŋ, OJv. kuniŋ, NJv. kunéŋ, Mal. kuniŋ, Mad. kònèŋ 'yellow'.

*tajin, Snd. tajen, NJv. tajén, Mal. tajen 'starch, made of rice-flour', Mad. tajhin 'mash, pap'.

2.6.2.2. PMJ penultimate i. PMJ penultimate i appears as Sundanese, Old and New Javanese, and Malay i. It became Madurese i or è (distributed according to the vowel alternation rule given in section 1.8.3.1.):

*gilaq (PAN, Fi. kila 'wild': gila[?h]), Snd. gilaq 'shy, mad, scared', OJv. gila 'to shudder', NJv. gilò 'not wise, be mad, to abhor', Mal. gila, Mad. ghilá(h) 'mad, mentally ill'.

*hiriq (PHN, Tag. hí:liq 'stimulus': hiri), Snd. hiriq 'bad, jealous', OJv. aŋ-iri, ma-hiry-y-a 'jealous', NJv. irèn (=iri+an) 'jealous' (O), Mal. (h)iri hati 'spite, malice', Mad. èrè(h) 'jealous'.

*kilaŋ, OJv., NJv. kilaŋ 'sugar-syrup', Mal. Sum. kilaŋ 'a fermented drink obtained from cane-sugar or palm-sugar', Mad. kèlaŋ 'thick syrup out of which sugar is made'.

PMJ penultimate i before PMJ -aw, and PMJ -əy (which became Snd. oq, eq respectively, see sections 2.7.1.3.1. and 2.7.2.4.2.) became Snd. e. Let us first consider examples of PMJ i before PMJ -aw:

*hijaw (PHN, Tag. hí:raw 'cock with green feathers': hizaw), Snd. hejoq, OJv. a-hijo, NJv. ijó (L), Mal. (h)ijaw 'green', Mad. èjhu(h) in ñèyòr èjhu(h) 'kind of coconut with a green

skin'.

*limaw (PAN, Fi. moli 'citrus-fruit, orange'), Snd. lemoq, OJv. limo, Mal. limaw, Mad. lèmò(h) 'citrus-fruit'. Snd. limoq 'citrus-fruit' probably is a loan from a dialect or language such as Javanese in which *i before *-aw became i.

A similar instance of Snd. i before *-aw in a presumed loanword is found in the following comparison:

*qilaw (PAN, Fi. qilo-ilo 'mirror': ?ilaw), Snd. qiloq, OJv. maŋ-ilo, NJv. ilǒ 'to mirror', Mal. ilaw 'shimmering (as sunlight in water)'.

PMJ penultimate i before *- y:

*[tṭ]i[rR$_2$]əy, Snd. tereq (L) in qinduŋ tereq 'step-mother', Mal. tiri 'step-' in maq tiri 'step-mother'.

In some instances Sundanese exhibits e as reflex of PMJ penultimate i although not followed by a PMJ diphthong. In the following four comparisons the ultimate vowel is a. Perhaps earlier Sundanese i underwent partial assimilation to this vowel in a dialect of Sundanese:

*Balilaq[27] (PHN, Tag. balilá 'weaver's sword': balija), Snd. bareraq (with assimilation of l to r), NJv. w(ə)lirò, Mad. bálilá(h) 'weaver's sword'.

*lintah (PHN, Tag. lintáq 'leech': OD lintah, ID lintaq), Snd. lentah, NJv., Mal. lintah, Mad. lènta 'leech'.

*pintaq (PWI, TBt. pitta 'to desire': pi[n]ta), Snd. pentaq (L), OJv. ma-pinta, NJv. pintò (B), Mal. pinta, Mad. pènta(h) 'to ask'.

In the following instance there is a related Javanese word which

can be considered the source for the Sundanese form with e:

*kihuŋ, Snd. keoŋ, NJv. kéyóŋ, Mal. kioŋ 'land-snail'.

PMJ penultimate i became New Javanese é in the Eastern subgroup of Javanese dialects in open or closed syllables, if the word-final syllable contained a like vowel (see section 1.5.2.):

*pilih (PAN, Fi. vili 'to pick up': piliq), Snd. pilih, OJv. a-pilih, NJv. miléh, méléh (D), Mal. pileh, Mad. pèlè 'to choose'.

*pitik, Snd. pitik 'chick', OJv. pitik 'chicken', NJv. pitéq, pétéq (D) 'chick', pitéq (L) 'hen, chicken', Mad. pètèq 'chick'.

PMJ penultimate i became New Javanese è presumably in a north-eastern dialect in instances like the following:

*miññak (PWI, NgD. miñak 'oil': miňak), Snd., OJv. miñak, NJv. miñaq, mèñaq (D), Mad. mèññaq 'oil'.

*liruq, Snd. liruq 'confounded', NJv. liru (L) 'in place of', k-liru (L) (O) 'wrong, mistaken', k-lèru 'confounded', Mal. kə-liru 'bewilderment', Mad. lèrò(h) 'in place of'.

When the ultimate vowel appears in New Javanese as è (see section 2.6.2.1.) PMJ penultimate i likewise appears as è in the following comparisons:

*hiriŋ, Snd. m-iriŋ, OJv. a-hiriŋ, NJv. iréŋ, m-iréŋ, m-èrèŋ (O) 'inclining', Mal. m-ereŋ 'to lean over', 'incline to one side', Mad. m-èrèŋ 'to lie on one side, not horizontal.'

*licik, Snd. licik 'deceitful, cunning', NJv. licéq 'insipid, cowardly', léceq (D), lècèq 'to sit loosely, to take to one's heels', Mad. lècèk 'not true, lying'.

*titis (PAN, Fi. titi 'to flow, run'), Snd. titis 'to pour out', OJv. titis 'to drip down', NJv. titéś 'to pour out', tètès 'drop, drip', Mal. tites 'a gentle drop', Mad. tètès 'to drip'.

In some instances Malay exhibits competing forms, one with a penultimate i, the other with a penultimate e. Thus, we can posit two dialects, one in which PMJ penultimate i appears as i and another in which this penultimate i became e. In the following instances it is best to explain the existence of competing forms as borrowings from the e-dialect into the i-dialect, or conversely:

*ligər, NJv. ligər (O) 'bill of exchange', Mal. ligar, legar 'to make the circuit of the rice-mill', Mad. P. lèghər 'to go round, circle'.

*liwat, Snd., NJv. liwat (L), Mal. liwat, lewat, Mad. lèbát 'past, after'.

*pisah, Snd. pisah, OJv. a-pisah, NJv. pisah, Mal. pisah, pesah, Mad. pèsa 'to separate'.

*rim[Bb]as (PWI, TBt. rimbas 'adze': rimbas), Snd. rimbas 'adze', OJv. rimbas 'plane, shredder', NJv. rimbas 'chopped' (O), Mal. rimbas, rembas 'adze'.

*simpaŋ (PAN, Sm. sipa 'to lean to one side'), Snd. simpaŋ 'to branch off', OJv. a-nimpaŋ 'to take a side-road', NJv. simpaŋ-an 'sideroad', Mal. simpaŋ, sempaŋ 'to branch off', Mad. sèmpaŋ 'to give way'.

*siram (PWI, NgD. siram 'to spray': si[r]am), Snd. siram 'to water, spray', OJv. s-in-iram 'watered', NJv. siram, Mal. siram, seram, Mad. sèram 'to water'.

In the following instance there is a related Javanese word which can be considered the source for the Malay form with e:

*qirid, Snd. qirid 'to drive before one, take along', OJv. aŋ-irid-akən 'to take s.o. along as a slave', NJv. iréd 'pulled away' (O), 'lead' (B), èrèd (D) 'to drag along', Mal. eret 'to drag at', e.g. məŋ-eret kuda 'to lead a horse by the snaffle', Mad. èrèt 'to drag, tow s.o. or s.t.'.

In some comparisons the Malay cognate with penultimate e occurs without a by-form with penultimate i:

*ciṭak, Snd. citak 'form, cast, press', NJv. ciṭaq 'cast, form', Mal. cetaq 'to cast or shape by the use of a mould', Mad. S. P. cèṭaq 'cast, form'.

*giwaŋ, Snd. giwaŋ, NJv. giwaŋ (D), Mal. gewaŋ, Mad. ghibáŋ 'mother-of-pearl'.

*qikuR (PAN, To. iku 'tail, end': $w_4$ikuR$_1$), OJv. ikū, Mal. ekor 'tail', Mad. èkòr in sòròy èkòr ' a comb the handle of which is shaped like a tail'.

*liŋsir, Snd. liŋsir 'to be in a slanting position (of the sun)', OJv. liŋsir 'to go toward sunset', NJv. liŋsér 'afternoon', Mal. leŋser 'side-slipping', Mad. lèŋsèr 'afternoon'.

*tiwas (PAN, To., Fu. ma-tsiva 'poor'), Snd. OJv., NJv. tiwas 'to perish', Mal. tewas 'being worsted', Mad. tèbás 'accident, disaster'.

In the following instance there is a related Javanese word which can be considered the source for the Malay form with e:

*picək, OJv. picək 'one-eyed', NJv. picaq, picək (D), pecaq (D) 'blind'; Mal. pecaq 'blind', 'crushed or driven in at one

point'[28], Mad. B. pècɔk 'blind'.

2.6.2.3. In a number of instances Sundanese, Malay, and Old Javanese exhibit a penultimate e matching a New Javanese é in words which have a different ultimate vowel. We also find instances of Sundanese, Malay, and Old Javanese penultimate and ultimate e matching New Javanese penultimate and ultimate è. Finally we find instances in which Sundanese and Malay and rarely Old Javanese exhibit an ultimate e after a different vowel matching a New Javanese ultimate è. Madurese exhibits i or è in all these instances (distributed according to the vowel alternation rule given in section 1.8.3.1.).

The question is whether the reconstruction of a phoneme *e for these matchings is necessary or whether the Sundanese and Malay forms containing e can be attributed to borrowings from Javanese. Madurese has no bearing on this problem, since it exhibits in these words the same reflexes as for those for which PMJ i was reconstructed. We know from our preceding discussion that PMJ penultimate i dialectally became NJv. é or è and that PMJ ultimate i dialectally became NJv. è. Presumably dialectal forms containing é or è spread over the whole of the Javanese speaking area and were subsequently borrowed by Malay and Sundanese. This is all the more likely to have happened, since all the words in question belong to that part of the vocabulary which is considered non-basic. There is therefore no compelling reason at this point to assign a distinction between *i and *e to PMJ, and we leave any decision in this matter to further research.

For comparative purposes a list of all words which have e in Sundanese, Old Javanese, and Malay, and é or è in New Javanese is given below. No PMJ reconstruction is made unless a cognate occurs

in a language outside this subgroup. It should be kept in mind that the Sundanese and Malay forms are considered likely to be borrowings and that the Madurese forms are ambiguous as to whether they are inherited or borrowed:

Snd. qaneh 'strange, curious', NJv. anèh 'unused to, peculiar', Mad. anè 'strange, curious'.

*banṭiŋ (PWI, NgD. bantiŋ 'wild ox'), Snd. banteŋ. OJv. banṭeŋ, NJv. banṭèŋ, Mal. banteŋ, Mad. bhánṭèŋ 'wild ox'.

Snd. bebas 'finished, completely gone', bebas (L) 'paid (of debt);, NJv. bébas (D) (O) 'gone', bébas-an 'without extras', Mal. bebas 'freedom of restraint', Mad. bhibhás 'paid (of debt)'.

*bibik (PHN, Tag. bibí 'duck': bibi), Snd., OJv. bebek, NJv. bèbèq (L) 'duck'.

Snd. begal, NJv. bégal, Mal. begal, Mad. bhighál 'highway-robbery'.

*biŋkuk (PAN, Sm. piqo 'bent'), Snd. beŋkok, NJv. béŋkòq, Mal. beŋkoq 'bent'.

Snd. belaq 'to help, be at one's side', OJv. bela 'to follow s.o. into death', NJv. bélô (B) 'partner, sharer', Mal. bela 'blood-offering in the way of self-immolation', Mad. bhillá(h) 'to endanger o.s. for s.o. else'.

Snd. belek 'to have red eyes', OJv. belek 's.o. who is suffering from an eye-disease', NJv. bèlèq-ən 'to suffer from inflamed eyes'.

Snd. berak 'dung', NJv. béraq (D) (VL) 'dirt', Mal. beraq (vulgar) 'to defecate'.

Snd. celeŋ, NJv. cèlèŋ (L), Mad. cèlèŋ 'swine'.

Snd. comel, NJv. cómèl (L) 'to talk a lot', Mal. comel 'to murmur, grumble', Mad. còmèl 'to ask a lot'.

Snd. qepok (H), NJv. épòq, Mal. epoq, Mad. B. èpòq 'receptacle for sireh-requisites'.

Snd. goŋseŋ, NJv. góŋsèŋ, Mad. ghuŋsèŋ 'rattle, bell'.

Snd. jejer, NJv. jèjèr, Mal. jejer, Mad. B. jhijhir 'one after another, orderly line'.

Snd. jeŋkel 'unhappy, impatient', NJv. jèŋkèl 'itching (not to be able to hear or see anymore)', Mal. jeŋkel 'peevish'.

Snd. jeŋkol, NJv. jéŋkòl, Mal. jeŋkol 'kind of tree which delivers malodorous fruit'.

Snd. joged, NJv. jógèd, Mal. joget 'dancing-girl'.

NJv. lèlèh 'soft (melted in the sun)', Mal. leleh 'to trickle gently', Mad. lèllè 'to drip off (e.g. melted sugar)'.

Snd. sered, NJv. sèrèd, Mal. seret 'to bail behind'.

Snd. tembok, NJv. témbòq, Mal. temboq, Mad. tèmbuq 'wall'.

Snd. tempel 'to hang at, against, stick', NJv. tèmpèl 'to stick on', Mal. tempel 'to plaster or stick on'.

NJv. tèpaq 'sireh-box' (D), 'salver', Mal. tepaq, Mad. tèpaq 'sireh-box'.

In other instances non-final New Javanese é or è are the reflexes of an early Javanese or PMJ vowel sequence -ai- or -ia- which is attested in Old Javanese data or data from other Malayo-Javanic languages.[29] An example is the following comparison:

*ḍaiŋ, Snd. deqeŋ 'raw meat, cut into slices, spiced, and then dried in the sun', OJv. ḍeŋ 'dried meat', NJv. ḍèndḍèŋ, ḍèŋḍèŋ

(D) (O) 'dried meat', Mal. daeŋ 'slice into thin strips and drying in the sun'.

The Sundanese cognate in the preceding instance probably is the result of the following development: (1) PMJ i partially assimilated to the preceding vowel resulting in a form *daeŋ; (2) the initial vowel assimilated to the final vowel and a -q- was inserted between the two identical vowels, since Sundanese does not have sequences of identical vowels.[30]

Sundanese deŋdeŋ'dried meat (sold in a warong)', Mal. dendeŋ, and Mad. ḍhiŋḍhiŋ 'jerked meat' are treated as loans from Javanese. Toba-Batak, a non-Malayo-Javanic language, also has deŋdeŋ'jerked meat'; this form is probably also a borrowing, either directly from Javanese or, more likely, indirectly via Malay.

2.6.2.4. PMJ antepenultimate i. PMJ antepenultimate i appears as Sundanese and Old Javanese i, and became New Javanese and Malay ə, and Madurese á or a (distributed according to the vowel alternation rule given in section 1.8.3.1.):

*tiŋgaluŋ, Snd., OJv. tiŋgaluŋ, NJv. t-r-əŋgalóŋ, Mal. təŋgaloŋ, Mad. taŋgháluŋ 'civet-cat'.

*tiŋgiliŋ, OJv. tiŋgiliŋ, NJv. təŋgiléŋ, Mal. təŋgileŋ 'anteater'.

In the following comparison Javanese exhibits the contraction of the penultimate and ultimate vowel. PMJ antepenultimate i thus became a Javanese penultimate vowel and therefore appears as i (see section 2.6.2.2.):

*binuaŋ (PHN, Tag. banuaŋ[31] 'octomelis': banu[w]aŋ), Snd. binuaŋ, OJv. winoŋ, NJv. winòŋ, Mal. bənuaŋ 'kind of tree'.

2.6.3. PMJ u

2.6.3.1. Different dialectal reflexes also occur for PMJ u, as they do for PMJ i, in Sundanese, Javanese, and Malay. The question arises whether a distinction between two vowels, *u and *o, should be assigned to PMJ or whether certain forms can be attributed to borrowings. This problem is like that of determining whether PMJ distinguishes *i and *e (see section 2.6.2.3.). We conclude here too that such a distinction does not need to be assigned to PMJ at this time.

2.6.3.2. PMJ ultimate u. PMJ ultimate u appears as Sundanese and Old Javanese u, but became Madurese u or ò (distributed according to the vowel alternation rule given in section 1.8.3.1.). It became New Javanese and Malay u when originally followed by PMJ -q (which was lost, see section 2.15.2.3.). Otherwise it became New Javanese ó and Malay o:

*jujuq, Snd. jujuq 'to keep a loose hand over, give lots of food', NJv. juju, Mad. jhujhu(h) 'to feed'.

*timun (PAN, Fi. timo 'melon'), Snd. bonteŋ timun, NJv. kə-timón, Mal. timon, Mad. B. P. tèmòn, S. an-tèmòn 'cucumber'.

*hunus (PAN, Sm. unus-i 'to pull out': $h_1$unus), OJv. um-unus, NJv. unós, Mal. (h)unos, Mad. ònòs 'to pull out, draw off'.

New Javanese exhibits ò as a dialectal reflex of PMJ u before consonants other than PMJ -q:

*caŋkul (PWI, NgD. saŋkul 'hoe'), NJv. caŋkól, caŋkòl (D), Mal. caŋkol 'hoe'.

*pəlluh, OJv. a-pəluh 'not strong', NJv. pəlóh, pəlòh (D) 'impotent', Mal. pəloh, Mad. pəllò 'to sweat'.

*rapuh (PAN, Fi. ravu 'smash up'), Snd. rapuh 'brittle, frail',

OJv. rapū(h) 'tired', NJv. rapóh, rapòh (B) 'tired, exhausted', Mal. rapoh 'brittle, fragile'.

In the following comparison Sundanese exhibits a form with o as reflex of PMJ ultimate u. The penultimate vowel is a. Perhaps earlier Sundanese u underwent partial assimilation to the preceding vowel in a dialect of Sundanese:

*Bauk, Snd. baok, OJv. wok, NJv. wòq[32] 'beard', Mal. baoq 'hair along the line of the jaw-bone'.

2.6.3.3. PMJ penultimate u. PMJ penultimate u appears as u in Sundanese, Old and New Javanese, and Malay. It became Madurese u or ò (distributed according to the vowel alternation rule given in section 1.8.3.1.):

*jujur, Snd. jujur, NJv. jujór, Mad. jhujhur 'to go straight through'.

*lurah, Snd., NJv., Mal. Java lurah, Mad. lòra 'headman'.

*tumpaŋ (PAN, Fi. tuva 'to pile up': tupaŋ, tumpaŋ), Snd. tumpaŋ 'to be on it, lie on it, go along', OJv. tumpaŋ 'to sit', NJv. tumpaŋ 'on top, lie on another' (O), Mal. tumpaŋ 'join in with others', Mad. tòmpaŋ 'to put on s.t., go along.'

PMJ penultimate u before PMJ -aw, PMJ -əw (which both became Snd. -oq, see sections 2.7.1.3.1. and 2.7.1.3.3.), and PMJ -əy (which became Snd. -eq, see section 2.7.2.4.2.) became Snd. o. The following comparison is an instance of *u before *-aw:

*pukaw (PHN, Tag. pú:kaw 'inspiration'), Snd. pokoq, Mal. pukaw 'narcotic'.

The following comparison is an instance of Snd. u before *-aw

in a presumed loanword:

*pulaw (PWI, TBt. pulo 'island')[33], Snd. puloq, NJv. pulǒ, Mal. pulaw, Mad. pòlò(h) 'island'.

PMJ u before *-əw:

*tujjəw (PAN, Sa. i-ito[34] 'to stand on the course': tuzu[?h]), Snd. tojoq 'to conform, go towards, rely on', OJv., NJv. tuju 'to aim', Mal. tuju 'to point at, make straight for', Mad. tòjjhu(h) 'exact'. Snd. tujuq 'to conform to' is probably a loan, perhaps from Javanese or Malay.

*[Bb]u[dḍ]əw, Snd. S.-B. bodoq 'an additional dish, eaten mainly by the Baduys, consisting of rotten fish', Mal. Ked., Kel. budu 'anchovies pickled in brine after being dried and partially decayed'.

PMJ u before *-əy:

*huəy (PAN, Sa. ue 'rattan': $quaq_3ayi$)[35], Snd. hoeq, OJv. hwī 'rattan'.

In one instance Sundanese exhibits o as reflex of PMJ penultimate u before *-ay:

*[rR_2]uay, Snd. roay in kacaŋ roay, Mal. ruay in kacaŋ ruay 'a small variety of the lalab'.

In a few comparisons Sundanese exhibits competing forms, one with a penultimate (and ultimate) u, the other with a penultimate (and ultimate) o. In the following two instances there is a related Malay word which can be considered the source for the Sundanese form with o:

*Buŋkuk (PWI, TBt. bukkuk 'bent': buŋkuk), Snd. buŋkuk, boŋkok, OJv. wuŋkuk, NJv. wuŋkóq, m-buŋkóq, Mal. boŋkoq, Mad. buŋkòq 'bent, bowed'.

*suruŋ (PHN, Tag. sú:loŋ 'go ahead, forward'), Snd. suruŋ, soroŋ, OJv. ma-nuruŋ, NJv. suróŋ, Mal. soroŋ, Mad. S. sòròŋ 'to push along'.

In one comparison the Sundanese competitive form with penultimate o can be regarded as a borrowing from Javanese or Malay:

*buŋkar (PHN, Tag. buŋkál 'to root up the ground'), Snd. buŋkar, boŋkar 'to lift, raise, break open', NJv. buŋkar 'to unload', 'break open' (D), bóŋkar (D) 'broken open', Mal. buŋkar, boŋkar 'to heave up', Mad. bhuŋkar 'to uproot'.

In the following instance Sundanese has a cognate containing o without a by-form containing u. This form can be regarded as a borrowing from an unidentified Sundanese dialect in which *u became o:

*ṭukṭuk (PAN, Fi. tutu 'to beat the drum'), Snd. toktok, NJv. ṭuṭóq 'to knock', Mal. tutoq 'to crush rattans into soft fibrous pulp', Mad. ṭòkṭòk 'to give a tap on the hand or the knee'.

PMJ penultimate u became New Javanese o in the Eastern subgroup of Javanese dialects in open and closed syllables if the word-final syllable contained a like vowel (see section 1.5.2.):

*pucuk (PHN, Tag. pusók 'ardor, impetuosity'), Snd. pucuk 'top-branchlet', OJv. pucuk 'point', NJv. pucóq, pócóq (D) 'top,point', Mal. pucoq 'shoot, top-branchlet', Mad. B. P. pòcòk, Mad. B. P. S. pò-pòcòk 'the sharp point of a sharp weapon'.

According to data in the Collection Pigeaud[36] penultimate u became ó also before non-like vowels in the dialects of Pasuruan and Koeta-Arja (both are located in the province of East Java). Whether

this development is regular or not is not clear:

*sugih, Snd. sugih, NJv. sugéh, sógéh (D), Mad. sòghi 'rich'.

When the ultimate vowel appears in New Javanese as ò (see above), PMJ penultimate u likewise appears as ò in some words, such as:

*cuŋur, Snd. cuŋur 'upper lip of an animal, mouth', NJv. cuŋór (D), cóŋór (D), còŋòr 'nose, mouth of an animal', Mad. B. còŋòr 'to eat'.

*sun[Dḍ]uŋ, Snd. sunduŋ 'bamboo-basket in which the grass-cutters store their grass', NJv. sunḍóŋ 'bamboo-basket', sònḍòŋ (D) 'pole with a basket fixed to its top (to pick fruit)'.

In some instances Malay exhibits competing forms, one with a penultimate u, the other with penultimate o. Thus, we can posit two dialects, one in which PMJ penultimate u appears as u and another in which this penultimate u became o. In the following instances it is best to explain the existence of competing forms as borrowings from the o-dialect into the u-dialect, or conversely:

*lutuŋ, Snd., OJv., lutuŋ, NJv. lutóŋ, Mal. lutoŋ, lotoŋ 'kind of monkey'.

*tuluŋ, (PHN, Tag. tú:loŋ 'to help'), Snd. tuluŋ (L), OJv. an-uluŋ, NJv. tulóŋ, Mal. tuloŋ, toloŋ, Mad. tòloŋ 'to help'.

In the following comparison there is a related Javanese word which can be considered the source for the Malay form with o:

*qupah (PHN, Tag. qú:pa 'reward': OD upah, ID [1953a] upaq), Snd., OJv. qupah, NJv. upah (D), ópah, Mal. upah, opah, Mad. òpa 'reward, payment'.

In a number of comparisons the Malay cognate occurs without a by-form with u:

*rumpuŋ, Snd. rumpuŋ, NJv. rumpóŋ (O) 'off', Mal. rompoŋ 'mutilated, cut off'.

*suŋgiŋ, Snd. suŋgiŋ 'to burn figures into wood or bamboo with a red-hot iron, to tattoo', NJv. suŋgéŋ, Mal. soŋgeŋ, Mad. sòŋghiŋ 'to paint'.

*[tṭ]uhur (PAN, Sm. tu 'to stand': [tṭ]uquḍ), Snd. tuhur 'dry', Mal. tohor 'shallow'.

*tumBuŋ, Snd. tumbuŋ 'seed-bud in a coconut, female privy parts', Mal. tomboŋ 'spherical lump of any sort, seed-bud in a coconut', Mad. tòmbuŋ 'rectum'.

*tumpuk, Snd. tumpuk, NJv. tumpoq, Mal. tompoq, Mad. tòmpòq 'small heap'.

In an instance like the following the Malay form with o can be attributed to a borrowing from Javanese, since a Javanese word of the same shape is available:

*Buŋsuq (PHN, Tag. bunsóq 'youngest': bu[n]su), Snd. buŋsuq, OJv. wuŋsu, NJv. buŋsu (D) (B), bóŋsu (D) (B), Mal. boŋsu, Mad. buŋsò(h) 'youngest-born'.

2.6.3.4. In some comparisons Sundanese and Malay exhibit a penultimate o matching New Javanese ó in words which have a different ultimate vowel. We also find comparisons in which Sundanese, Malay, and rarely Old Javanese exhibit penultimate and ultimate o matching New Javanese penultimate and ultimate ò. Finally, we find comparisons in which Sundanese and Malay exhibit an ultimate o after a different penultimate vowel matching New Javanese ultimate ò. Madurese exhibits u or ò in all instances (distributed according to the vowel alternation rule given in section 1.8.3.1.).

Again, we are faced with the question of whether to reconstruct an additional proto-phoneme o or whether to resort to the principle of borrowing as an explanation. The matchings can be explained in the same way as was done in the case of Sundanese, Malay, and Old Javanese e matching New Javanese é or è. All words in question have non-basic meanings and can therefore be explained as borrowings from Javanese dialects.

The following list gives some comparisons which exhibit the matchings of Sundanese, Malay, Old Javanese o, New Javanese ó or ò:

*bucur (PWI, NgD. busor 'leak':[37] bucu[r]), Snd. bocor, NJv. bòcòr, Mal. bocor, Mad. bhucòr 'leaking'.

NJv. bòkòr, Mal. bokor, Mad. S. P. bhukòr 'rimmed plate, shallow bowl;.

Snd. boloη, NJv. bòlòη, Mad. bhuluη 'opening, hole'.

*buruη (PWI, NgD. bă-buroη[38] 'wholesale': bu[r]uη), Snd. boroη 'to make a good buy', also: 'to buy everything', NJv. bòròη, Mal. boroη, Mad. məllè bhuruη-an 'wholesale, in a lump'.

Snd. cobaq (L), NJv. cóbò (L), Mal. coba, Mad. còbhá(h) 'to test, try'.

Snd. cocog, NJv. còcòg, Mad. còcòk 'to agree'.

Snd. gandoη, NJv. gan$\dot{d}$òη, Mad. ghán$\dot{d}$huη 'to carry on the back.'

NJv. gən$\dot{t}$òη, Mal. gəntoη, Mad. ghən$\dot{t}$òη 'large earthenware vessel'

Snd. godeg, NJv. gó$\dot{d}$èg 'side-whiskers', Mal. godek 'short and pendulous, whisker'.

Snd. gonjak, NJv. gónjaq (D), Mal. Pen. gonjaq 'to make fun of, ridicule'.

Snd. goreŋ, NJv. gó̀rèŋ, Mal. goreŋ, Mad. ghuriŋ 'to cook in a pan'.

Snd. gorok 'to insert a kris or another weapon into the throat through the mouth and then turn it, to cut the throat', NJv. gòròq, Mal. goroq 'to cut the throat', Mad. ghuruk 'to cut the throat'.

*gusuk (PWI, Mer. kusukă 'to rub'), Snd. gosok, NJv. gòsòq, Mal. gosoq 'to clean by friction, scrub'.

Snd. goyaŋ 'motion, sound, noise', NJv. góyaŋ 'move back and forth, noise', Mal. goyaŋ 'oscillation', Mad. ghuyáŋ 'to roll over, roll about'.

*kanṭuŋ (PAN, Fi. kato 'basket'), Snd. kantoŋ, NJv. kanṭòŋ, Mal. Jak. kantoŋ, Mad. kanṭòŋ 'pouch, pocket'.

Snd. koloŋ, NJv. kòlòŋ (D), Mal. koloŋ 'space under anything'.

*kunṭul (PAN, Sa. quu 'scrotum'), Snd. kontol 'the testicles, scrotum', NJv. kòntòl 'scrotum', Mal. kontol 'short, thick, pendulous object', Mad. B. P. kòntòl, S. kòncè kòntòl 'padlock'.

Snd. kosoŋ 'empty, without content', NJv. kòsòŋ 'empty' (D), 'vacant', Mal. kosoŋ 'empty, hollow.[39]

Snd. rampog, NJv. rampòg, Mal. Java rampoq, Mad. rampòk 'to go robbing and plundering'.

Snd. rombak[40] 'to take away, clear away, NJv. rómbaq 'to tear down, up', Mal. rombaq 'to unravel, untying'.

Snd. rompaŋ, NJv. rómpaŋ 'with pieces missing (e.g., a missing tooth, also the teeth of a comb)', Mal. rompaŋ 'tattered and torn (of thatch and matwork), holed in many places.

Snd. seroŋ, NJv. séròŋ(-an), Mal. seroŋ, Mad. sèròŋ 'askew, aslant'.

Snd. toŋkol, to-toŋkol, NJv. tòŋkòl, Mal. toŋkol, Mal. Java tə-toŋkol, Mad. tòŋkòl 'tunny-fish'.

Snd. qomoŋ (L), NJv. omoŋ (D), Mal. omoŋ 'to talk, gossip'.

In some instances non-final New Javanese ó and ò are the reflexes of an early Javanese or PMJ vowel sequence ua or au.[41] This case is analogous to the explanation of é and è as continuing the PMJ vowel sequences -ia- and -ai-. In the following example Old Javanese data indicate that New Javanese penultimate and ultimate ò are the result of the contraction of an early Javanese sequence -ua-. NJv. dòdòl 'a sweetmeat of rice-flour' is the continuation of an Old Javanese form dwadwal 'flour-pastry'. Sundanese and Malay dodol and Madurese dhudhul 'sweetmeat of rice-flour' seem thus clearly to be loans from Javanese.

2.6.3.5. PMJ antepenultimate u. PMJ antepenultimate u appears as Sundanese and Old Javanese u. It became New Javanese and Malay ə, and Madurese á or a distributed according to the vowel alternation rule given in section 1.8.3.1.

*gulimpaŋ, Snd., OJv. gulimpaŋ, NJv. g(ə)limpaŋ, Mal. gəlimpaŋ, gəlempaŋ, Mad. ghálimpaŋ 'to lie astretch'.

*kuranjiq, Snd. kuranjiq, Mal. kəranji, Mad. karanjhi(h) 'kind of tree'.

PMJ antepenultimate u appears as u in an unidentified dialect of Javanese.

*suligiq (PHN, Tag. sulí:giq 'spear': suligi), Snd. suligiq, OJv.

suligi 'spear, NJv. s(ə)ligi, suligi 'bar', Mal. səligi 'wooden dart or javelin', Mad. B. salèghi(h) 'club, cudgel'.

*surambiq (PHN, Tag. sulambíq 'eaves [of a house]': sur-ambi), Snd. surambiq, NJv. s(ə)rambi, surambi, Mal. sərambi, Mad. sarambhi(h) 'a long low closed verandah made by prolonging the eaves of the main building'.

2.6.4. PMJ ə

2.6.4.1. The Malay reflexes. PMJ ə appears as Malay ə in the penult and a in the final syllable:

*qənnəm (PAN, Sa. ono 'six': ?ənəm), OJv. nəm 'six', ka-nəm 'the sixth', NJv. nəm, Mal. ənam 'six', Mad. (ən)nəm 'six.

*səssəh, Snd. sɨsɨh 'to wash', Mal. səsah 'switching, beat the clothes in the wash'.

PMJ penultimate ə became Malay a if followed by PMJ h or another vowel:

*pəar, NJv. pòr, Mal. pahar 'pedestal tray'.

*Dənak (PHN, Tag. dá:hak 'to spit out': OD daak, ID [1953a] [dḛ]ahak), OJv. rəhak, NJv. Təgal ruwaq, Mal. dahaq 'to cough up phlegm'.

2.6.4.2. The Madurese reflexes. PMJ ə appears as Madurese ə in the penult and the final syllable:

*ləŋŋən, Snd. lɨŋɨn (L), OJv., NJv. ləŋən, Mal. ləŋan, Mad. ləŋŋən 'lower arm, hand'.

PMJ ə became Madurese a before *-p, *-t, and *-l̤ when they in turn became Madurese -q. The same development is also seen before *-h, which was then lost in Madurese (see section 2.15.1.5.).

*hatəp (PAN, To. qato 'to cover a roof': qatəp), Snd. hatɨp, OJv. hatəp, NJv. atəp, Mal. (h)atap, Mad. ataq 'roof'.

*kərrət (PAN, Sa. qolo 'cut off': kəRət), Snd. kɨrɨt 'to cut (off)', OJv. kərət, krət 'was cut off', NJv. kərət, Mal. kərat, Mad. kərraq 'to cut off'.

*lalə] (PAN, Fi. lalo 'fly': laləj), Snd. lalɨr, OJv., NJv. lalər, Mal. lalat, Mad. lalaq 'fly'.

*tanəh[42] (PAN, Sa. ano 'land, earth': tanəq), Snd. tanɨh, Mal. tanah, Mad. tana 'earth, ground'.

PMJ ə before PMJ -q- and PMJ hiatus became Mad. ò:

*kəqəŋ, Snd. kɨqɨŋ 'to be lonely', OJv. kūŋ 'pain of love', NJv. kóŋ 'desire, grief, pain of love', Mad. kòqòŋ 'to be lonely, orphan'.

*həay, Snd. hɨay, Mad. òway 'to yawn'.

2.6.4.3. The Javanese reflexes. Old Javanese like Sundanese, has two vowels called pepets; of these ö is the conventional transcription of the Old Javanese vowel sign which represents the long vowel corresponding to the short vowel transcribed ĕ by Juynboll (in this study ə).

R. A. Kern 1940 observes that OJv. ö became NJv. u and that in Juynboll's Old Javanese-Dutch dictionary some words have two spellings, one with short pepet, the other with long pepet, e.g. ləhəŋ, ləhöŋ. He concludes that if the pronunciation of Old Javanese words in fact agreed with their spelling, then OJv. ö must have been an unstable sound, even more than is indicated by the dictionary. Kern also states that Old Javanese forms with ö must have existed for every lexical item which contains u in New Javanese, because - as he argues - only this sound became NJv. u. In some instances the change ö → u is already represented in Old Javanese according to Kern: e.g., rəŋö, ruŋu 'to hear'.

This study proposes the following hypotheses in respect to the Javanese reflexes of PMJ ə:

(a) PMJ ə became Old Javanese ə or ö and New Javanese ə in the penultimate and in the final syllable. The Old Javanese symbol ö does not occur in initial position and the Old Javanese symbol ə does not occur in final position. In other positions the two symbols ə and ö were apparently used interchangeably[43]:

*bənnər (PHN, Tag. banál 'pious': bənər), Snd. bɨnɨr 'full and good (of rice-grains)', OJv. bənər, NJv. bənər (L), Mal. bənar 'right, good', Mad. Kang. bhənnər in ḍi-ghiná bhənnər 'to be led on the right track'.

(b) PMJ ə before PMJ h became Old Javanese ə, ö, or u and New Javanese u in the penultimate and ó in the final syllable. Dialectally, it also became New Javanese penultimate and ultimate ò (see the section on PMJ u).

Three ways of explaining the two Old Javanese reflexes suggest themselves: (1) the spelling with ə or ö might be an archaism and u represents the pronunciation in Old Javanese; (2) ə and ö represent the pronunciation in earlier Old Javanese and u represents the pronunciation in later Old Javanese; and (3) the two spellings might represent two Old Javanese dialects, where one dialect has ə or ö as reflex of *ə before h, and the other has u, where New Javanese continues the u-dialect:

*dəhaq, Snd. matak ti-dɨhaq 'to push s.o. against the chest', OJv. maŋ-dəha 'to push with the hand', ka-dõha 'pushed aside', NJv. duwò 'to push away'.

*qampəh, Snd. qampɨh, OJv. mãmpəh (=ma + ampəh), NJv. ampóh, ampòh (D) 'to check, restrain'.

(c) Two PMJ ə's in a word which contains PMJ intervocalic or final h became Old Javanese ə..ə, ə..ö, or u..u and New Javanese u..ó (for the dialectal reflexes, see the section on PMJ u). Also in this case three ways of explaining the Old Javanese reflexes suggest themselves: (1) the spellings ə..ə and ə..ö might be an archaism and the spelling u..u might represent the pronunciation in Old Javanese; (2) ə..ə and ə..ö represent the pronunciation in earlier Old Javanese and u..u represents the spelling in later Old Javanese; and (3) the two spellings might represent two Old Javanese dialects, where New Javanese continues the u-dialect.

*ləhəŋ, Snd. l̈ḧŋ, OJv. ləhəŋ, ləhöŋ, NJv. luwóŋ[44], luhóŋ (B), lówóŋ 'to prefer'.

*gəlləh, Snd. g̈l̈ḧ, OJv. gələh, gəlöh, NJv. gulóh (D) 'dirty'.

*ləssəh, Snd. l̈s̈ḧ 'bleached, dirty', OJv. ləsəh 'rotten', lusuh 'worn out', NJv. lusóh (D) (O), lòsòh 'rotten, worn out', Mad. ləssa 'rotten, worn out'.

*pəppəh[45], Snd. p̈p̈ḧ, OJv. pupuh, NJv. pupóh (O), Mal. pəpah 'to strike, beat'.

In one comparison Old Javanese exhibits a penultimate and ultimate ə from a PMJ base with a penultimate *i and an ultimate *ə:

*qiəh[46] (PHN, Tag. qí:hiq 'urine': OD iə[h], ID [1965a] [ ]iS$_1$əq), Snd. k-iqih, OJv. əyəh, əyöh, uyuh 'urine', p-əyöh, p-öyəh, p-uyuh 'to have to urinate', NJv. uyóh (L) 'urine', puyuan (= p + uyuh + an) 'to pass urine', ŋ-uyóh (L) 'to urinate' Mal. k-əm-eh 'to pass urine'.

The following developments are posited for Javanese. The anti-

cipated contraction of the two vowels (see the section on PMJ hiatus) did not occur because of the prior development of initial *i to y. This could have appeared first in a form like OJv. pəyəh with prefix *pə-. The initial ə of OJv. əyəh may be analogical in origin.

In Sundanese the following developments probably took place. The ultimate vowel assimilated to the penultimate vowel. A glottal stop was inserted between the like vowels since no sequence of like vowels occurs in Sundanese.

In Malay the following developments probably took place. The ultimate vowel assimilated to the penultimate vowel. Subsequently the two like vowels contracted to *i (see the section on PMJ hiatus).

(d) PMJ ə before PMJ final *R became OJv. -õ or-u and New Javanese u:

*qiBəR (PAN, To. ifo 'saliva': ?ibəR), OJv. iwõ 'to take care, do one's utmost', Mad. èbər 'saliva'.

(e) If the penultimate vowel was PMJ ə and the ultimate vowel was *ə before *R, the Old Javanese reflex is ə..ö or u..u and the New Javanese reflex is u..u:

*DəŋŋəR_1 (PAN, Fu. Sm. loŋo 'to hear': ḍəŋəR_{23}), Snd. deŋeq (L), OJv. maŋ-rəŋö 'to hear', n-ḍəŋö, ruŋu 'hearing, listening', NJv. k-ruŋu (L), n-ḍuŋu (D), Mal. dəŋar, Mad. Kang. ḍəŋŋər 'to hear'.

(f) PMJ ə before PMJ -BB- became Old Javanese ə and New Javanese u:

*ləBBih (PHN, Tag. labí 'more': OD ləbih, ID [1953a] ləbiq), Snd. l̈iwih (L), OJv. ləwih, NJv. luwéh (L), Mal. ləbeh,

Mad. ləbbi 'more'.

*təBBas, OJv. təwas, NJv. tuwas (O), Mad. təbbás 'advantage, prosperity'.

*təBBək[47] (PAN, Fi. teve 'circumcise': təbək), OJv. təwək, twək, NJv. tuwək 'to stab, pierce through', Mal. təbaq 'bar used for stone breaking'.

(g) Early Javanese hiatus of *ə's which is the result of the loss of *R or *q contracts to Old Javanese ə, ö, or u and New Javanese ó [for the possible ways of explaining the spellings, see under (b)]:

*gəqəm, Snd. gɨqɨm-an, OJv. ka-göm-an, NJv. ka-góm 'scared, shocked'.

*kəqəm, Snd. kɨqɨm 'to be under water, sit in water', OJv. ma-kəm 'to sit in water for a long time', (yan) pa-köm 'which were in the water for a long time', k-in-um 'bathed', NJv. kóm 'to sit in water (in order to soften)'.

*pəR_2R_2əh[48] (PHN, Tag. pigáq 'to squeeze out': pəRah), Snd. pɨrɨh (L) 'eye-drops, eye-water', OJv. pöh-i 'squeezed out', pə-pəh 'to drip in', NJv. póh (D) 'squeezed out', pupóh (O) 'eye-water', Mal. pərah 'to express', Mad. pərra 'eye-drops'.

(h) PMJ penultimate ə before *RR and a following different vowel became OJv. ə or w after the loss of the consonants in early Javanese. Old Javanese w and the following vowel contracted at a later stage of Javanese:

*təR_2R_2ab (PHN, Tag. tigáb 'to yawn': təRab), Snd. tɨrab, OJv. twab, NJv. a-tòb, Mad. dərrap[49] 'to belch'.

(i) The PMJ sequence -əa- became New Javanese ò. Presumably Old

Javanese had a form *pwar which contracted at a later stage of Javanese. The New Javanese form is pòr 'pedestal tray': *pəar, p. 72.

2.6.4.4. The Sundanese reflexes. Sundanese has two different vowels, ə and ɨ, which can be found to match reflexes of PMJ ə. In the literature they are usually referred to respectively as the 'long and short pepets'. So far the existence of these two Sundanese vowels has constituted a major problem in Austronesian comparative studies. Most researchers ignored this problem, even those who included Sundanese as a criterion language in their comparative investigations. R. A. Kern 1940 is the only scholar who attempted an analysis of the origin of the two Sundanese pepets. He reconstructed an Indonesian pepet and arrived at the following conclusions with respect to its reflexes in Sundanese:

1. The pepet is lengthened in open syllables and in the final syllable when followed by h (primary lengthening).
2. Secondary lengthening takes place when short and long pepet occur in the same word. All pepets are lengthened.
3. No further rules can be given for the transition from a short to a long pepet; it is arbitrary but in every instance fixed. (p.118)

R.A. Kern thus suggested sporadic change by using the phrase 'its transition is arbitrary'.

As has been pointed out in section 2.3.1. this study proposes that ɨ is the regular reflex of PMJ ə and that the distinction between ɨ and ə is not inherited. Javanese loan words, and in a few instances Malay loan words, are thus the main source of Sundanese words containing ə.

(a) The following is an example of PMJ penultimate and ultimate ə:

*kəppəl (PHN, Tag. kí:pil 'pressed down tight as cooked rice within a fist': kəpəl), Snd. kɨpɨl 'grasp, handful', OJv. kəpəl-kəpəl 'clotted mass of rice', NJv. sa-kəpəl 'clenched fist, handful', Mal. kəpal 'lump, clod', Mad. kəppəl 'handful'.

(b) PMJ ə became Sundanese i when the final syllable contained *u:

*[Bb]ə[tt, ṭṭ]uŋ, Snd. bituŋ, Mal. bətoŋ 'large bamboo-tree'.

*cəkkur, Snd. cikur, Mal. cəkor, Mad. cəkkòr 'creeping weed'.

*kə[rr, R_2R_2]uh, Snd. kiruh, Mal. kəroh 'turbid, muddy'.

*səgguŋ, Snd. siguŋ, NJv. səgóŋ 'badger'.

*təlluq (PAN, Sa. olu 'three': təlu?), Snd. tiluq, OJv. təlu, NJv. təlu (L), Mad. təllò(h), təllòq 'three'.

*təmmuq (PWI, TBt. tomu 'to meet': təmu), Snd. timuq (L), OJv., NJv., Mal. təmu, Mad. təmmò(h) 'to find, meet'.

*tənnun (PWI, TBt. tonun 'to weave': t nun), Snd. tinun, OJv. tənun, NJv. tənón, Mal. tənon, Mad. tənnòn 'to weave'.

*pənnuh (PAN, Sa. honu 'full': pənuq), Snd. pinuh, OJv. pənuh, NJv. pənóh (B), Mal. pənoh 'full'.

*təppuŋ (PWI, NgD. tepoŋ 'baker's ware': təpuŋ), Snd. tipuŋ, Mal. təpoŋ, Mad. təppòŋ 'flour'.

In the western parts of the Sundanese speaking area and in the northeastern enclaves PMJ ə before PMJ u has the reflexes ɨ, a, and o according to the dialect. The Baduy (Cibeo, Cipiit), Saketi, Mandalawangi, Gurusul, Lebak, and Cijaralang dialects are ɨ- dialects. The Cipacung, Cikeusal, Cirende, Cipaku, Cilayang, and Cibeusi dialects are a-dialects and the Dukuh, Baros, Jiput, Mancak, Parean,

and Lelea dialects are o-dialects.

Since Sundanese merges *i [which appears as i in most instances (see the section on PMJ i)] and *ə before *u, all standard Sundanese words of the shape ..i(C)(C)u.. which have no known cognates in other Austronesian languages are ambiguous in respect to the origin of the penultimate vowel. Only the i̇-, a-, and o- dialects do not merge these two vowels. A word like Snd. lintuh 'fat' has no cognates in any other Austronesian language as far as I know. Only dialectal information resolves the ambiguity as to the origin of Sundanese i: the i̇-dialects have the form li̇ntuh, the a- dialects the form lantuh, and the o- dialects the form lontuh.[50] The dialectal forms indicate that the earlier Sundanese form must have been *ləntuh.

The same holds for Snd. tihul 'tree stump thrown into a fire to keep the fire smouldering on', Parean toul, Baduy (only Cipiit) ti̇hul. Earlier Sundanese must have had a form *təhul.

There are two instances in which the Sundanese dialectal reflexes indicate that PMJ had a penultimate ə. In both instances Malay exhibits an inexplicable i. A possible solution is that PMJ had a doublet, one with penultimate ə, the other with penultimate i:

*həzzuk[51] (PHN, Tag. irok 'sugar-palm': izuk), OJv. həduk, NJv. dóq, Mal. ijok 'black sugar-palm fiber'; and *hənzuk, Snd. qinjuk 'black sugar-palm fiber'. The Sundanese dialectal forms are qi̇njuk, qanjuk, and qonjuk 'black sugar-palm fiber'.

*ñə[rr, R_2R_2]uq, Snd. ñiruq, Mal. ñiru, niru 'winnowing basket'. The Sundanese dialectal reflexes are ñi̇ruq, ñaruq, and ñoruq 'winnowing basket'.

(c) There are instances of *ə > Snd. e when before eq < early Snd. -əy < *-əy, *-əR_1: e.g., Snd. deŋeq (L) 'to hear' (cf. *DəŋŋəR_1, p. 76); Snd. bereq (L) 'to give' (cf. *BəR_2R_2əy, p. 126).

(d) In one instance an early Sundanese *-əy- from PMJ -əR_1- assimilated to an early Sundanese *i in the following syllable before the contraction of early Sundanese *əy to e could take place. Sundanese exhibits iy:

*pəR_1R_1əm, Snd. piyim 'kətan which has been sweetened by ragi',
Mal. pəram 'to store fruit to let it ripen'.

(e) There are a few instances in which inherited Sundanese words contain ə. Examples are qəŋgis 'already' and həntiq 'not, no'. For some speakers the initial two elements are dropped: ŋgis and ntiq. These are taken to be fast speech forms of the careful and/or slow speech forms qaŋgis and hantiq. Both occur frequently at relatively great distances from the end of phrases.

(f) There are instances of Sundanese loan words that contain Snd. i. For the meaning 'to hear' Sundanese has two words, riŋiq and ruŋuq, that are part of the high status-style and correspond to the low status-style deŋeq. The high words are probably borrowings from Javanese. Considering the three ways of explaining the Old Javanese spellings ə..ö (rəŋö) and u..u (ruŋuq), there are three possible ways in which Sundanese might have borrowed these two words: (1) if we consider the possibility that the spelling ə..ö is an archaism and that the spelling u..u represents the pronunciation in Old Javanese, then Snd. riŋiq probably was borrowed in the pre-Old Javanese period, while Snd. ruŋuq was borrowed during the Old Javanese period; (2) if we consider the possibility that ə..ö represents an earlier Old

Javanese pronunciation and u..u represents a later Old Javanese pronunciation, then Snd. rɨŋɨq presumably was borrowed before ə..ŏ became u..u, while Snd. ruŋuq was borrowed after this change had occurred; and (3) if we consider the possibility that the two spellings represent two Old Javanese dialects, then Snd. rɨŋɨq can be explained as a borrowing from the ə..ŏ dialect and Snd. ruŋuq as a borrowing from the u..u dialect.

Snd. rɨhak 'mucus, phlegm' was perhaps borrowed from a dialect with a form like OJv. rəhak 'mucus, phlegm', represented by Tegal Javanese ruwaq 'mucus, phlegm'. The expected Sundanese form is *dɨhak and not rɨhak. Malay has dahak 'coughing up phlegm'. The Javanese and Malay evidence implies *Dəhak. PMJ D- however became regularly Snd. d- (see the section on PMJ D, p. 147)

The PMJ semivowels

2.7. Dempwolff reconstructed two PAN semivowels, *w and *y. Both are accepted as part of the PMJ reconstructed phoneme inventory. Following Dyen (1971:26), we make an additional distinction for *w in initial position. Thus the two tentative proto-phonemes $*w_1$- and $*w_2$- are reconstructed.

PAN w and PAN b between *a's merge in PMJ w: e.g., *qawak (PAN, Fi. l-ėwe 'flesh, contents': ?awak), Snd. qawak (L), OJv. awak, NJv. awaq (L), Mal. awaq, Mad. abáq (L) 'body, trunk of body'; *sawah (PAN, Fi. z̨ava 'harvesting season': sabaq), Snd., OJv. sawah, NJv. sawah (L), Mal. sawah, Mad. sabá 'wet rice-field'.

PMJ w occurs in three positions: initial, intervocalic, and final,

and PMJ y in four positions: initial, intervocalic, postconsonantal, and final.

2.7.1. PMJ w.

2.7.1.1. PMJ w_1 and PMJ w_2. PMJ w_1 disappeared in Sundanese and Madurese. It became h in Malay and Old and New Javanese w. PMJ w_2 disappeared in Sundanese. Old Javanese has ww as its reflex before a vowel other than . Before *u its reflex is w. The second member of the Old Javanese geminate contracted with the following vowel. Old Javanese w before u disappeared in New Javanese (for a similar development, see PMJ B before *u, p. 132).

2.7.1.1.1. PMJ w_1. Simple instances are lacking. The following comparison is worth considering despite its complications:

*w_1aR_3iq (PAN, Sa. weli 'for a while': $waR_{12}i$?), Snd. poeq (? < *pə-w_1aR_3iq) 'time-space between sunrise and sun-set', poekin (=poeq+kin) 'to dry in the sun'. OJv. we 'sun, day', təŋaŋe (=təŋah ŋ we) 'noon', NJv. pé 'to dry in the sun (by hanging outside)', təŋaŋé (O) 'noon', Mal. (h)ari, Mad. arè(h) 'day'.

Snd. poeq and NJv. pé are considered morphologically complex forms, exhibiting the prefix *pə-. PMJ pə-w_1aR_3iq became Snd. poeq by the following development: (1) PMJ R_3 disappeared (see the section on PMJ R), and (2) perhaps the sequence *əw became o and the sequence aiq became eq in this single instance. NJv. pé is probably due to the following development: PMJ R_3 disappeared in early Javanese and the resulting vowel sequence ai contracted to New Javanese é. Earlier Javanese w after a consonant and before a front vowel disappeared (as in *DuR_2iq, OJv. rwi, NJv. ri 'thorn', see p. 148).

2.7.1.1.2. PMJ w_2.

*$w_2$ayaq, Snd. qayaq, OJv. wwaya 'there is'.

*w_2aDaq (PAN, Fi. wara-i 'not to be': waḍa?), OJv. wwara 'there is', NJv. óra 'there is not', Mal. ada, Mad. báḍá(h) 'there is'.

*$w_2$aluq (PAN, Fi. walu 'eight': $w_2$alu?), OJv. wwalu, NJv. wòlu[52], Mad. bállu(h) 'eight'.

*$w_2$uyah (PWI, NgD. guyah 'salt': uyah), Snd. quyah, OJv. wuyah, NJv. uyah (L), Mad. buyá 'salt'.

2.7.1.2. PMJ w in intervocalic position. PMJ w in intervocalic position appears as w in all languages except Madurese where it became b:

*kawah (PHN, Tag. ká:wa 'saucepan': OD kawah, ID [1953a] kawaq), Snd. kawah 'crater, big saucepan', OJv. kawah 'a big saucepan', NJv. kawah 'crater', 'cauldron' (B), 'cooking pan' (O), Mal. kawah 'vat, cauldron, crater'.

*tawaR_2^I (PHN, Tag. tambág 'wedding-gift': ta[m]baR), Snd. tawar 'to bargain, make a bid', OJv. a-tawa 'tendering', NJv. tòwò (L) 'to ask for, ask for the price', Mal. tawar, Mad. tabár 'to bargain, bid'.

*tawaR_2^{II} (PHN, Tag tá:bag 'tasteless': ta[m]baR), Snd. tawar 'brackish', NJv. tòwò 'fresh water', Mal. tawar 'tasteless', Mad. tabár 'saltless'.

2.7.1.3. PMJ w in final position.

2.7.1.3.1. PMJ w after PMJ a appears as w in Malay, but contracted with this vowel in the other languages. The contracted

result is Sundanese -oq, Old Javanese -o, New Javanese -ó, and Madurese u or ò, and West Madurese -uh or -òh (distributed according to the vowel alternation rule given in section 1.8.3.1.):

*[Bb]akaw (PAN, To. pako 'kind of tree': bakhaw), Snd. bakoq, Mal. bakaw 'mangrow'.

*pisaw (PHN, Tag. pí:saw 'knife'), Snd. pesoq, NJv. pisó (D), Mal. pisaw 'knife'.

*tinjaw (PWI, Mer. tsindzu 'to observe from the distance': tinjaw), Snd. tenjoq 'to see', OJv. tinjo, NJv. tinjó (D) (O) 'to visit', Mal. tinjaw 'to crane the neck, be on the watch'.

*tuŋaw, (PHN, Tag. tuŋáw 'insect'), Snd. toŋoq, Mal. tuŋaw, Mad. B. tòŋò(h) 'sand-flea'.

In one instance the Javanese cognates inexplicably exhibit final u:

*panaw (PAN, Sa. hano 'white spots on skin'), OJv., NJv. panu, Mal. panaw, Mad. panò-panò 'white spots on the skin'.

In a few instances the Madurese cognate inexplicably exhibits final -òy or -uy:

*baŋaw (PWI, NgD. baŋao 'stork'), Snd. baŋoq, OJv. baŋo, NJv. baŋó, Mal. baŋaw. Mad. bháŋuy 'stork'.

*galaw, Snd. galoq, NJv. galó (D), Mad. gháluy 'mixed'.

*kəbbaw[53] (PAN, Fi. karavau 'ox, cow': kəbaw), OJv. kəbo, NJv. kəbó, Mal. kə-r-baw, Mad. kə-r-bhuy 'buffalo'.

*jaraw, Snd. jaroq, NJv. jaró, Mad. jháruy 'a bamboo with holes along its length to allow crosspieces to be put in for fence-making'.

In the verbs this additional y perhaps is the suffix *-iq. Let us consider the following comparison:

*tamuq (PQI, TBt. tamu-e 'guest': tamu), Snd. ta-tamuq, OJv. tamu, NJv. tamu (H) 'guest', Mal. tamu 'to regale, feed up', Mad. tamòy 'guest'.

We also find OJv. tamuy 'guest' which is perhaps the morphologically complex form of the simple form *tamuq: *tamuq+iq became OJv. tamuy. The suffix *-iq did not contract with *u after the loss of the final glottal stop of *tamuq but became its homorganic semivowel (for the contraction of vowels after the loss of *-q- in Javanese, see the section on the laryngeals). The New Javanese continuation of OJv. tamuy is an expected tami (H) (D) 'guest' (for the development of OJv. -uy to NJv. -i, see below). This latter form already occurs in an Old Javanese text: a-na-nami 'to treat, regale'. It was probably written by a scribe in whose dialect -uy had already contracted to -i. Madurese has tamòy, presumably like OJv. tamuy and NJv. tami from *tamuq+iq.[54]

2.7.1.3.2. PMJ final w after PMJ i contracted with this vowel in Sundanese and Malay. The contracted result is Sundanese -iq and Malay -i. In Old and New Javanese an interchange of syllabicity took place between the two vocoids. In Madurese the order and the syllabicity of the vocoids was reversed:

*BaR_2iw (PWI, TBt. bari 'to taste rotten': baRiw), Snd. bariq[55] 'old, stiff, cold (of food which has been stored for a long time), sour, fermented, rotten', NJv. wayu 'to have been standing for a long time, too old, rotten', Mad. bâruy 'rotten, musty, stale (of food)'.

*laR$_2$iw (PHN, Tag. lagyóq 'soul': laRiw), Snd. lariq 'to follow a trace', OJv. pa-layw-ana 'to be run after', NJv. kə-layu (O), k-layu 'to want to go along (with the mother, master, etc.)', Mal. lari 'to run'.

In one instance a PMJ doublet exhibiting an interchange of syllabicity and non-syllabicity might have to be reconstructed: Snd. kaiq 'wood' probably is from *kaiw, while West and East Sundanese kayuq[56], OJv., NJv., Mal. kayu, and Mad. kaju(h) 'wood' probably are from *kayuq. These two forms can be associated with Dyen's (1971:43) reconstructions *kaS$_2$iw and *kaS$_2$uy respectively.

2.7.1.3.3. PMJ final w after PMJ ə contracted with this vowel to Sundanese -oq, Malay, Old and New Javanese -u, and Madurese -u or ò and West Madurese -uh or -òh (distributed according to the vowel alternation rule given in section 1.8.3.1.).

The first to reconstruct this final sequence was Dyen (1953:363, fn. 18). His only example was *buR$_3$əw. The reconstruction was an attempt to combine two of Dempwolff's reconstructions *buRaw and *buru. The reflexes assigned to Dyen's *-əw were Tag. -aw, TBt. -o (?), NJv. -u, Mal. -u, NgD. -aw, Sa. -o. Hendon (1964:372 ff.) reconstructs *-əw instead to account for Tag. -oq, NgD. -aw, Fi. -o, and OJv. -õ. He suggests to reassign *-əw from the correspondence to which Dyen had assigned it. However, Dyen's correspondence is closely patterned with that of *-əy. A further language in which Dyen's *-əw and *-əy are parallel is Sundanese, the reflex of *-əy being Snd. -eq (see section 2.7.2.4.2.). Furthermore there are other comparisons to support Dyen's assignment. Hendon's material shows some non-conforming evidence. In

two of Hendon's basic correspondences Old Javanese has an -u instead of an anticipated -ŏ. Hendon suggests that these Old Javanese words can be considered loans from Malay or that a historical correct form in -ŏ appears as -u in the manuscripts due to scribal corruptions. On the other hand it is also possible, as Hendon admits, "that archaizing scribes may have substituted unhistorical -ŏ for an etymologically correct -u"(op. cit.: 379, fn. 34).

We reconstruct PMJ -əw in the following comparisons:

*bañəw (PAN, Sm. panu-panu 'smeared': bañu[?h]), Snd. bañoq 'water', si-bañoq 'to wash one's hands', OJv. bañu, NJv. bañu (L) 'water', Mal. bañu 'fermented coconut-water used in dyeing', Mad. bháñò(h) (H) 'to urinate'.

*Burəw (PAN, Sa. huru 'to run': OD buRaw and buru, ID [1953b] $buR_3əw$), Snd. boroq (L) 'to hunt, chase, pursue', OJv. a-buru 'to hunt', NJv. buru (L) 'to hunt' (B) (D), 'to try to catch', Mal. buru 'to hunt, drive game', Mad. buru(h) 'to run away', Mad. bhuru 'to hunt' is treated as a borrowing from Malay or Javanese. Snd. bu-buru (L) 'to hunt' is also treated as a loan from one of these two languages. The reduplication occurred at a later stage of Sundanese. There is also a PMJ reconstruction *buruq, see p. 138.

*[dḍD]agəw or *ga[dḍ]əw, Snd. gadoq (L), Mal. dagu 'chin'.

*garəw, Snd. garoq 'to scratch (with nails), OJv., NJv. garu 'to harrow', Mal. garu 'scraping with a blunt point, scratching', pəŋ-garu 'harrow', Mad. ghárù(h) 'to scratch'.

See also *[Bb]u[dḍ]əw, p. 65 ; *tujjəw, p. 65.

2.7.1.3.4. Ambiguous reconstructions. An ambiguous reconstruction with [uq, əw] is employed when a Sundanese cognate is lacking and when Old and/or New Javanese and/or Malay exhibit -u, and/or Madurese exhibits -u(h) or ò(h):

*semm[uq, əw][57], OJv. səmu 'to look like, appearing', NJv. səmu 'meaning, to let know', 'as if, outward appearance' (O), Mal. səmu 'to deceive by means of lying tales, humbug', Mad. səmmò(h) 'what can be drawn up from outer appearance'.

2.7.2. PMJ y. PMJ y in initial position appears as y in Sundanese and Old and New Javanese, and became j in Madurese. The Malay reflex is indeterminable because of the absence of a cognate set with a Malay member. In intervocalic position it appears as y in all languages but Madurese where it became j. In postconsonantal position it appears as y in Sundanese and became j in Madurese. The Javanese and Malay reflexes are indeterminable because of the absence of cognates in these languages. For PMJ y in final position, see the section with that heading.

2.7.2.1. PMJ y in initial position. There are two PMJ reconstructions with initial y:

*yuŋyun, Snd. ka-yuŋyun 'lovely, beautiful', Mad. ka-junjun 'lovely, beautiful, alluring'.

*yuyuq (PAN, To., Fu. ququ 'kind of big land-crab': yuyu), OJv. a-yuyu 'lobster, crayfish', NJv. yuyu 'crayfish'.

2.7.2.2. PMJ y in intervocalic position

*payuŋ (PHN, Tag. pá:yoŋ 'umbrella'), Snd. payuŋ (L), OJv. payuŋ, NJv. payóŋ, Mal. payoŋ, Mad. pajuŋ 'umbrella'.

*payaŋ, Snd. payaŋ 'drag-net', OJv. pa-mayaŋ-an 'fisher-boat', NJv. payaŋ 'drag-net', Mal. payaŋ 'fishing', Mad. pajáŋ 'drag-net'.

2.7.2.3. PMJ y in postconsonantal position. The only reconstruction with postconsonantal y is *yuŋyun, see above.

2.7.2.4. PMJ y in final position.

2.7.2.4.1. PMJ final y after PMJ a appears as Sundanese and Malay -ay, and became Madurese -áy or -ay (distributed according to the vowel alternation rule given in section 1.8.3.1.), and contracted to New Javanese é. Old Javanese exhibits doublets in some instances, one with final ai or ay, the other with contraction to -e. As in the case of the Old Javanese ŏ and u, there are three possible ways of explaining the two spellings: (1) the spellings with -ay is an archaism and -e might represent the pronunciation in Old Javanese, (2) -ay represents the pronunciation in earlier Old Javanese and -e the pronunciation in later Old Javanese, and (3) the two spellings might represent two dialects, one in which *-ay became -ay, and one in which *-ay became -e, where New Javanese is from the e-dialect. The spelling -ai is considered a scribal corruption:

*qanay (PAN, Sa. s-ane 'termite': ?anay), Snd. Kad. qanay, Mal. anay-anay 'termite'.

*qaŋgay, Snd. qaŋgay-qaŋgay, NJv. aŋgé-aŋgé, Mad. aŋgháy 'mole cricket'.

*balay (PAN, Fi. vale 'house'), Snd. balay 'little wall made of stones', OJv. balay 'hall', bale in bale nyāsa 'annex', NJv. balé (O) (D) 'front-hall, bench', Mal. balay 'public building', Mad. bhálây 'place for reception'.

*Baŋkay (PHN, Tag. baŋkáy 'corpse': baŋkay), Snd. baŋkay in sawan baŋkay[58], 'apoplexy', OJv. waŋkay, waŋke, NJv. waŋké (D) (B), baŋké 'carcass', sawan waŋké 'apoplexy', Mal. baŋkay 'corpse', sawan baŋkay 'apoplexy'.

*bulay[59] (PAN, Sa. hu-hule 'cataract'), OJv. bule, NJv. bulé, Mal. bulay 'albino', Mad. B. bhuláy 'dirty white'.

*həllay, Snd. hɨlay, OJv. hlai, Mal.(hə)lay 'a numeral coefficient for tenuous objects such as garments'.

*ga[Dḍ]ay[60] (PWI, TBt. gade 'pledge, pawn': gaḍay), OJv. gaḍe 'pledge, pawn', NJv. gaḍé (L), Mal. gaday 'to pledge, pawn'.

*gaway[61] (PHN, Tag. gá:way 'witchcraft'), OJv. gawai, gawe, NJv. gawé (L) 'work', Mal. gaway 'tool', Mad. ghábáy 'work'.

*qintay (PHN, Tag. qintáy, hintáy 'wait': OD hi[n]ṭay, ID [1953a] [qh]in[tṭ]ay), OJv. aŋ-intay, maŋ-inte, NJv. inté (B), Mal. intay 'to pry, watch'.

*kasay (PWI, NgD. kasai 'ointment'), Snd. kasay (H) 'object used in washing', OJv. kasay 'cosmetic used as a hairwash'.

*lantay (PAN, Sa. ladre 'stones of the oven'), Snd. lantay-an 'bamboo-sticks fastened horizontally to sticks standing upright in the ground, serving to hand rice at. The rice is to dry in the sun'. OJv. l-in-antay 'wrapped in a mat (?)', NJv. lanté (O) (H) 'mat', Mal. lantay 'flooring', Mad. lantay 'rattan-mat to sit on'.

*laway[62] (PHN, Tag. lá:bay 'skein': labay), Snd. laway (H) 'to prepare yarn for weaving', OJv. lawe, NJv. lawé, Mad. labáy 'yarn'.

*limBay, OJv. aŋ-limbe 'to extend', Mal. limbay, Mad. lèmbáy 'to sway the arms outwards'.

*pakay[63] (PHN, Tag. pá:kay 'mission'), NJv. pakéan 'clothes, horse-equipment', Mal. pakay 'to use'.

*pə[rr, R_2R_2]ay, Snd. pɨray 'to open up (of a lump of flour), corrode', Mal. bər-pəray-pəray 'to disperse in all directions, breaking up, crumbling as a clod of earth or fungus'.

*pulay, OJv. pule, NJv. pulé, Mal. pulay, Mad. pòlay 'kind of tree'.

*[rR_2]amBay, Snd. ra-rambay, Mal. rambay, Mad. rambáy 'kind of tree that gives fruit'.

*rantay[64] (PWI, TBt. ratte 'chain': [r]antay), Snd. rantay 'linked together', OJv. rantay, rante 'band', NJv. ranté, Mal., Mad. rantay 'chain'.

*[rR_2]əm[Bb]ay, Snd. rɨmbay, Mal. rəmbay 'to flow (of tears)'.

*salay[65] (PWI, TBt. sale 'to smoke'), Snd. salay 'to hang bundles of rice on ærancatan (to dry)', NJv. salé, salèh (D) 'fruit biscuit (dried banana)', Mal. salay 'slow roasting', salay-an 'the rack nearest the kitchen-fire', pənalay 'a sort of grid or platform for sun-drying'.

*sampay (PAN, Fu. safe 'to carry on the shoulder'), Snd., Mal., Mad. sampay 'to hang loosely'.

*simpay, Snd. simpay 'band, hoop', NJv. simpé (D) 'iron-wheel-band', Mal. simpay, Mad. sèmpay 'band, hoop'.

*[tṭ]aŋkay (PAN, Sa. ake 'twig': takay, taŋkay), Snd., Mal. taŋkay 'stalk, stem, haulm'.

*tapay (PHN, Tag. tá:pay 'dough'), Snd. Bant. tapay, NJv. tapé, Mal., Mad. tapay 'yeast, leavened cake'.

In one comparison the Sundanese cognate exhibits final -ɨy instead of an expected final -ay, perhaps through assimilation of the final vowel to the initial vowel:

*pəttay, Snd. pɨtɨy, NJv. pətế, Mal. pətay 'stink-bean'.

2.7.2.4.2. PMJ final y after PMJ ə contracted with this vowel in all four languages and became Sundanese -eq, Javanese and Malay -i, and Madurese -i or -è and West Madurese -ih or -èh (distributed according to the vowel alternation ruie given in section 1.8.3.1.).

Dyen (1949:421 fn. 5) was the first to reconstruct *-əy to explain the correspondence Tag. -ay, TBt. -e, NJv. -i, Mal. -i, NgD. -əy, Mer. -i. Further instances exemplifying *-əy appear among the following:

*hanəy (PHN, Tag. há:nay 'to put in a row': hanay), Snd. pi-haneq, NJv. p-ani, Mal. ani 'to arrange the warp on the loom'.

*hatəy (PAN, To. qate 'liver': qaCəy?i), Snd. hateq (L) 'heart, feelings'; anatomically: 'liver', OJv. hati 'heart', h-in-ati-ati 'in what one trusts', NJv. ati (L) 'heart, feelings, soft inner parts (e.g. of bamboo), liver (e.g. as food)', Mal. (h)ati 'heart, feelings'; anatomically: 'part of body made up of the liver, gall, and heart', Mad. atè(h) 'heart, feelings'; anatomically: 'liver'.

*guraməy[66], Snd. gurameq, NJv., Mal. Java gurami 'kind of fish'.

*[jz]unəy, Snd. joneq, Mal. juni 'kind of plant'.

*kaṇḍəy, Snd. Bant. kandeq 'a bag of katun or other material', NJv. kandi (D) (O) 'bag, pouch', Mal. kandi-kandi 'basket',

Mad. kanḍhi 'bag, pouch'.

*paḷəy[67] (PHN, Tag. pá:lay 'rice-plant': pajay), Snd. pareq (L), OJv. pari, NJv. pari (L), Mal. padi 'rice'.

See also *[tṭ]i[rR$_2$]əy, p. 55; *huəy, p. 65.

2.7.2.4.3. Ambiguous reconstructions. An ambiguous reconstruction with *[iq, əy] is employed when a Sundanese cognate is lacking and when Old and/or New Javanese and/or Malay exhibit -i, and or Madurese exhibits -i or -è and West Madurese -ih or -èh (distributed according to the vowel alternation rule given in section 1.8.3.1.):

*kənḍ[iq, əy][68] (PWI, TBt. hondi 'water-goglet': kənḍ[i]), NJv. kəndi, Mal. kəndi, Mad. kənḍhi(h) 'water-goglet'.

2.7.2.4.4. PMJ final y after PMJ u appears as Sundanese -uy and became Madurese -uy or -òy (distributed according to the vowel alternation rule). It contracted with the preceding vowel to Malay and New Javanese i. As in the case of PMJ final y after PMJ a, Old Javanese has doublets. We either find an uncontracted form with -uy or a contracted form with -i. For the three possibilities of explaining these doublets, see section 2.7.2.4.1. Instances exemplifying *-uy appear among the following:

*qapuy[69] (PAN, To. afi 'fire': x$_1$apuyə), Old Snd. apuy, OJv. apuy, api 'fire', NJv. api-api 'to warm o.s. at a fire', Mal. api Mad. apòy 'fire'[70].

*Baluy[71] (PWI, Mer. valu 'to return, repent': baluy), OJv. waluy 'return', NJv. wali (D) (O), bali (L), wali-wali (O) 'every time again', Mal. kəm-bali 'to return'.

*suŋguy, OJv. s-in-uŋgi 'be carried', NJv. suŋgi 'carried on

the head', Mad. sòŋghuy 'to carry on the shoulders'.

*suruy[72], OJv. suruy, suri 'comb', NJv. suri 'weaving-comb', Mal. suri 'the comb of a Malay loom', Mad. sòròy 'comb'.

*tuluy[73] (PHN, Tag. tulóy 'go on'), Snd. tuluy 'to go forth', OJv. a-nuluy-i 'to continue', a-nuli-nuli 'quickly follow each other', NJv. tuli 'immediate'.

*turuy[74], Snd. Cir. turuy, Parean tuyur, OJv., NJv., Mal. turi, Mad. tòròy 'kind of tree'.

The consonants

2.8. In this first section on the reconstruction of the PMJ consonants we shall deal with the following proto-phonemes: *m, *n, *ñ, *ŋ, *l, *l̤, *r, and *s, and their reflexes.

2.8.1. PMJ m. PMJ m is reconstructed in all five positions: initial, intervocalic, preconsonantal, postconsonantal, and final. It appears as m in all four languages in all positions except in certain environments in PMJ doubled monosyllables (see the section on PMJ doubled monosyllables, p. 194).

2.8.1.1. PMJ m in initial position:

*mataq (PAN, To., Fu., Sm. mata 'eye': maCa?), Snd. mataq (L), OJv. mata, NJv. mòtò (L), Mal. mata, Mad. mata(h) 'eye'.

*manis (PWI, TBt. manis 'sweet'), Snd. manis[75], 'sweet, nice', OJv. manis 'loveliness, sweetness, sweet', NJv. manés 'sweet' (D), 'nice, lovely', Mal. manes 'sweet', Mad. manès 'sweet, lovely'.

2.8.1.2. PMJ m in intervocalic position:

*tumaq (PAN, To. Fu., Sm. tuma 'louse': tuma[?h]), Snd. tumaq, OJv. tuma, NJv. tumò, Mal. tuma, Mad. tòma(h) 'louse'.

*taman (PAN, Sa. ama-a 'yard'), Snd., OJv., NJv., Mal., Mad. taman 'garden, pleasure-ground'.

2.8.1.3. PMJ m in preconsonantal position:

*kumpul (PHN, Tag. kumpól 'bunch'), Snd. kumpul, NJV. kumpól (L), Mal. kumpol, Mad. kòmpòl 'to gather, group').

*lumpuh (PWI, TBt. luppu 'lame'), Snd. lumpuh, NJv. lumpóh 'lame, weak (legs)', Mal. layoh lumpoh 'weak, limp, tender (of sores)', Mad. lòmpò 'weak, exhausted'.

2.8.1.4. PMJ m in postconsonantal position:

See the section on PMJ doubled monosyllables, p.194 .

2.8.1.5. PMJ m in final position:

*kirim, Snd. kirim (L) 'to send', OJv. kirim-ən 'was sent', NJv. kirém (L), Mal. kirem, Mad. kèrèm 'to send'.

*sulam (PAN, Fi. qi-zula 'needle'), Snd. sulam 'embroidery'. OJv. sulam 'close together, plaited', NJv. sulam (O) 'interlaced', Mal. sulam, Mad. sòlam-an 'embroidery'.

2.8.2. PMJ n. PMJ n is reconstructed in all possible positions: initial, intervocalic, preconsonantal, postconsonantal, and final. It appears as n in all positions in all languages.

2.8.2.1. PMJ n in initial position:

*nanah (PAN, Fi. nana 'pus, matter': naqnaq), Snd., OJv., NJv., Mal. nanah, Mad. nana 'pus, matter'.

*naŋkaq (PHN, Tag. naŋkáq 'a fruit': naŋka), Snd. naŋkaq, OJv. naŋka, NJv. nòŋkò, Mal. naŋka, Mad. naŋka(h) 'a fruit,

specifically the jack'.

2.8.2.2. PMJ n in intervocalic position:

*qanuq (PHN, Tag. qanó 'the thing whatever you may call it': anu), Snd. qanuq, nuq 'who, which, so-and-so, such-and-such', OJv., NJv., Mal. anu, Mad. anò(h) 'so-and'so, such-and-such'.

*taniq, Snd. taniq 'agriculture', OJv. tani 'land', NJv. tani 'peasant, farmer', Mal. Jak. tani 'farming', Mad. tanè(h) 'farmer'.

2.8.2.3. PMJ n in preconsonantal position:

*qundur (PWI, NgD. qundur 'to go backwards': u(n)du[r]), Snd. qundur, OJv. undur, NJv. undór (O), Mal. undor, Mad. òndhur 'to retreat, go back, retire'.

*kanciŋ (PHN, Tag. kansíŋ 'gold-brooch': ka(ŋ)ciŋ), Snd. kanciŋ, NJv. kancéŋ, Mal. kanceŋ, Mad. kancèŋ 'button, rivet, bolt, stud, clasp'.

2.8.2.4. PMJ n in postconsonantal position:

For PMJ n in this position, see the section on PMJ doubled monosyllables (p. 194).

2.8.2.5. PMJ n in final position:

*salin (PHN, Tag. sá:lin 'translation'), Snd. salin 'to interchange, change', OJv. a-salin 'interchangeable', NJv. salén (L) 'to change, interchange', Mal. salen 'change of dress or food', Mad. salèn 'to change, interchange'.

*lamun, Snd. lamun (L), OJv. lamun, NJv. lamón, lamòn (D) (O), Mal. lamon, Mad. lamòn 'provided it be'.

2.8.3. PMJ ñ. PMJ ñ is reconstructed in initial and intervocalic position. It appears as ñ in all languages in these two positions except when it occurred before *i. In this case it became Sundanese and Old and New Javanese n. Malay often has competing forms, one with ñ before i, the other with n before i. Thus, we can posit two dialects, one in which *ñ before i appears as ñ and another in which it became n. In the following instances it is best to explain the existence of competing forms as borrowings from the dialect in which *ñ before *i became ñ into the dialect in which *ñ before *i appears as n, or conversely.

2.8.3.1. PMJ ñ in initial position before a vowel other than *i:

*ñawaq (PAN, To., Fu., Sm. ma-nava 'to breathe': ñawa?), Snd. ñawaq, NJv. ñòwò, Mal. ñawa, Mad. ñabá(h) 'soul'.

*ñaman, NJv. ñaman 'tasty', Mal. ñaman 'healthy feeling, tasty', Mad. ñaman 'sense of well-being'.

2.8.3.2. PMJ ñ in initial position before *i:

*ñiuR (PAN, Fi., Sa. niu 'coconut-palm'), OJv. nyū, Mal. ñior, nior, Mad. ñèyòr, ñèyòŋ[76], 'coconut'.

*ñiluq, Snd. linuq (metathesis) 'smarting', OJv. a-linu 'sharp toothed', NJv. linu 'to have a gnawing feeling (in the teeth, bones)', Mal. ñilu, nilu[77] 'nerve pain', Mad. ñèlò(h) 'to have a gnawing feeling in the teeth or in the bones'.

2.8.3.3. PMJ ñ in intervocalic position before a vowel other than *i:

*qiñaq (PAN, Fi. t-ina 'mother': ?ina?ə), OJv. iña, NJv. iñò, Mal. iña, Mad. èña(h) 'foster-mother, nurse'.

*tañaq, Snd. tañaq (L), OJv. tañа, NJv. tòñò (B), Mal. tañа, Mad. tañа(h) 'to interrogate'.

In one instance Sundanese and Malay exhibit an intervocalic ñ, while Old and New Javanese exhibit an intervocalic n:

*qañam (PAN, Fi. yana-yana 'to plait loosely': ?añam), Snd. qañam, OJv., NJv. anam, Mal. añam 'to plait'. Mad. anam 'to plait' probably is a loan from Javanese.

2.8.3.4. PMJ ñ in intervocalic position before *i:

*hañiq[78] (PHN, Tag. qá:ni), NJv. ani-ani, Mad. añè(h) 'to harvest rice, harvesting knife'.

*Buñiq (PAN, Fi. vuni 'hidden': buñi[q?h]), Snd. buniq, OJv. w-in-uni 'hidden', Mal. səm-buñi 'concealment'.

*[Bb]-uñiq, Snd. quniq (L), OJv. uni, NJv. uni (L), Mal. b-uñi, Mad. m-òñè(h) 'sound'.

*[Bb]əññir, Snd. bɨñɨr[79] 'rice-dust', bran', OJv. a-mənir-mənir[80] 'in grains', NJv. mənér[80], 'rice-dust, bran'.

2.8.4. PMJ ŋ. PMJ ŋ is reconstructed in four positions: initial, intervocalic, preconsonantal, and final. It appears as ŋ in all four languages in initial, intervocalic, and final position. In preconsonantal position it was retained in Sundanese, but assimilated to the following stop in Old and New Javanese, Malay, and Madurese. For the reflexes of PMJ preconsonantal ŋ in doubled monosyllables, see p. 194.

2.8.4.1. PMJ ŋ in initial position:

*ŋaŋaq (PAN, Fi. ŋaŋa 'to drink without swallowing': ŋaŋa[?h]), Mal. ŋaŋa, Mad. ŋaŋa(h) 'to open wide the mouth'.

*ŋaḷan (PAN, Sa. s-ata 'name': ŋajaL]), Snd. ŋaran (L), OJv. ŋaran 'name', NJv. ŋaran-i (L) 'to name', aran[81] (L) 'name'.

2.8.4.2. PMJ ŋ in intervocalic position:

*suŋut (PHN, Tag. suŋót 'proboscis [of insects, ants]'), Snd. suŋut (L) 'mouth', OJv. suŋut 'feeler, tentacle', Mal. suŋot 'long sparse hairs on the upper lip, cat's whiskers, antennae of an insect'.

*taŋis (PAN, Fi. taŋi 'to weep': CaŋisƏ), Snd. taŋis (H), OJv. taŋis, NJv. taŋés, Mal. taŋes, Mad. taŋès 'to weep, cry'.

2.8.4.3. PMJ ŋ in preconsonantal position:

*DaŋDƏR$_2$, Snd. daŋdir, OJv. randö, raŋrö, NJv. randu 'cotton tree'.

*jaŋjiq (PWI, TBt. janji 'agreement': zanzi), Snd. jaŋjiq (L), NJv. janji, Mal. janji, Mad. jhánjhi 'agreement'. New Javanese also has an archaic form jaŋji 'agreement'.

*taŋguŋ (PWI, NgD. taŋgoŋ 'to take responsibility'), Snd. taŋguŋ 'to carry on the shoulder', OJv. t-in-aŋguŋ-an 'be carried', NJv. taŋgóŋ (L) 'to guarantee for, take care of', Mal. taŋgoŋ 'to support on the shoulder, give security', Mad. taŋghuŋ 'to give custody'.

2.8.4.4. PMJ ŋ in final position:

*qiriŋ (PWI, NgD. m-iriŋ 'to follow': i[r]iŋ), Snd. qiriŋ (H), OJv. um-iriŋ-i, NJv. iréŋ (O) 'to follow', Mal. ireŋ 'Indian file', Mad. èrèŋ 'to follow'.

*caŋkiŋ, Snd. caŋkiŋ (H) 'to hold in one's hand', OJv. caŋkiŋ, NJv. caŋkéŋ 'to carry with the hand which is hanging down', Mal. caŋkeŋ 'to take in both hands and lift up', Mad. caŋkèŋ 'to carry in the hand'.

2.8.5. PMJ l. PMJ l is reconstructed in all five positions: initial, intervocalic, preconsonantal, postconsonantal, and final. It appears as l in all languages in all positions except in preconsonantal position where it disappeared in all languages but Madurese.

2.8.5.1. PMJ l in initial position:

*laŋkah (PAN, Sa. laka 'to jump': laŋkaq), Snd. laŋkah 'step', OJv. sa-laŋkah-laŋkah 'with every step', NJv., Mal. laŋkah, Mad. laŋka 'step'.

*lakiq (PHN, Tag. la-lá:ki 'man, male': laki), Snd. lakiq, OJv., NJv., Mal. laki, Mad. lakè(h) 'man, husband'.

In the following comparisons Sundanese exhibits doublets, one in which l appears as l, the other showing assimilation to the following consonant:

*laruq (PWI, Mer. laru 'a potion used to stupefy fish': laru), Snd. laruq, raruq 'sap of the kawaoq which prevents or retards the fermentation of lahaŋ', OJv. den laroni (laru+ani) 'mixed with a sleeping potion', NJv., Mal. laru, Mad. larò(h) 'ingredient to prevent or retard fermentation in toddy'.

*laris, Snd. laris, raris, NJv. larés, Mal. lares, Mad. B. larès 'in demand, selling well'.

In one instance the Sundanese cognate occurs without a by-form with initial l:

*lurug, Snd. rurug, OJv. lurug, NJv. luróg, Mad. lòròk 'to go on an expedition, go to war'.

2.8.5.2. PMJ l in intervocalic position:

*paluq (PAN, Fi. valu 'to fight': palu?), Snd. paluq, OJv., NJv.

palu 'hammer', Mal. palu 'to hit hard with a rigid weapon', Mad. palò(h) 'hammer'.

*giliŋ (PAN, Fi. ŋgili 'to grind in the hands'), Snd. giliŋ, NJv. gilé́ŋ 'to grind, pulverize', Mal. gileŋ 'to roll out, flatten with a roller', Mad. ghiliŋ 'to turn around an axis', ghiliŋ-an 'mill'.

2.8.5.3. PMJ l in preconsonantal position:

An example of *l in preconsonantal position can be found in the section on doubled monosyllables (p. 194).

2.8.5.4. PMJ in postconsonantal position:

*saŋliŋ, Snd. saŋliŋ 'to polish', OJv. s-in-aŋliŋ 'polished', NJv. saŋlé́ŋ, Mal. saŋleŋ, Mad. saŋlèŋ 'to polish'.

2.8.5.5. PMJ l in final position:

*tatal (PAN, Fi. qi-tata 'chip'), Snd., OJv., NJv., Mal., Mad. tatal 'chip, wood-shaving'.

*tuŋgal (PWI, Mer. tukană 'unique'), Snd., OJv. tuŋgal, NJv. tuŋgal (L), Mal. tuŋgal, Mad. tòŋghá́l 'sole, unique'.

2.8.6. PMJ ļ. PMJ ļ is reconstructed in intervocalic and final position. In intervocalic position it became Sundanese and Old and New Javanese r, Malay d, and Madurese l. In final position it became Sundanese and Old and New Javanese r, Malay t, and Madurese q.

PMJ ļ corresponds to Dyen's symbol j.

2.8.6.1. PMJ ļ in intervocalic position:

*hiļuŋ (PAN, To. ihu 'nose': $q_2$ijuŋ), Snd. qiruŋ (L), OJv. iruŋ, NJv. iró́ŋ, Mal. (h)idoŋ, Mad. èlòŋ 'nose'.

*pəļļəs (PAN, Fi. voẓota = vosota 'to endure': pəjəs, pənjəs), Snd. pṙṙs 'pain like the pain which is felt when a hair is

pulled out, smarting', Mad. pəllə̀s 'smarting like when hit with thin rattan'.

2.8.6.2. PMJ ļ in final position:

*qañuļ[82] (PAN, Sa. m-enu 'to float': qanud), Mal. (h)añot, Mad. añə̀q 'to float'.

*Bukiļ[83] (PAN, Sm. puqe 'heap': bukid), OJv. wukir, NJv. wukér (B), Mal. buket 'hill'.

*laləļ (PAN, Fi. lalo 'fly': laləj), Snd. lalɨr, OJv., NJv. lalə̀r, Mal. lalat, Mad. lalaq 'fly'.

*pusəļ[84] (PAN, Fu., Sm. uso 'navel-string': pus┐əjə), Snd. pusɨr 'the piece of navel-string which remains at the navel, navel, center', NJv. pusə̀r (D) (O) 'navel-string, center', Mal. pusat 'center of circle, focus, navel'.

*hulə̀ļ (PAN, Fi. qulo 'maggot': ʔuləj), NJv. ulə̀r, Mal. (h)ulat, Mad. ò̀laq 'maggot'.

In the following comparison Old Javanese exhibits competing forms, one with final r, the other with final d, and new Javanese exhibits one form with final r and the other with medial d. The occurrence of this d is inexplicable:

*lauļ[85] (PAN, Fi. lau 'islands facing towards the winds': laud), OJv. lod 'sea', lor 'north', NJv. iwaq lód-an (? fish of the sea) 'whale', lò̀r (L) 'north', Mal. laot 'sea, ocean', barat laot 'north-west', Mad. laò̀q 'south'.

In the following comparison Old Javanese exhibits a doublet, one with a final r, the other with a final d. New Javanese only has a form with final r:

*lulu̯, Snd. lulur, OJv. lulud, lulur 'ointment', NJv. lulór (O) 'yellow cosmetic made of herbs', Mal. lulot 'to rub or massage with scents and cosmetics'.

2.8.7. PMJ r. PMJ r is reconstructed in initial, intervocalic, preconsonantal, postconsonantal, and final position. It appears as r in initial, intervocalic, postconsonantal, and final position in all languages. For the reflexes of PMJ preconsonantal r, see the section on doubled monosyllables.

PAN ḍ and PAN r in preconsonantal position and final position and PAN R_3 and PAN R_4 merge in PMJ r: e.g., *kurkur (PAN, Fi. kukuva 'to scratch': kudkud) p. 199; *qalur (PHN, Tag. qá:log 'pool of standing water': OD alur, ID [1957b] aluR_3]), p.105; *Barat (PAN, Sm. afā 'storm': ha-baR_4atə), p. 132.

2.8.7.1 PMJ r in initial position:

*rampuŋ, Snd. rampuŋ 'cut off (of a hand, foot, ear)', OJv. den rampuŋ 'was devastated', NJv. rampóŋ 'off, clear', Mal. rampoŋ 'bored, holed, mutilated', Mad. Kang. rampòŋ 'to break'.

*raŋkul, Snd. raŋkul, OJv. maŋ-raŋkul, NJv. raŋkól 'to embrace', Mal. raŋkol 'to grasp and lift between both hands', Mad. raŋkòl 'to finger (out of lasciviousness)'.

PMJ initial r before PMJ -r- became New Javanese l:

*ririh, Snd. ririh 'calm, alleviation', OJv. ririh 'careful, able, understanding', NJv. liréh 'soft, calm', Mad. rèrè 'comfortable, without haste'. Madurese also has a competing form here in which the same dissimilation as in New Javanese

took place: lèrè 'comfortable, without haste'.

*rurub, Snd. rurub 'to cover with a sheet', OJv. rurub, NJv. lurób, Mad. ròròp 'shroud, winding-sheet'.

2.8.7.2. PMJ r in intervocalic position:

*kuraŋ (PHN, Tag. kú:laŋ), Snd. kuraŋ (L), OJv. kuraŋ, NJv. kuraŋ (L), Mal. kuraŋ, Mad. kòraŋ 'reduction, fall short, less, not quite'.

*karaŋ (PAN, Sm. qala 'a reef'), Snd., OJv., NJv., Mal., Mad. karaŋ 'coral reef'.

2.8.7.3. PMJ r in postconsonantal position:

For examples of postconsonantal r, see the section on PMJ doubled monosyllables.

2.8.7.4. PMJ r in final position:

*qalur (PHN, Tag. qá:log 'pool of standing water': OD aluR, ID [1953b] $alu R_3$), Snd. qalur 'track, trace of a rhinoceros, etc.', NJv. alur-an 'beaten buffalo path, morass', Mal. alor 'groove, cutting, furrow', Mad. alòr-an 'small ditch'.

*hatur (PAN, Fi. yatu 'row': $h_4$atur), Snd. qatur, NJv. atór (D), Mal. (h)ator, Mad. atòr 'to arrange'.

2.8.8. PMJ s. PMJ s is reconstructed in all five positions: initial, intervocalic, preconsonantal, postconsonantal, and final. It appears as s in all languages except in preconsonantal position. For the reflexes of *s in this position, see the section on PMJ doubled monosyllables.

2.8.8.1. PMJ s in initial position:

*saput (PAN, Sm. aput-i 'to cover': $s_2$aput), Snd., OJv. saput,

NJv. sapót, Mal. sapot, Mad. sapòq 'to cover over slightly'.

*səppah (PHN, Tag. sapá 'bagasse of s.t. masticated': sə[m]pah), Snd. sɨpah (L) 'to chew sireh', OJv., NJv. səpah 'chewed-up quid of sireh', Mal. səpah 'quid of sireh', Mad. səppa 'what has been chewed, e.g., already chewed quid of sireh'.

2.8.8.2. PMJ s in intervocalic position:

*pusər (PHN, Tag. pusód 'hairknot, coiffure': pusəd), Snd. caiq pusɨr 'spinning water', NJv. pusər-an 'circle', Mal. pusar 'spiral', Mad. pòsər 'to turn, circle'.

*pasaŋ (PAN, Sa. hata-i), Snd. pasaŋ 'to put in order', OJv. am-asaŋ 'to apply', NJv. pasaŋ 'to erect', Mal. pasaŋ 'to put in order, in use', Mad. pasaŋ 'to erect'.

2.8.8.3. PMJ s in postconsonantal position:

*suŋsaŋ (PWI, TBt. suŋsaŋ 'inverted'), Snd., OJv., NJv., Mal. suŋsaŋ, Mad. sòŋsaŋ 'to invert'.

*liŋsir, Snd. liŋsir 'to be in a slanting position (esp. of the sun)', OJv. liŋsir 'to give way, be past the noon-high, noon', NJv. liŋsér (L) 'afternoon (about 3 p.m.)', Mal. liŋser, leŋser 'side-slipping, sliding', Mad. lèŋsèr 'afternoon'.

2.8.8.4. PMJ s in final position:

*turus (PAN, Fi. nduru 'short house-pillar'), Snd. turus, NJv. turós 'stick, pole', Mal. turos 'massive post, pillar', Mad. tòròs 'a cut-off stick'.

*pipis (PHN, Tag. pipís 'pressed down flat'), Snd. pipis-an 'rubbing-stone', OJv. pipis-an 'pressed flat', NJv. pipés 'to rub down, pulverize', Mal. pipes 'to mash between two

surfaces', Mad. pèpès 'to pulverize'; cf. OJv. um-ipis 'rub down, pulverize'.

2.9. In this section we shall deal with the proto-phonemes *d, *j, *z, and *g and their reflexes.

2.9.1. PMJ d. PMJ d is reconstructed in all positions: initial, intervocalic, preconsonantal, postconsonantal, and final. In initial, intervocalic, and postconsonantal position it appears as Sundanese, Old and New Javanese, and Malay d, and became Madurese dh. For its preconsonantal reflexes, see the section on PMJ doubled monosyllables. In final position it appears as d in Sundanese and in Old Javanese. New Javanese has d in its Western dialects; t before pause, but d before a suffix in the Central dialects; and t before pause and before a suffix in the Eastern dialects (see section 1.5.2.).

2.9.1.1. PMJ d in initial position:

*duqum, Snd. duqum, OJv. a-dūm, NJv. dóm, Mad. dhuqum 'to distribute'.

*damar (PAN, Fu. lama 'torch': damaRə), Snd. damar 'resin, torch', OJv. damar, NJv. damar (L), damar sélò 'kind of resin', Mal. damar 'resin, torch, resinous tree', Mad. dhámar 'lamp, light', dhámar bátò 'kind of resin'.

2.9.1.2. PMJ d in intervocalic position:

*sidik, Snd. sidik, NJv. sidéq, Mal. sideq 'to examine'.

*kadaŋ, Snd., OJv. kadaŋ 'related, kindred', NJv. kadaŋ (O) 'brother, sister', Mad. kadháŋ in kadháŋ bárghá(h) 'kin'.

2.9.1.3. PMJ d in postconsonantal position:

*gandar, Snd. gandar 'the wooden shaft of an arrow', NJv. gandar

'kəris-shaft', Mal. gandar cincen 'claw for gun in ring', Mad. ghándhár 'wooden shaft of a kəris'.

*canduq (PWI, TBt. sandu 'opium'), Snd. canduq, NJv., Mal. candu, Mad. candhu(h) 'prepared opium'.

2.9.1.4. PMJ d in final position:

*parud[86] (PAN, Fi. qi-varo 'rasp': parut), Snd. parud, NJv. paród, Mal. parot, Mad. paròt 'rasp'.

*cacad, Snd., OJv., NJv. cacad, Mal., Mad. cacat 'defect, flaw, shortcoming'.

2.9.2. PMJ j. PMJ j is reconstructed in initial, intervocalic, and postconsonantal position. It appears as Sundanese, Old and New Javanese, and Malay j, and became Madurese jh in all positions.

PMJ j corresponds to Dyen's symbol z.

2.9.2.1. PMJ j in initial position:

*jarah, Snd. jarah, OJv. aŋ-jarah-jarah, NJv. jarah-rayah, Mal. jarah, Mad. jhárá 'to raid'.

*juruq (PHN, Tag. dú:lo 'end, terminal extremity': zuru), Snd. juruq 's.o. who works at a low rank', i.e. juruq tulis 'copying clerk', OJv. juru 'leader, head, village-head', NJv. juru (O) 'man (woman) of, for', Mal. juru 'trained worker', Mad. jhuru(h) only in compounds such as jhuru kòncè 'key-keeper'.

2.9.2.2. PMJ j in intervocalic position:

*tajiq (PHN, Tag. tá:riq 'cockspur': tazi), Snd. tajiq, OJv., NJv., Mal. taji, Mad. tajhi(h) 'artificial spur for fighting cock'.

*kajaŋ (PHN, Tag. ká:raŋ 'nipa awning or shed': kazaŋ), Snd., OJv., NJv., Mal. kajaŋ, Mad. kajháŋ 'mat-protection against rain'.

2.9.2.3. PMJ j in postconsonantal position:

*ganjil (PHN, Tag. garíl 'defective in pronunciation': ga[ñ]zil), Snd. ganjil 'too little, too small for', NJv. ganjél '(one) more than the right number','uneven' (O), Mal. ganjel, Mad. ghánjhil 'uneven'.

*tanjuŋ, Snd., OJv. tanjuŋ, NJv. tanjóŋ, Mal. tanjoŋ, Mad. tanjhuŋ 'name of a flower'.

2.9.3. PMJ z. PMJ z is reconstructed in initial, intervocalic, and postconsonantal position. It became Sundanese and Malay j, Old and New Javanese d, and Madurese jh in all positions.

PMJ z corresponds to Dyen's symbol Z (see Dyen 1951). Dyen lists eight comparisons, three in which his *Z appears in initial position, and five in which it appears in intervocalic position.

In the following I have listed all comparisons in which PMJ z occurs, in order to present further evidence for this reconstruction.

2.9.3.1. PMJ z in initial position:

*zaluhaŋ[87], OJv. daluwaŋ 'bark', NJv. dluwaŋ (L) 'paper', Mal. jəluaŋ 'vegetable parchment, native paper'.

*zalan (PAN, Sa. tala 'road': Zalanə), Snd. jalan 'road, path', OJv. ma-dalan 'to go through', NJv. dalan (L), Mal. jalan, Mad. jhálán 'way, road, path'.

*zalujur, Snd. jalujur, NJv. dlujór[88] (O), Mal. jəlujor, Mad. jhálujhur 'tack, bast, stitch'.

*zaR_2um (PAN, To. hau 'needle': Z_2aR_{123}um), Snd. jarum, NJv. dòm, Mal. jarom, Mad. jhárum 'needle'.

*zauh (PAN, Sa. haqa-tau 'far': Zauq), Snd. jauh (L), OJv. doh, NJv. a-dòh (L), Mal. jaoh, Mad. jháu 'far, distant'.

*zəlliŋ, OJv. dəliŋ 'to open the eyes', Mal. jəleŋ 'to give a side-glance', Mad. B.P. jhəlliŋ 'to see s.o.'.

*zilat (PWI, TBt. dilat 'to lick': OD dilat, ID [1951] Zilat), OJv. a-dilat, NJv. dilat, Mal. jilat, Mad. jhilát 'to lick'.

*zual (PWI, TBt. jual 'a measure of rice': zual), Snd. jual (L) 'to sell', OJv. ma-dwal, d-um-ol 'sold', NJv. dòl (L), Mal. jual, Mad. jhuwál 'to sell'.

*zuR_3uh (PAN, Fu., Sm. su 'wet, watery': ZuR_1uq), Snd. juquh 'to flow out plentifully (milk, palm-wine), OJv. duh 'sap, milk', du-duh 'sap, sauce', NJv. du-dóh 'sap', Mal. juroh 'syrup', Mad. B. jhuru 'sap, syrup'.

*zəllə̀s, NJv. dələs 'genuine, true', Mal. jəlas 'made plain, wound up, settled'.

Problematic is the following comparison in which Old and New Javanese exhibit a doublet, one with initial d, the other with initial ḍ, corresponding to Sundanese initial j:

*zukut, Snd. jukut, OJv. dukut, ḍukut, NJv. dukót, ḍukót (D) (H) 'grass'.

2.9.3.2. PMJ z in intervocalic position:

*Buz[aə]l, Snd. bujal (L), NJv. wudəl 'navel', Mal. bujal 'markedly prominent (of navel)', Mad. bujhəl 'navel'.

*həzzən (PHN, Tag. hí:rin 'stick in throat': OD hədən, ID [1951] əZən) Snd. (h)ɨjɨn, NJv. (ə)dən, Mal. əjan, Mad. (əj)jhən

'to squeeze, press'.

*[hq]izəp[89], NJv. idəp, Mad. k-èjháq in bulu k-èjháq 'eye-lash'.

*kizaŋ[90], OJv., NJv. kidaŋ, Mal. kijaŋ 'barking deer'.

*kizuŋ[91], OJv. kiduŋ, NJv. kidóŋ (D) (O) 'singing, chanting, song', Mad. kèjhuŋ 'song with rhyme, ballad'.

*pizak (PWI, NgD. pijak 'to step on': pizak), NJv. pidaq, Mal. pijaq 'to set foot upon'.

*huzan (PAN, Fi. quza 'rain': quZ$_1$aLə), Snd. hujan, OJv. (h)udan, NJv. udan (L), Mal. (h)ujan, Mad. òjhán 'rain'.

2.9.3.4. PMJ z in postconsonantal position:

*hanzuaŋ, Snd. hanjuaŋ, OJv. andoŋ, NJv. andòŋ, Mal. s-ənjuaŋ, l-ənjuaŋ 'dracaena'.

*hunzaŋ[92], OJv. undaŋ-undaŋ-an, maŋ-undaŋ 'to invite', NJv. undaŋ 'to call', to invite' (D), Mad. ònjháŋ 'to invite'.

2.9.4. PMJ g. PMJ g is reconstructed in all five positions: initial, intervocalic, preconsonantal, postconsonantal, and final. In initial, intervocalic, and postconsonantal position it appears as Sundanese, Old and New Javanese, and Malay g, and became Madurese gh. For its preconsonantal reflexes, see the section on PMJ doubled monosyllables, p.194 . In final position PMJ g appears as Sundanese and Old Javanese g, and became Malay q, and Madurese k. New Javanese has g in its Western dialects; k before pause, but g before a suffix in the Central dialects; and t before pause and before a suffix in the Eastern dialects (see section 1.5.2.).

2.9.4.1. PMJ g in initial position:

*galih, Snd. galih (VH) 'heart, mind', S.-B. 'the heartwood of a tree', OJv. galih 'aorta', NJv. galéh 'heart, kernel (of

wood)', 'liver' (D), 'mind, heart' (B), Mal. Java galeh 'core and hard portion of a tree', Mad. ghá́li 'the inner hard and heavy wood'.

*gilir (PWI, NgD. girir 'order of succession': gili[r]), Snd., OJv. gilir, NJv. gilér, Mal. giler, Mad. ghilir 'succession, in rotation'.

2.9.4.2. PMJ g in intervocalic position:

*saguq (PAN, Fi. sako-sako 'pudding': sagu[ʔh], saŋgu[ʔh]), Snd. saguq, NJv., Mal. sagu, Mad. saghu(h) 'mealy pith'.

*tagih (PWI, Mer. taki 'to dun': ta[ŋ]gih), Snd. tagih, OJv. a-nagih, NJv. tagéh, tagèh (D), Mal. tageh, Mad. taghi 'to dun a man for debt'.

2.9.4.3. PMJ g in postconsonantal position:

*paŋguŋ (PWI, TBt. paŋguŋ 'hill'), Snd. paŋguŋ 'dome, outlook', OJv. paŋguŋ 'dome, platform', NJv. paŋgóŋ 'tower, platform', Mal. paŋgoŋ 'raised platform', Mad. paŋghuŋ 'dome'.

*taŋgap (PHN, Tag. taŋgáp 'accepted, admitted'), Snd. taŋgap 'to look for, listen for, to make s.o. perform, watch a play', OJv. taŋgap-ən 'accepted', NJv. taŋgap 'to accept willingly' (O), 'to make people perform', Mad. taŋgháq 'to make people perform'.

2.9.4.4. PMJ g in final position:

*kəttəg[93], OJv. kətə-kətəg, NJv. (kə-)kətəg 'pulse', Mal. kətaq 'rap, tap', Mad. kəttək 'pulse'.

*qurug, Snd. qurug-an 'to pour over, cover with', OJv. iŋ-urug-an 'covered', NJv. uróg 'to get seconds, cover with earth', Mad. òròk 'to fill up'.

2.10. In this section we will present the reflexes of PMJ c, p, t, and k.

2.10.1. PMJ c. PMJ c is reconstructed in initial, intervocalic, and postconsonantal position. It appears as c in all positions in all four languages.

2.10.1.1. PMJ c in initial position:

*caciŋ, Snd. caciŋ 'worm', OJv. caciŋ-ən 'hit by worms', NJv. cacéŋ, Mal. caceŋ, Mad. cacèŋ 'worm'.

*cukur (PWI, TBt. sukkur 'to shave': cu[ŋ]ku[r]), Snd. cukur (L), NJv. cukór, Mal. cukor, Mad. còkòr 'to shave'.

2.10.1.2. PMJ c in intervocalic position:

*kacaŋ (PWI, TBt. hatsaŋ 'bean': ka[ŋ]caŋ), Snd., OJv., NJv., Mal. kacaŋ 'pea, bean', Mad. B.P. kacaŋ 'peanut'.

*licin, Snd. licin 'hairless, smooth', OJv. licin 'fine', NJv. licén, Mal. licen, Mad. lècèn 'smooth, slippery'.

2.10.1.3. PMJ c in postconsonantal position:

*lancar (PWI, TBt. ratsar 'quick': lanca[r]), Snd. lancar 'clean, without trees', NJv. lancar 'quick', Mal. lancar 'to slip along smoothly', Mad. lancar 'quick and good (of reading)'.

*pancur (PWI, Mer. fantsună 'outlet-pipe': paŋcu[r]), Snd. pancur 'glare (of light)', pancur-an 'bamboo-gutter, water-pipe', OJv. pancur-an 'fountain, artificial water-fall', NJv. pancór 'to flow', 'to glare (of light)' (B), Mal. pancor 'to flow along a conduit', Mad. pancòr-an 'pipe or gutter for the flow of water'.

2.10.2. PMJ p, t, and k. PMJ p, t, and k are reconstructed in all positions: initial, intervocalic, preconsonantal, postconsonantal,

and final. They appear as p, t, and k in all languages in initial, intervocalic, and postconsonantal position. In preconsonantal position they disappeared in all languages except Sundanese and Madurese. In final position they appear as p, t, and k in Sundanese and in Old Javanese. In Malay *-p and *-t appear as p and t respectively, but *-k became -q. In New Javanese *-p and *-t appear as p and t respectively, but *-k became q except when it occurred after *ə. There are two dialectal reflexes for *-ək in New Javanese, one in which *-ək became -ək and another in which it became -aq (see section 1.5.2.). In Madurese *-p, *-t, and *-k became Mad. -q except for *-k after *ə which appears as Mad. k.

Madurese has a number of doublets, one exhibiting a final glottal stop, the other exhibiting a final p, t, or k as continuations of PMJ forms with final *p, *t, or *k: e.g., *kulit (PAN, Fi. kuli- 'skin'), Mad. kòlèq 'skin', ŋòlèt (= N + kòlèt) 'to skin'. There are two possible ways of explaining doublets of this kind. They could be due to borrowings from Javanese or Malay or they could be due to certain analogical changes. In case no other evidence supports a hypothesis that an item with final p, t, or k from final *p, *t, or *k is a borrowing, it will be considered inherited and the appearance of final p, t, or k is best explained by the following analogical changes. As an example let us consider the Madurese doublet buwáq 'to hold, comprise, load': buwáq-án 'load' and buwát 'be loaded': buwádh-án 'the load'. In early Madurese there probably existed a base buwáq and a suffixed form *buwát-an, since PMJ -t became Mad. q and PMJ -t- became Mad. t., q thus alternating with t. By analogy to forms such as

Mad. tòlès 'to write': tòlès-an 'writing' or Mad. pèkòl 'to carry on a carrying pole': pèkòl-an 'carrying-pole', where s alternated with s and l alternated with l respectively, early Madurese could have formed a new alternation resulting in buwáq : buwáq-án or buwát : *buwát-an. The modern Madurese alternation t ∿ dh found in the forms buwát buwádh-án is the result of an analogical change on the model of the alternation which occurs in Madurese forms containing a PMJ final voiced consonant before monosyllabic suffixes. For example, PMJ -d became Mad. t, but PMJ -d- became Mad. dh: e.g., *parud, Mad. paròt 'rasp': paròdh-án 'rasped, grated'. By analogy to this model modern Madurese acquired the alternation t ∿ dh in buwát : buwádh-án.

The following list shows some of the doublets. In some instances the form exhibiting a stop only occurs before a suffix and in some instances it only occurs before pause:

	Form with final q	Form showing evidence for p
*quDip	òḍiq 'to live'	
	òḍiq-i 'to kindle (fire)'	par-òḍibh-án 'kindling'
*qucap	òcaq 'say'	
	ka-òcaq-a 'once upon a time'	ka-òcabh-á 'once upon a time'
	paŋ-òcaq 'saying'	paŋ-òcap 'saying'
*qalap	k-alaq 'to pick up, take'	alap 'to take away'
	anaq k-alaq-an 'foster-child'	alabh-i 'to take a fish out of the net'

	Form with final q	Form showing evidence for t
*kulit	kòlèq 'skin'	a-kòlèt 'without bark'
*rakit	rakèq 'to be fastened to it, form a whole such as the double-barrel of a rifle'	a-rakèt 'paired'
*takut	takòq 'scared'	
	takòq-an 'timid, faint-hearted'	takòdh-án 'timid, faint-hearted'
*tuR$_2$ut	tòròq 'to follow a trace'	tòròt 'to agree with everything'
		tòròdh-án 'obeying, willing to do everything'

	Form with final q	Form showing evidence for k
*qanak	anaq 'child'	
	naq-anaq-an 'picture of a child, doll'	
	par-anaq-an 'womb'	par-anagh-án 'of mixed race'
*tarik	tarèq 'to pull'	tarèk 'to pull taut'

When only a Madurese form with a final stop can be found to continue a PMJ form with final *p, *t, or *k, it will be assumed that this form has replaced an older form with a final q if there is no evidence that this form is borrowed: e.g., Mad. òròp 'to interchange, confound' from *qurup, p. 117, is treated as a cognate.

2.10.2.1. PMJ p

2.10.2.1.1. PMJ p in initial position:

*panah (PAN, Fi. vana 'to shoot': panaqə), Snd. OJv. panah, NJv. panah (L), Mal. panah, Mad. pana 'archery, bow'.

*panas (PAN, To., Fu. ma-fana 'warmth'), Snd., OJv., NJv., Mal.,

Mad. panas 'warm'.

2.10.2.1.2. PMJ p in intervocalic position:

*pipiq (PWI, Mer. fifi 'cheek': pipi), Snd. pipiq, OJv., NJv., Mal. pipi, Mad. pèpè(h) 'cheek'.

*papan (PAN, Fu., Sm. papa 'plank'), Snd. papan 'plank, board', OJv. papan 'shield', NJv. papan 'plank' (D), Mal., Mad. papan 'plank, board'.

2.10.2.1.3. PMJ p in preconsonantal position:

See the section on PMJ doubled monosyllables, p. 194 .

2.10.2.1.4. PMJ p in postconsonantal position:

*hampas, Snd. hampas 'what remains after squeezing out a fruit'. OJv. hampas 'sap pressed from a fruit', NJv. ampas, Mal. (h)ampas, Mad. ampas 'what remains after squeezing out a fruit, refuse'.

*kampil (PWI, NgD. kampil 'bag'), Snd., OJv. kampil, NJv. kampél, Mal. kampel, Mad. kampèl 'large envelope-shaped matwork-bag'.

2.10.2.1.5. PMJ p in final position:

*qucap (PAN, Fi. v-osa 'to speak, word': ?ucap, ?uncap), Snd. qucap, OJv. aŋ-ucap, NJv., Mal. ucap 'to utter, speak', Mad. paŋ-òcaq, paŋ-òcap 'saying'.

*hiRup (PAN, U. ilu 'to sup (yam soup)': S_4iRup), Mal. (h)irop, Mad. èròq 'to drink'.

*qurup (PWI, TBt. qurup 'to help': u[r]up), Snd. qurup 'to barter', OJv. korup (ka+urup) 'confounded', NJv. urór 'to barter', Mal. urop 'money-changing', Mad. òròp 'to interchange, confound'.

2.10.2.2. PMJ t

2.10.2.2.1. PMJ t in initial position:

*tapak (PAN, Fi. tambak-a 'to put the hands on s.t.': tapak, tampak), Snd., OJv. tapak, NJv. tapaq 'trace (foot, finger, etc.), print', Mal. tapaq 'palm (of hand), sole (of foot)', Mad. tapaq 'palm, sole'.

*timah (PWI, TBt. tima 'tin'), Snd., OJv., NJv., Mal. timah, Mad. tèma 'tin'.

2.10.2.2.2. PMJ t in intervocalic position:

*kutuq (PAN, Fi. kutu 'louse': kuCu?ə), Snd. kutuq 'parasite', NJv. kutu 'worms', Mal. kutu, Mad. kòtò(h) 'louse'.

*putus (PAN, Sm. motu 'to break off'), Snd. putus 'done with', OJv. putus 'settlement, payment', NJv. putós 'decision', Mal. putos 'severance, of the settlement or end of a dispute', Mad. pòtòs 'decided, done with'.

2.10.2.2.3. PMJ t in preconsonantal position:

See the section on PMJ doubled monosyllables, p. 194.

2.10.2.2.4. PMJ t in postconsonantal position:

*qantiq, Snd. qantiq (L) 'to wait for', OJv. maŋ-anty-a 'in order to wait', NJv. anti-anti (L), Mal. n-anti, Mad. B. antè 'to wait for'.

*runtuh (PWI, NgD. runto 'to crash': [r]untuh), Snd., OJv. runtuh, NJv. runtóh (L), Mal. runtoh, Mad. ròntò 'to crash, topple down'.

2.10.2.2.5. PMJ t in final position.

*hapit (PAN, Sa. epi 'to carry under the arm': $h_3$apit, $h_3$ampit), Snd. hapit 'part of a loom, to pressure between two disconnected surfaces', OJv. aŋ-hapit, apit 'pinched', NJv. apét

'to have in between, part of a loom', Mal. (h)apet 'pressure between two surfaces', Mad. apèq 'part of a loom', apèt 'to have in between'.

*Buat (PAN, Fi. vuat-a 'harvest': buhat), Snd. di-buat 'to harvest'; OJv. wwat 'what is offered', NJv. wòt 'load', Mal. buat 'to perform, make', Mad. buwáq 'to be able to hold (a load), buwádh-án 'the load'.

*lihat, OJv. lihat 'look, see!', NJv. liyąt mukaq 'to look straight ahead', Mal. lihat, Mal. Kel. liat, Mad. a-lèyaq-lèyaq 'to see, look'.

*gəllut[94], NJv. gəlót, Mal. gəlot, Mad. ghəlluq 'to fight'.

2.10.2.3. PMJ k

2.10.2.3.1. PMJ k in initial position:

*kikir (PHN, Tag. kí:kil 'file'), Snd., OJv. kikir, NJv. kikér, Mal. kiker, Mad. kèkèr 'file, grate'.

*kiraq (PWI, TBt. hira 'approximate': ki[r]a), Snd. kiraq (L), OJv. a-kira-kira, NJv. kirò (L), Mal. kira, Mad. kèra(h) 'to estimate, calculate, think out'.

2.10.2.3.2. PMJ k in intervocalic position:

*pukiq (PAN, Fi. mata-vuki 'ulcer at the sole of the foot': puki[?h]), NJv. puki (D) (VL), Mal. puki (vulgar), Mad. pòkè(h) 'female genitals'.

*kukuq (PAN, Fi. kuku- 'claw, nail': kuS_2kuS_2), Snd. kukuq 'claw, nail', OJv., NJv. kuku 'nail', Mal. kuku 'claw', Mad. kòkò(h) 'nail'.

2.10.2.3.3. PMJ k in preconsonantal position:

*raksuk, Snd. raksuk 'to put on clothes', OJv. ma-rasuk

'armoured', NJv. rasóq 'to clothe'.

*ruksak (PAN, Fi. rusa 'spoiled, destroyed': rusak), Snd. ruksak, OJv. rusak, NJv. rusaq, Mal. rosaq 'spoiling, ruining'.

See also the section on PMJ doubled monosyllables, p. 194.

2.10.2.3.4. PMJ k in postconsonantal position:

*paŋkuq (PHN, Tag. paŋkó 'carried lying on two arms in front': pa[ŋ]ku), Snd. paŋkuq 'to hold with the hands, carry in the arms', OJv. p-in-aŋkw-akən 'held in the lap, NJv., Mal. paŋku, Mad. paŋkò(h) 'to take in the lap'.

*tiŋkah (PAN, Fi. teŋge 'to walk on one's toes': tikaq, tiŋkaq), Snd. OJv., NJv. tiŋkah 'manner, way', Mal. tiŋkah 'musical mode, character, ways', Mad. tèŋka 'manner, ways'.

2.10.2.3.5. PMJ k in final position:

a) PMJ final k after PMJ ə:

*hapək, Snd. hapɨk, OJv. (h)apək, NJv. apək, Mal. (h)apaq, Mad. apək 'musty, frowny'.

*qutək (PAN, Fi. quto 'marrow': $q_3$utək, $q_3$untək), Snd. qutɨk, OJv. utək, NJv. utək, utaq (D), Mal. utaq, otaq, Mad. òtək 'brains'.

b) PMJ final k after vowels other than PMJ ə:

*qanak (PHN, Tag. qanák 'offspring': anak), Snd. qanak (L), OJv. anak, NJv., Mal., Mad. anaq 'child', par-anagh-án 'of mixed race'.

*tasik (PAN, Fi. tazi 'ocean': [tṭ]asik), OJv. tasik, NJv. taséq (B) 'sea', Mal. taseq 'lake', Mad. tasèq 'sea'.

2.11. PMJ ṭ. PMJ ṭ is reconstructed in initial, intervocalic, and postconsonantal position. It became Sundanese and Malay t, and appears as t in Old and New Javanese and in Madurese.

Haudricourt (p. 312f.) states that Dempwolff's PAN ṭ only exists in Javanese and that it occurs seldom and only in expressive words. He therefore suggests to ignore the distinction between *t and *ṭ for Proto-Austronesian which was suggested by Dempwolff. However, the existence of a t : ṭ distinction is not limited to Javanese, but it also exists in Madurese. Furthermore, although ṭ occurs seldom it does not only occur in expressive words as the comparisons listed below will show. Dyen (1971:30) argues against Haudricourt's conclusions when he says "although the evidence for *ṭ (Dyen writes *T) is extremely limited, it should not be ignored..."

2.11.1. PMJ ṭ in initial position:

*ṭukul (PHN, Tag. tú:kol 'overripe rice-grains': ṭu(ŋ)kul), NJv. ṭukó̀l 'to germinate, grow', Mal. tukol 'sprout'.

2.11.2. PMJ ṭ in intervocalic position:

*bəṭṭək, OJv. bəṭək 'to cook', NJv. bəṭək, bəṭaq 'to cook' (D), to prepare rice' (D) (H), Mal. bətaq in juru bətaq 'care-taker, cook to distinguished people'.

*baṭaŋ (PWI, TBt. bataŋ 'coffin'), Snd. ba-bataŋ, OJv. ba-baṭaŋ, NJv. baṭaŋ, Mal. bataŋ, Mad. bháṭaŋ 'dead body'.

*biṭiq, Snd. bitiq 'to hit s.o.'s lower leg with the foot', NJv. biṭi 'to punch', Mad. bhiṭè(h) 'to hit'.

*kiṭaq (PAN, Fu. fe-kite 'to see each other again': kita), NJv. was-kiṭò 'clear insight, foresight'.

*laṭək, NJv. laṭaq (O), Mal. lataq 'dregs, lees, oil refuse',

Mad. laṭək 'mixture of oil and lye'.

*paṭiq (PAN, To. matsi 'essence': paṭi), Snd. ci-patiq, NJv. paṭi 'coconut-milk', Mal. pati 'cream or pick of finest portion of anything', pati santan 'cream of the coconut', Mad. paṭè(h) 'coconut-milk'.

2.11.3. PMJ ṭ in postconsonantal position:

*canṭiŋ, Snd. cantiŋ, NJv. canṭéŋ, Mal. Java canteŋ, Mad. canṭèŋ 'scoop'.

*cənṭuŋ (PWI, TBt. par-sottiŋ-an 'temples'), NJv. cənṭóŋ 'curled hairlocks at the temples', Mal. cəntoŋ 'bird's erectile crest or tuft of feathers on neck', Mad. cənṭòŋ 'forehead of animals'.

*qinṭil, Snd. S.-B. qintil, NJv. inṭél, Mad. èntèl 'kind of pastry'.

*kənṭəl, NJv. kənṭəl, Mal. kəntal, Mad. kənṭəl 'thick (of liquid)'.

*panṭaq, Snd. pantaq 'step, grade, rank, order', OJv. ma-panṭa 'grouped', NJv. pònṭò, Mad. panṭa(h) 'group'.

*pənṭuŋ, NJv. pənṭóŋ, Mal. pəntoŋ, Mad. pənṭòŋ 'to club'.

*pənṭil[95], NJv. pənṭél 'little button, knob', Mal. pəntel susu, Mad. pənṭèl 'nipple, teat'.

2.11.4. Ambiguous reconstructions.

2.11.4.1. PMJ [tṭ] in initial position. An ambiguous reconstruction with initial *[tṭ] is employed when a Javanese and a Madurese cognate are lacking and both Sundanese and Malay exhibit t: e.g., *[tṭ]uhur, p. 68.

2.11.4.2. PMJ [tṭ] in intervocalic position. The conditions for the reconstruction with *-[tṭ]- are the same as those stated in the preceding section: e.g., *[Bb]ə[tt, ṭṭ]uŋ, p. 79.

2.12. PMJ B and PMJ b. PMJ B is reconstructed in initial, intervocalic, and postconsonantal position. PMJ b is reconstructed in initial, intervocalic, postconsonantal, and final position. The essentials of the correspondence leading to the reconstruction of *B and *b were first noted by Kiliaan (1897:1.61) who suggested that Javanese w corresponds to Madurese b and that Javanese b corresponds to Madurese bh. Since this matter has not been treated elsewhere, the evidence is presented in extenso.

PMJ B in initial position became Sundanese, Malay, and Madurese b, and Old and New Javanese w. In intervocalic position it became Sundanese w, except when it occurred after u and before a different vowel, in which case it disappeared. It became Old and New Javanese w, and Malay and Madurese b. In postconsonantal position it became b in all four languages.

PMJ b in initial, intervocalic, and postconsonantal position appears as Sundanese, Malay, and Old and New Javanese b. Its Madurese reflex is bh. In final position it appears as Sundanese and Old Javanese b and Malay and Madurese p. New Javanese has different dialectal reflexes as in the case of final *d and *g. In the Western dialects it appears as b; in the Central dialects it appears as p before pause, otherwise as b. In the Eastern dialects it always appears as p (see section 1.5.2.).

The phoneme inventory of PAN as proposed by Dempwolff contains only *b. Dempwolff explains the fact that his *b sometimes became Javanese b and sometimes Javanese w and the fact that doublets occur as a 'Tendenz zur Lautverschiebung' (1934:90). In his study of the Madurese reflexes of PAN Stevens (1966: 156) comes to the conclusion that Madurese bh as reflex of *b probably is the result of borrowing, Madurese b being the regular reflex.

2.12.1. PMJ B

2.12.1.1. PMJ B in initial position:

*BaliBis[96], OJv. waliwis, NJv. m(ə)liwés, Mal. bəlibes, Mad. bálibis 'teal'.

*BaR_2aq (PHN, Tag. bá:ga 'charcoal': OD baRa, ID [1965a] baRaH), Snd. baraq, OJv. wā, NJv. wò-wò (D) (O), Mal. bara 'live coal'.

*Baruŋ[97] (PHN, Tag. bá:loŋ-bá:loŋ 'hut':baruŋ), OJv. waruŋ-waruŋ 'houses built by the army', NJv. waróŋ (L) 'small shop', Mal. baroŋ 'booth, stall', Mad. báruŋ 'small shop'.

*Batəs[98] (PHN, Tag. bá:tas, 'short, direct course', bá:tis 'brook': batəs), NJv. watəs, Mal. batas, Mad. bátəs 'boundary, limit, frontier'.

*Baḷah[99] (PHN, Tag. bá:laq 'threat': bajah), OJv. ma-warah, NJv. warah, Mad. bálá 'to announce, say'.

*Batuk (PWI, TBt. batuk 'to cough': batuk), Snd. batuk (L) 'to cough', OJv. api-watuk 'to do as if one was coughing', NJv. watóq, Mal. batoq, Mad. bátòq 'to cough'.

*Baur, Snd. baur, OJv. ma-wor, NJv. wòr (B), Mal. baor, Mad. báur 'to mix'.

*Bawaq (PAN, Sa. haha 'to carry on the back': baba[?h]), Snd.

bawaq (L), OJv. a-mawa, NJv. wòwò (B), mòwò, Mal. bawa 'to bring along'.

*Bəḍḍak, OJv. a-wəḍak-wəḍak 'to powder', NJv. wəḍaq, Mal. bədaq, Mad. bəḍḍháq 'face-powder'.

*Bəllah (PAN, Fi. mbola 'to split': bəlaq), Snd. bɨlah 'to split', OJv., NJv. wəlah 'oar', Mal. bəlah, Mad. bəllá 'to split'.

*Bəllas[100], OJv. wəlas, wlas, NJv. wəlas, Mal. bəlas, Mad. bəllás 'pity, mercy'.

*Bəlliq (PAN, Sa. holi 'to buy': bəli[?h]), Snd. bɨliq (L) 'to buy', OJv. wəli, wli in wli hapu 'lime merchant', wəli harəŋ 'charcoal merchant', ma-məli 'to buy', Mal. bəli, Mad. bəlli(h) 'to buy'.

*Bəllut[101] (PHN, Tag. bí:lot 'small roll': bəlut), OJv. wəlut, NJv. wəlót, Mal. bəlot, Mad. bəlluq 'eel'.

*Bəllit (PAN, Fi. veli 'coiled': bəlit), Snd. bɨlit 'to wind around', OJv. pa-wəlit 'the man who makes roofs', a-məlit 'a bound roof', NJv. wəlét 'roof-cover (palm-leaves, straw, bound together with laths to form long bars', Mal. bəlet 'coil, turn, hitch (of rope), Mad. bəlliq 'roof-cover', bəllit 'to wind around'. OJv. a-wilət 'to curl, wind around', NJv. wilət (O) 'to turn' exhibits metathesis.

*Bənnaŋ[102] (PWI, TBt. monaŋ 'to win': bənaŋ, mənaŋ), Snd. bɨnaŋ (L) 'to want, get, win, can', OJv. wənaŋ 'authorized, win, can', NJv. wənaŋ, wə-wənaŋ 'power and right over, have the power and the right to', Mal. mənaŋ 'to prevail, win', Mad. bənnaŋ 'authorized, permitted, allowed'.

*BəR$_1$R$_1$as[103] (PHN, Tag. bigás 'hulled rice': bəRas), Snd. beas (L), OJv. wəas, wwas, NJv. wòs (H), Mal bəras 'husked rice'.

*BəR$_2$R$_2$əy (PAN, Sm. fo-aqi 'to give': bəR$_1$əy), Snd. bereq (L) 'to give', OJv. w-in-eh 'be given', NJv. wè-wèh[104] (L), Mal. bəri, Mad. bərriq[104] 'to give'.

*Bəttəŋ (PAN, Fi. mboto ni kete 'lower belly': bətəŋ, bəntəŋ), Snd. bɨtɨŋ (L), OJv., NJv. wətəŋ 'belly'.

*Bəttuq (PAN, Fi. votu 'to appear': bətu), Snd. bituq 'to fire (of a weapon), explode, erupt (of a volcano)', OJv. wətu, NJv. wətu (L) 'to come out, appear', Mad. bəttò(h) 'product, result'.

*Bilah[105] (PWI, NgD. bila 'strip of bamboo': bilah), OJv. wilah 'floor of bamboo-laths (?)', NJv. wilah, Mal. bilah, Mad. bilá 'lath, strip of bamboo'.

*Binih (PHN, Tag. binhíq 'seed': binih), Snd. binih, OJv. winih 'seed', NJv. winéh 'seed' (O), winèh (D), Mad. binè 'seed'. A competitive form with penultimate *ə is *Bənnih (PWI, TBt. boni 'semen': bənih), Mal. bəneh 'seed'.

*BiRah (PAN, Fi. via 'alocasia': biRaq), OJv. wyah, NJv. wè-wèh-an, Mal. birah, Mad. birá 'kind of plant'.

*Biriŋ, NJv. wiréŋ, wirèŋ (D) or wiréŋ, wirèŋ kunéŋ 'red cock with yellow legs', Mal. bireŋ 'bright red and yellow; fierce-looking (of the color of a fighting cock, especially about the legs)', Mad. biriŋ 'red (of chicken), biriŋ kònèŋ 'with yellow and light-red feathers, a yellow beak and yellow legs'.

*Bəssiq (PAN, Fi. vesi 'kind of spear': bəsi, bənsi, basi), Snd. bɨsiq, OJv. wəsi, NJv. wəsi (L), Mal. bəsi, Mad. bəssè(h) 'iron'.

*Buah (PAN, Fi. vua 'fruit': buaq), Snd. buah, OJv. wwah, NJv. wòh, Mal. buah, Mad. buwá 'fruit'.

*Buki[ţ] (PAN, Sm. puqe 'heap'), OJv. wukir, NJv. wukér (B), Mal. buket 'hill'.

*Bukuq (PAN, Fi. mbuku 'corner': buku[?h]), Snd. bukuq 'knuckle, knot, joint', OJv. wuku 'grain, joint', NJv. wuku (O) 'small pith', wuku 'joint' (D), Mal. buku 'knuckle, knot'; metaphorically: 'pith', Mad. bukò(h) 'joint, grain'.

*BuliR (PHN, Tag. buíg 'bunch, cluster': buliR), OJv. wulih[106], NJv. wuli in sa-wuli, Mal., Mad. bulir 'ear (of grain)'.

*Buluh (PAN, Sm. polo 'knife of bamboo': $buluQ_{12}$ə), Snd. buluh, OJv. wuluh, NJv. wulóh, wulòh (D), Mal. buloh, Mad. bulu in pərrèŋ bulu 'kind of bamboo'.

*$BuŋuR_2$[107], Snd. buŋur, OJv. wuŋū, NJv. wuŋu, Mal. buŋor 'kind of tree'.

*BusuR (PAN, Fi. vuẓu 'the ends of a bow': bus_1uR_{12}ə), OJv. wusū, NJv. wusu, Mal. busor 'cotton cleaner's bow'.

*Buti[rR] (PAN, Sa. uhi 'wart': bu[tţ]iR_{123}), Mal. buter 'grain, particle', Mad. butèr 'spilled crumbs of rice'.

See also *Bali[ţ]aq, p. 55; *BaR_2iw, p. 86; *Bauk, p. 64; *Bəttis and *Bəntis, p. 193; *$BuBu_ŋ$ and *$BumBu_ŋ$, p. 190; and *Buz[aə]l, p. 110.

Javanese often exhibits doublets, one beginning with w, the other beginning with b. The existence of these competing forms can be

attributed to loans from a dialect or language in which *B became b or to a preceding nasal. When initial *B was preceded by a word the final consonants of which was a nasal, *B became Javanese b; e.g., OJv. walәs 'requital, repay', kam-bәlas 'what we can do to repay it'. The following examples are instances in which New Javanese exhibits doublets:

*Bakul[108] (PHN, Tag. bá:kol 'bamboo-basket': bakul), Snd. bakul, OJv. wakul, NJv. wakól, bakól (D), Mal. bakol 'basket'.

*Balaŋ[109] (PHN, Tag. bá:laŋ 'locust': balaŋ), OJv. walaŋ, balaŋ, NJv. walaŋ, Mal. b-әl-alaŋ, Mad. bálaŋ 'grasshopper'.

*Balik (PHN, Tag. balík 'return': balik)[110], Snd. balik 'to return', sa-balik-na 'on the contrary, on the other hand', OJv. walik 'reversed', balik 'wrong, again, instead of', NJv. waléq 'upside down, inside out, turned', baléq 'on the contrary, on the other hand', Mal. baleq 'reversal, going back', Mad. báliq 'to return, turn over'.

*Balәs[111] (PWI, NgD. baleh 'requital': balәs), OJv. walәs, NJv. (wә-)walәs (O), walәs-an 'requital', walәs-an (D), balәs-an (D) 'reply', Mal. balas, Mad. báləs 'requital, reply, repayment'.

*Bantiŋ[112], Snd. bantiŋ 'to dash against', OJv. ka-wantiŋ 'thrown down', am-bantiŋ 'to throw down', NJv. wantéŋ 'to beat out and wash (clothes), bantéŋ 'to throw down, dash against', Mal. banteŋ 'to dash against'.

*Batuq (PAN, Sa. heu 'stone': batu?), Snd. batuq, OJv. watu, NJv. watu (L) 'stone', batu in batu rai 'flat-roofed stone', Mal. batu, Mad. bátò(h) 'stone'.

*Bayaŋ[113] (PWI, NgD. bayaŋ 'a top': bayaŋ), OJv. wayaŋ, NJv. wayaŋ (L) 'shadow-play', bayaŋ-an (D) 'shadow (-picture)', Mal. bayaŋ, Mad. jáŋ-bájáŋ-an 'shadow, vague outline'.

*Bəŋŋis[114] (PAN, Sm. poŋi 'sullen': bəŋis), OJv. a-wəŋis 'furious', NJv. wəŋés (B) 'upset', bəŋés 'angry, malicious', Mal. bəŋes 'cruel, heartless'.

*Bisik[115] (PWI, Mer. bitsikă[116] 'to whisper': bisik), OJv. ma-wisik-wisik 'to whisper', bisik-bisik 'whispering', NJv. wiséq 'secret instruction, biséq-biséq, bə-biséq, Mal. biseq, Mad. bisèq 'to whisper'.

*Buit[117], Snd. buit in bibit buit 'to originate from', OJv. wwit, wit-an 'beginning', NJv. wét 'stem, stalk, origin, reason', NJv. bi-bét 'to originate from'.

*Bulan (PAN, Fi. vula 'moon': bulaLə), Snd. bulan (L) 'moon, month', OJv. wulan 'moon', NJv. wulan 'moon' (D), wulan (H) 'month', 'date' (D), bulan (D) 'moon', Mal. bulan, Mad. bulán 'moon, month'.

*Buluq (PAN, To., Fu., Sm. fulu 'hair': bulu[?h]), Snd. buluq (L), OJv. wulu, NJv. wulu 'body-hair', bulu-bulu 'feather', Mal. bulu, Mad. bulu(h) 'hair, plumage'.

In a few instances Sundanese exhibits doublets, one beginning with b, the other beginning with w. The member of the doublet which exhibits initial w is treated as a loan word from another language, probably Javanese:

*Balikat (PHN, Tag. balí:kat 'shoulder':balikat), Snd. balikat, walikat 'shoulder-blade', OJv. walikat-ən 'stiff', NJv.

walikat (O), wlikat 'shoulder-blade', likat-ən 'to have a muscle cramp', Mal. bəlikat in tulaŋ bəlikat 'scapula, shoulder-blade', Mad. bálikat 'shoulder-blade'.

*Bilaŋ (PHN, Tag. bí:laŋ 'to count': bilaŋ), Snd. bilaŋ (L), wilaŋ 'to enumerate', OJv. w-in-ilaŋ 'enumerated', NJv. wilaŋ (L), Mal. bilaŋ, Mad. biláŋ 'to enumerate'.

*Butaq (PWI, NgD. bute 'blind': buta), Snd. butaq, wutaq, OJv. wuta, NJv. wutò (B), Mal. buta, Mad. buta(h) 'blind'.

When both Javanese and Madurese exhibit competing forms, i.e. Javanese w-, b- and Madurese b-, bh-, PMJ initial B is reconstructed. As stated above, the existence of the Javanese competing forms can be attributed to borrowings from a dialect or language in which PMJ initial B became b or to a preceding nasal. Presumably, the Madurese by-forms with initial bh's are borrowings from a language such as Malay in which PMJ initial B became b. Madurese often borrows initial b from another language as bh. Examples are bhárát in aŋèn bhárát 'west-monsoon', but see Mad. báráq 'west' under *Barat, p. 132; or bhuntòt in apòs bhuntòt 'tail-strip', but see Mad. buntòq 'tail' under *Buntut, p. 132:

*Baŋun[118] (PAN, To., Fu., Sm. fa-fanu 'to make up': baŋun), Snd. baŋun 'occurrence, to erect', OJv. waŋun 'was erected', baŋun 'occurrence', NJv. waŋón 'model, form, figure', baŋón 'to build', Mal. baŋon 'risen posture, usual build', Mad. bháŋòn, Mad. B. báŋòn 'form, figure'.

*Bəllaŋ[119] (PWI, TBt. bolaŋ 'spotted': bəlaŋ), OJv. wəlaŋ 'spotted', NJv. wəlaŋ in ulò (L) wəlaŋ 'kind of snake',

bəlaŋ 'spot on the skin, scar', bəlaŋ-buntal 'spotted (particularly said of animals)', Mal. bəlaŋ 'banded, brightly marked in contrasting colors', Mal. Java ular bəlaŋ 'kind of snake', Mad. B. bəllá́ŋ in ò̀lar bəllá́ŋ 'kind of snake', Mad. S.P. ò̀lar bhəllá́ŋ 'kind of snake'.

In a few instances Old Javanese exhibits forms with initial w with or without a competing form with initial b, whereas New Javanese exhibits only a form with initial b. For most of these instances there is a Malay word of the same shape available as a source for explaining the Javanese form with b as being a borrowing:

*Binəy (PAN, To. fine 'wife': binəy), Snd. be-beneq 'fiancee', OJv. wini, bini, NJv. bini (B), Mal. bini, Mad. binè(h) 'wife', binèq, bi-binèq 'of female gender'.

*Bintaŋ (PWI, TBt. bittaŋ 'star': bintaŋ), Snd. bentaŋ, OJv. wintaŋ, NJv. bintaŋ, Mal. bintaŋ, Mad. bintaŋ 'star'.

There are two instances in which such an explanation is not available. In the first there is a difference in meaning, in the second there is a difference in form:

*Batək[120] (PHN, Tag. bá:tak 'pull': batək), OJv. watək, NJv. batək 'to pull(out)', Mal. bataq 'to rob, plunder'.

*BəR_2R_2at (PAN, To., Fu., Sm. mama-fa 'heavy': bəR_2qat), Snd. bi̇rat (L), OJv. ma-wwat 'become heavy', bwat 'very, weight' a-bot[121], NJv. a-bò̀t (L) 'heavy, difficult', Mal. bərat, Mad. bərráq 'weight, heaviness'.

When both Old and New Javanese exhibit an initial b without a by-form with initial w and Madurese exhibits an initial b and a sound

change which indicates that the word is inherited, PMJ initial B is reconstructed:

*Balanak (PWI, NgD. bằlanak 'kind of fish': balanak), Snd. balanak, OJv. balanak, NJv. blanaq, Mal. bəlanaq, Mad. bálánaq 'kind of fish'.

*Barat (PAN, Sm. afā 'storm': ha-baR$_4$atə), Snd. Bant. barat 'west', OJv. barat, NJv. barat (O) (D) 'west-monsoon', Mal. barat, Mad. báráq 'west'.

*Buntut (PHN, Tag. buntót 'tail': buntut), Snd., OJv. buntut, NJv. buntót, Mal. buntot, Mad. buntòq 'tail'.

See also *Baññak, p. 184.

New Javanese exhibits the loss of an initial w from PMJ B when it occurs before u in the following comparisons:

*BəR$_3$haŋ (PHN, Tag. bagáŋ[122] 'molar tooth': OD baRaŋ, ID [1953b] baR$_2$qaŋ), OJv. wəhaŋ, NJv. (u)waŋ 'molar'.

*Buŋkal, OJv. wuŋkal 'stone', NJv. wuŋkal 'flat grindstone', uŋkal 'to grind', Mal. boŋkal 'lump, measure of weight, a stone', Mad. buŋkal in bátò buŋkal 'grindstone'.

2.12.1.2. PMJ B in intervocalic position:

*haBis, OJv. (h)awis 'exterminated, up, finished', Mal. (h)abis 'done with, all used up', Mad. Kang. ma-q-abis 'to use up, consume'.

*haBuk (PAN, Sa. ehu-ora 'dusty': ?abuk), Snd. hawuk, OJv. hawuk-hawuk 'ash-gray', Mal. (h)aboq 'dust'.

*haBuq (PAN, To. efu 'ashes': q$_2$abu?ə), Snd. hawuq 'furnace', OJv. hawū, NJv. awu, Mal. (h)abu, Mad. abu(h).

*guBal, Snd. gual, NJv. kuwal, Mal. gubal 'sapwood'.

*qiBəR (PAN, To. ifo 'saliva': ?ibəR), OJv. um-iwö 'to take care, do one's utmost', Mad. èbər 'saliva'.

*kaBuŋ, Snd. kawuŋ 'sugar-palm', NJv. kawóŋ 'palm-leaf' (D), Mal. kaboŋ 'sugar-palm'.

*kuBuq (PHN, Tag. kú:bo 'hut'; kubu), Snd. Cir., Ind., Sum. kuwuq, OJv. a-kuwu, NJv. kuwu (D) 'head of a village', Mal. kubu 'stokade, semi-permanent fortification'.

*luBaŋ (PHN, Tag. lú:baŋ 'to plant root crops': lubaŋ), Snd. luaŋ, OJv., NJv. luwaŋ, Mal. lubaŋ, lobaŋ, Mad. lòbáŋ 'hold'.

*raBun, Snd. rawun 'collection of things which are burnt', NJv. rawón (D), Mal. rabon 'fumigated'.

*saBuŋ (PHN, Tag. sá:boŋ 'cockfight': sabuŋ), OJv. sawuŋ 'fighting cock', man-awuŋ 'make fight', NJv. sawóŋ (H) 'fighting cock', 'chicken' (D), Mal. saboŋ 'to fly at each other', ayam saboŋ, Mad. ajám sabuŋ 'fighting cock'.

*saBut (PWI, NgD. sawut 'coconut-fiber': sabut), Snd. sawut 'cover of a fruit-pit', Mal. sabot 'fibrous shell, husk, coir', Mad. sabuq 'fibrous shell'.

*siBur, Snd. siwur, OJv. siwur-an, NJv. siwór, Mal. sibor 'a shallow scoop of coconut-shell'.

*suBəŋ, OJv. s-in-uwəŋ 'rolled up', NJv. suwəŋ (L), Mal. subaŋ, Mad. sòbəŋ 'ear-stud'.

*taBur (PWI, NgD. tawor 'to strew': tabuR), Snd. tawur 'to strew', OJv. tawur 'offering', NJv. tawór 'to strew money (offer)' (D) (O), 'offering, sacrifice', Mal. tabor, Mad. tabur 'to scatter, sow'.

*huBan (PHN, Tag. qú:ban 'white hair': OD uban, ID [1953a] quban), NJv. uwan, Mal. (h)uban, Mad. òbán 'gray (of hair)'.

In a few instances New Javanese exhibits competing forms, one with intervocalic w, the other with intervocalic b. These competing forms can be attributed to loans from a dialect or language (such as Malay) in which PMJ intervocalic B became b:

*riBut[123] (PAN, To. faka-lifu-lifu 'to have a shivering fit': ribut), OJv. riwut, NJv. riwót (D) (O), ribót 'storm, stormy', Mal. ribot 'strong and, storm', Mad. B. rèbut 'storm'.

*quBah[124] (PWI, Mer. uva 'changed': ubah), Snd. qowah 'subject to change', OJv. ma -uwah-i 'to bring in order again', mowah (=ma+uwah) 'again', NJv. ówah (=a+uwah) (L) 'other, changed', óbah (L) 'to move, movement', Mal. ubah, obah 'to change, alter, modify', Mad. òba[125] 'to exchange, interchange'.

In three instances Javanese exhibits only b as reflex of PMJ B. These forms probably are borrowings from a dialect or language in which *B became b. In the first two instances a Malay word of the same shape is available as a source for explaining the Javanese forms as borrowings:

*təBBuq[126] (PAN, Sa. e-ohu 'sugar-cane': təbuSə), Snd. tiwuq, OJv. təbū, NJv. təbu (L), Mal. təbu 'sugar-cane'.

*tuBaq[127] (PAN, Sa. uhe 'fish-poison': tuba?), Snd. tuaq 'name of a root with stupefying effects (much used to stupefy fish)', NJv. tubò, Mal. tuba, Mad. tòbá(h) 'fish-poison'.

In the following comparison it is not possible to explain the Javanese form as a loan from Malay:

*R_1əBBuŋ[128] (PAN, Fi. rovu 'shoot': rəbuⁿ), Snd. qiwuŋ, OJv. buŋ, NJv. bóŋ, Mal. rəboŋ 'bamboo-shoot when young, soft and edible'.

2.12.1.3. PMJ B in postconsonantal position:

*qamBat (PHN, Tag. qabát 'waylaying': a[m]bat), Mal. əmbat[129] 'to obstruct', Mad. ambáq in báq-ambáq-án 'to lie in wait'.

*qəmBuk, NJv. əmbòq (O), Mal. əmboq, Mad. əmbuq 'mother'.

*kəmBuŋ[130] (PHN, Tag. kubóŋ 'covering blanket, shawl': kə[m]buŋ), NJv. kəmbóŋ (D), Mal. kəmboŋ, Mad. kəmbuŋ 'puffed up, 'swollen'.

*kumBaŋ, Snd., OJv. kumbaŋ, NJv. kumbaŋ (D), kòmbaŋ, Mal. kumbaŋ, Mad. kòmbáŋ 'a large bee'.

*lamBat (PWI, TBt. lambat 'be slow': lambat), Snd. lambat (L) 'to last long, long', NJv. lambat (L) (D) 'old, from long ago', Mal. lambat 'slow, take time', Mad. lambáq (L) 'earlier, former, a long time'.

*ləmBah, NJv., Mal. ləmbah, Mad. ləmbá 'meadow-land, low-lying land'.

*rimBit, OJv. rimbit 'obstructed, hindered', NJv. sa-rimbét (O) 'man and wife', Mal. rimbet, rembet 'hampered, obstructed, having encumbrances; of a person with many dependents or impediments', Mad. rèmbiq 'to expect a baby, have a baby', Mad. B. 'obstructed by what one takes along'.

*sumBiq, Snd. sumbiq, NJv., Mal. sumbi, Mad. sòmbi(h) 'a rod that holds the cloth taut at the end of the loom'.

*tamBir (PAN, Fi. qi-tambi 'flat basket': tabi[rR_4]), Snd. tambir, NJv. tambér, Mad. S.P. tambir 'to hold close to the edge'.

*timBaq (PHN, Tag. timbáq 'pail, bucket'; timba), Snd. timbaq, NJv. timbò, Mal. timba, Mad. tèmbá(h) 'hand-bucket, dipper'.

See also *BarBar, p. 200; *BəlBəl, p. 196; *limBay, p. 92; *[rR$_2$]amBay, p. 92; *tumBuŋ, p. 68.

2.12.2. PMJ b. The correspondences are Snd. b- -b- -b, OJv. b- -b- -b, NJv. b- -b- -b, Mal. b- -b- -p, and Mad. bh- -bh- -p (see section 2.12.):

2.12.2.1. PMJ b in initial position:

*bakal^{I} (PAN, Fi. vaŋga 'stock': bakal, baŋkal), Snd., NJv. bakal (L), Mal. bakal, Mad. bhákal 'raw material'.

*bakal^{II}, Snd. bakal (L) 'to be designed for, intended for', ba-bakal-an 'to be engaged', OJv. bakal 'fiancee', NJv. bakal-an 'fiancee', Mal. Java, Pal. bakal 'future, intended for', Mad. bhákal 'intended for'.

*bakuŋ (PHN, Tag. bá:koŋ 'spider lily'), Snd., OJv. bakuŋ, NJv. bakóŋ, Mal. bakoŋ, Mad. bhákòŋ 'kind of plant'.

*baluŋ, Snd. baluŋ 'bone (of animal)', OJv. baluŋ, NJv. balóŋ (L), Mad. B. bháluŋ 'bone'.

*bandəŋ[131], OJv., NJv. bandəŋ, Mal. bandaŋ, Mad. bhándhəŋ 'kind of fish'.

*bandiŋ, Snd. bandiŋ, Mal. bandeŋ, Mad. bhándhiŋ 'to compare, match'.

*bantal (PWI, TBt. battal 'pillow'), Snd. bantal (H) 'pillow', ba-bantal 'small cushion, cushion to sit on', OJv. bantal 'cushion', NJv. bantal (H) 'pillow', bantal 'cushion', Mal. bantal 'cushion', Mad. bhántal 'pillow'.

*bantər[132], OJv. a-bantər 'quick', NJv. bantər 'quick, speeding', Mal. bantar 'to speed up', Mad. bhántər 'strict, hard, fierce'.

*baŋsal, OJv. b-in-aŋsal 'fenced in', NJv. baŋsal 'hall, building', Mal. baŋsal 'shed, shelter', Mad. bháŋsal 'a house with a roof of four slanting planes on a square as basis'.

*baR$_{ɲ}$ah (PHN, Tag. bá:gaq 'lung')[133], Snd. bayah, Mad. bhárá 'lung'.

*baraŋ (PWI, TBt. baraŋ 'goods': ba[r]aŋ), Snd., NJv., Mal. baraŋ, Mad. bhárá́ŋ 'thing, stuff, goods'.

*baris (PWI, TBt. baris 'row': ba[r]is), Snd. baris, NJv. barés, Mal. bares, Mad. bháris 'straight line, row'.

*basiq (PWI, TBt. basi 's.t. extra': basi), NJv., Mal. basi, Mad. S. bhásè 's.t. thrown in, s.t. extra (for unseen expenses)'.

*bataq, Snd. bataq, OJv. bata, NJv. bòtò (L), Mal. bata, Mad. bháta(h) 'brick'.

*batur, Snd. batur 'plinth, upright course of bricks', OJv. batur, NJv. batór 'stoop, pavement', Mal. bator 'passage, corridor', Mad. bhátòr 'lower part of the house'.

*bawaŋ (PHN, Tag. bá:waŋ 'garlic'), Snd., NJv., Mal. bawaŋ, Mad. bhábáŋ 'onion'.

*bəkkal[134] (PAN, Fi. mbakola 'people killed to be eaten'), OJv. b-in-əkəl[135] 'be given as provisions', Mal. bəkal 'stores for a journey, viaticum'.

*bənduŋ[136], NJv. bənduŋ-an, Mal. bəndoŋ, Mad. B. bhəndhuŋ 'dam, dyke'.

*bəŋŋaŋ, OJv. bəŋaŋ 'to open the mouth', NJv. bəŋaŋ (B) 'spread apart', Mal. bəŋaŋ, Mad. B. bhəŋŋaŋ 'to enlarge'.

*biruq (PWI, NgD. biro 'blue': bi[r]u), Snd. biruq, OJv., NJv., Mal. biru 'blue', Mad. bhiru(h) 'green'.

*biŋuŋ, Snd. biŋuŋ 'disheartened', OJv. biŋuŋ 'disarranged, untidy', NJv. biŋóŋ 'not to know what to do', Mal. biŋoŋ 'muddle-headed', Mad. bhiŋòŋ 'desperate, at one's end'.

*bubul, NJv. buból 'swelling, swollen', Mal. bubol 'a cracked, fissured or ulcerated condition of the sole of the human foot or in the hoofs of horses', Mad. bhubhul 'swelling at the foot'.

*bulәd[137] (PAN, Sm. pula 'eyes': buqlat, buklat), Snd. bulɨd, Mal. bulat, Mad. bhulәt 'round'.

*bulus, Snd. bulus, NJv. bulós, Mal. bolos-bolos, Mad. bhulus 'sea-turtle'.

*buntal, Snd. buntal 'a white spot or strip over the head, blaze', NJv. buntal 'variegated, multi-colored', Mad. bhuntal 'with a white tail (of cow or dove)'.

*buruq, Snd. buruq 'to hurry', NJv. kə-buru-buru, Mad. ka-bhuru 'in a hurry'.

*butuh, Snd. butuh, NJv. butóh, Mad. bhutò(h) 'to be short of s.t.'.

*buyar, Snd. buyar 'to spread out, disperse', NJv. buyar 'to dash apart', Mad. bhujár 'separated, dispersed'.

2.12.2.2. PMJ b in intervocalic position:

*gabus[I], Snd. gabus in kayuq gabus, NJv. gabós 'cork', Mal. gabos 'rub on a soft surface; stropping or cleaning', kayu gabos,

kayu pə-gabos 'soft spongy wood', Mad. ghábhus 'the soft, cork-like inner parts of some kind of bamboo'.

*gabus[II], Snd. gabus, NJv. gabós (D), Mal. gabos in ikan gabos 'kind of fish'.

*kabar, NJv. kabar (D) (O) 'weak, thin (second or third decoction in particular of coconut milk)', Mal. Mlc. kabar, Mad. kabhár 'coconut-milk obtained by a second pressing of the flesh'.

*kəbbas[138], NJv. kəbas (D), Mal. kəbas, Mad. ghəbbhás[139], Mad. S. kəbbhás 'to flick, jerk away, dust with a cloth'.

*kubaŋ, Snd. kubaŋ 'a water-place or pond in the flat (not in the mountains), NJv. kubaŋ (D) 'pond, lake', Mal. kubaŋ 'wallow (buffalo)'.

*labur (PAN, Fi. lambor-aka 'to pulverize earth with a stick'), Snd. labur 'to pour out, flow out', NJv. labór 'whitewash', Mal. labor 'to besmear', Mad. B. P. labhur[140] 'lime mixed with water'.

*ləbbət, Snd. lɨbɨt 'full with fruit (of a tree)', Mal. ləbat 'set densely together, dense', Mad. ləbbháq 'full with fruit'.

*rəbbut[141], OJv. ma-rəbut, NJv. rəbót 'to fight about s.t.', Mal. rəbot 'to snatch, tear at', Mad. rəbbhuq 'to fight about s.t.'.

*səbbah, Snd. sɨbɨh 'satiated, full', NJv. səbah 'to lie heavily in one's stomach, boring, have enough of'.

*təbbah, OJv. t-in-əbah 'be hit', NJv. təbah 'to beat out (of a mat)', 'to hit, knock' (D) (O), Mal. təbah 'to beat a flat surface with a flat object', Mad. S.P. təbbhá 'to hit s.t.

or s.o. with a flat surface'.

*təbbas (PHN, Tag. tabás 'cutting off': [t]əbas), OJv. t-in-əbas 'cut down', Mal. təbas 'to cut down small plants'.

*təbbuk (PAN, Fi. tombu 'hole in a river-bed': təbuk, təmbuk), NJv. təbòq, Mal. təboq 'to bore a hole into s.t.'.

*qubin[142], Snd. batuq qubin, NJv. ubén (D), Mal. batu uben 'flagstone, paving stone'.

*rubun, Snd. rubun (H) 'to encircle, be round about', OJv. r-in-ubun 'be flown around by', NJv. rubón, Mal. rubon 'be round about, encircle, circle'.

*rəbbah[143] (PAN, Fi. qova 'fallen in': R_3əbaq, Rəmbaq), OJv. rəbah, NJv. rəbah (H), Mal. rəbah 'to fall in'.

2.12.2.3. PMJ b in postconsonantal position:

*gambar (PWI, NgD, gambar 'image, portrait': ga[m]ba[r]), Snd., NJv.; Mal. gambar, Mad. ghámbhár 'image, sketch, picture'.

*gambir (PHN, Tag. gambíl 'fresh in one's memory'), Snd. gambir, NJv. gambér, Mal. gamber, Mad. ghámbhir 'decoction from the leaves of a plant consumed with betel'.

*gimbal, Snd., NJv. gimbal, Mad. ghimbhál 'to stick together (of hair)'.

*kəmbaŋ (PAN, Fu. kopa 'curly hair'), OJv. kəmbaŋ, NJv. kəmbaŋ (L), Mal. kəmbaŋ 'expansion, blossoming out', Mad. kəmbháŋ 'flower'.

*kəmbar[144] (PHN, Tag. kambál 'twin': kə[m]bar), OJv., NJv. kəmbar 'twin', Mal. kəmbar 'form a match or a pair', Mad. kəmbhár 'identical in shape, twins'.

*ləmbiŋ, NJv. ləmbéŋ 'spear' (O), Mal. ləmbeŋ, Mad. ləmbhiŋ 'spear'.

*ləmbut[145] (PAN, Fi. lombo-lombo 'soft'), OJv. ləmbut, NJv. ləmbót (L), Mal. ləmbot, Mad. ləmbhuq, ləmbhut 'soft, fine, small'.

*səmbur, Snd. simbur 'to bespatter', OJv. ka-səmbur-an 'bespatted', NJv. səmbór (O) 'to blow, spit', Mal. səmbor 'to bespatter from the mouth', Mad. səmbhur 'to bespatter, spit'.

*sumbaŋ, Snd. sumbaŋ 'not true (of a copy), Mal. sumbaŋ 'to revolt, incestuous, abomination', Mad. sòmbháŋ 'not fitting, not belonging to each other'.

*sumbul, Snd., OJv. sumbul, NJv. sumból, Mad. sòmbhul 'lidded basket for rice'.

*sumbuq (PHN, Tag. sumbóq 'light': sumbu), Snd. sumbuq, NJv., Mal. sumbu, Mad. sòmbhu(h) 'wick, fuse, slowmatch'.

*tambak (PHN, Tag. tambák 'embankment'), Snd., OJv. tambak, NJv. tambaq 'dam, dyke', Mal. tambaq 'banking, filling, leveling up', Mad. tambháq 'dyke, dam'.

*tambaŋ (PAN, Fi. tamba 'side': tabaŋ, tambaŋ), Snd. tambaŋ, OJv. man-ambaŋ-i, NJv. tambaŋ-aké, Mal. tambaŋ, Mad. tambháŋ 'to ferry'.

*timbaŋ (PHN, Tag. timbáŋ 'weight'), Snd. timbaŋ 'to weigh, compare', OJv. t-um-imbaŋ 'to compete' , NJv., Mal. timbaŋ, Mad. tèmbháŋ 'to weigh out'.

*qumbal, Snd. qumbal in jalma qumbal 'freight-porter, day-laborer', NJv. umbal (D) (O) 'to hire', ómbal-an (D) (O) 'reward', Mal. Java umbal 'freight-shipment', Mad. òmbhál 'to give s.o. work

as a day-laborer'.

2.12.2.4. PMJ b in final position:

*siŋkab, Snd. siŋkab 'to draw open', OJv. a-niŋkab, NJv. siŋkab (O) 'to open', Mal. siŋkap 'to draw open', Mad. sèŋkap 'to roll up (of sleeves)'.

*taŋkub (PAN, Fi. taku 'crust of a turtle': takub, taŋkub), Snd. taŋkub 'to lie upside down', taŋkub-an 'to lie on one's belly, put over s.t. with the hollow side', Mal. taŋkop 'to capture under a hollow, huddled up face downwards on the carpet or burying the face in the pillow', Mad. S. taŋkòp 'bird-cage'.

*qurab, Snd. qurab 'mixture of meals', NJv. urab 'to mix', Mal. urap, 'condiment of vegetables', Mad. òrap 'to mix'.

2.12.3. Ambiguous reconstructions

2.12.3.1. PMJ [Bb] in initial position. An ambiguous reconstruction with PMJ initial [Bb] is employed when both Javanese and Madurese exhibit an initial b and there is no means to determine whether the Javanese and/or the Madurese form(s) is (are) borrowed:

*[Bb]awah (PAN, Sa. haha 'lower part': babaq), Snd. bawah 'below', NJv. bawah 'subordinate, belonging to', Mal. bawah, Mad. bábá 'below'[146].

*[Bb]ənnaŋ[147] (PWI, TBt. bonaŋ 'thread': bənaŋ), NJv., Mal bənaŋ, Mad. bənnaŋ 'thread'.

See also *[Bb]ukkaq; and *[Bb]uŋkaq, p. 193.

An ambiguous reconstruction with PMJ initial [Bb] is also employed when Javanese exhibits an initial b and Madurese exhibits competing forms, one with initial b, the other with initial bh:

*[Bb]ayar (PHN, Tag. bá:yad 'payment': bayad), Snd., NJv., Mal. bayar, Mad. bájár, Mad. B. bhájár 'to pay'.

Finally, an ambiguous reconstruction with initial *[Bb] is employed, when a Javanese and a Madurese cognate are lacking: *[Bb]akaw, p. 85; [Bb]u[dḍ]əw, p. 65.

2.12.3.2. PMJ [Bb] in postconsonantal position. An ambiguous reconstruction with postconsonantal *[Bb] is employed, when Madurese exhibits a doublet, one with postconsonantal b, the other with postconsonantal bh:

*kam[Bb]aŋ (PHN, Tag. kambáŋ 'spread, sweep, floating': ka[m]baŋ), Snd. kambaŋ, OJv. k-um-ambaŋ 'floating', NJv. kambaŋ, kambaŋ-kambaŋ, kambaŋ-an 'floating (O), 'float of a fishing line', Mal. kambaŋ 'to float', Mad. kambáŋ 'float of a fishing line, to float', kambháŋ in bhálay kambháŋ 'pavillion on a lake', dhámar kambháŋ 'a lamp with floating wick'.

*sam[Bb]ər[148], OJv. man-ambər, NJv. sambər, Mal. sambar, Mad. S.P. sambər, Mad. Kang. sambhər 'to pounce to seize and carry off'.

*tam[Bb]aŋ, OJv. t-in-ambaŋ 'left behind', NJv. tambaŋ (O) 'neglected', Mal. Jak. tambaŋ 'separation from one's wife without divorce', Mad. tambáŋ 'to be indifferent towards s.o., neglect', tambháŋ 'to live in divorce'.

2.12.4. Morphophonemic evidence for the distinction between *B and *b. Sundanese offers morphophonemic evidence for the distinction between PMJ initial B and b. As was pointed out in the section on

Sundanese morphophonemics (p. 5) the N-alternation appears as m or as ŋa before bases with initial b. When the N-alternation is m, the initial b of the base alternates with Ø. The bases whose initial b alternates with Ø often are continuations of PMJ forms with an initial *B: e.g., bereq, mereq (L) 'to give'; bɨlit, mɨlit 'to wind around'; baur, maur 'to mix'; bɨliq, mɨliq 'to buy'; bawaq, mawaq 'to bring along'; balik, malik 'to return'; baŋun, maŋun 'to erect'.

In two cases verb bases with an initial b from *B have the N-alternation ŋa: batuk (L) 'to cough', ŋabatukɨn[149] 'to cough up'; bantiŋ, ŋabantiŋ[150] 'to dash against'. It is not clear to what this exceptional behavior, if that is what it is, is to be attributed.

Verb bases with initial b from *b have the N-alternation ŋa: e.g., baris, ŋabaris 'to sit in a row'; bandiŋ, ŋabandiŋ 'to compare, match'.

2.12.5. The evidence presented above shows that a phoneme *B existed in addition to *b in PMJ.

In initial and postconsonantal position *B and *b fell together in Malay and Sundanese. They also fell together in postconsonantal position in Javanese. In intervocalic position they only fell together in Malay. Morphophonemically initial *B and *b are distinguished in Sundanese.

The following table recapitulates the reflexes of *B and *b in the four Malayo-Javanic languages:

Initial position	Snd.	OJv.	NJv.	Mal.	Mad.
*B	b	w/b	w/b	b	b
*b	b	b	b	b	bh
Intervocalic position					
*B	w	w	w	b	b
*b	b	b	b	b	bh
Postconsonantal position					
*B	b	b	b	b	b
*b	b	b	b	b	bh
Final position					
*b	b	b	b	p	p

2.13 PMJ D and PMJ ḍ. The phoneme inventory as proposed by Dempwolff contains a phoneme *ḍ. He reconstructed it in all five positions: initial, intervocalic, preconsonantal, postconsonantal, and final. According to Dempwolff the Javanese reflex of PAN ḍ is ḍ in initial, intervocalic, and postconsonantal position, and d in final position. Dempwolff considered the occurrence of Javanese r instead of ḍ as indicative of a 'Tendenz zur Lautverschiebung' (1.90). Dyen 1947 agrees with Dempwolff's hypothesis with respect to the Javanese reflexes of PAN ḍ except for final which according to Dyen appears as Javanese r. Another comparativist who reconstructed PAN ḍ was Sakiyama. Two of his criterion languages were Malayo-Javanic languages, namely Javanese and Madurese. He failed to account for the correspondences which are described next. Stevens (1966:156) concludes - as in the case of Mad. bh - that loanwords probably are the

the main source of Madurese words containing ḍh.

We have been compelled to reconstruct PMJ D and PMJ ḍ as part of the PMJ phoneme inventory. The two proto-phonemes exhibit the following correspondences. PMJ D in initial position became Sundanese and Malay d, Old Javanese and New Javanese r, and Madurese ḍ. Javanese forms with initial ḍ can be attributed to borrowings from a dialect in which *D became ḍ or to borrowings from a language in which *D became d (such as Malay). Also Dempwolff and Dyen 1947 assigned the appearance of a New Javanese ḍ in some instances to borrowings. Another possible explanation of the appearance of an initial ḍ as reflex of D is that it is the result of an analogical change. When postconsonantal *D became Javanese ḍ (see the next page), the combination of a preceding element with a final nasal (e.g., the N-alternation, see p. 10) and a base with initial *D would be common. But in the sequence *...N+base, the ḍ is postconsonantal and would be superficially indistinguishable from a base with an inherited ḍ (from *ḍ, see below). Thus analogy could operate *...N+ḍbase : *ḍbase as *..N+Dbase : *x. A possible result of such a development are doublets such as OJv. rəŋö and OJv. nḍəŋö 'to hear', NJv. ruŋu (L), nḍuŋu (D) 'to hear' (from *DəŋŋəR$_1$, p. 76). OJv. rəŋö and NJv. ruŋu are the result of a phonetic change, OJv. nḍəŋö and NJv. nḍuŋu the result of an analogical change.

PMJ D in intervocalic position became Sundanese and Old and New Javanese r, Malay d, and Madurese ḍ. In some instances Old and/or New Javanese exhibit competing forms, one with intervocalic r, the other with intervocalic ḍ. The forms with intervocalic ḍ can be attributed

to a dialect or a language (such as Malay) in which intervocalic *D became d.

PMJ postconsonantal *D became Sundanese and Malay d, Old and New Javanese and Madurese ḍ. The occurrence of Old Javanese doublets, one exhibiting postconsonantal r, the other exhibiting postconsonantal d is taken to represent two Old Javanese dialectal reflexes: e.g., OJv. raŋrõ, randḍõ 'cotton tree' (from *DaŋDəR$_2$, p. 100).

PMJ ḍ became Sundanese and Malay d, Old and New Javanese ḍ, and Madurese ḍh in all positions.

2.13.1. PMJ D

2.13.1.1. PMJ D in initial position. The correspondences are as follows: Snd. d-, OJv., NJv. r- (analogically ḍ-), Mal. d-, Mad. ḍ-:

*Dahəy[151] (PAN, To. laqe 'forehead': ḍahəy), OJv. rahi 'forehead, visage', NJv. rai 'face, front', ḍai (D) 'forehead', Mal. dahi, Mad. ḍái(h) 'forehead'.

*DaRah (PAN, Fi. ndra 'blood': [dḍ]aR$_1$aQ$_2$ə), OJv. rāh, NJv. rah (H)[151a], Mal. darah, Mad. ḍárá 'blood'.

*Daraq (PHN, Tag. da-lá̋ga 'maiden': ḍaRa), Snd. daraq 'a young woman who has her first child', hayam daraq 'a chicken which has laid eggs for the first time', OJv. rarā, ḍara 'maid', NJv. ròrò (B), lòrò (B)[152] 'maid', ḍòrò 'half grown-up (of a chicken, plant), average, medium, Mal. dara 'maiden, virgin', Mad. ḍárá in ajám ḍárá 'a hen that has not laid any eggs yet, but will soon be doing so'.

*DaR$_2$at[153] (PHN, Tag. dá:gat 'sea, ocean': daRat), Snd. darat 'dry land, firm ground', OJv. rāt 'world, empire, earth', NJv. rat (B) 'world', Mal. darat 'dry land, upland'.

*DataR_2[154] (PAN, Sm. lau-lata 'mountain-plain': ḍataR_1), Snd. datar, OJv. ratā, NJv. ròtò (L), Mal. datar 'smooth, level, flat'.

*Datuq[155] (PAN, Fi. ratu 'master': ḍatu?), OJv. ratu 'king, prince', aŋ-ratu-n-ḍatu 'to acknowledge as king', ka-ḍatw-an 'empire, royal court', NJv. ratu 'prince' (B), 'princess' (B), 'king', ḍatu, ḍatuq (B) 'prince, master', Mal. datuq[156] 'head of the family, elder', datu 'ruler, chief'.

*Dahuq, Snd. dahuq, OJv. rahu, NJv. rau 'kind of tree'.

*Daun (PAN, To., Fu. Sm. lau 'leaf, foliage': ḍahwən), Snd. daun, OJv. rwan (with metathesis), ron, ron-ḍon, NJv. ròn (H), ròn-ḍòn (D) 'leaf', ròn-ròn-an (H) 'foliage, leaves', Mal. daon, Mad. ḍáun 'leaf'[157].

*Dəŋŋuq[158], OJv. rəŋu 'stubborn', NJv. rəŋu 'disturbed, sad, displeased', Mal. dəŋu 'gasp'.

*Diq (PHN, Tag. d-itó 'here': di), Snd. diq, OJv. ri, ri-ŋ, NJv. ré-ŋ (O) (D), Mal. di, Mad. ḍi 'locative'.

*Duaq (PAN, Fi. rua 'two': ḍəwS_3a?]), Snd. duaq[159], OJv. rwa 'two', an-pin-ḍwa-n, piŋ-rwa, piŋ-ro 'for the second time', NJv. lɔ́-rɔ́ (L)[160], rɔ́-rɔ́ (B) 'two', pin-ḍɔ́ 'second, for the second time', Mal. dua, Mad. ḍuwá(h), ḍuwáq 'two'.

*DuR_2iq (PWI, TBt. duri 'thorn': [dḍ]uRi), Snd. duriq, OJv. rwi[161], NJv. ri, Mal. duri, Mad. ḍuri(h) 'thorn'.

See also *Daŋ$DəR_2$, p. 100; *Dəhak, p. 72; and *DəŋŋəR_1, p. 76 .

In the following instances Old and/or New Javanese are taken to show ḍ as the result of an analogical change:

*Daləm (PAN, To., Fu., Sm. lalo 'depth, bottom': ḍaləm), Snd. Bad. dalɨm 'inside', OJv. ḍalam-an, ḍaləm-an 'intestines', Mal. dalam 'palace, prince's home, inside, inner', di-dalam 'in', Mad. ḍáləm 'deep', è-ḍáləm 'in, inside'. OJv. daləm 'inside, deepest, palace, court, deep' and NJv. iŋ daləm 'in, inside' and daləm (H) 'house, hall' are taken to be loans from Malay. Mad. dháləm (H) 'house' is taken to be a loan from Malay or from Javanese.

*Dapur (PAN, To. lafu 'kitchen for feasts':ḍapuR$_3$), Snd. dapur (L) 'kitchen', OJv. dapur 'cooking-place, kitchen', Mad. ḍápòr 'kitchen'.

*Datəŋ (PHN, Tag. datíŋ 'arrival': datəŋ), Snd. dataŋ[162] (L), OJv. ḍatəŋ, NJv. ḍatəŋ(H), Mal. dataŋ, Mad. ḍátəŋ 'to come!.

*Dayaŋ, Snd. dayaŋ 'maid at court, whore', OJv. ḍayaŋ 'female of an animal, nun, cloister-servants', NJv. ḍayaŋ 'servants' (D), 'whore' (D), Mal. dayaŋ 'maid at court, girl, damsel', Mad. ḍájáŋ 'whore'.

*Dəppaq (PAN, Fu. lofa 'fathom': ḍəpa[?h]), Snd. dɨpaq, OJv. ḍəpa, NJv. ḍəpò, Mal. dəpa, Mad. ḍəppa(h) 'fathom'.

*Dulaŋ (PHN, Tag. dú:laŋ 'low dining table': dulaŋ), Snd. dulaŋ, OJv. ḍulaŋ, NJV. ḍulaŋ (O), Mal. dulaŋ, Mad. ḍuláŋ 'wooden tray'.

See also *DaŋDaŋ, p. 200 and *DəgDəg, p. 194.

2.13.1.2. PMJ D in intervocalic position. The correspondences are as follows: Snd. -r-, OJv., NJv. -r-, Mal. -d-, Mad. -ḍ-:

*haDəp (PAN, Sa. s-aro 'front': h$_3$aḍəp), Snd. harɨp[163] (L) 'in front of', OJv. harəp 'what is placed in front', m-arəp-akəna

'to offer the point (pinnacle)', haḍəp 'prevented', NJv. di-arəp-i (O) 'one is in front', aḍəp-aḍəp-an (L) 'to be in front of the other', Mal. (h)adap, Mad. aḍáq 'in front of'[164].

*BaDak[16] (PWI, TBt. badak 'rhinoceros': ba[dḍ]ak), OJv. warak, NJv. waraq, baḍaq (D), Mal. badaq 'rhinoceros'.

*BuDiq (PAN, Fi. m-uri 'back': ?uḍəhi[?h]), Snd. Bant. and other areas buriq[166] 'behind', OJv. wuri 'back', i wuri 'from behind', NJv. wuri (B) 'behind', wuri-wuri (B) 'afterwards, later on', buri (L) 'behind', Mal. kə-mudi-an 'position behind, after', Mad. buḍi(h) 'behind'.

*ciDuk (PHN, Tag. sí:lok 'spoon': ci[n]ḍuk), NJv. ciróq (D), ciḍóq 'big scoop', Mal. cedoq, cidoq 'to spoon up'.

*kəDDut (PHN, Tag. kulót 'curly, wavy': kədut), OJv. k-um-rut 'frowned', Mal. kədot 'wrinkle'.

*maDuq, Snd. maruq, OJv., NJv. maru, Mal. madu, Mad. maḍu 'fellow-wife'.

*muDah (PHN, Tag. mú:ra 'cheap': OD mudah, ID [1953a] mudaq), Snd. murah 'to get much at a low price, cheap', NJv. murah (L) 'cheap', Mal. mudah 'easy[167], Mad. mòḍá 'cheap'.

*siDaq (PHN, Tag. silá 'they': siḍa), OJv. sira '2nd, 3rd person', NJv. sirò '3rd person' (B), '2nd person (D) (O), Mad. dialectal sèḍá(h) '2nd person'.

*suDuq (PHN, Tag. sú:roq 'spoon': su[n]du), NJv. suru (O), Mal. sudu, Mad. sòḍu(h) 'spoon'.

*tiDuR (PAN, Sm. me-uru 'to sleep': tiḍuR$_2$, tuḍuR$_2$), OJv. turū, NJv. turu (L), Mal. tidor, Mad. tèḍuŋ[168] 'to sleep'.

*huDaŋ (PAN, Fi. qura 'crab': quḍaŋ, qunḍaŋ), Snd., OJv. huraŋ,

NJv. uraŋ, uḍaŋ (D) 'shrimp', Mal. (h)udaŋ 'crayfish, prawn', Mad. ò̤ḍáŋ 'shrimp'.

*huDip (PAN, Fu. ma-uli 'to live': quḍip, qunḍip), Snd. hirup (L) (metathesis) 'to live', hurip 'to revive', OJv. hurip, NJv. urép (L), uḍép (D), Mal. (h)idop (metathesis), Mad. ò̤ḍiq 'to live', par-ò̤ḍibh-án 'kindling'.

2.13.1.3. PMJ D in postconsonantal position. The correspondences are as follows: Snd. -d-, OJv., NJv. -ḍ-, Mal. -d-, Mad. -ḍ-:

*canDik, Snd. candik, NJv. canḍéq, Mad. canḍiq 'a bundle of sireh leaves'.

*ganDul, Snd. gandul in gədaŋ gandul 'kind of papaya with a long stalk', NJv. ganḍól, ganḍòl (D) 'to hang down loosely, hanger, kind of papaya', Mad. ghánḍul in tanḍhu ghánḍul 'a kind of tanḍhu, the hanging tanḍhu (?)'.

*kanDuŋ (PHN, Tag. kandóŋ 'held in lap': ka[n]ḍuŋ), Snd. kanduŋ, OJv. maŋ-anḍuŋ, Mal. kandoŋ, Mad. kanḍuŋ 'pregnant'.

*kənDur[169] (PWI, TBt. hondur = hendur 'slack': kənḍuR), OJv. kə-kənḍon (kənḍu+an) 'get loose', NJv. kənḍó[170], kənḍu (O), Mal. kəndor, Mad. kənḍur 'slack, not taut'.

*kunDur (PHN, Tag. kundól 'wax-gourd': kun[ḍ]ur), Snd. kundur, OJv. kunḍur, Mal. kundor, Mad. kònḍur 'wax-gourd'.

*lanDak (PWI, TBt. si-gu=landak 'porcupine': lanḍak), Snd. landak, OJv. lanḍak, NJv. lanḍaq, Mal. landaq, Mad. lanḍáq 'porcupine'.

*panDak (PHN, Tag. pandák 'short': pandak), Snd. pandak 'short', OJv. panḍak, NJv. panḍaq (O) 'dward', Mal. pandaq, Mad. panḍáq 'short, not long'.

*panDan[171] (PAN, Fi. vandra 'screwpine': paŋḍan), Snd. pandan, OJv., NJv. panḍan, Mal. pandan, Mad. panḍán 'smaller screw-pine'.

*pənDəm[172] (PWI, TBt. pondom 'grave': pə[n]ḍəm), OJv. a-mənḍəm 'to bury o.s.', NJv. pənḍəm 'to bury', Mal. tər-pəndam 'hidden underneath', Mad. bhənḍəm[173] 'to bury'.

*sanDaŋ (PWI, TBt. sandaŋ 'carried on the shoulder': sanḍaŋ), Snd. sandaŋ 'clothes', OJv. sanḍaŋ-ən 'was worn', NJv. sanḍaŋ-an, sandaŋ-paŋan (L) 'clothes', Mal. sandaŋ 'to wear', Mad. sanḍáŋ 'what is worn as a cloth on the shoulder'.

*sanDar (PHN, Tag. sandál 'act of reclining': sanḍar), Mal. sandar, Mad. sanḍár 'to recline, rest on a support'.

*sənDuk (PWI, TBt. sonduk 'spoon': sənḍuk), Snd. sinduk, Mal. səndoq, Mad. sənḍuq 'spoon, ladle'.

*sinDiR$_2$ (PWI, NgD. sindir 'jest': sinḍiR), Snd. sindir 'veiled manner of speaking, veiled expression', OJv. ma-sinḍy-an 'sing', NJv. sinḍèn (sindi+an)[174] 'song, singing', Mal. sinder 'tease, chaff by innuendo', Mad. B.P. sèṇḍir 'to allude to one's love for a woman'.

*tanDak, OJv. a-tanḍak, NJv. nanḍaq (D), Mal. Java tandaq, Mad. tanḍáq 'to dance'.

*tanDuk (PHN, Tag. tandók 'dry-cupping, cupping sucker made of horn': tanduk), Snd. tanduk, Mal. tandoq, Mad. tanḍuq 'horn'.

*tinDəs[175] (PAN, Sa. irohi 'to crack a louse': tiḍəs, tinḍəs), OJv. ka-tinḍəs 'squeezed', NJv. tinḍəs, Mal. tindas, Mad. tèṇḍəs 'to crack a flea or louse on the finger-nail'.

*tunDuh, Snd. tunduh, Mad. tòṇḍu 'sleepy'.

*tunDuk (PWI, TBt. tunduk 'to submit to': [t]un[ḍ]uk), Snd. tunduk, NJv. tunḍóq, Mal. tundoq, Mad. tònḍuq 'to bow'.

2.13.2. PMJ ḍ

2.13.2.1. PMJ ḍ in initial position. The correspondences are as follows: Snd. d-, OJv., NJv. ḍ-, Mal. d-, Mad. ḍh-:

*ḍaḍuŋ, Snd. daduŋ, OJv. ḍaḍuŋ, NJv. ḍaḍóŋ, Mad. ḍhá́ḍhuŋ 'thick rope'.

*ḍampar (PAN, To. lafa 'flat': ḍapaR, ḍampaR), NJv. ḍampar 'low table, bench, throne', Mal. Java dampar 'low seat, stool', Mad. B.P. ḍhámpar, Mad. S. ḍhá-ḍhámpar 'table with short legs'.

*ḍasar (PWI, TBt. dasor 'level': ḍas[aə][r]), Snd. dasar, OJv., NJv. ḍasar, Mal. dasar, Mad. ḍhásar 'level'.

*ḍayuŋ (PWI, NgD. dayoŋ 'oar'), Snd. dayuŋ, NJv. ḍayoŋ, Mal. dayoŋ, Mad. ḍhájuŋ 'oar'.

*ḍəmpul[176], NJv. ḍəmpól, Mal. dəmpol, Mad. ḍhəmpòl 'a composition used for caulking boats'.

*ḍəssək, NJv. ḍəsək, Mal. dəsaq, Mad. ḍhəssək 'to push together'.

*ḍuḍaq, Snd. dudaq, NJv. ḍuḍò, Mad. ḍhuḍha(h) 'widower'.

*ḍukuh, Snd. dukuh, OJv. ḍukuh, NJv. ḍukóh (L), Mad. ḍhukò 'hamlet, village'.

*ḍukun, Snd. dukun 'name of songs the content of which is connected with medicine, medicine-man', NJv. ḍukón, Mal. Java dukon, Mad. ḍhukòn 'medicine-man'.

*ḍusun, Snd. dusun 'boorish, uncivilized', Mad. ḍhusòn 'peevish, hot-tempered'.

See also *ḍapḍap, p. 198.

2.13.2.2. PMJ ḍ in intervocalic position. The correspondences are as follows: Snd. -d-, OJv., NJv. -ḍ-, Mal. -d-, Mad. -ḍh-:

*Buḍug, Snd. budug, OJv. wuḍug 'scabies', NJv. buḍóg, Mal. budoq, Mad. buḍhuk 'leprosy'.

*caḍaŋ, Snd. cadaŋ, OJv. pa-caḍaŋ-a, NJv. caḍaŋ (O), Mal. cadaŋ, Mad. caḍháŋ 'ready'.

*gaḍaŋ, Snd. gadaŋ, NJv. gaḍaŋ-an, Mad. gháḍháŋ 'designed for'.

*gaḍuh, Snd. gaduh, NJv. gaḍóh, Mad. ghádhu 'to loan'.

*guḍaŋ[177], Snd. gudaŋ, NJv. guḍaŋ, Mal. gudaŋ 'store, warehouse'.

*kaḍaŋ, Snd. kadaŋ, NJv. kaḍaŋ, Mal. kadaŋ-kadaŋ, Mad. kaḍháŋ 'sometimes'.

*kaḍawuŋ, NJv. kaḍawóŋ, Mal. kədaoŋ, Mad. kaḍhábuŋ 'kind of tree'.

*kuḍuq, Snd. kuduq, OJv. kuḍu, Mal. kudu 'bad'.

*kuḍuŋ[178], Snd. kuduŋ, OJv. a-kuḍuŋ-kuḍuŋ, NJv. kuḍóŋ, Mal. Jak. kə-kudoŋ 'to wear over one's head'.

*puḍak, Snd. pudak, OJv. puḍak, NJv. puḍaq, Mal. pudaq, podaq, Mad. pòḍhák 'flower of the screwpine'.

*pəḍḍaŋ[179] (PWI, TBt. podaŋ 'sword': pəḍaŋ), NJv. pəḍaŋ, Mal. pədaŋ, Mad. pəḍḍháŋ 'sword'.

*səḍḍəŋ[180], OJv., NJv. səḍəŋ, Mal. sədaŋ, Mad. səḍḍhəŋ 'intermediate'.

*səḍḍəp[181], OJv. səḍəp 'tasty', NJv. səḍəp 'spicy', 'bitter' (D), 'fine' (B), Mal. sədap 'pleasant, nice, tasty, agreeable', Mad. səḍḍháq 'agreeable to the senses'.

*səḍḍih[182], NJv. səḍéh, Mal. sədeh 'sad, sorrowful', Mad. səḍḍhi 'furious'.

See also *[Dḍ]aḍaq, p. 157.

2.13.2.3. PMJ ḍ in postconsonantal position. The correspondences are as follows: Snd. -d-, OJv., NJv. -ḍ-, Mal. -d-, Mad. -ḍh-:

*banḍaŋ, Snd. bandaŋ in taliq bandaŋ 'a cord which is worn around the king's neck or chest during a war (symbol to indicate that one wants to defeat and bind one's enemies)', OJv. banḍaŋ-an 'war-prisoners', NJv. banḍaŋ-an 'captured and led away as a prisoner', Mad. bhándháŋ 'to take away by force'.

*kanḍaŋ (PWI, TBt. handaŋ 'fenced enclosure'), Snd. kandaŋ, OJv., NJv. kanḍaŋ, Mal. kandaŋ, Mad. kanḍháŋ 'fenced enclosure for animals'.

*kanḍas, Snd. kandas, NJv. kanḍas, Mad. kanḍhás 'to run aground (of a ship)'.

*kanḍut, OJv. k-in-anḍut 'carrying secretly', NJv. kanḍót 'to carry, place between the belly-band and the belly', Mad. ghánḍhuq[183], Mad. B. kanḍhuq 'to carry with one'.

*kunḍaŋ, Snd. kundaŋ, OJv. a-kunḍaŋ 'to have s.t. on or about one', NJv. kunḍaŋ 'extra, partner', Mal. kundaŋ in kundaŋ-an raja 'court-pages, attendants', Mad. kòṇḍháŋ 'always together, inseparable'.

*lanḍuŋ, Snd. landuŋ 'long (of what is hanging down)', OJv. lanḍuŋ, NJv. lanḍóŋ 'stretched out long', Mal. landoŋ 'long (of a rope)', Mad. lanḍhuŋ 'long (of body)'.

*linḍih (PWI, TBt. lindi 'added'), Snd. lindih 'to lie on s.t., subdue, defeat', OJv. l-in-inḍih-an 'to be superseded', NJv. linḍéh 'to lie on s.t., defeat', Mad. lèṇḍhi 'to defeat'.

*munḍuq, Snd. taŋkal munduq, NJv. munḍu, Mal. mundu, Mad. mòṇḍhu(h) 'kind of tree'.

*pinḍaŋ (PHN, Tag. pindáŋ 'jerked beef'), Snd. pindaŋ, OJv. pinḍaŋ 'fish or meat cooked in salt water', NJv. pinḍaŋ 'fish- or meat-soup', Mal. pindaŋ 'to cook (fish, prawns, etc.) in salted and spiced bouillon', Mad. B.P. pèṇḍháŋ 'a dish of salted kabán or bhulus- fish'.

*sanḍiŋ (PWI, TBt. sandiŋ 'board on the wall'), Snd. sandiŋ 'against s.t., close to one another, at one's side', OJv. sanḍiŋ 'side, closeness, near', NJv. sanḍéŋ (O) 'close to, against', Mal. sandeŋ 'to sit side by side', Mad. sanḍhiŋ 'to have at one's side'.

*sunḍaŋ, Snd. sundaŋ, OJv., NJv. sunḍaŋ, Mad. sòṇḍháŋ 'supported'.

*tanḍaq (PAN, Sa. adra-loŋa 'pattern on the back of turtles': taḍa?, tanḍa?), Snd. tandaq (L), OJv. tanḍa, NJv. tòṇḍò, Mal. tanda, Mad. tanḍhá(h) 'sign'.

*tanḍiŋ, Snd. tandiŋ, OJv. tanḍiŋ, NJv. tə-tanḍiŋ-an 'competition', Mal. tandeŋ 'division into equal parts, proportion, share', Mad. tanḍhiŋ 'competition'.

*tanḍuq (PWI, TBt. tandu 'hammock-litter': tanḍu), Snd. tanduq, NJv. tanḍu, Mal. tandu, Mad. tanḍhu 'hammock-litter'.

*tunḍuŋ, Snd. tunduŋ, OJv. ma-tunḍuŋ, NJv. tunḍóŋ, Mal. tondoŋ, Mad. tòṇḍhuŋ 'to chase away, oust'.

*qunḍaq, Snd. qundaq 'to be put on a stick or held on it, (of a cricket) put on hand (consequently one hits the hand from bèlow so that the cricket jumps up)', OJv. aŋ-unḍa 'to swing upwards', NJv. unḍò 'to swing upwards' (O), 'to fly (of a

bird at a wire, kite)', Mad. ònḍhá(h) 'ball thrown into the air', Mad. B. ŋ-ònḍhá gháltèq 'to let a rice-bird fly at a rope'.

*qunḍaŋ (PWI, TBt. qundaŋ-qundaŋ 'riddle'), Snd. qundaŋ, NJv. unḍaŋ (O), Mal. undaŋ, Mad. ònḍháŋ 'order, ordinance'.

*qunḍuh, Snd. qunduh 'to pick fruit', OJv. konḍuh (=ka+unḍuh) 'be shaken off', NJv. unḍóh, unḍòh (D) 'picked, collected (of fruit, honey)', Mad. ònḍhu 'to shake (of a tree)'.

2.13.3. Ambiguous reconstructions

2.13.3.1. PMJ [Dḍ] in initial position. An ambiguous reconstruction with PMJ initial [Dḍ] is employed when Old and/or New Javanese exhibit a cognate with initial ḍ and a Madurese cognate is lacking:

*[Dḍ]aḍaq[184] (PAN, Fi. vaka-rara-kombi 'to cross the arms': ḍaḍa[?h]), Snd. dadaq 'chest, breast, bosom', OJv. ḍaḍa, NJv. ḍòḍò, Mal. dada 'breast, chest'.

*[Dḍ]əkkət (PHN, Tag. dikít 'to stick': ḍəkət), Snd. dɨkɨt (L) 'near', NJv. ḍəkət (O) 'close together', Mal. dəkat 'near'.

*[Dḍ]uyuŋ[185] (PWI, Mer. truzună 'whale': ḍuyuŋ), Snd. duyuŋ, OJv. ḍuyuŋ, NJv. ḍuyóŋ, Mal. duyoŋ 'sea-cow'.

*[Dḍ]ugal, Snd. dugal, NJv. n-ḍugal, Mal. Java dugal 'pert, bold, impudent'.

2.13.3.2. PMJ [Dḍ] in postconsonantal position. An ambiguous reconstruction with postconsonantal *[Dḍ] is employed when Old and/or New Javanese exhibit postconsonantal ḍ, Sundanese and/or Malay postconsonantal d, and a Madurese cognate is lacking:

*qan[Dḍ]aŋ, Snd. S.-B. qandaŋ, NJv. anḍaŋ, Mal. andaŋ 'spar to

which a sail is attached, yard, boom'.

*gun[Dḍ]ul[186], Snd. gundul, NJv. gunḍól, Mal. gondol 'bare, bald'.

*gun[Dḍ]il[187], Snd. gundil 'without leaves, bald', NJv. gunḍél, góṇḍél (D) (O), Mal. gundel 'bare, bald'.

*qin[Dḍ]aŋ, Snd. qindaŋ, OJv. inḍaŋ, Mal. indaŋ 'nun'.

*pin[Dḍ]ah (PWI, Mer. findra 'change of location': pinḍah), Snd. pindah (L), OJv. pinḍah, NJv. pinḍah (H), Mal. pindah 'to move'.

*tun[Dḍ]aq (PWI, Mer. tundra 'freight': [t]un[ḍ]a), Snd. tundaq 'to put down to pick it up again quickly', NJv. tunḍò 'to be given from one to another', Mal. tunda 'drawn or following in the wake', sa-tunda 'one in the wake of the other'.

An ambiguous reconstruction with postconsonantal *[Dḍ] is also employed when Madurese exhibits competing forms, one with postconsonantal ḍ, the other with postconsonantal ḍh:

*rən[Dḍ]ah, NJv. rəndah (D), Mal. rəndah, Mad. B. rəndhá, Mad. B.P.S. rəndá 'low'.

*tin[Dḍ]ih (PHN, Tag. tindí 'weight', tilí 'to lie on top': ti[n]ḍih), Snd. tindih 'to fall upon', OJv. tinḍih 'what lies on top of s.t.', NJv. tinḍéh 'to put weight on s.t., Mal. tindeh 'lying one on another', Mad. tèndi, tèndhi 'to occupy a place'.

2.13.3.3. PMJ [dḍ] in intervocalic position. As was pointed out in section 2.9.1. PMJ intervocalic d became Sundanese and Malay d. Thus, PMJ intervocalic d and PMJ intervocalic ḍ fell together in these two languages. When there is no Javanese and Madurese cognate and

Sundanese and Malay both have intervocalic d, an ambiguous reconstruction with *[dḍ] is therefore employed:

*sə[dd, ḍḍ]uq (PAN, Fi. ma-ʒendra 'hiccup': sə[dḍ]u[?h]), Snd. siduq 'hiccup', Mal. sədu 'hiccup, sob'.

2.13.3.4. PMJ [Dḷ] in intervocalic position. As was pointed out in section 2.8.6. PMJ intervocalic ḷ became Sundanese and Old and New Javanese r, and Malay d. Thus, PMJ intervocalic ḷ and PMJ intervocalic D fall together in these three languages. When there is no Madurese cognate and Sundanese, Old and/or New Javanese, and Malay exhibit r and d respectively, an ambiguous reconstruction with intervocalic [Dḷ] is employed:

*pə[DD, ḷḷ]ih (PWI, Mer. feri 'injury': pə[dḍ]ih), Snd. pɨrih, NJv. pəréh, Mal. pədeh 'smart, ache'.

*sa[Dḷ]ay, NJv. saré (H) 'to sleep', Mal. saday 'to lie prone, as of a crocodile on a mid-bank'.

*pu[Dḷ]iŋ, Snd., OJv. puriŋ, NJv. puréŋ, Mal. pudeŋ 'garden-croton'.

2.13.4. The evidence presented in the preceding sections points to the necessity of reconstructing a phoneme *D in addition to *ḍ in PMJ.

These two proto-phonemes D and ḍ have different reflexes in initial position in Javanese [but initial *D merging with initial *d when *D is preceded by a nasal (see section 2.13.)] and in Madurese. In intervocalic position these two phonemes have different reflexes in Sundanese, Javanese, and Madurese; and in postconsonantal position in Madurese:

Initial position	Snd.	OJv.	NJv.	Mal.	Mad.
*D	d	r/ḍ	r/ḍ	d	ḍ
*ḍ	d	ḍ	ḍ	d	ḍh
Intervocalic position					
*D	r	r	r	d	ḍ
*ḍ	d	ḍ	ḍ	d	ḍh
Postconsonantal position					
*D	d	ḍ	ḍ	d	ḍ
*ḍ	d	ḍ	ḍ	d	ḍh

2.14. PMJ R. Three tentative *R's are reconstructed as part of the PMJ phoneme inventory. In each of the three, the Malay and Madurese reflexes are r. All three *R's disappeared in Old and New Javanese and the vowels contracted when *R occurred in intervocalic position. PMJ R_1 became Sundanese y, PMJ R_2 became Sundanese r, and PMJ R_3 disappeared.

Dyen 1953b distinguished four tentative PAN R's. His criterion languages were Tagalog, Malay, Javanese, Ngaju-Dayak, and Merina. The following table shows the members of each of his correspondences:

	NJv.	NgD.	Mer.
$*R_1$	ø	h	ø
$*R_2$	ø	h	z
$*R_3$	r	h	z
$*R_4$	r	r	r

The Malay reflex for all four *R's is r; the Tagalog reflex is g.

Dyen's *R_3 and *R_4, and *r merge in PMJ (for an example, see the section on PMJ r) having *r as their reflex. Dyen's *R_1 and *R_2, however, need to be further subdivided to account for the evidence of PMJ languages. Dyen's *R_1 corresponds to PMJ R_2 (e.g., B$\partial$$R_2$$R_2$$\partial$y, p. 126) or PMJ R_3 (e.g., *zuR_3uh, p. 110). Dyen's *R_2 corresponds to PMJ R_1 (e.g., *BuR_1uk, p. 161), PMJ R_2 (e.g., *B$\partial$$R_2$$R_2$at, p. 137), or PMJ R_3 (e.g., t$\partial$$R_3$$R_3$as, p. 164).

2.14.1. PMJ R_1. PMJ R_1 became Sundanese y, Malay and Madurese r, and disappeared in Javanese.

2.14.1.1. PMJ R_1 in initial position:

*p$\partial$$R_1$$R_1$$\partial$m, Snd. pɨyɨm 'ketan which has been sweetened by ragi', Snd. S.-B. pɨyɨm 'to ripen fruit artificially', Mal. p∂ram 'to store fruit to let it ripen'.

*saR_1aŋ (PWI, TBt. saraŋ 'next': sa[r]aŋ), Snd. sayaŋ, Mal. saraŋ 'nest', Mad. saraŋ 'edible bird's nest'.

The sequence *-uR_1- before *a became Snd. -uy-, just as *-uy (see section 2.7.2.4.4.). Before *∂ and *u, however, it became i, perhaps through -uy-:

*kuRaq (PWI, TBt. hura-hura 'tortoise': ku[r]a), Snd. kuyaq, Mal. kura-kura, Mad. kòra(h) 'tortoise'.

*hu$R_1$$\partial$m, Snd. hiɨm 'shade, shadow', Mal. m-uram 'sombre, overcast'.

*BuR_1uk (PAN, Sa. mata-hulu 'last ripeness': buR_2uk), Snd. biuk, OJv. wūk, NJv. wóq 'smelling, foul odor', Mal. buroq 'decayed'.

The sequence *- R_1- before a vowel other than *∂ became Sundanese e, perhaps through -∂y-. In the single case before e < *i; *-$\partial$$R_1$- >

-eq-:

*BəR$_1$R$_1$as (PHN, Tag. bigás 'hulled grains': bəRas), Snd. beas (L), OJv. wəas, wwas, NJv. wòs (H), Mal. bəras 'husked rice'.

*kəR$_1$R$_1$iŋ, Snd. keqeŋ, Mal. kəreŋ, Mad. kərrèŋ 'dry'.

2.14.1.2. PMJ R$_1$ in final position:

*lapaR$_1$ (PAN, To. qa-lefa 'skinny because of hunger': lapaR, lampa), Snd. palay (H) (metathesis) 'to have a desire for, hungry, thirsty', OJv. lapā, NJv. lòpò, Mal., Mad. lapar 'hungry'.

*qulaR$_1$ (PWI, Mer. ulatră 'serpent': ulaR), Snd. qoray[188], OJv. ulā, NJv. ulò, Mal. ular, Mad. òlar 'serpent'.

The sequence *-əR$_1$ perhaps became earlier Sundanese *-əy and like PMJ -əy contracted to Sundanese e: *DəŋŋəR$_1$, p. 76.

2.14.1.3. PMJ R$_1$ in initial position. In the single instance the sequence *R$_1$ə- became Sundanese i, perhaps through *yə-: *R$_1$əBBuŋ, p. 135.

2.14.2. PMJ R$_2$. PMJ R$_2$ became Sundanese, Malay, and Madurese r, and disappeared in Javanese.

2.14.2.1. PMJ R$_2$ in intervocalic position:

*BaRəh (PAN, Fi. mbo 'ulcer': baRəq), Snd. barɨh 'swollen', NJv. wòh 'pig pimple', Mal. barah 'abscess', Mad. bárá 'swollen, swelling'.[189]

*diR$_2$iq, Snd. diriq (L), OJv. di-di, Mal. diri 'oneself, self', Mad. Kang. dhirèq[190] 'I'.

*həR$_2$R$_2$ət, Snd. hɨrɨt, OJv. a-höt-a, NJv. a-ót (D) (H) 'narrow', Mal. ((h)ə)rat 'constriction'.

*paR$_2$iq (PAN, Fi. vai 'ray-fish': paR$_1$i[), Snd. pariq, NJv. pé, Mal. pari, Mad. parè(h) 'ray-fish'.

*taR$_2$uh (PAN, Sa. elu 'to put (up)': taR$_1$uq), Snd. taruh, OJv. a-toh, NJv. tòh, Mal. taroh, Mad. tarò 'to bet'.

*tuR$_2$ut (PWI, TBt. turut 'consequently': tuRut), Snd. turut, OJv. t-um-ūt-akən, NJv. tót, Mal. turot, Mad. tòròq 'to follow', tòròt 'to be passive, agree to everything'.

*quR$_2$aŋ (PAN, U. ule- 'kinship': ?uRaŋ), Snd. quraŋ, OJv. uaŋ, wwaŋ[191], NJv. wòŋ (L), Mal. oraŋ 'person, human being'.

*quR$_2$at (PAN, Fi. ua 'vein, muscle': ?uR$_{12}$aCə), Snd. qurat[192], OJv. ot-wat 'vein', NJv. òt-òt 'muscle, sinew', Mal. urat 'nerve', Mad. òraq 'muscle, vein'.

*taR$_2$um (PHN, Tag. tá:yom 'indigo-plant'[193]: taRum), Snd. tarum, NJv. tòm, Mal. tarom, Mad. taròm 'indigo-plant'.

*zuR$_2$uq (PHN, Tag. dú:yo[194] 'pulpit': zuRu, duRu), Snd. juruq, OJv. pa-dū, pa-pa-don (dū+an), NJv. pa-dòn, Mal. pənjuru 'corner, angle'.

See also *BaR$_2$aq, p. 124; *BaR$_2$iw, p. 86; *BəR$_2$R$_2$əy, p. 126; *BəR$_2$R$_2$at, p. 131; *DuR$_2$iq, p. 148; *DaR$_2$at, p. 147; *laR$_2$iw, p. 87; *pəR$_2$R$_2$əh, p. 77; *təR$_2$R$_2$ab, p. 77; and *zaR$_2$um, p. 110.

2.14.2.2. PMJ R$_2$ in final position:

*BiBiR$_2$ (PAN, Fi. mbembe 'vulva': bibiR)[195], Snd. biwir, NJv. miwi 'to grin', Mal. biber, Mad. bibir 'lip'.

*hiliR$_2$ (PHN, Tag. hí:lig 'inclined': OD hiliR, ID [1953a] qiliR), Snd. hilir 'downstream', OJv. (h)ilī 'stream, to flow', NJv. ili 'stream', Mal. (h)iler 'downstream', Mad. Kang.

èlèr-èlèr-an 'gutter'.

*lənzəR$_2$, Snd. lɨnjɨr 'long and straight', OJv. maŋ-ləndö 'at full length, stretched out'.

*sinaR$_2$ (PAN, Fi. ẑina 'torch': s$_2$inaR), Snd. sinar 'light', OJv. s-um-inā 'shining, sparkling', Mal. sinar 'beam of light'.

*tukəR$_2$ (PWI, TBt. tuhor 'purchase-money': tuka[r]), Snd. tukɨr (L) 'to exchange', OJv. tuku-nən 'is supposed to be bought', ma-nəkw-a[196] 'wants to buy', NJv. tuku (L) 'to buy', Mal. tukar 'interchange of goods'.

See also *BuŋuR$_2$, p. 127; *DaŋDəR$_2$, p. 100; *DataR$_2$, p. 148; *sinDiR$_2$, p. 152; *tawaR$_2^I$, p. 84; *tawaR$_2^{II}$, p. 84.

2.14.3. PMJ R$_3$. PMJ R$_3$ became Malay and Madurese r, and disappeared in Sundanese and Javanese. This is the weakest correspondence of PMJ R's. The evidence for *R$_3$ is very limited:

2.14.3.1. PMJ R$_3$ in intervocalic position:

*təR$_3$R$_3$as (PAN, To., Fu., Sm. toa 'iron-wood': təRas), Snd. tɨas 'hard, not soft', OJv. a-twas, təas, NJv. a-tòs 'hard', Mal. təras 'heart-wood' (if hard) in a tree'.

See also *w$_1$aR$_3$iq, p. 83, and *zuR$_3$uh, p. 110.

As for Snd. tɨas it must be suspected of being a borrowing, since an Old Javanese word of the same shape is available.

2.14.3.2. PMJ R$_3$ in initial position. There is only one comparison exhibiting *R$_3$ in initial position. As in the case of *təR$_3$R$_3$as the Sundanese word must be suspected of being a borrowing from Javanese. However, it appears that no clear-cut decision can be reached:

*R_3usuk (PAN, Sa. lusu 'rib of a canoe': R_{12}usuk), Snd. Cian, qusuk, NJv. usóq 'rafter', Mal. rusoq, Mad. ròsòq[197] 'rib'.

2.14.4. Ambiguous reconstructions

2.14.4.1. PMJ R_{13}. In one instance Sundanese exhibits a final -iq corresponding to a final -er in Malay. It is not clear whether Sundanese final -iq is from PMJ *-iR_1 or *-iR_3, since an earlier Sundanese *-iy (from *-iR_1) might have resulted in a final -iq:

*caiR_{13}, Snd. caiq 'water' Mal. caer 'watery'; (cf. w$_1$aiR, p. 165).

2.14.4.2. PMJ R. When a Sundanese cognate is lacking and Old and/or New Javanese exhibit the lack of an r, while Malay and/or Madurese exhibit an r, an ambiguous reconstruction with *R is employed:

*diRus[198] (PWI, TBt. duris 'to spray, water'), OJv. a-dyus 'to bathe', NJv. dós 'to wash', Mal. diros 'to wet, water, irrigate'.

*kuncaR, NJv. kuncò, Mad. B.P. kòncar 'loose end of garment'.

*təlluR[199] (PAN, Sa. sa-olu 'egg': CəluR_{123}ə), OJv. hantəlū, Mal. təlor, Mad. təllòr 'egg'.

In the following instance Madurese exhibits -ŋ as reflex of *-R. The Madurese word is probably from the Kangean dialect (in which also the final R of *ñiuR, p. 98 and *tiDuR, p.150 became ŋ):

*w$_1$aiR (PAN, To., Fu., Sm. vai 'water': wahiR_{123}), OJv. wai, wway 'water', NJv. wé in the compound wé-daŋ 'warm, hot water', Mal. aer 'water', Mad. aèŋ 'water'.

2.14.4.3. PMJ [rR_2]. When an Old and New Javanese cognate is lacking and Sundanese has r and there is a Malay and/or Madurese containing r, an ambiguous reconstruction with *[rR_2] is employed:

*pə[rr, R_2R_2]un (PWI, NgD. pehon 'to prepare a field by burning': pə[r]un), Snd. pirun 'to light a fire'; Mal. pəron 'to burn off weeds'.

*[rR_2]əm[Bb]ay, Snd. rɨmbay, Mal rəmbay 'to flow (of tears)'

*[rR_2]aməs, Snd. ramɨs, Mal. ramas 'to knead'.

*ham[Bb]a[rR_2], Snd. hambar, Mal. (h)ambar 'tasteless (of water)'.

2.14.4.4. A PMJ doublet, one with initial *Ru-, the other with initial *R_{13}i-. In one instance a PMJ doublet, one exhibiting penultimate *u, the other exhibiting penultimate *i is perhaps to be reconstructed. Snd. qimah 'house' points to *R_{13}imah, when taken together with Ulawa nima 'house'. The following developments might have taken place. If the initial consonant was *R_1, the sequence *yi- was reduced to i since Sundanese y does not occur preceding i. But if it was *R_3, that consonant would simply have disappeared. On the other hand OJv. umah, NJv. ómah (L), umah (D) (O), Mal. rumah, and Mad. Kang. ròma[299a] 'house' are from *Rumah (PAN, Sa. nume 'house': Rumaq).

2.15 The laryngeals. The PMJ phoneme inventory has three laryngeals: *h, *q, and PMJ hiatus.

Dyen 1953a reconstructed three PAN laryngeals: *q, *h, and *nothing.[200] The essential members of each correspondence are given below:

	Tag.	Mal.	NJv.	To.
*q	q	h	Ø	q
*h	Ø	Ø	Ø	Ø
*nothing	q- -Ø- or -q-, -Ø (with q or n before a suffix)	Ø	Ø	Ø

Dyen 1965 proposed the following additional reconstructions based on Formosan evidence: *Q_1 (e.g., his *paQ_1iC[ ]; cf. *pahit, p. 175); *Q_2 (e.g., his *[dḍ]aRaQ_2; cf. *DaRah, p. 147); *S_1 (e.g., his *[ ]iS_1əq; cf. *qiəh, p. 75); *S_2 (e.g., his *kaS_2iw; cf. *kaiw, p. 87); *S_3 (e.g., his *dəwS_3a; cf. *Duaq, p. 148); *S_4 (e.g., his *S_4iRup; cf. *hiRup, p. 117); *S_5 (e.g., his *S_5əyup); *x_1 (e.g., his *$x_1$apuy[ ]; cf. *qapuy, p. 94); *x_2 (e.g., his *x_2əpat; cf. *qəppat, *qəmpat, p. 193); *X (e.g., his *?iXu); *H (e.g., his *baRaH; cf. *BaR_2aq, p. 124); and *? (e.g., his *kiṭa?; cf. *kiṭaq, p. 121).

Dyen 1971 distinguishes *h_1 through *h_4 (the original correspondence for Dyen 1953a *h now assigned to *h_1), *q_1 and *q_2: *h_1 (e.g., his *$h_1$unus; cf. *hunus, p. 63); *h_2 (e.g., his *h_2aŋin; cf. *haŋin, p. 173); *h_3 (e.g., his *h_3a[n]dəp; cf. *haDəp, p. 149); and *h_4 (e.g., his *$h_4$atur; cf. *hatur, p. 105); *q_1 (e.g., his *$q_1$atəy; cf. *hatəy, p. 93); and *q_2 (e.g., his *$q_2$ijuŋ; cf. *hiḻuŋ, p. 102).

Dyen's initial *h_1 through *h_4, *q_1 and *q_2, and *S_4 merge in any case in PMJ h:

*h_1: e.g., Dyen's *$h_1$unus; PMJ hunus, p. 63 .

*h_2: e.g., Dyen's *h_2aŋin; PMJ haŋin, p. 173.

*h_3: e.g., Dyen's *$h_3$adəp, $h_3$andəp; PMJ haDəp, p. 149.

*h_4: e.g., Dyen's *$h_4$atur; PMJ hatur, p. 105.

*q_1: e.g., Dyen's *$q_1$atəy; PMJ hatəy, p. 93.

*q_2: e.g., Dyen's *$q_2$ijuŋ; PMJ hiḻuŋ, p. 102.

*S_4: e.g., Dyen's *S_4iRup, PMJ hiRup, p. 117.

Dyen's initial *x_1, *x_2, and *? merge in PMJ q:

*x_1: e.g., Dyen's *$x_1$apuy; PMJ qapuy, p. 94.

*x_2: e.g., Dyen's *x_2əpat; PMJ qəppat, qəmpat, p. 193.

*?: e.g., Dyen's *?ənəm; PMJ qənnəm, p. 72.

Dyen's intervocalic *h, *S_1, *S_2, *S_3 and *nothing merge in PMJ hiatus:

*h: e.g., Dyen;s *ḏahwən, PMJ Daun, p. 148.

*S_1: e.g., Dyen's *[ ]iS_1əq; PMJ qiəh, p. 75.

*S_2: e.g., Dyen's *kaS_2iw; PMJ kaiw, p. 87.

*S_3: e.g., Dyen's *dəwS_3a; PMJ Duaq, p. 148.

*nothing: e.g., Dyen's *buaq; PMJ Buah, p. 127.

*?: Dyen's intervocalic *? in a word like *ka?ən presumably disappeared in the pre-Proto-Malayo-Javanic period and the two vowels contracted to PMJ a: *kan, Snd. ha-kan (L) 'to eat', OJv. ma-kan-a 'in order to eat', NJv. pa-kan 'fodder', Mal. ma-kan 'to eat', Mad. pa-kan 'fodder'.

Dyen's intervocalic *q and *Q_1 merge in PMJ h:

*q: e.g., Dyen's *Caqi?; PMJ tahiq, p. 175.

*Q_1: e.g., Dyen's *paQ_1iC[ ]; PMJ pahit, p. 175.

Dyen's final *h, *q, and *Q_2 also merge in PMJ h:

*h: e.g., Dyen's *rapuh; PMJ rapuh, p. 63.

*q: e.g., Dyen's *$s_2$uluq; PMJ suluh, p. 177.

*Q_2: e.g., Dyen's *[dḏ]aRaQ_2; PMJ DaRah, p. 147.

Dyen's final *S_1, *S_2, *H, and *? merge in PMJ q:

*S_1: e.g., Dyen's *tuqaS_1; PMJ tuhaq, p. 176.

*S_2: e.g., Dyen's *kuS_2kuS_2; PMJ kukuq, p. 119.

*H: e.g., Dyen's *baRaH; PMJ BaR_2aq, p. 124.

*?: e.g., Dyen's *kiṭa?; PMJ kiṭaq, p. 121.

2.15.1. PMJ h. PMJ h is reconstructed in initial, intervocalic, preconsonantal, postconsonantal, and final position.

2.15.1.1. PMJ h in initial position. PMJ h appears as Sundanese h. Old Javanese orthography often exhibits competing forms, one with initial h, the other lacking it. Three possibilities of explaining them exist: (1) The spelling with h is an archaism and no initial h appeared in the pronunciation during the Old Javanese period, (2) the spelling with initial h represents the pronunciation of the words at an earlier stage of Old Javanese and the spelling lacking the h the pronunciation at a later stage of Old Javanese, and (3) the two spellings reflect two different dialects and New Javanese is from the h-losing dialect, since New Javanese exhibits h only in expressive words (see p. 9). PMJ initial h also disappeared in Madurese. Wilkinson's Malay dictionary almost always exhibits doublets, one with initial h, the other lacking it. The existence of these doublets can be attributed to borrowings. A dialect (or language) which retained initial *h borrowed from a dialect which lost it, or conversely.

In only one comparison both the Old Javanese and the Malay cognate have an initial h without exhibiting a by-form:

*hias (PHN, Tag. hiyás 'gem': hiyas), Snd. hias[201], OJv. pa-hyas, NJv. pa-ès (O), Mal. hias, Mad. èyas[202] 'embellishment'.

In a few comparisons both Old Javanese and Malay have competing forms:

*hayam (PHN, Tag. qá:yam 'dog': OD ayam, ID [1953a] qayam), Snd. hayam 'chicken', OJv. hayam-hayam-an 'moor-hen', ayam wana 'bush-hen', NJv. ayam (H), Mal. (h)ayam, Mad. ajám 'chicken'.

*həllət (PWI, TBt. qolat 'border': ələt), Snd. hɨlɨt 'interval', OJv. a-hələt 'with an interval of ...', lət, NJv. (ə)lət 'interval', Mal. ((h)ə)lat 'periodicity, alternation', Mad. (əl)laq 'interval'.

See also *hatəy, p. 93; *haDəp, p. 149; *hiliR$_2$, p. 163; and *huzan, p. 111.

In most comparisons Old Javanese exhibits cognates with an initial h without by-forms and Malay exhibits competing forms:

*halis, Snd. halis (L), OJv. halis, NJv. alés, Mal. (h)ales, Mad. alès 'eye-brow'.

*haŋət (PAN, Sa. m-aŋo 'to breathe': qaŋət), Snd. hanɨt[203], OJv. haŋət, NJv. aŋət, Mal. (h)aŋat, Mad. aŋaq 'luke-warm'.

*həllaŋ, Snd. hɨlaŋ, OJv. həlaŋ, Mal. ((h)ə)laŋ, Mad. laŋ 'eagle, hawk'.

*hiaŋ[204] (PWI, TBt. qiaŋ'majesty': hi[y]aŋ), Snd. hiaŋ[205], OJv. hyaŋ 'god', a-hyaŋ 'stately, beautiful, splendid', NJv. a-èŋ[206] 'strange, beautiful, wonderful', Mal. hiaŋ, yaŋ 'god'.

*huluq (PAN, Fi. qulu- 'head': qulu[?h]), Snd. huluq [(L) when used with human beings], OJv. hulũ, NJv. ulu (B), Mal. (h)ulu, Mad. òlò(h) 'head'.

*hutaŋ, Snd. hutaŋ (L), OJv. hutaŋ, NJv. utaŋ (L), Mal. (h)utaŋ, Mad. òtaŋ 'debt'.

See also *hampas, p. 117; *haBuq, p. 132; *həllay, p. 91 ; *həR$_2$R$_2$ət, p. 162; *hijaw, p. 54 ; and *huDaŋ, p. 150.

In one comparison Old Javanese exhibits a cognate with an initial h without a by-form and Malay exhibits a cognate with an initial vowel

without a by-form:

*haluq (PHN, Tag. há:loq 'matter added to mixture': qaS$_1$əlu), Snd. haluq, OJv. halu, NJv. alu, Mal. alu 'rice-mortar'.

In five comparisons Sundanese exhibits competing forms, one with initial h, the other with initial q. The existence of these doublets is attributed to borrowings from a dialect (or language) which lost initial *h. Sundanese dialects in which initial *h disappeared are the dialects of Baros (north of Pamanukan) and the two enclaves, Lelea and Parean. Initial h sometimes also disappeared in the Northern Banten and Cirebon dialects.

Old Javanese does not have a cognate in the first instance, has competing forms in the second and third, and has a cognate with initial vowel without a by-form in the fourth and fifth. Malay has in all five instances cognates with initial vowel without a by-form:

*həzzən, p. 110.

*hassəm[207], p. 186.

*halaŋ (PHN, Tag. há:raŋ 'obstacle'), Snd. (h)alaŋ, OJv. maŋ-halaŋ-i 'to obstruct', aŋ-alaŋ-i 'to oppose', NJv., Mal., Mad. alaŋ 'to check, step in s.o.'s way'.

*hasəp[208] (PHN, Tag. há:sap 'smoke': OD hasap, ID [hØ]asəp), Snd. (h)asip, OJv. asəp, asöp, NJv. asəp, Mal. asap 'smoke'. OJv. hasap also occurs; if it is a loan from earlier Malay, it indicates that an initial h was still present in Malay at the time the item was borrowed. It is conceivable, however, that the second a is due to assimilation.

*haliŋ, Snd. (h)aliŋ, OJv. aliŋ, NJv. alé̋ŋ, Mal. Jak. aleŋ, Mad. alèŋ 'to protect one's face, screen'.

We also reconstruct *h- when Sundanese exhibits an initial q, Old Javanese and Malay competing forms, one with initial h, the other lacking it, and New Javanese and Madurese an initial vowel. The Sundanese forms must be suspected of being borrowings from a dialect or language which lost *h-:

*hayun (PAN, Sa. esu-esu 'earthquake': ?ayun[209]), Snd. qayun 'to sway', OJv. ma-hayun-an 'to be shaken', ayun 'to swing, rock', Mal. (h)ayon 'to sway'.

*hujuŋ (PAN, Fi. quẋu 'cape': [qh]uzuŋ), Snd. qujuŋ 'point, end, spit', OJv. hujuŋ 'spit (of land)', ujuŋ 'leg, paw', NJv. ujóŋ, Mal. (h)ujoŋ 'point, extremity'.

*hulur (PHN, Tag. hú:log 'to fall': huluR), Snd. qulur 'to let go (a rope)', OJv. hulur-ulur-a 'may the fringes be of', NJv. ulór, Mal. (h)ulor, Mad. òlòr 'to pay out (rope), let go'.

See also *hurup, p. 117.

PMJ initial h is also reconstructed when Malay exhibits h- in correspondence with Sundanese initial q, and Old and New Javanese initial vowel:

*halus (PHN, Tag. há:los 'almost'), Snd. qalus (L), OJv. alus, NJv. alós, Mal. (h)alos, Mad. alòs 'fine, smooth, delicate'.

*hukur (PHN, Tag. qú:kol 'what a thing is intended for': OD ukur, ID [1953a] qukur), Snd. qukur, OJv. ukur, NJv. ukór, Mal. (h)ukor, Mad. òkòr 'to measure'.

See also *hiḷuŋ, p. 102.

In the following instance both Sundanese and Malay fail to exhibit a competitive form with initial h, whereas Old Javanese has a

doublet:

*haŋin (PAN, To. fakaqaŋi 'to check, stop the wind': h_2aŋin), Snd. qaŋin, OJv. (h)aŋin, NJv. aŋén, Mal. aŋen, Mad. aŋèn 'wind'.

2.15.1.2. PMJ h in intervocalic position. PMJ intervocalic h became Old Javanese h. Its reflexes in the other languages are discussed below.

Between like vowels PMJ -h- appears as h in Sundanese and in Malay and became Madurese -q-. Between *a's it also appears as h in New Javanese:

*[dDḍ]ahan (PAN, Sm. la 'twig': [dḍ]ahan), Snd., Mad. dahan 'tree-branch'.

*lahaq, Snd. lahaq, NJv. lòhò, Mad. laqa(h) 'fish-trap made of thin bamboo-sticks'.

*lahaŋ, Snd., OJv. lahaŋ, NJv. lahaŋ (D), Mal. Java, Mad. laqaŋ 'palm-wine'.

*rahab, Snd. rahab 'to equip s.o. with clothes', OJv. aŋ-rahab-i 'to cover', Mal. rahap 'cloth laid over dead body'.

*sahaŋ, OJv. sahaŋ 'hot, peppery', Mad. saqaŋ 'black pepper'.

Between *u's PMJ intervocalic h appears as New Javanese h or it disappeared and a homorganic glide was developed between the two like vowels:

*suhun, Snd. suhun 'to carry on one's head, ask', OJv. səkar suhun 'headdress', an suhun 'to ask', NJv. suhón (D) (O),

suwón (H) 'to ask (of one who is of higher rank)', Mal. Java səkar suhon 'headdress', Mad. sòqòn 'to carry on one's head, to ask'.

Between *ə's PMJ intervocalic h appears as h in Sundanese. New Javanese exhibits competing forms, one with intervocalic h, the other with intervocalic w. The by-form with intervocalic h is marked as 'literary': ləhəŋ, p. 75.

PMJ intervocalic ḥ after *ə and before *a appears as h in Sundanese and in Malay. Its New Javanese reflex is w and its Madurese reflex is -q-:

*səḥaR, NJv. suwò in kalam suwò (O) 'pen of a palm-fiber', Mad. B.P. saqar 'stem, stalk, hard fibre in the outer leaf of the aren-palm'.

See also *dəḥaq, p. 74; *Dəḥak, p. 72.

PMJ intervocalic h after *a and before *ə appears as h in Sundanese and in Malay. In Madurese PMJ -h- became q when PMJ became Madurese a, i.e., before Madurese -q < *-p, *-t, *-k, *-ʔ (see the section on the Madurese reflexes of PMJ ə). This h, however, was lost when the Madurese reflex of PMJ ə was ə:

*pahət (PWI, NgD. pahat 'chisel': pahat), Snd. pahɨt, Mal. pahat, Mad. paqaq 'chisel'.

*tahən (PWI, Mer. tana 'to hold fast': tahan), Snd. tahɨn 'what is used to catch, snare', OJv. tahən 'to resist, restrain', Mal. tahan 'to resist, endure, restrain, set snares', Mad. S. taən 'rope, to ambush'. Sundanese, New Javanese, and Madurese tahan 'to resist, endure' are all treated as borrowings from Malay.

PMJ intervocalic h after *a and before *i or *u disappeared in Sundanese except when the final vowel preceded final q. In a few instances competing forms occur. Thus, we can posit two dialects, one in which *h appears as h and another in which it disappeared. It is best to explain the competing forms as borrowings from the dialect in which h appears as h into the dialect in which it disappeared, or conversely. Intervocalic h appears as h in the dialect of Southern Banten. It disappeared in New Javanese, Malay, and Madurese. Wilkinson, however, often writes competing forms, one with intervocalic h, the other lacking it. In two instances only a cognate with orthographic intervocalic h occurs without a by-form lacking it. Following Dyen (1953a:7), we interpret the appearance of orthographic h between a and a different vowel as indicative of a real distinction in earlier Malay which was preserved by the Arabic orthography:

*pahit (PHN, Tag. paít 'bitterness': OD pahit, ID [1971] paQ$_1$iC[ ]), Snd. pait, S.-B. pahit, OJv. pahit, NJv. paét, Mal. pa(h)et, Mad. paèq 'bitter'.

*pahul, Snd. paul, OJv. pahul, NJv. paól (D) 'light-blue', Mad. paòl 'dark-gray'.

*rahup (PAN, Sa. raqu 'to snatch up with the hands': raqup), OJv. rahup, NJv. raóp 'to wash one's face', Mal. ra(h)op 'to put the hands together cupwise', Mad. raòp 'to wash one's face'.

*tahiq (PAN, Sa. ae 'excrement': Caqi?), Snd. nahiq 'to rust', taiq, Snd. S.-B. tahiq 'dirt', OJv. tahi, NJv. tai (L) 'excrement, dirt', tai-yèŋ 'rust', Mal. ta(h)i, Mad. taè(h) 'excrement, dirt'.

*tahil, Snd. tail, OJv. tahil, NJv. taél, sə-taél, Mal. ta(h)el,

Mad. taèl 'a kind of weight'.

*tahun (PAN, Sm. tau 'season': taqwən), Snd. taun, Snd. S.-B. tahun, OJv. tahun, NJv. taón, Mal. ta(h)on, Mad. taòn 'year'[210].

After *i and before *u or *a PMJ intervocalic h appears as Sundanese h in two instances and disappeared in one instance. It disappeared in Malay, even in the orthography. In New Javanese and in Madurese a semivowel homorganic to the preceding vowel developed between the two vowels:

*pihak (PHN, Tag. piyák 'split': OD pihak, ID [1953a] piqak), OJv. pihak 'piece', Mal. sa-piaq 'one' (with sireh = 'a fresh quid of betel'), Mad. pèyak 'to (make a) split'.

*sihuŋ, Snd., OJv. sihuŋ, NJv. siyóŋ, Mal. sioŋ, Mad. sèyòŋ 'tusk'.

*tihaŋ (PAN, Fi. ndia 'handle': tiyaŋ), Snd. OJv. tihaŋ, NJv. tiyaŋ, Mal. tiaŋ, Mad. tèyaŋ 'pole, mast'.

After *u and before *a PMJ intervocalic *h disappeared in Sundanese except when the ultimate vowel preceded *-q. In two instances competing forms occur. Just like after i, it disappeared in Malay, generally also in theorthography. In New Javanese and in Madurese a semivowel homorganic to the preceding vowel appears between the two vowels:

*Buhayaq[211] (PAN, Sa. huasa 'crocodile': buqaya [?h]), Snd. ɒuayaq, Western and Eastern Snd. buhayaq[212], OJv. wuhaya, NJv. buwòyò, bòyò[213], Mal. buaya 'crocodile'.

*[rR$_2$]uhaŋ (PAN, Sm. ua 'throat, neck': RuqaŋS$_1$), Snd. ro(h)aŋ 'space between two houses', Mal. ruaŋ 'hollow space'.

*tuhaq (PAN, Fi. tua 'grand-father': tuqaS$_1$), Snd. mi-tohaq

'parent-in-law', OJv. tuha, NJv. tuwò, Mal. tu(h)a, Mad. tòwa(h) 'old'.

*tuhan (PAN, Fu., Sm. a-tua 'goddess'), OJv. tuhan, NJv. tuwan, Mal. tu(h)an 'master, lord', tohan 'God', Mad. tòwan 'master, lord'.

Madurese evidence makes it possible to reconstruct PMJ -h- in a comparison for which the Old Javanese cognate exhibits intervocalic w. The existence of this Old Javanese form is probably a modernization of an older spelling *luhar:

*luhar (PHN, Tag. luwál 'outside': OD luwar, ID [1953a] luqar), Snd. luar 'outside', OJv. ka-luwar-an 'liberation', NJv. luwar (O) 'be let go, freed', Mal. luar, Mad. lòwar 'outside'.

2.15.1.3. PMJ h in preconsonantal position. For putative examples, see the section on PMJ doubled monosyllables.

2.15.1.4. PMJ h in postconsonantal position. The only instance in which h appears in postconsonantal position is *taŋhiq, p. 49. It appears as h in Sundanese and Old Javanese, and disappeared in New Javanese. In Madurese it assimilated to the preceding consonant, resulting in a double consonant.

2.15.1.5. PMJ h in final position. PMJ -h appears as h in all languages except Madurese where it was lost:

*sisih (PAN, Sn. paqu-sisi 'side of the house': sisiq), Snd. sa-sisih 'partial', OJv. a-sisih 'be on the same side, party-partner', sisih-an 'husband', NJv. sisé́h, sisèh (D) 'at the side', Mal. siseh 'side', Mad. sèsè 'to give way'.

*suluh (PAN, To. hulu 'torch': $s_2$uluq), Snd. suluh 'firewood',

(D), Mal. suloh 'torch, flare', Mad. sòlò 'to light with a torch'.

2.15.2. PMJ q. PMJ q is reconstructed in initial position, between identical vowels, and in final position.

2.15.2.1. PMJ q in initial position. PMJ q in initial position became glottal stop in Sundanese. It became orthographic initial vowel in Malay, but Dyen (1953a:40) states that often Malay orthographic initial vowel is preceded by a phonetic glottal stop. The usual orthography has been chosen here despite this fact, because with Dyen we observe that "all Malay words with initial glottal stop also occur with initial vowel (or smooth onset) and the regular notation of both variants would serve no useful purpose. This practice leads to no confusion in notation for even those words written with initial vowel which have a by-form with initial h also occur with initial phonetic glottal stop. To accommodate this change in the formulas would require the substitution of the longer phrase 'Malay initial vowel or q' for the phrase 'Malay initial vowel' wherever the latter occurs and also the regular notation of the two variants."

Initial *q became Old Javanese orthographic initial vowel and New Javanese and Madurese orthographic and phonetic initial vowel:

*qakuq (PAN, To., Fu. au 'I': ?aku?, ku?), Snd. qakuq, OJv. aŋ-aku 'to recognize, acknowledge', Mal. aku 'my own, i.e., taking responsibility for', aku-an 'acknowledgement', Mad. akò(h) 'to pretend'.

*qinum (PAN, To., Fu., Sm. inu 'drink': ?inum), Snd. qinum (L), OJv. inum, NJv. inóm (B) (D), Mal. inom, Mad. ènòm 'to drink'.

2.15.2.2. PMJ q between like vowels. PMJ q occurs intervocalically only between like vowels. It became glottal stop in Sundanese and Madurese. It disappeared in Javanese, and the two contiguous vowels contracted to an Old Javanese long vowel. New Javanese has a short vowel. It also disappeared in Malay and the two vowels contracted to a short vowel:

*kuqul (PHN, Tag. kuhól 'snail': kuul), Snd. kuqul, OJv. kūl, NJv. kól, Mad. kòqòl 'snail'.

*laqas, NJv. las, Mad. laqas 'unhusked rice-grain'.

*saqat (PAN, Sa. ma-ata 'dried out': [q?h]asat[214]), Snd. saqat, OJv. sāt-ana 'in order to make dry', NJv. a-sat 'dried out'.

*tuqus, Snd. tuqus 'to drip', OJv. tus-tus 'to drip', tūs 'sap', NJv. tós 'to drip out', Mal. Per. tos 'to drip until dry'.

*tiqis, Snd. tiqis, OJv. tīs, NJv. a-tés (D) (O) 'cold'.

*ruqum (PWI, NgD. harum 'fragrant': ha[r]um[215]), Snd. ruqum 'smell'[216], OJv. rūm 'smell', a-rūm 'lovely, fragrant', NJv. a-róm, Mal. ha-rom, Mad. ròqòm 'fragrant'.

See also *duqum, p. 107; kəqəŋ, p. 73.

In one comparison the Old Javanese form does not exhibit a long vowel:

*taqal, OJv., NJv. tal, Mad. taqal 'lontar-palm'.

2.15.2.3. PMJ q in final position. PMJ q in final position became glottal stop in Sundanese and disappeared in Malay, Old and New Javanese, and Madurese. In West Madurese, however, it became h before pause and disappeared elsewhere:

*maluq, NJv. malu (D), Mal. malu, Mad. malò(h) 'feelings of shame, ashamed'.

*jamuq, Snd. ja-jamuq 'dried herbs', NJv. jamu (L) 'drink, medicine', Mal. jamu-jamu 'a plant', Mad. jhámò(h) 'medicine'.

*taliq (PAN, Sa. eli 'rope': taliS$_1$ə), Snd. taliq, OJv. tali, NJv. tali (L), Mal. tali, Mad. talè(h) 'rope, cord'.

In one comparison the Javanese cognate exhibits an unexpected final h and the Madurese cognate an unexpected final -q:

*BəR$_2$R$_2$əy, Snd. bereq (L) 'to give', OJv. w-in-eh 'be given', NJv. wè-wèh (L), Mal. bəri, Mad. bərriq 'to give'.

PMJ BəR$_2$R$_2$əy would be expected to become earlier Javanese *wi by the following development [see Dyen's discussion in Dyen (1953a:61)]. After PMJ -əy became i (see the section on PMJ -əy), PMJ R$_2$ disappeared in the two vowels contracted to i. As was described in 1.6.3.2., a base-final i alternates with y before the suffixes -akən, -ani, and -an. Thus, *wi+akən presumably became *wyakən, *wi+ani presumably became *wyani, and *wi+an presumably became *wyan. Generally, the semivowel of the base and the initial vowel of the suffix did not contract to a single vowel in Old Javanese in morphologically complex forms. It is, however, conceivable that there was an Old Javanese dialect in which contraction occurred, possibly only in derivations involving sequences of monosyllabic bases. Such a contraction would result in forms like OJv. *wekən, *weni, and *wen. Pigeaud (n.d.) lists both NJv. wèni 'to get' and NJv. wèn 'to get, given' as dialectal forms. OJv. *we might have replaced an older *wi because the latter was in the same relationship to a suffixed form such as *wekən 'was given' as OJv. limbe 'to spread out' was to l-um-imbekən 'tightened'.

OJv. weh could have acquired its final h as a result of the following analogical change. OJv. weh replaced an older *we because the latter was in the same relationship to a suffixed form such as *wean as NJv. kumbah 'to wash' is to NJv. kumbaan 'laundry' (see section 1.5.3.2.).

The additional final q in Madurese can also be attributed to an analogical change. Mad. bərriq replaced an older form *bərri because the latter was in the same relationship to a suffixed form such as bərriqi as Mad. ò̤diq 'to live' is to ò̤diqi 'to kindle (fire)'.

In a few comparisons Madurese exhibits competing forms, one with a final vowel (and final h in West Madurese), the other with a final glottal stop. Madurese has doublets for the numbers 'two, 'three', 'five', 'seven', 'eight', and 'nine': *Duaq, Mad. ḍuwá(h), ḍuwáq 'two'; *təlluq, Mad. təllò(h), təllòq 'three'; *limaq, Mad. lèma(h), lèmaq 'five'; *pituq, Mad. pèttò(h), pèttòq 'seven'; *$w_2$aluq, Mad. bállu(h), bálluq 'eight'; *saŋaq, Mad. saŋa(h), saŋaq 'nine'.

The numbers with final q are used in counting and when employing them in place of nouns. They are also used preceding nouns in counting, following nouns which occur in sets, after intransitive verbals, before agghiq and -agghiq 'more', and before èbáŋ 'each'. For examples, see Stevens (1969:203).

The gain of the final q can be attributed to the staccato speech style which is used in counting. This by-form also came to be used in the environments just described.

2.15.3. PMJ hiatus. PMJ hiatus only occurs between non-identical vowels. The vowels in hiatus remained in Sundanese and in Malay. Old Javanese exhibits contraction of the two vowels in hiatus

when the first vowel was *a. When the first vowel was *i, *u, or *ə, the semivowel corresponding to the vowel generally appears in its place. In a few instances, Old Javanese exhibits competing forms, one with a semivowel followed by a vowel, the other with contraction of this sequence. However, New Javanese only exhibits contraction. In Madurese the semivowel corresponding to the preceding vowel appears before the following different vowel.

2.15.3.1. PMJ hiatus between *a and *i:

*kain, Snd. kaen 'woven fabric', OJv. ken[217] 'underclothes', Mal. kaen, Mad. kaèn 'woven fabric'.

*pais, Snd. pais 'what has been roasted in hot ashes', NJv. pès 'roasted', Mal. paes, Mad. paès 'spiced fish cooked in a banana-leaf'.

2.15.3.2. PMJ hiatus between *a and *u:

*laun (PHN, Tag. laqón 'long duration'), Snd. laun[218], OJv. a-lon, NJv. a-lòn, Mal. laon, Mad. laòn 'slow'.

*sauŋ (PWI, TBt. saoŋ 'cover, umbrella': saəŋ), Snd. sauŋ 'hut, cover', OJv. soŋ 'what gives shadow, overshadowed by', NJv. ka-sòŋ-an (B) 'overshadowed by', Mal. naoŋ[219] 'shadowing, shelter', Mad. naòŋ[220] 'shadow'.

*pauh (PAN, Fi. mbau 'kind of fruit-tree': pahuq), Snd. pauh, OJv. poh, NJv. pòh, Mal. paoh, Mad. paò 'kind of tree'.

2.15.3.3. PMJ hiatus between *i and *a:

*lian and *lain (PAN, Fi. lia 'to transform, change': liqan), Snd. lain, OJv. lyan, len, NJv. lèn (B)[221], Mal. laen, Mad. laèn, Mad. B. lèyan 'different, other'.

*liaŋ, Snd. liaŋ, OJv. lyaŋ, leŋ, NJv. lèŋ, Mal. liaŋ 'a small

aperture'.

2.15.3.4. PMJ hiatus between *u and *a:

*tuak[222] (PWI, TBt. tuak 'palm-wine: tuwak), Snd. tuak, OJv. twak, tok, Mal. tuaq, Mad. tòwaq 'palm-wine'.

*huan, OJv. aŋ-hwan, NJv. aŋ-òn (L), Mad. òwan 'to guard sheep'.

2.15.3.5. PMJ hiatus between *i and *u:

*hiuq (PWI, TBt. qiu 'shark': hi[y]u), Snd. hiuq, OJv. hyū, Mal. (hi)yu 'shark'.

When the sequence *-iu- was preceded by *h it became OJv. hyu, as illustrated in the preceding comparison. Its New Javanese continuation is yu- and not *u. After OJv. h the anticipated contraction of -yu- to -u- (cf. OJv. dyus, NJv. dós from *diRus, p. 165) did not take place. It did not occur probably because of the prior development of initial hy- to y- before OJv. u:

*hius, Snd. hius 'to blow, howl (of wind)', OJv. (h)-um-yus, NJv. um-yós (B) 'to whizz, buzz'.

2.15.3.6. PMJ hiatus between *ə and *a. There are only two comparisons which exhibit *hiatus in this environment. In the first comparison we only find a New Javanese cognate. There is no Old Javanese form in Juynboll. It presumably was *pwar (see section 2.6.4.3.). From other comparisons (ss the section on *R) we know that earlier Javanese hiatus whose first member was *ə and whose second member was *a became Old Javanese -wa- and contracted to New Javanese ò. PMJ hiatus in this environment became Malay h:

*pəar, NJv. pòr 'tray', Mal. pahar 'pedestal tray'.

In the following comparison the Javanese and Malay cognates are lacking:

*həay, Snd. hɨay, Mad. òway 'to yawn'.

2.15.3.7. PMJ hiatus between *u and *ə. The only comparison for *hiatus in this environment is the following. In Sundanese the ultimate vowel assimilated to the penultimate vowel and the two vowels contracted to OJv. u[223]:

*luəh (PHN, Tag. lú:haq 'tear': only ID [1953a] luhaq), Snd. luquh 'to arrive weeping', OJv. luh, NJv. lóh 'tear'.

2.15.3.8. PMJ hiatus between *u and *i: see *Buit, p. 129.

2.15.3.9. PMJ hiatus between *i and *a: see *hiaŋ, p. 170.

2.15.4. Ambiguous reconstructions. An ambiguous reconstruction with intervocalic [h] is employed when a Javanese cognate is lacking and the forms in the other three languages are ambiguous as to whether PMJ had an *h or *hiatus: e.g. *li[h]at, Snd., Mal. liat, Mad. lèyaq 'tough, tenacious'.

2.16. PMJ double consonants after vowels other than *ə. In section 2.5.1. we dealt with the reconstruction of double consonants after *ə. In this section we shall deal with the reconstruction of PMJ double consonants after vowels other than *ə. PMJ double consonants are reconstructed whenever Madurese exhibits double consonants and where there is no reason to suspect these Madurese words to be borrowings. The double consonants were reduced to single consonants in Sundanese, Malay, and Javanese.

2.16.1. PMJ -ññ-:

*Bañña̋k, OJv. bañak, NJv. bañaq 'entire', Mal. bañaq, Mad. bá̋ña̋q 'many, a great deal'.

*miññak (PWI, NgD. miñak 'oil': miñak), Snd. miñak (L), OJv. miñak, NJv. miñaq (D), Mal. miñaq, Mad. mèñ̃ñaq 'oil'.

2.16.2. PMJ -ŋŋ-:

*laŋŋit (PAN, Fi. laŋi 'sky': laŋitə), Snd., OJv. laŋit, NJv. laŋét, Mal. laŋet, Mad. laŋŋèq 'sky'.

*laŋŋuy (PHN, Tag. laŋóy 'to swim'), NJv. laŋi, Mad. laŋŋòy 'to swim'.

2.16.3. PMJ -lh-:

*qallih (PAN, Fi. yali 'be absent': ?aliq), Snd. qalih (H) 'to move, change', OJv. alih 'two, to change', NJv. alé́h (L), Mal. aleh, Mad. allè 'to move, change'.

2.16.4. PMJ -ss-. The Madurese reflexes of *-ss- are -ss- or -cc-. Thus, we can posit two Madurese dialects, one in which *-ss- appears as -ss- and another in which *-ss- became -cc-. In the following instances it is best to explain the existence of competing forms as borrowings from the -ss- dialect into the -cc- dialect, or conversely:

*qassin (PAN, To. m-ahi 'sour': ?as$_1$iLə), Snd. qasin, OJv. asin, NJv. asén, Mal. asen, Mad. assèn, accèn 'salty'.

*Bassəh (PAN, Fi. sava 'to wash': basəq), Snd. basɨh 'wet', OJv. wasəh[224] 'washed', Mal. basah, Mad. bássa, bácca 'wet'.

*Bassuh[225] (PAN, Fi. savu-i 'to wash the canoe': basuq), OJv. aŋ-wasuh, NJv. wasóh, wasòh (D), basóh (D), Mal. basoh, Mad. bássò, báccò 'to wash'.

In the following instance PMJ -ss- probably is from a PAN cluster -ls- with assimilation of the first consonant to the second consonant:

*hassəm (PAN, Sm. m-asa 'sour': qalsəm), Snd. hasɨm[226], OJv. hasəm 'sour', asöm[227] 'tamarind', NJv. asəm 'tamarind', 'sour' (D), Mal. asam 'sour, tamarind', Mad. assəm, accəm 'tamarind'.

In the following two comparisons the Madurese cognates occur without a by-form with -cc-:

*qassah (PAN, Fi. yaza 'to rub, whet': h_{24}asaq), Snd. qasah, OJv. aŋ-asah, NJv., Mal. asah, Mad. assah 'to grind down, whet'.

*qassak (PAN, Fu. moso 'done, well-cooked': masak), Snd. qasak, OJv. t-asak, Mal. m-asaq, Mad. m-assaq 'ripe, done'.

2.16.5. PMJ -dd-:

*qaddas (PWI, TBt. qadas 'fennel': adas), NJv., Mal. adas, Mad. addhás 'fennel'.

*qadduq (PHN, Tag. qá:ro 'to put forward in a prodding manner': adu), Snd. qaduq, OJv. aŋ-adu, NJv. adu (L). Mal. adu, Mad. addhu(h) 'to pit, match one against the other'.

*kaddut, Snd. kadut 'paunch, belly', also: 'a sack which is spread out', OJv. kadut, NJv. kadót, Mal. kaen kadot, Mad. kaddhuq 'sack-cloth'.

*laddiŋ, NJv. ladéŋ, Mal. ladeŋ, Mad. S. P. laddhiŋ 'knife'.

2.16.6. PMJ -jj-: see *tujjəw, p. 65 .

2.16.7. PMJ -pp-:

*luppaq (PWI, TBt. lupa 'to forget': lupa), OJv. k-in-a-lupa-n 'forgotten', NJv. lupò (D) (O), Mal. lupa, Mad. lòppa(h) 'to forget'.

2.16.8. PMJ -tt-:

*qattas (PHN, Tag. taqás 'height': a(n)tas), NJv. atas (O) (D) 'clearly visible', Mal. atas 'position over or above', Mad. attas 'above, on top'.

2.16.9. PMJ -kk-: see *[Bb]ukkaq, p. 193.

2.16.10. PMJ -bb-:

*labbuh (PWI, TBt. labu 'to cast the anchor': labuh), Snd. labuh (L) 'to fall, cast anchor', OJv. ma-labuh 'to throw o.s. into, plunge into', NJv. laboh 'to cast anchor, throw away', Mal. laboh 'to lower by means of a cord', Mad. labbhu 'to throw o.s. into the water in order to drown o.s.'.

*rubbuh (PWI, TBt. robo 'to fall': Rubuh), Snd., OJv. rubuh, NJv. ruboh, Mal. ruboh, roboh, Mad. ròbbhu 'to fall'.

2.16.11. PMJ -ḍḍ-:

*haḍḍaŋ (PAN, Fi. yaraŋ-i 'armament': h_{13}aḍaŋ), OJv. um-aḍaŋ 'opposition', haḍaŋ-an 'waited for', NJv. aḍaŋ, Mal. (h)adaŋ, Mad. aḍḍháŋ 'to block the way, lie in wait'.

*gaḍḍiŋ (PHN, Tag. gá:riŋ 'ivory': gadiŋ), Snd. gadiŋ 'ivory, tusk', OJv. gaḍiŋ 'tusk', NJv. gaḍéŋ, Mal. gadeŋ 'ivory, tusk', Mad. ghá́ḍḍhiŋ 'ivory'.

*gaḍḍuŋ (PWI, TBt. gadoŋ 'earth-fruit': gaḍuŋ), Snd. gaduŋ, OJv. gaḍuŋ, NJv. gaḍóŋ, Mal. gadoŋ, Mad. ghá́ḍḍhuŋ 'a wild earth-fruit'.

*kaḍḍal, Snd. kadal, OJv., NJv. kaḍal, Mal. Java kadal, Mad kaḍḍhál 'grass-lizard'.

*paḍḍaŋ (PHN, Tag. pá:raŋ 'meadow': pa(n)daŋ), OJv. a-maḍaŋ 'to clarify, clear', NJv. paḍaŋ 'light', 'laid open (of ground)'

(D), Mal. padaŋ 'treeless waste land', Mad. paḍḍháŋ 'clear, bright'.

2.17. The infixed nasal. In Malayo-Javanic languages cognates sometimes differ among themselves in that one reflects a single intervocalic consonant and another the same consonant preceded by a nasal. This phenomenon appears not only in cognate sets implying a PAN etymon, but also in those implying a PMJ etymon. The function of this difference in the presence or absence of a nasal is unclear. Dempwolff cites reconstructions whose cognates differ only in the presence or absence of a nasal by enclosing the nasal in parentheses, e.g. *ka(m)pit. However, when Merina exhibits for example -ts- for anticipated -s- as reflex of *s (cf. *Bisik, p. 129) Dempwolff posits a 'reduced nasal cluster' (2.91 and 2.95). For a discussion of Dempwolff's 'reduced nasal cluster', see Dyen (1971:46). Following Dyen (first in Dyen 1953a), we cite two reconstructions. The reconstruction without the nasal is cited first followed by its reflexes. Then the reconstruction with the nasal is cited followed by its reflexes. We shall refer to this nasal as the 'infixed nasal'. The following are instances of reconstructions of this kind.

2.17.1. *-l-; and *-ŋl-:

*jal[iq, əy], NJv. jali, Mal. jali batu 'kind of tree'; and *jaŋl[iq, əy], Mad. jháŋlè(h) 'kind of tree'.

*salir, Mad. B. P. salèr 'to have apparently only one testicle or with testicles one of which is very small'; and *saŋlir, Snd. saŋlir 'to have only one testicle', OJv. saŋlir 'to have a large scrotum at one side', NJv. saŋlér 'with a small

testicle', Mad. S. saŋlèr 'to have only one testicle, small testicle'.

2.17.2. *-s-; and *-ŋs-:

*mus[iq, əy], Mal. musi, Mad. mòsè(h) 'caraway'; and *muŋs[iq, əy] NJv. muŋsi 'caraway'.

*musuh (PWI, TBt. musu 'enemy': mu(n)suh), Snd., OJv. musuh, NJv. musóh (O), Mal. musoh, Mad. mòsò 'enemy'; and*muŋsuh, OJv. muŋsuh, NJv. muŋsóh 'foe, enemy'.

2.17.3. *-j-; and *-nj-:

*qujur, Snd. k-ujur 'length of body', OJv. m-ujur 'lengthwise', NJv. ujór 'side, direction (in which s.t. is stretched out)'; and *qunjur, Mal. unjor, Mad. ònjhur 'to stretch out, thrust out, project'.

2.17.4. *-p-; and *-mp-:

*hapaq, Snd. hapaq 'void, empty'; and *hampaq, Mal. (h)ampa 'void, empty'.

*kapak (PHN, Tag. kapák 'sound of beatings': ka(m)pak), OJv. k-um-apak 'to hack', Mal., Mad. B. P. kapaq 'axe, hatchet'; and *kampak, Snd. kampak, NJv. kampaq 'axe, hatchet'.

*kapur, NJv. kapór 'udder'; and *kampur, Mad. kampòr 'udder'.

*tapiq (PAN, Fi. tavi-a 'to sweep': tapi[?h]), Snd. tapiq 'to winnow', OJv. t-in-apy-an 'winnowed', NJv. tapèn (tapi+an) 'to winnow'; and *tampiq (tampi[?h]), Mal. tampi, Mad. tampè(h) 'to winnow'.

2.17.5. *-t-; and *-nt-:

*latuŋ, NJv. ləŋò latóŋ (O) 'mineral oil'; and *lantuŋ , Snd. miñak lantuŋ, NJv. ləŋò lantóŋ, Mad. mèññaq lantòŋ 'mineral

oil'.

*qutah (PAN, Sa. m-oa 'to vomit': [q?h]utaq), Snd. qutah, OJv. m-utah, NJv. m-utah, Mad. òta 'to vomit'; and *quntah ([q?h]untaq), Mal. m-untah 'to vomit'.

2.17.6. *-k-; and *-ŋk-:

*Bukus (PWI, TBt. bukkus 'bundle': buŋkus), Mal. bukos 'bundle, packet'; and *Buŋkus, Snd. buŋkus 'bundle', OJv. w-in-uŋkus 'seales', NJv. wuŋkós 'wrapped in a leaf', buŋkós 'package'.

*jukuŋ (PWI, NgD. jukoŋ 'dug-out canoe': ju(ŋ)kuŋ), Snd., OJv. jukuŋ, NJv. jukóŋ, Mal. jukoŋ, Mad. jhukòŋ 'dug-out canoe'; and *juŋkuŋ, NJv. juŋkóŋ (D), Mal. juŋkoŋ 'dug-out canoe'.

*takis (PWI, NgD. taŋkis 'to parry': ta(ŋ)kis), Snd. takis, OJv. t-um-akis-akən 'to parry'; and *taŋkis, NJv. taŋkés 'defense' (B), 'shield' (O), 'dam, dyke' (D), Mal. taŋkes 'to parry by striking aside', Mad. taŋkès 'to parry', also Mad. S. 'dyke along the sides of a road'.

*tukup (PAN, Fi. tuku 'to cover the head with ashes'), OJv. tukup 'to cover', NJv. tukóp 'to hold the hand on or in front of s.t.; and *tuŋkup, Snd. tuŋkup 'to hold the hand on s.t.'.

2.17.7. *-B-; and *-mB-:

*BuBuŋ (PAN, Fi. taqo-fufu 'ridge-pole': bubuŋ), OJv. wuwuŋ, NJv. wuwóŋ 'ridge (of the roof)', Mal. buboŋ 'swelling up in a dome-like mass from below, roof', Mad. bubuŋ 'ridge (of roof)'; and *BumBuŋ, Mal. bumboŋ 'roof'.

*guBiŋ, NJv. guwéŋ 'with a hare-lip', gówèŋ 'of earthenware and similar objects, where a piece is broken off at the edge';

and *gumBiŋ, Mad. ghumbiŋ 'with a piece broken off (of porcelain, earthenware)', also: 'hare-lip'.

*tuBuh (PAN, Fi. tumbu 'to grow': tubuq), OJv. tuwuh, NJv. tuwóh 'to grow', Mal. tuboh 'body'; and *tumBuh, Snd. tumbuh, Mal. tumboh, Mad. tòmbu 'to grow, sprout'.

*taBaR$_2$ (PWI, TBt. tambar 'antidote': ta(m)baR), Snd. tawar 'to make oneself immune to poison', pan-awar 'antidote', OJv. tawa 'antidote', NJv. pən-òwò 'antidote', Mal. pən-awar 'antidote', Mad. pan-abár 'antidote'; and *tamBar, OJv. tamba 'remedy, medicine', NJv. tòmbò (L), Mal. tambar 'to heal, cure'. NJv. pən-awar 'antidote' is treated as a loan from Malay. Snd. tawaq 'to make oneself immune to poison' and tambaq (H) 'remedy, medicine' and Mad. tambhá(h) 'remedy, medicine' are treated as loans from Javanese.

*huBiq (PAN, Fi. quvi 'yam': qubi[?h]), Snd. huiq, OJv. (h)uwi, NJv. uwi, Mal. ubi, Mad. òbi(h) 'yam, tuber'; and *qumbiq (qumbi[?h]), Mal. (h)umbi 'bulb, bulb-root'.

2.17.8. *-b-; and *-mb-:

*gubəl, NJv. gubəl (O) 'to be caught on'; and *gumbəl, Mad. ghumbhəl 'to hold each other, stick'.

*sabuŋ, Mad. sabhuŋ,'to prolong by taking another piece'; and *sambuŋ, Snd. sambuŋ 'to prolong', OJv. sambuŋ 'contributions', NJv. sambóŋ (L), Mal. samboŋ, Mad. sambhuŋ 'to prolong by taking another piece'.

2.17.9. *-ḍ-; and *-nḍ-:

*giḍal, Mad. ghiḍhál 'loose'; and *ginḍal, OJv. ginḍal 'separate', NJv. ginḍal (D) 'loose, separated', Mad. B. ghindhál 'loose'.

2.17.10. PMJ doublets, one exhibiting a double consonant, the other a nasal cluster. The following two examples are instances of Madurese competing forms, one with a double consonant, the other with a nasal cluster. The cognates in the other Malayo-Javanic languages all exhibit a nasal cluster. We reconstruct a PMJ doublet, one exhibiting a double consonant, the other a nasal cluster. The Madurese competitive form with the nasal cluster can be attributed to a borrowing from Javanese or Malay:

*gattuŋ (PWI, TBt. gattuŋ 'to hang'), Mad. ghátt̀oŋ 'to hang'; and *gantuŋ, Snd. gantuŋ 'to hang', OJv. ma-gantuŋ-an 'hanging', NJv. gantóŋ, Mal. gantoŋ 'to hang'; cf. Mad. ghántòŋ 'to hang'.

*likkuŋ (PWI, TBt. lehuŋ 'be bent': li(ŋ)kuŋ), Mad. lèkkòŋ 'to form a circle around'; and *liŋkuŋ, Snd. liŋkuŋ'to surround', NJv. lèŋkòŋ-an 'bay', Mal. liŋkoŋ, leŋkoŋ 'curve, curved, hollow'; cf. Mad. lèŋkòŋ 'to form a circle around'.

There are two other possible hypotheses with regard to forms like these: (1) one could propose the reconstruction of a PMJ doublet *gattuŋ, *ganttuŋ, for which all languages but Madurese continue the form with an infixed nasal (where the double consonant was reduced to a single consonant), while Madurese continues the form lacking it. Such a hypothesis can, however, not be made lightly, since it involves the violation of what has been said earlier about the PMJ morpheme structure (and also applies to the PAN morpheme structure), i.e. clusters consist of no more than two consonants. (2) One could argue that the following alternation appeared in PMJ. When a nasal was infixed in a base with a double consonant, the double consonant was

replaced by a single consonant: e.g., *gatuŋ alternates with *gattuŋ in a form *gantuŋ.

Other reconstructions of doublets, one with an intervocalic nasal cluster, the other with an intervocalic double consonant are the following:

*Bəttis (PWI, TBt. bitis 'lower leg': bitis, bə(n)tis), Snd. bitis, OJv. wətis, Mal. bətes, Mad. bəttès 'lower leg'; and *Bəntis, NJv. wəntés 'lower leg'.

*bəkkah (PAN, Sa. hoka 'to burst': bəkaq), Snd. bɨkah 'to expand, open up, blossom'; and *bəŋkah (bəŋkaq), NJv. bəŋkah 'to split', Mal. bəŋkah 'to become cracked, split', Mad. B. P. and Mad. Kang. bhəŋka 'to split'.

*qattah (PWI, TBt. qata 'to eat raw meat': a(n)tah), Snd. qatah, Mal. Ked. and Mal. N.S. m-atah, Mad. m-atta 'raw, not ripe'; and *qantah, Mal. antah 'husk, sheath (of grain)'.

*məttah, OJv. mətah 'raw, not ripe'; and *məntah, NJv., Mal. məntah 'raw, not ripe'.

*[Bb]ukkaq (PAN, Sa. huqe 'to uncover': buka?), Snd. bukaq 'to open, begin', NJv. bukò 'introduction', bukaq 'open, begin', Mal. buka, bukaq, Mad. bukkaq 'open'; and *[Bb]uŋkaq, Mad. Kang. buŋkaq 'open'[228].

*həbbun (PHN, Tag. qambón 'drizzle': ə(m)bun), Snd. qibun, OJv. (h)əbun, NJv. (ə)bón, Mad. (əb)bhun 'dew'; and *həmbun, Mal. əmbon 'dew'.

*qəppat (PAN, To., Fu., Sm. fa 'four': x_2əpatə), Snd. qopat[229], OJv. pa-pat, NJv. pa-pat (L) 'four'; and *qəmpat, Mal. əmpat, Mad. əmpaq 'four'.

*qəṭṭik (PWI, TBt. qotik 'few': ə(n)ṭik), Snd. sa-ɨtik 'few', l-ɨtik (L) 'small'; and *qənṭik, NJv. m-ənṭéq 'extremely small'.

*kəppit (PAN, Fu. kopi-kopi 'to be squeezed in': kəpit), Mal. kəpet 'pressure between two connected surfaces, e.g.. between two fingers or between the arm and the body', Mad. kəppèq 'to carry under the arm'; and *kəmpit, NJv. kəmpét 'to carry under the arm'.

*kəṭṭus, Mad. kəṭṭòs 'to brag'; and *kənṭus, NJv. kənṭós 'to brag, big talk'.

*qukkil (PWI, TBt. qukkil: uŋkil), Mad. òkkèl 'to lever up slightly'; and *quŋkil, Snd. quŋkil, NJv. uŋkél, óŋkèl (D), Mal. uŋkel 'to lever up slightly'.

2.18. PMJ doubled monosyllables. In section 2.5.3. we shortly dealt with PMJ doubled monosyllables in connection with the discussion of the origin of Madurese double consonants. In this section we shall deal with the reflexes of PMJ doubled monosyllables in all four languages.

2.18.1. The Sundanese reflexes. The Sundanese reflex of a PMJ doubled monosyllable is a word of the shape $C_1V_1C_1V_1C_2$ if *C_2 of the PMJ word of the shape *$C_1V_1C_2C_1V_1C_2$ is a consonant other than a nasal, *g or *k. If *C_2 is one of the latter, the original shape is retained:

*DəgDəg, Snd. dɨgdɨg 'to run in masses', NJv. ḍəḍəg (D), Mal. dədaq, Mad. ḍəkḍək, Mad. P. ḍəḍḍək 'crowded together'.

*siksik, Snd. siksik 'to cut up fine', NJv. siséq 'to scrape off', Mad. sèksèk 'to slice'.

*taŋtaŋ (PHN, Tag. taŋtáŋ 'pulled'), Snd. taŋtaŋ, OJv. ma-naŋtaŋ, NJv. tantaŋ, taŋtaŋ (O), Mad. taŋtaŋ 'to challenge'.

*tultul, Snd. tutul, NJv. tutól, Mad. tòltòl 'spotted'.

Sundanese has a number of words of the shape $C_1V_1ŋC_1V_1n$. The question is whether these words are continuations of PMJ doubled monosyllables with ŋ as preconsonantal nasal or whether they are continuations of a doubled monosyllable with n as the preconsonantal nasal. If the preconsonantal nasal was *ŋ, then one might posit that all languages but Sundanese exhibit partial assimilation of this consonant to the following stop. If the preconsonantal nasal was *n, then one might posit that Sundanese exhibits dissimilation.

One can argue that evidence from New Javanese supports the reconstruction of *ŋ. In one instance New Javanese exhibits doublets, one with preconsonantal ŋ, the other with preconsonantal n. The competitive form with ŋ is marked by Pigeaud (n.d.) as archaic (see under *tuŋtun). Furthermore, there is an instance of a comparison between Tagalog and Malayo-Javanic forms (see *ciŋcin) suggesting that *ŋ perhaps appeared in preconsonantal position also in proto-languages of higher order such as PHN.

The following comparisons are reconstructed with a preconsonantal ŋ:

*baŋban (PHN, Tag. bambán 'bast, fiber': banban), Snd. baŋban, NJv. bamban 'kind of reed'.

*buŋbun (PHN, Tag. bumbón 'dam of branches and twigs to attract fish in rivers and lakes': bunbun), Snd. buŋbun 'a deep hole in the water closed up with a curtain of bamboo-sticks', Mal. bumbun 'hut like a bee-hive or bell-tent used by

fowlers, hunters, or fishermen to conceal themselves'.

*ciŋcin (PHN, Tag. siŋsíŋ 'ring': cincin), Snd. ciŋcin (H), OJv. cincin 'ring', NJv. cincén 'ring' (D), 'sewing ring', Mal. cincen 'ring'. Tagalog final ŋ could be explained as an assimilation of the final consonant to the final ŋ of the initial syllable.

*daŋdan (PWI, NgD. dandan 'ship-building': dandan), Snd. daŋdan (L) 'to get dressed, ready, clear', OJv. ma-dandan 'got ready', NJv. dandan 'to get dressed, ready', Mal. dandan 'straightaway, there and then', Mad. dhándhán 'to get dressed'.

*jaŋjan, Snd. jaŋjan 'crocodile-colored', NJv. janjan (O) 'pale (yellow)', Mad. jhánjhán 'white-yellow'.

*tuŋtun (PHN, Tag. tuntón 'conclusion': tuntun), Snd. tuŋtun (L), OJv. tuntun, NJv. tuntón, tuŋtón (O), Mal. tunton, Mad. tòntòn 'to lead'.

2.18.2. The Javanese and Malay reflexes. In Javanese and Malay the reflex of the PMJ doubled monosyllable is $C_1V_1C_1V_1C_2$ if $*C_2$ is a consonant other than a nasal. If $*C_2$ is a nasal, the original shape of the PMJ doubled monosyllable is retained, but the preconsonantal nasal assimilates to the following consonant if it is a stop in Malay and standard Javanese. In Old Javanese and in a dialect of New Javanese the nasal does not assimilate:

*BəlBəl, NJv. bəbəl (D) 'difficult to extract, stupid', Mal. bəbal 'dull, stupid', Mad. bəlbəl 'tough (e.g., of wood which is difficult to be prepared for usage), obstinate,

not pleasant'.

*BuŋBuŋ (PAN, Sm. pupu 'quiver': buŋbuŋ), OJv. buŋbuŋ 'hollow bamboo', NJv. bumbóŋ 'quiver, boiler', Mal. bumboŋ 'a water-vessel made from a joint of bamboo', Mad. buŋbuŋ 'cooker in the shape of a cylinder (made of bamboo)'.

*caŋcaŋ, Snd. caŋcaŋ 'bind, tether', OJv. c-in-aŋcaŋ 'tethered', NJv. cancaŋ, caŋcaŋ (D), Mad. caŋcaŋ 'to tether (a horse)'.

*DəmDəm (PHN, Tag. limlím 'to sit over eggs': dəmdəm), NJv. ḍənḍəm, ḍəmḍəm 'to plan secretly, in quiet', Mal. dəndam 'yearning, feeling of love or spite', Mad. ḍəmḍəm 'friendly, nice (of s.o. who usually is not talkative)'.

If $*C_1$ is *r and $*C_2$ is *m, $*C_2$ became New Javanese ŋ, but was retained as m in Malay:

*rumrum, NJv. ruŋróm (B), Mal. rumrom, Mad. ròmròm 'to show love to, fondle'.

If both $*C_1$ and $*C_2$ are nasals no assimilation occurs:

*namnam, Snd., NJv., Mal., Mad. namnam 'kind of tree'.

2.18.3. The Madurese reflexes. As was pointed out in section 2.5.3. preconsonantal $*C_2$ in a doubled monosyllable assimilates to the following consonant in some instances. This assimilation, it was said, probably is the regular development in the B. and P. dialects. The evidence presented below shows that such an assimilation only occurs if $*C_2$ is a stop, *r, or *s. Further research will have to be carried out to determine whether this assimilation also occurred when $*C_2$ is a consonant other than those just mentioned.

In section 2.5.3. two comparisons were presented, one in which the B. dialect shows assimilation (*taptap), and one in which both

the B. and P. dialects show assimilation (*təstəs).

In the following comparisons Madurese exhibits doublets, one showing assimilation, the other the absence of it:

*cipcip, OJv. an-icip 'to kiss', NJv. cicép-cicép (D)(O), Mal. cicep, Mad. cèpcèp, cèccèp 'to test with the tip of the tongue'; cf. Snd. qi-cip 'to try, taste (food), test'.

*cupcup, OJv. an-ucup 'to suck', NJv. cucóp 'to put the nozzle to the mouth, drink', Mal. cucop 'to sip, smell, kiss', Mad. còpcòp, còccòp 'to suck at the nozzle of s.t.'.

*butbut (PAN, Sa. huhu 'to pull out'), Snd. bubut 'a person who operates a lathe', OJv. b-in-ubut 'to provide with turner's work', NJv. bubót 'to pull out (hair), turn (wood on a lathe)', Mad. bhutbhut 'to pull out (hair, feathers)', bhubbhuq 'to turn (on a lathe)'.

In the following instances Madurese exhibits a cognate which has assimilation without a by-form lacking assimilation:

*ḍapḍap (PAN, Fi. rara 'kind of tree'), Snd. dadap, OJv., NJv. ḍaḍap, Mal. dadap, Mad. ḍhaḍḍháq 'kind of tree'.

*gargar (PHN, Tag. gadgád 'shelled out': gaḍgaḍ), Snd. ragrag (metathesis) 'to fall (off)', NJv. gagar 'without leaves, bare (of a tree)', Mad. ghágghár 'to fall (off)'.

*siksik[230] (PAN, To. hihi 'muscle': sisik, siksik), OJv. sisik, NJv. siséq, Mal. siseq, Mad. sèssèq 'scale of a fish'.

*s-ul-upsup, Snd. s-ul-usup, NJv. s-l-usóp, Mad. s-al-òssòq 'to crawl in'.

In instances like the following Madurese exhibits cognates which do not show assimilation of preconsonantal *C_2 to the following

consonant and for which a by-form showing assimilation is lacking:

*juljul (PHN, Tag. duldól 'to force into': zulzul), NJv. jujól, Mal. jujol, jojol, Mad. jhuljhul 'sticking out'.

*kudkud, OJv. a-kukud-an 'to pack together and clear out', NJv. kukód 'to pack up', Mad. kòtkòt 'to pack up, gather, glean'.

*kurkur (PAN, Fi. kukuva 'to scratch': kuḍkuḍ), Snd. kukur 'to rasp', OJv. a-kukur 'to scratch away, smooth', NJv. kukór 'to scratch', 'rasp, file' (D) (O), Mal. kukor 'to rasp', Mad. kòrkòr 'to scratch off (out)'.

*sitsit, Snd. sisit 'scale of a fish', Mad. sètsèt 'covered with scales, scales'.

In the following instances the Madurese double consonant might be attributed to the assimilation of a final h of the first syllable of a PMJ doubled monosyllable to the initial consonant of the second syllable. It is difficult to determine whether this is a dialectal development.

Thus, we might consider the possibility of reconstructing a form such as *cahcah (PAN, Sa. tata 'spread all over, dispersed': cacaq) for the comparison of the following forms: OJv. a-caca-cacah-an 'hacked', NJv. cacah 'to hack into fine pieces', Mal. cacah 'to prick a pattern on a flat surface, e.g. on pastry', Mad. cacca 'to carve, cut into small pieces'. Similarly, we may reconstruct a form *tuhtuh for the comparison of the following forms: Snd. tutuh, OJv. ma-nutuh, NJv. tutóh, Mal. tutoh, Mad. tòttò 'to poll a tree'.

2.18.4. A list of PMJ doubled monosyllables. In the following list some more PMJ doubled monosyllables are cited to further illustrate their reflexes in the four languages:

*BarBar, Snd. babar in babar layar 'to unroll the sails', OJv. b-in-abar 'spread out', NJv., Mal. babaṛ 'to expand, open out, boom out a sail', Mad. bárbár 'to spread out'.

*[Dḍ]iŋ[Dḍ]iŋ (PAN, Fi. riri 'screen against wind': ḍiŋḍiŋ), Snd. diŋdiŋ, NJv. ḍinḍéŋ (O), (D), ḍiŋḍéŋ (D), Mal. dindeŋ 'screen, inner wall'.

*juŋjuŋ, Snd. juŋjuŋ 'to lift up, pick up', OJv. pa-juŋjuŋ'to pride o.s. on (?)', NJv. junjóŋ, juŋjóŋ (O) 'to lift up', Mal. junjoŋ 'support on the head', Mad. jhuŋjhuŋ 'to lift up to over the head'.

*parpar, NJv. papar (D) (O) 'equal, to flatten', Mal. papar 'flat, smooth', Mad. B. parpar 'to flatten'.

*paspas (PHN, Tag. paspás 'to dust'), Snd. papas 'to chop off', OJv. ka-papas 'destroyed', NJv. papas 'broken off' (O), 'cut off', Mal. papas 'to strip off, remove', Mad. paspas 'to cut off'.

*paspas-an, Snd. papas-an, Mad. paspas-an 'kind of climber'.

*səpsəp (PAN, Sa. toto 'to suck up'), Snd. sɨsɨp (L), NJv. səsəp, Mal. səsap, Mad. səpsəp 'to suck'.

*DaŋDaŋ, OJv. ḍaŋḍaŋ, NJv. ḍanḍaŋ (B), Mal. buroŋ dandaŋ, buroŋ dəndaŋ, Mad. ḍáŋḍáŋ 'crow'.

*maŋmaŋ, Snd. maŋmaŋ, NJv. maŋmaŋ[231] (D) (O), Mad. maŋmaŋ 'uncertain, to doubt'.

3. CONCLUSION

This study has been an attempt to contribute to a better knowledge of the past history of four important Austronesian languages, toward the reconstruction of their last proto-language, and also toward the reconstruction of the proto-language of highest order.

We have been able to reveal the patterns of the reflexes of PAN phonemes in PMJ and in its four daughter languages. The following tables recapitulate our results. These tables are intended to give a general overview of the correspondences between PAN and PMJ phonemes and their reflexes in the four languages. The tables contain the PAN phonemes as reconstructed by Dyen. The second column contains the PMJ phonemes, taking account of a number of mergers prior to this stage and a number of new proto-phonemes. The next five columns contain the main reflexes of these proto-phonemes in Sundanese, Old Javanese, New Javanese, Malay, and Madurese. Dialectal differences are not indicated. Furthermore, only the reflexes in initial, intervocalic, and final position are listed.

PAN PHONEMES, PMJ PHONEMES, AND
REFLEXES IN MALAYO-JAVANIC LANGUAGES

PAN	PMJ	Snd.	OJv.	NJv.	Mal.	Mad.
i	i	i	i	i é a/	i e a/	i è b/
u	u	u	u	u ó a/	u o a/	u ò b/
a	a	a	a	a ò c/	a	á a b/
ə	ə	ɨ i d/	ə ö u	ə u e/	ə a f/	ə á a g/
w_1-	w_1-	q-	w-	w-	h-	Ø
w_2-	w_2-	q-	ww-	w-	Ø	b-
-w-	-w-	-w-	-w-	-w-	-w-	-b-
-aw	-aw	-oq	-o	-o	-aw	-u -ò b/
-əw	-əw	-oq	-u	-u	-u	-u -ò b/
-iw	-iw -yu	-iq -yuq	-yu	-yu	-i -yu	-uy -ju
y- -y-	y- -y-	y- -y-	y- -y-	y- -y-	? -y-	j- -j-
-ay	-ay	-ay	-ay -e	-e	-ay	-áy -ay b/
-əy	-əy	-eq	-i	-i	-i	-i -è b/
-uy	-uy	-uy	-uy -i	-i	-i	-uy -òy b/
m	m	m	m	m	m	m

PAN	PMJ	Snd.	OJv.	NJv.	Mal.	Mad.
n N L	n	n	n	n	n	n
ñ- -ñ-	ñ	ñ n h/	ñ n h/	ñ n h/	ñ	ñ
ŋ	ŋ	ŋ	ŋ	ŋ	ŋ	ŋ
l	l	l	l	l	l	l
-j- -j	l̤	r	r	r	-d- -t	-l- -q
r R_3 R_4	r	r	r	r	r	r
s	s	s	s	s	s	s
d	d	d	d	d	d	dh- -dh- -t
z- -z-	j	j	j	j	j	jh
Z- -Z-	z	j	d	d	j	jh
g	g	g	g	g	g- -g- -q	gh- -gh- -k
c- -c-	c	c	c	c	c	c
p	p	p	p	p	p	p- -p- -q
t C	t	t	t	t	t	t- -t- -q
k	k	k	k	k- -k- -q	k- -k- -q	k- -k- -q
ṭ- -ṭ-	ṭ	t	ṭ	ṭ	t	ṭ
b	B- -B-	b- -w-	w	w	b	b
	b	b	b	b	b- -b- -p	bh- -bh- -p

PAN	PMJ	Snd.	OJv.	NJv.	Mal.	Mad.
ḍ	D- -D-	d- -r-	r	r	d	ḍ
	ḍ- -ḍ-	d	ḍ	ḍ	d	ḍh
R_2 R_1	R_1	y	ø	ø	r	r
	R_2	r	ø	ø	r	r
	R_3	ø	ø	ø	r	r
h_1-,h_2- h_3-,h_4- q_1-,q_2- S_4-	h	h	h	ø	(h)	ø
x_1-,x_2- X-, ?-	q	q	ø	ø	ø	ø
-h- $-S_1-$ $-S_2-$ $-S_3-$ nothing	hiatus i/	ø i/	ø	ø	ø	ø i/j/k/
-q- $-Q_1-$	h	h	h	h l/m/	h	ø j/k/
-h,-q $-Q_2$	h	h	h	h	h	ø
$-S_1$ $-S_2$ -X,-H -?	q	q	ø	ø	ø	ø

FOOTNOTES FOR TABLE

a/ In the final closed syllable.

b/ See section 1.8.3.1.

c/ Before pause.

d/ When followed by u.

e/ Before h.

f/ In the final syllable.

g/ Before q.

h/ Before i.

i/ q between identical vowels.

j/ w after u, o.

k/ y after i, e.

l/ w after u.

m/ y after i.

For many proto-phonemes the evidence seems undisputable. Some major problem areas, such as the origins of the Ṣundanese and Old Javanese pepets have been solved. We have been able to suggest corrections and disambiguations of some of Dempwolff's and/or Dyen's reconstructions.

Some major problem areas remain. It is interesting that the results of this study offer only slight support for the subgrouping of Malay with Madurese which was arrived at by the lexicostatistical method. The only phonological evidence that has appeared in support of such a subgrouping is the merger of *R and *r → r shared by Malay and Madurese. On the other hand, one might argue that the percentages of cognation between Malay and Madurese are inflated because possibly many of those Madurese words which are ambiguous as to whether they are inherited or borrowed are actually borrowings from Malay. Evidence against the subgrouping of Malay and Madurese is perhaps to be found in the morphology. The causative suffix is -kɨn in Sundanese and -kan in Malay. It is -akə̀n in Old Javanese, -aké (L) and -akə̀n (H) in New Javanese, and -aghi in standard Madurese, -aghə̀n in Kangean Madurese, and -akə̀n in Bawean Madurese. Furthermore, both Javanese and Madurese share an imperative locative suffix: OJv. -ana, NJv. -(n)ò̀nò̀, Mad. -áná ~ -ana. This suffix does not appear in Sundanese or Malay.

Other problem areas which remain are the appearance of both u and o and i and e in Malay non-final syllables for PMJ u and PMJ i respectively, and u, ó, ò̀, and i, é, è̀ in Javanese non-final syllables and ò̀ and è̀ in Javanese final syllables for PMJ u and PMJ i respectively. We have treated them as dialectal reflexes of single proto-

phonemes. In the case of Malay we had to resort to a hypothetical dialect; in the case of Javanese we were able to identify a dialect in which ó and é in non-final syllables apparently are the regular reflexes of PMJ u and PMJ i respectively.

Also problematic is the tentative reconstruction of $*R_1$, $*R_2$, and $*R_3$. The evidence presented here is not as solid as might be desirable, especially for the correspondence assigned to $*R_3$. The weakness in this reconstruction has already received comment.

It cannot be determined at this point whether PMJ double consonants or the distinction between PMJ B and PMJ b and the distinction between PMJ D and PMJ ḍ also appeared in earlier proto-languages or in the earliest proto-language. Many of the PMJ reconstructions which contain double consonants cannot be associated with PAN reconstructions made by Dempwolff and Dyen. The instances in which such an association can be made are the following: PMJ laŋŋit, p. 185; PMJ qassin, p. 185; PMJ Bassəh, p. 185; PMJ Bassuh, p. 185; PMJ qassah, p. 186; PMJ qassak, p. 186. The PAN reconstruction $*h_{13}aḍaŋ$ with which we associated the PMJ reconstruction *haḍḍaŋ can be regarded as weak because of the poor semantic fit of the eastern with the western form. This difference in meaning raises the possibility that the eastern form, despite its correspondences, may have been incorrectly associated with the western words. Furthermore, we have been able to show that in one instance a PMJ double consonant is from a PAN cluster of non-identical consonants, namely *-ls- (cf. *hassəm, p. 186). It is therefore not inconceivable that perhaps also other PMJ double consonants might be the reflexes of clusters of non-identical consonants that appeared in earlier proto-languages or in

the earliest proto-language.

In respect to the PMJ B/b and PMJ D/ḍ distinctions it appears that most PMJ reconstructions containing PMJ b or PMJ ḍ cannot be associated with PAN reconstructions. Furthermore in most of those instances in which such an association can be made, the PAN reconstructions are weak, because the meaning of the eastern words are different from those of the western words. In the following instances one might argue that the PMJ reconstructions containing *b and *ḍ can be associated with sound PAN correspondences: PMJ b: PMJ butbut, p. 198; PMJ rəbbah, p. 140; PMJ ləmbut, p. 141; PMJ bañəw, p. 88; PMJ balay, p. 90; PMJ ḍ: PMJ ḍapḍap, p. 198. The following PMJ reconstructions can only be associated with rather weak PAN reconstructions: PMJ b: PMJ bakal, p. 136; PMJ bəkkal, p. 137; PMJ buləd, p. 138; PMJ labur, p. 139; PMJ təbbuk, p. 140; PMJ kəmbaŋ, p. 140; PMJ tambaŋ, p. 141; PMJ kəbbaw, p. 85; PMJ ḍ: PMJ ḍampar, p. 153; PMJ tanḍaq, p. 156; PMJ [Dḍ]aḍaq, p. 157.

Furthermore a PMJ reconstruction containing *b or *ḍ can only in a few instances be associated with a sound PHN reconstruction: PMJ təbbas, p. 77; PMJ tambak, p. 141; PMJ baR$_1$ah, p. 137.

As for PWI, it is not impossible that the PMJ B/b and PMJ D/ḍ distinctions will have to be assigned to this level of reconstruction. A quick check through a Buginese dictionary revealed that the B/b distinction perhaps also appears in this West Indonesian language: e.g., Bug. were 'to give' (cf. PMJ BəR$_1$R$_1$əy, p. 126), Bug. wuta 'blind' (cf. PMJ Butaq, p. 130), but Bug. bakuŋ 'lily' (cf. PMJ bakuŋ), Bug. bata 'brick (cf. PMJ bataq, p. 137). However, this connection is not obvious, since in many instances Buginese exhibits

b for an anticipated w: e.g., Bug. batu 'stone' (cf. PMJ Batuq, p. 128). As for the D/ḍ distinction, evidence from Makassarese seems to indicate that this distinction is not limited to Malayo-Javanic languages: e.g., Mak. rauŋ 'leaf' (cf. PMJ Daun, p. 148), Mak. ruwa 'two' (cf. PMJ Duaq, p. 148), Mak. tanruq 'horn' (cf. PMJ tanDuk, p. 156), but Mak. dasereq 'floor' (cf. PMJ ḍasar, p. 153), Mak. daparaq 'anything that is used to stand or lie on such as wood or stone' (cf. PMJ ḍampar, p. 153).

We conclude that the distinction between *B and *b, and between *D and *ḍ must be reconstructed for PMJ. It is hardly conceivable that in all instances in which we have reconstructed *b and *ḍ, the Sundanese, Javanese, and Madurese forms could be explained as due to secondary developments. The evidence for the *B/b distinction seems better attested, since it is supported by Sundanese morphophonemics (see section 2.12.4.). It might be argued that these two distinctions did not appear in earlier proto-languages (except perhaps in PWI) or in the earliest proto-language, given the few instances in which a PMJ reconstruction containing *b or *ḍ is associable with sound reconstructions made for earlier proto-languages or the earliest proto-language. If, however, we should succeed in discovering that one of these distinctions can be assigned to an earlier proto-language, the chances of it being the *B/b distinction are better, since the evidence for *b is stronger than for *ḍ.

Although there is good reason to be cautious about the phonetics of proto-phonemes, one might attempt to put forth hypotheses as to the phonetics of those proto-phonemes whose reflexes show no or only very little phonetic variation. The proto-phonemes *p, *t, *ṭ, *c, and *k

probably were all voiceless stops, *p being bilabial, *t dental, *ṭ alveolar, *c palatal, and *k velar. PMJ l probably was a lateral, and PMJ r probably was an apical trill. The proto-phonemes *m, *n, *ñ, and *ŋ probably were bilabial, dental, palatal, and velar nasals, respectively. The phonetic values of what has been reconstructed as *b, *d, *ḍ, *j, and *g are more problematic. Their reflexes are voiced lenis stops in Sundanese and Malay; in Javanese their reflexes are voiceless stops not essentially different from the pronunciation of p, t, ṭ, c, and k, but the following vowel is murmured. The prenasalized phonemes mb, nd, nj, and ŋg, however, phonetically resemble Sundanese or Malay mb, nd, nj, and ŋg respectively; in Madurese their reflexes are "voiceless stops with indifferent tension followed by strong aspiration".(Stevens 1968:38) One might argue in a most tentative way that *b, *d, *ḍ, *j, and *g were the voiced aspirated counterparts to *p, *t, *ṭ, *c, and *k. Possibly *B and *D were voiced unaspirated sounds, since their reflexes in initial and postconsonantal position in Sundanese and Malay, in postconsonantal position in Javanese, and in initial, intervocalic and postconsonantal position in Madurese are voiced lenis stops.

We intend to continue the investigation of the historical relationships among the Malayo-Javanic languages. We also intend to extend our attention both to the other languages of the 'Javo-Sumatra Hesion' and to the languages of other West Indonesian subgroups. By doing so, we might be able to resolve some of the problems mentioned above.

FOOTNOTES

[1] A work on Lampung has just appeared: Walker, Dale F. 1973. A sketch of the Lampung language: the Pesisir dialect of Way lima. Unpublished Cornell University dissertation. This book became available to me only after the completion of my research for this work.

[2] These figures were obtained from Mr. I. Dyen in a personal communication. They are based on only one 200-word list per language and therefore differ from the figures which appear in Dyen 1965b, in which Dyen sometimes used more than one list per language in the calculation of the percentages of relationship.

[3] The 100-word list contains 92 items of Swadesh's 215-word list and 7 additional items; see Bergsland and Vogt.

[4] The 200-word lists for Sundanese, Javanese, Malay, and Madurese can be found in the appendix.

[5] I investigated the Sundanese language borders while doing field work in Indonesia during the academic year 1971-72.

[6] For a detailed account of Sundanese phonology, see Van Syoc.

[7] The phonemes c, j, and ñ are frontal stops. They are pronounced with the blade of the tongue touching the alveolar ridge. The phoneme q is the glottal stop.

[8] For a detailed account of Sundanese morphophonemics, see Van Syoc and Coolsma 1904. For an analysis of verbal forms, see Robins.

[9] This change has been made, since my own material shows that in this position w and y do not appear in the speech of my informants.

[10] This is the number given in Pigeaud 1967.

[11] For a detailed analysis, see Horne.

[12] The phonemes ṭ, ḍ, and nḍ are apical stops. They are pronounced with the tip of the tongue touching the alveolar ridge. The phonemes mb, nd, nḍ, nj, and ŋg are like the consonants b, d, ḍ, j, and g with nasal onsets.

[13] Sumukti, p. 5.

[14] For a detailed analysis, see Horne.

[15] This data is taken from Zoetmulder. For a more detailed analysis of Old Javanese morphophonemics, see the same work.

[16] This information is taken from Dyen (1945:17).

[17] For a more detailed analysis, see Dyen 1967.

[18] The phonemes bh, dh, ḍh, and jh are voiceless stops with indifferent tension followed by strong aspiration.

[19] For a detailed analysis of Madurese morphophonemics, see Stevens 1968.

[19a] Pigeaud's entries which are followed by the abbreviation gr (=grof) are considered to fall in this category.

[20] Kiliaan 1904 does not distinguish such a level.

[21] See the list in the appendix.

[22] With an inexplicable -gh- instead of anticipated -k̇-.

[23] See Ras (1970:429).

[24] Snd. waliraŋ 'sulphur' probably is a loan from Javanese. PMJ initial B regularly became Snd. b.

[25] Snd. waniq (L) 'brave' is treated as a loan from Javanese.

[26] Mad. ò̀ji 'to test silver or gold' probably is a borrowing from Javanese or Malay. The regular reflex of *-j- is Mad. jh (see section 2.9.2.).

[27] Mal. bəlira, bəlera 'weaver's sword' must be considered a loan, since the regular reflex of *-l̤- is Malay d (see section 2.8.6.).

[28] This word, if it is a loan from Javanese, presumably acquired this figurative meaning after it had been borrowed.

[29] For more examples, see the section on PMJ hiatus.

[30] See section 1.4.2.

[31] Tagalog exhibits a instead of an anticipated i.

[32] Dempwolff (1.86) wrongly assigned NJv. wò̀q to his *buuk. The occurrence of ò is treated by Dempwolff as an "unexplained exception".

[33] Tag. pulóq 'island' is considered not to be a reflex of Dempwolff's *pulaw.

[34] With inexplicable i for anticipated u [Dempwolff (2.155)].

[35] Malayo-Javanic evidence points to a reconstruction with *-əy rather than with *-ay as suggested by Dyen.

[36] This collection contains notes on Javanese dialects and can be found at the Universitas Indonesia, Jakarta. I was able to briefly page through these notes.

[37] The fact that NgD. exhibits u perhaps suggests that in the last proto-language which Ngaju-Dayak and PMJ continue the vowel was *u.

[38] See fn. 37.

[39] Mad. kòsòŋ 'empty, vacant' is marked as a borrowing from Malay in Kiliaan 1904.

[40] Mad. ròmbaq, rumbaq 'to tear down' are treated as loans. Mad. ròmbaq exhibits a instead of an anticipated á, and rumbaq exhibits u instead of an anticipated ò and a instead of an anticipated á (see the vowel alternation rule, section 1.8.3.1.). There is also a form ròmbáq 'to tear down' which could be interpreted as a borrowing under the hypothesis that the vowels ò and á were substituted for originally different vowels.

[41] For more examples, see the section on PMJ hiatus.

[42] OJv., NJv. tanah 'earth' are treated as loans from Malay. See fn. 48.

[43] The origin of the distinction between short and long pepet in Old Javanese orthography is perhaps best explained as having been formed on the analogy of the orthographic distinction between Old Javanese short and long i, u, and a. It is interesting to note that the traditional Sundanese writing system does not distinguish the two Sundanese phonemes ə and ɨ.

[44] For NJv. -w- as reflex of *-h-, see the section on *h.

[45] Mad. pòppò 'to beat' is treated as a loan from Javanese.

[46] Dyen (1953a:12) gives NJv. pèh as reflex. The word pèh, however, is not the continuation of OJv. p-əyŏh, p-ŏyəh, or p-uyuh, but of OJv. pyah 'groins, side'. NJv. pèh has the meaning 'water pipe through an opening on the side of a dam, the sides of the upper belly'.

[47] Snd. təwək 'to stab' is treated as a loan from Javanese.

[48] The reconstruction with final *-əh instead of Dempwolff's *-ah is based on evidence from Sundanese and Javanese and makes a reconsideration of the correspondences which Dempwolff assigned to his *-əh and *-ah necessary. Dempwolff assigned the following reflexes to his *-əh: Tag. -iq, TBt. -o, NgD. -ah, Mer. -i, Mal. -ah. Dempwolff was unable to suggest its Javanese, Fiji, and Samoan reflexes, since in the only reconstruction exhibiting final *-əh for which there is a cognate in these languages, the two vowels *a and *əcontracted in all three languages after the loss of *-R-.

The following reflexes were assigned to his *-ah: Tag. -aq, TBt. -a, NgD. -ah, Mer. -a, Mal., NJv. -ah, Fi., Sa., Fu., Sm. -a.

Dempwolff reconstructed five etyma with *-əh:

(1) *iə[h], Tag. qí:hiq, TBt. eo 'urine'.

(2) *baRəq, Tag. bá:gaq 'ulcer', TBt. baro, NJv. wòh, Mal. barah, NgD. baha, Mer. vai = bai, Fi. mbo, Sm. mata-fā 'ulcer, abscess'.

(3) *[t]abə[h], Tag. tabáq, TBt. tabo, Mer. tavi 'fat, well-tasting'.

(4) *[t]u(ŋ)kə[h], Tag. tuŋkíq 'limb, joint', TBt. tuho 'landmark', tukko 'stump of a tree', Mal. toŋkah 'plank used as a support on mud flats', NgD. tuŋkih 'chopped-off piece', Mer. tuhi 'union, combination'.

(5) *tanəh, TBt. tano, NgD. tanah, Mer. tani, Sa. ano 'earth, land'.

Besides *tanəh Dempwolff reconstructs a by-form with final *-ah:

(6) *tanah, NJv., Mal. tanah 'earth, land', NgD. tana 'field'.

Other examples of reconstructions with final *-ah are the following:

(7) *ləmah, Mal. ləmah 'weak', NgD. lă-lamah 'soft', Mer. lemi = leminə 'weakness', Sm. loma 'to decrease (of wind)'.

(8) *basah, Tag. basáq 'moistened', TBt. baso 'watery', NJv. basah 'dissolve, decay', Mal. basah, NgD. bisa, Fi. sava 'wet'.

Dempwolff explains the occurrence of Tag. aq as reflex of his *-əh in (2) and (3) as distant assimilations. He considers Mer. -i as reflex of his *-ah in (7) an unexplained exception. The same explanation is resorted to in the case of the appearance of TBt. -o as reflex of his *-ah in (8). Thus, Dempwolff has to refer to assimilations [in (2) and (3)] and unexplained exceptions [in (7) and (8)], and has to reconstruct a doublet [(5) and (6)] in order to account for the reflexes of his *-əh and *-ah. No reference to unexplained exceptions and no reconstruction of a doublet has to made, if we assign the following reflexes to *-əh: Tag. -aq, TBt. -o, NgD. -e, Snd. -ɨh, OJv. -əh, -öh, -uh, NJv. -oh, Mal. -ah, Mad. -a, Mer. -i, Fi., Sa. -o, Sm. -a (?). Tag. -iq in (1) can be explained as assimilation of the ultimate to the penultimate vowel. NgD. -a in (2) is explained as assimilation of the ultimate to the penultimate vowel. Reconstruction (4) can be ignored, since its reflexes are not or only marginally related in respect to their meanings. The two meanings that seem closest are the Tagalog and Merina ones. The Toba-Batak, Malay, and Ngaju-Dayak meanings are neither related among themselves nor to the Tagalog and Merina meanings. If we argue that the Tagalog and Merina meanings are in fact close enough to be considered cognate, then a reconstruction *[t]u(ŋ)kiq can be made. In respect to (5) and (6) we only reconstruct *tanəh. Under this hypothesis New Javanese and Ngaju-Dayak tanah are treated as loans, probably from Malay. NgD. tana is treated as the inherited word, exhibiting assimilation of the ultimate to the penultimate vowel. Reconstructions (7) and (8) are now reconstructed with *-əh. All reflexes are regular. NJv. basah 'dissolve, decay' is treated as a loan. It is not clear whether it is from Malay, since modern Malay basah does not have the meaning of the Javanese form.

If we now consider our reconstruction *pəR$_2$R$_2$əh which can be associated with Dempwolff's *pəRah, we see that TBt. -o in poro 'squeezed out' and NJv. ó in póh (D) 'squeezed out' are regular reflexes under the new hypothesis. Dempwolff had to refer to unexplained exceptions in both instances, since *-ah regularly became TBt. -a and *ə...a regularly contracted to NJv. ò after the loss of *R (cf. *təR$_2$R$_2$ab, p. 77).

Also in the case of a reconstruction made by Dyen (1953a:12) with *-aq a reconstruction with *-əh will resolve a hitherto unexplained exception. Dyen reconstructed *luhaq, Tag. lú:haq, Bisayan as recorded in Encarnacion loha, Hiligaynon Bisayan luhaq, NJv. lóh 'tear'. In a footnote, Dyen observes that the Javanese cognate has ó inexplicably for anticipated ò. However, if we reconstruct PHN luhəq the Javanese form is regular, since the sequence *uhə contracts to NJv. ó (the PMJ reconstruction is *luəh, p. 184).

[49] With an analogical d-.

[50] Map 3 in the appendix shows the dialectal distribution of the Sundanese forms for 'fat'.

[51] For an explanation of the citation of two forms, see the section on the 'Infixed nasal'. Mad. dhuk, əddhuk 'black sugar-palm fiber' is treated as a loan from Javanese, since *z regularly became Mad. jh.

[52] With ò for an anticipated ó.

[53] Snd. kəboq 'buffalo' is treated as a loan, probably from Javanese. The standard Sundanese word for this meaning is mundiŋ.

[54] Professor R. Hendon in a personal communication has suggested a different line of reconstruction. He posits the reconstruction *tamuəy on the basis of the comparison of TBt. tamue and NgD. tamuei with the Old Javanese and Madurese forms, since *-əy regularly became OJv. i and Mad. i or è (distributed according to the vowel alternation rule) [see section 2.7.2.4.2.]. OJv. tamuy regularly developed into NJv. tami. The origin of NJv. tamu is explained in the following way. The derivative *katamuyan perhaps became kətamuwan by assimilation of the y to the u. By back-formation a new stem tamu could have been formed on the analogy of forms such as kəlakuwan or kəsuciyan (whatever their origin). According to Hendon the Malay form tətamu 'guest' is perhaps a loan from Javanese and the inclusion of Mal. tamu 'to regale, feed up' is perhaps open to question.

[55] Snd. Bad. wayuq 'fermented drink' is treated as a loan, probably from Javanese.

[56] Map 4 in the appendix shows the dialectal distribution of the Sundanese forms for 'wood'.

[57] Snd. səmuq (L) 'appearance, exterior' is treated as a loan, probably from Javanese.

[58] Snd. baŋkeq 'corpse, carcass' is treated as a loan, probably from Javanese.

[59] Snd. buleq in mundiŋ buleq 'white buffalo' is treated as a loan, probably from Javanese.

[60] Snd. gadeq and Mad. ghá̤dhi(h) 'pawn, pledge' are treated as loans, probably from Javanese.

[61] Snd. gaweq (L) 'work' is treated as a loan, probably from Javanese.

[62] Snd. S.-B. laweq 'to yarn katuns' is treated as a loan, probably from Javanese.

[63] Snd. pakeq (L) 'to put on clothes' and Mad. pakè(h) are treated as loans, probably from Javanese.

[64] Snd. ranteq 'chain' is treated as a loan, probably from Javanese.

[65] Snd. saleq 'dried fruit, esp. dried banana' and Mad. salè 'dried banana' are treated as borrowings from Javanese.

[66] Mad. gárami 'kind of fish' is treated as a loan, probably from Javanese. The regular reflex of *g- is Mad. gh (see the section on PMJ g).

[67] Mad. pa̤di(h) 'rice' is treated as a loan, probably from Malay. The regular reflex of *-l̤- is Mad. l (see the section on PMJ l̤).

[68] Snd. kəndiq (L) 'water-goglet' is treated as a loan from Javanese or Malay.

[69] Snd. qapiq in taliq qapiq 'fuse, slow-match' probably is a borrowing from Javanese or Malay.

[70] Mad. api in bátò api 'flint' is treated as a borrowing from Malay.

[71] Mad. bá̤li(h) 'to return' is treated as a loan, probably from Javanese.

[72] Snd. suriq 'weaving-comb' is treated as a loan, probably from Javanese or Malay.

[73] Mad. B. tòlè(h) and Mad. B. P. S. dhuli (L) 'quickly, immediate; are treated as loans from Javanese.

[74] Snd. turiq 'kind of tree' is treated as a loan from Javanese or Malay.

[75] There is also a Sundanese form qamis 'sweet'. Possibly, this is a metathesized form with analogical loss of n-.

[76] For the final ŋ as reflex of *R, see section 2.14.4.2.

[77] Mal. initial ŋ in ŋilu 'nerve pain' is treated as a dialectal reflex.

[78] I. Dyen in a personal communication has pointed out that Peninsula Malay has ani-ani 'harvesting knife'. Presumably, this word is from the dialect in which *n before *i became n.

[79] Presumably, the ultimate vowel assimilated to the penultimate vowel before *ñn before *i became Snd. n.

[80] This form is considered to contain a prefix which changed the initial b to the corresponding nasal.

[81] With analogical loss of the initial ŋ.

[82] The Madurese evidence points to a reconstruction with final *l̩ rather than to a reconstruction with final *d. OJv. h-in-añut 'passive of 'had let float'', its New Javanese continuation añót 'to float' (this form only appears in Jansz), and NgD. hañut 'to float' under this hypothesis are treated as borrowings, probably from Malay.

[83] Of Dempwolff's languages only Toba Batak, Javanese, and Ngaju-Dayak have different reflexes for PAN -d (our *d) and PAN -j (our *l̩). In this instance a Toba Batak and Javanese cognate are lacking. Ngaju-Dayak shows a form with final t which is the regular reflex of *d. Javanese evidence, however, points to a reconstruction with PAN -j (= PMJ l̩), since the latter regularly became Javanese r, while PAN -d (= PMJ d) regularly became Javanese d (see the section on PMJ d). Final PAN j, however, regularly became NgD. r. NgD. bukit under this hypothesis must be suspected of being a borrowing, probably from Malay (for a discussion on the inherited reflexes of PAN phonemes in Ngaju-Dayak, see Dyen 1956).

[84] Mad. pòsər in pòsər bhumè 'center of earth' is treated as a loan from Javanese.

[85] The Madurese form points to a reconstruction with final *l̩, since final *d became Madurese t, and not q. Snd. laut 'sea, ocean' is treated as a loan from Malay.

[86] Malayo-Javanic evidence suggests a reconstruction with final *d rather than with final *t.

[87] Snd. daluaŋ and Mad. dhálubáŋ 'native paper' are treated as loans from Javanese.

[88] NJv. jlujór 'tack, bast' is treated as a loan, probably from Malay.

[89] Mad. èdhəp (H) 'eye-lash' is treated as a loan from Javanese.

[90] Snd. kidaŋ and Mad. kèddhá́ŋ 'barking deer' are treated as loans from Javanese.

[91] Snd. kiduŋ 'kind of prayer to keep evil spirits away' and Mal. kidoŋ 'chanting' perhaps are borrowings from Javanese.

[92] Snd. qondaŋ (L) 'to invite' is treated as a loan, probably from Javanese.

[93] Snd. kətəg 'heart-beat' is taken to be a loan from Javanese.

[94] Snd. gəlut 'to fight' is treated as a loan from Javanese or Malay.

[95] Snd. pəntil 'knob, fruit-bud' is treated as a loan, probably from Javanese.

[96] Snd. waliwis 'teal' is treated as a borrowing, probably from Javanese.

[97] Snd. waruŋ 'small shop' is treated as a loan, probably from Javanese.

[98] Snd. watəs 'border' is treated as a loan, probably from Javanese.

[99] Snd. warah 'to announce' is treated as a loan from Javanese.

[100] Snd. wəlas (H) 'pity, mercy' is treated as a loan from Javanese.

[101] Snd. bəlut 'eel' is treated as a loan, probably from Malay.

[102] Snd. wənaŋ 'what can or may be, but does not have to be; can, able, to have the power and right to' is treated as a borrowing from Javanese.

[103] Mad. bhərrá́s 'rice' is treated as a loan, probably from Malay.

[104] For a discussion of these forms, see p. 180f.

[105] Snd. wilah 'bamboo-lath' is treated as a loan, probably from Javanese.

[106] With an inexplicable -h.

[107] Mad. buŋò(h) 'kind of tree' is treated as a loan from Javanese.

[108] Mad. bakul 'basket' which exhibits irregular vowel reflexes is treated as a loan from Javanese or Malay.

[109] Snd. walaŋ 'grasshopper' is treated as a borrowing from Javanese.

[110] Fi. mbali-mbali 'be crazy' is treated by Dempwolff as a reflex of his *balik. However, it is probably better treated as a reflex of *baliw, since the Tagalog reflex of the latter (bá:liw) has the same meaning as the Fiji form.

[111] Snd. balәs, walәs 'requital' are treated as loans from Javanese.

[112] Mad. bhántèŋ 'to dash against, throw against' is treated as a loan, probably from Javanese or Malay.

[113] Snd. wayaŋ 'shadow' is a loan from Javanese.

[114] Snd. bәŋis and Mad. bhәŋŋès 'heartless' are treated as borrowings, probably from Javanese or Malay.

[115] Snd. wisik 'to whisper' is a borrowing, probably from Javanese.

[116] Dempwolff explains Mer. -ts- as a 'reduced nasal cluster' (see the section on the 'Infixed nasal').

[117] Snd. bibit 'seed, seedling', Mad. B. P. bibit 'to begin', and bhibhit 'seedling, to originate from' are treated as borrowings from Javanese.

[118] Snd. wa-waŋun-an 'building' is treated as a loan from Javanese.

[119] Snd. bәlaŋ, wәlaŋ 'spotted' are treated as loans, probably from Javanese.

[120] Mad. bhátәk 'to pull (out)' is treated as a loan from Javanese.

[121] OJv. wrat and its New Javanese continuation wrat (B) 'heavy' probably are borrowed from a dialect or language in which *B- became w and $*R_2$ became r.

[122] With penultimate a instead of anticipated i.

[123] Snd. ribut 'storm' probably is a borrowing from Malay.

[124] Snd. qobah 'to move' is treated as a loan, probably from Javanese.

[125] Mad. òbhá 'to change, alter' is treated as a loan from Javanese or Malay.

[126] Mad. tәbbhu(h) 'sugarcane' is treated as a borrowing from Javanese or Malay.

[127] Mad. tòbbhá(h) 'fish-poison' is treated as a loan from Javanese or Malay.

[128] Mad. rəbbhuŋ 'bamboo-shoot' is treated as a loan from Malay.

[129] With a weakening of the penultimate vowel.

[130] Snd. kəmbuŋ 'puffed up, swollen' probably is a loan from Javanese or Malay.

[131] Snd. bandəŋ 'kind of fish' probably is a borrowing from Javanese.

[132] Snd. bantər 'quick' is treated as a loan from Javanese.

[133] This PHN reconstruction does not appear in Dempwolff.

[134] Snd. bəkəl (L) 'provisions' is treated as a loan from Javanese.

[135] With assimilation of the ultimate vowel to the penultimate vowel.

[136] Snd. bənduŋ-an 'dam, dyke' is treated as a borrowing from Javanese.

[137] Evidence from Sundanese and Madurese supports a reconstruction with final *-əd rather than with final *-at. The Ngaju-Dayak form bulat 'round' probably is a borrowing from Malay, since PAN ə became NgD. e (see Dyen 1956).

[138] Snd. kəbas 'to flick, jerk away' probably is a loan from Javanese or Malay.

[139] With an analogical gh-.

[140] Mad. S. labur 'lime mixed with water' is treated as a loan from Javanese or Malay.

[141] Snd. rəbut 'to fight' is treated as a loan from Javanese.

[142] Mad. òbin, ubin 'flagstone' are treated as loans from Javanese or Malay.

[143] Snd. rəbah 'to fall' is treated as a loan from Javanese or Malay.

[144] Snd. kəmbar 'twins' is treated as a borrowing from Javanese.

[145] Snd. ləmbut 'soft, small' is treated as a borrowing from Javanese or Malay.

[146] Mad. bhábá 'territory under one's authority' is treated as a loan from Javanese.

147 Snd. bənaŋ 'thread' is treated as a loan from Javanese or Malay.

148 Snd. sambər 'to pounce to seize and carry off' is treated as a borrowing from Javanese.

149 Coolsma (1913:61).

150 Coolsma (1913:54).

151 Snd. raiq, ra-ray (L), and ra-rahi 'face' and Mad. raè(h), ra-raè(h) 'face' are treated as loans from Javanese.

151a NJv. ḍarah (D) 'blood' is treated as a loan from Malay.

152 With dissimilation of the initial consonant.

153 OJv. a-ḍarat 'on foot' and NJv. ḍarat-an 'land' are treated as loans, probably from Malay. Mad. ḍhárát, dhárát 'to walk' are probably loans from Javanese or Malay.

154 Snd. rataq, Mal. rata, and Mad. rata(h) 'flat' are treated as loans from Javanese.

155 Snd. ratuq, Mal. ratu, and Mad. ratò(h) 'prince, ruler, queen' are treated as borrowings from Javanese.

156 With an analogical -q.

157 Mad. rònròn 'foliage, leaves' is treated as a borrowing from Javanese.

158 Snd. rəŋuq 'disturbed' is treated as a borrowing from Javanese.

159 Snd. paroq (L) and Mad. parò(h) 'one half' are considered borrowings from NJv. pa-ró (L) 'one half'. The Old Javanese form is sa-pa-rwa 'the one half'.

160 See fn. 152.

161 OJv. ḍuri 'thorn' is treated as a borrowing from Malay.

162 With assimilation of the ultimate to the penultimate vowel.

163 Snd. (h)adəp (M) 'to be in front of' is treated as a loan, probably from Javanese.

164 Mad. aḍhəp 'facing towards' is treated as a loan, probably from Javanese or Malay.

165 Snd. badak 'rhinoceros' is treated as a loan from Malay or from Javanese. Mad. bárák 'rhinoceros' is treated as a loan from Javanese.

[166] Snd. wuriq-wuriq 'lately' is treated as a loan from Javanese.

[167] Mal. murah 'cheap' is treated as a loan, probably from Javanese. For a similar treatment, see Dyen (1953a:16, fn. 73).

[168] For the final ŋ as reflex of *R, see section 2.14.4.2.

[169] Snd. kəndor 'slack, slow' is treated as a loan from Malay.

[170] This form could have acquired its final ó as the result of an 'analogical wrong division'. NJv. kəndó under this hypothesis replaced an older form kəndu (O) because the latter is in the same relationship to a suffixed form such as NJv. kəndòni 'to be loosened' as NJv. tinjó (D) (O) 'to go visit' is to tinjòni (D) (O) 'to be visited'.

[171] The preconsonantal nasal probably was *n and not *ŋ as Dyen reconstructs. Preconsonantal *ŋ appears as ŋ in Sundanese, see section 2.8.4.3.

[172] Snd. pəndəm 'to bury' is treated as a loan from Javanese.

[173] With an analogical bh-.

[174] NJv. sə-sindir-an (D) 'erotic song with allusions' is treated as a loan, probably from Malay.

[175] Snd. tindəs 'to crack a flea or louse on the finger-nail' is treated as a loan from Javanese.

[176] Snd. dəmpul 'a composition used for caulking boats' is treated as a loan from Javanese or Malay.

[177] Mad. B. P. gudaŋ and Mad. S. P. gudáŋ 'warehouse' are treated as borrowings from Javanese or Malay.

[178] Mad. kòduŋ 'to wear over one's head' is treated as a loan from Javanese or Malay.

[179] Snd. pədaŋ 'sword' is treated as a loan from Javanese or Malay.

[180] Snd. sədəŋ 'intermediate' is treated as a loan from Javanese.

[181] Snd. sədəp 'tasty' is treated as a loan from Javanese.

[182] Snd. Bog. and Cian. sədih 'sad' are treated as loans from Javanese or Malay.

[183] With an analogical gh-.

[184] Mad. ḍáḍá(h) 'breast, chest' is treated as a loan from Javanese or Malay.

[185] Mad. ḍuyuŋ 'sea-cow' is treated as a loan from Javanese or Malay.

[186] Mad. B. góṇḍól, ghóṇḍól, S. P. ghuṇḍhul 'bare, bald' are treated as borrowings from Javanese.

[187] Mad. B. góṇḍél, ghóṇḍél, P. ghuṇḍil, S. ghuṇḍhil 'without or with only few feathers, bald' are treated as loans from Javanese.

[188] With assimilation of the *l to the final $*R_l$.

[189] NJv. barah 'ulcery skin-disease' is treated as a loan from Malay.

[190] With an analogical -q.

[191] With a doubling of the initial semivowel. The second member of the Old Javanese double consonant contracts with the following vowel to New Javanese ò.

[192] Snd. qotot 'marrow' must be considered a borrowing, perhaps from Javanese.

[193] This form probably is a Pampangan loan.

[194] See fn. 193.

[195] The level of reconstruction of this form is dubious, since the meaning of the Fiji form is quite different from that of the Western forms.

[196] The spelling with ə must be considered a scribal corruption for an etymologically correct u.

[197] Mad. òsòk 'rafter' is treated as a loan from Javanese.

[198] Mad. adós 'to take a bath after intercourse' is treated as a loan from Javanese.

[199] Snd. təlur (VL) 'scrotum' possibly is a loan from Malay.

[199a] Mad. B. òma in saòma 'household' is treated as a loan from Javanese.

[200] For a review of how Dempwolff's reconstructions compare to Dyen's, see Dyen 1953a and Dyen 1971.

[201] Snd. qaes 'embellishment' is treated as a loan from Javanese. So is Snd. paesan 'grave-stone'.

[202] Mad. S. P. paèsan and Mad. B. maèsan 'grave-stone' are treated as loans from Javanese.

[203] With an inexplicable n.

[204] Mad. yaŋ in ka-yaŋ-an 'home of the gods' is treated as a loan from Malay kə-yaŋ-an 'home of the gods'.

[205] Snd. yaŋ 'god' is treated as a loan from Malay.

[206] NJv. yaŋ (B) is treated as a loan from Malay.

[207] For a dialect map of the Sundanese words for 'sour', see map 5 in the appendix.

[208] For a dialect map of the Sundanese words for 'smoke', see map 6 in the appendix.

[209] Dyen 1953a has *qayun.

[210] For a dialect map of the Sundanese words for 'year', see map 7 in the appendix.

[211] Mad. bájá(h) 'crocodile' is treated as a loan from Javanese.

[212] For a dialect-map, see map 8 in the appendix.

[213] For a hypothesis in respect to this Javanese form, see Dyen (1953a:11, fn. 27).

[214] PMJ exhibits metathesis of the first two segments.

[215] Evidence from Malayo-Javanic languages shows that in this instance Dempwolff's criterion languages were not sufficient to distinguish between a simple vowel and a sequence of two vowels.

[216] Snd. qarum 'fragrant' is treated as a loan from Javanese.

[217] OJv. kahin and its New Javanese continuation kaén (D) 'cloth' are treated as loans, probably from Malay.

[218] Snd. qalon 'slow' is treated as a loan from Javanese.

[219] With an analogical n-.

[220] See fn. 219.

[221] NJv. laén (D) 'different' is treated as a loan, probably from Malay.

[222] NJv. tuwaq 'palm-wine' is treated as a loan, probably from Malay.

[223] See fn. 48.

[224] The deviant meaning of this form may be due to a semantic merger with OJv. wasuh 'to wash' from *Bassuh (see the next entry). The merger may have been caused by the phonetic (wasəh versus wasuh) and semantic ('wet' versus 'to wash') similarity of the two items. For NJv. basah, see fn. 48.

[225] Snd. wasuh (H) 'to wash' is treated as a loan, probably from Javanese.

[226] Snd. qasəm 'tamarind' is treated as a loan from Javanese.

[227] For the two Old Javanese spellings, see section 2.6.4.3.

[228] It seems likely that the final q can be explained to be of secondary origin.

[229] With an inexplicable o.

[230] Snd. sisik 'scale of a fish' is treated as a loan from Javanese or Malay.

[231] NJv. mamaŋ (O) 'uncertain' must be regarded as a reduplicated monosyllable.

APPENDIX I

THE 200-WORD LISTS

English	Sundanese	Javanese	Malay	Madurese
all	kabeh	kabèh	semua	kabbhi
and	jɨŋ	lan	dan	bán, kalabán
animal	binataŋ	kéwan	binataŋ	hèwan, bhurun alas
ashes	ləbuq	awu	abu	lòlòŋ
at	diq	nòŋ	di	è
back	tukaŋ, toŋgoŋ	gəgər	bəlakaŋ	abáli
bad	goreŋ	èlèq	jahat, buroq	jhubáq
bark	kulit kaiq	kulét	kulet	kòlèq (na kaju)
because	kusabab	jalaran, səbab	səbap, kərana	sabáb
belly	bɨtɨŋ	wətaŋ	pərot	tabuq
big	gədeq	gədé	bəsar	rajá
bird	manuk	manóq	buroŋ	manòq
bite	ŋegel	còkòt	giget	ŋèkkèq
black	hidɨŋ	irəŋ	hitam	cèllaŋ
blood	gətih	gətéh	darah	ḍárá
blow	niup	səból	bərtiop	ñarèpò
bone	tulaŋ	balóŋ	tulaŋ	tòlaŋ
breathe	ŋanapas	ambəkan	bərnapas	añabá
burn	mɨlɨm	kòbòŋ	məñala, bərñala	ñòlət, ñomət
child	budak	anaq	budaq	anaq, naq-anaq

English	Sundanese	Javanese	Malay	Madurese
cloud	megaq	mégò	awan	mègghá
cold	tiris, tiqis	aḍəm	səjoq	cèllәp
come	dataŋ	təkò	dataŋ	ḍátəŋ
count	ŋituŋ	ŋitóŋ	bilaŋ	mètòŋ
cut	ŋɨrɨt	ŋirés	potoŋ	ŋərraq, ñèksèk
day	bɨraŋ	awan	siaŋ	arè
die	maot	mati	mati	matè
dig	ŋaliq	ŋəḍòq	məŋgali	ŋalè
dirty	kotor	rəgəd	kotor	kòtòr
dog	qanjiŋ	asu	anjeŋ	patèq
drink	ŋinum	ŋómbé	minom	ŋènòm
dry	gariŋ	garéŋ	kəreŋ	kərrèŋ
dull	mintul	kətól	tumpol	tòmpòl
dust	kəkəbul	bələdóg	aboq	abu
ear	cɨliq	kupéŋ	təliŋa	kòpèŋ
earth	tanɨh	ləmah	tanah	tana
eat	dahar	maŋan	makan	ŋakan
egg	qəndog	ənḍòg	təlor	təllòr
eye	mataq, panon	mòtò	mata	mataq
fall	ragrag	tibò	jatoh	ghágghár
far	jauh	adòh	jaoh	jháu
fat	gajih	gajéh	ləmaq	ghájhi
father	bapaq	bapaq	bapaq	əmmaq, əppaq
fear	sɨɨn	wədi	takot	takòq

English	Sundanese	Javanese	Malay	Madurese
feather	buluq	wulu	bulu	bulu
few	saɨtik	siṭéq, sətitéq	sədiket	sakònèq
fight	gəlut	gəlót	bərkəlahi, bərtumboq	atòkar
fire	sɨnɨq	gəni	api	apòy
fish	lauk	iwaq	ikan	jhukòq
five	limaq	limò	lima	lèmaq
float	ŋambaŋ	kəmambaŋ	bərapoŋ	ŋambáŋ
flow	ŋalir	mili	məŋaler	aghili
flower	kəmbaŋ	kəmbaŋ	buŋa	kəmbháŋ
fly	hibər, ŋapuŋ	mabór	tərbaŋ	ŋabbhər
fog	kabut	pəḍót	kabot	əmbun
foot	sukuq	sikél	kaki	sòkò
four	qopat	papat	əmpat	əmpaq
fruit	buah	woh, wohwohan	buah	buwá, wáq-buwáqán
give	mereq	wèi	kasi	abərriq
good	qalus	apéq	bagos, baeq	bághus
grass	jukut	sukət	rumpot	rəbbhá
green	hejoq	ijó	hijaw	bhiru
guts		jəróan	pərot panjaŋ	pərròq
hair	buquk	rambót	rambot	òbuq
hand	lɨŋɨn	taŋan	taŋan	tanaŋ
he	manehna	ḍèwèqé	dia	abáqna
head	huluq, sirah	sirah	kəpala	cèṭak

English	Sundanese	Javanese	Malay	Madurese
hear	ŋadeŋeq	kərunu	dəŋar	ŋèḍiŋ
heart	hateq	jantóŋ	jantoŋ	atè
heavy	bɨrat	abòt	bərat	bərráq
here	didiɨq	kéné	sini	èḍinnaq
hit	nɨŋgɨl	ṭòṭòq	kəna, pukol	nəpadhi
hold	ñəkəl	gəgəm	pəgaŋ	nəgghuq
how	kumahaq	kəpəriyé	bagaimana, macam mana	ḍáqráma
hunt	moroq	mbəḍél	məmburu	abhuru
husband	salakiq	bójó	laki	lakè
I	dewek	aku	aku	sèŋkòq
if	lamun	yèn	kalaw	mòn, kalamòn
in	diq	nòŋ, jəró	dalam	èḍáləm
kill	maehan	matèni	bunoh	matèqè
know	ñahoq	ŋərti	tau	taò
lake	situq	təlògò	taseq	talaghá
laugh	sɨriq	ŋguyu	kətawa	aghəlláq
leaf	daun	gòḍòŋ	daon	ḍáun
left	kencaq	kiwò	kiri	kacèr
leg	bitis	sikél	kaki	sòkò
lie	ñaŋgigir	turòn	bareŋ	
live	hirup	urép	hidop	òḍiq
liver	bayah	ati	hati	atè
long	panjaŋ	dòwò	panjaŋ	jháu
louse	kutuq	liŋsò	kutu	kòtò

English	Sundanese	Javanese	Malay	Madurese
man	lalakiq	lanaŋ	oraŋ lakilaki	òrèŋ lakèq
many	lobaq	akèh	bañaq	báññaq
meat	dagiŋ	dagéŋ	dageŋ	dhághiŋ
mother	qinduŋ	ibu	maq	əmbuq, èbhu
mountain	gunuŋ	gunóŋ	gunoŋ	ghunòŋ
mouth	suŋut	caŋkəm	mulot	còlòq
name	ŋaran	jənəŋ	nama	ñama
narrow	hɨrɨt	ciyót	səmpet	còpèq
near	dɨkɨt	cəḍaq	dəkat	səmmaq
neck	punduk	gulu	leher	lèqèr
new	qañar	añar	baru	añar
night	pɨtiŋ	bəŋi, wəŋi	malam	maləm
nose	qiruŋ	iróŋ	hidoŋ	èlòŋ
not	həntɨq	óra	tidaq	ənjáq
old	kolot	tuwò	tua	tòwa
one	hijiq	siji	satu	sèttòŋ
other	lain	liyané	laen	laèn
person	jalmaq	wòŋ	oraŋ	orèŋ
play	qulin	dólanan	maen	amaèn
pull	narik	taréq	tareq	narèq
push	suruŋ	suróŋ	tolaq	ñòṭòk
rain	hujan	udan	hujan	òjhán
red	bɨrɨm	abaŋ	merah	mèra
right (correct)	bənər	bənər	bətol	bhənḍər

English	Sundanese	Javanese	Malay	Madurese
right (hand)	katuhu	təŋən	kanan	kaŋan
river	waluŋan	kali	suŋay	sòŋay
road	jalan	dalan	jalan	lòròŋ
root	qakar	òyòd	akar	ramòq
rope	taliq	tali	tali	tampar, talè
rotten	bobrok	bòsòq	lapoq, buroq	buccòq
rub	ŋagosok	ŋgòsòq	gosoq	kòsòk
salt	quyah	uyah	garam	bujá
sand	pasir	wəḍi	paser	bəḍḍhi
say	ñaritaq	kònḍò	kata	ŋòcaq
scratch	ŋagaroq	ŋgaróq	garu, garoqgaroq	agháru
sea	laut	ʂəgòrò	laot	tasèq
see	nenjoq	ndəlòq	teŋoq, nampaq	ŋanèla
seed	binih	binéh	bəneh	bighi
sew	ŋaput	ndòndòm	jaet	ajháiq
sharp	sɨkɨt	landəp	tajam	tajhəm
short	pondok	cənḍaq	pendeq	pènḍáq
sing	təmbaŋ	nəmbaŋ	məñañi	ŋèjhuŋ
sit	diuk	luŋgóh	dudoq	tajuq
skin	kulit	kulét	kulet	kòlèq
sky	laŋit	laŋét	laŋet	laŋŋèq
sleep	heqes, sareq	turu	tidor	tèḍuŋ
small	lɨtik	cilé́q	kəcel	kènèq

English	Sundanese	Javanese	Malay	Madurese
smell	sɨŋit	mambu	məmbau	abáu
smoke	hasɨp	kəból	asap	kòkòs
smooth	ləməs	alós	licen, halos	alòs
snake	qoray	ulò	ular	òlar
some	qayaq qogeq	salah siɟinéŋ	sədiket	pan-bárámpan
spit	ñiduh	idu	məludah	acòpa
split	ŋabɨlah	bəlah	bəlah	ñèbáq
squeeze	mariɨt	pərəs	picet	ŋèpèq
stab	nojos	jòjòh	tikam	ñòcò
stand	naŋtuŋ	ŋadəg	bərdiri	manjhəŋ
star	bentaŋ	lintaŋ	bintaŋ	bintaŋ
stick	qitɨk	kayu	kayu	kaju
stone	batuq	watu	batu	bátò
straight	ləmpəŋ	jəjəg	luros	lòròs
suck	ŋəñot	səròt	məŋisap	ŋəññòt
sun	panon poeq	srəŋéŋé	matahari	arè, mata arè
swell	nambahan, ŋalobaqan	mələmbóŋ	kəmbaŋ, bəŋkaq (of skin)	bárá
swim	ŋojay	ŋəlaŋi	bərnaŋ	alaŋŋòy
tail	buntut	buntót	ekor	buntòq
that	qetaq, qituq	kaé	itu	aròwa, kaqissa
there	dikituq	iku, kónó, kònò	situ, sana	èḍissa
they	maranehananaq	ḍèwèqé kabèh	dia, məreka	

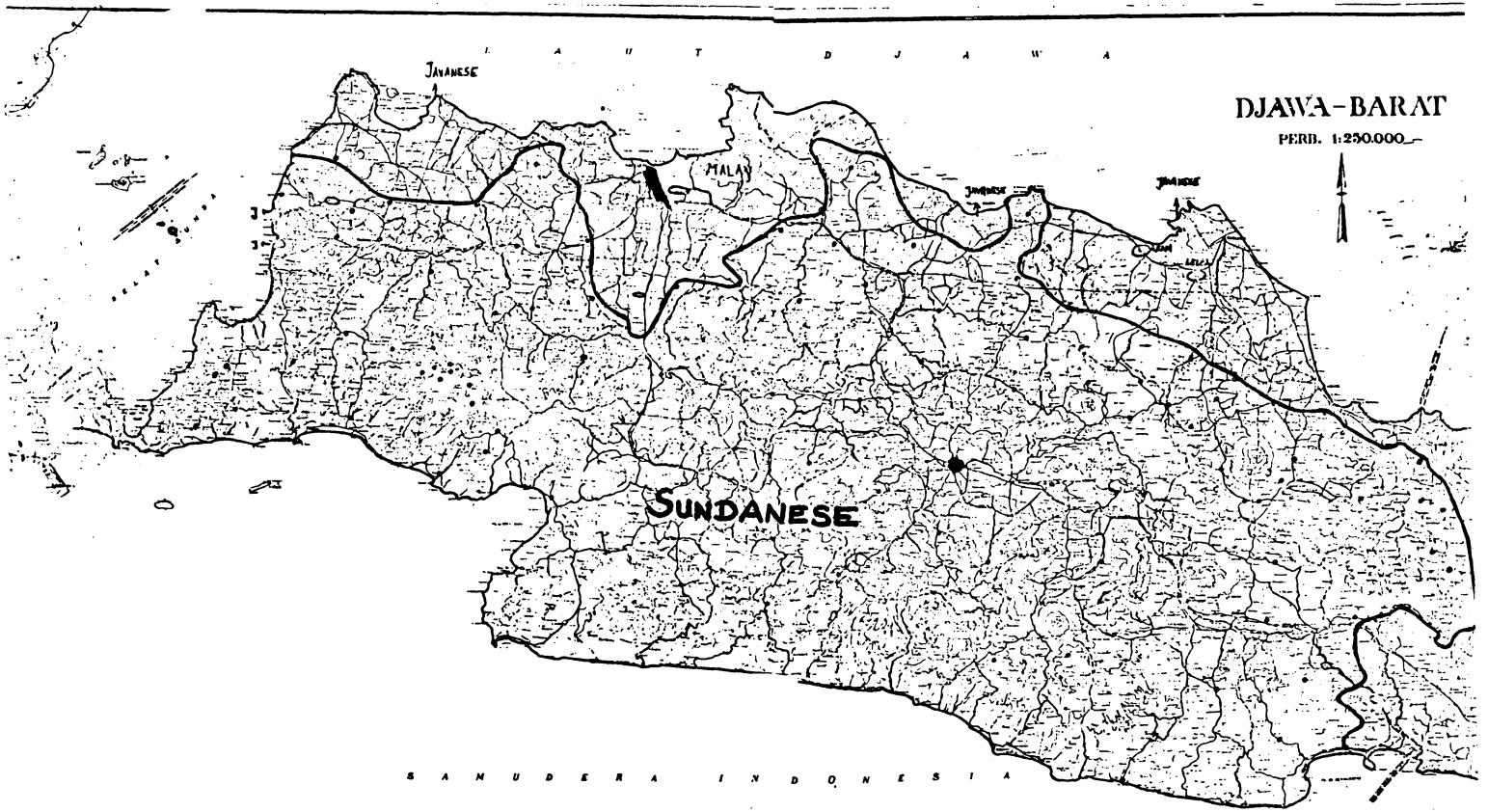
English	Sundanese	Javanese	Malay	Madurese
thick	kandəl	kandəl	təbal	təbbəl
thin	qipis	tipés	nipes	tèpès
think	mikir	pikér	piker	mèkkèr
this	qiɨq	iki	ini	rèya, arèya
thou	qanjɨn	kówé	əŋkaw	báqna
three	tiluq	təlu	tiga	təllòq
throw	ŋaluŋ	mbalaŋ	buaŋ, məlemparkan	ŋòtèppaghi
tie	nalikɨn	ikət	ikat	nalèqè
tongue	letah	ilat	lidah	jhilá
tooth	huntuq	untu	gigi	ghighi
tree	taŋkal	uwét	pokoq	kaju
turn	robah	méŋgòq	beloq	mòtər
two	duaq	lóró	dua	ḍuwáq
vomit	qutah	mutah	muntah	ŋòta
walk	jalan	məlaku	bərjalan	ajhálán
warm	panas	panas	panas	panas
wash	sɨsɨh	ŋumbah	cuci	abaccò
water	caiq	bañu	aer	aèŋ
we	quraŋ sarereaq	aku kabèh	kita, kami	sèŋkòq kabbhi
wet	basɨh	tələs	basah	bácca
what?	naon	òpò	apa	apa
when?	qirahaq	kapan	bila	bilá
where?	dimanaq	əndi	mana	èḍimma
white	bodas	puteh	puteh	pòtè

English	Sundanese	Javanese	Malay	Madurese
who?	sahaq	sòpò	siapa	sapa
wide	lebar	òmbò	lebar	lèbár
wife	pamajikan	bójó	bini	binè
wind	qaŋin	aŋén	aŋen	aŋèn
wing	jaŋjaŋ	səwiwi	sayap, kəpaq	báŋbáŋ
wipe	ñapuq	sapu	sapu	kòsòk
with	jɨŋ	karó	dəŋan	bán
woman	qaweweq	wédòq	pərəmpuan	binèq
woods	lɨwɨŋ	alas	hutan	alas
worm	caciŋ	cacéŋ	caceŋ	cacèŋ
ye	qanjɨn	kówé kabèh	əŋkaw	báqna kabbhi
year	taun	taón	taon	taòn
yellow	koneŋ	kunéŋ	kuneŋ	kònèŋ

NOTE: Words for the meanings 'freeze', 'ice', and 'snow' were not elicited.

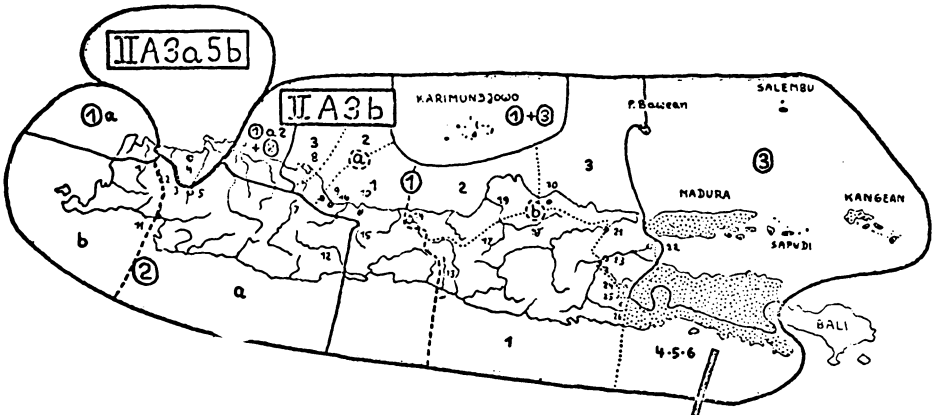
APPENDIX II

MAPS


DJAWA-BARAT
PERB. 1:250.000
JAVANESE
MALAY
SUNDANESE
L A U T D J A W A
S A M U D E R A I N D O N E S I A

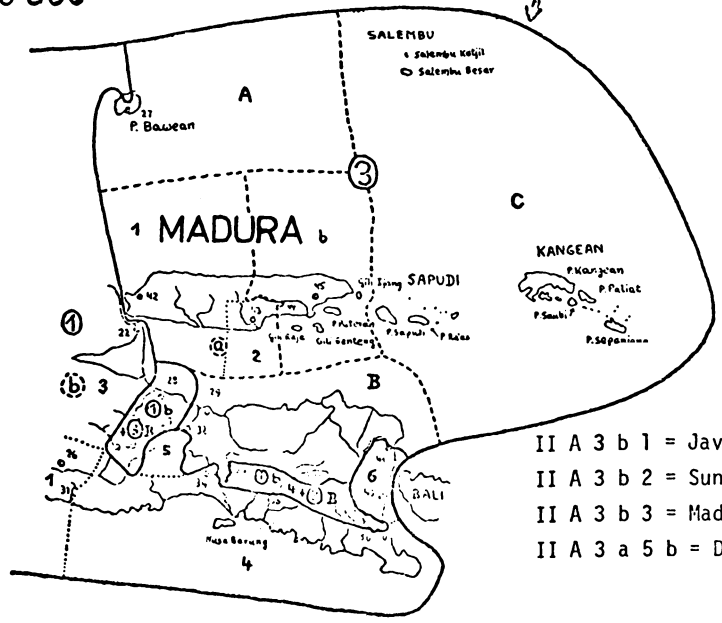
-17- JAVA

1:8 000 000



OST-JAVA

1:4 000 000



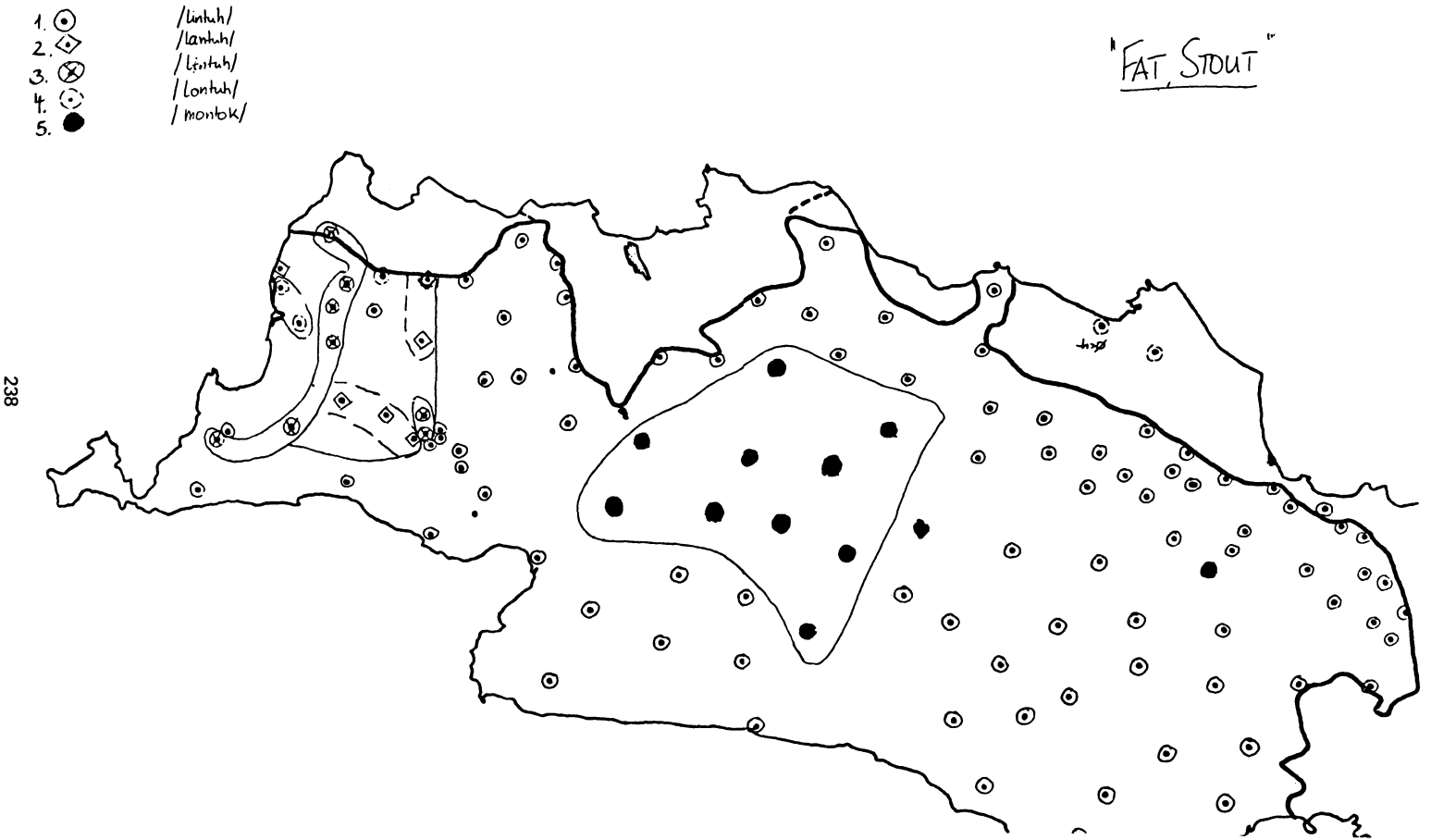
II A 3 b 1 = Javanese

II A 3 b 2 = Sundanese

II A 3 b 3 = Madurese

II A 3 a 5 b = Djakarta Malay

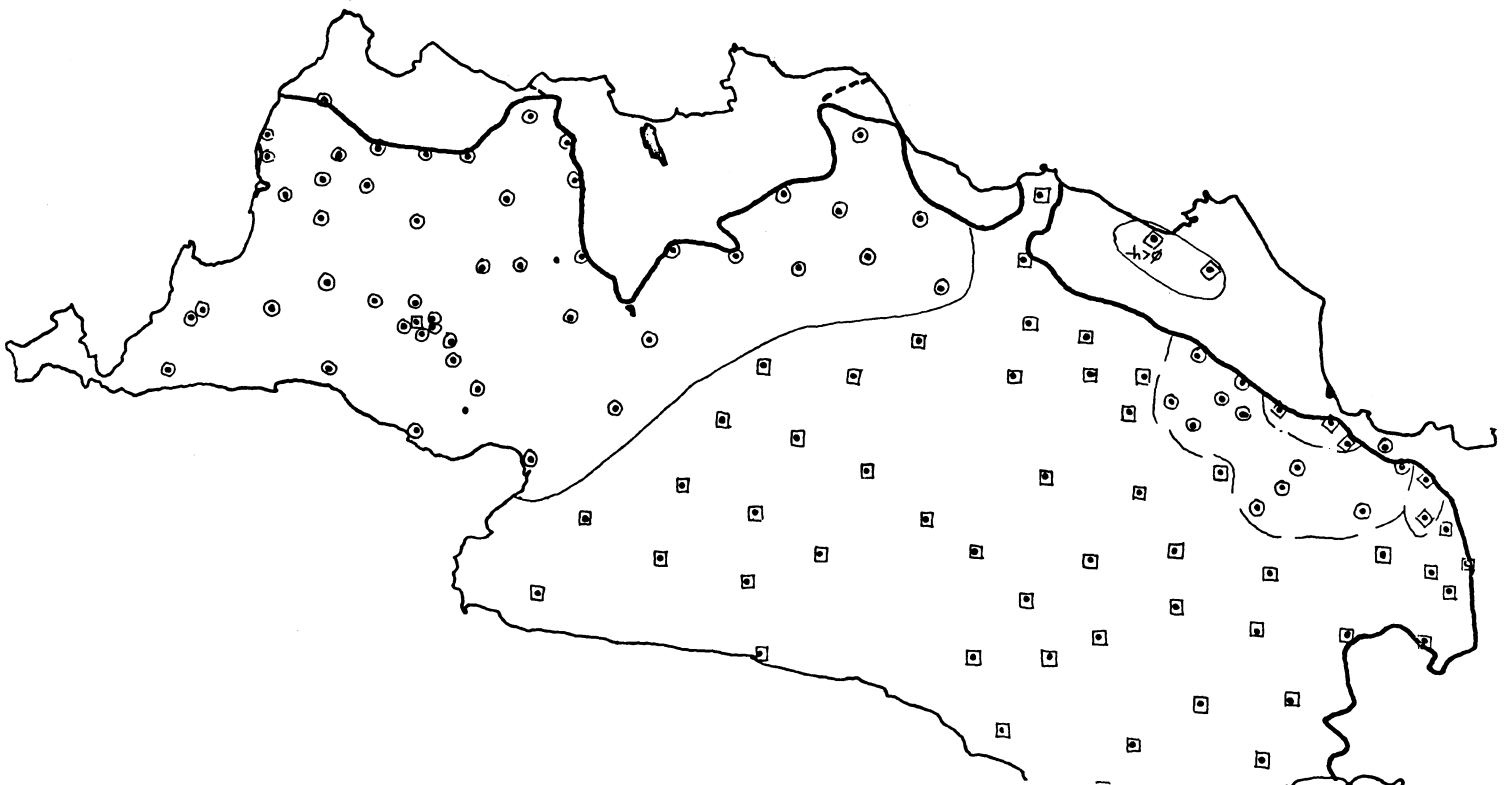
R5


1. /lintuh/
2. /lantuh/
3. /lintuh/
4. /lontuh/
5. /montok/
"FAT, STOUT"

MAP 4

"WOOD"

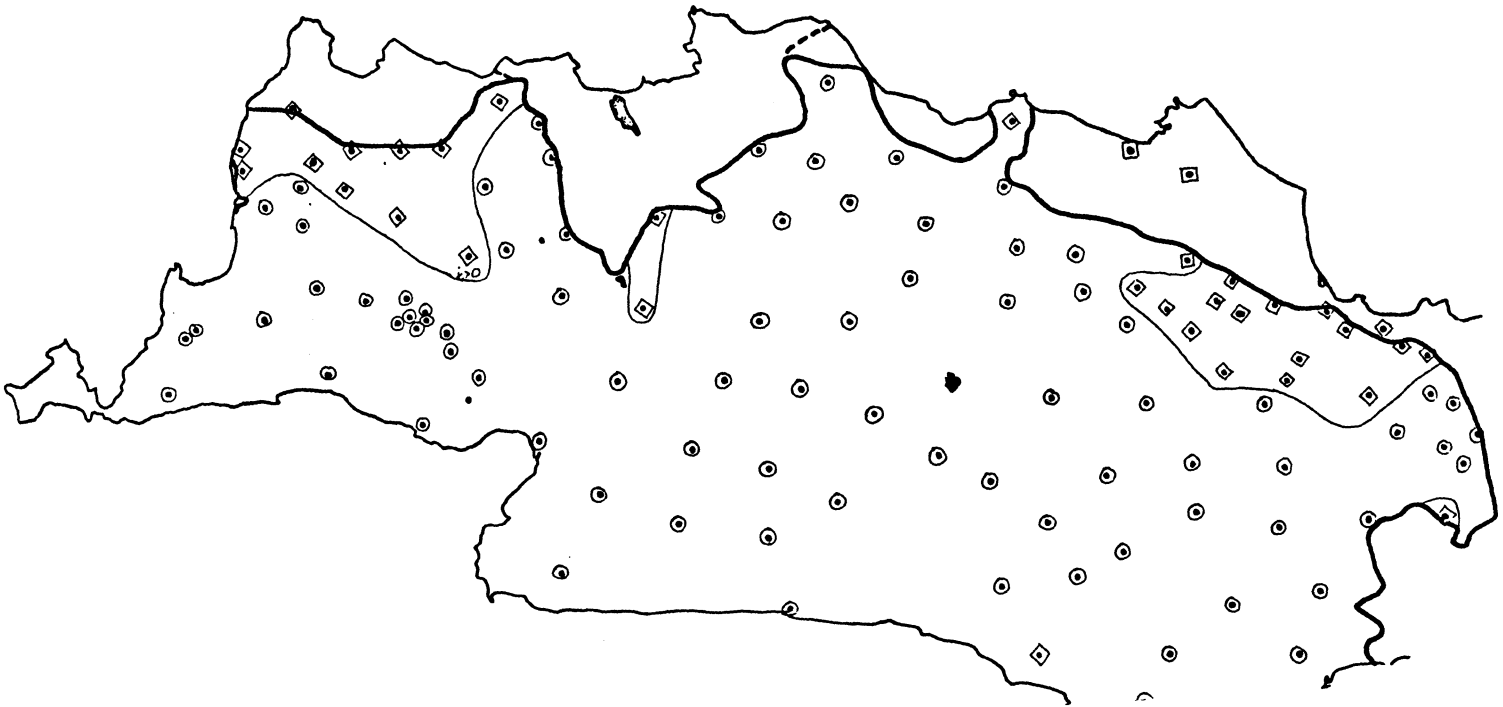
1. /kayu/
2. /suluh/
3. /kai/



MAP 5

"SOUR"

1. /hasim/
2. /asim/
3. /kəcut/

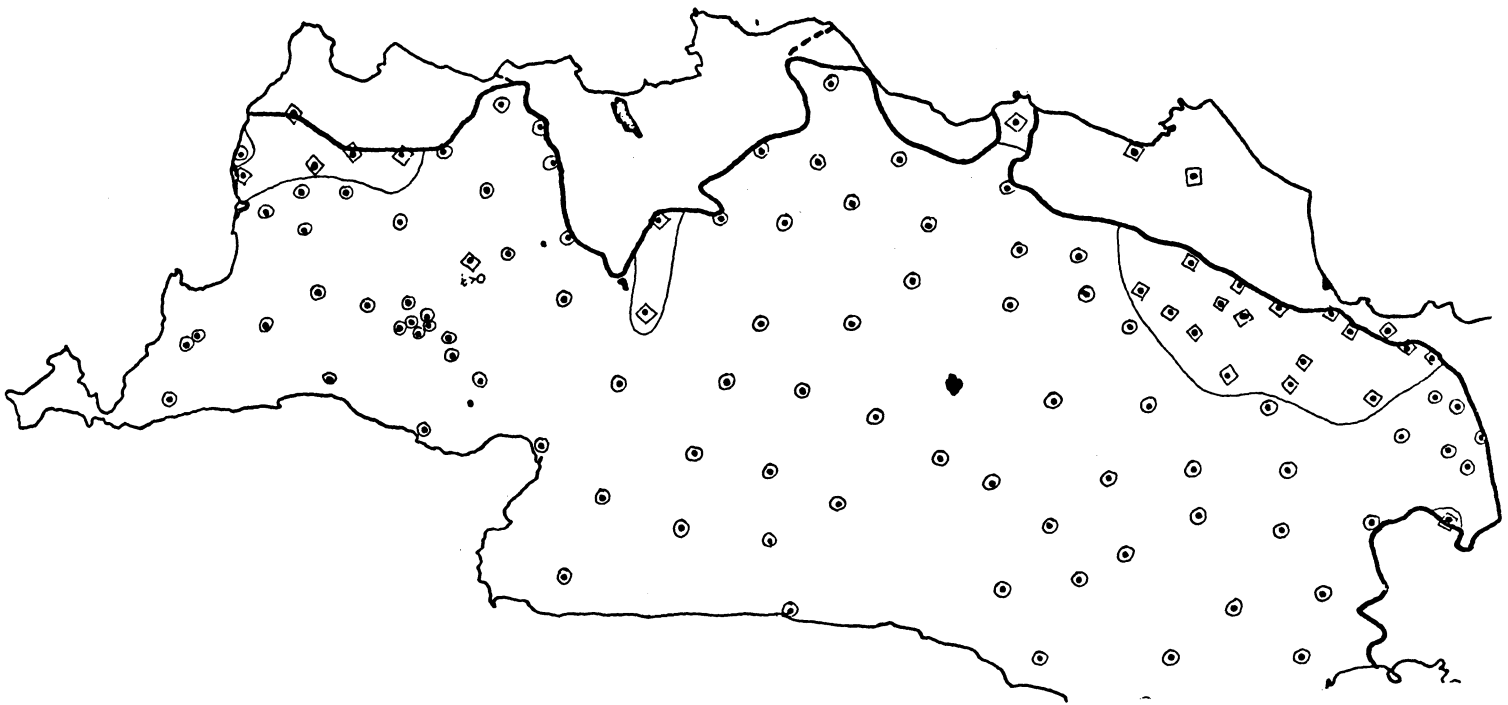


MAP 6

"SMOKE"

1. ⊙
2. ◇
3. ⊡

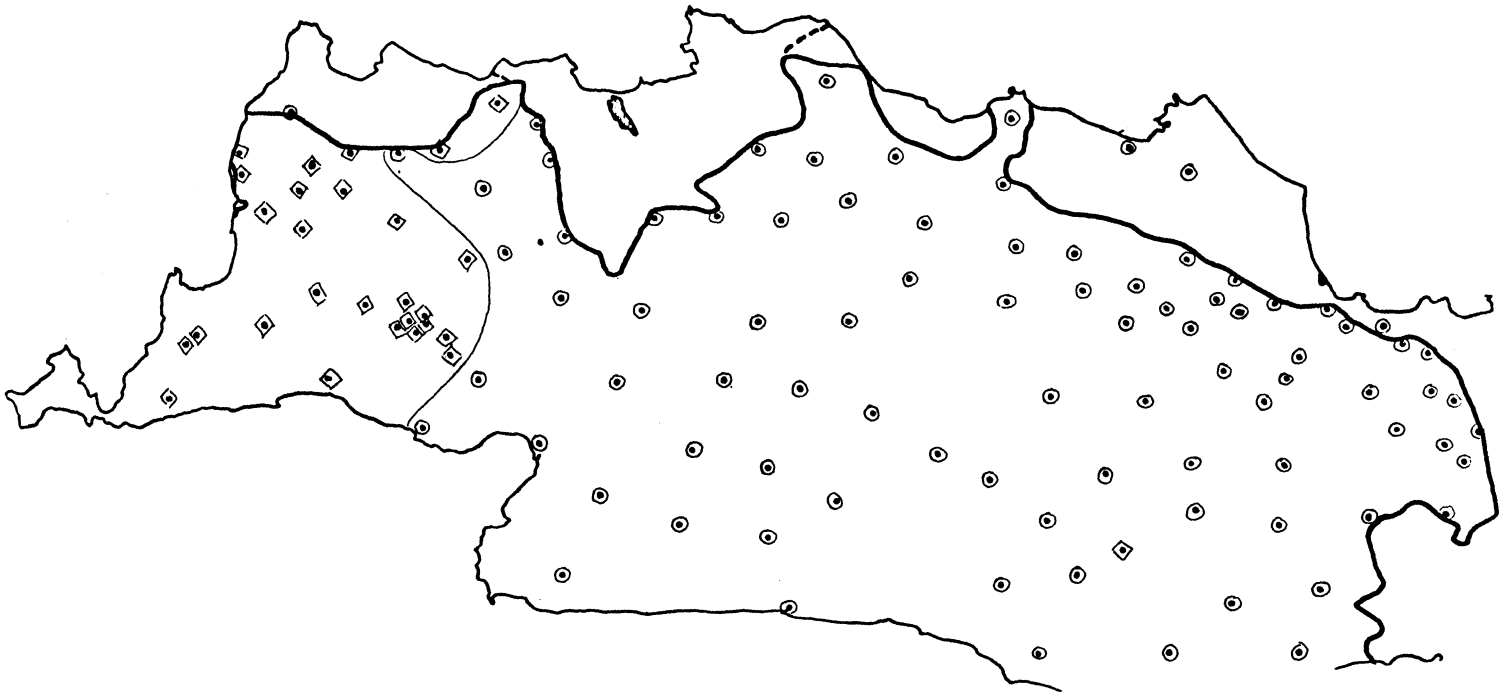
/hasip/
/asip/
/kabul/



MAP 7

"YEAR"

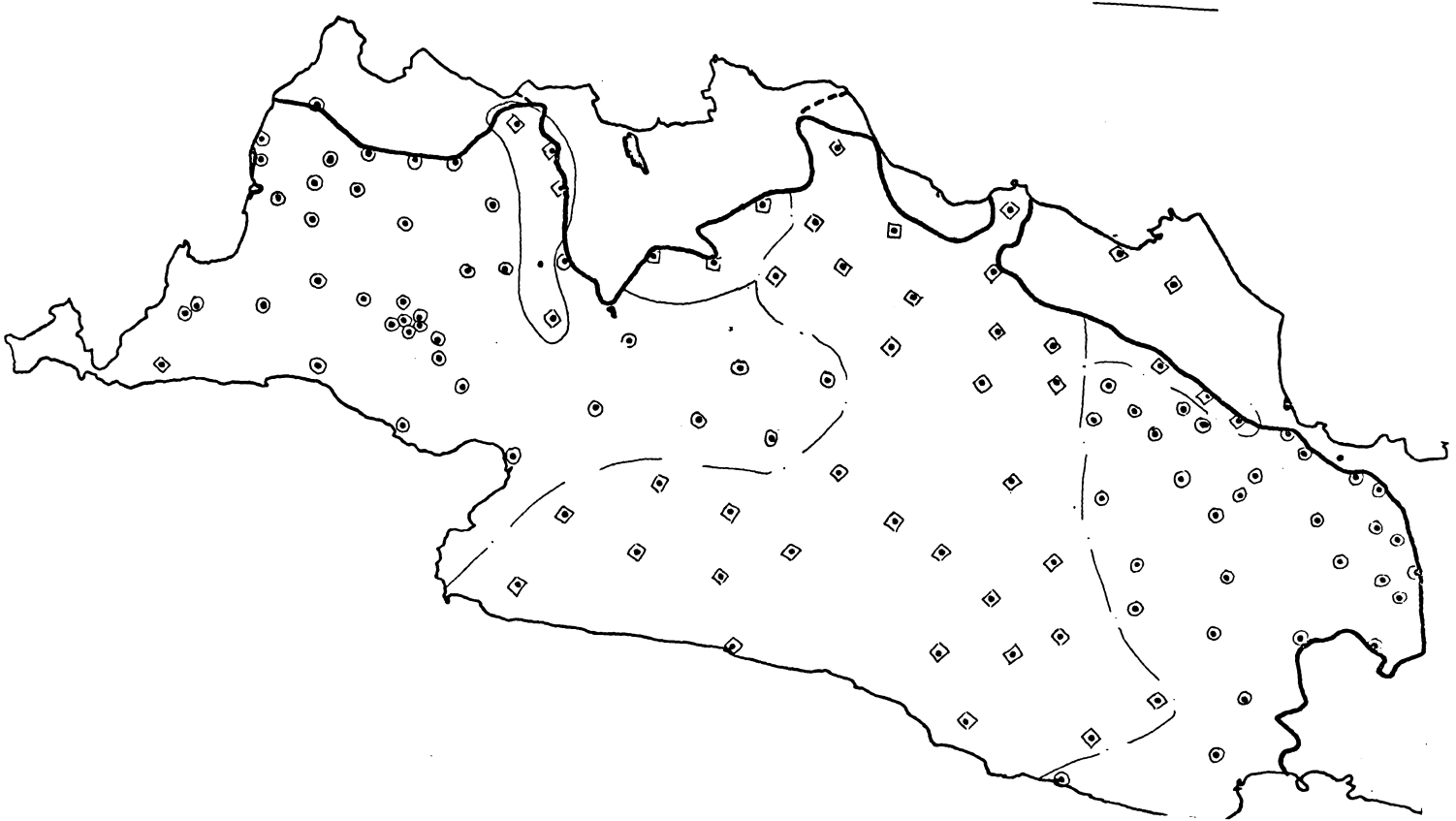
1. ⊙ /taun/
2. ◇ /tahun/



MAP 8

1. ⊙ /buhaya/
2. ◈ /buaya/
3. ⊡ /baya/

"CROCODILE"



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Additional notes on the *B : *b distinction and new hypotheses regarding the reflexes of *w and *B[1]

Shortly after the completion of the preceding pages I received a copy of D. J. Prentice's paper "Yet another PAN phoneme?" in which he also suggests the reconstruction of two labial stops, namely *B and *b, instead of Dempwolff's single *b. Prentice compares Javanese (Jav.), the Kadazan dialect of Coastal Dusun (Kdz.), and the Timugon dialect of Lowland Murut (Tmg.). Kadazan and Timugon "are both members of the Idahan group of languages spoken in Sabah and have close affinity to languages spoken in the Philippines and northern Celebes. They are representative of the two main subgroups of the Idahan languages, respectively Dusunic and Murutic." (p. 1)

Prentice reconstructs *B and *b to account for the correspondences shown in the following table:

Initial position	Tmg.	Kdz.	Jav.
*B	b/Ø	v	w
*b	b	b	b
Intervocalic position			
*B	w/Ø	v	w
*b	b	b	b
Postnasal position[2]			
*B	b	b	b
*b	b	?	b

In Timugon initial *B disappears after a CV-prefix: e.g., * BəRqat, Tmg. bagat 'weight', ma-agat 'heavy'. Intervocalic * B disappears in Timugon preceding or following u and in the environment a...i: e.g., *luBaŋ, Tmg. luaŋ 'hole' and * RaBii(h), Tmg. m'aiq 'evening'.

Examples illustrating the *B : *b distinction and cited by Prentice are the following[3]:

*B-: * Bulan, Tag. buwán, OJv. wulan, NJv. wulan, rəm-bulan, Mal. bulan, Kdz. vuhan, Tmg. bulan 'moon'.

*-B-: * laBan, Tag. lá:ban 'to fight', OJv., NJv., Mal. lawan, Kdz. havan, Tmg. lawan 'rival, opponent'.

*-(m)B-: *tu(m)Buq, Tag. tubóq 'grow', OJv. tuwuh 'body, growth, life', NJv. tuwóh 'grow', Mal. tuboh 'body', tumboh 'grow', Tmg. -tuuq 'grow'.

*b-: * bəŋəl, Tag. biŋí 'deaf', NJv. bəŋəl 'headache', Mal. bəŋal, Kdz. boŋo, Tmg. boŋol 'deaf'.

*-b-: *təbus, Tag. tubós, OJv. təbus, NJv. təbós, Mal. təbos, Kdz. tobus, Tmg. -tabus (perhaps loan from Malay) 'to redeem'.

*-(m)b-: * lə(m)bəŋ, Tag. libíŋ 'grave', NJv. ləbəŋ 'aqueduct, irrigation' (perhaps not cognate), Mal. ləmbaŋ 'wheel-rut', Kdz. hoboŋ, Tmg. loboŋ 'grave'.

Prentice proposes ambiguous reconstructions with *(Bb) whenever the posited cognates have the reflexes shown in the following table:

Initial and intervocalic position	Tmg.	Kdz.	Jav.
(1)	b	b	w/b
(2)	b	b	w
(3)	b-,-w-/Ø	v	w/b
(4)	b-,-w-/Ø	v	b
Intervocalic position			
(5)	w/Ø	b	b
(6)	w/Ø	b	w

Examples are the following:

(1) *(Bb)aŋkay, Tag. baŋkáy, OJv. waŋkay, NJv. waŋkē, baŋkē, Mal., Kdz., Tmg. baŋkay 'corpse'; *lə(Bb)iq, Tag. labī 'excess', OJv. ləwih 'excess, superior', NJv. luwēh, ləbēh (the latter is probably a loan from Malay), Mal. ləbeh, Kdz. hobiq 'more', Tmg. -labiq 'overflow'.

(2) *(Bb)uRuk, Tag. bugôk 'rotten', OJv. wūk, NJv. wôq 'smelling, foul odor', Mal. buroq 'decayed', Kdz. b-in-uuk, Tmg. buuk 'addled egg'; *tə(Bb)ək, OJv. təwək, twək, NJv. tuwək 'to stab, pierce through', Mal. tebaq (-e- irregular; perhaps not cognate)[4] 'to chop, hack', Kdz., Tmg. -tobok 'stab'.

(3) *(Bb)aŋun, Tag. bá:ŋon 'erected', OJv. waŋun 'build', baŋun 'stand up', NJv. waŋôn 'shape, form', baŋôn 'build', Mal. baŋon 'rise, raise', Kdz. a-vaŋun, Tmg. ma-aŋun 'become, create'; *i(Bb)aq, Tag. qibá 'different', NJv. ēbah 'move', ēwah 'change', Kdz.

t-iva-n, Tmg. iwa-n 'parent-in-law'.

(4)* (Bb)alay, Tag. bā:hay 'house', OJv. balay 'hall', NJv. balĕ 'ber ꦮ', Mal. balay 'hall', Kdz. v-in-ahay 'bees-nest', sam-bahay 'live in one's fiancé's house', Tmg. walay 'house'; * Ra(Bb)ut, Tag. gā:bot 'tear away', NJv. rabŏt 'lift up, out', Mal. rabot 'tear away', Tmg. -aut 'carry, convey' (loss of R- irregular; perhaps not cognate).

(5) *tu(Bb)a, Tag. tū:ba, NJv. tubŏ, Mal. tuba, Kdz. tubo, Tmg. tuo 'fish-poison'.

(6) *(Bb)a(Bb)a, Tag. babā 'carry on the back', OJv. wawa, NJv. wŏwŏ, Mal. bawa 'carry', Kdz. -babo 'carry on back or shoulders', Tmg. lim-bawo 'shoulder' (possibly not cognate).

Prentice feels that his evidence "strongly suggests the presence of a voiced fricative series" (p. 35) in PAN of which *B is posited to be the bilabial member (the velar one being *R). He thus puts forth a hypothesis as to the phonetics of this proto-phoneme, just as I do on p. 210 where I suggest that PMJ B might be taken to be a voiced bilabial unaspirated stop (*b being the aspirated counterpart). There seems to be little doubt about *B being labial, but the difference in the interpretation as to it being a fricative (Prentice) or a stop (Nothofer) indicates that Dyen is correct when he says that one should be cautious about the phonetics of proto-phonemes at this

time: "...the determination of the phonetic nature of a proto-phoneme depends increasingly on the subgrouping as the phonetic variation of the correspondences increases. Since the subgrouping of the Austronesian family still is in large part indeterminate, particularly at the highest levels, it is perhaps incautious to attempt to deal with the phonetics now whenever the phonetics of the reflexes show great variation, except in the most tentative way." (Dyen 1971:23)

Whatever the exact phonetic nature of *B, one might tend towards Prentice's hypothesis of interpreting it as PAN, since a large number of languages shows that a distinction between *B and *b is necessary. However, one should always keep in mind that the reconstruction of *B in addition to *b has to be posited to account for correspondences which - so far - have only been found in West-Indonesian languages. This *B can perhaps be considered to be a member of an additional consonant series of which *D is another member. The reflexes of *D are closely patterned with those of *B.

Prentice and I agree in the reconstruction of the *B : *b distinction in 30 of 54 comparable instances. Complete disagreement appears in only two instances for which Prentice reconstructs *b and I reconstruct *B. In two instances Prentice reconstructs *b and I propose ambiguous reconstructions with *(Bb), and in twenty instances

Prentice proposes an ambiguous reconstruction with *(Bb) and I that of *B. Comparing the criteria which lead to ambiguous reconstructions, one notes that one of the main reasons leading to the last type of divergent reconstructions is to be found in the difference of interpretation of the Javanese evidence. Prentice treats the Javanese evidence as inconclusive and reconstructs *(Bb) whenever Old and/or New Javanese has (have) a doublet, one member exhibiting w, the other exhibiting b, whether Idahan (=Kadazan and Timugon) exhibits the reflex of *B or *b. I reconstruct *B whenever Old and/or New Javanese has (have) a doublet, whatever the reflex in the other languages.

Prentice and I agree in the reconstruction of *B and *b in the following instances:

*B: *BahuR 'mix'
*Bajaq 'inform'
*Baləs 'repay'
*Baliw 'change'
*BaRa(h) 'ember'
*BaRqaŋ 'molar'[5]
*Batu 'stone'
*Bauk 'chin whiskers'
*Bənaŋ 'win'
*BəRqat 'heavy'
*Buaq 'fruit'

*BuBuŋ 'roofridge'

*Buku 'knot'

*Bulan 'moon'

*Bulu 'hair'

---

*aBuh 'ash'

*iBəR 'appetite, saliva'

*luBaŋ 'hole'

*quBan 'grey hair'

*Ra(m)Bun 'cloud'

*saBuŋ 'cockfighting'

*ta(m)BaR 'antidote'

*tu(m)Buq 'grow'

*b: *bawaŋ 'onion'

*bibi 'duck'

*biŋkuk 'crooked'

*butbut 'pluck'

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*tə(m)buk 'pierce'

*təbas 'cut down'

- - - - - -

Let us now consider *w. The Kadazan reflex of this proto-phoneme is w in initial and intervocalic position and the Timugon reflex is b or Ø (the latter after a CV-prefix) in initial position and w in intervocalic position.

The Sundanese reflex of what has hitherto been reconstructed as intervocalic *w is not only w as stated on p. 84, but we also find nc or competing forms, one exhibiting w, the other exhibiting nc.

Sundanese has w as reflex of PAN intervocalic w in the instances presented below:

(1) *awak, TBt. ak 'backbone', OJv. awak, NJv. awaq (L), Mal. awaq, Snd. qawak (L), Mad. abâq (L) 'body', Fi. l-ewe 'flesh, content'.

(2) *awaŋ, TBt. aoaŋ, OJv., NJv., Mal. awaŋ-awaŋ, Snd. qawaŋ-awaŋ, Mad. bâŋ-abâŋ 'atmosphere', Mer. avană 'rainbow', Fi. yawa 'distance'.

(3) *bawaŋ, Tag. bâ:waŋ 'garlic', TBt. baoaŋ, NJv., Mal., Snd. bawaŋ, Mad. bhâbâŋ 'onion'.

(4) *lawas, TBt. laos 'still', OJv. lawas, NJv. lawas (L), Mal. lawas, Snd. lawas (L) 'to last long', NgD. lawas 'a long time ago', Mer. lava 'without interruption'.

(5) *ñawa, Tag. qu-nâ:waq 'consideration', NJv. ñôwô, Mal. ñawa, Snd. ñawaq, Mad. ñabâ 'soul', To., Fu., Sm. ma-nava 'to breathe'.

(6) *tiwas, Tag. tiwas 'be faulty', OJv., NJv. tiwas 'to perish', Mal. tewas 'being worsted', Snd. tiwas 'to perish', Mad. tèbâs 'accident, disaster', NgD. tiwas 'guilty', Fi. ndewa 'contagious', To., Fu. ma-tsiva, Sm. ma-tiva 'unhappy, poor'.

Sundanese has -nc- as reflex of PAN intervocalic w in the following instances:

(7) *lawaq[6], Tag. lā:wa, lawa-lā:wa, la-lā:waq, Mal. lawa-lawa, Snd. lancah, Mad. labâ-labâ 'spider, web'.

(8) *sawa, Tag. sawâ, TBt. sa, OJv. sawa, NJv. sôwô, Mal. sawa, Snd. sancaq, Mad. sabâ 'python'.

In one instance Sundanese exhibits competing forms, one with -nc-, the other with -w-:

(9) *kiwa, Tag. k-al-iwâq, OJv. kiwā, NJv. kiwô, Snd. kencaq (L), kiwaq (H), Mer. havi-a 'left'.

In two instances Sundanese has competing forms, one exhibiting -nc-, the other -w-, as reflex of Dempwolff's *b or *(m)b. In the first comparison Prentice reconstructs *-B-. He does not consider the second:

(10) *laban (Prentice: *laBan), Tag. lā:ban 'to fight', OJv., NJv., Mal. lawan, Snd. lawan, lancan, Mad. labân 'opponent, rival'.

(11) *ra(m)ba, TBt. ramba 'jungle', OJv. rawa̰, NJv. rôwô, Mal. rawa, Snd. rawaq, rancaq, Mad. rabâ 'morass'.

Dempwolff proposes no reconstructions for the following comparisons. In the first instance Snd. -nc- corresponds to Malay and Javanese -w- and to Sumenep and Bangkalan Madurese b. Toba-Batak has -o-:

(12) TBt. ta-raoaŋ, NJv. k-rawaŋ-an (D), Mal. kə-rawaŋ, tə-rawaŋ, Snd. ka-rancaŋ, Mad. S. ka-rabâŋ,

B. ta-rabâŋ 'openwork'.

Snd. -nc- corresponds to Mal. -mb- in:

(13) Mal. ləmbaŋ 'depressed of soil; low-lying, trodden underfoot; = (West-Sumatra) lambaŋ. Also of roots swelling and becoming soft by long immersion in water', Snd. lincaŋ-in 'red and soft (e.g., the feet of s.o. who has been standing in water for a long time), rotten (of rice which has been standing too long in water which is too deep), loose (through water)'.

The following comparison probably is to be associated with Sanskrit kutumburi, kustumbarî 'coriander-seed'. Snd. -nc- corresponds to TBt., NJv., and Mal. -mb-:

(14) TBt. katumbar, NJv., Mal. kətumbar, Snd. katuncar 'coriander-seed'.

The data presented above can be accounted for by treating Snd. w as the reflex of intervocalic *w [(1) - (6)] and Snd. nc as the reflex of *w or *B after a nasal and - perhaps - before *a [(7) - (14)][7]. It is difficult to determine from this data alone whether the latter part of this hypothesis, namely that *-Nw- or *-NB- became Snd. nc only before *a, can indeed be maintained, but other evidence which will be given below tends to support it. An unambiguous reconstruction with *w or *B can only be posited in case Tagalog and/or Toba-Batak have a cognate and this cognate has a single intervocalic consonant, since these languages do not merge *-w- and

*-B-. We thus do not change reconstructions (1) - (6), but change reconstructions (7) - (11) to: (7) *la(N)waq, (8) *sa(N)wa, (9) *ki(N)wa, (10) *la(N)Ban, and (11) *ra(N)(wB)a. For comparison (12) we reconstruct *ka-ra(N)(wB)aŋ and *ta-ra(N)(wB)aŋ, for (13) *ləN(wB)aŋ, and for (14) *katuN(wB)ar.

We have seen above that Sundanese exhibits competing forms in three instances: lancan/lawan, rancaq/rawaq, and kencaq (L)/kiwaq (H). With regard to the first two instances two hypotheses are possible concerning the origin of the occurrence of these competing forms: either the member of the doublet which has -w- is treated as a borrowing from Malay or Javanese and the other member is treated as inherited or both are treated as inherited, the member which has -w- being treated as continuing the member of an original doublet which had *-B- (in the case of (10)) and *-(wB)- (in the case of (11)), the other member being treated as continuing the other member of the original doublet which had *-NB- and *-N(wB)-, respectively. With regard to the third instance it appears that the high word kiwaq should be considered a borrowing from Javanese, given the fact that Javanese has a word of identical shape and meaning and that about three-fourth of the Sundanese high words can be interpreted as borrowed from this language (see p. 44).

This new hypothesis which argues that *w and *B

after *N and before *a became Snd. -nc- would make a reconsideration of some of my PMJ reconstructions with *-mB- necessary, if we regarded *N as representing the nasal *m. In the PMJ reconstructions *lamBat, *kumBaŋ, and *timBaq the Sundanese or the Madurese forms would have to be considered borrowings. If we maintained the reconstruction of *-mB-, the Sundanese form exhibiting -mb- would have to be considered a borrowing, since we would expect Snd. -nc- as its reflex before *a. If, on the contrary, we reconstructed *-mb- in these instances, the Madurese form exhibiting -mb- would have to be considered a borrowing, since the regular reflex of *-mb- is Mad. -mbh-.

The Sundanese reflex of initial *w is not only Ø, but we also find w or c. In my treatment of the PMJ semivowels on p. 83 I reconstruct *w_1- and *w_2- and take them to disappear in Sundanese. I now tend towards the hypothesis that *w_1- became w and that *w_2- disappeared. However, the evidence leading to this new hypothesis is far from solid:

*w_1-: (1) *w_1aDa, Tag. walâq, TBt. so-ada 'there is not', OJv. wwara 'there is', NJv. ŏra 'there is not', Mal. ada 'there is', Snd. waraq 'to take place, realize', e.g., moal waraq nikah qayɨnaq 'there will be no wedding today', Mad. bâḍâ(h) 'there is'.

There are only two more instances in which the Sundanese form with w- cannot be explained as a borrowing

from Javanese. However, in both cases the imperfect meaning-fit raises doubts as to whether we have a cognate relationship. Dempwolff proposes a reconstruction with *w- for the first comparison:

(2) *w_1aRi, TBt. ari 'day', nattu-ari 'yesterday', NJv. udan wé-wé 'rain while the sun is shining', Mal. (h)ari 'day', mata-hari 'sun', Snd. wa-wari-an[8] in pestaq wawarian 'after-celebration, extra-fête, feast which finishes off a big feast', Mad. arè(h) 'day'.

(3) *$w_1$iat, NJv. wèt-aké 'keep, preserve, conserve', Snd. wiat 'deposit, (en)trust'.

*w_2-: (4) *$w_2$aya, OJv. wwaya, Snd. qayaq 'there is'.

(5) *$w_2$uyaq, NgD. uyah, OJv. wuyah, NJv. uyah (L), Snd. quyah, Mad. bujă 'salt'.

Dempwolff's initial *w became Snd. c in:

(6) *waiR, TBt. aek, OJv. wai, wway 'water', NJv. wé in the compound wédaŋ 'warm, hot water', Mal. aer, Snd. caiq Mad. aèŋ 'water', NgD. aer-mati 'mud', Fi. wai, Sa. wei, To., Fu., Sm. vai 'water'.

Not only Dempwolff's initial *w, but also Dempwolff's initial *b (generally Prentice's *B) became Snd. c in some instances:

(7) *bahaq (Prentice: *Bahaq), Tag. bahâq, OJv. wãh, NJv. wa-wah-an, Mal. bah, Snd. caqah, Mad. bâqâ 'flood', U. haa 'spring tide'.

(8) *baŋkudu, Tag. baŋkū:ro, TBt. bakkudu, Mal. bəŋkudu, məŋkudu, Snd. caŋkuduq, Bal. wuŋkudu, NgD. măŋkudo 'kind of Morinda'.

(9) *binəy, ba-binəy (Prentice: *(Bb)inəy, (Bb)a(Bb)inəy), OJv. wini, bini, NJv. bini (B), Mal. bini 'woman', Snd. ca-weneq (L) 'virgin', also: 'maid', be-beneq 'fiancée', Mad.Kang. bâ-bineq-an, Bug. wa-wine, Mak. ba-ine, Sm. ma-fine, To., Fu., Sm. fa-fine 'wife'.

(10) *bani(r), Mal. baner 'buttress-like projection from a tree-trunk', Snd. canir 'root-projection, projection on or at the root of a tree', NgD. baner 'buttress-like projection from a tree-trunk'.

(11) *bariŋin, TBt. bariŋin, OJv. wariŋin, NJv. wriŋên, Mal. bəriŋen, Snd. cariŋin, wariŋin 'Ficus benjamina'.

(12) *bataŋ (Prentice: *Bataŋ), TBt. bataŋ 'trunk', OJv. wataŋ 'stick, trunk', NJv. wataŋ 'long stick, pole' (D), 'lying tree-trunk' (D), Mal. bataŋ 'trunk', Snd. cataŋ in cataŋ kaiq 'tree-trunk stripped of its branches and lying on the ground', NgD. bataŋ, Mer. vatană 'tree-trunk'.

Dempwolff proposes no reconstruction for the following comparisons in which we find identical initial correspondences:

(13) Mal. bayor, Snd. cayur 'Pterospernum javanicum'.

(14) Mal. bəluloq, bəloloq, Snd. caruluk, Mad.B.

bâluluq 'fruit of the sugar-palm'.

In (8) on p.302 and in (3) on p.308 Malay has competing forms, one with an initial b, the other with an initial m, matching a Sundanese form with initial c. In the following comparison Malay and Javanese m matches Snd. c-:

(15) NJv. təmigi (metathesis), Mal. mətigi, məntigi, Snd. cantigiq wuŋuq 'Vaccinium varingifolium'.

We only find a Javanese and a Sundanese cognate in the following two comparisons:

(16) NJv. waḍôq 'belly, stomach', Snd. caduk (VL) 'excrement, belly, intestines', wa-waduk 'excrement, rectum'.

(17) NJv. waḍas, paḍas, Snd. cadas 'sandstone, rock'.

The comparisons listed below are to be treated as doubtful cases because of the imperfect meaning-fit:

(18) OJv. a-banḍuŋ 'to compete', am-banḍuŋ 'to equal', NJv. banḍôŋ-banḍôŋ (O) (D) 'one after the other, at the same time', Mal. bandoŋ 'twin, duplicate', Snd. canduŋ 'to take a second wife', banduŋ 'one after the other', banduŋ-an 'do together'.

(19) Mal. baoŋ 'catfish with venomous fins', Snd. cauŋ, bauŋ 'name of a river-fish'.

(20) OJv. bahəm, NJv. bahəm, bam 'molar', Mal. baham 'to chew', Snd. cahɨm (L) 'mouth', bahɨm (VL) 'put in mouth'.

From the data presented above we conclude that one can maintain the reconstruction with *w_1- in (1) - (3) and *w_2- in (4) and (5). We also conclude - considering our hypothesis with respect to the origin of Sundanese intervocalic nc - that Sundanese initial c in (6) - (15) should probably be treated as a reduced nasal cluster reflecting a prenasalized *w- or *B-[9]. In all instances the following vowel is *a. However, we do not reconstruct a nasal cluster in this position, since we can put forth the hypothesis that Snd. c- arose from a nasal cluster which is not original. So, for example, one could argue that, when postnasal medial *w and *B became Snd. c, the combination of a preceding morpheme with a final nasal, e.g. aŋ, and a base with initial *w or *B would be common. Since *w or *B is postnasal in the sequence *...ŋ+base, it is superficially indistinguishable from a base with inherited c (from *c). The following analogy could take place: *...ŋ+cbase : *cbase as *...ŋwbase : *x or *...ŋ+Bbase :*x. At the time this change occurred there probably existed a large number of competing forms, one exhibiting c-, the other exhibiting w (from *w-) or b- (from *B-). In some instances the member with c- has replaced the other member (e.g., caqah), in other instances both members have been retained, only their meanings diverging (e.g., cahɨm, bahɨm), and in still other - unrecoverable - instances the member with b- has replaced the other member.

We thus maintain Dempwolff's reconstruction with *w- in (6), but change Dempwolff's *b- in (7) - (12) to *B-: (7) *Bahaq, (8) *Baŋkudu, (9) *Binəy, Ba-Binəy, (10) *Bani(r), (11) *Bariŋin, and (12) *Bataŋ. For (13) - (15) we reconstruct: (13) *Bayu(r), (14) *Baluluk, and (15) *Ba(n)tigi.

For (16) and (17) we reconstruct *(wB)-, because - so far - we have not been able to find a cognate in a language which does not merge *w- and *B-. If we were to find a cognate which pointed towards a reconstruction with *B, the Sundanese form wa-waduk in (16) would have to be considered a borrowing from Javanese, since *B- became Snd. b. The reduplication must then be posited to have occurred at a later stage of Sundanese. However, if we found a cognate which pointed towards a reconstruction with *w-, the Sundanese form would have to be considered ambiguous, since it could either be interpreted as a loan from Javanese or as an inherited form, given the fact that we have posited that Snd. w- is the reflex of non-prenasalized *w-. We reconstruct: *(wB)aḍuk and *(wB)aḍas.

No reconstruction is proposed for comparisons (18) - (20) because they are doubtful instances.

Snd. be-beneq in (9) can be explained as a reduplicated form. The reduplication must have occurred at a stage of Sundanese at which *-B- had already become Snd. w. Otherwise, we would expect Snd. *be-weneq.

The Madurese form comparable to those cited in (10) is katumbhâr 'coriander-seed' which, however, is treated as a loan from Malay or Javanese, since *w and *B regularly became Mad. b.

The Sundanese form with w- in (11), namely wariŋin, is considered a loan from Javanese, since initial non-prenasalized *B became Snd. b.

The initial p in the New Javanese form paḍas in (17) can be explained as being the result of an analogical change.

In the following comparison Sundanese has competing forms, one exhibiting initial and postnasal b, the other initial and postnasal c. We reconstruct initial and postnasal *B: *BaliŋBiŋ, TBt. baliŋbiŋ 'Averrhoa', NJv. blimbêŋ 'the belimbing-fruit', blimbiŋ-an 'edged, ridged', Mal. bəlimbeŋ 'ridged longitudinally', buah bəlimbeŋ 'name of the fruit of the Averrhoa bilimbi. As a plant-name bəlimbeŋ covers among others: Averrhoa bilimbi, A. carambola', Snd. caliŋciŋ 'Averrhoa', buah caliŋciŋ 'unridged fruit of a kind of Averrhoa, rarely eaten', buah baliŋbiŋ 'ridged fruit of a kind of Averrhoa, generally eaten'. In the Kadipaten-area buah caliŋciŋ is the ridged fruit and buah baliŋbiŋ the unridged fruit. Mad. bhâliŋbhiŋ, bhâlimbhiŋ 'Averrhoa' is treated as a loan from Javanese or Malay.

The postnasal c in Snd. caliŋciŋ will have to be explained as the result of an assimilation to the initial c, if we want to maintain the hypothesis that postnasal *B became Snd. c only before *a.

In a number of instances Malay has doublets, one member of which has an initial vowel or b, while the other member has an initial c, matching a Sundanese form with initial c. This evidence, although it is sparse, could be taken as pointing towards a hypothesis similar to that which is proposed for Sundanese. While initial *w became Malay h/Ø and initial *B became b, prenasalized initial *w and *B before *a may have become Mal. c. The evidence is the following:

(1) Malay has a form caer 'diluted, watery (of viscous things)' besides aer 'water' as continuation of *waiR. This form with c- cannot be treated as a loan from Sundanese, since the Sundanese form exhibits the loss of final *R[10]. Furthermore, also Jakarta-Malay has a form which exhibits c: ẽn-cẽr 'thin and watery'. Note that in this instance c occurs after a nasal.

(2) Mal. banar 'a climber, Smilax species', canar 'a plant, gen. for Smilax species', Snd. canar 'a tree lying on the ground', Mad. bânar, ḍâun bânar 'Smilax species (Liliaceae)'. In this case the Malay form with c- could be explained as a loan from Sundanese.

(3) In the following comparison Dempwolff and Prentice reconstruct *b-:

*baŋku(q)aŋ[11], Tag. baŋkuaŋ-bundok 'Pandanus dubius', Mal. bəŋkuaŋ, məŋkuaŋ 'Pandanus atrocarpus'; we also find Mal. cəŋkuaŋ 'Chisocheton glomeratus or Dracontomelum mangiferum', Snd. caŋkuaŋ 'name of a kind of reed from which things like baskets are made. Its leaves are used for the packing of aren-sugar', NgD. bǎŋkuaŋ 'kind of reed', Mer. vakuanǎ 'Pandanus'. The Sundanese evidence leads to a reconstruction with *B-. It is not clear whether the Malay form with c- can be associated with these forms. It seems, however, that all these forms are not directly associable with Mal. səŋkuaŋ, Snd. baŋkuaŋ, NJv. bəŋkôwaŋ, and Mad. bǎŋkôwaŋ 'yam-bean'.

There is one instance in which both Malay and Sundanese have competing forms, one with -w-, the other with -nc-. Dempwolff reconstructs *-w-:

(4) *kawaq, Tag. kå:wa 'saucepan', OJv. kawah 'pan', NJv. kawah 'crater', 'pot' (D), big cooking-pot' (O), Mal. kawah 'vat, cauldron, crater', kancah 'a narrow-mouthed cooking-pot for boiling rice', Snd. kawah 'a big and deep hole', also: 'crater', 'big cooking-pan', kancah 'a big iron pan', NgD. kawah 'pan'. The Malay form with -nc- could be considered a loan from Sundanese, the Sundanese form with -w- a loan from Malay. The Sundanese evidence suggests the reconstruction *ka(N)waq.

In the light of this data one might suggest in a most tentative way that in the following instance Mal. -c- represents a reduced nasal cluster, given the fact that it matches NJv. -w-: NJv. bawaŋ, Mal. (ə)mbacaŋ 'Mangifera foetida'. We tentatively reconstruct *ba(N)(wB)aŋ.

Not only Malay, but also Javanese has doublets, one member of which has -w-, while the other has -nc-. In the following instance Javanese has a low word exhibiting -w- and a high word exhibiting -nc-. Sundanese also has competing forms, one with -w-, the other with -nc-. The one with -w- is marked by Coolsma as a loan from Javanese. It is interesting that the form with -nc- is a high word. As pointed out earlier, Sundanese low words generally contain inherited reflexes as opposed to high words which generally contain reflexes associated with loan words. We thus find:

NJv. rêwaŋ (L) 'companion, after-birth, help s.o.', rêncaŋ (H) of batôr 'servant', (H) of rêwaŋ 'companion', Snd. rewaŋ; rencaŋ (H) of batur 'servant, companion, adherent'. In this case the Javanese form with -nc- could be taken to be a loan from Sundanese, whereas the Sundanese form with -w- probably is a loan from Javanese as indicated by Coolsma. We tentatively reconstruct *ri(N)(wB)aŋ.

Two comparisons seem to argue against our hypothesis that prenasalized *w and *B became Snd. c- and -nc- only

before *a:

OJv. w-in-uruk 'to be instructed', NJv. wuruk-an 'education, teaching, instruction', Snd. wuruk 'instruction'. Sundanese also has curuk 'index-finger' which might be considered cognate with the other forms.

New Javanese and Sundanese have a doublet, one member of which exhibits -b-, while the other exhibits -nc- in:

NJv. ôbôr, ôncôr, Snd. qobor, qoncor 'torch'.

It is apparent that the evidence presented here with regard to prenasalized *w and *B is not entirely solid. Questions arise with regard to what kind of nasal precedes these two proto-phonemes. We leave the question open by reconstructing *N. Comparison (14) seems to suggest that in this instance at least the nasal probably was *m, because it can be associated with Sanskrit kutumburu, kustumbarî. Furthermore, it is not entirely clear, whether prenasalized *w and *B became Snd. c only before *a. We also will have to further investigate, whether this particular change can be posited to have occurred in Malay and perhaps also in Javanese or at least in dialects of these languages as well.

FOOTNOTES

[1]The significance of the asterisk will vary from the equivalent of PAN to PMJ.

[2]Prentice does not cite any reconstruction with *-mB-, *-mb-, or *-m(Bb)-, but only reconstructions with an optional nasal, i.e. with *-(m)B- or *-(m)b-. This optional nasal is never reflected in the Idahan languages. We know of the postnasal reflex of *B and *b in Kadazan and Timugon only through forms which have a prefix ending in a nasal: e.g., *Buku, Kdz. vuku 'knuckle, knot in wood', tim-buku 'hair-bun', Tmg. buku 'knuckle', tim-buku 'knot'; *bawaŋ, Tmg. am-bawaŋ 'onion'.

[3]All comments included in parentheses are those of Prentice.

[4]The cognate word probably is Mal. təbaq 'bar used for stone-breaking', see p. 77.

[5]I suggest the reconstruction of penultimate *ə instead of *a, see p. 132.

[6]Dyen 1953a reconstructs a final vowel: *lawa. We reconstruct a final q and explain the absence of -q in Tag. lawa-lå:wa and the absence of -h in Mal. lawa-lawa as follows. The final *q of a root which became preconsonantal in a doubling is lost in Tagalog and Malay. By analogy the final q of the second member of the doubling also disappears. Tag. lå:wa is a reformation from Tag. lawa-lå:wa.

[7]Snd. -nc- also is the reflex of PAN postnasal c, see p. 113.

[8]On p. 83 Snd. poeq 'day' is treated as the continuation of this etymon preceded by *pə-.

[9]Snd. c- also is the reflex of PAN initial c, see p. 113.

[10]These new hypotheses regarding the origin of c- in Snd. caiq and Mal. caer make the combination of my PMJ reconstructions *caiR$_{13}$ and *w$_{1}$aiR possible. We simply reconstruct *waiR.

[11]Dyen 1953a reconstructs intervocalic q, since he considers NJv. bəŋkówaŋ 'yam-bean' a cognate. Since we exclude this form from the comparison because of the poor

meaning-fit, the reconstruction becomes ambiguous, i.e. the proto-form may have exhibited *hiatus or* -q-.

Additional bibliograhy

Besides the works cited in the main bibliography I used the following works for this section:

Dahl, O.C. 1973. Proto-Austronesian. Lund.

Encyclopaedie van Nederlandsch-Indië. 1917-1921. 4 vols. 's-Gravenhage, Leiden.

Matthes, B.F. 1859. Makassaarsch-Hollandsch woordenboek. Amsterdam.

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Prentice, D.J. 1974. "Yet another PAN phoneme?" Paper presented at the First International Conference on Comparative Austronesian Linguistics, Honolulu.

ADDENDA ET CORRIGENDA

p. xi, l. 5 up; Javaans (for: Javans)

p. 16, l. 7 down; watja (for: waca)

p. 49, l. 13 down; an-ətəs (for: a-nətəs)

p. 49, l. 1 up; təllôq (for: tellôq)

p. 52, l. 6 down; new note after Snd. tarimaq: According to Professor Noorduyn Old Sundanese has tarema.

p. 52, l. 7 down; an-arima (for: a-narima)

p. 57, l. 6 up; an-impaŋ (for: a-nimpaŋ)

p. 66, l. 2 down; man-uruŋ (for: ma-nuruŋ)

p. 83, l. 6 down; ...disappeared in Sundanese and Malay.(for: ...disappeared in Sundanese.)

p. 83, after line 10 down; add: It became Madurese b.

p. 84, l. 9 down; Mad. bujâ (for: buyâ)

p. 85, l. 5 down; mangrove (for: mangrow)

p. 86, l. 3 down; PWI (for: PQI)

p. 86, l. 14 down; an-an-ami (for: a-na-nami)

p. 91, l. 7 up; hang rice (for: hand rice)

p. 94, l. 7 up; new note after Old Snd. apuy: Prof. Noorduyn never found apuy in the manuscripts. It is listed by Coolsma on the authority of Pleyte, who -according to Prof. Noorduyn - is a dubious source. Modern Sundanese has qapuy in sampɨq qapuy 'roasted cassava'. The expression occurs in the Cianjur area.

p. 95, l. 5 down; OJv. an-uluy-i 'to continue', an-uli-n-uli (for: OJv. a-nuluy-i 'to continue',

a-nuli-nuli)

p. 102, l. 10 down; PMJ l in...(for: PMJ in...)

p. 102, l. 6 up; ...to PAN j. (for: ...to Dyen's symbol j.)

p. 108, l. 13 down; ...to PAN z. (for: ...to Dyen's symbol z.)

p. 109, l. 1 down; nipah (for: nipa)

p. 109, l. 13 up; ...to Dyen's PAN Z. (for: to Dyen's symbol Z.)

p. 112, l. 11 down; an-agih (for: a-nagih)

p. 124, l. 10 down after *BaliBis[96]; insert: (PHN, Tag. baliwis 'teal': baliwis)

p. 125, l. 1 down; am-awa (for: a-mawa)

p. 125, l. 11 down; mam-əli (for: ma-məli)

p. 125, l. 11 up; am-əlit (for: a-məlit)

p. 128, l. 5 down; ...in which Old and/or New Javanese...(for: ...in which New Javanese...)

p. 128, l. 12 down; sa-balik-naq (for: sa-balik-na)

p. 130, l. 7 up; 'to wake up' (for: 'to make up')

p. 132, l. 13 up after baR$_2$qaŋ),; insert: Snd. bɨhɨŋ (L) 'neck',

p. 132, l. 8 up; Mal. (h)abes (for: Mal. (h)abis)

p. 132, l. 2 up; Mad. abu(h) 'ash'. (for: Mad. abu(h).)

p. 132, l. 1 up after NJv. kuwal; new note: With an analogical k-.

p. 142, l. 3 down; an-iŋkab (for: a-niŋkab)

p. 145, l. 6 up; ...for final ḍ which according... (for: ...for final which according...)

p. 152, l. 4 down; am-ənḍəm (for: a-mənḍəm)

p. 164, l. 8 down; man-əkw-a (for: ma-nəkw-a)

p. 173, l. 11 down; Mal. dahan (for: Mad. dahan)

p. 176, l. 9 up; ...in the orthography. (for: in theorthography.)

p. 177, l. 5 up; Sm. paqu-sisi (for: Sn. paqu-sisi)

p. 180, l. 13 down; and the two vowels... (for: in the two vowels...)

p. 195, l. 1 down; man-aŋtaŋ (for: ma-naŋtaŋ)

p. 195, l. 1 up; Mal. bumbon (for: Mal. bumbun)

p. 199, l. 5 up; man-utuh (for: ma-nutuh)

p. 211, l. 3 down; Way Lima (for: Way lima)

p. 211, l. 17 down; The phonemes c and j are frontal stops, ñ is a frontal nasal (for: The phonemes c, j, and ñ are frontal stops.)

p. 213, l. 18 up; the script of the Old Sundanese manuscripts... (for: the traditional Sundanese writing system...)

p. 213, l. 1 up; and *ə contracted... (for: and *əcontracted...)

p. 214, l. 5 down; *baRəh (for: *baRəq)

p. 228, l. 6 up; insert the Sundanese word for 'guts': pɨjit.

p. 246, between BuDiq, 150 and Buit, 129; insert: Buḍug, 154

p. 246, l. 7 up, left column; erase: Bukit, 103

p. 246, l. 6 up, left column; Bukiḷ, 103, 127 (for: Bukiḷ, 127)

p. 247, l. 1 up, left column; erase: buḍug, 154