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The University of Michigan, Ph.D., 1975
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PROTO SOUTH SULAWESI

AND

PROTO AUSTRONESIAN PHONOLOGY

VOLUME ONE

by

Roger Frederick Mills

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
(Linguistics)
in The University of Michigan
1975

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Assistant Professor John M. Lawler
Professor Gene M. Schramm

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IN MEMORIAM

FRED T. MILLS

1904 - 1973

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ACKNOWLEDGMENTS

A destiny that leads from the Great Plains to the "Orchid of the Equator"-- from South Dakota to South Sulawesi-- is surely to be wondered at, especially since my academic goals originally lay in the field of Romance languages. In 1968, the happy conjunction of a Buginese speaker-- Mr. Husen Abas-- and an inspiring teacher-- Dr. A. L. Becker-- revealed a totally new and rewarding area, and I am most immediately indebted to them.

I am grateful to The University of Michigan, and the Horace H. Rackham School of Graduate Studies, for the financial support which made possible these many years of uninterrupted study. My year in Indonesia was financed by a fellowship under the National Defense Foreign Language program, with additional support from the Ford Foundation, Indonesia, and with the official sponsorship of the Institut Keguruan dan Ilmu Pengetahuan (IKIP), Malang, Java. To my former colleagues and students there, I express belated thanks for a most enjoyable year.

This dissertation would be a poor scrap indeed without the linguistic data provided by my informants and friends in Makassar, whose names are listed in full in Appendix A. I am particularly appreciative of the gracious hospitality accorded me, during a two-month stay, by the then-Rector of Universitas Hasanuddin, Makassar-- Dr. A. Hafid and Mrs. Hafid. The university's Faculty of Letters provided a great deal of support and assistance, not only in locating

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informants in the first place, but also by seeing to it that I was shown around, introduced and invited here and there, gotten to the airport on time, and otherwise kept entertained. In all this, the prime mover was the energetic Husen Abas, then Dean of the Faculty. The Lembaga Bahasa Nasional, Cabang Makassar, under the direction of Mr. Ahmad Rahman, was always a source of useful information and help, and stimulating discussions with Mr. R. A. Pelenkahu.

I wish also to acknowledge the assistance of Mathew Charles, Cornell University, who has shared with me some of the results of his own research into the Philippine languages, and who provided several bibliographical references and other useful materials such as the Zorc (1971) Wordlist; and the assistance of Dr. Campbell C. Macknight of The Australian National University, Canberra, who provided references and a brief outline of South Sulawesi's prehistory. Any errors in the interpretation of these materials, of course, are my own responsibility. (For the benefit of other Indonesianists, it is worth noting here that through Dr. Macknight's efforts, the A.N.U. now possesses an important collection of microfilmed Buginese and Makassarese lontara, representing several thousand pages.)

Finally I must express my debt to my parents, and to all my friends who have borne with me more or less patiently through the years, wondering (perhaps, like me, doubting) whether these pages would ever be written.

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LIST OF ABBREVIATIONS

1. Language names:

Bad.	Bada'
Bal.	Balinese
Bar.	Bare'e
Bes.	Besoa (Behoa)
BI	Bahasa Indonesia
Bis.	Bisayan
Bob.	Bobongko
Bug.	Buginese
Bug-Sid.	Sidenreng dial.
DuriC	Duri, Cakke dial.
DuriK	Duri, Kalosi dial.
End.	Endekan (Enrekang)
Fi.	Fijian
Gor.	Gorontalo
Jav.	Javanese
Leb.	Leboni
Loin.	Loinang (Loindang)
Mad.	Madurese
Mai.	Maiwa
Mak.	Makassarese
Mak-Bant.	Bantaeng (Bonthain) dial.
Mak-Sal.	Salayar dial.
Mass.	Massenrempulu
Mdr.	Mandar
Mdr-Bal.	Balanipa dial. (A&K)
Mdr-Bin.	Binuang dial.
Mdr-Camp.	Campalagiang dial.
Mdr-Cend.	Cendana dial.
MK	Minang-Kabau
Ml.	Malay
Mmj.	Mamuju
Mong.	Bolaang Mongondouw
NgD.	Ngaju Dayak
OJ	Old Javanese
Patt.	Pattinjo
PUS	Pitu-Ulunna-Salo
Sad.	Sa'dan Toraja
Sang.	Sangir(ese)
SekoL	Seko, Lemo dial.
SekoP	Seko, Pada(ng) dial.
Sund.	Sundanese
Tag.	Tagalog
TB	Toba Batak
To.	Tongan
Tor.	Toraja
Ttb.	Tontemboan
Wo.	Wotu

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2. Miscellaneous abbreviations.

A&K	Adriani & Kruijt 1914
BWB	Bug. dictionary, Matthes 1874
MWB	Mak. dictionary, Matthes 1859
(P)AN	(Proto) Austronesian
(P)IN	(Proto) Indonesian
(P)OC	(Proto) Oceanic
(P)PN	(Proto) Polynesian
PSad.	Proto Sa'dan
PSS	Proto South Sulawesi
SSul	South Sulawesi
SWB	Sad. dictionary, van der Veen 1940
V	van der Veen 1929

A note on orthography:

Most of the languages upon which this work is based are written (in the sources) in a Dutch-based orthography, which can be converted to a more phonemic (and more familiar) form with little difficulty. I have therefore changed the sources' "tj, dj, nj, j, oe" to "c, j, ñ, y, u" respectively, and introduced "q" for the glottal stop in place of the sources' apostrophe (or other diacritic, such as the dieresis). The symbol "ĕ" for schwa, however, has been retained everywhere except in Bug., where I use ə̤. Ml/BI words cited in comparisons follow these conventions, but quotations, titles, personal or place names etc. are written in the current orthography, which does not distinguish /ĕ/ and /e/ and differs in one or two other respects as well.

The orthography employed for PAN reconstructions differs somewhat from what is currently used. My *ə̤ for Dempwolff's *ə or Dyen's *e should occasion no confusion, but my *j corresponds to (Dw) *d' or (Dy) *z-- not to (Dy) *j, for which I continue to use (Dw) *ǧ. The reasons set forth in Chapter 4 will, I hope, persuade others of the correctness of this change.

Bahasa Indonesia underwent a spelling "reform" in 1972, which I have dealt with as follows: quotations and place names, regardless of their original spelling, are given in New Spelling; titles of books and articles are given in the original spelling, as are author's names; names of publishers are in New Spelling.

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CHAPTER I

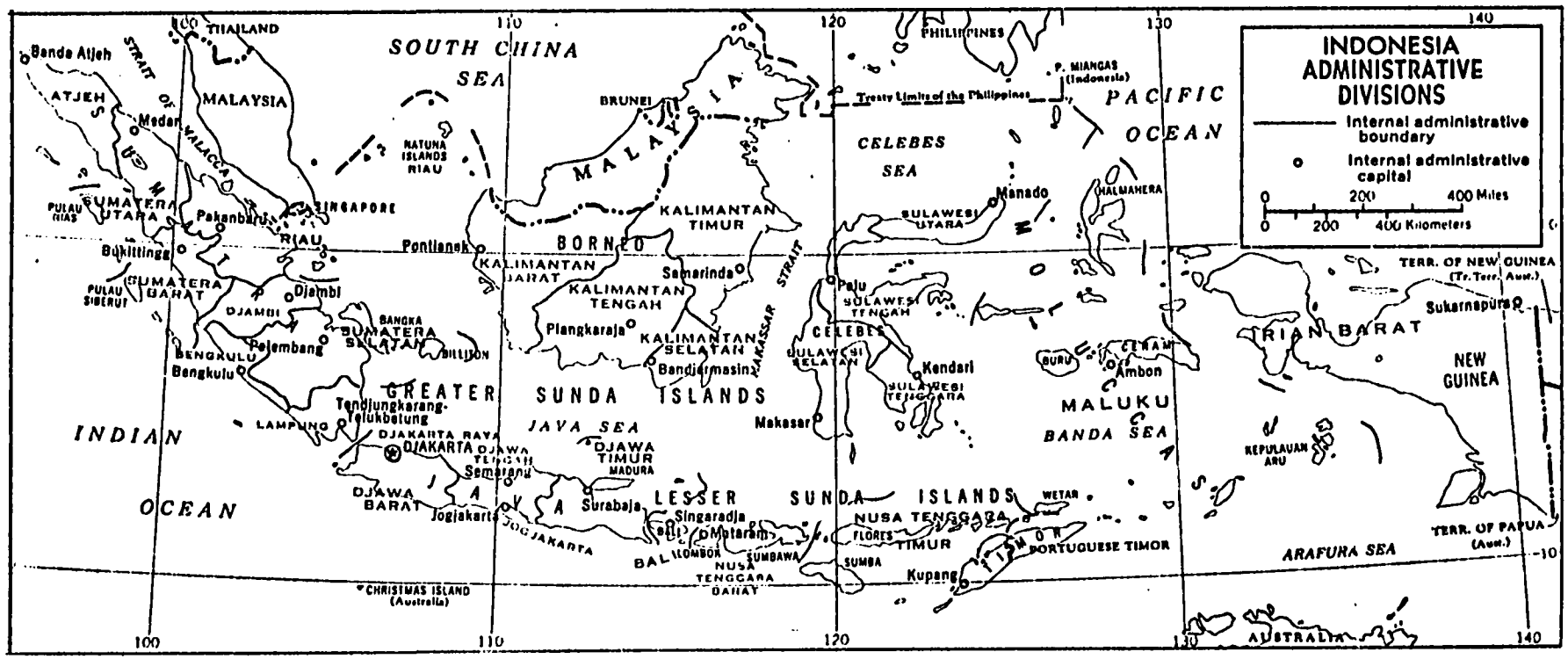
INTRODUCTION

1.1. Geographical overview. Sulawesi (formerly Celebes) is one of the larger islands of the Republic of Indonesia-- about 186,000 sq.km. in area-- but one of the less densely populated-- around 7-8 millions. Compare this with Java, which with Madura has rather less area (about 132,000 sq.km.) but a population of over 40 millions. It lies due east of Kalimantan (Borneo), separated from that island by the 200-mile wide Straits of Makassar, and due north of Flores, separated from it by the Flores Sea. Between Sulawesi and Irian Barat (New Guinea) to the east, there extends the chain of small islands known collectively as the Moluccas, famous in history as the Spice Islands. To the north lie the Celebes Sea and the southern coast of Mindanao in the Philippines. (See Map 1: Indonesia.)

Due to its peculiar shape, geology, flora and fauna, Sulawesi has long excited the interest of experts in many fields. It seems fairly certain, for example, that it has been a separate entity for a considerable period of time-- that is, it was never joined to the Asian mainland, as were Java, Sumatra and Borneo as recently as the last Ice Age, nor is it likely to have formed a part of the great Australia/New Guinea continent. In fact, its peculiar shape and seismic instability can probably be ascribed to pressure from that land mass as it drifted into position (cf. van Vuuren 1920:39-50). The main evidence here is

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MAP 1: INDONESIA

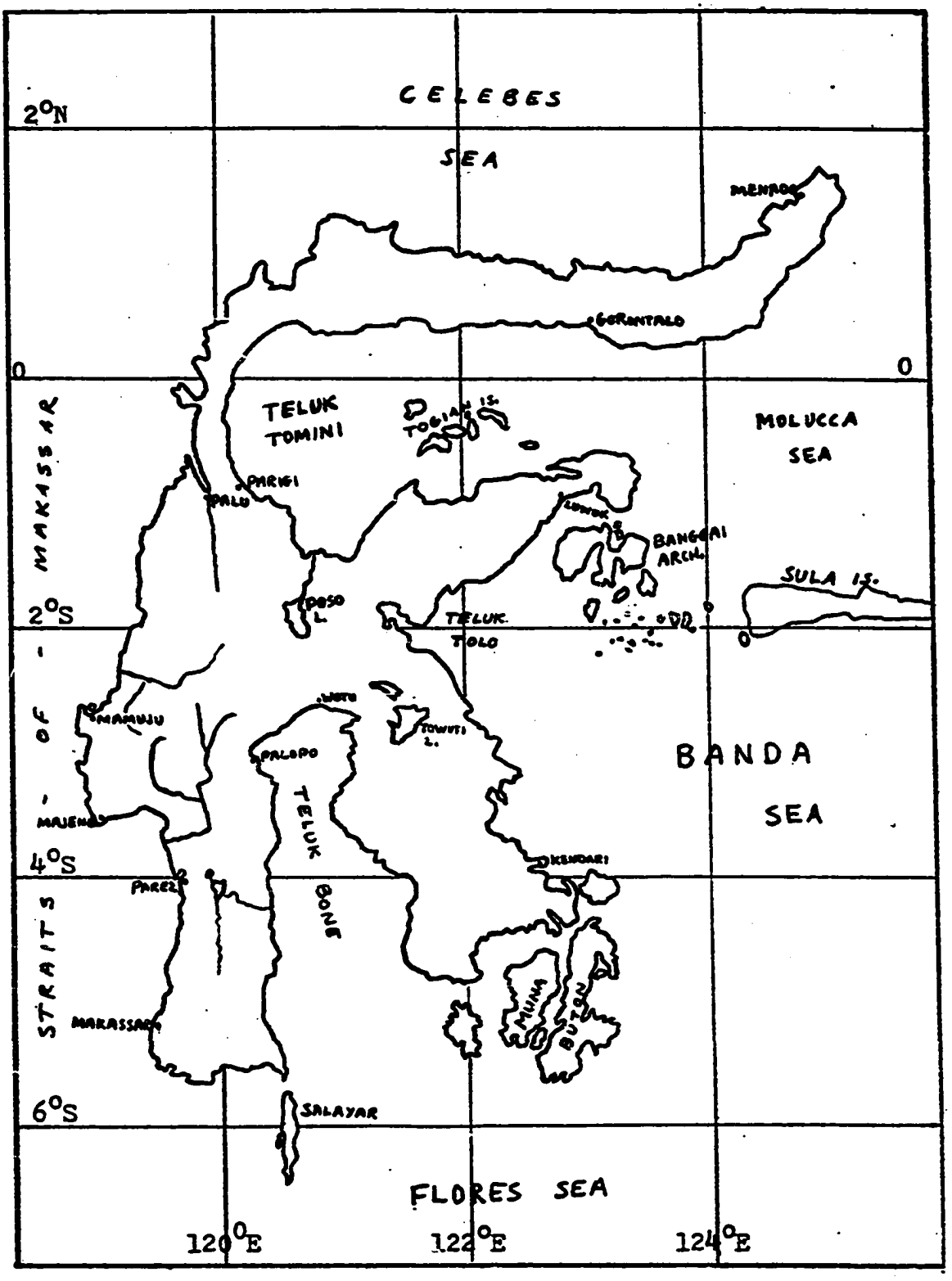
the great depth of the surrounding seas, and the precipitousness of the Sulawesi coastline: the 100-fathom line lies so close to shore that even if the sea level were to drop 100 fathoms (600 feet!), the island would still show roughly its present shape. A land bridge is often held to have existed between the north tip of Sulawesi and southern Mindanao, of which the present-day Sangir and Talaud island chains are a remnant. That whole area is extremely volcanic but the sea depths are so great (over 3000 meters between the two island groups) that this land bridge could only have existed far, far in the past, probably even before Homo Sapiens evolved.

The shape of the island allows us to divide it into four geographical areas, which, interestingly, correspond to the four main linguistic areas as well. (See Map 2: Sulawesi.) Geographically, we may speak of:

a) Central Sulawesi (including the eastern arm) which lies between 1° and 3° S. and 118° - 123° E. This is the nucleus of the island, where its four arms converge. Despite its east-west breadth, rugged north-south mountain ranges seriously impede communications. The population is relatively dense in the center, quite sparse on the eastern and western edges, and consists in the main of a great many small tribal groups known collectively as the Toraja (a mildly pejorative Buginese term meaning 'people of the interior').

b) North Sulawesi, which extends north along 120° E. from just below the Equator to about 1° N., where it makes a right-angle bend to the east and then stretches on to 2° N. 125° E.

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MAP 2: SULAWESI
(Scale apprx. 1:5,000,000)

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The Sangir and Talaud Islands continue the Indonesian area up to approximately 4° N. 125° E. This long narrow arm of land is thinly populated, except for the easternmost tip, known as the Minahasa.

c) Southeast Sulawesi, extending to the southeast between 121° and 125° E. and 3° - 6° S. Like Central Sulawesi, it is mountainous, but less rugged, very thinly populated, and probably not completely explored to this day. Three good-sized islands, Kabaena, Muna and Buton, lie off the southern end, separated by shallow water, and are considered to be geographically part of the main island.

d) South (properly Southwest) Sulawesi extends north-south, straddling 120° E. down to about 6° S., about 75 - 100 miles wide all along its length. The northern portion, between 3° - 4° S., is mountainous, and geographically more like Central Sulawesi; the southern portion of the peninsula is flatter, though a mountain chain does run north-south along 120°. Off the extreme southeast tip lies the island of Salayar, a continuation of the mountain chain; it is perhaps 60 miles long by 10 - 15 wide. As an administrative unit of the Republic of Indonesia, the province of South Sulawesi includes small parts of Central Sulawesi; still it is the most densely populated and urbanized area of the whole island-- something over 5 million according to the 1971 census. The vast majority of this population is found in the southern part, on the peninsula proper. The city of Makassar (now called Ujung Pandang) is the major commercial and political center, with a population of around 600,000.

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The population of South Sulawesi is comprised of three principal linguistic groups: Makassarese, Buginese and Sa'dan Toraja. The Makassarese number about 1.5 million and occupy the southernmost part of the peninsula to a point slightly north of Makassar; the northern half of Salayar is also Makassarese. The Buginese (about 2.5 million) occupy the bulk of the peninsula, up to roughly 4° S., while the Sa'dan Toraja (about 300,000) occupy the mountainous northern interior. Other linguistic groups--Mandar, Duri, Pitu Ulunna Salo, to name but three-- are numerically insignificant, though of considerable importance to this study. They are all found in the northern part, surrounding the Sa'dan Toraja area. It should be mentioned here that there are also colonies of Buginese in all the major towns of Sulawesi, where they are an active commercial element; in addition, there has been (and still is) a great deal of Buginese emigration to South Sumatra and Singapore, as well as to other ports and trading centers throughout Indonesia.

Undoubtedly a major factor in the growth of South Sulawesi (especially the Buginese area) has been the ease with which rice can be grown. There is a wide, flat coastal plain on both sides of the peninsula; the water supply is almost too abundant, and because of the central mountain range, the two sides of the peninsula have different rainy seasons, with the result that crops can be grown on one side or the other at all times. Since the land is flat, little terracing is needed, nor extensive irrigation; the fields

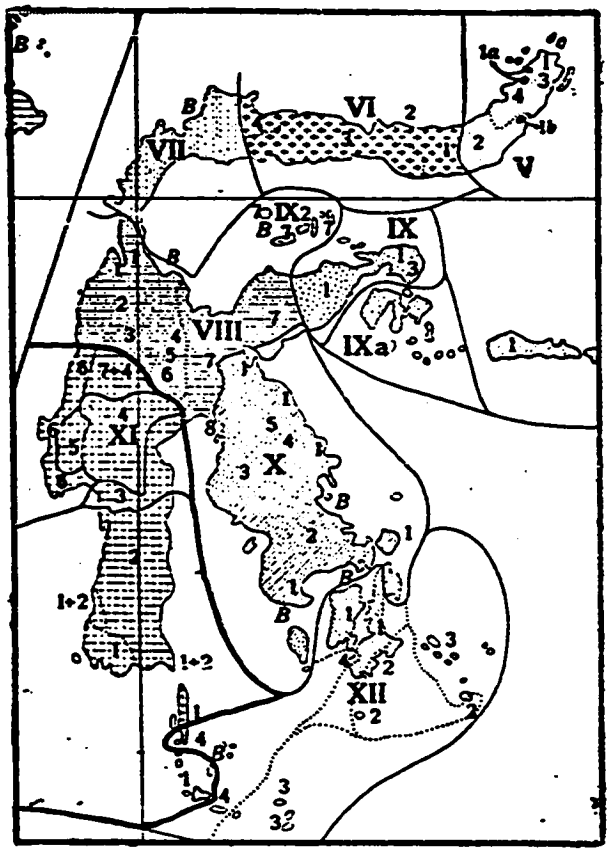
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are large and can be worked far more efficiently than can the terraced, almost handkerchief-sized plots that are so prominent-- and picturesque-- a feature of the Javanese or Balinese landscape.

1.2. Linguistic overview. Since the island is so complex and interesting for the linguist, a brief survey of the major language groups might be in order. As stated above, the linguistic groupings follow the geography surprisingly well. Much of the information that follows is based on the only survey ever published, that of Adriani and Kruyt (1914), hereafter abbreviated A&K. (See Map 3: Languages.)

a) North Sulawesi. The languages of Sangir-Talaud and the Minahasa can be grouped with the languages of the Philippines, though the exact nature of the relationship is still being investigated (e.g. by Charles, in progress). Shared phonological and morphological features offer convincing evidence. In particular, we can point to: phonologically, the presence of both voiced and voiceless stops in final position, and the frequent presence of /g/ as the reflex of PAN *ɣ (presumed to have been a velar fricative). Morphologically, these languages are characterized by an extremely rich verbal system, employing infixes (/-um-/ and /-in-/) in combination with a variety of prefixes and reduplications to mark aspect, tense and focus. Specifically, past vs. non-past is distinguished (also termed realis:irrealis or actual:potential). Once out of the Minahasa area, the languages-- Gorontalo, Buol, and a

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MAP 3:

LANGUAGES OF SULAWESI

(Based on Esser's map, Sheet 9b in the Atlas van Tropisch Nederland, 1938.)

V. PHILIPPINE GROUP

1. Sangir-Talaud (these islands are off the map)
la. Bantik lb. Bentenan
2. Mongondouw
3. Tombulu-Tonsea-Tondano
4. Tontemboan-Tonsawan

VI. GORONTALO GROUP

1. Bulang 2. Kaidipan
3. Gorontalo 4. Buol

VII. TOMINI GROUP

VIII. TORAJA GROUP

(a) 1. Kaili 2. Kulawi
3. Pipikoro 4. Napu
5. Bada-Besoa 6.Leboni

(b) 7. Bare'e

(c) 8. Wotu

IX. LOINANG GROUP

1. Loinang 2. Bobongko
3. Balantak IXa. Banggai

X. BUNGKU-LAKI GROUP

1. Bungku-Mori 2. Laki
3. Laiwui 4. Landawe
5. Mapute

XI. SOUTH CELEBES GROUP

1. Makassarese 2. Buginese
3. Luwu' group 4. Sa'dan
5. Pitu-Ulunna-Salo
6. Mandar dialects.
7. Seko

XII. MUNA-BUTUNG GROUP

1. Muna-Butung 2. South Butung
3. Lgs of the Tukangbesi Is., Kalaotoa, Larompa, Bonerate
4. Wolio and Laiyolo

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little-known group called the Tomini languages-- begin to diverge from the Philippine type phonologically, though not so much morphologically. Gorontalo, for example, has become an open-syllable language, but retains reflexes of original final consonants by the addition of supporting vowels. A&K considered the tense distinction as a very important feature for classification, and it is found in all these languages.

b) Central Sulawesi. A&K give three main groupings here. The Loinang group consists of three or four reported languages spoken in the extreme eastern tip as well as in the Banggai and Togian Islands (the Togian language, Bobongko, is probably extinct now; cf. Adriani 1900). These languages, so far as they are known, appear to be most closely related to those of North Sulawesi, though with some divergent sound changes (e.g. *ɣ > /l/; final voiced stops > voiceless); the verbal systems, perhaps slightly simplified, still retain tense distinctions and productive infixation. Adriani (1900:565) tentatively posited an origin in the Gorontalo area, with the Togian Islands as a stepping-stone to eastern Sulawesi; as these languages are found mainly along the coast, and the interior of the eastern peninsula is uninhabited according to most reports, they may also be relatively recent arrivals.

For the East Toraja group we owe our considerable knowledge to N. Adriani, who devoted his life and immense scholarship to these people and their languages. Bare'e with its several dialects is the most widely spoken, and

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is concentrated in the Poso Lake area, eastward to Tanjung Api and the Togian Islands. Its chief characteristics are: (1) entirely open-syllable structure, due to loss of final consonants, and with prenasalized stops analyzable as unit phonemes; (2) loss of PAN *γ, but merger of another PAN r-sound (*ǧ) with *l and thence > /y/ (*γ sometimes develops in this way too); (3) loss of both the tense distinction and productive infixation; (4) the presence of a series of prefixes-- /me-, pe-, mempe-/-- whose origins are difficult to assess, alongside prefixes /mo-, po-, mompo-/ which are cognate with /ma-/ and /pa-/ found in many other languages. The me-series is widespread throughout the rest of Sulawesi; as it also occurs in the SSul group, it will be dealt with later in more detail. Lexically, Bare'e is very interesting, full of synonyms and circumlocutions as the result of an elaborate system of verbal taboos and a large vocabulary employed only in ritual language. In his dictionary, Adriani (1928) was able to supply etymologies for many of these rare items: some are borrowed, while others appear to represent an earlier stage of the language, for in many cases an "everyday" word with /y/ will have a "ritual" doublet with the original /l/.

The West Toraja group is a collection of (probably) closely related languages spoken in the mountains between Lake Poso and the Straits of Makassar. At the north, they are in contact with the Tomini languages, on the south with dialects of Sa'dan Toraja, yet they are clearly distinct from both: like Bare'e these are all open-syllable

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languages (with two exceptions in the south) whereas Tomini languages have final stops, continuants and nasals, and Sa'dan has finals /q k n ng/. From the limited data in A&K, it appears that PAN *γ > ∅, *ɣ > /y/ or sometimes /r/ or /l/ (the /y/ is frequently lost after influencing the quality of the preceding vowel), and often *s > /h/. Entirely lacking is the *l > y change so characteristic of Bare'e. Morphologically the West Toraja languages retain the past:non-past distinction, but also have the me-prefixes. The southernmost languages-- Bada' and Rampi/Leboni-- have a final /q/ reflecting a variety of proto-finals; this feature seems to be original, but may also indicate extensive influence from the SSul languages. In that respect too, it is important to note that these two languages also employ a form of verbal "conjugation" which closely resembles that of the SSul languages. Lexically, the East and West Toraja languages share a great deal of material with each other as well as with SSul.

Kaudern (1925) proposed a slightly different classification, also followed by Esser in drawing up his 1938 map (which is the basis of our Map 3). In effect, this classes Bare'e and its dialects as a group apart; the languages of A&K's East and West Toraja groups are divided between a Palu group (to the north) and a Pipikoro group (to the south).

Parenthetically, we might add here that the whole West Toraja area ought to receive more attention from linguists. Aside from Borneo, it is probably one of the few areas of Indonesia still relatively free of Western influence[1],

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thanks to its isolation and lack of roads. There are good source materials on which to base new studies-- A&K for the languages in particular, Kaudern (1925) and Kruyt (1938) on the ethnology and migratory patterns. Of considerable interest is the possibility that these languages represent a transitional stage between South and Central Sulawesi, at least on the basis of my rather tentative lexicostatistical analysis. Finally, of course, the most urgent reason: these are small language groups, eager to assimilate to more "advanced" Indonesian life, culture and language, and so in danger of vanishing.

c) Southeast Sulawesi. With the possible exceptions of Muna and Buton at the southern tip, this arm of the island seems to be occupied by a single language group, called Bungku-Mori (or Bungku-Laki) after its principal components. Mori is spoken in a triangular area in the north end of the arm, extending from Tomori Bay west almost to Malili on the Gulf of Bone. Bungku is spoken on the north coast of Tomori Bay, thus to the east of Mori and between Mori and Loinang; there are also Bungku areas to the south of Mori. Laki and several other languages (or dialects) are spoken in the southern end of the peninsula. Thanks to Esser's two-volume study (1927-1933), Mori is one of the better-described languages of Sulawesi; there is also a worthwhile recent transformational study (Lapoliwa 1971). Along the northern edge of its territory, Mori is in contact with Bare'e, but the two peoples are traditional enemies-- the Bare'e are said

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to have driven the Mori out of their homeland; the western end of the area abuts on Buginese. In Mori, PAN *ɣ and *ǧ (but not *l) have merged > **y, then > ø, leaving behind vowel changes-- **ay, oy > /e/, **uy > /i/-- which is not usually the case in Bare'e. Syllable structure is open; there are prenasalized stops. Mori shows productive use of the infixes /-in-/ and /-um-/ (the latter rather limited), and both mo- and me-prefixes are present. Mori /me-/ may be a key to the origin of the series: it can be directly cognate with PAN *maɣ- (cf. Tag. mag-, Toba Batak mar-, Ml. ber-), an intransitive verbalizer for nouns meaning roughly 'having..., endowed with..., doing habitually...'. The same sound change might account for /me-/ in Bare'e and some of the other Toraja languages, but not in SSul. Possibly too, however, /me-/ should be viewed as a variant of /mi-/, found in Old Javanese and not derivable from *maɣ- in any regular way.

Mori also has the past:non-past distinction, but shows it in a most unusual way: by using different forms of the subject pronouns. Thus, ongkue mongkaa 'I ate', but aku mongkaa 'I will eat' (see Lapoliwa 1971:7ff). With a noun subject, however, the distinction does not occur.

There is insufficient data in A&K to warrant discussing the other languages of this group; for the most part, their vocabulary resembles that of Mori quite closely. Unfortunately, the few pages devoted to each language in A&K seem to be the only material ever published.

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On the languages of Muna and Buton, there is also a great lack of information, except for Anceaux's (1953) grammar of Wolio, the court language of Buton. A&K's Buton may not be the same language, for they class Buton with Bungku-Mori, while the language described by Anceaux shows considerable divergence. The change of PAN *p > /f/ is found in Wolio, Buton and Muna-- this is quite atypical vis-a-vis Sulawesi languages, and rather calls to mind those of the Moluccas, Flores-Timor and other eastern areas (even Polynesian).

The language described for Muna-- while the words cited are clearly cognate with Mori, and PAN-- exhibits one peculiarity which sets it quite apart from many other IN languages: that is, the presence of a sound transcribed as gh[2] which reflects Dyen's PAN *q (see further Chapter IV for a discussion of the PAN laryngeals). Mori and Bare'e reflect PAN *q intervocalically as /q/, initially as ∅. But note in Muna:

'liver'	ghate	Mori ate	PAN *qatay
'day, sun'	gholeo	oleo	**qalaɠaw (Dyen) *a(ñ)ɠaw
'thigh'	fagha	paqa	*paqa
'year'	taghu	taqu	*taqun

It is the presence in initial position of a clear reflex of PAN *q that is so striking. This language surely merits further investigation.

Also classed with this group, and presumed by A&K to be related to Buton and Muna, are the languages spoken on the small islands scattered across the mouth of the Gulf of Bone

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between Buton and Salayar: Bonerate, Binongko, Laiyolo among others. Laiyolo in fact is spoken on the southern half of Salayar (Makassarese in the northern half). A&K's data (the only available) are not sufficient to justify saying more than that the languages appear to be related--e.g. PAN *p > /f/ or /h/, though there is no trace of Muna's "gh". The populations of the islands are probably quite mixed; of Binongko, for example, A&K note that there are many Butoners, and slaves from Muna and Sasak (the island just east of Bali).

It is worth noting that Esser's language map (1938), while in general following A&K quite closely, in this instance classifies Buton, Muna and the island languages into a group apart from Bungku-Mori, with Wolio and Laiyolo in one subgroup, Muna, Buton and various other island languages in others. (It is not completely clear, however, on what sources Esser based his conclusions.)

d) South Sulawesi. Esser's "Zuid-Celebes taalgroep" consisted of the following:

i. Buginese
ii. Makassarese
iii. Sa'dan Toraja
iv. Luwu' group
v. Mandar dialects
vi. Pitu Ulunna Salo
vii. Seko

In the course of my research in South Sulawesi, I was able to collect data for each of these groups (see Appendix A

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for a list of informants' names and published sources). The linguistic situation, of course, turned out to be much more complex than is indicated by Esser's concise list, so that there remain some gaps and vague areas. One of these is the "Luwu' group". According to Buginese informants, and also the researchers of the Lembaga Bahasa Nasional in Makassar, this group should be divided up into a Buginese area in the far north (around Palopo), with the band of languages stretching across the north-central part of the peninsula classed apart as (at least) one separate group, to which the traditional name Massenrempulu' has been assigned. These languages appear to be transitional between Buginese and Sa'dan, and while I was able to gather data from Massenrempulu[3], it was impossible to locate informants from Luwu. That is unfortunate, for I was frequently told that the language differs from "standard" Buginese-- mainly in vocabulary and pronunciation-- as well as being considered more "elegant" and also "old-fashioned". These are interesting comments since Luwu is held to be the homeland of the Buginese people, and some of their oldest manuscripts (of the La Galigo epic especially) are said to be preserved there as sacred relics[4].

Another unfortunate lack involves the Pitu Ulunna Salo area; the amount of data collected was disappointing, though it could be supplemented with material from van der Veen (1929)-- from which it appears that PUS is an area of great diversity and well worth much closer investigation. There is little doubt, however, that PUS is closely related to Sa'dan.

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In compensation for these lacks, I was able to collect material from Mandar (supplementing A&K); from a dialect spoken in Mamuju, distinct from Mandar (again supplementing A&K); and from Seko, which appears never to have been reported previously. The purpose of this dissertation, then, will be to establish formally the genetic relationship existing between these languages. As we shall see, the status of Seko remains somewhat questionable, but otherwise, the existence of a distinct subgroup is confirmed.

Appendix B presents my best estimates of the number of speakers of each language. The phonology and morphology of the individual languages is discussed in Chapter II.

1.3. Historical background. Of the island as a whole, we can say that historical data of any sort are skimpy indeed. Aside from the Makassar area, which will be examined in detail, only the Minahasa experienced any strong European influence, beginning with the Portuguese and Spaniards in the early 16th Century, replaced by the Dutch in the early 17th Century. Dutch influence remained strong there down to the time of independence in the late 1940's.

The Minahasans and the Dutch got along well together, and that small area became one of the most Westernized in the Netherlands Indies. The rest of the island-- again excepting the Makassar area-- was allowed to go its own way until well into the 19th Century. Apparently much of eastern Sulawesi was under the control of the Sultan of Ternate during some of that time, for example, Banggai, the Mori area, and especially Buton, which was an important way-station

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in the early spice-trade. The Sultans of Ternate and, under their influence, the Sultans of Buton were among the first rulers in the Archipelago to convert to Islam (Ternate circa 1475; see de Graaf 1949:81(map) and Kern 1938:331ff.).

The peoples of Central Sulawesi-- the Bare'e and Sa'dan Toraja among others-- were tributaries of various Buginese kingdoms, principally Luwu, though the relationships varied with the ups and downs of Buginese political life. After the Dutch decisively defeated the king of Goa and occupied Makassar after 1667, the Buginese and Makassarese kingdoms became more or less faithful vassals of the Dutch East Indies Company, later of the Colonial Government, though they retained considerable autonomy. The late 19th Century saw the coming of Dutch missionaries (Adriani and Kruyt among them) to Central Sulawesi and other areas, and the Toraja peoples converted to Christianity in large numbers-- no doubt partly as a means of extricating themselves from subservience to their Islamic Buginese overlords. In 1905-08, Dutch military forces subjugated the refractory Buginese kings, and Dutch control was established throughout the island.

Speaking now of South Sulawesi in particular, we can roughly divide its history into three periods:

a) Prehistory, based on archeological data.

b) Legendary history, based on the written and oral traditions of the area.

c) Documented history, in the Western sense, based on verifiable, datable records.

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1,3a, Prehistory. So little archeological work has been done anywhere in Sulawesi that it is almost impossible to discuss this period. For the information on South Sulawesi that follows, I am indebted in the main to Dr. C.C. Macknight of the Australian National University[5].

The earliest site known is at Cabenge east of Soppeng; it contained fossils and crude stone flakes, and was investigated in 1970 by van Heekeren and Soejono, but their results have not yet been published. Considering the site to be at least 10,000 years old, if not more, Dr. Macknight writes:

> If the fossils really are Pleistocene (which is probable) and...are in secure association with the stone material (a difficult question), the site is most important as it is the earliest site east of the Wallace Line.

(The Wallace Line is the important, though controversial, boundary between "Asian" and "Australian" fauna.)

Next in time comes the so-called Toalian material, which is somewhat better documented. It is found "virtually all over the peninsula" and consists of arrowheads, geometric microliths, bone points and, in upper levels, pottery. Radio-carbon evidence from the 1969 work (Mulvaney and Soejono 1971) indicates an earliest date of

> at least 6000 years ago, probably earlier. Pottery arrives about 4000 years ago, and the latest dates are about 1000 years ago.

(To digress briefly: "Toalian" is a term about as precise as "Indian" to an Americanist. The people known as Toala (properly Bug. to aliq 'forest people') were considered at one time to represent the "oldest" stratum in the ethnic make-up of Sulawesi, specifically the remnants of the

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Veddoid race which was believed to have spread from Ceylon (where it still exists) through Indonesia into Australia prior to, or during, the last Ice Age. In particular, this theory was espoused by the Swiss scholars Paul and Fritz Sarasin, and seriously investigated by them in the course of several expeditions to Sulawesi during the period 1895-1905 (cf. Sarasin and Sarasin 1905 for an informal summary of these journeys[6]; chapters XI and XII deal with the Toala). With some difficulty they actually managed to meet with three members of a Toala group, who at the time lived in cave shelters in the jungle east of Makassar. Perhaps not surprisingly, they concluded that these Toala-- as well as types found among the Toraja-- did indeed represent the Veddoid race[7]. In the intervening years, the Veddoid theory, though by no means disproven, has fallen out of fashion.)

Returning to South Sulawesi's prehistory: In the 1920's a bronze image of the Buddha was discovered in West Central Sulawesi, a few kilometers up the Karama River (Bosch 1933, Krom 1938:132ff.). It is of the style and period known as Amarawati, hence datable between 200-400 C.E., and almost certainly of Indian manufacture. Interestingly, it is thus the oldest Buddha yet found in Indonesia-- and this in an area which is supposed never to have experienced direct contact with India or with Hindu-Javanese culture. There is, I believe, a plausible explanation for the figure's presence in that part of the island: the oldest Sanskrit inscriptions in Indonesia have been found at Muara Kaman upriver from Kutai on the coast of Borneo, and are datable on

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paleographic ground at around 400 C.E. (Krom 1938:124-27). They tell of the rise of an Indianized dynasty there during the preceding three generations of local kings. Now, Muara Kaman and Kutai are located on the Straits of Makassar, almost directly opposite the mouth of the Karama. Quite likely, then, a ship bound for Kutai either foundered on the coast of Sulawesi and was plundered, or else suffered an attack by local pirates. Both the Buginese and the Mandars have in the past been noted for piracy: were they the culprits[8]?

Dr. Macknight continues:

> About 1000 years ago (very, very roughly) there was some highly decorated pottery about...[first found] at Galumpang [on the Karama]...but similar stuff also comes from Pangkajene [north of Makassar], Maros caves [ca. 50 km. northeast of Makassar], Batu Ejaya [southern tip of the peninsula] and undoubtedly elsewhere if anyone looked seriously. It is related to Iron Age material from the Philippines, and may also have links out to the east, but it's all exceedingly vague in the absence of detailed study.

Finally, there is imported Chinese, Thai and Annamese earthenware and porcelain-- occasional pieces from the Sung Dynasty (10th - 13th Century), the majority from Ming Dynasty (14th - 16th Century) or Sawankhalok (Thai, floruit 14th Century)-- which is found for sale in shops in Makassar, Jakarta, Surabaya and other tourist centers. It is common knowledge that the bulk of it comes from looted graves, variously said to be located near Makassar or Palopo; in all likelihood, thus, the graves of the pre-Islamic nobility. Needless to say, it is difficult to get exact information, and it is saddening to think of all the

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other useful information that must have been destroyed in the looting process. How or when these porcelains reached South Sulawesi is an open question-- directly from the mainland on Chinese trading vessels? on Malay vessels? via Java? on Buginese/Makassarese vessels? Was it brought new, or was it already old, already a valuable antique at the time of importation[9]? From van Leur's discussion of early trade in the archipelago (van Leur 1960) it is clear that only royalty or wealthy merchants (in most cases, the two would have been equivalent) could have afforded such luxury items, and further, that the money for such purchases must have derived from the spice trade. Thus, we can conclude from this that the century or two just preceding European contact must have been a period of prosperity in South Sulawesi, and it is in just that period that according to local written records, the Makassarese kingdom of Goa and the Buginese kingdoms of Bone and Wajo' began to flourish. When the Portuguese arrived in the early 1500's, they found Makassar already an important entrepôt in the spice trade, with colonies of merchants of many nationalities.

In sum, only the Chinese porcelains and-- probably-- the "highly decorated pottery" of roughly 1000 years ago can be reasonably associated with speakers of SSul languages. Is there other evidence, or other theories, which might enable us to say more about the ultimate origins of the SSul peoples in particular, or of Indonesians in general?

There are several theories, but the supporting evidence is sketchy indeed. In pre-World War II scholarship,

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the prevalent belief was that there had been two main waves of migration out of the Austronesian homeland on the mainland of Southeast Asia. Supporting evidence consisted partly of archeological finds, partly of studies of native legends, plus a good deal of casual observations and conjecture. Early on, Europeans in Indonesia noted the correlation between the two prevailing racial and cultural types in the archipelago, and eventually came to term them Proto- and Deutero-Indonesian. Proto-Indonesians were represented by inland, mountain-dwelling groups: these were "primitive", animistic in religion, often knew only slash-and-burn agriculture or were semi-nomadic; they were shorter in stature, round-headed and darker in color. Deutero-Indonesians, on the other hand, lived on the coasts and were seafarers and traders, were culturally "advanced," usually adherents of one or another world religion, knew wet-rice culture (implying the more sophisticated political organization needed for the construction and maintenance of irrigation works); they were taller, long-headed and lighter in color. The assumption was that these more "vigorous" peoples were later arrivals who must have pushed the others back into the mountains, or else perhaps had simply occupied the unused coastal areas-- which were hot, swampy and unhealthy-- to found their trading centers. Deutero-Indonesians had presumably acquired the rudiments of civilization by exposure to Indian culture while still on the mainland-- thus their migration could not have taken place much earlier than one or two centuries before the Christian era.

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Massive later migrations of Indians themselves were also posited, for it seemed inconceivable that the "simple" Indonesians could have erected the complex Buddhist and Hindu temples, or developed the elaborate courtly life, literature and art found in Java. It was fairly clear from old Javanese sources that there had been contact with South India throughout the centuries preceding European contact, yet it was perplexing that no clear Dravidian strain was present, for even the most aristocratic Javanese nobleman was, to all intents, physically indistinguishable from the peasants who worked his fields.

Such theorizing-- often obnoxiously racist in tone-- was commonplace during the 19th and early 20th Centuries. In the meantime, archeological evidence was accumulating from scattered sites all over Indonesia, Indochina and the Pacific. It became clear, at least, that there had never been massive Indian migrations, but in general, the Proto/ Deutero concept held up. In 1932, R. Heine-Geldern published a synthesis of all the available evidence and, based on the distribution (most importantly) of certain types of stone axes, concluded that the Austronesians had indeed originated in mainland Southeast Asia, probably in southwestern China. Sometime around 2000 B.C. they moved into the Mekong Valley, and later still into the Malay Peninsula; during this period they mingled with Austroasiatic peoples, acquiring some new cultural traits in the process. Thus the Malay Peninsula was

> der letzten gemeinsamen Urheimat jenes Teiles der Uraustronesier, aus dem die heutigen austronesischen Völker hervorgegangen sind. (Heine-Geldern 1932:609)

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From there, around 1500 B.C. one branch moved on via the west and north coasts of Borneo into the Philippines, Formosa and North Celebes, and eventually out into Melanesia and Polynesia, while another branch spread out through the Indonesian islands as far as New Guinea. All these would, presumably, have been Proto-Indonesians; Heine-Geldern did not deal with the Deutero-Indonesians, who were beyond the scope of his research. On the other hand, under his theory, one could postulate wave after wave of migrants; the early arrivals would have been pushed into the interior of the islands while the last to arrive took the coasts. There, due to greater possibilities for trade and contact, they developed their higher cultures and came under the influence of world religions (Buddhism and Hinduism early in the Christian era, Islam later, around the 13th Century).

Either way, the SSul peoples must be considered as Deutero-Indonesians, among the last to reach Sulawesi. The Sa'dan Toraja (and the Seko) thus present a problem, for culturally they have much in common with the Central Sulawesi Torajas (Proto-Indonesians), and their geographical location suggests that they were pushed inland-- yet linguistically they are obviously related to the (Deutero) Buginese, Makassarese and Mandar. For now, we can say that all SSul languages seem to show a considerable Toraja substratum, Sa'dan and Seko perhaps more than the others. Conceivably a small nucleus of Proto-Sa'dan speakers early on imposed itself and its language on an indigenous population of some size. (See further Chapter III, §§3 and 4.)

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More recently, W. Solheim (1974) has presented a new survey of the evidence, taking in post-1932 discoveries, and a new theory on the AN homeland. Pawley and Green too (1974), discuss the dispersal of the Oceanic peoples, and both studies-- drawing on published radio-carbon datings-- place the movements of the AN and OC peoples much further back in time than did Heine-Geldern.

Solheim's theory is as follows: as is known, during the last glacial period (circa 12,000 B.C.) continental Southeast Asia encompassed what is now the South China Sea, together with the modern islands of Sumatra, Java and Borneo-- so-called Sundaland. Small and isolated human settlements would have existed, mainly in the high, fertile mountain valleys. By the time the glaciers began to melt, raising the ocean level, some groups could have moved down to coastal areas or into the lower courses of the rivers. As the coasts were flooded out and the rivers became ever wider, navigational skills developed; even with increased flooding and loss of visual contact, the knowledge of near-by land nevertheless survived. More important, a formerly undifferentiated linguistic area was split-- specifically by the great river/channel which drained the continental shelf (one branch is known to have flowed between Java and Borneo, another between the present mainland and Borneo). Solheim suggests that those who lived on the western shore (i.e. the mainland side) were ancestral to the Austroasiatic language family, while those on the opposite (i.e. archi-pelago) shore were ancestral to the Austronesian family.

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The coastal people, with their navigational skills and traditions of nearby land, developed an "adventurous spirit" which led to early migrations into the Lesser Sundas, New Guinea, Melanesia, and ultimately far out into the Pacific; also, in the opposite direction, to the South China coast and thence to Formosa. Later migrations to China were responsible for the Chams of Vietnam; even later, for the Malays.

Surely many details remain to be worked out-- especially for Indonesia, since Solheim focusses more on Oceania than on the archipelago. But it is interesting to note that his theory, in effect, makes possible the presence of at least some (as yet unknown) ethnic/linguistic groups in the archipelago ab origine. The main problem with the theory, as I see it, is Borneo, which must surely have been inhabited in the period when it was part of the mainland; unfortunately, hardly any archeological work has been carried out there, but it is generally held that all the known inhabitants are of relatively recent origin (Deutero-Indonesians, under the old theory). As probable homeland areas, Solheim specifically mentions the Sulu archipelago, and suggests also that the western coast of Sulawesi might have had early settlements.

Both Heine-Geldern's and Solheim's theories depend on scattered, often out-of-context archeological finds. The more recent evidence, especially where it is buttressed with radio-carbon dates, is of considerable interest in that it pushes the date of the development of agriculture in mainland Southeast Asia further back than earlier scholars ever

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dreamt-- perhaps 7000 B.C. or earlier; and similarly, the development of metallurgy now appears to have taken place around 4000 B.C. (Solheim 1974:10). These dates suggest that not all such revolutionary achievements need necessarily have been brought into Southeast Asia by "more advanced" outsiders.

As for South Sulawesi, however, neither theory is entirely satisfactory, for neither one is much concerned with developments in the latter half of the first millenium B.C., when it would appear the SSul peoples reached the island. Under Solheim's theory, we should probably view them as a branch of the Malay migrations at about that time. Reconstructed Proto South Sulawesi, at least, does not contradict such a view in linguistic terms, but neither does it offer conclusive support. Much work remains to be done, and as Dr. Macknight has written in another context:

> If anyone is in doubt about the size of the task ahead, they could look at the amount of archeological exploration and synthesis that lies behind Renfrew's work on the Aegean.... (Macknight MS:10)

1.3b. Legendary history. For this period the sources are rich, but largely unexploited. They consist of manuscript materials called lontara[10] written in Buginese and Makassarese. Some few have been published. There are also lontara in the Mandar language, one of which has been published, and of which more later. There are said to be lontara (in Buginese) dealing with the Sa'dan Toraja apparently having to do with the genealogies of various noble families who are related to Buginese and Makassarese nobility (Zainal Abidin 1971:159n). Various other sources (e.g. Hoorweg 1911,

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Mededeelingen 1909) mention written materials in the Mamuju area (using Buginese script and probably-- it is not mentioned-- that language). A short study by van Lijf (1947) throws some light on Sa'dan oral traditions; he states that there are no written sources for the early history of those people. Written sources for the other linguistic groups probably do not exist.

Andi Zainal (1971) and Noorduyn (1955, 1965) both provide useful introductions to the nature of the lontara. None of those extant antedates the 17th Century (most are copies made in the 19th and 20th Centuries), though they deal with much earlier periods; and as Macknight says,

> we can reasonably assume that the information in the chronicles which relates to the sixteenth century is based on contemporary written records now lost. (Macknight MS:8)

In the absence of more detailed studies, however, we cannot say with certainty when lontara began to be written (nor even when writing was introduced into SSul-- see Appendix C for a brief discussion of the Buginese-Makassarese writing systems); nor is it easy to say where legend leaves off and fact begins, although it can be estimated. In this respect, researchers have long been impressed with the matter-of-fact tone of the lontara, and once they have been carefully studied, internal and/or external evidence for dating etc., may show them to be fairly trustworthy.

Traditionally, Buginese history is divided into two principal eras: (1) Galigo Era, or Era of the Gods, based on the I La Galigo epos, (2) the Era of the Lontara, which continues into modern times.

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The I La Galigo epic comprises the largest corpus of lontara, and is undeniably legendary and mythological in nature. Portions of it preserved in European libraries alone total some 6,000 pages[11]; some is preserved in Sulawesi, but the amount is unknown since many of the manuscripts are considered sacred, and few Buginese--fewer Westerners--are allowed to see them. The subject matter is varied: creation myths, collections of customary (adat) law, and heroic tales centering around the first kings of Luwu. The first king was Batara Guru, a god sent down from Heaven in the form of a man. He married the daughter of the Sea God; their son, Batara Lattu, became the second king of Luwu. His son, Sawerigading, in turn fathered La Galigo, and La Galigo's son, La Tenritatta, became the third king. (There is no explanation for skipping two generations in the succession.) With the death of La Tenritatta, the Galigo era ends, and it is at this point, usually, that the lontara chronicles of the various modern kingdoms pick up the story, and the lontara era begins.

Between the two eras lies a period of anarchy lasting seven pariamang[12] when

> 'men swallowed each other up like fish'. This chaos ended when the gods sent the first raja [king] to Luwu', himself said to be a descendant of Sawerigading. (Zainal Abidin 1971:166)

The various sons of this king then go forth, appear or "descend" mysteriously in different areas and become the first rulers of those areas. The term tomanurung (Bug. to 'person' + manurung < turung 'descend'; thus, "he who descended") is applied to these figures, since their

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origins are unknown, and they are believed to have been sent down from Heaven by the gods. From Andi Zainal's discussion and Noorduyn's thesis (1955) we see that the local lontara become quite factual in nature once the very first king's legendary origin has been dealt with--factual in the sense that genealogies are reasonable, people are born and die in non-magical ways, and kings' reigns are reckoned in years and decades rather than centuries. In addition, there are verifiable matters such as marriages (reflected also in family genealogies independently preserved), contact with the Portuguese (Goa, early 16th Century) and conversion to Islam (Goa probably 1605, Wajo 1611; see Noorduyn 1955:93-99).

Using such information, the events in the chronicles can be dated back into the mid-15th or even late 14th Century with fair certainty. Andi Zainal believes that the I La Galigo, therefore, could have been first written down in the 14th Century:

> ...at the time the I La Galigo was written, only a few Bugis literary works already existed. They described conditions in the kingdoms of Luwu and Tjina (Pammana) some time prior to the fourteenth century when the Bugis people still lived along the coast-- probably during the era of Srivijaya's greatness. (1971:161)

(Srivijaya was a South Sumatran empire which flourished circa 6th-10th Century C.E.)

Luwu is clearly regarded as the homeland of the Buginese. It is worth noting that Kruyt has found reminiscences of Sawerigading and tomanurung legends among the Toraja of Central and Western Sulawesi (Kruyt 1938:I:28-35).

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Andi Zainal has also found the Sawerigading material repreated in many other parts of the island-- the Minahasa and South-east Sulawesi, for example, though the names differ-- and possibly in Malaya(Zainal Abidin MS). Kruyt proposed that the Luwu area was the point of origin for the traditions which he found; he further proposed that a migration from the south (i.e. from another island) introduced metal and other cultural features into Luwu and thence into Central Sulawesi. Lacking firm archeological evidence, we can only speculate as to this latter point. The tomanurung legends could very well be borrowed, and of fairly recent date, since the Torajas were vassals of the king of Luwu until the firm imposition of Dutch control in 1905-08.

If the I La Galigo was composed around the 14th Century (composed, that is, in the sense that even older oral materials were written down), there is a possibility that Javanese chronicles may have served as a model. The name Batara Guru (in Makassarese chronicles, also, the legendary first king of Goa) is suggestive; it appears also in the Javanese chronicles where, as an avatar of Shiva, he is usually named as the founding figure of each new Javanese dynasty. Javanese chronicles of the Majapahit era (floruit ca. 1294-1478 C.E.) mention Goa, Salayar, Luwuk and other places in the Sulawesi area[13], mentions which are usually taken to indicate Javanese influence if not outright control (as the chronicles claim). An early king of Luwu is reported (in Buginese sources) to have married a princess from Majapahit[14]. Thus it could be that the I La Galigo represents

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a compilation of local legends within a framework of Hindu-Javanese inspiration, written for the purpose-- as is often the case with the Javanese chronicles-- of providing religio-magical legitimacy for a ruling dynasty.

Available sources for Makassarese history (Abdurrazak 1969, Wolhoff and Abdurrahim n.d.) give the name of the first king of Goa as Batara Guru. Three others succeeded him. By the end of that period, apparently early Goa was a federation of nine small princedoms, governed by a "committee" made up of the nine rulers, of whom one was chosen as primus inter pares. When at one point they were unable to decide on the succession, the land fell into a state of confusion, suffering, for example, invasions from outside-- one of which came from "Garassi" or "Garassi' "[15], possibly Javanese Grĕsik near modern Surabaya. Finally they decided to seek a new ruler, and at this point the tomanurung appears-- a woman. They ask her to become their queen and she agrees; some time later, two brothers of unknown origin appear "from the south", named Karaeng [king] Bayo and Lakipadada[16]. Wolhoff and Abdurrahim estimate that these events took place around 1300 C.E. The first ruler whose dates are known is the ninth King of Goa, called Tumapa'risi' Kallonna ("He with the sore [or sick] neck", believed to refer to a cancer) who ruled for 36 years in the early 16th Century-- 1510-1546 or 1512-1548 according to these two sources-- and was in power when the Portuguese first visited Makassar. The lontara specifically states that this visit took place the same year

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as the defeat of Malacca by the Portuguese, thus in 1511 (Wolhoff and Abdurrahim n.d;22 (§52)). One of this king's ministers is said to have "made" (invented? developed? introduced?) the Makassarese writing system.

At all times, the attention of the Makassarese appears to have been focussed toward the south, or else overseas, even though the coastal area directly north of the city has never known a powerful kingdom, and could have served for Makassarese expansion[17]. Further north, east and inland were the Buginese kingdoms of Bone, Wajo and Soppeng, completely preventing expansion in those directions.

Goa was not, of course, the only Makassarese kingdom, just the most important one. Since the others are seldom mentioned in the published literature, we cannot discuss them at this point.

The Mandar lontara published by Tenriadji and Wolhoff (1955) is of quite different nature: it relates a single incident, and is utterly factual in tone. Its background is this: having killed his cousin in a fight, the young Todilaling (son of the Tomakaka [king] of Napo, an inland area) fled or was exiled to Makassar, where he was brought up by the king of Goa and married a member of the royal family. The lontara begins just after his return to Napo, and describes his dissatisfaction with the primitive customs of his people. For example, disputes are settled by fights to the death, or by ordeals, rather than according to laws. He persuades his father to send a young nobleman back to Makassar to obtain a lontara of Makassarese law (<u>adat</u>),

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which can then become the adat of the Mandar people. This is done, and the story ends with the various Mandar chiefs agreeing to accept the new adat. Toward the end of the lontara, the writer begins to refer to Todilaling as "king of Balanipa," an oddity since his father's death is not mentioned.

On the basis of other Mandar lontara (at that time numbering nine, in the possession of the Yayasan Matthes in Makassar), and on the basis of oral materials (especially genealogies), Tenriadji hypothesizes that Todilaling lived around the time of the 9th King of Goa, Tumapa'risi Kalonna, thus circa 1500-1550. Todilaling would have spent his youth either at that king's court, or conceivably at the court of the 8th King of Goa. Tenriadji also finds a correlation between Todilaling's son's activities-- notably his expansion of the kingdom of Balanipa-- and the reign of Tumapa'risi Kallonna's son, circa 1546-1565 (cf. Tenriadji 1961).

Tenriadji's genealogical materials (1955, 1961) are interesting. First, they indicate that Todilaling was the 11th generation descendant of a tomanurung. More importantly, they indicate an inland origin for (at least) the Mandar nobility: they are said to have come from "Ulu Sa'dan," i.e. presumably the headwaters of the Sa'dan River[18]. The many children of the early figures spread throughout the whole of West Central Sulawesi-- Galumpang, Mamasa, Mamuju, various places in the Pitu Ulunna Salo area, Lemo (Seko area?)-- in addition to Enrekang, Duri, Bone and Goa.

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But the materials are contradictory: in one version (oral, 1961) the sister of Todilaling's great-grandfather is named Ilandobelua' ("Long Hair"), while in the other (1955, derived from a lontara) Ilandobelua' is the granddaughter of the tomanurung, thus some nine generations before Todilaling[19]. An interesting speculation is that the presence of so many feminine names in the genealogies might indicate a pre-Islamic matriarchal culture. One of the kingdoms-- Pasokkorang-- subjugated by Todilaling's son is said to have been founded by people from Palembang, the location usually given for ancient Srivijaya, which could reinforce the possibility of ties with the matriarchal Minang Kabau of South Sumatra[20].

For the Sa'dan Toraja, van Lijf (1947) provides a small amount of information. According to the traditions, their forefathers came to Sulawesi from the island Pongko' ("Heap of Earth") in the south (1947:519). They landed on the Mandar coast, at the mouth of the Sa'dan River, and proceeded inland to the Enrekang area. There, an incestuous union was punished by the gods with a great flood, after which the survivors adopted a new (the present) religion and began "zich in genealogische groepen te verspreiden over hun tegenwoordig woongebied" (519). For religious reasons, the genealogies have been carefully preserved-- orally-- and can perhaps be checked and dated by cross-reference with known events or with contact with the Buginese and their separate historical tradition.

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From the Enrekang area, the Sa'dan people spread to the north; according to van Lijf "de Noordwestelijke landstreeken van Sa'dan Toradjaland werden pas in de tweede half van de 16de eeuw volledig geoccupeerd" (1947:519). (Specifically, this must refer to the To Mangki in the Galumpang area.) In the genealogies, around the beginning of the 16th Century tomanurung figures begin to appear[21]. Van Lijf finds it plausible, though of course not provable, that the tomanurung element could refer to the arrival of some outside group, which succeeded in imposing itself on the society, at least in terms of religion and genealogy. Given the ties that exist between the aristocratic families thoughout South Sulawesi[22], it would not be surprising if the tomanurung/noble families were of outside origin, and perhaps from Luwu. It was not only the most "developed" kingdom in the 16th Century, but also the one to which the Sa'dan Toraja have traditionally been vassals.

There is little or no reliable information available on the movements of the other SSul linguistic groups. Hoorweg 1911 and the anonymous Mededeelingen (1909) give some data on the migrations-- both legendary and historical-- of people within the northern Mandar, PUS and Mamuju areas, and it seems clear that groups have for a long time migrated round about in the area, intermingling to a great extent. Of particular interest is Hoorweg's mention (1911:77-78) that the To Mangki (the forms To Makki' and To Mangkir also occur) originate, at least in part, from a point near Limbung, well to the east in the Masamba area. Since they

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are linguistically a branch of the Sa'dan Toraja, their migration must have been first from Makale/Rantepao into the Rongkong area, then west. In the region north of Mamuju, there are apparently groups of Toraja origin; To Bada' are mentioned in particular.

The Seko people, according to one of my informants, originated in the south (apparently in the present-day PUS area). They first migrated toward the west-- toward the Straits of Makassar-- then up the coast, and finally up the Karama River to their present home. The map in van der Veen 1929 also shows Seko settlements along the middle course of the Karama, and on its tributary the Hau; but it is impossible to say whether these groups stayed behind during the original migration, or are later movements back downriver. My informant assured me that his statements were not legend but fact, although he could not provide any dating; yet it must be significant that the movements are still remembered. It would be tempting to view the late 15th-16th Century as the beginning of the migrations: thus we could correlate (1) the arrival of the Mangki in their northwestern territory, (2) the apparent turmoil amongst the Mandars, and (3) the exodus of the Seko.

1.3c. Documented history. Despite almost a century of contact with the Portuguese, followed by 350 years of Dutch rule, still the historical sources for South Sulawesi are sparse. It is likely, however, that much material remains unexplored-- Portuguese and Spanish colonial

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archives, Vatican archives, or early records of the Dutch East Indies Company. For a variety of reasons, most Dutch historical work has centered on Java, while economically and culturally less interesting areas like Sulawesi received much less attention. Still, we can outline briefly the history of South Sulawesi from the time of European contact.

As mentioned above, the Portuguese arrived first, sometime in the early 16th Century-- 1511 according to the Makassarese sources-- and were well received. Along with other foreigners (e.g. Arabs and Malays) they engaged in the spice trade, and made some attempts at introducing the Christian religion (cf. Wessels 1938; Visser 1925, 1934).

When the Dutch arrived in 1603, they were dismayed to find Portuguese, Spaniards, English and Danes, along with the Arabs, all engaged in the spice trade. The Company claimed a monopoly on all trade, but this could not be enforced until their fleet became sufficiently powerful later in the century; they were aided too by the mutual antagonisms between the various foreign groups, and between the local kingdoms as well. Thus, with Buginese aid, the Makassarese were decisively defeated in 1667-68, and the Dutch occupied, and thereafter governed, Makassar. It was decreed that all Catholics must leave, and around 2000 are said to have been expelled. (These were mostly foreigners, since the local nobility had converted to Islam in the first years of the century.) The surrounding kingdoms became vassals of the Company, but actual control seems to have

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been rather loose, restricted mainly to veto power over the succession of uncooperative kings. Thus, despite Dutch power in the archipelago, in the late 17th-early 18th Century the Buginese were able to take over the Sultanate of Johore (Malay Peninsula) where their dynasty continues to the present day.

The 18th Century is poorly documented. A major event, however, was the dissolution of the Company in 1799, followed by the assumption of direct control in Indonesia by the Dutch royal government. As a result, during the 19th Century social and economic policies were somewhat more enlightened. In 1845, B.F. Matthes was sent by the Netherlands Bible Society, charged with learning the local languages and translating the Bible into them. This appears to have been of little benefit to the staunchly Islamic Buginese and Makassarese, but Matthes' linguistic, literary and ethnographic works have been of great value to subsequent students of the area. By the latter part of the 19th Century, most of Sulawesi was being explored and mapped, and Dutch control was beginning to seep into the more remote areas. The missionary-anthropologists Adriani and Kruyt, among others, began their work in Central Sulawesi at this time.

In a series of military actions 1905-08, the various kingdoms of South Sulawesi were defeated; the kings continued to govern, but now under the direction of Dutch authorities. Missionary activity amongst the Sa'dan Toraja began in the

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1920's under Dr. H. van der Veen who, like Matthes, has produced a dictionary (1940) and Bible translation.

During the Second World War, the Japanese occupied Sulawesi from 1942 to the end, though the precise extent of their control-- especially in the interior-- has not yet been described. After the war, Dutch control was briefly re-imposed, but support for Sukarno's independence movement was strong. From 1946 to 1950, Makassar served as the capital city of Negara Indonesia Timur, a sort of puppet "independent" state set up by the Dutch to compete with Sukarno's Republik Indonesia; nationalist sentiment finally led to the dissolution of NIT and merger with the republic.

Purely local history, e.g. relations between the relatively independent kingdoms of South Sulawesi, their military exploits in the surrounding islands, remains largely unexplored, though reliable sources probably exist in the many lontara which await editing. It should be clear, in the meantime, that anything resembling a complete history of the area has yet to be written.

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FOOTNOTES: CHAPTER I

1. Not completely free, of course, for there is contact with the outside through the ports of Palu, Donggala and Parigi, as well as some traffic with Mamuju. Esser, in the 1930's, found distressing signs of Western influence (see Noorduyn 1963:342 for example), though not apparently widespread. These people have, in large part, been Christianized, but since Malay was the medium of instruction there has been little work done in the native languages. I suspect that the present Indonesian government controls the area only slightly more firmly than did the Dutch.

2. A&K do not describe it phonetically, but judging from the practices of other Dutch linguists of the era, I take it to indicate some kind of velar or possibly pharyngeal fricative. In the orthography adopted for Sangirese, for example, "gh" represents the voiced velar fricative.

3. Here and elsewhere (e.g. "Luwu", "lontara") I shall follow the practice of local writers in omitting the final glottal stop of native words used in the text -- unless, of course, they are being cited as examples.

4. Andi Zainal Abidin, in conversation.

5. Unless otherwise specified, the quotes on pp. 19-21 are from Dr. Macknight's letter to me, dated 24 April 1972.

6. Their scientific findings were published as: Sarasin, Paul and Fritz Sarasin, Materialen zur Naturgeschichte der Insel Celebes. 5 vols., C.W. Kreidel's Verlag, Wiesbaden, 1898-1906.

7. All over SE Asia one finds such relic groups who have retreated, or been pushed, into difficult and undesirable terrain in the face of more aggressive, more "civilized" coastal peoples. Cf. in this regard R. Burling's Hill Farms and Paddy Fields (Prentice-Hall 1965), especially chs. 1 and 2. In Indonesia, the Kubus of Sumatra, Badui of West Java, Tengger of East Java and the Bali Aga of Bali are examples. Certainly one reason for the Toala's great diffidence vis-a-vis their Buginese and Makassarese neighbors was the latters' active slave trade.

It is not my intention to make light of the Sarasins' scholarly abilities, merely of their rather obsessive devotion to one theory; they were men of their times. Still, they were the first Europeans to explore seriously in Sulawesi, traversing the island at various points from north to south, and from east to west-- no mean feat in the 1890's before Dutch control had been established, and some of the

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mountain peoples were just beginning to think about giving up head-hunting. The Sarasins' observations of the geological formations, flora and fauna were pioneering, accurate, and extremely important to later researchers, such as there have been. Though the Veddoid theory may have fallen out of fashion, it is by its nature neither provable nor disprovable; and given our almost total lack of information on the racial/ethnic make-up of Indonesia, it may be as good a theory as any other.

8. By the time the Dutch learned about the image and dispatched an archeologist to the area, the river had washed away the site. Evidence of a settlement-- bits of pottery, e.g.-- was discovered in the general area, however. What a jolt it would have been, if an Indianized settlement had been unearthed! Krom (1938:135) seems to feel that the Karama area, like Muara Kaman, may once have had such a settlement, when he writes "...wij...ook Celebes moeten rekenen onder de plaatsen, waar het hindoeisme zich in den aanvang heeft doen gelden, al is het sedert dan ook geheel verdwenen."

9. An occasional piece compares favorably with porcelains in the Jakarta Museum's collection; to my untrained eye, however, most of this material is quite crude-- very thick and heavy, haphazardly decorated. One almost has the impression that perhaps traders brought their shoddier wares out to the provinces, where no one would know the difference. I should here express my appreciation, once again, to Dr. Macknight for providing me with the ANU's translation (mimeo, 1971) of the relevant portions of: Itō, Chūta and Yoshitaro Kamakura, Ancient Pottery and Porcelain in Southern Lands, 2nd ed. Hōun-sha, Tokyo, 1941.

10. Properly, Mak. /lóntaraq/. It may be a native Mak. word, but more likely is a borrowing < Jav. lontar 'term for ancient manuscripts written on narrow strips of palm leaf'; Jav. lontar in turn is usually considered to be a compound of (metathesized) ron 'leaf' + tal 'lontar palm, Borassus flabellifer' < Skt. tāl(a) 'palm tree sp.' As far as is known, lontara were never written on lontar leaves, though the very oldest Bug. MSS are said to have been written on the leaves of the akaq tree.

11. See for example R.A. Kern's two catalogues (Kern 1939, 1954), which in addition to describing the holdings and their locations, also provides summaries of many of them.

12. Bug. pariama is the name of a constellation; pariamang, according to Andi Zainal (pers.comm.) means both 'generation' (hence we would assume, about 25 years) or 'eight-year cycle (the Jav. windu cycle)'. The length of the period of anarchy, thus, is indeterminate.

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13. These are mentioned in the Javanese Nagarakrtagama (1365). There is a slight problem, in that there is also a town called Luwuk on the coast of eastern Sulawesi, opposite the Banggai Islands. Banggai is also mentioned by the Javanese, but in view of the known historical importance of Buginese Luwu, and the lack of any such reputation for the eastern Luwuk, it is usually assumed that the Javanese were referring to the Buginese area.

14. Another problem: there was apparently a small Buginese state also called Majapahit (Mancapaiq in Bug.). Marriages are also said to have taken place with princesses from Champa and Cambodia as well, according to Andi Zainal, and this begins to sound like an imitation of Javanese material though it could also, of course, be true.

15. The transcription without final /q/ is Abdurrazak's, that with /q/ is Wolhoff and Abdurrahim's.

16. Bayo, by some, is held to be a variant of Bajo or Bajaw, the nomadic "sea-gypsies" found in many parts of Indonesia, including Sulawesi. Another interpretation is offerred by Mangemba (1971) who relates a Sa'dan legend about a Lakipadada who is said to have married the daughter of the ruler of Goa; their three sons became the kings of Goa, Luwu and Tanah Toraja. But according to the Makassarese sources, it is Karaeng Bayo who marries the tomanurung.

17. If the theory of movements proposed in Ch. III §9.4 is correct, there was no choice; on the contrary, the pressure of Buginese expansion required the Makassarese to keep moving to the south.

18. However, as I show in §3.9.4, another interpretation is possible, since modern Mdr. uses the word sa'dan(g) in the sense '(any) river.'

19. But of course, there could have been two women of the same name.

20. There are two slim reeds to support this speculation: (a) Tenriadji and Wolhoff 1955 (part I):13: "According to Mandar tradition, Pasokkorang was a very large kingdom in the Mandar area before the formation of Balanipa, and its inhabitants originated from Sumatra." (my translation); (b)(ibid.) (I paraphrase) in the reign of Tunipalangga (Tumapa'risi Kallonna's son) a certain Anakoda Bonang requested land for his followers, who are described as being from Pahang, Patani, Champa, Minangkabau and Johore. But if these two statements refer to the same thing, then we are dealing with the mid-16th Century, long after the decline of Srivijaya.

It is also exciting to speculate on a sound change which Mandar has in common with Minangkabau: *a > e / —t#. The change is sporadic in Mandar, but affects basic vocabulary. Could it be due to the absorption of these outsiders by the

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Mandars? Was Pasokkorang perhaps a trading colony founded by Minangkabaus, if not by Srivijaya? At the moment, the only evidence for its existence are the statements cited above. Surely this is an interesting area for more research.

21. Most of the genealogies go back only 20 or so generations (van Lijf 1947:518) and thus do not antedate the 16th Century

22. In fact, Andi Zainal tells me, families with ties to the Sa'dan Toraja kings are considered to be especially blue-blooded.

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CHAPTER II

THE SOUTH SULAWESI LANGUAGES

2.1. Phonology of the individual languages.

2.1.1. Buginese.

2.1.1.1. Phonemes and their features. The segmental phonemes of Buginese are as follows:

Consonants:						Vowels:			
	p	t	c	k	q		i	ɨ	u
	b	d	j	g			e	a	o
	m	n	ñ	ng					
	w	l,r	y						
		s							

In the speech of the highly educated, /h š f z/ also occur, in Arabic and Dutch loan words. /y/ occurs in obvious loans as well as in apparently native words, but on the basis of comparative evidence, these latter too can be classed as loans, from Ml/BI or Makassarese.

A distinctive feature analysis is set forth in Chart 1. It should be viewed primarily as a statement of synchronic facts; thus it includes the borrowed phoneme /y/, partly because the words in which /y/ occurs are found in the vocabulary of all speakers, partly because phonetic [y] is needed in any case in the surface structure. In addition, it evades the question whether glottal stop (/q/) is really present in underlying forms; this will be dealt with in more detail, for Buginese, in §2.1.1.2a below and, for all the SSul languages, in Chapter III §§6 and 9.2.

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CHART 1.

Distinctive features of Buginese

	p	b	m	t	d	n	s	c	j	ñ	k	g	ng	r	l	w	q	(y)
Consonantal:	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-	-
Syllabic:																-	-	-
Obstruent:	+	+	-	+	+	-	+	+	+	-	+	+	-	-	-			
Grave:	+	+	+	-	-	-	-	-	-	-	+	+	+	-	-	+	-	-
Diffuse:	+	+	+	+	+	+	+	-	-	-	-	-	-	+	+	+	-	+
Nasal:	-	-	+	-	-	+	-	-	-	+	-	-	+	-	-			
Continued:	-	-		-	-		+	-	-		-	-		+	+	+	-	+
Voiced:	-	+		-	+		-	-	+		-	+						
Lateral:														-	+			

	i	e	ɨ	a	u	o
Consonantal:	-	-	-	-	-	-
Syllabic:	+	+	+	+	+	+
Obstruent:						
Grave:	-	-	+	+	+	+
Diffuse:	+	-	+	-	+	-
Rounded:			-	-	+	+

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The more traditional features Grave and Diffuse have been chosen over Chomsky and Halle's (1968) set (anterior, coronal, high, back) because of their greater economy. Four features are simply not needed to describe the four contrastive points of articulation in Buginese. Further, the important morphophonemic alternation between /b/ and /w/ can be stated much more concisely with the Jakobsonian features. Finally, with one or two additions, much the same set of features can be used to describe PSS.

2.1.1.1a. Vowels: allophones. Phonetically, Bug. /a/ is low, while /e/ and /o/ are mid. The phonetic norms for the high and mid vowels vary freely to a considerable extent, from higher/tense/close to lower/lax/open. Thus, /i/ can be realized almost anywhere in the range [i....I˅], where [I˅] is very close to the highest variant of /e/; /e/ in turn is realized as [e^...E]; /ɨ/ as [ɨ...ʌ]; /u/ as [u.. ..U˅], where [U˅] is very close to the highest variant of /o/; /o/ is realized as [o^...ɔ]. The lowered variants of /i u/ occur especially in absolute word-final position, but idiosyncratically, not predictably. Lowered /i e u o/ are found in closed syllables consistently enough to be termed allophones. The variations of /ɨ/ seem to depend more on tempo and the nature of the surrounding consonants (e.g. whether or not the body of the tongue is raised) since /ɨ/ only occurs in closed syllables; thus lower [ʌ] tends to occur before labials, higher [ɨ] tends to occur before velars and palatals in particular, and usually before dentals. The vowel sequences /ái áe/ and /áu áo/ are usually ambiguous

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in all but the most careful speech, reducing to [a^{i}] and [a^{u}] respectively. The ambiguity (which exists, of course, only for the non-native speaker) can be resolved either by obtaining some suffixed form of the word, in which the stress shifts to the second vowel, or by seeing the written form.

2.1.1.1b. Vowels: distribution. The only restrictions on the occurrence of vowels involve /ɨ/: it occurs in closed syllables only, and does not occur (intramorphemically) in sequence with /a/ (i.e., there is no /...aɨ.../). Otherwise /i e a u o/ may occur in any position-- initially, medially, finally, in open or closed syllables. Word-initial vowels are optionally pronounced with glottal stop onset. In sequences of two unlike vowels, a [y]-glide is inserted between a front vowel and another, and a [w]-glide between a rounded vowel and another. However, the sequences [eyi] and [owu] practically do not occur; this would be because such sequences would have to go back to a sequence of two like vowels, and these do not occur since, both diachronically and synchronically, like vowels coalesce. Identical vowels may occur across a morpheme boundary; in some cases they coalesce, in others a w-glide is inserted-- a case of dissimilation since the vowels involved can only be /i/, /e/ or, in some dialects /a/. This appears to be unique to Bug., has not disturbed the historical development in any way, and so will not be discussed further. Examples:

mɨlli 'to buy', mɨlliwi 'he buys' (/-i/ '3d person')

mɨta 'to see', mɨtawaq 'I see' (/-aq/ 'I')[1]

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ásu 'dog', asúe 'the dog', asuéwe 'this dog' (the morpheme /-e/ seems to function both as the definite article and as the near demonstrative)

bále 'fish', balée 'the fish (phonetically [balé:]), baleéwe 'this fish' ([balé:we]).

2.1.1.1c. Consonants: allophones. There are no important allophonic variants. As in most IN languages, voiceless stops are unaspirated; /t/ is dental while /d/ is alveolar; /c j ñ/ are palato-alveolar in Bug., Mak. and Mdr., however, unlike the palatalized dental /c j ñ/ of Jav. or BI; /r/ is a tap intervocalically, a trill initially; /w/ is usually bilabial, sometimes labio-dental as in BI, but the w-glide after rounded vowels is always bilabial.

2.1.1.1d. Consonant clusters. Bug. phonology allows two types of clusters-- nasal clusters and geminate (or "long") consonants-- both found only in medial position. (Matthes does cite some forms, said to be Bone dialect the prestige dialect-- with nasal clusters in initial position, but these are due to morphophonemic processes.)

Nasal clusters consist of any stop, or /r/, preceded by a homorganic nasal. (/nr/ is phonetically [$n^d r$].) As will be shown, instances of nasal plus voiced stop, and some nasal plus voiceless stop clusters, can be viewed as non-native (cf. Chapter III §5).

The geminate consonants-- a characteristic feature of the SSul languages-- can be (and often are) analyzed as unit phonemes using classical phonemic procedures; but since their occurrence is restricted, and moreover, since

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they originate historically from several different sources, it seems more realistic to consider them as clusters. All stops, nasals and continuants may be geminated; /w/ and /y/ are also found as geminates phonetically, though phonologically there seem to be other explanations. Glottal stop never occurs geminated.

Phonetically, the geminates are realized as follows:

pp tt cc kk : preferably as [C:], that is, the stop closure is held about 1-1/2 to 2 times longer than for a simple stop. They are also pronounced as [qC], but the [C:] pronunciation also involves closure of the glottis-- perhaps to be symbolized as [^{q}C:].

bb dd jj gg : either as [qC] or [C:], the latter being typical of Bone dialect and considered more elegant.

mm nn ñ̃ ngng : always [N:]. Tongue contact and passage of air through the nose are prolonged. Across a morpheme boundary, the sequence /q + N/ is usually realized as a geminate nasal, though [qN] also occurs.

rr : a strong trill, contrasting with the single tap /r/.

ll ss : the tongue contact and respective voicing/ sibilance are prolonged. /ll/ has a darker, more velarized quality then /l/, especially after /i/.

ww yy : In earlier phonemic analyses of Bug. (Mills 1968ms, Lekawatana 1968ms) these two clusters were proposed as occurring in three examples: [seu̯:^{w}wa] = /sewwa/ 'one'; [bau̯:^{w}wa] = /bawwa/ 'belly'; and [qi̯:^{y}ya] = /iyya/ 'he, she'. (This last is also

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written "iyya" by Matthes.) Closer investigation suggests that these should be analyzed as /se + wua/, /bawua/-- probably containing the same root /wua/, perhaps underlying /bua/-- and /i + ia/, where the initial /i/ represents a fossilized prefix also found on the other pronouns: /iaq/ 'I', /iko/ 'thou', /ikɨng/ 'we (exclusive)'.

2.1.1.1e. Consonants: distribution. Any single consonant may occur in initial position, except that (1) /w/ from historic *w is rare, and varies with /u/-- e.g. /wâi ~ uâi/ [$w\acute{a}^{i}$ ~ $u^{w}\acute{a}^{i}$] 'water'; but /w/ from historic *b never varies in this way. (2) /y/ is found only in a few loan words-- e.g. /yaking/ 'certain', BI yakin, ultimately from Arabic. (3) /q/ is non-phonemic, an automatic onset for initial vowels. In Bone dialect, a few verbs are found with initial nasal clusters, e.g. /nrasa/ 'to feel' < N + rasa 'feeling' or /mpuno/ 'to kill' < N + wuno, possibly underlying /buno/. See below, 2.1.1.2b, regarding the symbol N.

Intervocalically, /q/ never occurs within a base morpheme, nor do /w/ and /y/ occur after /ɨ/; otherwise, all single consonants and all clusters may occur. Since /ɨ/ can only occur in a closed syllable, it follows that a nasal cluster or geminate will always follow it. Synchronically, it would be possible to state that geminates are predictable after /ɨ/ and need not be indicated. That is true, but while such an analysis appears to be more economical, three considerations militate against it. First, geminates

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occur after other vowels too, and consequently must be indicated in underlying forms anyway. Second, not all geminates after /ɨ/ arise historically from the automatic doubling-- some are reflexes of an original nasal + voiceless stop (see §3.5a). Third, in the other languages of the family, where /a/ corresponds to Bug. /ɨ/, geminates also occur; this means that gemination after /ɨ/ was a feature of the proto-language; the underlying forms in the various languages contain geminates, and therefore there is no need to reiterate the gemination rule for each language. Thus it would be a false economy, and historically inaccurate, to posit underlying forms in Bug. without the geminates after /ɨ/.

In final position, only /q/ and /ng/ occur. Morphophonemic evidence suggests that other consonants were present in some earlier stage of the language, and may still be present in underlying forms. (See further §2.1.1.2 below and §3.9.2.)

2.1.1.1f. Syllable and word structure. The minimum free phonological word is a monosyllable of the shape (C)VC-- we generalize here as to the optional initial, for no words of the shape /VC/ are found. Examples are: /deq/ 'no', /pang/ (BFM) 'thigh', /noq/ 'descend'. Even loan words are fitted into this pattern. Thus, the word for 'tea' (Ml/BI téh) ought to show up as */te/, but instead is /teng/. Syllable structure in polysyllabic bases and bound morphemes is (C)V(C); restrictions on the final C should be clear from the discussion above.

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2.1.1.1g. Stress. Stress falls predictably on the penultimate syllable, and is manifested as higher pitch (plus vowel lengthening in open syllables). Thus, ónro 'dwell', monrói 'dwell in, inhabit'; añárang 'horse', añarámmu 'your horse'; jáji 'become', ajajíang 'to beget, create'. Thus the general stress rule can be informally stated: stress the next-to-last vowel. There are, however, some exceptions, both predictable and unpredictable.

Predictably, words which end in a consonant do not shift stress when the definite marker /-e/ is added; so we find bóla 'house', bolåe 'the house' but añárang 'horse', añárange 'the horse' (phonetically, there is a secondary stress on the final /e/). Likewise, verbs do not shift stress when the person markers and certain other suffixes are added; thus, mɨlli 'to buy', mɨllikaq 'I buy'; lári 'to run', láripi 'he still runs', láripiga 'is he still running?' (secondary stress on /-ga/).

There is a fairly large class of words-- all loans from or via Makassarese-- which have stress on the antepenultimate syllable. Examples: céndoloq 'kind of pudding made of coconut', Mak. idem, BI céndol; hárusuq 'to have to...', Mak. idem, Ml/BI harus, ultimately from Arabic. These words can be characterized as follows: (1) the vowel of the ultima is always the same as the penultimate vowel, and (2) the consonant between these two vowels is always a continuant, /r l s/-- in fact, the final consonant in the source language. But it is not their phonological structure that marks them for antepenultimate stress, for there are native Bug. words

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with the same structure (...CV_aCV_aq#) and regular stress, e.g. talipóloq 'band, ribbon'. In a few cases the stress has been regularized, as in Bug. tappéreq, Mak. táppereq 'mat'. Further, it is clear than in borrowing these words, Bug. has borrowed only the Mak. surface form, not the underlying form or the Mak. echo-vowel rule (see §2.1.2.1e). This is proven by the use of the borrowed form in derivations; thus Bug., from hárusuq 'have to', forms harusúkáng 'consider as necessary, need', while Mak. forms derivatives on the underlying base /harus/: harúsang 'need'.

A few Bug. bases show stress on the final syllable; it is unpredictable synchronically, though an historical explanation is often available. Thus, balí 'to help' can be viewed as bali 'side' + fossilized /-i/ 'transitive/ locative suffix', thus 'to be at the side of, to accompany, thence, to help'. Other instances result from the coalescence of unlike vowels, which is no longer permitted, and appears to have been only semi-productive in Matthes' time. Examples: karawéng 'afternoon' < *karawíang < *rawi 'late; afternoon' + *ka...an 'nominalizer'; arúng 'king, prince', cf. Sad. arruan 'idem'. A case like arajáng 'royal paraphernalia' < raja 'king' + (k)a...ang 'nominalizer' is still permissible and transparent, since like vowels can coalesce.

Note finally that a monosyllabic word-base plus a prefix will emerge with final stress, i.e. stress remains on the base, as in mannóq 'to descend' < maN- 'verbal prefix' + noq 'descend', or padéq 'to destroy, annihilate' < pa- 'causative prefix' + deq 'not' ("cause not to be").

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2.1.1.2. Morphophonemics. The observed morphophonemic changes can be divided into two groups: those involving final consonants, and those involving initial consonants.

2.1.1.2a. Final consonant changes. As already noted, only /q/ and /ng/ occur in word-final position. When a suffix with consonant-initial is added, both final /q/ and /ng/ assimilate completely to that consonant, as in:

asi̇ng 'name' + -ku 'my' > asi̇kku 'my name'

añarang 'horse' + -mu 'your' > añarammu 'your horse'

lipaq 'sarong' + -ku > lipakku 'my sarong'

uliq 'skin' + -na 'his' > ulinna 'his skin'

(Some speakers, sometimes, do not assimilate /-q/ to the nasal, saying e.g. [uliqna]; but this is not common.) The same assimilation occurs in certain compounds, where the compound word is apparently felt as a unit: e.g. karamellima 'finger' < karameng 'finger or toe; digit' + lima 'hand, arm'. And it occurs when the prefix /maq-/ is added to a consonant-initial base, as massuro 'to order' < suro, or mannoq 'to descend' < noq (see §2.1.1.2b below regarding the two underlying forms of this prefix). Such juncture phenomena, it must be clear, constitute a source of gemination in the surface structure.

Another, more interesting change affects final /q/ followed by the verbal suffixes /-i/ 'transitive/locative' and /-i̇ng/ 'benefactive/objective focus'[2]. In these cases, the /q/ changes to either /-r-/, /-s-/ or /-k-/. Note:

tiki̇q 'vigilant' > mattiki̇rri 'to watch over, guard'

nipiq 'thin' > mannipísi 'make thin, plane (a board)'.

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baiccuq 'little' > baiccuki 'to make (something) little, to reduce'

A few bases show more than one alternant (e.g. timpaq 'open', timpárıng ~ timpákıng 'open for (someone)') and a very few show all three possibilities. These morphophonemic changes have been in the language-- as far as we can tell-- at least since the introduction of the writing system around the early part of the 16th Century; by now it is probably a matter of convention only that dictates the choice of r, s, or k, for a good deal of analogical re-shuffling has taken place, and continues to this day[3]. Bases with multiple possibilities, or with an etymologically wrong consonant, are clear evidence. Some informants, also, feel that the choice of consonant depends on the part of speech of the derivative-- thus from sıssıq 'regret' we find sıssírri 'to regret (something)' but sıssíkkıng 'regret'(noun). One of my informants felt that -r- was "usually" used for verbal derivatives, -k- for nominals. The same possibility was mentioned in Brandstetter (1911:31), though Matthes' grammar does not discuss it nor, in my view, do the derivatives listed in his dictionary support it; even so, such a development would not be unexpected, as something similar seems to have taken place in other AN languages (see the closing paragraphs of §3.9.2 for further discussion).

The problem of final consonant alternations could be handled in any of several ways. First, we could propose that bases have two allomorphs, one "independent" (e.g.

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tikiq, baiccuq), the other "suffixed" (e.g. tikir-, baiccuk-). Or we might propose that it is the suffixes which vary-- -and ~ -ring ~ -king; -i ~ -ri ~ -ki etc. Either or both of these analyses probably coincide with native speakers' intuitions. From a generative point of view (and historically more accurate) we would posit underlying forms with final consonants-- e.g. /tikir/, /nipis/, /baiccuk/-- which go to /q/ in absolute final position according to a rule:

"Final Neutralization"

$$\begin{bmatrix} +\text{cons} \\ -\text{nas} \end{bmatrix} \longrightarrow \begin{bmatrix} -\text{cons} \\ -\text{cont} \end{bmatrix} / \text{——\#}$$

(r,s,k ⟶ q / ——#)

Such an approach, however, leaves two unresolved problems: (1) what is the underlying final of sissiq, sissir-, sissik- and (2) how is the final specified for the many words which Matthes lists without derived forms, including modern loans like /jiq/ 'Jeep'? Still another problem arises when we try to derive Bug. underlying final /r s k/ from the final consonants of PSS; a regular process of neutralization, combined with analogical re-shuffling, has resulted in a very confused situation, which will be discussed in more detail when we treat the PSS finals (§3.9.2). Suffice to say here, that a generative phonology of Bug., based on synchronic data, would be much like what has been outlined above, but it would be inadequate for comparative purposes, since we could not give general rules for the development of PSS finals. That is, while Bug. /tikir/ reflects PSS *tikat, the statement "PSS *-t > Bug./-r/" is not true for all *-t.

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2.1.1.2b. Initial consonant changes. We are actually dealing here with phenomena produced by combinations of a prefix- or word-final consonant (/q/ or /ng/) and the initial consonant of a base. In the preceding section, some examples showed that the development in such cases is the same as that found at word-final position. Other cases, however, show a different development, and internal reconstruction allows us to set up, for example, at least two verbal prefixes /mar-/ (possibly /marr-/) and /mang-/, reflecting in turn PSS *mar-, *mang-[4].

Both prefixes are reflected as /maq-/ in the surface structure of Buginese; however, one (< *mar-) forms intransitive verbs, usually from nouns, with the meaning 'having..., endowed with..., doing habitually..., while the other (<*mang) is added to verbal bases and generally marks active voice. Distinctive allomorphs appear when the prefixes are added to a vowel-initial base, and these allomorphs reveal the distinct underlying forms:

mar + any stop, nasal, /l/, /s/ > ma + geminate stop, nasal, /l/, /s/;

mar + vowel > marr + vowel.

mang + voiceless stop, nasal, /l/, /s/ > ma + geminate vl. stop, nasal, /l/, /s/;

mang + vowel > mang + vowel.

The changes described for consonants are the same as those which occur, or could occur, at word-final position. The change of /mar-/ to /marr-/ is irregular but probably due to analogy: the pressure of the paradigm is such that one

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expects to find a geminate following the prefix /ma.../[5]. Now, the combination nasal + voiced stop should result, historically, in a sequence nasal + voiceless stop (the comparative evidence is firm on this point; see §3.5b), but such a development is found for a handful of verbs only, e.g. /mangkauq/ (< gauq 'to do') used in the sense 'to rule', /mañcujung/ 'to carry on the head; figuratively, to revere' (< jujung, but a base cujung also occurs as a back formation); /mañcaji/ 'to be, become' (< jaji). This last is still current in the spoken language, a usage which may be due to the influence of synonymous Ml/BI mĕnjadi. Other instances of mang + voiced stop are lacking; we find instead that the variant /maq-/ has been generalized. For example: /maqgaru/ 'to stir', /maqbere/ 'to give', /maqjama/ 'to touch'.

Following /maq-/ from either source, bases beginning with /w/ consistently change it to /b/, as in /were/ 'give' > maqbere. Bases with initial /r/ usually change it to /d/-- e.g. /rampuq/ 'pull up/out' > maqdampuq, /rangi̇ng/ 'friend' > maqdangi̇ng 'be friends'-- but the r/d alternation is less consistent than the w/b alternation, for forms with the expected assimilation also occur (that is, maq+r > marr-).

The same alternation also occurs after other prefixes, but not consistently. For examples, from /ri̇nnu/ 'hope' Matthes lists the following derivations:

marri̇nu 'to hope'

ri̇nnuwang 'to trust'

padi̇nnuwang 'trust' (noun)

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parinnuwangi)
)
adinnuwangi) 'entrust (something) to (someone)'
)
parinnuwanging)

adinnuwanging 'expect (something) from (someone)'

From /rinring/ 'wall' the following:

arinringing 'wall, fortification'

padinring 'curtain, partition'

A complete review of all the native words with initial /r/ listed in Matthes shows that the choice of /d/ or /r/ is not dependent on the prefix or on the part of speech of the derivation. The figures are:

after /maq-/ : 27 /d/, 61 /r/, 6 with both.
/pa-/ : 25 /d/, 23 /r/.
/taq-/ : 5 /d/, 6 /r/, 1 with both.
/a...ing/ : 16 /d/, 12 /r/, 4 with both.
/po-/ : 8 /r/. (A rare prefix.)
/pe-/ : 6 /r/. (Rare.)

Bases with initial /w/ show a similarly random choice of /w/ or /b/ after the vowel-final prefixes, but consistently change to /b/ after /-q/, for example:

/winruq/ 'make' > maqbinruq 'to make'
pabinruq 'deed'
abinrusing 'makings, raw materials'
kawinruq-winruq 'to do now one thing, now another'

/witta/ 'bind' > siwitta 'bind together'
pabitta 'k.o. binding'
abittáng 'thing bound with a pabitta'

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I propose the following explanation: /b/ and /d/ at one time must have had conditioned allophones [w] and [r] in intervocalic and initial position, [b] and [d] elsewhere, i.e., postconsonantally. This would have led to regular alternations between [w...] > [marb..., mamb...] and [r...] > [mard..., mand...]. But as the result of later sound changes, mb ⟶ mp, and nd ⟶ nr, the feeling of relationship between base and prefixed form was obscured. At the same time, neighboring languages like Makassarese and Sa'dan Toraja, familiar and prestigious languages like Ml. and Jav., and possibly other Bug. dialects, retained cognate items with initial [b] and [d]. Thus Bug. forms with b ~ w and d ~ r underwent a certain amount of shuffling around, a restructuring whose analogical patterning is lost to us today, but whose effects are clearly visible in the many b/w and d/r doublets listed in the dictionary. It appears that the tendency to alternate /r/ and /d/ is even now being generalized, for it now affects words which ought not to have it-- i.e., those whose initial /r/ < *r, not *d-- for example: raiq 'raft', maqdaiq 'carry on a raft' (PSS *raki(t), PAN *ɣakit) or roti 'bread', maqdoti 'to make bread < Ml. roti idem, ultimately of Indic origin.

In sum, a great problem in Bug. phonology is whether to set up underlying forms with /b/ and /d/ which change to /w/ and /r/ in initial position, or vice versa; under either analysis, numerous exceptions would occur.

Matthes' Grammar also mentions changes in initial consonants which are typical of other IN languages

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(and of Makassarese) but which seem to be no longer productive in Bug.-- we refer to the "nasal substitution" found in Jav. and Ml. verbs, whereby the verbal prefix represented morphophonemically as N- produces the following changes: N + p > m, N + t > n, N + s > ñ, N + k > ng. Matthes notes /kanro ~ nganro/ 'to pray', /susu, mannusu ~ mañ̃usu/ 'to suck'. There are so few forms that the process could not have been productive even when Matthes wrote, a century ago; as we have mentioned, the modern language has generalized /maq-/ < *mang in these cases. It is well to keep this process in mind, however, since it is customary in AN linguistics to count as cognates (without need of explanation) forms which differ only as to initial stop or nasal. To cite just one example: Ml. Jav. tipis, Bug. nipiq, Mak. nípisiq 'thin'.

In several cases, a vowel-initial base alternates with a /k/-initial form in prefixed forms and compounds; where cognates are available, an initial *k is often indicated. Thus, Bug. ita, mita 'to see' (transitive) but makkita 'to see, be able to see' (intransitive, < *mar + kita) and also pakita 'vision, ability to see' (PAN *kiṭa). Or, watakkale 'body, torso' < watang 'stem, basis' + ale 'body' (note Mak. Sad. kale); ocikkociŋ ~ osikkosiŋ 'a fish sp.' < presumed *kosiŋ though the other languages lack cognates. If we posit underlying forms with initial /k/, then these forms must be marked as undergoing a minor rule--

"Initial k loss"

$$\begin{bmatrix} +\text{obst} \\ -\text{grave} \\ -\text{diff} \\ -\text{voi} \end{bmatrix} \longrightarrow \emptyset \; / \; \#\text{—}$$

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Since Bug. shows sporadic loss of *k in intervocalic position as well, this may be another example of a regular process which has been arrested by borrowing and obscured by analogy.

It is well to point out, however, that there are also instances of this "intrusive k" which do not reflect *k-, e.g. alɨq 'woods', makkalɨq 'wooded' < PSS *alas, PAN idem. Such a form probably stems from an earlier ka + ... or ke + ... 'having ...' with permissible vowel assimilation, V_1V_2 > V_2. Still, this does not explain cases like watakkale.

A rather trivial irregularity involves words with initial /u/ (perhaps a fast-speech variant of /wu.../, certainly historical /wu/ < *bu...) which have alternants in /mp/: ulɨng 'moon, month', reduplicated ulɨmpulɨngɨng 'menses'; Matthes also lists the doublet wulɨng which was rejected by informants. Note also ulawɨng 'gold', wɨnnampulawɨng 'golden thread' (wɨnnang 'thread' + ulawɨng). Again, informants rejected Matthes' alternate listings pulawɨng and mpulawɨng. If we posit underlying forms with initial /b/, then the following rules will produce the correct surface forms:

(i) b ⟶ w / #— (a general rule)

(ii) w ⟶ ∅ / #—u (a minor phonetic rule)

Finally, there are a few cases of doublets with initial /r/ against initial ∅, such as /rɨllung, marrɨllung ~ ɨllung, mɨllung/ 'cloudy, clouded over'. In all cases where cognates are available, the r-initial form is clearly analogically based on the prefixed form.

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2.1.1.3. Buginese dialects. Notwithstanding Matthes' incredible statement that there is no dialect variation in Bug., we find evidence of a fair amount, some of it discussed in the pages of Matthes' Grammar. Unfortunately, lack of time prevented a detailed inquiry on my part, but Samsuri 1965, two theses by Indonesian students (Sikki 1970, Kustini 1967), as well as observations by my informants provided enough information to indicate that further dialect research will be rewarding.

One feature said to be of dialectal origin shows up frequently in the dictionary; that is, alternations of t ~ c or s ~ c. The t ~ c occurs principally in the prefix /taq- ~ caq-/ 'spontaneous/accidental passive' and is said to be Bone dialect. Likewise in the words for 'one': seddi or seuwa ~ ceddi or ceuwa; the latter are said to be Bone dialect. But in view of large numbers of doublets and near-doublets, we can propose a slightly different origin for the feature. Compare /kottiq/ 'to pick or pry out' : /kocciq/ 'pick or pry out of a small place (e.g. wax from one's ear)'; /tillong/ 'lean out (of a window), protrude' : /cillong/ 'protrude just a little bit'; /laso/ 'penis' : /laco/ 'child's penis'; /bisseq/ 'little girl' (term of address to a child of non-aristocratic birth) : /bicceq/ idem (to a child of royal birth)-- and many others. Cognate items where available have /t/ or /s/; consequently it is possible to say that the palatalization of /t/ or /s/ > /c/ in Bug. is used for diminutive effect. This may have been

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originally a characteristic of the Bone dialect, but it has spread throughout the language by now; it appears not to be productive, and even though informants are well aware of the word pairs, none ever suggested this analysis. The same feature shows up in Mdr. and, to a lesser degree in Mak., where it may reflect borrowing. In some cases the /c/-form has no diminutive effect-- thus Mak. poccіq 'navel' (Bug. posiq) may reflect a borrowed *poccіq no longer current in Bug. (the geminated /c/-- < *nc-- is unexplained).

Bone dialect, as was mentioned above §2.1.1.1e, shows the use of initial prenasalization as a morphological device-- e.g. wuno, mpuno 'to kill'. The other dialects seem to prefer the prefix /maq-/ in these cases.

In the dialect of Sinjai (south of Bone, bordering on the Mak. area) a notable feature is the presence of /h/ where the standard has /w/: e.g. Sinjai tihiq 'carry' = standard tiwiq, hae ~ uhae 'water' = wae. Sometimes the /h/ occurs in place of standard /b/ or the w-glide after /u/-- Sinjai duha 'two' = du(w)a[6]. Interestingly, the same feature also characterizes the Mak. Konjo dialect spoken in the adjacent area; it also appears in PUS and Seko far to the north, and evidence suggests that dialects of Sa'dan, which now show ø where others have /b/ or /w/, must have gone through the same stage-- *b > w > h > ø.

Informants also stated that there are areas of Bug. where /h/ is substituted for standard /r/ (Soppeng) and where /p/ is pronounced as [f] (Wajo-Soppeng). I could not check this.

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Kustini 1967 gives a phonemic analysis of the dialect spoken by Buginese settlers in Southeast Sulawesi, in a village called Bone on the straits of Buton. There is no information given, however, about the age of this settlement; certainly it takes its name from the kingdom of Bone in South Sulawesi, though it need not follow that the people themselves originated from there. The dialect shows little departure from the standard, but Kustini makes one statement which, if correct, is striking: namely, that geminate and single consonants are in free variation. Thus we find (passim) [ɨp:o] ~ [ɨpo] 'grandchild', [jok:a] ~ [joka] 'to walk', [mas:ulang] ~ [masulang] 'to embroider', [wɨ:rɨq] 'unhusked rice' (standard wɨrrɨq), and many others. There is also a unique example of /ɨ/ in a final open syllable-- [lɨkɨ] 'back' (standard alɨkkɨq)-- but as it is the only such example, I suspect either a typing error or mis-hearing. There are a few examples of /c/ in place of standard /t/, e.g. cupang 'frog', standard tuppang.

Sikki 1970 presents an extensive wordlist and well-done phonemic and morphological analysis of the Sidenreng dialect. The most interesting phonological feature is the presence of final long vowels, corresponding to some instances of /-Vq/ in the standard. Examples:

Sidenreng	Standard
ampī 'cowherd'	ampiq
congā 'look upwards'	tongaq
elō 'saliva'	eloq

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Sidenreng	Standard
pitaū 'to frighten'	petauq
posī 'navel'	posiq
pasā 'market'	pasaq

as opposed to (in both Sid. and the standard): baluq 'sell', enreq 'go up', tasiq 'sea' and so forth.

The word for 'market' is of course a borrowing from Ml/BI pasar, ultimately from either Indic or Persian (cf. Engl. bazaar). In a number of cases, aberrant forms must be due to typing errors: thus, "cai" 'angry' surely should be caī or caiq, in view of cited derivations "paccaicaikɨng ~ paccaicairɨng" 'bad-tempered person', and standard caiq.

In two "subdialects", Sikki reports metathesis of the sequence /ae/ in several examples: Baranti and Rappang subdialects keyang 'cloth, sarong', leyang 'other, different', keya 'dig', weya 'water'. The usual Sid. and standard (and etymologically correct) forms are kaeng, laeng, kae, wae.

In addition to complete assimilation of nasals to following voiceless stops (as in the standard), several examples suggest that the same assimilation takes place before <u>voiced</u> stops:

coki lɨllubbalawo 'the cat chases (a,the) mouse'
lɨllung 'chase' + balawo 'mouse'

jambajjoliq 'dysentery'
jambang 'feces' + joliq 'fast'

siddɨnniq ~ sinrɨnniq 'as small as...'
si+N- 'same' + rɨnniq 'small'

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There are also said to be differences in intonation and vocabulary.

Morphologically, we find a prefix /i-/ used where the standard uses /ri-/ that is, both as the passive marker and the locative preposition:

"yala" (= iala) 'be taken' (standard ri(y)ala).

"iyolo" 'before, formerly' (standard ri(y)olo).

The prefixes /mi-/ and /pi-/ seem to occur more frequently than corresponding /me-/ and /pe-/ in the standard, but the data are not sufficient to judge whether they are completely productive. It seems reasonable to see here the influence of the neighboring languages of Massenrempulu, where these prefixes are productive. Similarities in vocabulary also indicate such an influence.

The Rappang dialect described in Samsuri 1965 diverges somewhat from that reported in Sikki-- though native speakers usually consider Sidenreng and Rappang to be the same dialect. The problem may be that Samsuri's informants (two Buginese students in Java) were too educated, too familiar with standard Buginese, and influenced by BI. The long vowels are not noted; even so, a number of items with simple final vowel (versus standard /-Vq/) suggest that they might have been present[7], as in Samsuri's sogi 'rich', sogiriṅg 'wealth' (std. sugiq, sugiriṅg), iṗpa 'four' (Sikki iṗpā, std. iṗpaq); but also jaiq 'to sew' (Sikki jaī, std. jaiq, BI jahit). Grammatically, Samsuri's data resemble Sikki's more than the standard, for example in the use of /i-/, /mi-/, and /pi-/.

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In general, the Buginese state that each of the former kingdoms (corresponding in large part to the modern kabupaten administrative units) had its own dialect; thus, Bone, Wajo, Soppeng, Sinjai, Sidenreng-Rappang, Luwu, Ajatapparang, Sawitto and Pinrang. The standard is based, in everyone's opinion, on the dialects of the three most influential kingdoms, Bone, Wajo and Soppeng. Sikki's Sidenreng data are of interest for the reconstruction of Proto-Buginese, which will be discussed further in §3.9.1d. The lack of data for Luwu is unfortunate, since that area is supposed to be the homeland of the Buginese; however, informants generally agreed that only the aristocracy there speak Buginese, while the bulk of the population speaks "bahasa Luwu", and the data in Adriani 1898 show that that language is a slightly divergent dialect of Sa'dan Toraja (see §2.1.4.3c).

2.1.2. Makassarese.

2.1.2.1. Phonemes and their features. The sound system of Makassarese is as follows:

Consonants:	p	t	c	k	q	Vowels:	i		u
	b	d	j	g			e		o
	m	n	ñ	ng				a	
	w	l,r	y						
		s							

In loan words from Arabic and Dutch /h š f z/ are found; on the occurrence of /h/ in non-standard dialects, see §2.1.2.3 below. Chart 2 gives the distinctive features.

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CHART 2.

Distinctive features of Makassarese

	p	b	m	t	d	n	s	c	j	ñ	k	g	ng	r	l	w	y	q
Consonantal:	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-	-
Syllabic:																-	-	-
Obstruent:	+	+	-	+	+	-	+	+	+	-	+	+	-	-	-			
Grave:	+	+	+	-	-	-	-	-	-	-	+	+	+	-	-	+	-	-
Diffuse:	+	+	+	+	+	+	+	-	-	-	-	-	-	+	+	+	-	-
Nasal:	-	-	+	-	-	+	-	-	-	+	-	-	+	-	-	-	-	-
Continued:	-	-		-	-		+	-	-		-	-		+	+	+	+	-
Voiced:	-	+		-	+		-	-	+		-	+						
Lateral:														-	+			

	i	e	a	u	o
Consonantal:	-	-	-	-	-
Syllabic:	+	+	+	+	+
Obstruent:					
Grave:	-	-	+	+	+
Diffuse:	+	-	-	+	-
Low:		-	+		-

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2.1.2.1a. Vowels: allophones. The vowels /e/ and /o/ vary freely from higher-mid to lower-mid, [e...E], [o...ɔ]. Otherwise, there is no important allophonic variation.

2.1.2.1b. Vowels: distribution. Any vowel may occur in any position: initially, medially, finally, in closed or open syllables. Glottal-stop onset for word-initial vowels is optional. As in Buginese, a y-glide or w-glide is inserted automatically between a front, respectively rounded, vowel followed by another vowel. Identical vowel sequences do not occur within a word-base; across morpheme boundaries, identical vowels coalesce with one exception: the definite marker /-a/ has the allomorph /-ya/ after base-final /a/, as in /máta/ 'eye', /matáya/ 'the eye'.

2.1.2.1c. Consonants: allophones. Final [q] can be analyzed as an allophone of /k/, in view of the regular alternation -q : -k- as in [bállaq] 'house' [bállaka] 'the house', [cíniq] 'to see' [cíniki] 'he/she sees' (with /-i/ '3d person marker') or [cinίki] 'to look at' (with /-i/ 'transitive/locative suffix'). However, I shall continue to cite Mak. forms using final q, partly because of convention and for the sake of familiarity, partly also because the phonemicization of [-q] > /k/ seems to be a secondary development.

Otherwise, comments made above (§2.1.1.1c) on the Bug. consonants also apply here.

2.1.2.1d. Consonant clusters. Mak. phonology allows three types of clusters: nasal clusters, geminates, and

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a restricted number of /qC/ clusters not analyzable as geminates. Nasal clusters consist of any stop or /r/ preceded by a homorganic nasal, just as in Bug.

Geminates also parallel those of Bug., and are realized i the same ways:

1) geminate voiceless stop: either [C:] or [qC].

2) geminate voiced stop: [qC].

3) geminate nasal, r, l, s: always [C:].

4) geminate /w y q/ and dialectal /h/ do not occur.

Clusters of the type [qC] involve only the nasals, /r/ and /l/. If there are, or ever were, clusters of [q] plus stop or /s/, these have been neutralized and are now indistinguishable from the geminates. Historically, all such clusters could have occurred, as the /q/ represents the loss of the first consonant in a C_1C_2 sequence, as in:

mɨ̀qmisiq 'to suck' < earlier *mismis

lɔ̀qloroq 'to flow' < earlier *lorlor

Examples with /qr/ usually represent the regular development of earlier */qd/, e.g. Mak. saqring 'to feel, suffer', cf. Bug. sɨdding, Sad. Mdr. saqding. A few examples have no ready explanation, like /buraqne/ 'man, male'[8].

2.1.2.1e. Consonants: distribution. Any single consonant may occur in initial position, but /w/ is rare, /y/ is very rare, and /q/ is considered as automatic before vowels.

Medially, /q/ does not occur intervocalically; otherwise any single consonant or cluster may occur. /w/ is rare.

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In final position, only /k/ and /ng/ occur in surface forms (and as explained above, we continue to write q rather than /k/). But in underlying forms, we can posit final /r l s/ as well; they are preserved in the surface forms by the addition of an echo-vowel + [q] sequence. Since the stress is assigned to the penult of the underlying form, this produces a rather large group of words with antepenultimate stress. Derived forms of such words, however, are based on the underlying form. Some examples:

Underlying:	/nipis/ 'thin'	/hotel/ 'hotel'
Stress:	nípis	hótel
Echo-vowel:	nípisiq	hóteleq

Underlying: /lembar + ang/ 'carry on the shoulder + nominalizer'

Stress: lembárang 'shoulder-pole (for carrying)'

2.1.2.1f. Syllable and word structure. As in Buginese.

2.1.2.1g. Stress. Stress falls on the penultimate syllable of word bases and derived forms; see above concerning (surface) antepenultimate stress. As in Bug., addition of the definite marker /-a/ does not shift the stress of consonant-final words, thus hóteleka 'the hotel' < hóteleq, dágenga 'the meat' < dágeng, as opposed to matáya 'the eye' < máta or susú(w)a 'the breast' < susu. Nor does stress shift for the verbal person-marking suffixes: kusuróangko 'I order you to...' < ku- 'I', suró+ang 'order (someone)', -ko 'you'; or nípisiki 'it is thin' < nípisiq 'thin' + -i '3d person'.

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There are examples of final stress, usually the result of the regular coalescence of like vowels, as in tawáng 'part, division' < tawa 'divide' + -ang 'nominalizer'. A few, as in Bug., show the fossilized coalescence of unlike vowels, no longer permitted, e.g. karuwéng 'afternoon'.

2.1.2.2. Morphophonemics. Since Mak. has undergone fewer sound changes than Bug., we find rather less morphophonemic complexity. Generally speaking, there are fewer assimilatory phenomena; thus, final /q/ of a prefix added to an initial consonant simply results in a /qC/ cluster (assimilation to /C:/ is common, though optional). Before a vowel, we find either the prefix in its full form-- e.g. maqanaq 'to have a child' < maq + anaq 'child'-- or in a shortened form-- manaq 'idem'.

Active verbs are formed by nasal substitution, with or without a preceding /aq-/. The process appears to be productive in Mak., although in other SSul languages it is not. The substitutions are:

N + p > m	polong > molong ~ aqmolong 'to cut'
N + b > m or mb	buno > muno ~ aqmuno 'to kill'
	boyai > amboyai 'to seek'
N + t > n	tappuq > nappuq ~ aqnappuq 'break off'
N + d > nd	(the Dictionary lists just two forms; initial /d/ is rare in any case, and probably due to borrowing.
N + s > n or ñ	susu > nusu ~ aqnusu or ñusu ~ aqñusu 'to suck'

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N + c > ñ or ñc	cidu > aqñidu 'to sharpen to a point'
	ciniq > añciniq 'to see'
N + j > ñj	jama2 > añjama-jama 'to touch'
N + k > ng	kocciq > ngocciq ~ aqngocciq 'pry out'
N + g > ngg	gising > anggising 'turn from side to side'

The irregularities in the pattern are probably due to (1) relative infrequency of these forms in speech-- usually one finds only the base with a personal prefix, as kubuno 'I kill' or kuciniq 'I see' (2) influence from Ml/BI, where only /p t k s/ undergo substitution, while /b d c j g/ add the nasal.

A feature which is probably traceable to an earlier stage of the language is the irregular doubling of final consonants after /a/ before the suffixes /-ang/ and /-i/:

rápaq 'tight, close' > rapákki 'come close to...'

táwaraq 'bargain' > tawárri 'bargain for...'

tánrasaq 'consider' > pitanrássi 'ascribe to...'

súraq 'write' > parisurákkang 'have something written down for someone'

tángkasaq 'clean' > tangkási 'to clean'

tówaq 'look out' > towáki 'to watch; to spy on'

In the Dictionary, examples are found for some 200 bases with /-aC/; cases of doubled consonant outnumber single consonant by about two to one, with no apparent conditioning factor. (Mere numbers are of course not significant, since Matthes does not list all possible derivations.) Matthes' "rule" on this clarifies nothing (MWB 621, s.v. i_2):

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> ...komt de klemtoon op de onmiddelijk voorafgaande lettergreep, wier klinker daardoor steeds lang is, of ook wel zachtkort met verdubbeling van de volgenden medeklinker.

Informants state that either a single or double consonant is acceptable, which might suggest dialect mixing. But since many of the forms with a geminate consonant correspond to Bug. words with /-ɨq/, and since Mak. /a/ reflects PSS *ɨ (with gemination), perhaps these items point to a stage when Mak. still distinguished /a/ : /ɨ/ in some way. With the merger of *ɨ with /a/, the gemination has been retained and generalized. If this is the case, then the phonology of present day Mak. has a "gemination rule"--

$$\begin{bmatrix} +\text{Cons} \\ -\text{Nas} \end{bmatrix} \longrightarrow CC \;/\; a\text{—} + \left\{ \begin{matrix} \text{ang} \\ \text{i} \end{matrix} \right\}$$

with a minority of bases (tangkasaq, towaq etc.) marked as exceptions.

Only two words are cited with both possibilities:

rámbaq 'decorated' > rambáki 'to decorate...'
karambákkang 'splendor, pomp'

ánaq 'child' > kamanákang 'nephew, niece' (perhaps borrowed < Ml. kĕmanakan?)
pamanákang 'family'
anákkang 'to beget, conceive'
kamanákkang 'birth'

Finally, there is a small number of bases which Matthes transcribes with a geminate in a position where it would ordinarily not occur (there are 11 such examples, all involving /ss/). Among others, note:

láppassaq 'free' (cf. Ml/Jv. lepas, Bug. lɨppɨq)

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wắtassaq 'land, area where a prince's orders must be obeyed' (Matthes cites Jv. watĕs 'boundary')

mắrrassaq 'full of, covered with'

antắllassaq 'satin' (said to be < Arabic)

Possibly all of these are loan words which had /ǂ/ in the source language.

Also in Mak. as in the other SSul languages, we find the irregular insertion of a nasal into possessed forms; this only happens after vowel-final stems. For example, from mata 'eye' and lima 'hand' we have matangku 'my eye', matanna 'his eye', limammu 'your hand'; but from sapi 'cow' sapiku 'my cow', or sapatu 'shoe' sapatuna 'his shoe'. In several cases, the nasal has been reanalyzed to become part of the stem, as in (Salayar dial.) oning 'voice', cf. Sad. oni, Bug. uni, Jav. uni 'sound, noise'. Occurrence of the nasal is not predictable, but since it tends to occur with body-parts, kin terms, and the like, it would be tempting to view it as the remnant of an earlier distinction between alienable/inalienable possession.

The initial-consonant alternations found in Bug. (i.e. w > b, r > d) are absent in Mak. A very few examples of the "insertion" of /r/ are given-- e.g. angkaq 'pick up' > taqrangkaq 'pick up suddenly/by accident'-- which Matthes, I think correctly, ascribes to Bug. influence.

2.1.2.3. Dialects. We have, unfortunately, very little information on Mak. dialects; the little that is available, together with informants' comments, suggests that the language is fairly uniform. Dialect forms are frequently

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cited in the Dictionary and are of two sorts: (1) Salayar and Bantaeng forms with /h/ for standard /b/ or /w/, and (2) forms not found in the standard. These latter are sometimes marked as to dialect, sometimes not. Very often the dialects retain cognate forms which the standard has lost-- e.g. Sal. and Bant. asu 'dog', standard kongkong, < PSS *asu, or Sal., Bant. api 'fire', standard pepeq, < PSS *api. It does appear, in fact, that the standard Gowa dialect, and especially in the area around Makassar city, has been very open to outside influences-- hardly surprising in view of that area's extensive foreign contacts over at least the past 500 years. Just in terms of the Swadesh-200 list, Mak. shows innovations for 75 words at a minimum, including s ch common items as black, bird, dog, father, mother, egg, fire, leaf, live. Borrowing from Ml. or Jav. is not the only explanation; several items have cognates in the Toraja languages of Central Sulawesi, and may reflect a substratum. At least one word-- sare 'give'-- has a known cognate only in Sasak (spoken on Lombok, east of Bali) sade.

The extensive report on the Konjo dialect (Pelenkahu et al. 1971) shows it to have the /h/ < w,b feature, which would thus be rather widespread geographically. My principal Mak. informant, who had participated in the Konjo survey, stated that he had no difficulty at all in understanding the dialect.

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2.1.3. Mandar (Balanipa dialect).

2.1.3.1. Sound system. The sound system of this dialect is as follows:

Consonants:	p	t	c	k	q	Vowels:	i		u
	b	d	j	g			e		o
	m	n	ñ	ng				a	
	w	l,r	y						
		s							

In my data, /h/ also occurs in a few Arabic and BI loans.

2.1.3.1a. Vowels: allophones. As in the other languages under discussion, there is little allophonic variation of any importance. As in Mak., /e/ and /o/ vary rather freely between higher-mid/lower-mid, with the lower allophones found most frequently in closed syllables. In unstressed prefixes, /a/ is sometimes reduced to schwa. In my informant's speech there was variation in the verbal prefix /me- ~ mi-/, which may reflect dialect mixture. As there are other points of variation which suggest this too, it may be significant that, according to the informant, his dialect is the lingua franca of the Mdr. area. Only /mi-/ occurs in the Majene dialect recorded in Pelenkahu 1967. Both Pelenkahu and my informant, however, always distinguish the related prefixes /pe-/ 'agent-noun formative' and /pi-/ 'causative-verb formative'-- odd, since historically both would descend from a single source.

2.1.3.1b. Vowels: distribution. There are no restrictions on the occurrence of the vowels. After front and rounded vowels the respective y- and w-glides are

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inserted by rule as in Bug. and Mak. In my citations, the y-glide is omitted, but the w-glide is written, since /...uwV.../ sequences can be ambiguous in origin (see the next paragraph).

2.1.3.1c. Consonants: allophones. Characteristic of both my data and Pelenkahu's are the fricative allophones of intervocalic voiced stops. /d/ is [ð] in such an environment; /g/, rare in any case, was heard by me as both [g] and [ɣ]. My informant pronounced both intervocalic /b/ and /w/ as a bilabial [w], occasionally as a labiodental [ʋ] as in BI; thus /boyang/ [boyang] 'house', but [diwoyang] 'at home'. However, in the speech of Pelenkahu's informant, intervocalic /b/ apparently had the allophone [β], contrasting with /w/:[w]. Most of his examples of [w] occur after /u/ or /o/, hence are suspect, but there is a near-minimal pair in [lawa] 'spider' vs. [laβe] 'lips'. But even here there may be some variation involved (mis-hearing is a remote possibility), as "wrong" forms for /b/ sometimes occur--e.g. "buweng" 'old' in one citation, "mawuweng" in another (for expected written "mavuweng").

On the basis of my data, however, where [w] occurs within a word-base only comparative evidence will show whether it represents historic *b or *w; thus ñawa 'soul' reflects PSS *ñawa, cawe-cawe 'red pepper' reflects the /b/ found in BI cabé 'idem', while the w in buweng 'old' is ambiguous since there are no known cognates. But for a handful of words with initial /w/, it would be possible

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to analyze this phoneme out of existence, representing it as a systematic /b/ reflecting some "Proto Mdr." stage. Words with ambiguous [uwV] would then have to be reconstructed with *...u(bØ)V...[9]. In any case, the question of a contrast between intervocalic /b/ and /w/ is of more importance to intra-Mdr. dialect relationships than to PSS, since comparative evidence usually makes clear which sound was originally present.

2.1.3.1d. Consonant clusters. In common with the other languages of the group, Mdr. also possesses the geminate consonants. Their distribution and phonetic realization parallels that of Bug. and Mak.; thus we find geminate voiceless stops in free variation with [qC]; [qC] always for voiced stops; and lengthened nasals and continuants. In the vocabulary collected, there is also a handful of words with clusters /qm/, /qn/ and /ql/, the status of which is difficult to determine. Pelenkahu 1967 claims the presence of /yy/, as in "kayyang" 'big' and "layya" 'ginger' (the stress is not indicated-- could it be on the first /a/?), versus my [kaíyang] /kaiang/ and [laíya] /laiya/ which are more in accord with comparative evidence.

There are perhaps three or four examples of /nr/-- phonetically [$n^{d}r$] as in Bug. and Mak.-- which can safely be described as borrowings.

Nowhere in my material nor in Pelenkahu's extensive lists of minimal pairs is there a single instance of nasal plus voiceless stop. Where such a cluster would be expected,

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because of cognate items or at certain morpheme boundaries, there is invariably a geminate voiceless stop. In this respect, Mdr. is far more consistent than Bug.; perhaps it reflects greater freedom from outside influence. The only nasal clusters found in Mdr., therefore, consist of nasal plus voiced stop.

A notable peculiarity of my informant's dialect (idiolect?) was the presence of slightly prenasalized voiced stops, in clear contrast with nasal clusters. Pelenkahu 1967 does not mention such a feature. For my informant, the contrast lay as much in the quality of the preceding vowel (always a stressed vowel, and lengthened like any stressed open-syllable vowel) as in the consonant itself. Thus he apparently syllabified la^{m}baq [lá:^{m}baq] 'naked' as la - ^{m}baq, as opposed to lambiq [lámbiq] 'arrive' as lam - biq. Other examples are:

le^{m}ba 'bay'

ta$^{\tilde{n}}$jong 'cape, peninsula'

ja$^{\tilde{n}}$ji 'promise'

so^{m}bal 'sail'

ti^{ng}gas 'sawah (rice-paddy)'

No examples with /d/ were found. These sounds were rare, difficult (for me) to detect, and in all cases were brought to my attention by the informant as he watched my note-taking. He wrote, for example, "leba", "sobal" etc. In view of the lingua-franca nature of this dialect, it is quite possible that all such words are borrowings from some other dialect, or from Mak. or Ml.-- all except ti^{ng}gas

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occur in one or another of those languages, and have prenasalized stops: Mak. lemba, janji, sõmbalaq, Ml. tanjung, janji. One might speculate that these slightly prenasalized stops could be represented as (or might eventually develop into) systematic voiced stops; thus a future phonologist may find a three-way contrast intervocalically between /b/:[^{m}b], /w/ < earlier /-b-/ and /w/, and /mb/.

2.1.3.1e. Consonants: distribution. Any single consonant may occur in initial position, though /y/ does not occur in my data and /w/ could be analyzed differently. Pelenkahu cites numerous initial /y/'s, but for my informant these were only fast-speech variants of /i/ + vowel; thus RAP's "yaw" 'I', "yami" 'we' against my [iyáu ~ yáu] and [iyámi ~ yámi], phonemically /iau/, /iami/. (In fact, this /i-/ is probably a prefix, a form of the 'personal article', as it is known in Indonesian linguistics; it also occurs in Mdr. with personal names, e.g. i Ali, 'Ali'.) Likewise for my informant, every word with /w-/ had a variant with [uw...]-- [uwái ~ wái] 'water', [uwáse ~ wáse] 'axe'. On the basis of comparative evidence, I phonemicize these with /w/: /wai/, /wase/. Before initial vowels, glottal stop onset is optional.

All consonants including /q/ and all clusters occur in intervocalic position. Mdr. intervocalic /q/ corresponds to both /k/ and /ngk/ in the other languages, and may reflect borrowing, as it does not appear to be a "regular" development.

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In final position /q r l s n ng/ occur, with considerable variation between /n/ and /ng/. In Pelenkahu's material, /n/ is absent, being replaced with /ng/. Since van der Veen (1929:85) notes the presence of /-n/ in Balanipa, this undoubtedly reflects a dialectal variation; widespread knowledge of Bug. in the area, too, would tend to bring about the neutralization of /n/ and /ng/ > /ng/. It is worth noting also that van der Veen (ibid.) denies the presence of /-l/ in Balanipa; this again must reflect variation, or else-- because of other dialects, and the underlying morpheme structure which allows final continuants-- the language has added /-l/ in the past fifty years. At least one example has /q/ for expected /l/: Mdr. tunggaq 'single'. Neither Ml. tunggal, Mak. tũnggalaq, nor Bug. tungkiq 'idem' is likely to be the source. In the few cases where /q/ occurs for expected /r/ or /s/, it can, I think, be taken as a sign of outside influence, as in Mdr. Mak. Bug. jowaq 'retinue', Mdr. Mak. ajowarang, Bug. ajowariŋ 'lord, master' (i.e. "one who has a retinue"); Bug. is the likely source.

2.1.3.1f. Syllable and word structure. Though the amount of material collected is much less than that available for Bug. and Mak., it seems clear that the minimum free form is (C)VC, just as in those languages. In bound and polysyllabic forms, the syllable structure is (C)V(C).

2.1.3.1g. Stress. Stress falls uniformly on the penult of base and derived forms. As in Bug. and Mak., it does not shift with the addition of the verbal person-markers.

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2.1.3.2. Morphophonemics. Since my own research was restricted in the main to collecting vocabulary, I rely here on Pelenkahu 1967, which gives a good account of the morphology and syntax of the Majene dialect. This material was all re-checked with my informant, and is typical of his dialect too.

The data are not as complete as might be desired, since not every possible combination is exemplified, but we can formulate some tentative rules.

Pelenkahu's verbal prefixes ma-, mi-, and nominal prefixes pa-, pe-, should probably have a final consonant (a nasal) in underlying form. We find:

mappasung 'send out' (cause to go out) < maN + pa + sung

mattunu 'to burn' < maN + tunu

mambuai 'to open' < maN + bua + i

mandundu 'to drink' < maN + dundu

pandundu 'drunkard' < paN + dundu

paccoro 'thief' < paN + coro

mippande 'to feed' (cause to eat) > miN + pa + ande

mittama 'to enter' < miN + tama

pellamba 'one who likes to walk' < peN + lamba

Before vowels, a frequent allomorph is maq-/paq- etc.; the expected mang-/pang- occur only rarely. Before continuants, a few examples are cited with maq- which may be Bug. or Mak. loans; ma-/pa- etc. also occur. Examples:

maqande 'to eat' < ande

maqlopi 'to own a canoe (lopi)' < lopi

manguma 'to own land' < uma

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maindong 'to run' < indong

maqindang 'to borrow' < indang

mioro 'to sit' < oro (meqoro in Tenriadji and Wolhoff)

paqala 'one who takes' < ala

panguma 'farmer' < uma

pangalloang 'drying-place' < allo 'sun'

pelambaq 'one who goes naked' < lambaq (cf. pellamba above)

These prefixes can be regularized, at least in part, as:

/maN-/ : maq- /— voiceless stop, vowel 'transitive/active'

maN- /— voiced stop

/miN-/ : miq- /— voiceless stop, vowel 'intransitive'

miN- /— voiced stop

Parallel with /maN-/, we can posit similar allomorphs for /paN-/ 'agent noun' and probably too for /piN-/ 'agent noun'-- but there are too few examples of the latter to be certain. Some of the apparent irregularities in the forms cited could be due to simple typing or transcriptional errors-- e.g. pellamba vs. pelambaq; others may show variation due to fast-speech rules-- e.g. maindong vs. maqindang. No doubt a major factor too has been the effect of the sound change whereby, as in Bug., *mar- and *maN- have merged > /maq-/ in several environments. Subsequently, /miN-/ has taken over most of the functions of earlier *mar-, so that an item like /maqlopi/ can be viewed as an archaism; it is also possible that all instances of /maq- ~ maN- ~ ma-/ in the sense 'having..., owning...' are borrowings from Bug. Similarly for /paN-/, the possibility of more than one source should not be dismissed, though there is little

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evidence for such an hypothesis within the SSul family alone. In Ml/BI, for example, there are two prefixes cognate with Mdr. /paN-/-- cf. for tañ̃a 'ask a question' the derivatives penañ̃a (peN + tañ̃a) 'questioner' and pertañ̃aan 'a question'.

Changes involving final /q/ are as follows: before the suffix /-ang/, /q/ deletes and the appropriate glide is inserted following /i e u o/; /q/ > /ng/ following /a/, or less commonly, it deletes, and the two /a/'s either remain as a phonetically long vowel, or coalesce into a single vowel (Tenriadji and Wolhoff have instances of both). Examples:

mongeq 'sick' > amonge(y)ang 'sickness'

latuq 'sleepy' > pillatu(w)ang 'nod the head'

raqdaq 'fall' > marraqdangang 'drop'

pajaq 'kind of food-offering' > papajāng 'made into pajaq'

Word-final vowel + /-ang/ behaves in the same way:

ande 'eat' > ande(y)ang 'plate'

tindo 'sleep' > patindo(w)ang 'bed'

ala 'take' > alangang 'take for (someone)'

ita 'see' > peqitāng 'gaze, view' (noun)

In a few cases-- probably loans-- we find irregular changes:

laqbiq 'reverence' > alaqbirang 'to revere' (note Bug. alibbiring 'idem')

ingaq 'remember' > ingarrang 'remember' (Bug. ingirring)

Before the transitive/locative suffix /-i/, it appears that /q/ is retained, as in:

oloq 'to like' > maolóqi 'like (someone)'

meqakkeq 'depart' > peqakkéqi 'take leave of...'

milapaq 'wear a sarong' > pilipáqi 'put a sarong on...'

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In possessives, consonant doubling varies, as in Bug. (and in both languages, the doubling reflects the nasal found in Mak.)--

loana 'his words' < loa

limanna 'his hand' < lima

banuammu 'your land' < banua

A final nasal, of course, also assimilates: puang 'lord', puanna 'his lord', puatta 'our lord'.

2.1.3.3. Dialects. We are fairly well supplied with dialect material for the Mdr. area, much of it, unfortunately, of poor quality. In addition to my own and Pelenkahu's data on the rather similar Balanipa and Majene dialects, Adriani and Kruit (1914) devote 15 pages to the area, and there is a brief but worthwhile discussion in van der Veen (1929). A&K report on five dialects: from north to south, Cendana, Majene, Balanipa, Campalagiang and Binuang. Only the Cendana material was recorded by them; for the others they relied on wordlists collected in the various localities by Dutch civil and military personnel in the early years of this century. Since these observers were generally untrained in phonetics, much less linguistics, their data must be used with caution. It appears that in most cases, Malay or Bug. speaking assistants collected the wordlists; at least some were taken down in Buginese script, then transcribed into Roman (A&K: 156). Thus, final /q/ is not always noted-- leading A&K to say that it did not exist in some dialects, which I consider quite unlikely-- and the geminate consonants are noted only in Majene, and not consistently[10]. Even A&K's

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own Cendana material is not beyond question: they do not note final /q/, nor geminates (except at morpheme boundaries). Though I have not heard this dialect, I must suspect either that they failed to hear these sounds, or that they themselves were working from written materials and had not heard the spoken forms.[11].

In any case, we can cull the following information from the data available to us:

1. Final consonants: Cendana /r l s n ng/ (A&K)
(plus /q/ likely)
Majene /q r l s ng/ (A&K, Pelenkahu)
Balanipa /q r l s n~ng/ (my data)
/q r s n ng/ (van der Veen)
/n ng/ (A&K)
Campalagiang /q m n ng/ (A&K)
Binuang /k n ng/ (A&K)(k probably interpretable as /q/)

Final /r/ in Cendana etc. corresponds to ø in Binuang, /q/ in Campalagiang. As the discussion below will make clear, A&K's Balanipa should in my opinion be considered a dialect of Pitu Ulunna Salo, not of Mdr.

2. Initial and medial /k/ "tends" > ø in Cen., Maj., Cam. and my data; it is retained in A&K's Bal. and Bin.

3. In Cen. w and r do not occur initially, being replaced by b and d; A&K cite dami 'only, just' vs. mesa rami 'just one'. A number of counterexamples, however, suggest that this may be an accident of the data; we find /nibuai/ 'be opened' and /padanggang/ 'trader' (probably a loanword).

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4. On the basis of finals /n ng/ (plus /q/ probably overlooked), retention of /k/, and intervocalic w > h (A&K:159), I conclude that A&K's Balanipa is either a dialect transitional between Mdr. and PUS or, more likely, simply a dialect of PUS which happened to be spoken within the (then) administrative unit called Balanipa. This would have to be the northernmost inland part of the area; my informant was a native of the coast. Van der Veen (1929:85) considers the presence of final /r s/ a trait of Mdr., their lack a trait of PUS. In addition, w > h is a feature of PUS, not of Mdr. As van der Veen writes:

> Dit is...een voornaam criterium, waardoor de P.Oe. Saloesche groep zich van het Mandarsch laat onderscheiden, dat zij de sluitmedeklinkers l, r en s niet gespaard heeft.
>
> Deze l, r en s zijn in het dialect van Madjene, Tjenrana en Mamoedjoe gespaard gebleven, de taal van Balanipa heeft echter slechts r en s als sluiters. Het is niet geheel juist, wat in [A&K:156] vermeld staat, dat het dialect van Balanipa alleen n en ng als sluiters kent. Dit geldt wel van de aan Balanipa onderhoorige bergdistricten, de bovengenoemde districten Taramanoe', Toebi en Ambopadang, welke wij in de [PUS] taalgroep hebben opgenomen. De taal van het eigenlijke gebied van Balanipa kent de r en de s nog als sluiters.

5. Finally, Pelenkahu cites three examples said to be typical of the "Toda-Todang" dialect, which according to his map is spoken in the north, inland from Cendana. The feature cited is the substitution of [h] for /r/, [x:] for /rr/ in the three examples given-- [bax:as] 'unhusked rice' Maj. barras, [puha] 'already' Maj. pura, [hupiya] 'rupiah' (the Indonesian monetary unit) Maj. rupia. Since r > h or x is a feature of the neighboring PUS and Mamuju languages I conclude that Toda-Todang is probably a dialect of Mdr. (note the final /s/) influenced by PUS.

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6. A&K and van der Veen consider the language spoken north of Cendana as part of the Mdr. complex, calling it Mamuju after the principal town. Van der Veen notes that of all the Mdr. dialects, it is the one that stands closest to PUS. On the basis of my own data obtained from a native of the region, I would call it PUS, heavily influenced by Mdr. as well as Bug., Mak. and Ml. Pelenkahu, too, seems to consider the region north of Cendana as non-Mandar. Quite likely one's opinion of the area depends on one's informant; see further below, §2.1.5.3.

For the Mdr. area as a whole, just as for so many others areas of SSul, it can be said that the most pressing need is a thorough dialect survey, to determine as far as possible the exact boundaries and isoglosses. Further research on the Mandar lontara would be of great interest too, to historians as well as to linguists. Some of these are said to be still in the possession of the former royal family, while others are known to be in Makassar.

2.1.4. Sa'dan Toraja. In applying this name to the entire complex of languages/dialects spoken in the interior of northern SSul, we are following van der Veen's usage (1929, 1965, 1966). It is something of a misnomer, since it refers specifically to the dialect of the Makale-Rantepao area in the upper valley of the Sa'dan River. Van der Veen (1940) refers to this as South Toraja; it is also sometimes called Tae' (the word for 'no, not') after the custom of the Torajas of Central Sulawesi, who distinguish their numerous dialects and languages according to the words for 'no'.

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But that is not the custom in SSul, and Tae' seems not to have caught on, and as /taeq/ also occurs as the negative in PUS and Massenrempulu dialects, it is not wholly appropriate either. Toraja will not do, in view of that word's long standing association with the peoples of Central Sulawesi. Thus, Sa'dan (Sad.) seems the least ambiguous choice, and has the advantage of indicating the probable area of origin of the whole group.

2.1.4.1. Sound system (Makale-Rantepao dialect). This dialect is the best known and documented. It has:

Consonants:	p	t	k	q	Vowels:	i	u
	b	d	g			e	o
	m	n	ng			a	
	(w)	l,r	(y)				
		s					

In my informants' speech, as in the texts and dictionary, /w/ and /y/ are marginal phonemes, found only in forms considered as dialectal; /c j ñ/ occur, only in loans from Ml/BI; /j/ is sometimes a dialectal variant of /y/. In the dialects of other areas, /c j ñ w y/ all occur (see below 2.1.4.3), and would have to be posited for Proto-Sa'dan.

2.1.4.1a. Vowels: allophones. The norm for /o/ is a fairly open [ɔ]; phonetic norms for the other vowels are near to those suggested by their symbols, thus [i e u a]. High vowels are lowered somewhat in closed syllables. Interestingly, most of the items in SWB marked as Bug. loans reflect Bug. /i u/ with Sad. /e o/.

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2.1.4.1b. Vowels: distribution. There are no restrictions. Any vowel may occur in initial, medial, or final position, in open or closed syllables. There are phonetically long vowels, which usually result from the loss of *w or *y, as in [menáː] 'to breathe' (cf. Mdr. menawa), and these are clearly to be analyzed as sequences: /menaa/.

2.1.4.1c. Consonants: allophones. There is no important variation. The symbols have their conventional values.

2.1.4.1d. Consonants: clusters. The permitted clusters, which occur only medially, are: geminates, nasal clusters and /q/ plus consonant.

Geminates are realized phonetically as in the other languages, with the usual preference of [Cː] for geminate voiceless stops. In the written language, and in a few examples given by one informant, there appeared to be a contrast between geminate voiceless stop and /q/ + voiceless stop realized phonetically as, e.g.:

/pp/: [páp:aq] 'level' /pappaq/

/qp/: [páq^{a}pak] 'flap the wings' /paqpak/.

Historically, such a contrast makes sense, but this informant produced it only sporadically and not always in the expected places. As an added difficulty, the word for 'flap the wings' is not listed in the dictionary, while the word for 'level' is listed as both "pappaq" and "paqpaq".

Nasal clusters typically involve homorganic nasal and stop. In the informants' speech there are a few examples of the velar nasal plus heterorganic consonant within a word-base-- e.g. /banglaq/ 'new'. Van der Veen's texts

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(1965, 1966) contain several more examples: /tangdo/ 'sacrificial pole', /bingsu/ '(native) priestess'. The texts also show variation: /songloq ~ soloq/ 'to descend', /meongli ~ meoli/ 'to call'. The traditional and rather archaic nature of the texts probably accounts for the greater frequency of this feature there. Note that /bingsu/, which occurs in Bug. and Mdr. as /bissu/, is ultimately from Skt. bhikṣu 'sage, monk'.

Across morpheme boundaries, heterorganic combinations with the velar nasal are permitted, as in /sangpulo/ 'ten' < sang- 'one' + pulo 'ten', or /panglaa/ 'herdsman' < pang- 'agent noun' + la(w)a 'to tend buffaloes'.

Clusters of /q/ plus consonant-- in addition to the rather ambiguous type just mentioned above-- occur across morpheme boundaries (which is unexceptional) and also within word-bases. Thus we find /paqlak/ 'garden', /maqbaqnabaqna/ 'eloquent, florid'. Comparative evidence indicates that these glottal stops represent lost consonants; cf., for these two examples, Balinese parlak 'garden' and Ml/BI berwarna-warna 'multicolored, highly decorated' (warna ultimately < Skt. varṇa 'color').

2.1.4.1e. Consonants: distribution. Initially, any consonant (including /w/ and /j/ in dialect forms) may occur. Glottal stop is optional before initial vowels. Initial /y/ is very rare.

In medial position, any single consonant or cluster may occur. Intervocalic /q/ only occurs across morpheme boundaries, never within a base. Most items cited with

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/y/ and /w/ have a variant without it; in the dictionary, the few words with non-varying /y/ seem to reflect a borrowed /j/, as in /bayu/ 'shirt, blouse' < Ml. or Bug. baju.

In final position, /q k n ng/ occur; the /k/ is released. As in Buginese, there is morphophonemic evidence to suggest that final /q/ reflects earlier consonants, perhaps still present in underlying forms (see §2.1.4.2 below).

2.1.4.1f. Syllable and word structure. As in the other languages: monosyllabic free forms (C)VC, polysyllabic and bound morphemes (C)V(C).

2.1.4.1g. Stress. Stress falls on the penultimate syllable of base or derived forms. Verbal forms with person-marking suffixes constitute the exception.

2.1.4.2. Morphophonemics. Since my own data contain little morphological material, I am relying here on the summary found in the introductory pages of SWB, and on material from Pararrungan 1969 and van der Veen's texts (1924, 1965, 1966).

Perhaps the only feature of real interest is the change of final /q/ to /-r-/ or /-s-/ before the derivational suffix /-an/. Examples:

ambeq 'father'	amberan 'uncle'
kaloq 'ditch, channel'	kaloran 'to make a ditch'
unuq 'spin'	unuran 'spinning wheel'
irup 'to drink'	irusan 'cup, glass'

In some cases, a base shows both possible derivations, with no difference in meaning:

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tokeq 'to hang' tokeran ~ tokesan 's.t. hung up'

laeq 'to taste' dilaeran ~ dilaesan 'be tasted'

Even though the majority of bases have derivations with only one or the other consonant, the presence of final /r/ or /s/ in underlying forms is still, as in Bug., debatable. One could set up /amber/, /irus/ etc., with /toker ~ tokes/ specially marked; but it is fairly clear that Sa'dan speakers view the process as (synchronically)

q ⟶ r, s /— + an

rather than as (historically)

r, s ⟶ q / —#.

Only such a change in the rules will account for the presence of /r/ or /s/ in the doublets, and for the fact that these inserted consonants for the most part have little relationship with the reconstructible PSS or PAN final, and thus must be the result of analogy. Sad. /iruq ~ irus-/, for example, is cognate with Ml. hirup.

Unlike Bug., Sad. does not show assimilation of the finals to a suffix-initial consonant. Some examples from van der Veen 1965 (the numbers indicate page and strophe):

88.435 neneqta 'our ancestress' < neneq + ta

132.676 pondokmi 'his (honor.) back < pondok + mi

132.675 sundunmi '(they) were completed'<sundun + mi

128.655 tedongna 'his buffalo' < tedong + na

On the other hand, after a final vowel the possessive suffixes quite often show the insertion of a nasal, which does assimilate:

138.703 datunna angin 'lord of the wind' (datu + na)

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28.48 neneq mendeatangki 'our divine ancestress'
(mendeata 'divine' + -ki 'our')

16.6 neneq mendeatanna 'their ancestors'

34.97 buntummi 'thy mountain' (buntu + mi)

118.604 maririnna litak 'the yellowness (= fertility) of the soil' (mariri 'yellow', litak 'land')

76.375 uai mata budanna 'his many tears' (buda 'many')

But note also:

34.91 matallona langiq '(in) the east of the firmament' (mat(a) allo 'east, lit. sun')

34.93 tangngana langiq '(in) the center of the firmament' (tangnga 'center')

34.97 tanetemi 'thy mountain' (parallel with buntummi)

76.375 sakke malinona 'his clear liquid (= tears)' (malino 'clear'; parallel with uai mata budanna)

A notable feature of the Sad. vocabulary is the presence of derived adjectives called "intensives" by van der Veen. These are formed by changing the medial and/or final consonants of the base, such that e.g. a single medial C is doubled or prenasalized, while final Ø or /k/ change to /q/, final /q/ > /k/, and in some cases /q/ or /k/ > /ng/. Of the following examples, the first two were supplied by my informants (who pointed out the relationship), the remainder are taken from SWB.

lotong 'black'	lottong 'very black'
m/andaq 'tight'	arraq 'very tight'
bungku 'bent over (body)'	bukkuq 'bent, bumpy'
bura 'foam'	burra 'foam, slime'

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burak 'to sprinkle' burrak 'to splash'

iriq 'to blow (wind)' irrik 'whistle, roar (wind)'

pandak 'short' pandaq 'very short'

tataq 'pointed, sharp' puduk tattak 'sharp-tongued' (lit., sharp lips)

palaq ~ pallak "I told you so! That's what you get!"

tappu ~ tappuq ~ taqpuq 'all done, ended'

kotik 'to poke with the finger' kotteq 'rap with knuckles'

kotting 'a small but deep wound'

A few examples suggest that the same process occurs (or occurred) in the Massenrempulu languages-- e.g. DuriK cannik 'sweet (sugar)', canning 'sweet (person)' or Duri paqdik 'sick', cf. Sad. paqdiq, Mak. pâqrisiq 'idem'. This is hardly surprising, since Sad. and Mass. are very closely related.

The nasal of the active verb prefix /uN-/ regularly assimilates partially before stops, completely before continuants; before a vowel, the allomorph is /unn-/. Examples:

tiro > untiro 'to see'

kande > ungkande 'to eat'

garaga > unggaraga 'to make'

ballaq > umballaq 'to spread out'

serek > usserek 'to rip apart'

rangi > urrangi 'to hear'

alli > unnalli 'to buy'

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For other prefixes, such as verbal /ma-/, /me-/ and nominal /pa-/, /pe-/, the base forms are not completely clear. Possibly both /maq-/ and /maN-/, with parallel /paq-/ and /paN-/ exist. Examples:

/maq-/	/maN-/
maqboko 'to steal'	mantawa 'to divide'
maqgereq 'to slaughter'	mangrimpung 'to gather'
maqlalan 'take a path'	mangaku 'to confess'

Since both /q/ and /N/ assimilate to initial /s/, forms like massali 'to lay a floor' are ambiguous.

/me-/	/meN-/
merauk 'to lance'	mendeata '(be) like a god'
menani 'to sing'	mendaun 'leafy (having leaves)'
meongli 'to call out'	mennuakaq 'to take root'

It might be that /me-/ occurs before basically verbal stems, /meN-/ before basically nominal ones.

/paq-..(-an)/	/paN-..(-an)/
paqbassaq 'farmer'	pambase 'washer'
paqtobok 'one who stabs'	panglaa 'herdsman'
paqkandean 'leftovers'	pangalloan 'drying-place'

Note also paqbasean 'place where buffaloes are washed'; yet another allomorph seems to occur in pagaraga 'creator' vs. panggaraga 'creation'

Derivations with /pe-/ regularly appear as follows:

/pe + root/ as in pekali 'digger'

/peN + root + an/ as in pembasean 'place where one washes one's hands'

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As in Mdr., there may be a possibility that these prefixes arise from more than one historic source. Dialect mixing, and the (dialectal) neutralization of nasal + voiceless stop > geminate has no doubt contributed also to the present apparently haphazard patterning. Ultimately, of course, the problem must be resolved in order to reconstruct PSS morphology and syntax, but this is somewhat marginal to the present purpose of reconstructing the phonology.

2.1.4.3. Dialects. The most important source is van der Veen 1929, which is the only published examination of the whole Sa'dan language area. A possible fault, however, is in his main criterion for deciding what is or is not Sa'dan, viz. the use of the negative /taeq/. I found it in other areas as well (e.g. Duri and PUS). But van der Veen's grouping can be accepted as essentially correct, for he was familiar with cultural factors which would tend to differentiate the Sa'dan Toraja from their neighbors. Legendary, historical and genealogical data, such as that mentioned in van Lijf 1947 also corroborate van der Veen's classification.

In addition to van der Veen, there is material on the dialect of the Palopo area (Adriani 1898), a brief discussion of the Rongkong dialect in A. Kruyt 1920, and some texts--poorly transcribed-- from the Mamasa and Galumpang areas in Bikker 1930 and 1933.

We should mention here another reservation, which pertains especially to Sa'dan vis-a-vis its neighbors. There is

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probably no clear dividing line between Sad. and Massenrempulu; in other words, there is most likely a village-by-village continuum with only minor differences between any two villages. The determining factor would then be religion; for the Islamic peoples of Massenrempulu have been far more open to influence from the Buginese, and would tend to think of themselves as distinct from the Sa'dan people, who adhere to their old religion or Christianity. Van der Veen himself seems to have reached this conclusion, for he writes in the preface to his dictionary (1940:ix):

> Het komt mij thans beter voor het Loewoe'sch in de onderafdeeling Palopo gesproken en het Doerisch... nog tot dit [Sa'dan] taalgebied te rekenen.

The border between Sad. and PUS might also be a continuum; although according to my hypothesis regarding the dispersal of SSul linguistic groups (§3.9.4) there should be a somewhat sharper division between Sad/PUS than between Sad/Mass. This seems to be the case, despite the inadequate data for PUS.

Van der Veen proposes four main dialect areas, and if we imagine the Sa'dan area as a square divided into quarters, then the locations are as follows:

1. Southeast quarter: Sa'dan proper-- the dialect of Makale-Rantepao. It has become the vehicle for Bible translation, and is the dialect recorded in SWB.

2. Southwest quarter: Mamasa, centering on the town and river valley of that name. A range of mountains to the west constitutes the border with PUS.

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3. Northeast quarter: Rongkong, in the Rongkong river valley. The coastal plain is occupied by Buginese and speakers of "Luwu", probably Bug.-influenced Rongkong dialect. To the north live speakers of unrelated Toraja languages.

4. Northwest quarter: Mangki (also Makki, Mangkir), centered on Galumpang. These must be the people who, in van Lijf's view, only arrived in the 16th Century.

2.1.4.3a. Sa'dan. There are subdialects within this group, as Pararrungan notes in his thesis (1969), though he gives no specifics. One feature to be noted, however, is the presence/absence of intervocalic /w/ and /y/. As van der Veen notes, these "in een groot gedeelte van het Sa'dansch taalgebied [zijn] weggevallen" (1929:68). In Pararrungan's lists, as well as in SWB and van der Veen's texts, we find forms of both kinds:

panglaa ~ panglawa 'herdsman'

daya ~ daa ~ jaja 'north'

According to my informants, the distribution is as follows:

Rantepao /y/, as in:	toraya 'Toraja'	daya 'north'
Makale ∅	toraa	daa
"South"Makale /j/	toraja	jaja

"Southern" Makale would lie close to the Duri/Bug.-speaking area, where /j/ < *-y- is regular. The initial /j/ of /jaja/ is of uncertain origin, possibly a random assimilation of /d-/, or perhaps from /di + aja/ or /i + aja/; Bug. has both /raja/ and /aja/ < *daya, and /di ~ i/ are frequent variants of the locative marker.

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As for /w ~ Ø/--

Makale /w/ as in /mawaq/ 'kind of old printed cloth'

"Eastern" Ø maaq

Pararrungan also cites examples of the shift of voiceless nasal clusters > geminate; my informants localized these as:

Makale /NC/ as in lampiq 'pull out' lingka 'go'

"Western" /CC/ lappiq likka

The number of doublets cited in SWB shows this to be a very widespread feature.

An interesting example of hypercorrection is bulaan ~ bulawan ~ bulayan 'gold' < PSS *bulawan.

2.1.4.3b. Mamasa. This dialect, according to van der Veen, regularly has: intervocalic /w/; prefix /m-/ corresponding to Sad. /un-/ as in morong = unnorong 'swim'; loss of initial /k/ sporadically, perhaps showing Bug. influence or more likely Mdr. influence; occasional /l/ where Sad. has /r/, as in maluruq = maruruq 'straight'. The extent of this last difference is not detailled, but it cannot be widespread. The example cited, together with other cognate forms, leads to a reconstruction of initial *d, and it seems that the various languages have developed different treatments of the sequence */rVrV.../< *dVrV.... Finally, van der Veen notes lexical items which Mamasa has in common with PUS and Mdr.-- hardly surprising since these are the closest neighbors, and most traffic into or out of Mamasa is via the Mdr. area to the south.

The short texts in Bikker 1939 present a language which, in most respects, is identical to the Sad. dialect; the fact

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that the texts concern the rice and marriage rituals may mean that their language is somewhat archaic. A single striking feature is the use of the /um/ prefix (= Sad. /un-/): we find "umtosok" 'stab', "umtoye" 'follow', "ungpatibean" 'throw' and others showing /umt.../ or /ungp. ./. Unfortunately all these are suspect, for Bikker's transcription is haphazard and the translations so inadequate that the meaning of many forms cannot be divined.

2.1.4.3c. Rongkong (and Palopo). A. Kruyt 1920 contains little linguistic data, but several comments on the origins of the To Rongkong are worth citing:

> De To Rongkong zijn een afdeeling van de Sa'dan-Toradja's, die zich van den moederstam hebben afgescheiden, en een anderen woonplaats hebben opgezocht. De overlevering omtrent deze verhuizing is nog zoo levendig en algemeen bekend, dat wij moeten aannemen, dat het nog niet zoo heel lang geleden kan zijn, dat dit land bevolkt is. (1920:367)

Concerning their language, he cites Dr. van der Veen's opinion, that it "zelfs niet dialectisch van het Sa'dansch verschilt." Kruyt finds it significant that the To Rongkong do not follow the traditional Sa'dan religion, which he regards as having been introduced by immigrants. He therefore concludes

> ...dat de afscheiding heeft plaats gehad vóór de algemeene doorwerking van die nieuwe cultuur. Het is zelfs waarschijnlijk, dat de verhuizing een gevolg is geweest van den nieuwen toestand, die door de immigranten werd geforceerd. (1920:368)

In the absence of any supporting data-- archeological or other-- it is difficult to argue with this; but I find no good reasons militating against the opposite conclusion, namely, that the To Rongkong have simply lost or given up

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the old religion. It is true that many of them have converted to Islam, and one could suppose strong Buginese influence in the coastal Luwu area[12].

Van der Veen notes that the Rongkong dialect retains /w/, as a labiodental; /c j ñ/ are found where Sad. has /t d n/[13]; /j/ sometimes corresponds to intervocalic /y/ in other languages. This last may represent a borrowing from Bug., though it is a common enough change. A number of Bug. loanwords are noted.

The language discussed in Adriani 1898 and referred to as "Sada" is clearly to be considered a dialect of Sa'dan, but the data show many peculiarities. As with A&K's Mdr. data, the problem of sources again arises here: Adriani worked from a wordlist provided by A. Kruyt. The only final consonant indicated is /ng/; thus /q k n/ are missing. Nor are the geminates noted. Assuming that Kruyt himself collected the data, we are forced to the uncharitable conclusion that he could not have had a very acute ear. The alternative is to say th t the dialect has undergone very atypical changes.

The palatals /c j ñ/ are present, /j/ corresponding to both Bug. /j/ and Mak. /y/. Otherwise, /y/ does not occur, while ø, as in standard Sad., corresponds to /w/ elsewhere. Four words are cited with /ɨ/: jɨsɨlu 'space under the house' (not found in SWB or in any neighboring language), sɨre 'cat' (Sad. serreq, possibly < earlier *sɨrreq, but this word is not found elsewhere either), isɨng 'to know' and ɨma 'to swallow'. These last two are no doubt loans

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from Bug. issäng and ämmäq 'idem', for as Adriani notes, "de te Palopo wonende To Sada kennen allen Bugineesch."

As was mentioned, final /q k n/ are not noted; Bug. final /q/ is also consistently omitted. If these are not cases of mis-hearing, then perhaps the data were furnished to Kruyt in Bug. script, which would account for the missing finals. The neutralization of the q:k contrast to an unindicated /-q/ would be a logical result of Bug. influence, as would, likewise, n, ng > -ng, which is the case. Yet there are several examples with ø final which ought to have /ng/-- e.g. the name Sada (surely = Sa'dan), rakea 'ceiling' (Bug. rakeang).

As examples of "lengthening" (rekking), we find the only hint that the dialect does contain geminates: "baate" (presumably = [baqate]) 'to parch (corn, rice)', Sad. baqte; "boobo" 'cooked rice', Sad. boqboq; "taabu" 'sugarcane', Sad. taqbu. Such pronunciations were typical of one of my Sad. informants (see 2.1.4.1d above) as well as my Duri informant.

In sum, since most of its peculiarities seem to be due to orthographic and/or hearing problems, the dialect can safely be termed Sa'dan, with no doubt a heavy overlay of Buginese.

2.1.4.3d. Mangki (Makki, Mangkir). From this name, we might suspect that the dialect shows geminates in place of voiceless nasal clusters, but van der Veen does not elaborate. Otherwise, like Mamasa, Mangki retains intervocalic /w/; has /m-/ for Sad. /un-/; shows occasional loss

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of initial /k/; and has similarities in vocabulary with PUS. A few examples are cited of a "tendency" for /k/ > /h/-- only intervocalically in the examples: kahau (= Sad. kakau) 'kapok', buhu (= buku) 'bone'. Hoorweg (1911:77) also gives tomahaka (= tomakaka) 'chieftain'. The small amount of material in Bikker 1933-- again, ritual texts-- shows no striking features.

It seems likely that Mangki could be an offshoot of Mamasa, for the geography of the area is such that a movement north from Mamasa would be easy. However, according to Hoorweg (1911:77-8) they claim descent from one Talabina "wier woonplaats gelegen was in Loeë, tusschen de tegenwoordige kampongs Lamboe en Limboeng." "Loeë" (= lue) is no doubt the local pronunciation of Luwu (on u > e in this area, see below §2.1.5.2b(3)), and the village Limbung is located well to the east, in Rongkong/Luwu.

Van der Veen's materials allow us to postulate an intermediate stage, Proto Sa'dan, between PSS and the present day languages of this area (including PUS and Massenrempulu). In this proto-stage, /c j ñ/ will be found, as well as intervocalic /w y/. The retention of all these sounds in peripheral areas like Mangki and Rongkong fits well with both theory and the reasonably reliable historical data.

2.1.5. Minor languages. In this section we will discuss those languages for which, either due to lack of time or difficulty in locating informants, relatively small amounts of data could be collected, and for which

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little or no published data are available. Thus we include here the languages of the Massenrempulu group, PUS and Mamuju, and also Seko, whose relationship to the family may be debatable.

2.1.5.1. Massenrempulu. In addition to my own data on three dialects of the Duri language, we also have a recently published Indonesian survey of part of the area (Pelenkahu et al. 1972), as well as material in van der Veen 1929. My own data consist of the following:

a) Enrekang dialect: a partial (± 175 words) Swadesh list. The informant, an old man long resident in Makassar, had forgotten many vocabulary items. Note, incidentally, that Enrekang is the Bug. pronunciation of the native name Endekan.

b) Cakke dialect: a 200-word Swadesh list plus additional items. The town of Cakke lies about 20 km. north of Enrekang.

c) Kalosi dialect: my own 1200-item wordlist. Kalosi is about 20 km. further north of Cakke, near the political boundary between Kabupaten Enrekang and Kabupaten Tana Toraja. This corresponds also to the linguistic border between Duri and Sa'dan.

Pelenkahu et al. deal with four languages or dialects, namely Endekan, Duri, Maiwa and Pattinjo. All these are spoken in the area surrounding the town of Enrekang. Since the Mass. area is usually conceived of as a strip running east-west across the peninsula between the Bug. and Sad. areas, then north along the coast of Teluk Bone to Palopo,

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it seems safe to assume that other languages/dialects will be found within it when a more detailed survey is made. My data and Pelenkahu's correspond only in that my Cakke equals their Duri; my Enrekang resembles their Endekan closely, but not completely, while my Kalosi does not correspond to any of their data and is probably best thought of as a subdialect of Cakke/Duri.

Lexicostatistical percentages for my data show that the three are dialects of a single language; all measure over 80%, with Cakke-Kalosi highest with 84.6%. Using a slightly modified list of 100 words, Pelenkahu arrived at the following figures for his data:

Endekan-Maiwa	67%	Maiwa-Pattinjo	79%
Endekan-Pattinjo	81	Maiwa-Duri	67
Endekan-Duri	78	Pattinjo-Duri	70

The low figures for Maiwa and Pattinjo are ascribed to widespread Bug. influence; the two areas do indeed border on the Bug. speaking area, and bilingualism is said to be common.

2.1.5.1a. Phonology. The languages of the Mass. group show a basic sound system:

Consonants:	p	t	c	k	q	Vowels:	i	u
	b	d	j	g			e	o
	m	n	ñ	ng			a	
	w	l,r	y					
		s						

To this inventory, Cakke/Duri adds /h/, in final position only-- historically a very important feature. Pelenkahu

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has also described an unusual final in the Endekan and Pattinjo dialects: a prenasalized, voiceless, unreleased velar stop [$^{ng}k^{\neg}$]. It is symbolized as "ƛ" in their text (as well as here) and corresponds to /-k/ in the other languages. Van der Veen does not mention such a sound, but does discuss (1929:80) another phenomenon in Enrekang and neighboring areas which is probably related. For words ending in /k/, the addition of the possessive suffix /-na/ results either in [-nga] or [-qnga], as in peqpak 'tree-bark' > peqpanga 'its bark', or (Bassean dial.) anak 'child' > anaqnga 'his/her child'. He continues:

> Dit zal wel veroorzaakt hebben, dat de woorden die in het Sa'dansch...op k en hamzah [i.e. /q/] uitgaan hier soms met ng gesloten worden, B.V: Letta-sch beluang 'haar' Sad. beluak....

Bassean and Letta both lie in Pelenkahu's Pattinjo area. For the word 'hair' he cites: End. Patt. beluwaƛ, Duri beluwak, Mai. beluwaq.

There is little allophonic variation in the vowels, and no restriction on their occurrence. He notes the presence of a [ə] in Duri, as an optional off-glide after final /k/-- [beluwak^{ə}] ~ [beluwak] (RAP 1972:17). My informant lacked this feature; perhaps Pelenkahu merely heard the very sharp release of the /k/.

Likewise for the consonants, no important variation is noted. It seems reasonably certain, despite the limited data, that End. final "ƛ" can be analyzed as an allophone of /k/. No examples are cited to show clearly the fate of "ƛ" before a suffix.

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Nasal and geminate clusters are found in medial position. Van der Veen (1929:79) notes the sporadic appearance of /nr/--all the examples cited could be Bug. loans, however. Nasal clusters are always homorganic, though in some cases, heterorganic clusters with /ng/ occur at morpheme boundaries. The geminates are phonetically:

voiceless stops: [qC] preferred, but also [C:]

voiced stops: [qC]

nasals, continuants: [C:]

Duri has both nasal and geminate clusters in initial position, due to morphophonemic processes. Some of the other languages show initial /nt-/ in the deictics; others again have /int-/. In these cases, the /i-/ is probably the locative marker.

Otherwise, consonant distribution follows the pattern already familiar from the other languages discussed. Initial /w/ is rare, initial /y/ unattested. Intervocalically, /w/ occurs, along with /j/ or /y/ as a reflex of *y. Intervocalic /q/ is also found, but is rare and apparently restricted to occurrence between like vowels.

In final position, we find the following:

Enrekang, Kalosi (my data): /q k n ng/

Duri (my data and Pelenkahu): /q k h n ng/

From the limited vocabulary in Pelenkahu et al. we can only hypothesize the following for the other dialects:

Endekan, Pattinjo: /q ~~n~~ n ng/ (and ~~n~~ probably = /k/)

Maiwa: /q n ng/ (perhaps only /q ng/[14])

Van der Veen (1929:80) mentions not only the final /h/ of Duri, but also cites examples from a dialect (not specifically

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located, unfortunately) where a final "g" is said to occur in place of (at least) some /h/. Such a sound is not found in my data, nor in Pelenkahu's, nor could my informants provide any information[15].

Endekan and Kalosi usually (and Sad. occasionally) have ø corresponding to Duri /h/; thus it is clear that an earlier Mass. *-h > End., Kal. ø. Duri /h/ corresponds to both /-s/ and some cases of /-r/ in SSul and outside languages; the latter is the historically interesting correspondence, while the change s > h would be a secondary development within Duri, and is of course a well-known change, attested in many language families.

In the material which I myself have heard, stress falls on the penultimate syllable; the verbal person markers produce exceptions to this rule, as in the other languages. The same morpheme structure conditions as in the others appear to apply to the Mass. group as well.

2.1.5.1b. Morphophonemics. The morphological data given in Pelenkahu do not include examples of every possible combination of sounds, and consequently, it is difficult to generalize as to possible morphophonemic processes.

The Kalosi dialect, for which I have the most complete list, is the least interesting in this respect. The prefix /maN-/ always appears as [mang-] except before /s/, where the nasal assimilates, thus [mass...]. Forms cited in Pelenkahu indicate that the other dialects show greater variety, or possibly the use of two prefixes, /maN-/ and /maq-/; likewise for /me(N)-/ and for agentive /pa(N)-/.

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In Duri, the alternant of final /q/ is /-t-/ before the suffix /-an/, both nominal and verbal. Examples:

tukaq 'climb' > tukatan 'act of climbing'

lekkoq 'throw' > pellekkotan 'throw at...'

siriq 'shame' > kasiritan 'be shy towards...'

The alternant of final /h/ is /-r-/ in the majority of cases; my data have one example of /-s-/:

unuh 'spin' > unuran 'spinning-wheel'

kaloh 'ditch' > kaloran 'dig a ditch'

laqpah 'free' > laqparan 'set free' (cf. Ml. lepas)[16]

karrih 'ringworm' > karrisan 'afflicted with ringworm'

Other dialects seem to show different developments for /q/:

Maiwa: rebaq 'throw' > parrebakan 'throw at...'

Pattinjo: rebaq 'throw' > parebasan 'throw at...'

(The data in Pelenkahu lack examples for /q/.)

2.1.5.2. Pitu Ulunna Salo. It was possible to locate only one informant from this area (a man from Aralle, the main town), and the 200-word list collected is phonologically indistinguishable from Sa'dan. In fact, the word for 'no' is taeq, as in Sad. Both these facts so contradict van der Veen that I am at a loss to explain them. It is unfortunate, too, since the dialects of this region apparently show a number of striking phonological changes, as will be clear from the following discussion based on van der Veen.

2.1.5.2a. Phonology. The general sound system appears to be as follows:

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Consonants:	p	t	c	k	q	Vowels:	i		u
	b	d	j	g			e		o
	m	n	ñ	ng				a	
	(w)	l,r	(y)						
		s			(h~x)				

The dialects differ as to the presence of /w/ vs. /h/ and /r/ vs. /h/ or /x/-- the data do not make clear whether /h/ and /x/ ever contrast, and I suspect van der Veen may have over-differentiated here. Some dialects are reported as having vowels symbolized as ä, ö and å, presumably representing [æ, œ, ɔ] respectively.

Geminates and nasal clusters are found, with distribution as in Sad.; there appears to be some variation between voiceless [NC] vs. [C:].

In final position / q k n ng/ occur. This does not differ from Sad., but does differ from neighboring Mdr. and Mamuju (which between them have /r l s q n ng/). One PUS dialect-- Bamban-- may have a distinctive final /m/; it will be recalled that A&K report final /m/ also in Mdr-Campalagiang as well as in their "Mamuju"-- and one of their "Mamuju" informants was a native of Aralle.

2.1.5.2b. Vowels. My Aralle material shows the familiar 5-vowel system, and to judge from van der Veen, such a system predominates generally in PUS. Some dialects, however, show changes and/or additions, though it is unclear in his discussion just how regular or widespread these may be. Most of them can, I feel, be explained as secondary developments within the subgroup.

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(1) Noting the occasional correspondence PUS /e/ : Sad. /a/, van der Veen notes "sommige dialecten hebben een uitspraak van de a, die naar e zweemt, en dus een overgang vormt...." (1929:86). Examples: Ratte dial. bännäng 'thread' Besoangin dial. bännä, Mak. Sad. bannang. Or, Taramanuq dial. mänöq 'chicken', Sad. manuk; Tapango dial. änä-änä 'child', Sad. anak; Tapango mäñäng 'spadix, i.e. the blossom of the coconut or sugar palm' Ratte, Besoangin mañña, Ml. mayang. In this last example, it is probably the palatal ñ (here from *y by the influence of the initial nasal) that has caused the vowel fronting; in the other examples, the /n/ is a rather unlikely conditioning factor, though perhaps not an impossible one. Otherwise, no conditioning for the change is visible. One could well ask, too, why in the words for 'thread' and 'spadix' the Ratte and Besoangin dialects show contradictory treatments of the final nasal. We do not know, unfortunately, the sources of van der Veen's PUS data[17].

(2) Examples are given of a correspondence PUS /u/ : Sad. /a/, as in:

PUS (vdV) malusu, Sad. malasu 'warm'

(my data) malussu malassu

In fact, the vowel variation, and the geminate /ss/, point to the reconstruction of *lɨssu; Sad. /a/ is then a regular development, while the PUS assimilation (*ɨ > u /—Cu) is a phenomenon encountered frequently in all AN languages.

PUS tinarun, Sad. tinaran 'blowgun dart'

Here again, the vowel variation reflects an earlier *ɨ,

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in this case preceding final *m which is presumed to have caused the shift to /u/; Sad. /a/ is regular. The base is PSS *tadɨm 'sharp' (Dempwolff *tajɨm) with the passive infix *-in-.

Van der Veen's attempted explanation of these two examples is off the point. He states, "de uitspraak van a in sommige dialecten is zeer open en zweemt naar o en is ook wel o geworden" (1929:86). That is, a > ɔ > o, but the hypothetical step from o to u is not accounted for, nor do any of his examples actually have an o that clearly corresponds to Sad. /a/: Taluduq dial. båyå 'milt, spleen', Sad. and other PUS baya; Dakka (Tapango) kepå 'to carry on the hip', Sad. kepak, other PUS kaleppeq. Mayamba and Tubi dials. losu 'warm' (probably should be lossu) is the only example with o, and it is more likely to derive (by lowering) from /u/ than from /a/.

(3) Another correspondence-- encountered also in my Mamuju data-- is PUS /e/ : Sad. and others /u/ or /o/:

PUS	maneq	Sad.	manuk 'chicken'
	useq		usuk 'ribs'
	tingere		tingoro 'to belch'

Some dialects are said to show a transitional stage, viz. Taramanuq lötöng, Besoangin lötö, Sad. Bug. lotong 'black'; Tapango köjöng, Sad. koyong 'wounded'; Besoangin, Ratte, Tapango manö 'chicken'. This change is surely related to a similar change found in Mdr., and is discussed further in §3.9.2.

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(4) Van der Veen's remaining discussion of vowel variation covers examples which are almost all explicable as involving the assimilation of *ɨ to a neighboring vowel.

2.1.5.2c. Consonants. Van der Veen's treatment of the consonants is marred (from our point of view) by a lack of systematicity, and failure to comment on several examples which certainly deserved comment. As the principal differences between PUS and Sad., he notes:

(1) presence of palatals. However, in many of his examples, the PUS palatal may be of secondary origin, e.g. /j/ < *y.

(2) PUS /h/ : Sad. /w/ or ∅. This does appear to be one of the more widespread and distinguishing features of the PUS group. It is found in the northern area, which is also the most populous-- Aralle and Tabulahan. Here, /h/ occurs not only in place of Sad. /w/ or ∅, but also in place of some Sad. /b/, and even in place of the w-glide following /u/. In this it resembles the Bug.-Sinjai or Mak.-Konjo dialects. Examples:

PUS	ahaq	Sad. awak ~ aak 'waist'
	peho	peo (Rongkong pewo) 'loincloth'
	bahi	bai, Bug. bawi 'pig'
	tahuang	tabuan 'wasp'
	balaho	balao, Bug. balawo 'mouse'
	buha	bua 'fruit' (PSS *bua)

In other dialects, however, van der Veen reports w (Rante Bulahan), b (Bamban), or a "dentilabial" v (southern region) (1929:89). My Aralle data show /h/ regularly-- note that

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my informant referred to his dialect as "Rante Bulahan"; thus my PUS menginaha 'to breathe', Mdr. menawa; tuho 'to live', Sad. tuo, Bug. tu(w)o 'idem' and cf. Ml. tubuh 'body' and tumbuh 'to grow'; metaha 'to laugh', Sad. tawa ~ taa. In his dialect, however, the w-glide was not affected, only /w/ < *w or *b; thus I have e.g. bua 'fruit' and dua 'two' (cf. Bug.-Sinjai duha).

It is doubtful if this feature need be traced any further back than a "Proto-PUS" stage, where we could reconstruct a *w-- phonetically either a labio-dental or bilabial fricative. The modern dialects then show the following mergers:

PSS	Proto-PUS	Bamban	R.Bul (vdV)	R.Bul (my)	Tabul.
(some) *b *w	*w [β]	b	[w]	h	h
*[w]/u—V	*[w]	?	[w]	[w]	h

(3) Another feature which serves to characterize much of the PUS area is the shift of r > h (found in my Mamuju informant's speech, but only sporadically in my Aralle informant's). Van der Veen describes this sound as "een faucalen spirant" and writes it as ch, thereby indicating a contrast with his h (< w). That was not the case for my Mmj. informant, whose h < w and h < r were (to me at least) phonetically identical. Examples from van der Veen:

PUS machante	Sad. marante 'flat'
chacha	rara 'blood'
mangucha	mangura 'young'

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Several examples of PUS /h/ : Sad. /d/ imply an intermediate stage with /r/, as PUS hapuq 'hearth', Sad. dapuq, note Seko rapuq. (Note too van der Veen's use of h, not ch, in this and two other examples, 1929:88.)

An example cited as evidence for w > h perhaps belongs here, and suggests that the distinction h:ch is perhaps not as crucial as the spellings indicate:

PUS Ulumandaq dial. solasohong 'brother'
Tapango solasoho
Rante Bulawan solasuwun

This may well be-- as van der Veen proposes-- /sola/'with, same' plus /suwun/ 'emerge', but Bug. sɨllɨssurɨng 'brother' < sɨN- 'one, same' + lɨssur- 'emerge, be born' + -ɨng 'nominalizer', is a possible cognate too, and more in accord with the morphology of the language family. Perhaps too, the PUS word has undergone some reanalysis and folk-etymologizing.

(4) From some of the examples cited in the foregoing, and others, it appears (barring misprints in van der Veen) that some dialects have lost final consonants, or change a final nasal to /q/. Note especially the Tapango forms, or my PUS unnung 'six', Bulo-bulo dial. unnuq. Van der Veen states "soms...heeft het [PUS] den sluiter afgeworpen" (1929:87), but then gives contradictory examples:

PUS uqla Sad. ulang 'rope'
issaq issong 'mortar for pounding rice'

(I suspect misprinting of ulaq, issoq; otherwise, these are too irregular to account for.)

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(5) Some examples suggest that some dialects may have shifted the voiceless nasal clusters > voiceless geminate stops: Ratte dial. latte 'mat', kaluppang 'hoof', utte 'shield' vs. other PUS lante, kalumpang, untaq. The name Ratte itself is doubtless a variant of e.g. Sad. (ma)rante 'flat' frequently used in place-names as "plains, flat land."

(6) Van der Veen cites two examples from the Bamban dialect showing final /m/, but he makes no comment whatever on this striking feature. It is striking because, as any linguist would note, one of the characteristics of this language family is the lack of final /m/, which has merged with /n/, and then-- in some languages, like Bug.-- further with /ng/. But just enough traces were left behind to permit a rather tentative reconstruction of final *m in PSS (traces such as were discussed above in re PUS tinarun vs. Sad. tinaran). Adriani and Kruyt reported final /m/ in Mdr.-Campalagiang, but gave no examples; their sources are suspect in any case. Van der Veen's examples are (1929:90):

PUS-Bamban saneom — other PUS, Sad. saleong 'wall-louse'

menum[18] — other PUS menung 'to drink'

We also find examples with final /m/ in A&K's discussion of the Mamuju area, which like their Mdr. is based on written sources of rather haphazard provenance (1914:146). In this case, the Mamuju dialects are named as "Rante Bulawan" and "Salo Tabang", this latter "Noordelijk van het Rante Boelawang wordt gesproken"(146). These two places apparently lay within the administrative unit called Mamuju, but well inland. The RB informant came from Aralle; on their map

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Salo Tabang is located north of Aralle about midway toward Galumpang, but no such town or river appears on modern maps. In any case, four examples are given, and there seems no reason to try to dismiss them as borrowings: mandalam 'deep', mantanam 'to plant' (147), and menum 'drink' (152). However, it seems that not all original final /m/'s are retained; they state "de nasalen zijn soms gevelariseerd, doch ook nog wel in den oorspronkelijken vorm n, m gebleven" (146).

Fortunately, Mr. Pelenkahu knew of a man (not a native, however) who had formerly worked in the Bamban area, and from him we learned that final /m/ does indeed occur there. Frustratingly, this source added that in loan words from BI, the Bamban people sometimes substitute /m/ for final /n/ or /ng/! Nonetheless, on the strength of all the evidence, we feel confident in reconstructing final *m for PSS (see further §3.6.1f).

2.1.5.2d. Dialects. On the basis of van der Veen's evidence, there appear to be at least three main dialect areas: the map accompanying his article shows one area in the extreme north (Tabulahan-Aralle), a second centered on Bamban, and the third (Mambi-Rantebulawan) occupying the remainder, and majority, of the area from Aralle south. He justifies this division as follows:

> ...[h]et taalgebied van Aralle en Tabulahan...[vormt] een zeker eenheid. In deze dialecten is de w regelmatig tot h geworden en de r tot den spirant ch. In de dialecten van Mambi, Rante Bulawan en Matanga wordt wel de w tot h, maar de r niet tot ch,...en in het dialect van Bamban gaat de w niet in h over. Dit dialect sluit zich ook overigens het dichtst aan bij het Mamasa-sch. (1929:84-5)

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(Bamban is also geographically closest to Mamasa.) He notes further that some dialects on the border between PUS and Mdr., or PUS and Mamuju, also show w > h, but since they retain final /r s/,

> hebben wij hen niet in de groep van Pitoe Oeloenna Saloe opgenomen. Dit is...een voornaam criterium, waardoor de P.Oe.Saloesche groep zich van het Mandarsch laat onderscheiden, dat zij de sluitmedeklinkers l, r en s niet gespaard heeft. (85)

It has not been possible to locate all specific dialect areas named in the sources (e.g. Taramanu', Ratte) since none of the available maps is sufficiently detailed. Clearly, however, this is an area of great diversity, and well worth further investigation. The vowel changes in particular suggest that it has undergone unique influences, perhaps due to a substratum language.

2.1.5.3. Mamuju. This language or dialect group is found on the west coast of Central Sulawesi, in the area roughly between Cendana (ca. 3°15 S.) and/or Tapalang (ca. 3° S.) northward to around Karosa (1°15 S.). All available information suggests that Mamuju speakers occupy only a narrow strip, perhaps 10-30 km. wide at best, between the swampy coast and the mountains. The area is economically marginal, thinly populated, and probably as much ignored by the present Indonesian government as it was by the Dutch. According to my informant and others, there are many Buginese in the area, who deal in fish, copra and the forest products brought down to the port towns by the mountain people. There is almost no published material on the history or ethnography (only Hoorweg 1911 and Mededeelingen

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1909); nothing at all on the linguistic situation beyond A&K's suspect data and a few comments in van der Veen.

If, as Pelenkahu 1967 supposes, the linguistic boundary between Mdr. and Mmj. is at Cendana, then Tapalang must be included in the Mamuju area. Comments in Mededeelingen (1909:690) show Tapalang's population to be made up of people from the PUS area just inland who have moved down to the coast and converted to Islam. Traditionally too, they ascribe their origin to Tabulahan. Furthermore, van der Veen notes the same sort of migrations in the area north of Mamuju town:

> Ook behoort tot deze [PUS] taalgroep de taal der stammen, die uit het stamland van Aralle en Mambi zijn uitgezwermd en thans in de huidige onderafdeeling Mamoedjoe wonen, zooals de To Mekante in Kaloekoe, de To Pamosean in Rante Dango, de To Sinjonjoi in Padang Baka en Padang Panga, dicht bij de hoofdplaats Mamoedjoe. (84)

Although the dates of these movements are not known, we may assume that they would have been relatively recent at the time van der Veen wrote-- perhaps within the preceding century.

My informant's native village was Kaluku, i.e. the Kaloekoe mentioned above, and his speech would thus be-- presumably-- a dialect of PUS. The vocabulary elicited does in fact show the two traits most characteristic of PUS: /h/ in place of both r and w, /a/ sporadically in place of u, the negative /udai/ and other vocabulary items. Considerable dialect mixture was evident in his speech: for any item with /h/, he would invariably add an alternative with /w/ or /r/. I could not determine what rules

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governed their usage, and the informant merely stated that he might use an h-form at one time, an r-form another.

We can imagine tribal groups with both h-dialects and w/r-dialects who, because of population growth or the desire for new land, leave their mountains and settle on the coast. There they would intermarry and, more important, come into frequent contact with Makassarese, Buginese, Mandar and Malay-speaking traders. The w/r dialect would have the advantage of slightly greater mutual intelligibility with those languages, and as the settlers became more familiar with the prestigious trade languages, w/r forms would come to predominate. Thus I would hypothesize that h-forms are probably dying out; research in the villages might find that the h-dialect is considered old-fashioned and somewhat stigmatized-- "hillbilly" speech, as it were.

The question can properly be raised, therefore, whether there exists a "Mamuju" language at all, or whether the coastal population might be just a collection of immigrants from various nearby regions-- Mandar, PUS, Mangki Toraja, etc.-- whose already closely related languages could easily be turned into a koiné by changing a few vocabulary items and adjusting too-divergent features (h~w~r is the only really divergent one). The presence of final /r l s/ in Mamuju could also be an example of such an adjustment; assuming that Mmj. is basically PUS (where /q/ reflects these sounds), then a word like /putar/ 'turn' (PUS putaq) must represent influence from (most likely) Mandar, or possibly Malay. Even in my limited data, final /r l s/

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do not always occur where expected, reinforcing the impression that the language has undergone considerable outside influence.

Because of the difficulty of assessing my Mamuju data, I have used them sparingly in the reconstruction. The language, however, is obviously a member of the SSul family, even though its position may be unclear.

2.1.5.3a. Phonology. My data show the following sound system:

Consonants:	p	t	c	k	q	Vowels:	i		u
	b	d	j	g			e		o
	m	n	ñ	ng				a	
	w~h	l,r	y						
		s							

/c j y/ are rare, and the words in which they occur are quite possibly loans; note for example /mecawa/ 'to laugh' (Bug. and Mdr. idem) alongside /metaha/ (PUS idem).

In final position, /q r l s n ng/ are found; /r l s/ are rare, though the amount of data on this point is limited compared to the other languages; and as suggested above, such items may not belong to the "native" vocabulary. For final /l/, the only example is /sumobal/ 'to sail' Mdr. idem (with the "slightly prenasalized" b which may be the mark of a loanword), Mak. sõmbalaq.

A number of items show Ø final where we should expect the /q/ reflex of a final consonant; as there is no apparent conditioning factor, the origin of such words is obscure.

Consonant clusters occurring in the data consist of: both voiced and voiceless nasal clusters, and geminates.

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The latter are realized phonetically as [C:] for voiceless stops, nasals and continuants, [qC] for voiced stops. Geminate /hh/ for /rr/ was not noted (but may well occur), nor were clusters of /q/ with nasals or continuants found.

Stress is penultimate, with the same exceptions assumed as for the other languages.

The morphophonemics of the verbal prefixes closely resembles that of Mdr. The data do not, however, provide any examples for the morphophonemic alternation of final /q/.

2.1.5.4. Seko. Published material on the Seko people is even less abundant than for Mamuju-- two short ethnographic studies (J.Kruyt 1920, A.Kruyt 1920) and a brief discussion of a few days' visit in (A. and J.Kruyt 1920). There is nothing at all on the language, and it is therefore difficult to say precisely why Esser grouped it with his South Celebes language group. Excerpts from his quarterly reports, published by Noorduyn (1963), do not mention any contacts with, or visits to, the Seko people. We must suppose that he possessed materials of his own, or had access to those of missionaries in the area, but unfortunately, this scholar perished during World War II and his notebooks have vanished. Kaudern (1925) and Kruyt (1940) make occasional references to the people and the area, but clearly do not consider them to be "Torajas"-- thus, not related to the peoples of Central or West Central Sulawesi. A&K cite a few Seko place names in their discussions of neighboring Toraja languages which border on the Seko area. The map accompanying van der Veen 1929 locates several Seko-speaking

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areas, but he does not-- inexplicable, to my view-- discuss the language even though it borders on (and even intrudes into) the Sa'dan-speaking area.

A.C. Kruyt (1920) locates the Seko in the general area of the four villages Amballong, Pohoneang (Peweneang on the maps), Lodang and Bono (or Wono). The inhabitants of Amballong and Pohoneang are termed "de eigenlijke To Seko" who "weten nog goed, dat ze vroeger bij elkaar woonden"(1920:398). They have in turn settled at Lemo, where To Rongkong also live. The inhabitants of Lodang and Bono are called To Seko Pada (Pada 'plains'), and in Kruyt's view, the differences between the two groups are striking enough to warrant the conclusion that they "...geruimen tijd van elkaar geisoleerd hebben geleefd" (398). He also notes that the Seko have borrowed extensively from the cultures of their "more advanced" neighbors, the To Rongkong and To Rampi. Judging from his article, and from J. Kruyt (1920) as well, it seems clear that despite their location on the upper Karama River (which flows west into the Straits of Makassar north of Mamuju), the Seko peoples" contact with the outside has been mainly with Luwu to the east, through the intermediary of the To Rongkong. Both tribes were, of course, vassals of that Buginese kingdom.

As was mentioned in §1.3b above, one of my informants claimed a southerly origin for his people, and described a migration route from, roughly, the PUS area to the coast, then up the Karama River. Contact with, or influence from, PUS and Mamuju is confirmed by lexicostatistical evidence.

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in that Seko shows its highest percentage with my Mamuju data (48.4% on the 200-word list, 53.1% on the 100), and next highest with PUS (43.9% on the 200-word list; on the 100-word list, Sad., PUS and Duri all measure close to 50% with Seko). However, it should be noted that Seko also shows a rather high percentage with Uma, with which there should be no direct genetic relationship-- 45% on the 100-list (compare Seko-Bug. 100-list, 42.5%). In terms of phonology and morphology, Seko stands much closer to the SSul languages than to the Toraja languages; the question of Seko's membership in the SSul family will be discussed after the reconstruction of PSS has been established. As for the lexicostatistical data, suffice to say here that in areas where contact between linguistic groups is frequent and of long standing, the Swadesh list probably shows much distortion.

My data consist of vocabulary from two dialects-- Seko-Lemo and Seko-Padang, as the informants termed them-- of which Padang is considered the prestige dialect. (See Map 3 above for the approximate locations.) The informants themselves filled out, at their leisure, my 1200-item wordlist-- the Lemo list is only about 1/3 complete, but Padang is close to 100%. I received both lists back from the Padang informant just the day before leaving Sulawesi, and as a result, was only able to check over his own list in a cursory fashion, enough to note a few peculiarities of his spelling and pronunciation. This is most unfortunate, because his spelling is sometimes at variance with what I actually heard, especially as regards the geminate consonants.

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I heard him pronounce e.g. [itâl:u] 'three', yet he wrote "italu"; in other cases, geminate consonants are written, but their occurrence does not completely correspond with that found in the other languages[19]. The Lemo informant also wrote "italu" for 'three', but this conformed to his pronunciation [itâ:lu].

The lists, and the few items that I did hear, both indicate that if Seko is in fact a member of the SSul family, then it has apparently lost the most distinguishing feature, to wit, gemination after PSS *ɨ. Cases where a geminate has been retained must then be borrowings, perhaps more or less conscious attempts to imitate Sa'dan, which is said to be widely known and considered a prestige language vis-a-vis Seko. The loss of gemination should not surprise us, however, if the language has been isolated for a long time from its southern relatives and exposed to the influence of the open-syllable Toraja languages.

2.1.5.4a. Phonology. The basic sound system for both dialects is as follows:

Consonants:	p	t	k	q	Vowels:	i	u
	b	d				e	o
	m	n	ng				a
		l,r	y				
		s		h			

A few instances of [j] and [g] are found, all apparent loans; there are one or two cases of [c], either obvious loans or of unknown cognacy; there are single instances of [w]-- kawa 'wire', probably borrowed < Ml. kawat in all SSul languages--

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and [ñ]-- "lannja" i.e. laññ̃a 'disappear', cf. Sad. lannaq, (dial. laññ̃aq), Ml. leñ̃ap 'idem'. There is no initial /y/, and the number of finals, as we would expect, is limited; otherwise there are no restrictions on the occurrence of consonants or vowels. Seko /h/ corresponds to /w/, sometimes /b/, in the other languages.

In final position, both dialects have /q k ng/; the Padang list contains some examples with final /n/, but these are not in my informant's handwriting.

I had difficulty hearing the difference between Lemo final /q/ and /k/. The informant's spellings, however, are invariably etymologically correct, so that my recording of [anaq] 'child', written "anak", is probably in error. In the Padang list, the informant wrote (and pronounced) an echo-vowel after /-k/; stress falls on the underlying penult, thus "anaka" [ǻnaka] 'child', "osoko" [ǒsoko] 'ribs'. Such forms can probably be written phonemically without the echo-vowel, /anak/, /o ok/-- this is strongly confirmed by the presence of suffixed forms where the suffix is added to the base, not to the epenthesized form, e.g. kárraka 'weep, BI tangis', mangkarrákki 'weep over, bewail, BI menangisi' (stresses assumed here; I did not hear these forms). The unknown contributor(s) to the wordlist, however, write both "-k" and "k + echo-vowel".

2.1.5.4b. Consonant clusters.

(1) Lemo dialect: Within a word-base, only clusters of nasal plus homorganic voiced stop, or geminate voiceless stop, are found-- these latter corresponding to voiceless nasal

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clusters in other languages. The data, of course, are very limited. A few cases of geminate nasal must be borrowings from the Padang dialect, where [N:] regularly corresponds to nasal plus voiced stop elsewhere, including (usually) Lemo. Geminates also occur across morpheme boundaries, where they arise from (a) verbal prefixes /maN-/ and /meN-/ added to a voiceless stop (the situation with prefix plus continuant is not clear); (b) possessives, as in /uki/ 'tail', /ukinna/ 'its tail'. It is not clear how regular this process is; some items like /ama/ 'father', /amanna/ 'uncle' may be fossilized formations; (c) in a few examples of verbs with the transitive suffix /-i/, a final /k/ is doubled; this is true in Sad. and Mak. as well.

(2) Padang dialect: The clusters which appear regularly are nasal plus voiceless stop, and geminate nasals; nasal plus voiced stop can occur across a morpheme boundary but apparently not within a base. Isolated examples of /kk/ before the verbal suffix /-i/ are found, and are probably regular.

2.1.5.4c. Morphophonemics. The Lemo data are very limited, but as was mentioned above, the final nasal of the verbal prefixes assimilates completely to a following voiceless stop, as in /mettama/ < /meN+tama/ 'to enter', /makkamase/ < /maN+kamase/ 'to love'. There appears to be partial assimilation before voiced stops, loss before continuants--but there are very few examples.

The more complete Padang data show, generally, partial assimilation before stops, with a few inconsistent (?) cases

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of heterorganic clusters with /-ng-/, as: mampatulei 'to return (trans.)', but also mangpakarao 'move (something) away, BI menjauhkan'; mangturo 'to point' but mantumpa 'to throw'-- all these written in the same hand. One almost wonders if the informant was writing "morphophonemically". Prefix-final /ng/ seems generally to be retained before /r/, /h/ and /s/, to assimilate before another nasal, and to drop preceding /l/.

Instances of the infix /-um-/ are found: both dialects /lumao/ 'to go', /sumayo/ 'to dance'; further, Padang only, /tumukaq/ 'to climb'; probably also as Padang /-umm-/ in /dummolong/ 'to flow', /summiling/ 'to drown', and others. There is no explanation for the geminate. Examples of /-um-/ are not numerous; probably, as in Mdr. and Sad., its use is morphologically conditioned.

There are no examples to show whether base-final /q/ undergoes any change when a suffix is added.

The most difergent feature of the Seko verbal system is the use of a prefix /mu-/ (in Padang) or /mo-/ (Lemo), most commonly where BI has <u>ber-</u>; hence as an intransitive marker. But it also occurs with clearly transitive bases, as well. Note /mukobu/ 'to assemble (intrans.), BI berkumpul' vs. /mangkobu/'to assemble (trans.), BI mengumpulkan'; /muhonta/ 'to sing, BI bernyanyi'; but also /mupatei/ 'to kill'. It is hard not to view this as a borrowing or adaptation of the common Toraja prefix <u>mo-</u> ~ <u>moN-</u> which, however, is usually a transitive marker. In Mamuju and Sad. we find the single item /moasu/ 'to hunt (using dogs)' < asu 'dog',

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but a comparable prefix is entirely lacking in the other SSul languages. Probably related, however, is Bug. Mak. Sad. Mdr. /po-/ which, added to nouns, gives the meaning 'to use as..., to consider as...' (see below, §2.2.1.1).

2.1.5.5. Wotu. Wotu is spoken in the village of the same name, located in the eastern part of Luwu at the head of Teluk Bone. Both Adriani (1931:5) and Esser (Noorduyn 1963:356-60) have classed it as a relative of Buginese and Makassarese. Adriani based his decision (apparently) on materials collected by A.C. Kruyt, although in the original publication (Adriani 1898) the issue of Wotu's relationship was left unresolved; Esser did fieldwork in the area in 1939, but his materials-- almost ready for publication-- did not survive the war. Thus, Adriani (1898) is the only source of data at present.

In my opinion, Wotu is not to be considered a member of the SSul language family. This statement will be easier to justify after the discussion and reconstruction of Proto South Sulawesi; consequently, the reader is referred to Appendix D, where Adriani's data are analyzed and compared with PSS.

2.1.6. Summary. This examination of the phonologies of the individual SSul languages has shown a number of features which are characteristic of the group:

(a) Geminate consonants. We refer here only to those geminates found in Bug. following /±/, and in cognate items in all the other languages (except Seko). On this basis, it is possible to state that gemination following PSS *±

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was a feature of the proto-language, not an independent development in each language. By implication, original geminates have been simplified, degeminated, in Seko, thus marking Seko as the most divergent of the SSul languages. If, on the other hand, we exclude Seko from the family, the presence of gemination in the proto-language still holds true.

(b) Neutralization of final consonants. While the individual languages show similarities in their inventories of permitted finals in surface forms, the mutual resemblances at a more abstract level are very striking. These resemblances show up in derived forms, particularly those with the suffix reflected variously as /-an/, /-ang/ or /-ing/ < PSS *-an. Compare the following displays:

I. Finals in surface (phonemic) forms

	Stops	Nasals	Continuants
Mdr., Mmj.	q	(m?) n ng	r l s
Mak.	q (=/k/)	ng	r l s
DuriC	q k	n ng	h
Sad., Mass.	q k	n ng	
PUS	q k	(m?) n ng	
Seko	q k	(n?) ng	
Bug.	q	ng	

(Generally, /q/ corresponds to /r l s/ in those languages which lack final continuants; but recall DuriK ø = DuriC /h/.)

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II. Underlying (?) final consonants

(The nasals are not involved in the morphophonemic alternations and are omitted here. For lack of data on alternations in PUS, Mmj. and Seko, they are omitted.)

	Stops		Continuants
Mdr.	q > ∅		/r l s/ remain
Duri	q > -t-, k > -k-		h > -r- or -s-
Sad., Mass.	k > -k-		q > -r- or -s-
Mak.	q > -k-		/r l s/ remain
Bug.	q > -k-	and/or	q > -r- or -s-

(c) Shift of voiceless nasal clusters > geminate stops. We should class this as a tendency, which is found in greater or lesser degree in every language except Makassarese[20]. Thus, it could represent either parallel development, or else common development at some proto-stage not including the linguistic ancestors of Mak. This feature, it will be noted, appears with absolute regularity in Mdr.; it is considered to be the regular development in Bug.; it appears to be spreading in Sad., and shows up variably in Mass. and PUS. In the limited SekoL data, it appears to be regular and, in addition, is an active morphophonemic process there, as it is also in Bug. and Mdr.

(d) The sequence of shifts b > w > h > ∅. Since each of the individual languages shows itself at a different stage in the sequence, this development has taken place in post-PSS times. Mdr., for example, is just beginning, with allophonic conditioning of b ~ w, while "dictionary" Sad. has

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reached the ø stage. Seko, and non-standard dialects of Bug. (Sinjai) and Mak. (Konjo, Salayar) have reached the h-stage. PUS shows very mixed development, and the situation in Mass. is not very clear, though we do find ø in some dialects, in some environments.

While (a) and (b) above serve best to characterize the SSul languages vis-a-vis all other IN languages, the last two points are most relevant vis-a-vis the other languages of Sulawesi, especially the neighboring Toraja languages. There, for example, we never find changes in the voiceless nasal clusters, and while there is some variation between /b/ and /w/ we never find any further change in these two sounds. Conversely, one of the more frequent changes in the Toraja languages-- *s > /h/, also *ns > /nc/-- is not present in SSul (aside from DuriC /-h/ corresponding to Mdr. Mak. /-s/).

(e) Common morpheme structure. We have seen that all the SSul languages require the structure (C)VC for monosyllabic free forms, (C)V(C) for polysyllabic and bound morphemes. Only the monosyllabic condition is of interest, since (C)V(C) structure is common to all AN languages, along with the overwhelming bi-syllabicity of bases. Consequently this is not an important criterion.

(f) Finally, the comparative morphology, to be discussed in the next section.

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2.2. Morphology. Of the languages under discussion, we have adequate morphological data on only four: my own Bug. data plus the Bug. and Mak. grammars of Matthes (1874 and 1859 respectively); the Sad. texts and Bible of van der Veen, and the grammatical summary in the introductory pages of his dictionary; the single Mdr. lontar of Tenri-adji and Wolhoff (1955). In addition, Pelenkahu 1972 contains a useful, but not very exhaustive, sampling of data from four Mass. languages. The wordlists of the remaining languages, of course, offer examples of the various affixes and some derivations, but in the absence of textual material, it is only possible to speculate on their usage, usually by comparing them to the BI glosses. In this section, then, it seems best not to discuss the languages one by one, but rather to focus on the morphological elements, their usage, and their presence or absence in individual languages. At the same time, some reconstructed forms will be introduced, for although the phonological correspondences have not yet been established (see Chapter 3), in the case of the affixes they are for the most part obvious.

2.2.1. Verbal affixes. The most important are the prefixes which appear synchronically as /maq-/ and /maN-/ in all the languages. Parallel to these, we also find /me(N)-/ and /-um-/. Further, there are /pa- ~ pe-/ 'causative'; /di- ~ ri- ~ ni-/ and /-in-/ 'passive'; and /taq-/ and /ti(N)-/ 'accidental passive'. (Here, and for the other affixes, I am giving the meanings which have

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traditionally been assigned to them in IN linguistics. They betray perhaps an excessive reliance on categories present in European languages. Recent work in IN and AN syntax is tending to replace-- in particular-- "passive" with "goal focus", since it is becoming clear that focus was a more relevant parameter in the AN verbal system than was voice.)

Since adjectives, in many ways, function as verbs in these languages, we include here also the adjectival prefixes /ma-/ and /ka-/.

There are just two suffixes, both highly productive: /-i/ 'transitive-locative' and /-an ~ -ang ~ -ing/ 'dative or objective focus'.

2.2.1.1. Prefixes and infixes.

2.2.1.1a. /maN-/ is used to form active, usually transitive, verbs. Focus appears to be on the agent, with the result that the goal or direct object is often either indefinite or unexpressed. Morphophonemic alternations of this prefix have already been discussed; it is worth repeating here that in present-day Bug. its form is /maq-/ before all consonants (with a handful of exceptions), /m-/ or more rarely /mang-/ before vowels. Due to regular sound change, the sequence N + voiceless stop > /q/ plus voiceless stop (or, ma + geminate stop), and by analogy, /maq-/ has been generalized to pre-voiced stop position as well.

Verbs with /maN-/ are common in the wordlists, where they usually gloss BI verbs with the cognate BI prefix

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/mĕN-/ and serve, thus, as citation forms. They occur rather infrequently, however, in textual materials; one reason is that verbs in context tend to have pronominal prefixes, which do not co-occur with /maN-/. It will be noted too that in many of the following examples the /maN-/ form corresponds to an Engl. infinitive[21].

Buginese

i. makkalikaq selongang 'I dug a ditch'.

(maN+kali 'dig', -kaq 'I', selongang 'ditch')

ii. mannasui bi̇rri̇q indoq 'Mother cooked (some) rice.'[22].

(maN+nasu 'cook', -i 'he/she', bi̇rri̇q 'rice', indoq 'mother')

iii. narekko rangi̇ng-rangi̇nnami nasuro mangngonroang baluq-baluq... 'If it was just his slave (whom) he ordered to watch over the merchandise...' The Engl. cleft-sentence is the most idiomatic way of showing that preposed rangi̇ng2 'slave' is in focus (the passage deals with the consequences of a slave selling his master's trade-goods without permission). Matthes in the BWB cites mangonroang, with single -ng-.

(narekko 'if', rangi̇ng2 'slave' -na 'his', -mi 'particle, equiv. to BI -lah', na- 'he', suro 'order', mang+onro+ang 'stay by, watch over' < onro 'stay')

Makassarese

(Prefixed forms occur both with and without an initial /m-/; according to Matthes 1858 it is optional. In the Konjo dialect report (Pelenkahu et al. 1971:19) the editors note that forms with /m-/ "are almost never heard in spoken Mak, their use is limited to literary expressions".)

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i. tu polombangkenga mangnguloroqmami biseang 'The men of Polombangkeng launched their boats' (WA:45).

(tu = tau 'person, people of..', mangng+ûloroq 'to let down, lower', -ma, -mi 'particles, cf. BI -lah', bise+ang 'boat' < bise 'oar')

ii. iapanne karaeng uru mallaling punna mammeta paqrasangang... 'This king was the first to take hostages and booty when he conquered a land'(

(ia+pa+anne 'this (emph.)', karaeng 'king', uru '(be the)first', maN+laling 'to take prisoners of war', punna 'if', mammeta < maN+beta 'conquer', paqrasangang 'land, country' = MWB parasangang)

iii. iatompa uru mañjijiriq baqdiliq lompo ribenteng lompoa. iatodong Mangkasaraq uru mangngasseng mappareq ubaq, mañnanga bulaeng, mandeqdeq bata 'He also was the first to set up rows of cannons on the fortress. And he also was the first Makassarese to learn (how) to make gunpowder, to alloy gold, and to make bricks" (WA:65-66).

(ia 'he'; -to, -todong 'also'; maN+jîjiriq 'to line up'; bâqdiliq lompo 'gun+big' i.e. cannon; ri- 'on'; benteng lompo 'fortification+big' i.e. fortress; -a 'the'; maN+asseng 'to know'; maq+pareq 'to make'; ubaq 'gunpowder'; mañnanga < maN+sanga 'to alloy'; bulaeng 'gold'; maN+deqdeq 'to form'; bata 'brick')

Mandar

i. messiomi mattanaq uai....iamo mendiolo massittaq limanna iamo dibeta '(he) ordered (the people) to boil water....and she (who) first jerked back her hand, she was defeated' (TW:5)-- describing the "ordeal by boiling water" used to settle disputes between women. We have now encountered several instances of the particle -mi (and -mo above) which we have equated

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with BI -lah, all of them belonging to that class of words which translators are fond of calling "untranslatable". They seem to serve two purposes: (1) to mark topics, as in Bug. ex. (iii) above, and in the Mdr., especially iamo 'and she who..., she is the one who...' etc. (2) to serve as sentence connectors, and in this sense often translated by Indonesians as BI maka 'and then...'. In Mdr. /-mo/ appears to be the basic form; /-mi/ derives from -m(o)+-i '3d/sg.' and /-maq/ from -m(o)+-aq '1st/sg.'. There is undoubtedly much more to be learned about their usage, but for our purposes the foregoing will suffice.

(meN+sio 'to order', maN+tanaq 'to boil', uai 'water', meN+di+olo '(be) first, lit., at+head', maN+sittaq 'jerk, pull back', lima 'hand, arm' -(n)na '3d/sg./poss.' di+beta 'passive + defeat')

ii. apamo napogauq Todilaling, maqitâimi to Napo daqdua... 'Then what did Todilaling do? He sought out two men of Napo...' (TW:18). On the basis of this and several other examples in the lontar it seems clear that the pre-vocalic allomorph of /maN-/ is /maq-/.

(apa 'what?', na- 'he', pogauq (po+gauq?) 'to do', maN+ita+i 'to look for' < ita 'to see', to 'person, people of..', daqdua = dua 'two')

iii. diammo mambaba pambe, diammo mambaba bojoq 'there were (those who) brought sugar-cane, there were (those who) brought squash' (TW:110).

(diammo < diang 'there is' + -mo, maN+baba 'to bring, carry', pambe 'sugar-cane', bojoq 'squash')

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Sa'dan

i. iamo dipaulangan te tongkiloo mangkambiq 'This was used as a rope when we used to go out herding buffalo' (V:25).

(ia(+mo)..te 'this', di+pa+ulang+an 'be used as a rope < pass.+caus.+rope+ben.', to+N- 'relative marker, when', ki- 'we', loo = lao 'go out' maN+kambiq 'to herd buffalo')

ii. anna mendadi apa mangarrang lan batara dao langiq la unnarrang lino '...let them be lights in the firmament of the heavens to give light upon the earth' (Gen. 1:15).

(an- 'so that, and then' -na 'they', meN+dadi 'become', apa 'what?' here = 'that which'(?), maN+arrang 'to give light' (intrans.!), lan 'in' batara 'heavens' dao 'above, high', langiq 'heavens', la 'fut. marker', unn+arrang 'to light' (trans.), lino 'earth, world')

iii. ...den tu attu mantanan sia den tu attu mang-lampiq 'there is a time to plant, and a time to pluck up what is planted' (Eccl. 3:2). Note that Ecclesiastes ("The Preacher") is called To Mangada in the Sad. translation: to 'man' maN+kada 'to speak' < kada 'word'; the nasal substitution is not entirely regular.

(den = older dian 'there is', tu 'that, the', attu 'time' (< Ml. waktu < Arab.), man+tanan 'to plant', sia 'with, and', mang+lampiq 'to pluck, to harvest')

Massenrempulu

i. Endekan: ambeq mattanan boqbo

Duri: iambeq mangtanan pare

'Father planted rice' (RAP72:53).

(ambeq, i+ambeq 'father', -tanan 'to plant', boqbo, pare 'rice (seeds or plants)')

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ii. End: iseboq ambequreku maqbaluɲ barraq

Duri: sangboq ambequreku mangbaluk rido

Maiwa: maqbaluq barrai amaureku issamboi

'My uncle sold rice yesterday' (RAP72:55).

The Mai. example shows the subject marker /-i/ affixed to the direct object, i.e. to the whole predicate; the same construction can occur in Bug. where habitual actions are involved, e.g. mannasu bɨrrɨqi indoq ɨsso-ɨsso 'Mother cooks rice every day'.

(iseboq, sangboq, issamboi 'yesterday'(unanalyzable forms), ambeq-ure, ama-ure 'uncle' (father + ure '?'), baluɲ, baluk, baluq 'sell', barraq, barra, rido 'rice (unhusked)')

From the wordlists, we can cite, among others:

PUS: mantunu ' to burn'

mampolo 'to cut'

mangasa 'to sharpen, whet (a knife)'

massangkeq 'to tie'

Seko: mambika 'to split (trans.), BI membelah'

mangturo 'to point, BI menunjuk'

manghungkai tampo 'clear land, BI membuka tanah'

mangngeli 'to move (trans.), BI memindahkan'

(contrast mingngeli 'move (intrans.), BI pindah')

On the basis of this evidence we reconstruct PSS *mang- 'active/transitive' (probably also 'agent focus'). Each language shows different morphophonemic changes of the ensuing nasal + consonant sequences, though most agree in retaining /ng/ before vowels, and all agree in assimilating the nasal completely to base-initial /s/. PSS *mang- in turn

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reflects an earlier *mang-, certainly reconstructible for PIN if not for PAN. There is some evidence that the PIN prefix was poly-morphemic, for in Cld Jav. we find a reasonably clear four-fold distinction, dependent upon (1) speaker's involvement, or distance, from the act, and (2) the definiteness or indefiniteness of the act. This is summed up nicely in the diagram appearing in Becker and Oka (1974:19):

SPEAKER:	ACT: indefinite	ACT: definite
close, involved	ma-	mang-
distant, detached	a-	ang-

The structure of the PIN prefix may thus have been something like (m-) + a + (-ng). There is no evidence at present that this analysis could be applied to the PSS prefix *mang-, or to any of the modern languages, although the presence of optional /m-/ in Mak. is striking, and further research into Mak. syntax from this point of view might be rewarding.

2.2.1.1b. An element which occurs as either prefix of infix is /um/. It is most common in the Sa'dan group (Sad., Mass, PUS-- Seko should be included here, but there are few examples in the wordlist). There are several examples in the Mdr. text, but none in the Mak., although both Matthes and Pelenkahu 1971 cite a few. There are no certain examples in Bug.; possibly the /m-/ prefix (analyzable now as an allomorph of /maN-/ before vowels is a relic.

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In usage, /um/ parallels /maN-/ to a considerable extent: as an "infinitive" or "participial" marker, or to mark transitive verbs with indefinite or implicit objects. In all these, the focus seems to be less on the agent than on the action itself, and in this respect it is noteworthy that /um/, unlike /maN-/ can co-occur with clearly intransitive verbs (at least in the Sad. group) like 'sit', 'go' and 'walk'. Examples:

Buginese

i. manre 'to eat', manrekaq 'I'm eating' (as a reply to e.g. "what are you doing?"). Cf. Sad. kumande, Mdr. ummande (with regular loss of *k- and prefix allomorph /umm-/). If we posit an earlier *k-um-ande then this-- and other Bug. items which have lost initial *k-- may be explicable as either (1) reanalysis of kumande as ku- 'I' + mande, or (2) haplology from some form such as kukumande (ku+kumande) followed by reanalysis.

ii. mile 'to choose'. Cf. Mdr. pile, memilei and BI pilih. (Mdr. memilei is not a regular derivation; we should expect *meppilei.) In this case, a process of deletion which can be traced back to PAN is the cause: when /-um-/ is infixed to labial-initial roots, the original labial and the following /u/ delete (see Wolff 1974:83-4). Thus, *pile > *p-um-ile > mile. Cf. also Bug. mălli 'to buy' (Ml. bĕli) < *b-um-ălli.

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iii. Bug-Bone dialect, wuno, mpuno 'to kill', wawa > mpawa 'to carry'; these variants may be relics of prefix /um-/-- cf. the Sad. variants umbaa ~ mbaa 'to carry' among others. They might equally well be shortenings of /maN-/ forms. Standard Bug. has maqbuno, maqbawa.

Makassarese

i. tau tallu numari sarring 'three people run fast' (Pelenkahu 1971:53). /numari/ is presumed < /lari/ 'run' with irregular assimilation l > n due to the following m; this form is not given in MWB, nor is /um/ discussed in the grammar.

ii. sumómbalaq 'to sail' < sómbalaq. I have heard this form; Matthes, however, cites simómbalaq. Pelenkahu 1971 also cites an examples or two or /-im-/, but it is clearly non-productive.

iii. tumingara 'to lie on one's back'. Cited as a separate entry, without cross reference, in MWB; but note tingara 'to look up'. I do not consider the resemblance merely fortuitous.

Mandar

(Examples are far fewer in number than in Sad.)

i. lumambami anaqna urena Ipuang di Pojosang 'And so the nephew of the Lord of Pojosang departed' (TW:21). The editors translate lumambami with BI "Berangkatlah..."

(lamba 'to go', anaqna ure 'nephew' < anaq 'child' + ure '?', -na 'his', i- 'personal article, Ml. si', puang 'lord, master')

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ii. iamo domai naumbabai di Mandar anaqna urena '(it was) that (boat which) brought his nephew here to Mandar' (TW:75). The editors comment: "umbaba: active + definite object...(cf) inai lao umbabai? 'who will go get/bring it?'". Compare this with mambaba in Mdr. Ex. iii, 2.2.1.1a.

(domai (do+mai?) 'down to here' na- '3d/sg., subj.,' here = boat)

iii. pura ummande Todilaling soroqtomitia Maqasar ummande, tumadumi Todilaling, tumadutomitia Maqasar 'When T. finished eating, the Makassarese (man) also stopped eating; then T. took sirih [comparable to, but not the same as, betel-nut], and the Makassarese also took sirih' (TW:91).

(pura 'perfective marker; finished, all done', umm+ande 'to eat', soroq 'stop, pull back from' -tomitia < -to 'also' + -mi 'particle' + -tia 'there, then', tadu 'sirih')

Sa'dan

i. nasulemo tu Saredadi lako banuanna tumangiq.... na-kuami tu deata lako Saredadi: mutumangiq banra, Saredadi! 'Saredadi returned home crying.... And the (2) gods said, "why are you crying so, Saredadi?"' (V:9)[23].

(na- 'he/she' or 'and', sule 'return', tu 'that, the', lako 'to; go', banua 'house', -(n)na '3d/sg. poss.', tangiq 'weep'; kua 'to say', deata 'god'; mu- '2d/sg., subj.'; banra < bang 'only, just' + -ra 'interrog. particle')

ii. maqkadami tu Puang Matua kumua: la den tu ma-siang. 'And God said, Let there be light' (Gen. 1:3).

(maq+kada 'to say', puang 'lord', ma+tua 'old', kua 'to say'; la 'future marker' here perhaps hortative?; den 'there is', ma+siang 'light, bright')

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iii. iatonna bongimo, unnoqkoqmi tu Yesu kumande sola tu anak gurunNa sangpulo dua 'When it was evening, He [Jesus] sat at table with the twelve disciples' (Matt. 26:20). (Literally, '...Jesus sat (down) to eat with...')

(ia+toN 'when' -na 'it' (?), bongi 'night', unn+oqkoq 'to sit', kande 'to eat', sola 'with', anak guru 'disciple, pupil' (lit., child-teacher), -(n)na 'his', sangpulo dua 'twelve' < sangpulo 'ten', dua 'two')

Massenrempulu

Pelenkahu 1972:29 cites the infix /-um-/ as occurring only in End. and Mai., but it occurs also in his and my Duri data.

i. DuriK: lumingka 'to walk', tumodang 'to kneel'.

ii. DuriC: nnindannaq doiqna Ali 'I borrowed (some) money from Ali', lit., 'I borrowed Ali's money'. A somewhat doubtful example, but DuriC seems to have /nn-/ before vowels and /N-/ before consonants where Sad. has /unn-/ and /uN-/ respectively.

(indan 'borrow', -naq 'I', doiq 'money')

iii. End. Mai. kumande 'to eat' (RAP72:42).

PUS

The only instance in my 200-word Swadesh list is ummande 'to eat', but in view of the closeness of PUS to Sad. it is probable that a larger corpus would provide more examples. In any case, /ummande/ is irregular, as PUS does not ordinarily show loss of *k-.

Seko

i. talumao masolu uakana hea 'we are going to fetch

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the root(s) [origin] of the rice' (A.Kruyt 1920:406). According to Kruyt, this is a figurative expression for "we are going to pay tribute to the King of Luwu"; formerly on such occasions the King gave the emissaries in return a bit of seed-rice which was then taken back to the villages and mixed with ordinary seed-rice, to insure its fertility. Kruyt does not indicate final /q/ or geminate consonants, so the phonetic accuracy of the phrase is doubtful. It is, however, the only complete sentence found in our Seko materials.

(ta- 'we', l/um/ao 'to go', masolu (= massolu?) 'to fetch, Du. halen', uaka+na 'root + its', hea 'rice')

ii. (From my wordlist) sumayo 'to dance'; cf. Sad. sayo 'move around', sumayo 'wander around'. Also, tumakaq 'to climb'; Sad. tukaq, tumakaq 'idem'.

iii. dummolong 'to flow'; cf. Sad. Mdr. lolong 'idem' < **rolong < PSS *(dr)olong. My SekoP informant writes "umm" consistently, while the unknown hand and the SekoL informant write "um"; but I do not know whether this reflects an actual difference in pronunciation.

On the basis of this evidence we reconstruct PSS *-um- 'active/transitive'. It is odd that in Sad. the final *m has apparently been treated as if it were a word-final *m (*m > n, see §3.6.1f below), as the pre-vocalic allomorph /unn-/ shows; there is no explanation.

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2.2.1.1c. A prefix with the synchronic form /maq-/ occurs in most of the languages; as the result of sound changes and apparent analogical levelling, it has become homophonous with /maN-/ in many environments in some of the languages, and can be distinguished from that prefix only on semantic grounds. (In addition, the Sad. group and Mdr. seem to use /me(N)-/ in preference to /maq/-- see §2.2.1.1d below.) Whereas verbs with /maN-/ are usually clearly transitive and focus on the actor as subject, verbs with /maq-/ are usually clearly intransitive and have the following meanings:

/maq-/ + noun: 'to have/possess noun'.

/maq-/ + verb: 'to do verb; to do verb habitually/for a living'.

In this sense, they might be thought of as focussing on the action itself.

The usage (and the glosses in the wordlists) parallels that of BI /bĕr-/. Examples:

Buginese

We have already mentioned above (§2.1.1.2b) that Bug. has an allomorph /marr-/ before vowels which reveals the historic final, PSS *-r. There is also an allomorph /makk-/ where, in some cases, the /k/ reflects an original *k- which the base form has lost.

i. makkita 'to (be able to) see, have sight', as in makkitakaq 'I can see!' (informant explained that a blind man might say this upon regaining his sight). The base is /ita/ < PSS *kita; cf. also Bug. pakita 'vision'.

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ii. makkalɨq 'wooded, having woods/forest' (BWB). The base is /alɨq/ 'woods, forest', but in this case cf. Jav. alas 'idem', PAN *alas. Since there is also a Bug. prefix /ka- ~ ke-/ 'having...', and since in Bug. two vowels may coalesce, such that $V_1V_2 > V_2$, it is possible that this and similar examples derive from /maq + ka~ke + V../. By the same token, makkita may be explicable in this way, and the appearance of the etymologically correct consonant would be entirely accidental.

iii. Examples from Matthes' Grammar (1875:67-71): maqbaine 'to have a wife (baine), be married'; maqbujampujang 'to play cards' < (w)ujang 'colored paper, playing cards'; marranaq 'to have (possess, not give birth to) children (anaq)'; marrukiq 'to write (without object)' < ukiq; massompɨq 'to sail, travel (to). This last example is in fact ambiguous, since the sequences /N+s/ and /q+s/ both assimilate > /ss/, and the dictionary glosses the word as only 'zeilen'. (Mas)sompɨrrɨng, however, is listed as the transitive form (thus, maN+sompɨrr+ɨng) as in 'to sail a boat', and Ml. usage is comparable: bĕrlayar 'to sail (intrans.)', (mĕ)layarkan 'sail (trans.)'.

Although evidence in the Grammar and Dictionary suggests that the /marr-/ allomorph is fossilized, it still seems possible to claim /mar-/ as the synchronic underlying form; /-rr-/ before vowels has arisen analogically, while /-qC-/ < /-r+C-/ obeys the general Bug. assimilation rule.

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Makassarese

(As with /maN-/, the initial /m/ is optional.)

i. maqbainemi tu Garassiq Batara Goa, anaqna Somba Garassiq nabaineang 'And Batara Goa married a person of Garassiq, he married the daughter of the King (Somba) of Garassiq' (WA:19). English translation obscures the distinction between maqbaine and -baineang; more literally, "B.G. had a Garassiq wife, he married the daughter...." The BI translation clearly shows the difference: "Maka běristěrilah B.G. děngan sě-orang Garassiq, anaknya Somba G. yang dipěristěrikannya". (A transitive and so-called "passive" verb is in fact required in the second clause since the direct object has been preposed-- focussed-- and (in BI) relativized.)

ii. leqbaki maqbunduqmi... '(lit.) after they had had the war', more freely, 'After the war...' (WA:45).

(leqbaq 'perfective marker; finished, all done', bunduq 'war')

iii. sampulo assagantuju taung maqgauq 'he reigned (had power) for 18 years' (WA:58).

(sampulo assagantuju '18' < sampulo 'ten', an-'connector with numerals', sagantuju 'eight', taung 'year', gauq 'power')

Mandar

There are no clear examples in the lontar; Pelenkahu 1967 gives two, and my wordlist contains a handful--, but all could be loans, or /maN-/ forms.

i. (From RAP67) maqlopi 'to have/own a boat, BI ber-prahu'; cf. Bug. mallopi, Mak. (m)aqlopi 'idem'.

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ii. (From RAP67) manguma '(BI) bĕrladang, to have or own a garden'. Probably refers, as does ladang, to a dry-rice field in which other crops are planted after the rice harvest. BI bĕrladang, however, might also mean 'to work in the ladang', in which case Mdr. may show a /maN-/ form.

iii. (From my wordlist) maqbau 'to smell (intrans.), BI bĕrbau'-- an unambiguous example.

iv. (From my wordlist) mappikir 'to think, BI bĕrpikir'; mappau 'to say, BI bĕrkata'; maccukur 'to shave' probably corresponding to BI bĕrcukur 'to shave (oneself)' (and perhaps borrowed from it), though equally well = BI mĕncukur 'to shave (someone else)'-- for because of Mdr. morphophonemics all these examples could reflect /maN-/.

Sa'dan

Most examples involve /maq-/ + noun. Where e.g. Bug. has /maq-/ + verb, or Ml. /ber-/ + verb, Sad. most often shows /me(N)-/.

i. maqtambukmi tu baine iato anna dadian misa pia muane tu nasangai Er 'and she (lit., that woman/wife) conceived and bore a son, and he called his name Er' (Gen. 38:3)

(maq+tambuk 'be pregnant' < tambuk 'belly', tu...iato 'that', baine 'woman, wife', anna (=an+na) 'and she' dadian 'to give birth to' < dadi 'become' + -an 'benefactive', misa 'one', pia 'child', muane 'male', tu 'that' here = relative, na- 'he,she', sangai 'to name' < sanga 'name' + -i 'trans. affix')

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ii. anna rampo maqtondok sola paqtondokan 'and they went and settled with the people' (Judges 1:16).

(an+na 'and they', rampo 'to reach, arrive', tondok 'house' > maq+— 'to make a house, settle', tondok+an 'settlement', paq+tondokan 'those who have a settlement'(?), sola 'with')

iii. kurre sumangaqna te tallang maqlampa raraq,/ sabaq parayanna te aoq maqbuku bulaan 'Hail to this thin bamboo with the glorious internodes,/ abundant be the blessings on (of?) this thick bamboo with the golden nodes' (Merok:26).

(kurre sumangaq, here 'hail!', tallang, aoq 'bamboo species', lampa, buku 'node of a bamboo plant', raraq 'k.o. necklace; poet., glorious, golden', sabaq 'abundant', parayan 'lit., greatness' < raya 'great', bulaan 'gold')

Massenrempulu

RAP72 cites a number of probable forms in the wordlists, but not in the example sentences; consequently, despite the glosses with BI ber-, it is possible that these are transitive verbs with one or another allomorph of /maN-/.

i. End.: maqjama 'to work', maqguru 'to study' (lit., 'have a teacher'), massapeda 'BI bĕrsĕpeda', mangnguma 'BI bĕrkĕbun'. The last two could mean either 'to have a bicycle, to have a garden' or 'to ride a bicycle, to work a garden'. All but uma are loans, and identical with Bug., hence are suspect. (Jama probably < Ml. jamah; guru < Indic, sapeda < Du.)

ii. Duri: mangjama, maqguru, massapeda, mangbaraqba respectively 'to work, study, bĕrsepeda, bĕrkĕbun'. Just as Bug. has generalized /maq-/ for /maN-/ as

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well as for /maq-/, Duri seems to have generalized /mang-/ for both; /maqguru/ therefore is probably an unassimilated loan < Bug. Duri /-ss-/ < either /N+s/ or /q+s/ is regular.

iii. Mai.: magjama, maqguru, massapeda, maqdaraq, same as above. Further, mattallo 'to lay eggs, BI bĕrtĕlur'.

iv. Patt.: makkareso, maqguru, massapeda, manguma same as above.

PUS

The examples found in the 200-word list are somewhat suspect and may be Bug. loans. Generally, items with BI ber- have PUS /meN-/ or Ø prefix.

i. maqkada 'to say, BI bĕrkata'; cf. Sad. maqkada.

ii. maqkelong 'to sing, BI bĕrnyanyi; Bug. makkelong.

iii. mappikiq 'to think, BI bĕrpikir'; Bug. idem, ultimately < Arabic.

There is little likelihood that these are /maN-/ forms; mangkali 'dig' and mampolo 'cut' among others show that the nasal is retained before stops in PUS.

Seko

In the 350 or so verbal forms in my wordlist, there is not a single clear example of a /maq-/ prefix. BI bĕr- is reflected most often by Seko /mu-/ (probably of Toraja origin), /mi(N)-/, or occasionally with /maN-/.

On the basis of Buginese and non-SSul languages (e.g. Balinese and Toba-Batak) we reconstruct PSS *mar- 'intrans.

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verbalizer', reflecting PAN *mayŋ-. Like PAN *mang-, *mayŋ- also can be viewed as probably polymorphemic, *ma- (or m+a-) 'stative' (?) + *-ŋ- or *-ayŋ- 'frequentative; pluralizer' (?). The PSS prefix, however, is best viewed as monomorphemic.

As to the distribution of reflexes of *mar- in SSul languages, the following summary should be noted:

Bug. - present, *mang/*mar- contrast obscured by sound changes.

Mak. - present, *mang/*mar- contrast not obscured.

Mdr. - questionably present; if so, sound change has obscured the contrast with *mang-, as in Bug.

Sad. - present, apparently most productive with noun bases; replaced by /me(N)-/ with verbal bases; *mang/*mar- contrast disturbed by presence of (dialectal) N + stop > geminate change.

Mass - questionably present; if so, sound change has obscured the contrast with *mang-, as in Bug.

PUS - questionably present; situation probably as in Sad.

Seko - apparently absent, replaced by /mu-/ or /miN-/.

2.2.1.1d. With the foregoing, compare now the distribution of prefixes having the form /me(N)-/ or /mi(N)-/:

Bug. - present but non-productive, undoubtedly fossilized.

Mak. - entirely absent.

Mdr. - present, fully productive.

Sad. - present, fully productive.

Mass - present, fully productive.

PUS - present; productivity assumed, but limited data.

Seko - present, apparently less productive than /mu-/.

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The two prefixes *mar- and (modern) /me(N)-/ are in near complementary distribution, as a tabular arrangement of the above shows even more clearly. (A "-" means not present, "+" means present and productive, "(+)" means present but not productive. Mak. has been re-ordered to first position.)

	*mar-	me(N)-	mu-
Mak.	+	-	-
Bug.	+	(+)	-
Mdr.	(+)	+	-
Sad.	(+)	+	(1 ex.)
Mass.	(+)	+	-
PUS	(+)?	+	(1 ex.)
Seko	-	+	+

In the grammatical materials available, only van der Veen (1940:xii) has attempted to assign a meaning to the /me(N)-/ prefix. According to him, Sad. /me-/ without nasal, added to nouns, has the meaning 'go in search of..., gather...' as in meutan 'search for or gather greenery/ vegetables'. Added to verbal stems /me-/ (should be /meN-/ since all his examples have the nasal) means 'strive to..., try to...' as mengkilala 'try to remember' (my informants gave simply 'remember'). Further, some instances of /meN-/ give a 'reflexive' meaning, as mendioq 'to bathe, take a bath'. In assigning these meanings, he is apparently following Adriani's discussion of Bare'e /me-/ (Adriani 1931:160ff.). In Bare'e as in Sad. /me(N)-/ in the sense 'gather...' and 'reflexive' is necessarily limited to

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those bases which permit such an interpretation. The sense 'strive to...', furthermore, is not clearly present in all the forms cited in SWB, and in Adriani's discussion it is clear that this is only an approximation of the basic meaning-- a summary of the various possibilities-- and in choosing to cite only this meaning, van der Veen has distorted matters. Even Adriani, while admirably exhaustive, seems at times to be forcing his interpretation; for example, I find little reason to assign a sense 'do much...' to some of his examples, e.g. Bar. membua 'bear much fruit'; most plants do, after all, bear more than one fruit.

In fact, the usage of /me(N)-/ in the SSul languages quite closely parallels that of Ml. ber-, with the exception that ber- seems not to occur in the sense 'gather....' Thus, it is also synonymous with PSS *mar-. Examples:

Buginese

(All citations from BWB.)

i. tauq, metauq 'to be afraid'; matauq also occurs.

ii. mengala, marrengala 'to harvest'-- according to Matthes the base is /engala/, but cf. ala, mala 'to take'. /engala/ must reflect reanalysis of /meng+ala/.

iii. mecawa 'to laugh', menau 'to steal'. The bases are given as /ecawa/, /enau/, but comparative evidence shows that the /e-/ was not originally part of the base.

Makassarese

No examples.

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Mandar

i. messiomi mattanaq uai....iamo mendiolo massittaq limanna... 'he ordered (them) to boil water....and she who first pulled back her hand...' (TW:5).

(meN+sio 'to order', meN+diolo 'be first' < di+olo 'at the head, beginning')

ii. merau adaq barang manaoi paqmaiqna Karaeng di Goa, anna mebei... '(to) ask for adat (laws), (and) perhaps the King of Goa will voluntarily give (them)...' (TW:15). A somewhat surprising example, in that /me-/ does not ordinarily co-occur with 'give' in other SSul languages; I have no explanation.

(me+rau 'to ask for', adaq 'Ml. adat, customary law', barang (bara+ng?) 'perhaps', ma+nao+i 'it is (here, will be) soft' paq+maiq+na 'his heart, spirit', anna 'and' (possibly, an+na 'so that he'), me+bei 'give')

iii. nauammo Maqasar io daeng, soqnaimaq mellamba 'And the Makassarese (man) said, "yes, my lord, permit me to go' (TW:127).

(na- 'he' uang (< ua+ang) 'say to'(the Lord of ojo-sang, clearly implied in the context), io 'yes', daeng 'hon. title', soqna+i 'permit', -maq (< -mo+aq) 'particle + 1st/sg.', meN+lamba 'to go')

Sa'dan

i. neneq mendeatanna 'his/their divine ancestors' (Merok:130 and passim). Lit., ancestors (neneq) having the quality of (meN-) gods (deata).

ii. bangunmi mekutana londong lako indoq to kumom-bongna,/ diongmi metinti masiang lako to mendadianna 'Then he stood up, and persistently questioned the mother who bore him,/ there below, he asked clearly

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and distinctly, of the one who brought him into the world...' (Merok:401).

(bangun 'stand up' -mi = -mo+i 'particle + 3d/sg.', me+kutana 'to ask', londong 'persistently' (unclear in SWB), lako 'to', indoq 'mother' to 'person' or 'relative marker' k/um/ombong 'beget, create'; to kumombong functions here as a noun, as -na 'his' indicates); diong 'below', me+tinti 'to ask, question'; ma+siang 'clear, bright', men+dadi+an 'give birth to, lit., cause to become')

iii. dao mai toq pentiroan mentiromi tu indoqna Sisera, sia metamba dao mai toq tarali 'Out of the window gazed the mother of Sisera, and called out through the trellice, saying...' (Judges 5:28).

Apparently following a different source, RSV has: 'Out of the window she peered, the mother of Sisera gazed through the lattice, saying...'

(dao 'high', mai 'from', toq 'place (of..)', pen+tiro+an 'window' (lit., place to look out, < tiro), men+tiro 'to look out', sia 'and', me+tamba 'to call', tarali 'trellice' (< Du.))

Massenrempulu

i. End.: milluppaq 'to jump', mitawa 'to laugh', mittallo 'to lay eggs'.

ii. Duri: mellamban 'to cross', mentallo 'lay eggs', metawa 'to laugh'.

iii. Mai. Patt. mecawa 'to laugh'; Patt. melluppaq 'to jump.'

PUS

mekekeq 'to bite', mentiaq 'to fly', mepatei 'to kill' (< pate < mate 'dead' + -i 'transitive), metaha 'laugh'.

Seko

i. mingsohong 'to go out'; cf. Sad. messŭn, messuun.

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ii. mingngeli 'to move (intrans.),BI pindah'; cf. mangngeli 'to move (trans.), BI memindahkan.

iii. menanaha 'to breathe'; cf. Sad. me/naa, PUS meng/inaha 'idem'. This example was not written by my informant, which may account for the e, not i.

iv. mirarung 'cold'; one of several adjectives with (inexplicably) this prefix; probably to be viewed as meaning 'having the quality of...cold'.

(For the most part, however, Seko has /mu-/ where the other languages have /maq-/ or /me(N)-/, or Ml. ber-:

v. mupatei 'to kill' (cf. the PUS form above);

vi. musua 'to say' (sua 'mouth'); cf. Ml. berkata.

vii. muuleleang 'to speak'; cf. Sad. maqulelean 'speak, tell a story'.

This prefix does not occur in the other SSul languages, with one exception found so far: Sad. Mdr. Mmj. moasu 'to hunt (using dogs)' < asu 'dog'. This is undoubtedly borrowed from the neighboring Toraja languages, and the widespread occurrence of /mu/ in Seko is to be ascribed to this same influence.)

On the basis of this evidence, we can reconstruct PSS *mi(N)- 'intransitive verbalizer'; the nature of the final nasal is in doubt, nor is there a ready explanation for its variable presence/absence in the modern languages. If it were *ng, we should expect Sad. /meng-/ before vowels, but the allomorph there is /menn-/. Regarding the variation between reflexes of PSS *i (> modern /i/ or /e/), see

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below, §3.2a; *i is chosen for the base form under the assumption that it is more likely for [i] to be lowered to [e] in a closed or pre-stress syllable than for [e] to be raised to [i] in such an environment.

As to the source of this prefix (along with the parallel causative prefix *pi- to be discussed in §2.2.1.1j below), it is difficult to give a precise answer. There is a prefix /mi-/, sometimes /miN-/ in OJ which is rare; according to the grammars, it is the um-form of /pi-/ and forms either causatives, or else gives the sense of 'consider as..., use as...'. For example, OJ tutur 'remember', pitutur 'to remind'; hutang 'debt', pihutang 'claim'; rengö, rumengö 'to hear', pirengö, pirengwaken 'listen to' (Zoetmulder 1950:45-6, cf. also Kern 1918:224-28, from which it appears that a comparable prefix also occurs in some Philippine languages). Strictly speaking, these OJ forms could descend only from a PAN **pi-, **mi-, neither of which has to date been posited.

Further, there is Sundanese /mi-/ which appears to correspond in usage to Ml. ber-, e.g. migawe 'to work', Ml. bekerja; and Malegasy /mi-/, also described as a marker for intransitive verbs. The Malegasy form can derive regularly from PAN *may- via *may- > **may- > mi-. A similar sequence of changes is possible for Sund. (*may- > pre-tonic **miy- > ?*miy- > mi-), but it is not clear whether this can be viewed as a regular Sund. sound change. Cf. however Sund. ti- = Ml. ter-, likewise < PAN *tay-.

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Finally there is the /me- pe-/ series of prefixes found in the Toraja languages; these too can derive regularly from PAN *mayˀ-, via stages similar to those posited for Malegasy (except that *-ay > Tor. /e/) or Sundanese. Since SSul /me(N)-/ predominates in the more northern languages, where contact with Toraja (or a Toraja substratum) can be logically assumed, we can tentatively classify it as an early borrowing. And while modern Mak. has lost all trace of *mi(N)-, Mak. causative /pi-/ (< *pi-) suggests that both forms could have occurred in earlier stages of Mak.

2.2.1.13. Yet a third prefix with the meaning 'having..' is /ki-/ or /ke-/ added to nouns. It is not found in Mak. nor in my Mdr. data, nor is it known to occur outside Sulawesi, unless Adriani is correct in equating it with e.g. Bis. /makig-/ 'reflexive' (1931:234). It is found in Bare'e, both as (fossilized) /ki-, meki-/ and also as /ke-/ (productive) (Adriani 1931:231-34, 246-48). Examples:

Buginese

(From BWB) keata 'having/owning slaves (ata)';
maq/keanaq 'to have a child'.

Makassarese

No examples.

Mandar

No examples.

Sa'dan

kianak 'have a child'; kebaqtang, kibaqtang 'pregnant' (baqtang 'belly'); kinaa 'wise' (= ki+inaa 'spirit').

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Massenrempulu

End. kianaŋ, Mai. keanaq, Patt. keanang 'have a child'; DuriK kebattang 'pregnant'. (The Patt. form may be a misprint "keanan" for "keanaŋ".)

PUS

There are no examples in my data. A&K mention /ke-/ in their "Mamuju" article as an adjective formant, but give no examples (1914:149).

Seko

kiindang 'to owe money, BI berutang'; hang kianakki 'barren (woman)' < hang 'not' ki+anak 'have a child'. The final -(k)ki is unclear; perhaps this is a transitive derivation with /-i/, thus kianakki 'conceive? give birth?'. Or it could be a sentence with /-i/ as 3d/sg. subject marker, hang kianakki 'she has no children'-- in this case, the doubling of the /k/ is inexplicable.

Despite its apparently limited productivity, and occurrence in just two subgroups of SSul (see §3.9.3 below), we tentatively reconstruct PSS *ki-. Like *mi(N)-, this too may be a borrowing from the Toraja languages.

2.2.1.1f. The passive or goal-focus marker takes the form of a prefix /di-, i-, ri-, ni-/ in different languages and dialects. /di-/ and /ri-/ can be regularly derived from *di-; there is no ready explanation for /i-/. /ni-/ might be related to *di- via nasal substitution, though it is uncommon for d and n to alternate; further, the antiquity

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of /ni-/ is attested by its presence in the "Old Malay" inscriptions dating to the 7th - 8th Centuries (see Coedès 1930); modern Ml. of course has /di-/. There is perennial debate about the origin of this /di-/; many Indonesianists feel it is a shortened form of the 3d person pronoun /dia/, created by analogy with the short forms of the 1st and 2d person pronouns used with the so-called passive construction. Thus the following sentence is <u>active</u> (indicated both by word order and the /meN-/ prefix on the verb):

{Aku / Engkau / Dia} membeli rumah itu.

{I / You / He} pfx.+buy house that = '{I / You / He} bought that house'.

while the following are considered <u>passive</u>:

Rumah itu {ku- / kau-} beli. 'That house was bought by {me / you}.

Rumah itu dibelinya. 'That house was bought by him'.

The same construction is required in a relative clause, if the head of the clause is the direct object; thus "I don't know where the <u>house that he bought</u> is" would be:

Aku tidak tahu dimana <u>rumah yang dibelinya</u> itu.
(I not know where ....)

If analogy is the correct solution, there must have been an earlier form like <u>dibeli</u> 'bought by him'; the addition of -nya '3d/poss.' must have occurred later, perhaps after the bare <u>di</u>-form came to be used as an agentless passive (e.g. rumah itu sudah dibeli 'that house has been bought').

Much of the confusion surrounding the Ml. "passive" seems to be due to two factors: (1) the fact-- interesting in

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itself-- that syntactic changes have taken place in Ml. so that it diverges considerably from the more "typical" Indonesian focus system seen, for example, in OJ and the Philippines (see Foley 1974 or, for an historical approach, Wolff 1974), (2) the use of traditional Western (Indo-European and especially Latin) categories to describe the Ml. system. Thus the "passive" sentences above could just as well be thought of as meaning, and translated as, 'That's the house I/you/he bought' or 'It was that house (which) I/you/he bought'; in Ml., preposing the object (with subsequent changes in the form of the agent pronouns and verb) serves the same purpose-- focus or emphasis-- as the Engl. cleft-sentence construction which nobody would want to call "passive".

For the most part, SSul languages use their /di-/ forms only when the agent is not expressed; in Bug. and Mak., however, it is possible to include the agent if it is a noun, but not if it is a pronoun. Since the 3d person pronoun in SSul rarely has a /d/ or /r/, there can be little though of relating the prefix to some "short form" of the pronoun. Examples:

Buginese

i. rĩtako ripasaqe 'you were seen at the market'. When asked to give 'you were seen at the market by me' the informant gave: uĩtako ripasaqe. This can also be glossed, 'I saw you at the market'. One can say: rĩtako ripasaqe ri Ali '....by Ali', but not, rĩtako ripasaqe ri *iyaq/*iyya '....by me/him'.

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(ri- 'goal focus marker, passive', ita 'to see', -ko 'you' (suffixed form), ri 'locative', pasaq 'market', -e 'def. art'; ri Ali 'by Ali'-- ri 'by' can probably be equated with the locative marker)

ii. tɨmmakŭlleni risingɨq 'he may not be dunned any further' (AG:14).

(tɨN- 'not', ma+(k)ulle 'can, may', -ni 'particle: again, further, + -i '3d/sg.', singɨq 'to dun')

iii. naia ri tau riasɨngngge Abɨdalla, rielori-wegangi ri sininna issɨng-issɨnna 'And as for the man named Abdallah, he was greatly loved by all his acquaintances' (Grammar, p.301).

(na+ia 'and he' ri '?, here as for', tau 'person', ri+asɨng 'be named' < asɨng 'name', -e 'def. art', ri+elori-wegang+i 'ri + love, like + very + 3d/sg.= he was very (much) loved', ri 'agent marker', sining 'all' -na '3d/sg. poss' hence 'all of them', issɨng2 'friends, acquaintances' < issɨng 'to know')

It will be recalled, from §2.1.1.3, that the Sidenreng dialect uses /i-/ in this case, e.g. /iala/ 'be taken', standard /riala/.

Makassarese

The standard, and dictionary, dialect has only /ni-/, but /ri-/ also occurs in a few parts of the Konjo dialect area (Pelenkahu 1971:20); this could be due to influence from neighboring Bug.

i. ia nibaineangi ri Karaenga ri Lotengang, nikanaya I Taere 'she was married by the Karaeng (king) of Lotengang (who was) called I Taere' (WA:145). Here, as in Bug., the nominal agent is expressed with the preposition /ri/.

(ni+kana 'be called' < kana 'to say, speak')

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ii. tu nipasuluq 'lit., he who was expelled: epithet applied to one of the Kings of Goa who was deposed on account of his evil deeds' (WA:185).

(tu 'person' here 'he who', ni+pasuluq 'be put out < pa- 'caus.' + suluq 'go out')

iii. Konjo dialect: (Kajang area) nikua, (Manipi area) rikua 'be said'.

Mandar

i. iamo mendiolo beang, iamo dibeta, tappa di-saráqimi 'and whoever is wounded first, he is defeated, then they (the fighters) are separated' (TW:3)-- describing the "ordeal by knife-fight" by which disputes between men were settled.

(beang 'wound, wounded', beta 'to defeat', tappa 'then, only then', saráqi < saraq+i 'to separate')

Only /di-/ occurs in the lontar, which is written in the Majene dialect. According to A&K, passives are formed in the various dialects as follows: Cendana /ni-/, Majene /di-/, sometimes /ni-/, Balanipa /di-/ only (but this is most likely a PUS dialect), Binuang /di-/ or /ni-/, Campalagiang /i-/ (geographically closest to the Bug. Sidenreng-Rappang area).

Sa'dan

i. diranteimi adeq buntu karua lan tangngana langiq,/ dilappaqimi tanete gannaq bilanganna... 'then eight mountains in the centre of the firmament were made flat,/ the hills, complete in number...,were levelled out...' (Merok:591).

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(rantei < rante+i 'to flatten', adeq 'it is said', buntu, tanete 'hill, mountain', karua 'eight', lan 'in' tangnga 'middle', langiq 'heaven', lappaqi < lappaq+i 'flatten, make level', gannaq 'enough, complete', bilangan 'number' < bilang 'to count')

ii. ...la disuraq sanganna '...to be enrolled' (Luke 2:3); lit., 'for their names to be written'. (la 'future marker', suraq 'to write', sanga 'name' -(n)na '3d pers. poss.')

According to SWB, /ri-/ also occurs, as a variant in poetic language.

Massenrempulu

Only /di-/ occurs: End. Duri, Mai. Patt. diala 'be taken'; Duri dibosok, Mai. disassa, Patt. dibosong (for diboson?) 'be washed'.

PUS

There are no examples in my data. A&K report /di-/ in their Mamuju, with the additional comment that they found two forms with /ni-/, both meaning 'be taken captive'. Van der Veen (1929:85) comments also, "enkele aan het Mandarsch grenzende dialecten van het PUS hebben ni als vormer van den passieven vorm..." from which I infer that most dialects, like Sad., must have /di-/.

Seko

i. SekoL: nitalo 'defeated'-- the only example from this informant.

ii. SekoP: nitidi 'squashed (i.e. lice, by the fingernails)'; hang nisinni 'uncircumcized'. (hang 'not' sinni 'to circumcize')

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2.2.1.1g. The infix /-in-/ is also found; in other IN and Philippine languages it functions as the goal-focus marker, but in the SSul examples it appears only as a noun formative, in the sense "that which is verb-ed". Examples are found in every language, but their paucity suggests that /-in-/ is fossilized.

Buginese

i. inanre, nanre 'food'; cf. m/anre 'to eat'.

ii. cinaung, sinaung, saung 'shadow'.

iii. Old Bug. pinakang 'dog' < a nonexistent base /pakang/ 'to feed/, cf. Ml. pakan 'to feed.

Makassarese

i. tinanang 'rice-plant' < tanang 'to plant'.

ii. sinau 'k.o. spinach' perhaps < sau 'to steam'?

iii. pinâburuq 'seed; gunshot' < nonexistent pâburuq (pa+âburuq) 'cause to scatter', cf. Konjo âmboroq 'to scatter, to sow'.

Mandar

There are no examples in my data, nor in the lontar. A&K cite two, with the comment that /-in-/ is "geheel dood in het Mandarsch" (1914:161): pinaka 'dog' (cf. the Bug. form above); penamula (= pinamula?) 'plant (noun)' presumably related to /mula/ 'to plant'.

Sa'dan

i. kinande 'food' < kande 'to eat'.

ii. pinatuo 'sacrificial animal', cf. patuo 'to grow, to raise, bring up' caus. of tuo 'to live'.

iii. tinanak 'rice-porridge' < tanak 'to boil'.

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Massenrempulu

Mai. kinande 'food' is the only citation.

PUS

No examples in my data, but van der Veen gives tinarun 'blow-gun dart' (Sad. tinaran), from a variant form of a base meaning 'sharp', Sad. PUS ma/taran.

Seko

i. kinali 'irrigation channel'; cf. kali 'dig'.

ii. linamun 'plant (noun)'; cf. (in a different hand) mallamung 'to plant'.

Since in other IN languages /-um-/ and /-in-/ pattern together as active and passive markers respectively, and since /-um-/ is attested productively in SSul languages, we assume that /-in-/, PSS *-in-, was also formerly productive. Its wholesale replacement by *di- as a part of the verbal system may be due to the strong influence of Ml. di-, though it is possible too that forms with *-in- were already fossilized in PSS.

2.2.1.1h. Another prefix with essentially passive meaning is /taq-/ or /ti(N)-/, whose distribution in the languages is-- like that of *mar-/*mi(N)--- complementary. Thus /taq- ~ tarr-/ is productive only in Bug. and Mak.; there are fossilized examples of /ti(N)-/. /ti(N)-/ on the contrary is productive in the remaining languages, alongside occasional examples of fossilized /taq-/, sometimes /taN-/. Forms with these prefixes are usually agentless, and the action is conceived as happening accidentally, spontaneously, or involuntarily. Examples:

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Buginese

(The variant /caq-/ is also found.)

i. caqkaruqduq 'sleepy'.

ii. tallopoq 'to trip, stumble, step in a hole'.

iii. tarrakkaq 'to depart' < akkaq 'lift up'. Cf. Ml. angkat, berangkat 'idem'-- perhaps the association is with lifting the anchor. Cf. too the Engl. idiom "to pick up and go".

iv. timpawo 'canopy, e.g. over a throne'; cf. wawo 'above'.

v. tingkirroq 'to belch'.

Makassarese

i. taqtoqro 'stumble' < toqro 'hit the foot against'.

ii. taqlåppasaq 'loosened, undone, freed' < låppasaq 'free, loose'.

iii. taqsero (~ tassero) 'drag on the ground (e.g. clothing)' < sero 'rub against'.

iv. timbúburuq 'to bubble up, well up'.

v. tingallo 'to bask in the sun (of crocodiles)', cf. allo 'sun'.

vi. Compound prefix /piti-/ 'do...at random' as in pitilampa-lampa 'wander around, go here and there' < lampa 'go, walk'; pitipau-paui 'to say anything at all, "run off at the mouth"'.

Mandar

i. tiroyong 'to sway'.

ii. tilua 'to vomit'; tiudu 'to spit'.

iii. perhaps tattara 'crazy' shows /taq-/ or /taN-/.

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Sa'dan

i. tingkaruqduq, tikkaruqduq 'sleepy'.

ii. tigoyang 'to sway'; tibollo 'spilled'.

iii. tikkudu 'to spit'.

iv. tandullung 'point at, accuse', cf. dulluk, dollok 'to point'.

v. tappisa 'soaked'; cf. Bug. pica 'wet'.

Massenrempulu

/taq-/ is noted for Mai. and Patt., the two areas in contact with Bug. /ti-/ occurs in all four of the languages discussed in RAP72.

i. Mai. tattutu 'closed'; Patt. tappolo 'cut, wounded'.

ii. End. Duri Mai. tibuka, Patt. titimbang 'opened'.

PUS

There are no examples of /taq-/ in the data.

i. mentikkudu 'to spit'.

ii. tilua 'to vomit'; tingere 'to belch'.

Seko

i. tiloa 'to vomit'; tikondoq 'slack, loose'.

ii. mingtangkudu 'to spit'.

On the basis of this evidence, we can reconstruct both PSS *tar- and *ti(N)- as 'accidental passive' prefixes. Like *mi(N)-, PSS *ti(N)- can probably be ascribed to Toraja influence. The final *-r of *tar- is established by Bug. /tarr-/ (allomorph of /taq-/ before vowels), as well as by comparative evidence, e.g. Ml. ter-. Both forms of the prefix derive ultimately from PAN *tay-, whose meaning

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has not yet been clearly established, but probably included that of 'spontaneous or accidental action'; reflexes occur with that sense not only in IN languages but also in Oceanic languages, e.g. Fijian.

2.2.1.1i. The primary causative prefix in all the languages is /pa-/, optionally preceded by /maN-/. Examples:

Buginese

i. mappanre 'to feed' < maN+pa+anre 'eat'.

ii. papole 'to repeat' < pole 'again'.

iii. patongiŋ 'to trust, believe' < tongiŋ 'true'.

Makassarese

i. pakande 'to feed' < pa+kande.

ii. paturung 'cause to descend = to let (something) down' < turung 'descend, get down'.

iii. pacollong 'to stick (something) out, e.g. one's tongue' < collong 'to protrude'.

Mandar

i. mappande 'to feed' < pa+ande.

ii. mappapia 'to make' < pia 'good'.

iii. mappasisaraq 'to divorce' < si- 'each other' + saraq 'separate'.

Sa'dan

i. mappakande 'to feed' < kande.

ii. patongan 'to trust, believe' < tongan 'true'.

iii. pakendek 'to raise' < kendek 'to rise'.

Massenrempulu

i. End. pasulean, Duri papolean, Patt. pasule 'to return (something) < sule, pole 'come back; again'.

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ii. Mai. pasukkui 'to complete (something)';
cf. Mak. Sad. sukkuq 'complete, perfect'.

PUS

The only example, from van der Veen: parangi 'hear'. Other examples would surely occur in a larger corpus.

Seko

i. mampasisaraka 'to divorce, separate'; cf. the Mdr. example above.

ii. mampatongan 'trust, believe'.

iii. mangpaduku 'bring (something) near to, BI dekatkan' < duku 'near'.

From this evidence, we reconstruct PSS *pa- 'causative' < PAN *pa- 'idem'.

2.2.1.1j. A second causative prefix is /pe-/ or /pi-/, parallel with *mi(N)- just as *pa- is parallel with *mang-. Bug. /pe-/ is not productive. Evidence from Mak. is ambiguous: from Matthes' Grammar, /pa-/ and /pi-/ would appear to be equivalent, while the Konjo material suggests that /pa-/ is now dominant, and /pi-/ is restricted to just one or two environments (i.e. the prefix /piti-/ mentioned in §2.2.1.1h above, and /piN-/, a (probably) homophonous prefix forming ordinals). Where, in Matthes, a verb can take both prefixes, there is occasionally a slight difference in meaning. In the remaining languages, occurrence of one or the other appears to be morphologically conditioned. Examples:

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Buginese

i. (map)pegauq (~ -pogauq) 'to do, make'.

ii. petauq 'to frighten' < me- ~ matauq 'afraid'.

iii. pesaki 'cause pain' < saki 'sick'.

Makassarese

i. pitágalaq (~ patágalaq) 'cause to hold' < tágalaq 'to hold'.

ii. pilelái 'to distribute' (cf. palele 'to spread') < lele 'to go around'.

iii. am/pilángeri 'listen to' < lángereq 'hear'.

Mandar

i. piwaine 'to marry (take a wife)' < baine 'wife'.

ii. penaqdíngi 'to feel' < saqding 'idem' with irregular nasal substitution.

iii. pejoaq 'take someone into one's retinue' < joaq 'king's retinue'.

Mandar pe-forms also seem to function as imperatives, as examples in the lontar make clear-- pettuléqi 'ask him...'-- and likewise BI glosses in RAP67-- piqoro 'duduklah (sit down!)', pirawun 'turunlah (get down!)'.

Sa'dan

i. pesaqdingi 'wake up, become conscious' < saqding 'to feel'.

ii. pemambela 'move (s.t.) away from' < mambela 'far'.

iii. pekuliqi 'to skin (an animal)' < kuliq 'skin'.

Van der Veen does not mention the use of /pe-/ as an imperative marker, nor do we find it in the texts.

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Massenrempulu

RAP72, and my DuriC data, both contain examples of causative and imperative uses.

i. End. dipengalai 'harvested' < mengala 'to harvest'.

ii. Duri pemeloi 'to repair' < melo 'good'-- it is unclear whether the /-i/ is the transitive suffix (in which case pemelõi), or the 3d person marker (in which case pemẽloi).

iii. Duri pemawatangngi kalemu 'BI perkuatlah dirimu, lit., make your body strong!' < ma/watang 'strong'.

Prefix /pe-/, according to the table in RAP72, does not occur in Mai. or Patt.; this may, however, be an accidental gap in the data.

PUS

There are no examples in my data, but van der Veen (1929:93) cites Ulumandaq dial. pebaine, Bulu-bulo dial. pebavine 'to marry'.

Seko

i. mampinarang 'to teach' < ma/narang 'clever'.

ii. pisadingi 'to hear'.

iii. pisasare 'to lean (something) against < sasare 'to lean against'.

On the basis of this evidence, we reconstruct PSS *pi- 'causative'. A comparable prefix /pe-/ is widespread in the Toraja languages; see also the discussion above §2.2.1.1d regarding the origins of PSS *mi(N)-.

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2.2.1.1k. A third prefix, which may originally have had a causative meaning, is SSul /po-/ or /pu-/; in those languages where we find clear examples, its meaning now is "use as..., consider as...", usually applied to nominal bases. (Compare the meaning cited for OJ /mi-/ and /pi-/ in §2.2.1.1d above.) It is amply documented in our Bug., Mdr. and Sad. texts; it is not found in the Mak. texts, nor is it mentioned by Matthes, so that its absence there is no doubt real and not simply a gap in the data. Isolated instances are found in the remaining languages. Examples:

Buginese

i. pobaine 'to marry'; (map)pogauq 'to do' < gauq 'deed, action'-- here, like pegauq above, probably somewhat fossilized.

ii. (From BWB) napaui ri to-marajae maka napoadececengẽnge tanae ri-Sanrabone 'he told the Governor those things, whereby the land of Sanrabone might prosper'; more literally, 'he told the Governor (what) the land of S. can use-as-goodness/use-as-welfare'.

(pau 'to say', to-maraja 'lit., great person, i.e. (colonial) governor', maka 'be able', po+adecengẽng 'goodness, welfare' < deceng 'good', tana 'land')

Makassarese

No examples.

Mandar

i. peraunaq onapoadaq Goa, perauattoaq onapobiasa Goa, annaq diattotia naposossorang to-Balanipa 'I am asking for that which is (used as) the adat of Goa, I am also asking for those things which are (used as)

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the customs of Goa, so that they may also become (as) the heritage of the people of Balanipa' (TW:19). This is the request of the Mandar emissaries to the King of Goa; lacking codified laws of their own, they wish to adopt those of Goa for their own use.

(perau 'to ask', -naq '1st pers., subj.', o- 'relative marker' adaq 'Ml. adat, customary law', biasa 'customs', annaq 'so that', diattotia = diang 'there is' + -to 'also' + -tia 'there, then', sossorang 'inheritance')

Sa'dan

i. popio 'use (something) as a loincloth (pio)'.

ii. poanak 'consider (someone else's) child as one's own'.

iii. nokami dipotedong tedong uma Datu Bakkaq,/ tang maqdinmi dipokarambau tempe Pong Malaleong 'Datu Bakkaq refused to be treated like a buffalo used for work in the ricefield,/ Pong Malaleong refused to be handled like a kerbau used for labor on the sawah' (Merok:683).

(noka 'be unwilling', tedong, karambau 'water-buffalo', uma 'field', tang 'not' maqdin 'may, be permitted', tempe 'rice-field)

Massenrempulu

DuriK porannu 'to hope' < rannu 'hope (noun)'.

No other examples occur in my data or RAP72, though that is probably accidental.

PUS

No examples in the data, but existence of /po-/ is implied by van der Veen (1929:93): "sommige dialecten... het voorvoegsel pe bezigen, waar het Sad. po gebruikt".

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Seko

Two rather unclear examples occur: (i) mangpulemu 'to love' < pulemu 'to help'(?), cf. Sad-Mangki kalemui 'have pity on'. A base lemu seems not to occur; for the semantics cf. BI kasih 'love, affection', kasihan 'pity'. (ii) mampuhuta 'to forget', perhaps related to a by-form (with *w-) of buta 'blind' ("become blind to...").

The impression is that this prefix is infrequent, and perhaps limited to literary, or elaborate, style. Nevertheless we can reconstruct PSS *pu-, of obscure origin but probably due to Toraja influence-- their /po-/ is the normal reflex of PAN *pa- 'causative'. I know of no language outside Sulawesi with a comparable prefix.

2.2.1.11. A prefix indicating reciprocal or mutual verbal action is found in all the languages (except PUS, surely an accidental gap) with the form /si-/. Examples:

Buginese

i. siruntuq 'to meet, encounter' < runtuq 'collide'.

ii. sissing 'to know, be acquainted < issing 'know'.

iii. sienruq-enruq 'to have intercourse' < enruq 'idem'.

The subject of these verbs need not be plural: siruntukaq Ali ripasaqe 'I (-kaq) met Ali at the market'.

Makassarese

i. siruntuq 'to meet'.

ii. situruq 'to agree' < turuq 'follow'.

iii. siasseng 'to know (a person)' < asseng 'know'.

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Mandar

i. sita 'to see each other, to meet' < si+ita 'see'.

ii. senduq 'to have intercourse', probably = si+enduq.

iii. siraetti 'to embrace, grapple with' < raetti 'embrace'.

Sa'dan

i. silaga 'to fight (esp. of kerbau)' < laga 'collide'.

ii. sikenduq 'to have intercourse'.

iii. sibokoran 'to turn the back on, to depart' < bokoq 'back'.

Massenrempulu

i. End. Mai. Patt. sikita 'to meet' < kita 'see'.

ii. Duri sirakatan, Patt. sirakasan 'embrace, grapple with' < rakaq 'embrace'.

iii. DuriC sibokotan 'turn the back on, depart' <bokoq.

PUS

No examples.

Seko

i. sikorai 'to meet' (base ?kora not attested).

ii. mampasituda 'hold a cock-fight', cf. mutuda 'to fight (of people)'.

iii. sikeboi 'to depart' < keboq 'back'.

We reconstruct PSS *si- 'reciprocal action'. Kern (1918: 182-83) cites examples from Batak (Sumatra), Ibanag (Philippines) and OJ (a handful only) with /si-/ in this or a comparable meaning. The usual OJ term, however, is silih, of which Kern says:

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> ...silih, dat letterlijk beantwoordt aan Duitsch einander en Engelsch one another, want in lih (waarvan alih, kalih 'twee'; malih 'zich veranderen...; mangalih 'van plaats veranderen') ligt het begrip van verwisseling, ander, en in si dat van eenheid. (182)

It is true that si- can also mean 'one' or 'the same'. Note Atjeh sidroe '1. alone, BI sĕndiri, 2. one (classifier for people)'; siratoh 'one hundred'; sikrak 'one slice (classifier)'; but also saboh 'one (classifier for animals)'. (It appears to be morphologically determined which classifiers take si-, which sa-; one cannot say, sadroe, or siboh.) In SSul, /si(N)-/ and /sa(N)-/ also occur as 'one'. It is quite possible, therefore, that the original meaning of the prefix was 'one'.

In Malay, where pre-tonic vowels neutralize to /ə/, the prefix /sĕ-/ means 'one, same' and is usually assumed to derive from *sa-. But a few examples are sufficiently ambiguous, and correspond in meaning to SSul forms, that we might suspect the presence of an earlier *si-. Cf. for example, bĕrsĕkĕtiduran 'have intercourse' < sĕkĕtiduran 'sleeping together' < tidur 'sleep'. In addition, the words masing-masing 'respectively' and saling 'each other' are possibly old derivations (originally prefixes?)--masing < **ma+si+N, saling < **s-al-i+N (*-al-, like *-ar-, 'pluralizer, frequentative'. A prefix (m)asi- occurs in OJ, as in (m)asiḍakĕpan 'to fold the arms', asiḍakĕtan 'be adjacent to, border on'.

2.2.1.1m. The principal marker for adjectives is /ma-/ in all the SSul languages. It is essentially meaningless (perhaps originally it marked 'stative'), and in many cases

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is optional. Similarly, certain adjectives are said never to co-occur with it, though this appears to be morphologically conditioned, and no rule can be given. Examples abound (except in Mak., see below).

Buginese

i. malotong 'black'.

ii. makkissing 'good'.

iii. maputé 'white'.

iv. tongéng 'true' and sukkuq 'complete', to name a few, never take the /ma-/ prefix[24].

Makassarese

According to Matthes, the use of /ma-/ with adjectives is optional, and indeed, present-day speakers hardly ever use it. The Konjo dialect report contains not a single example, nor does the wordlist provided by one of my informants. A number of examples do occur in the lontara published by Wolhoff and Abdurrahim:

i. iangku mabassung, iangku maweke-weke... 'may I not become bassung, may I not be destroyed...' (WA:2 and frequently thereafter)-- a formulaic expression invoked by the chronicler or story-teller before mentioning tabooed subjects (in this case, the personal names of the kings). Bassung means literally 'swollen belly, dropsy' (cf. Sad. busung), and is held to be a supernatural punishment for violating taboos.

ii. iaminne karaenga nipuji...mabajiq gauqna, malambusuki 'And this king was praised...(because) his behavior was good, he was honest' (WA:38).

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(iaminne = ia 'he' + -mi 'particle' + (a)nne 'this', karaeng 'king', -a 'def. art.', puji 'to praise', bajiq 'good', gauq+na 'his behavior/deeds', lâmbusuq 'straight, honest')

iii. taena ia anaqna malompo 'he had no adult children' (i.e. they did not survive)(WA:86); but cf. baqdiliq lompo 'cannons, lit., big guns' (WA:65).

(tae 'not', ia 'he', anaq+na 'his children', lompo 'big')

Mandar

i. malotong 'black'.

ii. matoa 'old'.

iii. mapia 'good'.

iv. masin 'salty'-- the prefix is frozen, there is no base *asin or *sin; but cf. Ml. asin 'idem'.

Sa'dan

i. masakke, madarinding 'cool'.

ii. matua 'old'.

iii. mammiq 'good tasting'-- fossilized.

iv. mamase 'merciful'-- /ma-/ affixed to fossilized *ma- of mase; cf. Jav. sih, asih 'to love, pity'.

Massenrempulu

i. End. Mai. Patt. makassing 'good'.

ii. End. Duri Patt. malando 'long'.

iii. Duri Mai. Patt. mabela 'far'; cf. Sad. mambela 'idem' where the prefix (and irregular -N-) are frozen.

PUS

i. malotong 'black'.

ii. mataran 'sharp'.

iii. mapia 'good'.

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Seko

i. malotong 'black'.

ii. matua 'old'

iii. maroaq 'noisy'.

iv. The wordlist also contains examples of /mi-/ with adjectives: mipaiq 'bitter', mirarung 'cold'.

From this evidence, we can reconstruct PSS *ma- 'adjective marker', reflecting a prefix of identical form and function in PAN.

2.2.1.1n. Another prefix frequently associated with adjectives is /ka-/; appearance of /ma-/ or /ka-/ with a given base in a given language seems to be morphologically conditioned. It sometimes occurs on the derived forms-- e.g. causatives-- and there are examples of /ka-/ plus reduplicated verbs which can probably be included here.

Buginese

i. (ma)kapurruq 'wrinkled, folded, pleated'; cf. puruq 'draw-string'(?); (ma)kacoa 'gentle, tame', cf. macoa 'good'. In these cases, the /ka-/ may be fossilized, since the new base can take /ma-/.

ii. kasi-asi 'poor' = ka+asi-asi. Not *makasi-asi.

iii. pakatanre 'to raise up' < matanre 'high'; pakaraja 'to increase' < maraja 'great'.

iv. kalao-lao 'to wander around' < lao 'go, walk'.

Makassarese

(Infrequent examples in both Matthes' and my data.)

i. karisaq 'prickly, shaggy, coarse'.

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ii. kalumañang 'rich', likely borrowed < Ml. lumayan 'luxurious'; kalepu 'whole (uncut, untorn)', cf. Duri, Seko malepong 'round; perfect'.

iii. Perhaps in karaeng 'king', cf. Bug. daeng '(noble) title'.

iv. Konjo: pakalompo 'enlarge' < lompo 'big'; pakahajiq 'make good, repair' < hajiq (std. bajiq) 'good'.

Mandar

i. kalando (~ malando) 'long'.

ii. kaiang 'great, big'. There is no Mdr. base */iang/, but Ml. hiang 'holy' (PAN *hiang) may be relatable.

iii. (map)pakatuna 'to humble (oneself)' < tuna; (map)pakario 'to make joyful' < mario 'joyful'.

iv. kaqala-ala 'thievish, light-fingered' < ala 'take'; kasio-sio 'bossy (BI suka mĕnyuruh)' < sio 'to order'.

Sa'dan

i. kasalle, kapua 'big'.

ii. (ma)kambelang 'naked'

iii. ...aku ungkalampiqi tanan-tananna '(if mankind sins,) I shall tear out what they have cultivated' (Merok:336). Cf. manglampiq in the Sad. example from Ecclesiastes, §2.2.1.1a above.

(aku 'I', lampiq 'pick, pluck; pull up', tanan-tanan+an 'things that are planted, plants' < tanan 'to plant')

Massenrempulu

i. DuriK kaasi-asi 'poor'.

ii. End. Duri Mai. Patt. kaminang 'the most...'.

iii. End. pakatandei 'to raise' < matande 'high'.

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PUS

i. kasalle 'big'.

ii. kalando 'long'.

iii. kaluaq 'broad'.

Seko

i. kaladung 'deep'.

ii. karao 'far'.

iii. makarinning 'dark'.

On the basis of this evidence we can reconstruct PSS *ka- 'adjectival prefix' corresponding to an identical PAN prefix. It is possible that PSS and PAN had more than one *ka- form, since in addition to adjectives we find it also with verbal bases and nouns, and since in many cases it contributes almost nothing to the meaning of the derived base, it is difficult to assign a meaning (or meanings) to it.

2.2.1.1o. Another adjectival prefix, infrequent and in all cases fossilized, is /ba-/; the sequence /ma+ba-/ does not occur. Examples:

Buginese

i. batoa 'big'; cf. matoa 'old'.

ii. baiccuq 'little' (~ biccuq).

iii. perhaps in walai 'male (of animals)', cf. Ml. laki 'male, man'.

Makassarese

There are few clear examples. Perhaps balala 'greedy'; balalo 'quick, speedy'.

Mandar

No examples in our materials.

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Sa'dan

Only two clear examples in SWB:

i. baittiq 'little'; cf. Bug. baiccuq above.

ii. barinniq 'fine, powdery' (van der Veen comments: "sometimes shortened to rinniq"; cf. Bug. ma/rinniq 'idem'.

Massenrempulu

i. DuriK biccuq 'little', presumed < **baiccuq.

ii. DuriK balisa 'nervous', cf. Ml. lisah, gelisah 'idem'.

PUS

i. barinniq 'little'.

Seko

i. balanto 'long' (perhaps balando; the handwriting is unclear).

ii. baluaq 'wide'; cf. PUS kaluaq cited just above.

We can reconstruct PSS *ba-; a corresponding PAN prefix has not yet been reconstructed.

2.2.1.2. Verbal suffixes. There are just two, both well-attested throughout the AN area.

2.2.1.2a. All the SSul languages have the suffix /-i/, used to form transitive verbs with focus on the object, which is generally a location, in a very broad sense. Thus, such a verb derived from a noun or adjective + /-i/ (and often with causative *pa- or *pi-) will mean 'put BASE in/on...' or 'cause...to become ADJ'; an intransitive verb + /-i/ will mean 'do VERB in/on/to...'; for transitive verbs + /-i/ it is sometimes difficult to see any difference

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in meaning (at least in terms of the translation), while in other cases-- if the semantics of the base permit-- the suffix gives the sense 'do VERB repeatedly to...'.

Buginese

i. itái 'to look at, watch' < m/ita 'to see'.

ii. tittíki 'to drip on...' < tittiq 'to drip'.

iii. (man)nipísi 'to make thin; to shave/plane a board' < nipiq 'thin'.

iii. ampíri 'to watch over, herd (esp. buffalo)' < ampiq 'idem'.

iv. pottói 'to put an armband on...' < potto 'armband'.

Makassarese

i. nipísi 'to shave/plane a board' < nípisiq 'thin'.

ii. ciníki 'to look at' < ciniq 'to see'.

iii. rinríngi 'to enclose, wall in, shelter' < rinring 'wall'.

Mandar

i. (si)allái 'be/get angry at...' < alla 'angry'.

ii. mambattángngi 'to make pregnant' < battang 'belly'. (The doubling of a final consonant before /-i/ is frequently found, but apparently unpredictable.)

iii. (map)papiái 'to make good, repair' < pia 'good'.

Sa'dan

i. tangíqi 'to weep over, mourn for...' < tangiq 'weep'.

ii. sosói 'to peel...' < (ma)soso 'peeled'.

iii. burrúqi 'to blow on, spit on' < burruq 'idem'.

Massenrempulu

Examples are cited from my Duri data only, not from

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the other Mass. languages. RAP72 does not mark the stress, and in many cases that is the only way to distinguish these forms (written) from comparable forms with /-i/ '3d person marker' where the stress remains on the penult of the base. A few cases are clear, e.g. End. ditamuii 'BI dijĕmputi, be met' = di+tamú+i (transitive form) + -i '3d pers.', but others are not, as dialloi 'BI dijemuri, be dried in the sun' = di+allo 'sun' + -i '?'.

i. DuriC petonggó<u>i</u> 'to increase...' < tonggo 'big'.

ii. DuriC penipíh<u>i</u> 'to shave/plane' < nipih 'thin'.

iii. DuriK karrákk<u>i</u> 'weep over, mourn for...' < kumarrak 'to weep'.

<u>PUS</u>

The only examples in my data are: mepatéi 'to kill' and sipatéi 'to fight'.

<u>Seko</u>

i. mangkarrákk<u>i</u> 'weep over, mourn for' < karraka (=/kárrak(a)/?) 'weep'.

ii. mallilái 'to lick' < lila 'tongue'.

iii. mupatéi 'to kill', cf. mate 'to die; dead'.

(Though I have not heard any of these words, the location of the stress can safely be assumed on the basis of both internal and comparative evidence.)

On the basis of this evidence, we can reconstruct PSS *-i 'transitive/locative suffix' corresponding to PAN *-i 'idem'.

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2.2.1.2b. As a marker that the action of the verb is done to or for the benefit of someone, all the languages (except Seko) have a suffix /-an/ (Sad. group), /-an ~ -ang/ (Mdr.), /-ang/ (Mak.), or /-ang ~ -ing/ (Bug.). Seko has /-ing/ in this function, but there is no way to relate it phonologically to the other languages; this form, interestingly, calls to mind Balinese /-in/ which, however, functions more like *-i, and in turn cannot easily be related to suffixes in other languages. (/-in/ is also found in Jakartan BI, where it is assumed to be a borrowing from Balinese.)

In SSul, this suffix is usually followed by a pronominal suffix marking or agreeing with the indirect object or beneficiary. Examples:

Buginese

i. nadatûakkaq doiq ambeq 'Father sent me (some) money'.

(dâtu 'send' + -ang + -kaq '1st pers.', doiq 'money', ambeq 'father')

ii. sompîrrîng 'sail (a boat) < sompîq 'to sail'; cf. sompîrri 'sail to...'.

iii. onrôang 'stay by..., watch over...' < ônro 'to stay, dwell'; cf. onrôi 'dwell in, inhabit'.

Makassarese

i. anne kusarêangko 'I give this to you'.

(anne 'this', ku- '1st pers., subj.' sare 'give' + -ang + -ko '2d pers.')

ii. anne karaeng ampamangûngangi masigiq padangganga

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ri Mangngalle-kana 'It was this king who had a mosque built for the (foreign) merchants at Mangngalle-kana' (WA:166).

(ampamangung = aN+paN+bangung 'cause to stand up, i.e erect, build', masigiq 'mosque' padanggang 'traders' < danggang 'trade, to trade')

iii. baineang 'to take a wife marry'; buranneang 'to take a husband, marry' < baine 'woman, wife', buranne 'man, husband'.

Mandar

i. upesioanoqo diperoa I (have) ordered you to be called...' (TW:46).

(u- '1st pers., subj.', pe+sio 'lit., cause to order', + -an + -oqo '2d pers.', peroa 'summon' < roa 'call')

ii. napesioammi dipeapiang Maqassar lame-loka 'and he ordered lame-loka (yam and banana) to be cooked for the Makassarese (man)' (TW:87).

(pe+api 'to cook' < api 'fire', lame 'yam', loka 'banana')

iii. nauammo 'and he said/replied...' (TW:passim).

(na- 'he', uan or uang < ua+an(g) 'say to...', -mo 'particle, BI -lah'; the object of the suffix is not indicated since it is clear from the context.)

Sa'dan

i. lao bangko patiroannaq 'just go and show (it) to me' (V:10).

(lao 'go', bang 'just' -ko '2d pers', pa+tiro+an 'to show to...' caus. of tiro 'to see, look at', -naq '1st pers.')

ii. kualangkomi kutummi 'I'll take away (pick off) your lice' (V:42).

(alan = ala+an 'take away for...' -ko '2d pers.' -mi 'particle', kutu 'louse' -(m)mi '2d pers., poss.')

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iii. na iatonna mate tu indoqna ditunuan tedong buda 'and when her mother died, many buffalo were slaughtered (lit., burned) (on her behalf)' (V:73).

(na 'and' iatonna 'when', mate 'dead, die', tu 'that, the', indoq+na 'her mother', di+tunu 'be burned', tedong 'buffalo', buda 'many')

Massenrempulu

i. DuriC: nakiriŋannaq doiq ambeq 'Father sent me (some) money'.

(na- '3d pers., subj.', kiring 'to send' +-an + -naq '1st pers.', doiq 'money', ambeq 'father')

ii. paratuannaq pepasangkuq 'Convey my orders (for me)!' (RAP72:87).

(paratu+an 'convey to...' caus. of ratu 'come', pe+pasan 'order(s)', -kuq '1st pers., poss.')

PUS

There are no examples in my data-- surely an accidental gap. Van der Veen comments (1929:93): "Van het achtervoegsel an is in sommige dialecten de n afgevallen, b.v.:...Bulo2 malusua 'los laten', Sad. ulussuran [sic, for ullussuran]".

Seko

There are a few apparent examples with /-ang/ in the wordlist, but most can be analyzed as verbal prefix + derived noun, for /-ang/ is a productive nominal suffix in Seko as in the other languages; thus muudukang 'to smell (intrans.), BI bĕrbau' is /mu-/ 'have' + udukang 'smell (noun)'; muuleleang 'to speak, BI bĕrbicara' must be mu- + uleleang 'story, narration', on the basis of Sad. ulelean 'idem'.

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Otherwise, where the other languages would have /-an/ or the appropriate variant, Seko has /-ing/:

i. SekoP: manghenging 'to give'; cf. SekoL hengi, Mdr. bei, bengan 'idem'.

ii. SekoP mampembahaing 'to deliver', pe-causative < mam/baha 'to carry'; cf. BI bawa/kan 'carry to/for...';

Despite Seko, we reconstruct from this evidence the PSS suffix *-an 'benefactive focus', reflecting PAN *-an 'idem'. There is no explanation for the Bug. conditioned allomorphs, except to say that /-ɨng/ is the historically regular form-- in that *a > Bug. /ɨ/ before original final dentals. Perhaps the /-ang/ form was retained to avoid sequences of vowel + /ɨ/; or it may be due to Mak. influence.

As mentioned above, there is no explanation for Seko /-ing/, beyond mentioning the similarity with Bal. and Jakartan /-in/. It is worth mentioning too, that Bal. has a benefactive suffix /-ang/; if this means that some proto-stage perhaps had both *-an and *-ang, then the Bug. and Mak. forms are of ambiguous origin.

2.2.1.2c. Bug. and Mak.-- and perhaps Mdr.-- permit the simultaneous occurrence of both *-i and *-an; in such cases, the sequence is /-iang/ and the meaning of the forms (which are not common) is 'to do i-form of the verb for someone'. Examples:

Buginese

i. lamperíang 'lengthen (something) for...' < lampéri 'to lengthen' < lampeq 'long'.

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ii. tawaĺang 'divide (something) for...' < tawâi < tawa 'divide'.

Makassarese

i. battuangĺang 'explain (something) for/to...' < battuângi 'explain, interpret' < battuang 'meaning; to understand'.

ii. pitagallĺang 'to cause someone to hold onto, hence, to give, to entrust' (Matthes' gloss), as in: caq napitagallĺangi tau-raika ngalle kayu 'the seal [i.e. sealed order, document] (which) he gave to the Easterners to gather wood'.

(caq 'seal, mark', na- '3d pers. subl.', pitagallĺ-ang < tâgalaq 'to hold', tau 'person, people of..', raiq 'East', -a 'def. art.', ng/alle 'to gather, take', kayu 'wood')

Mandar

The lontar contains just two examples, both very difficult to interpret; it is possible that they are fossilized i-forms, to which /-an(g)/ can then be added as to any other transitive verb, e.g.--

i. napobokoĺammi tama digarattas onapoadaq... translated by the editors as: mereka jadikannya bekal masuk di kertas yang dipandang sebagai adat, i.e. they created for him a supply on paper (of) that which was considered the adat....

(boko 'supply, provisions' > bokoi 'to supply...', tama 'enter' di- 'loc. marker', garattas 'paper', o- 'rel. marker' po+adaq 'consider as adat')

I have not yet found any examples of this compound suffixing in the Sad. texts or dictionary, or in the remaining wordlists.

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2.2.1.2d. The following table provides an outline of the PSS verbal system, showing the possibilities of co-occurrence of the various affixes and bases. The modern languages show only minor divergences from the system (e.g. the Duri causative of adjectives apparently adds /pa-/ to /ma+BASE/ in some cases). The infix *-in- has been omitted not only because it seems to have had limited productivity but also because all the examples show that it was used to derive nouns, not to show verbal focus. One suffix, nominal *-an, is included which has not yet been discussed (see §2.2.2b below).

<table>
<tr><th colspan="3">PREFIX</th><th>BASE</th><th>SUFFIX</th></tr>
<tr><td colspan="3">Intrans.
*mar-
*mi(N)-
*ki-</td><td>VERB
NOUN</td><td>ø</td></tr>
<tr><td colspan="3">"Accidental"
*tar-
*ti(N)-
(*ka-)?</td><td>VERB</td><td>ø</td></tr>
<tr><td rowspan="2">Transitive
*-um-
*mang-
*di-</td><td rowspan="2">pa-
pe-</td><td>ka-</td><td>VERB
ADJ.</td><td rowspan="2">*-i(+an?)
*-an</td></tr>
<tr><td></td><td>NOUN (+an)</td></tr>
<tr><td colspan="3">Stative
*ma (+ka)-
*ka-
*ba-</td><td>ADJ.</td><td>ø</td></tr>
</table>

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2.2.2. Nominal affixes.

2.2.2a. Agent and instrument nouns are formed by adding the prefix /pa-/ or /pe-/. Forms also occur with a nasal or (for /pa-/ only) a glottal stop, which perhaps reflects an original two- or three-way distinction (i.e., /pa-/, /paN-/, /paC-/). As it is difficult to discern any system in the choice of prefix, I shall treat all forms as equivalent here, though it is quite possible that further research may require revisions.

In view of the multiple meanings assigned to these forms, multiple origin is a strong hypothesis. In the Buginese Grammar, for example, Matthes lists four meanings:

a) subject of the action in question, i.e. agent.

b) instrument whereby the action is carried out.

c) object of the action in question.

d) "infinitivus nominalis"-- a verbal noun; the glosses suggest that he meant "a single instance of the action".

He considered the four-way distinction to apply also to Mak. Buginese examples are:

a) Agent nouns: padariq 'farmer' < dariq 'farm'; panasu 'cook' < nasu 'to cook'; pauni-uni 'musical instrument' (lit., noise-maker) < maquni-uni 'to make noise' < uni 'noise, sound'.

b) Instrument nouns: pakali 'shovel' < kali 'dig'; pasioq 'band, binding' < sioq 'to bind'; pacimme 'bath-water' < cimme 'to bathe'.

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c) Object nouns: pabere 'gift' < were 'to give'; patimpaq 'trapdoor, hatch, shutter' < timpaq 'to open'.

d) Verbal nouns: papuji 'praising, praise (Du. een prijzen)' < puji 'to praise'; papasĭng 'ordering, an order (Du. een bevelen)' < pasĭng 'to order'.

Category (c), object nouns, does not stand closer scrutiny; it seems possible to say that these are instrumentals whose somewhat divergent meaning derives from the meaning of the base, rather than from any function of the prefix. Further, according to the Dictionary, patimpaq 'hatch etc.' is a metaphoric expression, and the word also means, as we might expect, 'opener' as in patimpaq bóttoloq 'bottle-opener, corkscrew'.

Bug. derivatives with /pe-/, insofar as they are attested, follow the same classification; but since in so many cases the base is reanalyzed with /e-/, instances of /pe-/ could equally well be viewed as /pa+e.../ with normal coalescence of the vowel sequence, $V_1V_2 > V_2$.

The situation in Sad. is equally varied. Van der Veen distinguishes the following (1940:xi-xii):

a) /paN-/: agent/object nouns < verbs with maN-, as pangarak 'summoner' < arak 'to call, summon'; pang-anduq 'milk' < anduq 'to milk'.

b) /paq-/: from verbs with /maq-/, either (1) verbal nouns, as paqlambuk 'rice-pounding' < lambuk 'to pound rice'; (2) agent nouns, as paqbaluk 'seller' < baluk 'to sell'; (3) object nouns, as paqbangun 'building, edifice' < bangun 'to build'.

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c) /pe-/: (1) verbal nouns, as petamba 'calling' < me/tamba 'to call'; (2) "result" (object?) nouns, as pepasan 'charge, mandate' < pasan 'to order'; (3) instrument nouns, as pekali 'shovel' < kali 'dig'.

The examples from Massenrempulu suggest that the underlying forms of the prefixes there all have a final nasal or glottal stop; the range of meanings follows that of Sad. insofar as the various possibilities are attested:

i) End.: passenreq 'helper' (probably < Bug., as the /nr/ indicates); paqboko 'thief'; pakkita 'vision'.

ii) Duri: pangtolong 'helper'; pangboko 'thief'; pangpesaqding 'hearing (ability)'.

iii) Mai.: pattulung 'helper'; paqboko 'thief'; pakkita 'vision'.

iv) Patt.: pattulung 'helper'; pakkita 'vision'.

Examples of /pe(N)-/ only in Duri: pengkita 'vision'.

Likewise in Mandar, Pelenkahu 1967 cites a variety of forms and meanings from which it is difficult to extract any system. There appears to be a prefix /paN-/ in: paccoro 'thief', pandundu 'drunkard' (< dundu 'drink'), pambeso 'BI pĕnghĕla (person or tool that pulls)'; panguma 'farmer'-- but cf. paqande 'eater'-- both from vowel-initial bases (uma and ande); passippiq 'BI pĕngapit (1. paper-clip 2. flanker)' < sippiq 'tight, narrow', but pasusu 'sucker, suckling' < susu 'breast; suck'. Further paqlopi 'sailor (BI anak prahu)' < lopi 'boat' (but cf. Bug. palopi 'captain or owner of a boat'). As instrument, passusuq 'skewer, BI pĕnusuk' < susuq 'to stab'.

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With /pe-/ we find: pesauq 'bucket' (no base cited); pedeqdeq 'tool for hitting' < deqdeq 'to hit, pound'. Showing /peN-/: pellamba 'walker, one who like to walk' < lamba 'to walk'.

Examples of these prefixes are lacking in the PUS data, and the Seko material contains only a few: panganne 'side dishes to accompany rice'< anne 'to eat'; pantosu 'peg'; pammuntu 'frying-pan', probably a loan (and fossilized) < Sad. pamuntu or Bug. pamuttu 'idem'-- there is no base muntu/puntu, but cf. PAN *puʈu 'to cook'. Examples with /pi-/: pitosu 'skewer' (cf. pantosu); pilobo 'chisel' (cf. Sad. laqboq 'wedge; machete'); pidasong 'nail'.

On the basis of the evidence we reconstruct PSS *pa- (possibly *pa(N)-) 'agent/instrumental noun formative' and PSS *pe- (*pe(N)-?) 'idem'. On the basis of Ml. and Jav. cognates, an earlier form of the prefix apparently was *paN-, but variants without the nasal are also found. The presence of another prefix, PSS ?*paC- (?*par- on the basis of Ml. pĕr-) with distinct meaning is not posited at this time, due to the variations in the data.

2.2.2b. All the languages possess a noun-deriving suffix, /-an/ in the Sad. group, /-an or -ang/ in Mdr., /-ang/ in Mak., /-ang ~ -ing/ in Bug. Matthes cites five possible meanings for these derivatives in Bug.; other languages, such as Ml. or Jav., have a similar range for their /-an/ derivatives. Buginese examples, based on Matthes' categorization:

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a) abstract nouns: tulungáng 'help', cf. Ml.Jav. tolongan 'idem'.

b) object nouns: anreang 'side dishes'; otáng (= ota + ang) 'betel-quid' < ota 'to chew (esp. betel)'; balukáng 'goods, merchandise' < baluq 'to sell', cf. Ml. jualan 'idem' < jual 'sell'.

c) "subject" nouns (the examples are not convincing): jajiang 'that which becomes, is born, hence, a child'; oloang 'that which is directed/pointed at, hence, the prow of a ship' < olo 'to aim, head for'-- cf. oloang 'course, direction' < the same base, cited by Matthes as an object noun[25].

d) instrument nouns: lemparáng 'shoulder-pole < lempaq 'to carry on a shoulder-pole (Ml.pikul)'; cf. Ml. pikulan '1. shoulder-pole, 2. the load so carried'; ota-otáng 'betel-box'.

e) locative nouns: turungáng 'place of descent, hence, quay, dock' < turung 'descend'; onróng ~ onroang 'dwelling' < onro 'to dwell'; anréng ~ anreang 'plate'.

Makassarese also provides examples for all five of Matthes' categories:

a) abstract: tulungang 'help'; jamáng 'work, job' < jama 'to work'.

b) object: raukang 'rattan' < rauq 'to split'; jaikang 'sewing, things to be sewn' < jaiq 'sew'.

c) subject: runtungang 'a fall' < runtung 'to fall'; jangang saungang (jangang 'chicken') 'fighting cock'.

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d) instrument: lembarang 'shoulder-pole' < lĕmbaraq 'carry on a shoulder-pole'; songkolang 'basket-like device for steaming rice' < sŏngkoloq 'steamed rice'.

e) locative: tontongang 'window' < tontong 'to look out'; timungang 'opening' < timung 'opening'.

Looked at more closely, the five categories can probably be collapsed into just two: (1) object, "that which is....ed with the ultimate meaning depending on the base, and (2) locative, "place where one...", subsuming in particular the category instrumental. Here, as with the /pa-/ prefixes, one has the impression that Matthes created multiple categories not because the languages required them, but more because of the requirements of his translation work or a desire to fit the languages into a "classical" pattern.

Sa'dan examples seem to fit well into the two-way classification suggested avove:

a) object: balukan 'merchandise'; tanan-tananan 'plant(s)', and many others.

b) instrument/locative: asan (= asa+an) 'whetstone' < asa 'to whet, sharpen'; unuran 'spinning-wheel' < unuq 'to spin'; kandean 'plate, tray' < kande 'eat'; lamunan 'burial-place' < lamun 'bury'.

Mandar

andeang 'BI tĕmpat makan, place for eating'; oroang 'seat' < me/oro 'to sit'; uluan 'BI haluan, prow/direction/course'.

Massenrempulu

Duri, Mai. kiringan 'parcel; gift' < kiring 'to send';

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Mai. tallongan 'window' (cf. Bug. tɨllongɨng 'idem' < tɨllong 'to lean out'); Patt. kandean 'plate', babangan 'door'.

PUS

No examples in the data, surely by accident.

Seko

i. kahungang 'haze, mist', cf. kahung 'cloud'; udukang 'smell' < uduk 'to smell, to sniff'.

ii. Probably uleleang 'story, speech' (?) in mu/uleleang 'to speak, BI bĕrbicara'.

All the languages show the suffix fossilized in the word for 'gold': Bug. ulawɨng, Mdr. bulawang, Sad. bulaan, bulawan (also bulayan, probably a hypercorrection), Duri bulawan, Mmj. bulahan, SekoP bulahang < PSS *bulawan, reflecting PAN *bulaw 'shiny' + *-an; cf. also Bisayan bulawan 'idem'. (PAN *bulaw alone would regularly > PSS bulo, not found.)

On the basis of the evidence we can reconstruct PSS *-an 'nominalizing suffix', reflecting PAN *-an 'idem'.

2.2.2c. To form abstract or locative nouns, most of the SSul languages have a compound affix, /ka- + ROOT ÷ -an/ in Sad. and Mass., /ka-...-ang/ in Mak. and Seko, /a-...-an(g)/ in Mdr. and /a-...-ang/ɨng/ in Bug. Matthes, in discussing these derivations in Bug., views them as -ang derivatives of ka-forms (Bug. (k)a- being interpreted in much the same way as ke- 'having..., affected by...'); but it would be possible too to view th m as ka-forms of ang-derivatives; that is, (Matthes) [[ka+ROOT] +ang] or (alternative) [ka + [ROOT+ang]].

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Whichever may be the historically correct view remains to be worked out. For now, we simply view the combined prefix-suffix as a unit. Examples:

Buginese

i. amusuriŋ 'waging of war, warfare' < musuq 'war'.

ii. asabakiŋ 'reason, cause' < sabaq 'because' (a loan < Ml. sĕbap, ult. < Arabic).

iii. asugiriŋ 'wealth' < sugiq 'rich'.

iv. atinrŏng, atinroang 'bed' < tinro 'sleep'.

Makassarese

Judging from the comparisons cited in the Bug. Grammar, Mak. most often has /ka-...-ang/ corresponding to Bug. abstracts, but /pa-...-ang/ for locatives (see §2.2.2d below); but this is not a hard and fast rule.

i. kamateang 'death' < mate 'dead, die'.

ii. kalompoang 'greatness' < lompo 'big'.

iii. kakalumañangang 'wealth' < kalumañang 'rich'.

iv. katinroang 'bed'.

v. karewatăng (= kə+rewata+ang) 'dwelling-place of a god or spirit', base /rewata/ ult. < Skt. devatā 'divinity, deity'.

Mandar

A few examples only, from Pelenkahu 1967:

i. arawungang 'BI tĕmpat turun, place of descent' (probably = 'dock, quay' as in Bug.).

ii. amongeang 'sickness' < mongeq 'sick'.

iii. alaqbirang 'BI kĕlĕbihan, excess, majority' irregularly < laqbiq 'more'.

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Sa'dan

Unlike Bug. Mak. and Mdr., Sad. can affix /ka-...-an/ to other derived forms, e.g. to the ma- or ka-form of adjectives, or to di- and pa-forms of verbs; in this it differs too from other IN languages like Ml. or Jav. In addition to abstract and locative senses, these forms according to van der Veen can also indicate the time when something happens.

i. kapatonganan 'truth' < patongan < tongan 'true'.

ii. kasugiran 'wealth' < sugiq 'rich'.

iii. kamabasean 'cleanliness' < ma/base 'clean'.

iv. kalambunan allo 'West' (lit., place of descent of the sun).

v. kalaqparan 'place where the laqpaq feast is held'.

vi. kapaqdean 'time when something disappears' < paqde 'to disappear'.

Massenrempulu

Only a few examples are cited in RAP72:

i. End. Duri Mai. kabottingan 'marriage', cf. Bug. Mak. botting 'bride/bride-groom'.

ii. Patt. kakawinan 'marriage', probably < Ml. kawin.

iii. End. kapadikan, Duri kamapaqdikan, Mai. kapadiran 'misery', cf. Bug. pɨddiq 'sick, sore'.

PUS

No examples occur in the data.

Seko

i. kasohongang kula 'East' < sohong 'to come out', kula 'sun'; kaliliang kula 'West' (no base cited).

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ii. kasikoraian 'crossroads' < si/korai 'to meet'; the final /n/ is unexplained.

iii. probably kaoneang 'place', cf. one 'there'.

PSS *ka- and *-an have already been reconstructed in other functions, but we can safely assume from the evidence that the compound affix *ka-...-an was part of the nominal derivational system.

2.2.2d. Another compound affix is /pa- ROOT -an/ or /pe- ROOT -an/, and as was noted above for PSS *pa(N?)-, we sometimes find a nasal or glottal in these forms. Bug. occasionally has an "intrusive" /r/ before vowel-initial roots, but so inconsistently that we do not view it as evidence for a retention (as we did with PSS *mar- and *tar-); additional evidence, however, might later dictate the reconstruction of PSS **paN-...-an (and perhaps **pa-...-an) as well as **par-...an, to correspond with Ml. /pěN...an/ and /pěr...an/ derivations.

As for the meaning, these forms are usually locatives, "the place where...happens", but sometimes also abstracts. Examples:

Buginese

i. padi̇nnuang 'hope, trust' < ri̇nnu 'to hope'.

ii. parengi̇rri̇ng 'memory, remembrance' < engi̇q 'remember' (note the /-r-/).

iii. pabulusumiki̇ng 'place where the moustache is' (Matthes' gloss, presumably = 'upper lip') < bulusumiq 'moustache'.

iv. pasurõng (= pa+suro+ang) 'order' < suro 'to order'.

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Makassarese

i. pabundukang 'warfare' < bunduq 'to wage war'.

ii. pasijañjiang 'treaty, agreement' < si/jañji 'to agree' < jañji 'promise'.

iii. pajeqnekang 'bathing place' < jeqneq 'water'.

iv. palarikang 'lathe' < lariq 'turn, spin'.

Note that Mak. retains no reflex of a putative *par-, i.e., there are no instances of Mak. /paq+C/ or /par+V/.

Mandar

i. reflecting /paN-/: pattimbeang 'tool/device for throwing' < met/timbe 'throw'; paccaiang 'bad-tempered person, BI pĕmarah', cf. Bug. pacai-caikĭng 'idem' < caiq 'angry'.

ii. paqandeang 'leftovers' < ande 'eat'.

iii. patindoang 'bed' < tindo 'sleep'.

iv. pappogauang 'place of work' < pogauq 'to work'.

Forms with /pe(N)-/:

i. pesauang 'well' < pesauq 'bucket'.

ii. pepattoang 'window' < me/patto 'to look out'.

iii. pellambangang 'road, pathway' < lamba 'walk'.

Sa'dan

Forms with /pa(N)-/ or /paq-/:

i. paqbasean 'place where one bathes buffaloes; water that is used to wash something'; cf. pembasean 'place where one washes one's hands; water so used', both < base, 'to wash'.

ii. paqdallean 'cornfield'; cf. pedallean 'time of the corn-harvest', both < dalle 'corn'.

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iii. pantunuan 'place where buffalo are slaughtered' < tunu 'to burn'.

iv. paqbalukan 'market' < baluk 'sell'.

With /peN-/:

v. pendioran 'bathing place' < dioq 'to bathe'.

vi. pentirerungan 'place where one seeks shelter' < ti/rerung 'sheltered'.

Massenrempulu

(Only a few forms cited in RAP72).

i. End. Patt. patindoan, Mai pakkatindoan 'bed' < tindo 'sleep'.

ii. End. Patt. pittiroan, Duri pentiroan 'window' < me/tiro 'to look, see'.

iii. DuriC penjiotan 'bathing place' < jioq 'bathe'.

PUS

No examples in the data. However, maps show a mountain in the PUS area, Pedamaran, presumably 'place where there is/ place where one collects damar-resin'.

Seko

i. pantibeang 'garbage heap/toilet area, BI jamban'; no base cited, but cf. Mdr. timbe 'to throw'.

From this evidence, we can tentatively reconstruct PSS *pa-...-an and *pe-...-an, with some doubt remaining as to the presence or absence of a final consonant on the prefix.

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2.2.3. Pronouns.

2.2.3.1. Personal pronouns, free forms. These are used primarily when emphasis is to be placed on the person involved; thus they are somewhat infrequent in texts, since in ordinary contexts there are short forms affixed to the verb (see below, §2.2.3.2b and 2c). Most of the languages retain forms which are clearly cognate with the reconstructed PAN pronouns; Mak. and PUS/Seko, however, show considerable divergence.

In the singular, 1st, 2d and 3d person are distinguished; in the plural some languages have an inclusive/exclusive distinction for first person, while others-- like Bug. Mak. and my Mdr.-- use a single form for both; some of the languages, further, have a distinct form for 2d person plural, while others use either the singular form (with or without adding the word for 'all') or a 1st person plural form-- usually cognate with the inclusive form. Third person plural uses the singular form plus 'all'; Mmj. and Seko, however, have separate forms. All this, together with a great deal of comparative evidence, suggests that singular/plural may not originally have been a relevant parameter of the AN pronominal system; Becker and Oka (1974) have presented strong arguments that the OJ pronouns (like the verbal prefix system) reflect the interaction of factors of closeness/informality/singular vs. distance/formality/plural, and that the singular/plural distinction is best viewed as having developed out of the other distinctions. Another part of the problem is, again, the imposition of

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classical Western categories onto IN languages. The fact that OJ is a literary, courtly language, and that other IN languages (like Ml., Minang-Kabau, Atjeh) with highly developed formal/informal contrast, are just those languages which were most subject to influence from Indic (courtly) culture, somewhat vitiates their arguments; but their view that close involvement vs. detached perspective correlate with, respectively, singular and plural forms seems valid.

Comparative study of AN pronoun systems (e.g. that of Haaksma 1933) shows that several of the "divergent" SSul forms are also represented in other, widely-scattered members of the language family. It seems, therefore, that what appear to be irregularities in SSul may actually be retentions of alternate PAN forms. It is also true, of course, that the few forms reconstructed by Dempwolff (and followed, essentially, by Dyen 1974) need not be taken to have been the only PAN forms. Much more data, however, are needed, and even Haaksma's broad study shows that it would be difficult to reconstruct alternatives with any authority; the result at this point would be a plethora of forms.

The SSul pronouns are listed below; for the sake of familiarity, the usual "singular" and "plural" glosses are used.

Buginese

1st sing.: iaq

2d sing.: iko (formal: idiq)

3d sing.: [iyya] = /iia/?

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1st plur. (incl., excl.): idiq(+maniŋ 'all')

1st plur. excl. (obsolete): ikiŋ

2d plur.: iko(+maniŋ), (formal: idiq)

3d plur.: iyya(+maniŋ)

Makassarese

1st sing.: nakke (more formal: inakke)

2d sing.: ikau

3d sing.: ia

1st plur. (incl., excl.): ikatte

1st plur. excl. (obsolete): ikambe

2d plur.: ikau

3d plur.: ia

Mandar

1st sing.: iau

2d sing.: iqo (formal: ita)

3d sing.: ia (formal: ita)

1st plur. (incl., excl.): iami (my informant)

1st plur. incl.: itaq, excl.: iami (Pelenkahu 1967)

2d plur.: iqo (formal: ita); iqo mieq (Lontar)

3d plur.: ita ianasang (ianasang 'all')

Sa'dan

1st sing.: aku

2d sing.: iko

3d sing.: ia

1st plur. incl.: kita

1st plur. excl.: kami

2d plur.: kamu

3d plur.: ia (+nasan 'all')

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Massenrempulu (DuriC, DuriK-- my data)

1st sing.:	C, akuq	K, aku
2d sing.:	C,K iko	
3d sing.:	C,K ia	
1st plur.:	C, kita(q)	K, kita (incl.) kami (excl.)
2d plur.:	C, kamu	K, solanasang (sola 'with'+ nasang 'all')
3c plur.:	C, ia tolato	K, iamintuqna

(The meaning of C tolato is unknown; K mintuq 'all', -na '3d pers. poss.' probably "all of them")

Massenrempulu

The only forms cited in RAP72 are:

1st sing.: End. Mai. Patt. iakuq

1st plur. incl. (BI kita): End.Mai. ikitaq, Patt. kitaq

PUS (Aralle-- my data)

1st sing.: kau

2d sing.: iko (formal: kita)

3d sing.: ia

1st plur. (incl., excl.): kamiq

2d plur.: iko iaqasan (formal: kita iaqasan)

3d plur.: iaqasanna (iaqasan 'all')

Mamuju (Desa Kaluku-- my data)

1st sing.: aku, koqo, kodiq

2d sing.: dioa

3d sing.: ia

1st plur. incl.: kita, excl.: kami

2d plur.: gioaq (?)[26] (dioaq?)

3d plur.: iqi

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Seko (Padang and Lemo dialects)

1st sing.:	P,L koi	
2d sing.:	P,L dio	
3d sing.:	P, dea	L, anu, dia
1st plur.:	P, kita (incl.) kami (excl.)	L, kita
2d plur.:	P, dio	L, diose
3d plur.:	P, deise	L, diase

To this already imposing list, we must add forms cited by van der Veen (1929:92) as appearing in the PUS area:

1st sing.: kodi (also in Sad-Mangki and Mmj.)
kori (Bulo2, Mayamba)
koi (Tapalang, Tapango-- Mmj. area)
kadoq, kau (Mambi)
kado (Ulumandaq)
iaku (Dakka)
iau (Bulo2, Ambopadang-- near Mdr.)
koo (Aralle, Tabulahan, Bulo2, Taramanu)

1st plur. incl.: kaiq, ingkaiq (Tapalang)
ingke (Aralle, Tabulahan)
ingkaiq (Mdr-Majene)
ikiq, iki (Mdr-Binuang)
ingaiq (Mdr-Balanipa)

1st plur. excl.: iami (Bulo2)

2d plur.: ingkita, engkita ("formal", Mmj.)
dio koa(q) (Bulo2, Tapalang, Tapango)
dioa (Aralle)

(The form koaq, though not glossed, makes my Mmj. form with /g-/ at least plausible.)

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Several points of irregularity can be easily clarified. (1) The initial /i-/ of many forms undoubtedly represents the "personal article" commonly prefixed to names in non-direct address; its use is attested textually in Bug. Mak. Mdr. and Mass. Its absence in the remainder is probably accidental. (2) The final /-q/ of many forms is explicable if we remember that these pronouns are used for emphasis. There are instances of an added /-q/ elsewhere, where cognate languages or PAN show ∅ final, e.g. in kin-terms: Ml. bapa, bapak 'father', Bug. anri, anriq 'little brother/sister'; SWB specifically marks Sad. kakaq as the "vocative" of kaka 'older brother'. (3) Formal/informal distinctions, widespread in Indonesia, may account for the multiple forms, especially in the 1st person.

If we now cite the forms which Dempwolff reconstructed for PAN, other irregularities arise which are less easily explained:

1st sing.: *aku
2d sing.: *kaw (sometimes plural)
3d sing.: *ia
1st plur. incl.: *kita excl.: *kami
2d plur.: *kamu (sometimes sing.)
*iu, miu (Dyen)
3d plur.: *sida

There is good evidence that most of these are poly-morphemic (see in particular Becker and Oka 1974); we will deal with the problem in the discussion of the SSul short-form pronouns, §2.2.3.2 below.

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*Aku, or a variant, or a part thereof, can be seen in almost all the SSul 1st person sing. forms. But we cannot say whether the loss of the final vowel in Bug. iaq (< *i + ak)-- and in the 1st plur. as well-- is a development peculiar to Bug. or the retention of an alternate form *ak, which is indeed found elsewhere-- e.g. as a free form in Lampong (South Sumatra) ñak (< *ni+ak according to Haaksma 1933:31), Sangir iaq, and as a short form in many languages. The element ko in PUS Mmj. Seko can be equated with ku; preposed/postposed di, ri, i (< **hi?) may be the locative preposition-- but cf. the Mdr. suffix /-di/ 'just, only' and iaudi 'just me, BI saya saja'. In any case, the same elements are found in Toraja languages: Napu (not now in contact with SSul languages) diko, iko '1st sing.', Badaq, Besoa kodoq, koqo, Mori (not in contact) ongkude, ongkue.

Mak. inakke is also, according to Haaksma, comparable to Lampong ñak. He views /-ke/ as a reduction of *kai < *kami 'we', which seems strained (1933:70); it could just as well be a deictic marker, for /e/ or /i/ occur as an element of the near ("1st person") deictic in many languages, including SSul. The element /-nak-/ in turn is derivable < *ni+ak via vowel deletion ($V_1V_2 > V_2$), occasionally found in Mak. but more typical of Bug. or Sad.; less securely < **ñak, though it is true that Mak. shows both /n/ and /ñ/ as the reflex of *ñ. It is comparable too with Sad. Duri -naq, '1st sing. suffix'.

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*Kaw is reflected regularly in those SSul languages which have ko or (with loss of *k in Mdr. and Seko) o; Seko dio can thus be analyzed as < **di+ko; Mdr. iqo with /-q-/ shows the intermediate stage. Mak. /ikau/, however, cannot regularly reflect the proto-diphthong *-aw (we should expect Mak. *iko); does it therefore reflect a variant *kau-- relatable (?) to *kamu-- or might it be simply a borrowing < Ml. ĕngkau, kau-?

Third person *ia presents no problems. It may also be visible in the Bug. and Mak. definite articles /-e/ and /-(y)a/ respectively; and the deictic /e/ just mentioned may also be a variant, though the vowel crasis is not a regular feature of SSul languages.

1st person exclusive forms can all be related to PAN *kami; again, the vowel loss in Bug. /ikăng/ is difficult to place. The presence of the element /-kam-/ in Mak. ikambe suggests that it may go back to pre-PSS times. There is no sure explanation for Mak. /-be/; Haaksma equates it with the final syllable of Jav. kabeh 'all' (<PAN *kabiq) which is, at least, phonologically possible. The various PUS dialect forms, ingkaiq etc., have direct equivalents in the Toraja languages-- Napu (short form) -ngkai, Badaq kaiq, Besoa angkaiq, Leboni ingka; the /i(N)-/ reflects either the personal article, or possibly the locative marker. Assuming that the forms are relatable to *kami, the loss of the m is inexplicable, though widespread, cf. Fiji kei, and also in languages of eastern Indonesia. Resemblances between PUS/Mmj./Seko and Toraja pronouns are indeed striking.

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Bug. /idiq/ is difficult to account for, but I believe it reflects **idit < **i+di+(k)it < *kita. Loss of *k is frequent in Bug. and despite ample instances of *k > k seems to be a regular development. We can thus posit a form *kit, with final-vowel loss, parallel to *kam < * ami. and *kit is reflected in the SSul short forms.

Mak. /ikatte/ is likewise difficult; Haaksma takes it to be a metathesized form of *kita, which might explain the /-kat-/, but not the /-tt-/; the final /(t)e/ may be, again, a deictic element.

Loss of distinct reflexes of the 2d plur. form is probably due to social factors-- status differences and their corresponding language levels. As it is in Ml., kamu where it exists in SSul is a familiar form, and infrequent. Mdr. iqo mieq (Lontar)-- cf. also Mdr-Cend. (A&K) i omie "uit i komiu...ontstaan"(p.166)-- reflects an alternate form reconstructed by Dyen, *miu; the change of *u > Mdr. /e/ occurs, though not regularly in this particular environment (see §3.9.2 below).

The /-se/ of SekoL diose '2d plur.' and diase, dease '3d plur.', can be interpreted as a plural marker, and presumably reflects the first element of PAN *sida (though there it appears to be, possibly, the personal article). We find it as a prefix in Mdr. forms cited by A&K: Ma-jene seia (Pelenkahu 1967 seqia), Cendana (?) sainasan '3d plur.'. These are the only instances in SSul which show retention of any part of the PAN form. Seko /-se/ may best be compared with Badaq, Besoa -heq, Leboni -hi

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'3d plur. enclitic form' (/h/ regularly < *s); the free forms in these languages are Bad. Bes. hera, Leboni iəhi, with possessive forms Bad. Bes. -nda, Leb. -ra, and proclitic (verbal) Bad. Bes. ra-, Leb. ro-. Becker and Oka view both elements of *siḍa as markers of "distancing", on the basis of Ml. and others si 'personal article', OJ ra 'honorific prefix; cf. too Ml. (archaic) ibunda 'his (hon.) mother (ibu)' or modern BI anda 'you' (very respectful, used mainly in advertisements and public announcements).

On the basis of this evidence, we reconstruct the following pronouns for PSS:

*aku '1st sing.'

*ko '2d person' (Mak. ikau is not accounted for)

*ia '3d person' (Seko -se is not accounted for)

*kita '1st plur. incl.'

*kami '1st plur. excl.'

and perhaps *kamu '2d plur.', though its limited occurrence suggests possible Ml. influence. Further, the PSS forms may have been prefixed with *i- 'personal article; mark of respect(?)'; but since this can be reconstructed from other evidence, its addition to the personal pronouns may be a later, language-specific development. The Bug. and Mak. pronouns (except for 3d person) probably do not descend from these forms, but rather from the short forms, to be discussed below.

2.2.3.2. Bound forms. The bound, or short, forms of the pronouns are of two phonological shapes, and occur in

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three environments: (1) as possessives, (2) as proclitic verbal person-markers and (3) as enclitic verbal person-markers. Generally, (1) and (2) are phonologically identical (or nearly so).

2.2.3.2a. Possessives. The forms are highly regular throughout all the languages, and can in general be related to the second syllable of the free forms. They are:

1st sing.: -ku, -ngku in all but Mdr. which has -(q)u.

2d sing.: -mu, -mmu in all but Mak. which has -(n)nu.

3d sing.: -na, -nna in all.

1st plur.: -ta, -nta in those languages which do not distinguish inclusive/exclusive, except Seko which has -(ng)ki. My DuriK informant also gave -(ng)kiq for both. If a language distinguishes incl/excl., -(n)ta is the inclusive form.

1st plur. excl.: Sad. -(ng)ki, Mdr. -(q)i. Since DuriK is otherwise so close to Sad., I suspect that my informant's -(ng)kiq for incl. may be due to some misunderstanding.

2d plur.: -(m)mu (Mak. -(n)nu), used as a familiar form, -(n)ta as formal. Sad. and Duri also have -(m)mi (formal), no doubt comparable with Mdr. iqo mieq; no poss. form of this pronoun occurs in the Mdr. data.

3d plur.: -(n)na is used, specified if necessary with the word for 'all'. One example suggests that Seko may distinguish -na 'sing.': -naise 'plur.'

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In addition, we note Bug. -mĭng, Mak. -mang '1st plur. excl. poss.', definitely stated to be obsolete by Matthes. Mdr. has -mang 'idem' probably also obsolete to judge from its rarity in the Lontar; it is not mentioned in A&K, nor does it occur in my materials.

The forms cited above with the added ("intrusive") nasal occur sporadically after vowel-final bases. We suggested earlier that this may be a remnant (or the beginning?) of an alienable/inalienable distinction, but it is sheer speculation. In fact, as Dyen 1974 shows, allomorphs with and without a nasal (specifically for *-ku '1st pers. poss.' and *-da '3d plur. poss.') can be reconstructed for PAN, apparently conditioned only by the presence/absence of a final consonant. The reason for the loss of this conditioning factor in SSul, however, cannot be stated. Van der Veen (1924:45) states a rule which may be true of Sad., but not of Bug. or Mak. or others: the forms with the added nasal always occur after final /i/ and /u/, never after final /e/ or /o/; their occurrence after /-a/ is unpredictable, thus uma/ngku 'mu field', gamara/ngki 'our voice' but rara/ku 'my blood', sola/mu 'your friend'. There is no mention of this "rule" in his later work, and it may have been a premature conclusion, made as it was near the beginning of his Sa'dan studies. (It is worth noting, however, that since /-e, -o/ usually derive < PAN *-iq, -ay and *-uq, -aw, the presence of the proto-final would have dictated the non-nasalized allomorph.)

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As the possessive forms of the pronouns can be reconstructed all the way back to PAN, we assume that they were inherited in the same shape by PSS. Thus, it is out of place here to attempt a description of how they might have originated from the free form pronouns. The PSS forms are:

*-ku (and *-ngku?) '1st sing. poss.'

*-mu, *-nu '2d person poss.' (*-nu to account for Mak; both forms are reconstructible for PAN)

*-na '3d person poss.' (< PAN *ni+ia, *ni 'attributive marker')

*-ta (and *-nta?) '1st plur. incl. poss.'

*-ki(t) (and *-ngki(t)?) '1st plur. incl. poss.'-- an irregularity, in that it is based on the initial syllable of the free form, but reconstructible nonetheless.

It is unclear whether the reconstruction of *-mi '2d plur. poss.' is possible on the basis of its limited occurrence, but under the assumption that Mdr. and Sad. represent two distinct subgroups of the SSul family, it would be justified.

Likewise, Bug. -miṅg, Mak. Mdr. -mang '1st plur. excl. poss.' could be traced back to a PSS *-ma(m?). Since it is obsolete in these languages, it could well have been completely lost in the others; or, it might yet be found in a larger corpus, or in archaic ritual language. PSS *-ma(m?), however, is clearly relatable to Bare'e mami 'we (excl.)' and OJ mami 'I', to mention just two instances,

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and shows the same loss of final vowel which will be noted in other pronominal forms.

2.2.3.2b. Proclitic (verbal) forms. These indicate the subject of the verb, and are phonologically the same as, or very similar to, the possessive forms. They are:

1st sing.: ku- in all but Bug. and Mdr. which have u-.

2d sing.: mu- in all, but Mak. nu- (no examples for Seko, mu- assumed); ta- (formal).

3d sing.: na- in all (assumed for PUS Seko, where no examples are found).

1st plur.: Bug. Mak. kiq- (Bug. also ta-), both incl. and excl.; Sad. excl. ki-, incl. ta-; Seko ta- (one example) ambiguous as to incl/excl.; DuriC ki-, both incl. and excl.

2d plur.: Bug. Mdr. Sad. mu-, Mak. nu- (informal), ta- (formal); Sad. Duri mi- (formal); Mdr. mieq (formal, written as a separate word in the Lontar). Examples lacking in the remainder.

3d plur.: na-, same as the sing.

We can reconstruct PSS *ku-, mu-, nu-, na- ta-, ki(t) and tentatively *mi-. Cognate forms are found in widely scattered languages of the IN area, but it is unclear whether the feature prefixed subject marker can be attributed to PAN, or merely to PIN. In view of the relationship to the free form pronouns, it may be that different subgroups developed the prefixed forms independently.

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2.2.3.2c. Enclitic (verbal) forms. These are suffixed to the verb and indicate (1) the subject of an intransitive verb, or of a transitive verb with ∅ or indefinite object, (2) the definite object of a transitive verb, or (3) the indirect object of verbs with *-an 'benefactive'. Their phonological forms are also relatable to the free forms-- usually to the initial syllable; comparable forms exist in other AN languages, so that these enclitics, like the possessives, are probably also reconstructible for pre-PSS stages (though perhaps not with precisely the same functions). The SSul forms are:

1st sing.: Bug. -aq ~ -kaq (Matthes: -kaq occurs after /-q/, -aq elsewhere; in my data, only -kaq occurs); Mak. -aq ~ -kaq (same conditioning as in Bug.); Mdr. -aq; Sad. Duri -naq; no examples for PUS, Seko.

2d sing.: Bug. Mak. Sad. Duri -ko, Mdr. -o, -oqo. (Bug. also -o, obsolete.)

3d sing.: Bug. Mak. Mdr. Sad. Duri Seko -i.

1st plur.: Bug. Mak. -kiq, both incl. and excl.; Sad. Duri -kiq incl., -kan excl.: Bug. and Mak. have obsolete excl. forms -kang and -kang respectively; A&K note Mdr. -ang, which does not occur in my data-- rather, 1st sing. -aq is used, or else the free form with ∅ suffix. Bug. Mak. Sad. also have cases of sing. forms used in clearly plur. contexts. No examples from PUS, Seko.

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2d plur.: Bug. Mak. Mdr. Sad. -ko (plus optionally the word for 'all'); Haaksma (1933:92) also cites Sad. -komi, but from its occurrences in the texts, I suspect this is simply -ko + -mi 'particle, BI -lah'. The remaining languages lack examples.

3d plur.: -i, as in the sing., with or without 'all'.

On the basis of this evidence, we can reconstruct the following PSS enclitic forms:

*-ak '1st sing.', perhaps also *-nak

*-ko '2d person'

*-i '3d person'

*-ki(t) '1st plur. incl.'

*-ka(m?) '1st plur. excl.'

It should be pointed tut that *-(n)ak is reconstructed with final *k on the basis of its obvious relationship with *aku; Sad. and Duri, however, ought to reflect this as /-k/, not /-q/. On the usage of these enclitic forms, which sets the SSul languages apart from most other IN languages, see below, §2.2.5.

2.2.3.3. Demonstratives. It is not possible to reconstruct a unified set of demonstrative pronouns for the SSul languages. The Sad. group shows considerable uniformity on the one hand, Bug. Mak. and Mdr. show a certain amount on the other, but the only feature in common is the general use of /e/ as an element in the near deictic forms and /o/ in the far forms. This in turn seems to be a feature of AN as a whole (cf. Dempwolff's *ini 'this', itu 'that').

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The Bug. Mak. and Mdr. forms are as follows:

'this': Bug. ɬyae, -ewe; Mak. anne; Mdr. diqe, -e.

'that': Bug. ɬyaro, -ro; Mak. añjo; Mdr. diqo, -o.

Bug. ɬyae, ɬyaro (and Mdr. ia diqe, ia diqo) are used in non-modifying, purely pronominal functions, and clearly consist of *ia '3d pers.' and *-e, *-o 'deictic element'. Mdr. diqe, diqo in turn appear to consist of *di 'locative marker' plus the deictic elements. Bug. -ewe (used as modifier) seems to consist of /-e/ 'def. art.' (from the same *-e?) + -w- (automatically inserted (?) between like vowels at certain morpheme boundaries-- see §2.1.1.1b above) + *-e. The Mak. form, probably < ?*an- 'connecting particle(?)' + n-, nV- (?) + *-e, is obscure. Forms for 'that' may all derive from an original similar to the Mdr. form, that is, *di 'locative marker' + *-o. Bug. -ro must then derive < **ri+o via vowel deletion ($V_1V_2 > V_2$, common in Bug.), while Mak. -jo could show a sporadic change *dio > **dyo > jo. This is especially plausible if, as seems likely, the deictic o was stressed; but it must remain speculation. As to usage, the three languages are completely different: Bug. suffixes (bolaɬewe 'this house'), Mak. preposes (anne ballaq 'this house'), Mdr. does both (diqe boyange 'this house').

Proto-Sa'dan forms can be reconstructed on the basis of the following:

'this': Sad. iate, te; DuriK iate; SekoL diate, SekoP teqe; Mass-End. Mai. Patt. iateqe, Duri teqe, < PSad. *te. (PUS indeq may be relatable.)

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'that': Sad. iatu, tu; DuriK iatu; SekoP toqo;
Mass-Patt. iatuqu < PSad. *tu.

The above presumably represent the independent, non-modifying forms, except for Sad., where we have both modifying (te, tu) and non-modifying forms (iate, iatu). Mass. and Seko forms appear to show (a) vowel lengthening followed by (b) insertion of /q/ between like vowels-- perhaps this was caused by the emphasis associated with the deictics. PUS indeq might be < iN+te(q) by sporadic voicing of the t, but it seems more logical to view it as consisting of iN- 'locative(?)' + di- 'locative' + -e. PUS dioq 'that' appears to consist of the same elements as Mdr. diqo; so also Mass- End. iatijio, jio, Duri joqo, jio, Mai. itijoqo-- /j/ < *-di- is plausible here, as there are other examples.

As to usage, we have examples only from Sad. and Duri; preposing is the rule-- Sad. tu banua 'that house', Duri tu radio 'that (the) radio'.

The adverbial deictics 'here' and 'there' are clearly seen to be made up of the same elements. Without further comment, we list them here:

'here': Mak. anrinni, Mak-Sal. inni, Mdr. indini, Sad. indete, DuriC inteqe, DuriK inte, Mass-Mai. inieq, PUS inde, Mmj. dini, dindeq, SekoP "yante" (=/i+ante/?). (Bug. mai, komai is not cognate.)

'there': Bug. -tu, -ro, Mak. antu, añjo, Mdr. inditing, Sad. indetu, DuriC (i)ntujoqo, DuriK intuqu, PUS dioqo, Mmj. nonindoo, SekoP "yanto" (=/i+anto/?).

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2.2.3.4. Interrogatives. Two interrogative forms can be reconstructed for PSS, *aga and *apa, the latter only reflecting known PAN material, PAN *apa. *Aga is reflected in Bug. aga, PUS, Mmj. Seko aka, while the remainder-- Mak. Mdr. Sad. Mass.-- reflect *apa as /apa/. They correspond in usage to Ml. apa, i.e. in the sense 'what?', Ml. apa itu 'what's that?', mau makan apa 'what do (you) want to eat?', or as a simple question introducer, a sort of verbal question mark, Ml. apa dia sakit 'is he sick?', apa sudah makan 'have (you) already eaten?'.

Other interrogatives, such as 'how', 'why', are built up from *aga and *apa my means of various prefixes; there is little regularity in the formations, and they will not be dealt with here. (See s.v. *aga and *apa in the Wordlist, Appendix E.)

2.2.4. Numerals.

2.2.4.1. For the base forms of the cardinal numbers, see the Wordlist (Appendix E) s.v. *isa 'one',*(dr)ua 'two', *tɨllu 'three', ippat 'four', *lima 'five', *ɨnnɨm 'six', *pitu 'seven', *ka+(dr)ua 'eight', *ka+misa, *ka+sera 'nine', *-pulo 'ten(s)', *ratus 'hundred(s)', *sɨbbu 'thousand(s)'. Bug. and Mak. also have /lassa/ 'ten thousand'; this is Skt. lakṣa 'hundred thousand' via Ml. Jav. laksa 'ten thousand'.

Bug. and Mak. 'one' is not cognate with the PSS form-- Bug. seqdi, Mak. seqre; however, Bug. does retain a reflex of PSS *isa in /isa...isa.../ 'the one,...the other...'. Matthes suggests that Mak. seqre is a contraction of

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a classifier si+beqre 'one (piece, slice)', but such a form does not occur in the Mak. classifier system. I am inclined to view Bug. and Mak. (which can go back to a common**seqdi, perhaps**siqdi) as borrowings of Jav. siji 'one', though there is no good explanation for the irregular loan /j/ > **-qd-.

For 'one, a (combining form)' we find Bug. si±N-, others saN-. Bug. Mak. and Mdr. also have si(N)- in the same meaning; examples are lacking in the other languages, which may be accidental. These prefixes, especially when attached to nouns, may also mean '(of/from) the same...'; attached to adjectives, they may mean 'as...as'. We can reconstruct PSS *si±N, *siN- 'one (combining form)'.

The words for 'eight' and 'nine' are of particular importance, since they occur only in SSul languages. All the other languages of Sulaw si, in particular the neighboring Toraja languages, retain reflexes of the PAN forms *walu 'eight' and *siwa 'nine'. The SSul forms can be analyzed as follows: *ka+(dr)ua 'the second (i.e. from ten) = eight', *ka+misa, *ka-sera 'the first (from ten) = nine', and in this respect they are comparable to formations like Ml. delapan 'eight' < **dua 'two' + alapan 'a taking' < *alap+an, Sundanese salapan 'nine' < **sa- 'one' + alapan 'taking' < alap+an. Ml. sembilan 'nine' is a similar formation, but based on a different word for 'take', ambil.

Mak. 'eight' and 'nine' (as well as 'seven') are not related to the other SSul forms; tuju 'seven' is undoubtedly

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borrowed from Ml. tujuh 'idem'; sagantuju 'eight' is analyzed as sa- 'one' + agang 'with, and' + tuju 'seven'; for salapang 'nine' cf. the Sund. form just cited.

The numbers from 'eleven' through 'nineteen' are compounded of 'ten' plus 'one, two, etc.', usually with no connecting morpheme, as in--

'11': Bug. sɨppulo seqdi, Sad. sangpulo mesa

'14': Bug. sɨppulo ɨppaq, Sad. sangpulo appaq.

Mak., however, uses a connecting particle /aN-/, as in '11' sampulo asseqre, '13' sampulo antallu etc.

Multiples of ten are expressed, in all but Seko (and PUS, for which the forms are lacking), in two ways: (1) generally, the numbers through 'seventy' consist of unit + N + tens (the N is not present in Matthes' forms, but I have heard it from informants), while (2) 'eighty' and 'ninety' are unit + tens + -na '3d pers. poss.(?)'. Bug. Mak. Mdr. and Sad. have a special combining form of 'four' in 'forty'-- /pataN-/ < PSS *pataN-. Seko lacks this; the word was inadvertantly not elicited in Duri or PUS. Seko diverges from this two-fold system in that all the multiples of ten consist of unit + ten + -na. In Bug. Mak. Mdr. and Sad. therefore, we have the following:

	Bug.	Mak.	Mdr.	Sad.
'20'	dua(p)pulo	ruampulo	duappulo	duangpulo
'30'	tɨllu(p)ulo	tallumpulo	talluppulo	tallungpulo
'40'	patappulo	patampulo	patappulo	patangpulo
'50'	lima(p)pulo	limampulo	limappulo	limangpulo
'60'	ɨnnɨppulo	annampulo	annappulo	annampulona

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	Bug.	Mak.	Mdr.	Sad.
'70'	pitu(p)pulo	pitumpulo	pituppulo	pitungpulo
'80'	aruâpulona	sagantuju-pulo	aruapulona	karuapulona
'90'	aserâpulona	salapampulo	amesapulona	kaserapulona

while Seko has simply iduapulona, italupulona, upaqpulona, limapulona, unungpulona, pitupulona, karoqapulona and kamesaqapulona. Further, Bug. and Mak. follow the same system for the hundreds and thousands; we lack complete lists in the other languages.

Despite the individual restructurings that have taken place (e.g. cf. Sad. 'sixty'), we feel justified in reconstructing PSS *(unit) + aN + (tens/hundreds etc.) for 'twenty' through 'seventy' and so on, and PSS *(unit) + (tens/hundreds etc.) + -na for 'eighty, ninety' and so on. This is an important structural point, absent in other languages of Sulawesi, and uncommon also in other IN languages.

2.2.4.2. Ordinals are formed in one of two ways: by the addition of /ka-/ in Bug. and SekoP, /piN-/ in the others (no examples for PUS). Matthes also gives /(ma)ka-piN-/ for Mak., while one of my informants gave /mangka-/; Bug. also uses /maka-/, while both Bug. and Mdr. texts have examples of /ma-/ alone. The word for 'first' is distinct in almost every language; only SekoL shows a form directly based on its word for 'one'. Thus we have:

'first': Bug. mariolo (lit., ma- + 'at the head'), or mamulâng (ma + mula 'beginning' + -ang); Mak. (ma)kariolo (the only form in Matthes), mangkaseqre (informant) is taken to be a

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recent formation, as it is not mentioned at all in Matthes' works.

Mdr. pamulanna, like Bug. < mula 'begin'.

Sad. pissan, cf. Jav. sapisan 'once', kaping sapisan 'once, first', and Tag. pinsan 'cousin'.

Duri pissen (the /e/ is unexplained).

SekoL pemesa, also pemulana, pararanna.

SekoP parrara. The base /rara/ has not been identified; perhaps related to Bare'e rara 'at the same time'.

'second': Bug. (ma)kadua, madua(nna).

Mak. (ma)kapinrua, (ma)karua (Matthes); mangkarua (informant).

Mdr. madua(nna).

Sad. penduan. The final /n/ is unexplained, and also occurs on pentallun 'third', but not on the remaining ordinals.

DuriK has exactly the same forms as Sad., which is unexpected, since /-ng+C../ does not usually assimilate in Duri, and we should expect pengdua, pengtallu etc.

SekoL penduang, but pentaluna, pennapaqna 'fourth'.

SekoP kaidua, also kaitalu 'third'[27].

And so on for the remaining numbers, 'third'...'tenth'..etc.

Related to these, we also find /piN-/ forms with the meaning '...times'; Jav. /ping/ also occurs in this sense,

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as well as marking ordinals. As with the ordinals, the word for 'once' is often distinct-- Bug. sisiṅg (probably < sa- or si- + isa + -an); Mak. sikali, borrowed from Ml. sekali (< se- 'one' + kali 'time, turn' < Skt. kāla 'time'); Mdr. pissang, Sad. pissan (< piN- + sa 'variant of isa' + -an); Duri pissen; SekoP pembesa (with /b/ of uncertain origin-- cf. essaq 'one', kamesaqa 'nine').

From 'two' on, the languages show /piN-/, except Bug. which uses a prefix /weka-/; Matthes claims that this is to be equated with **peka-, but if so, it is irregular. Thus we find: Bug. (ma)wekaṭ̈llu 'three times', wekaṭ̈ppaq 'four times' etc.; Mak. pinruang, pintallu (my informant wrote "pingrua"); Mdr. pindaqdua (from an alternate re-duplicated form of dua 'two'), pittallu etc., note also pimmaeqdi 'many times' (< maeqdi 'many'); Sad. pendaqdua, pentallun, pennappaq 'four times'; DuriK penduan, pentallun but penglima 'five times', pennannan 'six times'; SekoP pendua 'two times'.

On the basis of these forms, we can reconstruct both PSS *ka- and *piN- 'ordinal formatives'. A prefix reconstructible as PAN *ka- is widespread in this function; *piN-, less common, is reconstructible for PIN.

2.2.5. Despite the lack of textual material in several of the languages, a few words can be said about the syntax, in particular concerning word-order, and the use of the affixed pronominal forms.

The most frequent word-order in a sentence is Verb + Object + Subject, which can be reduced to Predicate + Subject

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Comment + Topic; VSO is also frequent. If either the object of the subject comes before the verb, that element is being emphasized. In many of the example sentences cited earlier, it was noted that particles /-mo, -mi/ frequently were attached to such preposed constituents; we have tended to view these particles as simple "sentence connectors" but quite possibly they also serve to mark the Topic.

When the unmarked VOS or VSO order is employed, and the object is definite, then the verb will have both subject and object markers, prefixed and suffixed respectively (pronouns and possessed forms are always definite, other objects can be definite from the context, or because they co-occur with a deictic). The free form pronouns do not usually occur in such cases; the marker on the verb is sufficient.

If the object is indefinite or unexpressed, or if the verb is intransitive, there is no object suffix; rather, the verb will have one or another of the verbal prefixes or infixes, and the subject will be marked with a suffix. Examples follow:

1. Unmarked sentence form, definite object.

Buginese

uĭtai tedonge 'I see the buffalo'.

(u- 'I', ita 'see', -i 'it', tedong 'buffalo' -e 'def.')

Makassarese

nacĭniki tedonga 'he sees the buffalo'.

(na- 'he', ciniq 'see', -i 'it' tedong 'buffalo' -a 'def. art.')

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Mandar

natangngarmi bullena Maqasar 'the Makassarese looked over (inspected) what (they) had brought' (TW:121).

(tangngar 'look over, consider', bulle 'carry;load', -na '3d pers. poss.'; -mi shows fusion of the 3d pers. suffix -i with the particle -mo)

Sa'dan

i. tallung allopi naangkaqi Firaun tu ulummi 'within three days, Pharaoh will lift up your head' (Gen.40:19).

(tallu '3', allo 'day', -pi (< pa+i) 'still', angkaq 'lift up', tu 'that, the', ulu 'head', -(m)mi 'your')

ii. kuangkaqmoko dadi pangulu lan liliqna Masir 'I have set you over all the land of Egypt' (Gen.41:41).

(ku- 'I', -mo 'particle, "already"?', -k 'you', dadi 'become', pangulu 'chief', lan 'in', liliq+na 'land of')

Examples in the Sad. texts are often ambiguous, since na- can also mean 'and (then)...', and, since stress is unmarked, -i may be the transitive suffix. VSO seems to be preferred over VOS.

Massenrempulu

i. End. Mai.: nakekkei asu tu beke 'the/a dog bit the goat'. (kekke 'bite', asu 'dog', beke 'goat')

ii. Mai.: napobaineni Ahmad tijo tobaineo 'Ahmad (has) married that woman'.

(pobaine 'take a wife', -ni 'particle + -i '3d pers.'' tijo...-o 'that', to+baine 'person+female = woman')

These languages also seem to prefer VSO over VOS, but the data are limited.

Seko

The only example showing the use of the pronominal affixes in Seko is the phrase "hang kuparallui",

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li+., 'I don't need it', in which the meanings of the component parts are so clear-- hang 'not', parallu 'need', Sad. Mak. idem, < Ml. perlu 'idem',ult. < Arab.-- that the actual meaning is rather surprising: it is the word for 'penis'. Since other sexual terms in the wordlist are glossed in a straightforward manner, I cannot suspect the informant of excessive daintiness here.

2. Unmarked sentence form, indefinite object.

Buginese

i. mítakaq asu 'I see a dog'.

ii. mannasui bɨrrɨq indoq, or: mannasu bɨrrɨqi indoq 'Mother cooked (some) rice'. The second version shows that in these cases, the subject marker can be attached to the entire predicate.

(maN+nasu 'to cook', bɨrrɨq 'raw rice', indoq 'mother')

Makassarese

i. maqbainemi tu Garassiq Batara Goa... 'And B.G. married a person of Garassiq...' (WA:19).

Massenrempulu

i. Duri: mangbaluk rido ambequreku sangboq 'my uncle sold (some) rice yesterday'-- as in the Bug. example above, the -i is ffixed to the entire predicate.

ii. Mai.: mappattekkakiq to madodong 'we brought/ carried across a sick man'.

(maN+pa+tekka caus. of tekka 'to cross', to 'person', ma+dodong 'sick', -kiq 'we')

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3. When the subject or object is preposed-- emphasized-- then the corresponding pronominal affix is omitted.

Buginese

i. iaq ɬtai tedonge 'I see the buffalo'.

ii. tedonge uita 'It's the buffalo I see'.

Sa'dan

i. iko kuangkaq pangulu lan tongkonan layukku 'you shall be over my house' (Gen. 41:40). Cf. the parallel sentence from Gen. 41:41 cited above.

(tongkon+an 'clan-house', layuk 'high', -ku 'my')

Makassarese

i. Karaeng Bayomi ambaineangi Tumanurunga 'It was Karaeng Bayo (who) married the Tumanurung' (WA:5). The unmarked form of this would presumably be: nabaineangi Tumanurunga K.B.

A peculiarity of Mak. syntax allows both subject and object markers to be preposed; we assume that such cases are emphatic, though this is not implicitly stated. For example, (normal) nakamaseangko 'he (na) has pity on (kamaseang) you (ko)' can also be expressed: nunakamaseang (nu- 'you'); note, however, that both prefixes are in their proclitic form. The examples in Matthes and Haaksma suggest that this is more a device of literary style than of the spoken language.

Since the languages for which we have textual materials do represent (according to my hypothesis) all the major subgroups of the SSul family, it seems reasonable to suppose

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that the proto-language also employed the pronominal affixes in a similar way. This is important, because very few other languages (to our knowledge) in the IN area mark the verb to agree with both the subject and the object.

2.2.6. Summary. All the morphological elements reconstructed in the preceding pages have been shown to reflect elements found throughout the AN language family. The only possible exceptions are the *mi/pi prefixes and (more likely) the *po- prefix; even these are probably due to local influences-- the Toraja languages-- where in their turn they also reflect common AN elements. Consequently, it is impossible to point to a single instance in which the SSul languages show innovation. In usage, however, the SSul languages do stand somewhat apart, in particular in the interplay between the pronominal affixes, verbal prefixes, and indefinite/definite objects. We might speculate, too, that SSul shows, more clearly than other IN languages, the remnants of an ergative system, in its use of suffixed markers for subject and object versus prefixed markers for subject only (and-- in unmarked, neutral sentences-- subject of transitive verbs only).

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FOOTNOTES: CHAPTER II

1. The insertion of /w/ between two a's, when the morpheme /-aq/ is involved, is found regularly in the dialects described in Matthes 1874 and in Samsuri 1965. Samsuri's informants were natives of Sidenreng, whose dialect does diverge from present-day standard Bug. (essentially that of Bone-Wajo). My informants used /-kaq/ for the 1st person in all environments-- thus, mɛllikaq 'I buy', mɪtakaq 'I see', tudakkaq 'I sit' < tudang+kaq. Since Matthes was supposedly describing the Bone dialect, we might speculate that the replacement of /..a-w-aq/ by /-kaq/ has occurred within the past 100 years, perhaps as a result of Mak. influence; Mak. has /-kaq/ as one of the more frequent allomorphs of its 1st person marker (it reflects base-final /q/ > /k/ + /-aq/).

2. This suffix has two allomorphs: /-ɨng/ after /q ng/ (with /q/ changing to /r s or k/), /-ang/ after vowels. A homophonous nominalizing suffix obeys the same rule.

3. Thus, my youngest Bug. informant, a man in his 20's, asserted that the correct derivative of /nipiq/ was nipɪri. It would be worthwhile to study the speech of young people, who tend to be giving up their language in favor of BI, as well as the speech of older, unlettered Buginese, to see whether the randomization of r/s/k choice is as widespread as I suspect it to be. My feeling is that a native speaker, confronted with an unfamiliar word with /-q/, could only guess at the "correct" derivative. And yet-- if no derivatives are attested in the literature, who is to say what is "correct"?

4. These two PSS prefixes reflect PAN *maγ- and *mang-. There has long been argument over whether the PAN prefixes are in fact polymorphemic-- i.e. *ma- 'verbal (stative?) prefix' +*-γ- (of uncertain meaning, but perhaps something like 'frequentative') or *-ng- 'definite marker (?)'. Cf. for example Brandstetter's "The Indonesian Verb" in Brandstetter 1916 or, for an argument that the distinction is still visible in OJ (at least as regards *-ng-, since PAN *γ > OJ ∅), Becker 1974. There is no evidence that the PSS prefixes can be segmented in this way.

5. This reflects native speakers' intuition that the base form of the prefix is /ma-/ with various changes affecting the initial consonant of the base. This probably accounts for the transcription, in Noorduyn 1955 and Tobing 1961, of verbal bases with initial geminates-- a dubious analysis at best from the synchronic point of view, quite invalid historically.

6. This pronunciation always provoked great mirth from non-Sinjai informants, from which we might guess that the dialect must be stigmatized to some extent.

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7. Dr. Samsuri, having obtained more data in the meantime, tells me that he now believes long vowels are indeed present.

8. The Mak. writing system does not indicate syllable- or base-final consonants at all, and Matthes' transliterations are sometimes inconsistent. In some cases he gives a geminate, as in ᨕᨕᨔ (pa.pa.sa) "pâppasâ" 'early in the morning'. (The circumflex indicates the stress; acute accent indicates what Matthes terms the "zacht-kort" pronunciation, i.e., a post-vocalic glottal stop.) At other times, he writes a cluster, as ᨕᨕᨌ (pi.pi.si) "pîpisî" 'an edible fungus (apparently "tree-ears" or "cloud-ears" in Chinese cuisine)'. As far as I can determine, native speakers vary freely in pronouncing [p:] or [qp] in such words (and this applies to the other voiceless stops as well, of course). If a contrast really existed in Matthes' time, he does not elucidate; some Sad. speakers have such a contrast, and it is quite audible (see §2.1.4.1d). If the contrast were consistent, it would be of great value historically, in determining whether the cluster reflected a geminate after *ɨ (thus pâppasaq above could only reflect **pɨppas) or an original consonant cluster (thus pîqpisiq above only from **pispis). In almost all the cases where the PSS or PAN etymon is known to have had a cluster, Matthes does transliterate the Mak. form with a /..qC../ cluster; but words whose etymon is known to have had *ɨ are also sometimes transliterated with a cluster, and the situation in Sad. is equally inconsistent.

In his Buginese dictionary, Matthes follows the same inconsistent practice. Early in my research, having heard Bug., and knowing that there was no [C:]:[qC] contrast, I assumed that Mak. would be the same, so that, e.g., a Mak. form written "mîmî" by Matthes did not really mean /miqmiq/ but rather /mimmiq/, just as in Bug. After hearing Mak., I realized my error, for such words are indeed (often) pronounced [miqmiq], though informants did vary. Unfortunately, there was no time to re-check every example I had culled from the Mak. dictionary; consequently, in citing Mak. forms, I have decided to follow Matthes' system, and transcribe his "V̂C" as /VqC/, since from that stage one can optionally assimilate the /q/ to produce a geminate.

Note finally, that in one or two cases, Matthes and my informants do not agree-- in particular, informants' [buraqne] 'male, man', Matthes burânne, not *burâne.

9. It is worth noting that Tenriadji and Wolhoff's transcription of a Mdr. lontar (1955) consistently has b where my informant had /w/-- e.g. their "njaba" my ñawa, their "mambaba" my mambawa; they write nothing between u/o plus another vowel. It may be that this was simply a scribal convention (Buginese script was used) to indicate a different pronunciation, but it is odd, since in the one case (ñawa) their b reflects PSS, PAN *w, while in the other (mambawa) it reflects PAN *b (Dempwolff *baba 'carry').

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10. In my own experience, when informants provided materials written down by themselves, these same features were frequently omitted, even though clearly present in speech.

11. Since in their discussion of Sa'dan (which Kruyt at least had surely heard) they also missed the geminates. I suspect that inexperience with the language family may have been a factor, for they approached Sad., Mdr., Mmj. et al. from the viewpoint of comparing them with Bare'e, with which they were quite familiar.

12. One of the frequent blind-spots of Dutch Indonesianists was their inability, or unwillingness, to view cultural change and innovation as a native development. Almost by definition, any "higher" culture must have been brought by "immigrants" and imposed on the "simple" Indonesians. Obviously, if one posits such immigrations often enough, one will eventually be proven right; though to date this has not happened.

13. I also find Sad. /s/ for Bug. Mak. /c/ and suspect that it, not /t/, is the regular correspondence. In other IN languages which lack the palatals, Ml. Bug. /c/ is almost always represented by /s/, rarely /t/. Sad. /t/ for Bug. /c/, then, must be due to borrowing, or else the Sad. form may reflect the original etymon, the Bug. a Bug. "diminutive". Note also that Sad. has frequent /t/ ~ /s/ doublets-- often known loan words, like silaka ~ tilaka, Ml. celaka 'misfortune, accident'.

14. The possibility of printing errors in Pelenkahu 1972 obscures matters here. The velar nasal is indicated by an underlined "n"; the underline is sometimes difficult to see and sometimes-- I am sure-- omitted. The wordlist, pp.20-24, gives several examples with "n" (that is, /n/) in Maiwa, but elsewhere in the text some of the same words occur with "n", that is, /ng/. But such variation could possibly result also from using data from several informants-- one very fluent in Bug. would tend to pronounce only /ng/ finally. If only final /q ng/ occur in Maiwa, its resemblance to Bug. is even closer.

15. A final voiced stop seems so utterly out of place in this language family that one cannot help questioning van der Veen's accuracy here. Perhaps he had in mind the Dutch pronunciation of final g, i.e. [x]; though introduction of a Dutch spelling convention without explanatory comment runs counter to his usually careful methods.

16. Since examples where /-h/ > /-s-/ are so infrequent in my data, we must view this one as typifying the analogical spread of /r/ as the alternant (recall that in Sad. too, q > r outnumbers q > s).

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17. Unfortunately, also, the journal in which van der Veen's article appears suffers unduly from misprints, in the Dutch as well as the non-Dutch parts.

18. Actually the text does not indicate which dialect provided menum, but I assume it was Bamban. Another form cited (Sad.-Mamasa imun) also seems to reflect *-m, by metathesis.

19. There are also a number of cases where a double consonant was written, then lined out. Most disturbing, however, is the lack of final /q/ in many, but not all, cases where it should be expected, or where I in fact heard it. Further, there are at least two distinct handwritings in the list (some of the unknown hands are much better about indicating /q/, too)-- apparently my informant had some help from his wife or a friend or two. This illustrates perfectly the dangers of this method of data collection, for which I earlier criticized A&K.

The failure of the informants to indicate /q/ not only casts a pall over my Seko data (from the comparativist's point of view), but also (if it is not a failure) casts doubt on the whole question of Seko's membership in the SSul family. On balance, however, I have not found the doubts so overwhelming, and have considered the materials worth using since they do constitute the only Seko wordlist in existence in the West.

20. The handful of examples where a Mak. geminate corresponds to -NC- elsewhere are almost certainly loans from Bug.

21. Examples are drawn mainly from the following: Bug.: my own data from 1968 (unmarked), or Tobing 1961, marked AG plus the appropriate § number. Mak.: Wolhoff and Abdurrahim n.d., marked WA plus the § number. AG and WA are old, the former being a compilation of marine and trading laws made (probably) in the last half of the 17th Century, the latter being the chronicles of the Kingdom of Goa from its mythical beginning down to ca. 1650. Their dates of composition, however, are unknown. Mdr.: Tenriadji and Wolhoff 1955, the lontar relating the bringing of laws from Makassar to Balanipa probably ca. 1500; it is in the Majene dialect, and shows some (apparently) old forms, but the date of composition is unknown. Abbreviated TW plus § number. Sad.: van der Veen 1924 (V plus page number), a collection of folk tales; van der Veen 1965 (Merok plus strophe number), funerary chants, perhaps somewhat archaic; the Engl. translation seems quite florid but accurate nonetheless-- the Sad. is very concise; Suraq Madatu, van der Veen's translation of the Bible, cited by book, chapter and verse in the conventional way. For the Engl., the Revised Standard Version (Oxford Univ. Press, New York, 1965) is used. Massenrempulu: Pelenkahu et al. 1972, marked RAP72 plus page number. Individual words in all languages are from dictionaries or my wordlists.

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22. Contrast the following, where the object is definite: nanasui bärriqe indoq 'mother cooked the rice'. In mannasui, -i refers to the subject, but in nanasui, na- refers to the subject, -i to the object.

23. In these texts, presumably recorded early in van der Veen's career amongst the Torajas, and in a conversational style, there are several cases where (apparently) the initial /u/ has been deleted, e.g. (p.9) nalao tu Saredadi mbaa kaledona 'S. was going along carrying her packets of rice (for a feast)'. Such forms, however, might also result from deletion of /ma/ from a /maN-/ form; the notes to the text do not comment.

24. In Matthes' works on Bug. and Mak. both, the distinction between /ma+ADJ/ and /maq+VERB/ is obscured by his transcription of both prefixes as "mâ" i.e. /maq-/. This is one of the few areas of his analysis which must be called incorrect, for it is unlikely that a single prefix /maq-/ could have split-- with complete etymological accuracy!-- into the two present-day forms.

25. Oloang 'prow' may instead derive from olo 'before, front', variant (?) of ulu 'head'. Note too BI haluan '1. prow, 2. direction, 3. course; menghalukan 'to guide, direct', which tends to support Matthes' derivation. Bug BI haluan 'prow' just might be < (h)alu 'mortar used for pounding rice', referring figuratively to the up-and-down pounding of the waves by the ship's prow. Quite likely, one or more homophonous items are involved.

26. I heard gioaq, but question the accuracy of it; in view of the Seko forms, and forms cited in van der Veen 1929, I would now expect the plural form to resemble the sing. more closely, thus perhaps ?dioaq. I had no opportunity to recheck my data with this informant.

27. Written "kaitallu" with the first "l" crossed out.

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CHAPTER III

RECONSTRUCTION OF PROTO SOUTH SULAWESI

3.0. Introduction. In the existing literature on the SSul languages, there is just one work which deals with the historical developments: Brandstetter's Sprachvergleichendes Charakterbild eines Indonesischen Idiomes (1911). Working from the materials published by Matthes, he examined Bug. in comparison with Mak., Ml. and OJ (among others) and correctly formulated most of the sound-changes which set Bug. apart. Of necessity, his examination was limited to vocabulary already established, in his previous works, as "Common Indonesian", and since other SSul languages (besides Mak.) were unreported at that time, he did not attempt to establish any wider subgrouping. He was clearly aware of the relationship between Bug. and Mak. -- "Bug. und Mak. sind nahe verwandt, sie bilden eine engere Einheit innerhalb des IN Sprachstammes" (1911:3)-- but did not take the obvious next step of positing a "Proto Buginese-Makassarese" which, from his data, he could have done. Later writers-- especially van der Veen in his oft-cited 1929 article-- certainly had an implicit awareness of the correspondences between Bug., Mak. and the lesser known SSul languages, but in the absence of a rigorous formal statement of Proto IN or AN phonology they were often led astray by the seeming randomness of the correspondences.

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Matthes, it is sad to state, made no attempt to formalize the relationship between the two languages he knew so well. The chapter on phonology in the Buginese Grammar contains page after page of lists of "Klankverwisseling", a mixed bag of obviously (to our view) regular Bug.-Mak. correspondences, loan words, and items which may or may not even be cognate, without a word of explanation. This lack, however, is more than mitigated by the phonetic exactness of the data[1].

This dissertation, then, and this chapter in particular, constitute the first formal statement of the correspondences which exist between all the SSul languages, and of the reconstructed proto-language to which such a comparison leads.

The presentation of evidence will be ordered as follows:

(1) the most easily established correspondences, that is, PSS *p t k m n ng l s.

(2) the vowels, PSS *i e a u o; *ɨ and the geminate consonants.

(3) the palatals, PSS *c ñ y.

(4) the voiced stops, and the related continuants; in order, PSS *g; *b w; *d r j z.

(5) the nasal clusters.

(6) the final consonants (and certain vowels in pre-final position).

(7) the PSS reflexes of the reduplicated monosyllables of PAN.

(8) the question of PSS consonant clusters with *-l- or *-r-.

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(9) an examination of the sound changes from the point of view of generative phonology, together with a discussion of subgrouping within the family, and a "homeland" theory.

At this point, at least one abbreviatory convention should be explained, since it will be used frequently. In SSul languages, as in all AN languages so far examined, it often happens that doublets occur, of which one shows a simple stop, the other a nasal cluster. Sometimes there is a difference in meaning, as in BI tubuh 'body', tumbuh 'grow', but sometimes not, as in BI sĕpit, sĕmpit 'narrow, tight'[2]. The same phenomenon is found when comparing two or more languages, e.g. Tag. tabon 'dam', Ml. tambun 'heap up; dam'. In such cases the reconstructed forms would be *tubuq or *tumbuq, *tabun or *tambun; these can be combined and abbreviated to *tu(m)buq, *ta(m)bun.

Examples will be numbered consecutively throughout the chapter, and lists are not exhaustive unless specifically so stated. Additional examples for the correspondences can be found in the Wordlist, Appendix E. Where the meaning of a form is the same in every language, it will be cited only once, at the end of the listing. Where the meanings differ, forms with identical meaning are grouped together. No attempt is made here to assign a meaning to the proto-form, although later, when referring back to an example (e.g. *api 'fire') for convenience the most likely meaning will be given.

3.1. Initially and intervocalically, the single consonants /p t k m n ng l s/ of the present-day languages reflect without change PSS *p t k m n ng l s. Examples:

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3.1a. PSS *p- and *-p-.

1. Bug. Mdr. Sad. Duri PUS Mmj. Seko pitu 'seven' < PSS *pitu.

2. Bug. Mak. Mdr. Sad. Duri Mmj. SekoP pake 'to use, to wear' < PSS *pake.

3. Bug. Mak-Sal. Mdr. Sad. Duri PUS Mmj. Seko api 'fire' < PSS *api.

4. Mak. Mdr. Sad. Duri Mmj. apa 'what?' < PSS *apa.

Exceptions: In Bug. a handful of examples show *p- > ∅. Some are explicable; thus Bug. ile, mile 'to choose' (cf. Mak. pile, Sad. SekoL pile/i 'idem') is probably an um-form (historically) which has lost the initial syllable due to regular morphophonemic processes, as in OJ. So *pile > *p-um-ile >*mile, but when *-um- ceased to be productive in Bug. the form was reanalyzed as prefix /m-/ (allomorph of /maN-/) + base /ile/. The same explanation holds for Bug. utɨq, mutɨq 'to twist' < PSS *putɨr, and other verbs with initial /u/. Other examples, however, are not amenable to this explanation, as they are nouns and not likely to have co-occurred with *-um-, e.g. uro 'quail' (cf. Ml. puruh). A problem arises, in that some of these ∅-initial words show distinctive Bug. sound changes, and an outside source for loss of *p- cannot be found; the examples will be discussed later, §3.4g.

Aside from these few Bug. items, there are no other exceptions.

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3.1b. PSS *t- and *-t-.

5. Bug. Mak. Mdr. Sad. Mass. PUS Seko tau 'person' < PSS *tau. The variant /to/ also occurs everywhere, in ethnic designations, as Bug. to ugiq 'Buginese, the Bug. people'.

6. Bug. u/tama, Mak. an/tama, Mdr. Sad. Duri Seko tama 'enter, go in' < *PSS *tama. (There is no good explanation for the apparent "prefixes" seen in Bug. and Mak.; they also occur on a few other forms.)

7. Bug. Mak. Mdr. Sad. Duri PUS Mmj. Seko ate 'heart; liver' < PSS *ate. Bug. Mak. Duri also have a variant /ati/, probably < Ml. (h)ati 'idem'.

1. Cf. PSS *pitu 'seven' already cited.

There are no exceptions, but see §3.3a below regarding the Bug. and Mak. alternations between /t s/ and /c/.

3.1c. PSS *k- and *-k-.

8. Bug. Sad. Duri PUS Mmj. kali 'to dig'; SekoP k/in/ali 'irrigation ditch, channel' (i.e. "something dug") < PSS *kali.

9. Bug. Mak. Mdr. Sad. Duri kanuku 'nail, claw' < PSS *kanuku.

10. Bug. Mak. Sad. kaka, Mdr. Duri kakaq, SekoL kaqa/nna, SekoP kaa 'older brother' < PSS *kaka. The final /q/ in Mdr. Duri is unexplained, but note Sad. (SWB) kakaq 'vocative form of <u>kaka</u>' and Ml/BI kakak. I heard the SekoL item, which shows, of course, the 3d person

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possessive suffix, but have not heard the SekoP. Written kaa may represent either [kaqa] or [ka:], and while I suspect that [q] is automatic between like vowels, the informants' spellings are inconsistent on the point.

11. Sad. Duri Seko kita 'we (incl.)'; Mmj. kita, ita 'we'; Mdr. ita, PUS kita 'you (hon.) < PSS *kita. Irregular but probably cognate is Bug. idiq 'we; you (hon.)' if < *i+di+(k)it as proposed in §2.2.3.1 above.

Exceptions: Even from these few examples, we can see that Bug. Mdr. and Seko reflect *k in various ways, as /k/, /q/ or ∅. Further, van der Veen (1929) cites sporadic loss of *k in almost every part of the Sad. area (though in the same few examples in almost all cases). In Mdr. *k is reflected as ∅ with great frequency, and ∅ can probably be considered the regular reflex; it follows, therefore, that instances of Mdr. /k/ must be due to other factors such as dialect mixing and borrowing. In Bug., even though *k > /k/ predominates, we would hypothesize that *k > ∅ is the "native" development since it is found in much of the basic vocabulary, and also in some of the morphological elements-- e.g. Bug. a+...+ang/ing 'nominalizer' (cf. Mak. ka+...+ang), or u- '1st person (subject) marker' (cf. Mak. Sad. Duri Seko ku-). In Seko, while *k > /k/ appears more frequently, some of the basic vocabulary shows *k > /q/ or ∅; but the number of examples is too low to permit any firm conclusion as to which is "regular". Van der Veen's

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examples from the Sad. area almost always involve the reflexes of PSS *kita 'to see' and *kande 'to eat'; possibly here the *-um- infix was the conditioning factor, with forms like *k-um-ita, *k-um-ande being reanalyzed as *ku-mita, *ku-mande 'I see, I eat'; but this is speculation.

Some examples showing PSS *k > Bug. Mdr. ∅, Seko q or ∅:

12. Bug. anre, manre, Mak. kanre, Sad. Mass. kande, Mdr. PUS umm/ande, Mmj. SekoL m/ande, SekoP m/anne 'to eat' < PSS *kande. Note also forms with the passive infix *-in-: Bug. inanre, nanre, Sad. Mass-Mai. kinande, DuriK nande (< Bug.?), SekoP kinanne (< Sad.?) 'cooked rice; food in general'.

13. Bug. ita, mita, Mdr. m/ita, miq/ita, Sad. kita, PUS mengita, mangita, Mmj. meq/ita, Sad-Mamasa, Mangki ita 'to see' < PSS *kita. It is indeterminate whether the PUS forms reflect *maN+kita, *meN+kita with nasal substitution, or simply prefix /maN-, meN-/ + base /ita/. For the retention of (underlying?) k note Bug. makkita (=/maq+kita < *mar+kita) 'able to see' and pakita 'vision'.

14. Bug. Mak. Mdr. Sad. Mass. PUS Mmj. buku, SekoL buqu (heard), SekoP buu (written) 'bone, joint' < PSS *buku.

15. Bug. Mak. Sad. paku, Seko (J.Kruyt 1920) tampau 'k.o. edible fern' < PSS *paku. Note Ml. Bare'e paku 'idem'.

16. Bug. empuru, Mak. kimburu, Mdr. imburu, Sad. kimburu, DuriK kemburu 'jealous' < PSS *kimburu.

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It is worth noting that neighboring, unrelated languages on Sulawesi almost never show loss of *k, nor is it a common feature in the IN area generally.

Finally, there is a handful of examples in Mdr. where Mdr. intervocalic /q/ corresponds to /k/ or /ngk/ in other languages. There is no good explanation; see also §3.5.1d.

3.1d. PSS *m- and *-m-.

17. Bug. Mak. Mdr. Sad. Duri PUS Mmj. Seko mata 'eye' < PSS *mata.

18. Bug. Mak. Mdr. Sad. Mass. PUS Mmj. Seko ma- 'adjectival prefix' < PSS *ma-. (Rare in Mak.)

19. Bug. Mak. Mdr. Sad. Mass. PUS Mmj. Seko lima 'five' < PSS *lima. The word also means 'hand' in most of the languages.

20. Bug. Mak. Mdr. Sad. Duri lame 'yam, Dioscorea sp.'; Mdr. Duri lame-lame, SekoP lame 'potato' < PSS *lame. The word can also mean 'sweet potato'[3].

Exceptions: Two notable exceptions occur. The first is Sad. /unn-/ as the prevocalic allomorph of /uN-/ < PSS *-um- 'verbal infix', where it appears that the *m has been treated as if it were word-final-- cf. §3.6.1f on PSS *-m. But since other Sad. dialects still retain /umm-/ in this environment, the change to /unn-/ must be an independent development.

The second exceptional item is probably to be ascribed to substratum influence and/or baby-talk. The word for 'urine' has /-m-/ in some languages, /-n-/ in others: Bug. Mdr. PUS SekoP teme, Sad. tene, DuriK cene (but also

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pattenean 'place where one urinates' < PSS ?*teme ~ ?*tene. Mak. mea 'urine', taqmea 'to urinate' may reflect a reanalysis of the same base. Compare Mori eme 'urine', teqeme 'to urinate'; Banggai (eastern Sulawesi) teme 'to defecate'; and perhaps Bare'e eme 'sauce, cooking liquid'-- far-fetched unless the original meaning was something like "fluid".

3.1e. PSS *n- and *-n-.

21. Bug. Sad. Duri Mmj. nasu 'to cook' < PSS *nasu.

22. Bug. Mak. Sad. DuriK, SekoL na 'and' < PSS *na. Probably present also in PUS, Mmj. Mdr. anna 'and'.

23. Bug. Mak. Mdr. Sad. Mass. PUS Mmj. Seko tunu 'to burn' < PSS *tunu.

24. Bug. Mdr. manuq, Sad. Duri PUS manuk, Mmj. maneq, SekoL manok, SekoP manoko (= mânok(o)?) 'chicken' < PSS *manuk. (See below §3.6.1a regarding the final consonant.) All these languages use a reduplicated form in the meaning 'bird'; here we also find (RAP72) End. Mai. manu-manu (irregular loss of the final, if correctly transcribed), Patt. manuq-manuq.

There are no exceptions.

3.1f. PSS *ng- (rare) and *-ng-.

25. Bug. Mak. Sad. nganga 'gape, open the mouth wide' < PSS *nganga. Probably also Mdr. nanga 'mouth'; Mass-End. ngangngaq 'gape' also, as an "intensive" form. Another Mdr. source (Muthalib 1973) gives Mdr. ngangngaq 'bit (of a bridle)'(?).

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Initial /ng/ is rare not only in SSul languages, but in PAN reconstructions as well; Dempwolff's wordlist contains only six items with *ng- out of over two thousand. We find in MWB only twenty, of which seven are cross-referenced to k- or vowel-initial roots; SWB lists seventeen, of which four are onomatopoetic, while four others are hypothetical bases occurring only in prefixed forms. BWB lists only ten words with initial /ng/.

26. Bug. Mak. Mdr. Sad. Duri PUS Mmj. Seko bunga 'flower' < PSS *bunga.

27. Bug. Mak. Mdr. Sad. Mass PUS Mmj. SekoL langiq, SekoP (written) langi 'sky, heaven' < PSS *langi(t). See below §3.6.1c regarding the final consonant.

3.1g. PSS *l- and *-l-.

28. Bug. lua, tal/lua (= taq+lua), Mak. lua, taq/lua, Mdr. Sad. Duri PUS Mmj. ti/lua, Seko ti/loa 'to vomit' < PSS *lua. See below §3.2a regarding u/o variation in SSul languages.

29. Bug. lao 'to go', lao ri... 'to, towards'; Mdr. lao di... 'to, towards'; Sad. lako 'towards', meng/ka/lao ~ -loo 'to go'; DuriK lako 'to'; Mass-Patt. lako 'to go'; PUS mel/lao (= meN+lao) 'to walk'; Mmj. melao, maq/lao-lao 'to go, to walk', Mmj. (A&K) ming/ka/laqo 'to go away'; Seko l/um/ao 'to go', SekoP mang/mu/lao 'to walk' < PSS *lako.

30. Bug. Mak. Mdr. Sad. Duri PUS Mmj. Seko sala 'wrong; fault' < PSS *sala.

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31. Bug. Mak. Mdr. Sad. Mass. PUS Mmj. ulu 'head' < PSS *ulu.

3.1h. PSS *s- and *-s-.

32. Bug. Mak. Mdr. Sad. Duri PUS Mmj. Seko susu 'breast; milk' < PSS *susu. With verbal affixes, the word means 'to suck, to suckle', e.g. Bug. mas-susu, DuriK mangsusui, sumusu.

33. Bug. Mak. Mdr. sau 'steam; sound of air escaping'; Sad. sau 'to blow on (with bellows)'; SekoP pasaui 'wind' < PSS *sau. Further, from *sau+an: Sad. sauan, Seko (A.Kruyt 1920) "sau'ang" 'bellows'. The two Seko forms are clearly cognate, but /pasaui/ appears to be a verbal derivation (though my wordlist's BI angin is unambiguously a noun), and there is no explanation for the glottal stop which the apostrophe in Kruyt's form must represent.

34. Bug. Mak. Sad. Duri Seko kaso 'rafters' < PSS *kasɑ.

36. Bug. Sad. Mass. PUS Mmj. SekoL isi 'tooth' < PSS *isi. SekoP has sise, which is probably cognate. *Isi 'tooth' may be related to PAN *isi 'contents' if we posit a humorous metaphor such as *isi + mouth "contents of the mouth". Compare also: Bug. Mak. ngisi 'to grin; to laugh with the mouth wide open' Bug. ma/ngici 'to grin a little bit, or cynically'; Sad. me/la/ngissiq (an intensive form) 'laugh with the mouth wide open'.

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There are no exceptions, but cf. §3.3a below regarding the alternation between /s/ and /c/ in Bug. and Mak.

3.2. Vowels.

3.2a. From the examples above, it should be clear that PSS *a in open syllables is reflected as /a/ in all the languages. Likewise PSS *i and *u appear, for the most part, as /i/ and /u/ everywhere, though /e/ and /o/ are also found sporadically, as in the following:

37. Bug. Mak. Mdr. Sad. lomo 'easy, gentle'; SekoP ma/lumu 'soft, fine' < PSS *lumu.

38. Bug. uni, Mak-Sal. oning, Sad. oni, Duri uni, SekoP m/oni 'sound, noise; voice' < PSS *uni. The final /ng/ of the Salayar form probably is the result of back-formation based on the possessed form, **oni+ngku, **oni+mmu etc. >/oning/ + suffix.

39. Bug. tas/seaq (= taq+seaq), Mak. taqsĭaraq 'dispersed, scattered'; Sad. seaq, searan 'to strew, scatter', sumiaq-miaq (redupl. of s/um/iaq) 'roam, wander'; perhaps DuriK ma/siaq 'wild' < PSS *sia(r). See §3.6.2a,b below regarding the final *r.

40. Mdr. meq/ema, Sad. meng/kema, SekoP kima 'to chew' < PSS *kima.

Such examples could be multiplied, both across languages as above, or within single languages (e.g. Bug. ingĭq ~ engĭq 'remember'; or Mdr. /meN-/ (my data) ~ /miN-/ (RAP67)), and exhibit a process of vowel lowering which occurs under essentially unstatable conditions. We therefore assume that the PSS etyma contained the high vowels *i and *u.

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Variation between i and e, u and o, is by no means limited to the SSul languages, but is widespread in IN languages generally where, with the introduction of loanwords with [e] and [o] (in particular early loans from Indic languages; later loans from Portuguese and Dutch were probably not a factor), it has given rise to a phonemic contrast between high and mid vowels. This was undoubtedly facilitated by the presence of lowered allophones in specific environments in the native vocabulary. In Peninsular Malay, for example, only e and o are written, and presumably pronounced, before final /ng/ or /h/ where other languages have i or u, e.g. puteh 'white', BI, Jav. putih. Spoken Jav. too has complex rules of allophony for /i e u o/, the main conditioning factor being presence/absence of a closed syllable[4]. Similar variation occurs in the Oceanic languages, apparently traceable to Proto Oceanic; there, many (but not all) instances of /e/ and /o/ were conditioned by the presence of *a in an adjacent syllable. In other cases it was *a which adjusted its quality to an adjacent *i or *u, while in still other cases, the lowering seems simply to be sporadic. In reconstructing PAN, therefore, Dempwolff posited only high front and back vowels, *i and *u, since there were no systematic correspondences for putative *e or *o, and since conditioning factors were available to account for their origin.

3.2b. But there are also sets of cognates in the SSul languages showing an invariant /e/ or /o/. Some of these-- in final position-- are the result of regular sound change

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while others-- in final as well as non-final position-- seem to be due to conditioning factors such as those just cited above, but since the /e/ or /o/ occurs in every language, there is no reason not to reconstruct PSS *e and *o. In a few cases, *i/e and *u/o doublets can be posited, in which the variant form has taken on a new meaning-- additional evidence that the high/mid vowel contrast was indeed present in PSS. Finally, some instances of /e/ and /o/ are due to borrowing, and since the possible source language(s) cannot be precisely located, some of these loanwords have probably been wrongly attributed to PSS. Examples:

3.2b.1. PSS *-e and *-o regularly reflecting known PAN sequences of vowel + semivowel or vowel + "laryngeal", viz. PAN *-ay, -uy, -aw, -iw, -iq, -uq.

41. Bug. Mak. Mdr. Sad. Mass. PUS Mmj. Seko mate 'dead; to die' < PSS *mate < PAN *matay[5].

42. Bug. takke, Mak. tangke, Mdr. taqe (irregular /q/), Sad. DuriK, Mmj. tangke 'branch' < PSS *tangke < PAN *tangkay. See below §3.5.1d for PSS *ngk.

43. Bug. Mak. Sad. lele 'move. spread, go around'; Mdr. pasilele 'spread'; DuriK PUS Mmj. me/lele 'move'; Sad. u/lele 'tell, make known'; DuriK u/lele 'narrate'; SekoP mu/ulele/ang 'to speak' < PSS *lele probably < PAN *laylay (Dempwolff's *ḍayḍay[6]). The function of the (apparent) /u-/ prefix in Sad. Duri and Seko is obscure; but cf. Bug. utama 'enter' cited at Ex. 6 above.

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44. Bug. Mak. bawi, Mak-Konjo bahi, Sad. Mass. bai, PUS Mmj. Seko bahi 'pig' < PSS *bawi < PAN *babuy. See §3.4b,c below regarding PSS *b and *w. Mdr. (and also Mmj.) has boe, undoubtedly related but irregular in that the sequence *-aw- does not ordinarily > Mdr. /o/.

3. Cf. PSS *api 'fire' < PAN *apuy, already cited.

45. Bug. Mak. balawo, Mdr. Sad. DuriK balao, Sad-Rong. balawo, PUS Mmj. balaho, PUS-Bamban balabo 'mouse' < PSS *balawo, cf. PAN *labaw. The "prefix" ba- is unexplained.

34. Cf. PSS *kaso 'rafters' < PAN *kasaw, already cited.

46. Bug. Mak. lari 'to run'; Mdr. ma/lai 'go home'; Sad. mallai, Mass-End. ma/lai, Duri lari, Mai. pa/lai 'run away, flee'; Patt. kal/lai/an 'chase'; SekoP ma/lai 'go home' reflecting PAN *layiw. The examples are too irregular to warrant reconstructing PSS **lari, but are cited because this is the only clear instance for PAN *-iw, a rare sequence in any case. See further §3.4e.5 below.

47. Bug. Mak. Mdr. pole 'to come'; Bug. Mak. pole ri..., Mdr. pole di... 'from'; Sad. Duri pole 'come back; again'; Mmj. pole 'to come'; SekoP pole 'again, BI kembali' < PSS *pole (perhaps *pa+ole/-ule) < PSS *uliq 'return'.

48. Bug. Mak. mase, Sad. mase, ka/mase/i 'to pity'; SekoL mak/ka/mase 'to love'; SekoP mase-mase 'poor'

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< PSS *mase (perhaps *ma+ase) < PAN *asiq. The following related forms probably reflect a borrowing of Ml. or Jav. kasih: Bug. Mak. Mdr. kasi-asi, Sad. DuriK ka/asi-asi 'poor'; Sad. asi-asi 'misery'.

49. Bug. Mak. Mdr. Sad. Mass. PUS Mmj. Seko -pulo 'ten(s)' < PSS *-pulo < PAN *puluq.

50. Bug. Mak. Mdr. Sad. Duri PUS bulo 'bamboo' < PSS *bulo < PAN *buluq. Note Sad. bulu 'a sp. of bamboo used for making flutes'.

As the reflex of PAN *-aq, we find only PSS *-a, as in:

51. Bug. Mdr. Sad. PUS Mmj. asa 'to sharpen (on a whet-stone)' < PSS *asa < PAN *ha(n)saq. BWB also lists siasa-ngasa 'to rub against each other; hence, descriptive of the sound of surf', and Mak. has angng/asa in this last meaning.

In a few examples, Dempwolff reconstructed the sequence *-i̇q. Only three have reflexes in SSul:

52. Bug. tokka, Mak. tongka, Mdr. tokka 'bamboo tube used as a container'; Sad. pa/tongka/an 'scoop, dipper' (usually of bamboo) < PSS *tongka < PAN *tungki̇q. These might all be borrowings of Ml. tongkah 'idem'.

53. Bug. Mak. Sad. Duri tana 'land' < PSS *tana < PAN *tanaq, *tani̇q. There are other words for 'land' in each of these languages, so that tana may be < Ml. tanah; in any case, the SSul form could descend from PAN *tanaq rather than *tani̇q.

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54. Bug. Mdr. Sad. manaq, DuriC manah 'to inherit'; DuriK manaq 'descendant'. These forms suggest PSS *manaɣ, but borrowing from Ml. manah 'idem' is a good possibility. Dempwolff's *manɨq may be incorrect; see §3.6.2b below regarding the final.

Another possible source for SSul /e/ and /o/ are the sequences reflecting PAN *-iɣ and *-uɣ, but due to the lack of good examples in PUS, Mmj. and Seko, it is unclear whether the changes to /e/ and /o/ in this environment took place prior to, or subsequent to, the PSS stage. See further §3.6.2b below.

3.2b.2. Instances of SSul /e/ and /o/ apparently reflecting PSS *e and *o < PAN *i and *u in environments other than those just discussed.

55. Bug. Mak. Mdr. Sad. Duri Mmj. sorong 'push' < PSS *sorong < PAN *surung. Possbily borrowed from Ml. sorong 'idem'.

56. Sad. DuriK Seko talo 'defeated', pa/talo 'win' < PSS *talo < PAN *talu. Mdr. calo 'disappointed' can also be included. Matthes' Old Bug. talo appears to be related; it is cited in several figurative expressions in the sense 'completely soaked with, penetrated by, overcome by...'.

57. Bug. Mak. ri olo 'in front of; before (in time)'; Mdr. di olo 'in front'; Sad. dolo (< di olo?) 'formerly', molo 'in front of', oloi 'to face'; DuriK jio(q) olo 'in front of', si/olo/an 'to face'; PUS Mmj. mang/oloq (irregular -q) 'to face'

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< PSS *olo, cf. PSS *ulu 'head' (Ex. 31), < PAN *qulu.

58. Bug. keppang, Mdr. keppaq, Sad. keppa, keppang, SekoP kempang 'crippled, lame' < PSS *kempang, cf. PAN *timpang. There is no explanation for the different initial. Mak. has tempang, probably borrowed < Ml(BI) tempang, timpang.

In the following examples, it is unclear whether SSul /e/ and /o/ truly reflect PAN *i and *u, since PAN etyma have not been reconstructed, and cognate forms in other languages are not found.

59. Bug. Mak. Mdr. Sad. beta 'to win'; Mmj. pa/beta 'winner' < PSS *beta.

60. Bug. elong (mak/kelong), Mak. kelong, Mdr. maq/elong, Sad. Duri PUS Mmj. kelong 'song, to sing' < PSS *kelong. The word has been equated with Ml. Jav. kidung 'song' < PAN *kidung, but the d:l correspondence is irregular for SSul. Cf. also Ng.Dayak kelong 'rowing chant', not a regular reflex either of the cited PAN form.

61. Bug. sompɨq, Mak. sŏmbalaq, Mdr. so^{m}bal, Sad. sombaq, Mmj. s/um/obal 'sail, to sail' < PSS *so(m)bal. The Mdr. word has the peculiar "half-prenasalized" b which is perhaps the mark of a loanword (see §2.1.3.1d above). Regarding the final, see below §3.6.2d.

62. Bug. Mak. Mdr. Duri Mmj. Seko jonga 'deer' < PSS *jonga. (Seko, because of the /j/, is probably a borrowing.)

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If these words do not reflect PAN *i, *u or PSS *e, *o < *i, *u, the alternative is that they are borrowings from some language where they represent regular developments. In Bare'e, for example, /o/ is the regular reflex of PAN *ɨ, and similarly, /e/ is the regular reflex of *ɨ in the Ambonese area. Also, /e/ is the usual pronunciation of Ml/BI schwa as spoken in SSul.

3.2c. PSS *ɨ (in non-final syllables). In this environment, Bug. /ɨ/, all others /a/, regularly reflect PSS *ɨ. When we discussed Bug. phonology (§2.1.1.1e above), we mentioned the morpheme-structure condition whereby Bug. /ɨ/ only occurs in closed syllables-- that is, followed either by a nasal cluster or a geminate. And to the Bug. sequence /ɨNC/ corresponds /aNC/ (sometimes /aCC/) in the others; to Bug. /ɨCC/ corresponds /aCC/ (sometimes /aNC/) in the others. Seko is apparently an exception; there we do find the nasal clusters or their reflex, but where non-nasal consonants are involved, we generally find only a single consonant following the /a/ which reflects *ɨ. There is some variation, however, which may reflect the actual situation in Seko or, as has been mentioned, may be due only to inconsistent spelling by the informants. For now, our working hypothesis is that Seko has lost its geminates as the result of extensive contact with non-geminating Toraja languages. Therefore, since gemination is, or has been, present in every SSul language, it can be reconstructed as a feature of the proto-language. Examples are:

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63. Bug. ɨlli, mɨlli (BWB also bɨlli, rare according to my informants), Mak. balli, Mak-Konjo halli, Mdr. Sad. Mass. Mmj. SekoL alli, SekoP mam/bali 'to buy' < PSS *bɨlli. Loss of the initial in Bug. and elsewhere would be due to the um-form-- *b-um-ɨlli > *mɨlli, with subsequent reanalysis. The Sad. form can be explained in this way, or also as resulting from loss of *w- < *b.

64. Bug. tɨllu, Mak. Mdr. Sad. Mass. PUS tallu, Mmj. tallo, Seko i/talu 'three' < PSS *tɨllu.

65. Bug. bɨnnang, wɨnnang, Mak. Mdr. Sad. Duri bannang, PUS-Ratte (V) bännäng, SekoP banang 'thread, yarn' < PSS *bɨnnang.

66. Bug. m/ɨtti, Mak-Sal. atti, Mdr. m/atti, Sad. m/aqti (= m/atti?) 'to drain, dry up' < PSS *ɨtti.

67. Bug. sɨbbu, Mak. Sad. Mass. PUS saqbu, Seko sabu 'thousand' < PSS *sɨbbu

68. Bug. lɨppɨq, Mak. lăppasaq, Sad. laqpa/r/an DuriC laqpah 'to set free' < PSS *lɨppas. The base of the Sad. form, laqpaq refers to the final ritual feast for a dead person, when the soul, presumably, is set free.

Exceptions: The principal exceptions are those where /i e u o/ in some languages correspond to Bug. /ɨ/ or a known PAN etymon with *ɨ. Almost always, the irregular reflex is conditioned by the presence of /i e u o/ respectively in an adjacent syllable; consequently, it is simply a matter

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of *ɨ assimilating to the quality of the neighboring vowel. Comparative study of other IN languages shows that this phenomenon is widespread; thus Tagalog, where PAN *ɨ > /i/ regularly, very often shows *ɨ > /a, u/ if the other syllable of the base contains /a/ or /u/ respectively. Yet other languages, like Malay, show very little assimilation. Perhaps the reason is that Ml., aside from retaining /ɨ/, has a six-vowel system /i e ɨ a u o/, Tag. only a three-vowel system /i a u/; thus in Tag., a non-regular development of *ɨ might have been necessary to avoid homonymic clashes.

Examples from SSul, where the assimilation can be ascribed to independent development in post-PSS times:

69. Bug. pɨnno, Mak-Sal. Mdr. panno, Sad. Mass. ponno, Mmj. ponno, puno, SekoP puno 'full' < PSS *pɨnno.

70. Bug. sɨdde, Mak. saqri, Mdr. seqde, Sad. Duri saqde 'hips, waist; side' < PSS *sɨddi.

71. Sad. lassu, Duri lussu, PUS lassu, PUS (V) lusu, losu, Mmj. lussu 'hot' < PSad.*lɨssu. Absence of a reflex in Bug. Mak. or Mdr. prevents the reconstruction of PSS, though it would also be *lɨssu.

72. Bug. tɨddung 'umbrella, parasol'; Sad. taqdung 'umbrella, sun-hat'; DuriK taqdung 'umbrella'; Mmj. men/tuddung 'to shelter, to shade' < PSS *tɨddung. Other languages reflecting a proto-form with *ɨ: Ledo toru

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'sun-hat'; Sasak ṫidong 'shelter oneself from sun or rain'. Dempwolff reconstructed *tudung 'head-covering' on the basis of Tag. TB, Jav. Ml. and NgD., all with /u/ in the first syllable; conceivably we are dealing with proto-doublets *ṫidung ~ tudung, but it is equally possible that Dempwolff's witnesses all show schwa-assimilation.

In at least some cases, the assimilation appears to have taken place in pre-PSS times, e.g.:

73. Bug. sokkoq, Mak. sŏngkoloq, Sad. sokkoq DuriC sokkoq 'steamed rice'; Bug. asokkoṙng, Mak. songkolang, Mdr. sokkolang, Sad. pasokkoran, DuriC pasokkotan 'rice-steamer (a woven bamboo basket placed over boiling water)' < PSS *songkol, cf. OJ, Jav. skul, sĕkul 'steamed rice' and also Tag. sukŏl 'closed in; captive; surrounded'. The original form PAN *siṫkul is attested in Bug. saliṫkkoq 'basket-like device for catching fish' and siṫkkoṙng basket used to cover a fighting cock'; Sad. has salokkoq in this last meaning; Mak. songkokang 'idem' is evidently < PAN *sungkuk 'cap, covering.'

3.3. PSS palatals, *c, *ñ and *y.

3.3a. PSS *c and *ñ. The correspondences for these two sounds are difficult to determine, partly because of their infrequency, but mainly because of contradictory reflexes in the few examples available. The correspondence for *c can tentatively be given as follows: Bug. Mak.

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Mass. /c/, Sad. /s/; Mdr. has both /c/ and /s/, and the few forms with /c/ could all be borrowings from Bug. or Mak. My data from PUS contain no examples, while the few citations in van der Veen (1929:87) are (1) without outside cognates, (2) apparent loan-words or (3) instances of t > c (see below). My Mmj. data contain one example only, with /s/, as does A&K; they note further (p.149) that /c/ in borrowings goes to Mmj. /t/. All the Seko examples (showing both /c/ and /s/) appear to be borrowings: cangkiri 'cup' (Mak. cangkiriq, Ml. cangkir), ceq 'paint' (Ml. cat, cet, believed to be < Chinese), basa 'to read' (Sad. idem, Ml. baca, ult. < Skt. vac- 'speak'); pacapaq 'bad' has no known cognates. Examples for *c:

74. Bug. cicaq, Mak. caqcaq, Mdr. sassaq, Sad. siqsak (less common: saqsak), DuriK ciqcak, Mass-End. ciqcaŋ, Mmj. (A&K) "sasa" 'small lizard'. Probably < PSS *c̈iqcak, an irregularly reduplicated monosyllable (see below §3.7), but since the word is onomatopoetic we hesitate to reconstruct. Dempwolff has *c̈icak; Ml/BI has both cěcak and cicak.

75. Bug. ma/c̈ikkeq, Sad. ma/sakkeq, ma/sakke, DuriC, Patt. ma/cakkeq, DuriK, Mai. ma/cakke 'cool, cold' < PSS *c̈ikke(C?)

76. Bug. Mak. racung, Mdr. rasung, Sad. rasun, DuriK racun, PUS Mmj. SekoP rasun 'poison' < PSS *racun. The SekoP word, with final /n/, is likely to be a borrowing.

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The correspondence for *ñ is also tentative: Bug. Mak. /ñ/, Sad. Seko /n/ seem definite, but Mdr. Duri PUS and Mmj. have both /n/ and /ñ/ in the few examples available (Bug. and Mak. have a few doublets as well). Examples:

77. ñawa, nawa 'soul, breath'; ininawa 'consciousness, spirit'; Mak. ñawa 'soul', nawa 'to think'; Mdr. ñawa, (Lontar) ñaba 'soul', me/nawa 'to breathe'; Sad. i/naa 'soul', pe/naa 'breath', me/naa 'to breathe'; DuriK ñawa 'breath', me/nawa 'to breathe'; PUS ñaba, i/naha 'soul' menginaha 'to breathe'; Mmj. ñawa, nawa 'soul', (A&K) inaha 'heart'; men/inaha 'to breathe'; SekoP i/naha 'breath', pina/naha (< *p-in-a/naha) 'soul', me/nanaha 'to breathe' < PSS *ñawa.

78. DuriK ma/ñañi Mmj. me/nani 'to sing'; Sad. Seko (J.Kruyt) me/nani 'a ritual song and dance' < PSS *ñañi, if not borrowed < Ml. ñañi 'to sing'. We might reason that if the word were associated with a pre-islamic ritual, it would be lost in Bug. Mak. and Mdr. after their conversion.

79. Bug. pɨññu, Mak. Mdr. DuriK paññu, PUS (V) "pañu" 'turtle (usually marine spp.)' < PSS *pɨññu.

In the following example, if it is cognate at all with PAN *taña 'to ask', SSul languages show not only an unusual "prefix", but /n/ as well:

80. Bug. u/tana, Mak. ku/tanang, Sad. kutana, DuriK ku/tana/i 'to ask' < PSS *(ku+)tana.

Cf. also Bisayan kutana 'question'.

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We are left with the impression that perhaps the palatals *c and *ñ (as well as *j, see § 3.4f below) had a rather marginal status in PSS; perhaps *c and *ñ were in process of merging with *s and *n at the time the proto-language broke up, so that doublets like *racun ~ rasun or *ñawa ~ nawa already existed in PSS. It is noteworthy that the languages most exposed to influence from Ml. and/or Jav-- Bug. Mak. and Mdr.-- are precisely those which retain /c/ and /ñ/ in the majority of examples.

In these same three languages, there is another source for /c/, which could have facilitated the retention of *c-- that is, the palatalization of /t/ and /s/ > /c/ to form, broadly speaking, diminuitives. Such forms are also found in the Mass. languages, where it is probably due to Bug. influence. Examples:

81. Bug. otiq, kotiq (kotiq is marked as Mak. in BWB, but not listed in MWB), Mdr. kotiq, Sad. kotik 'to poke around in; to pick something out of a hole'; Mak. kocciq 'idem'; Bug. Mdr. kociq 'to poke around in, to pick something out of a small hole (e.g. wax from the ear)' < PSS *kotik. Relatable forms in Sad. ("intensives"): kotteq 'to tease someone by poking them with the knuckles'; kotting 'a small but deep puncture wound'; kossiq 'a game involving picking stones out of a hole'.

82. Bug. Mak. Mdr. Sad. laso 'penis'; Bug. laco 'penis of a child' < PSS *laso. The word laso is also used as a term of address to young boys, as

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are the following: Bug. Mak. basoq (to sons of the nobility), bacoq (to sons of commoners); Mdr. kacoq; Sad. lasoq, asoq, basoq, batoq. Bug. lato(q) 'old man, grandfather (to men of humble status)' probably belongs in this set, and is not cognate with Ml. datu(k) 'prince, ruler, chieftain' as Matthes supposed.

Since Bug. or Mak. /c/, therefore, can be of secondary origin, they are not reliable witnesses for PSS *c, unless a cognate from outside (e.g. Ml. or Jav., where /c/ reflects only PAN *c) is available. Without outside evidence, the correspondences are ambiguous, as this table shows:

1) Bug. c: Mak. c (alone) < PSS *c, *s or *t.
2) Bug. c ~ t doublets < probable PSS *t
3) Bug. c ~ s doublets < probable PSS *s
4) Bug. c: Mak. t (alone) < probable PSS *t
   (or, Bug. t: Mak. c)
5) Bug. c: Mak. s (alone) < probable PSS *s
   (or, Bug. s: Mak. c)
6) Bug. Mak. c: Sad. t < probable PSS *t (or an undetected loan with *c)
7) Bug. Mak. c: Sad. s < PSS *c or *s

3.3b. PSS *y. It is reconstructible only in intervocalic position, reflecting a restriction which seems also to have been present in PAN-- Dempwolff reconstructed just two forms with initial *y, both questionable. The SSul correspondences are: Bug. Mass. PUS Mmj. /j/, Mak. Sad.

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Seko /y/, but as has been mentioned, there is dialectal variation within some of the languages. Thus Sad. dialects have /j/, /y/ or ø; my Mdr. data have/y/, while Pelenkahu's (1967) Majene has /j/ as does the Lontar. PSS *y is not reconstructed in the environment of a preceding or following *i or *ɨ. Examples:

83. Bug. aju, Mak. kayu, Mdr. ayu, Sad. kayu, Mass. PUS Mmj. kaju, Seko kayu 'wood, tree' < PSS *kayu.

84. Bug. gajang, Mak. gayang, Mdr. gayang, (Lontar) gajang, Sad. gayang, gaang, gajang, Duri gajang '<u>kris</u> (dagger)' < PSS *gayang.

85. Bug. sajo 'to dance'; Sad. s/um/ayo 'to move about'; Seko s/um/ayo 'to dance' < PSS *sayo.

86. Sad. koyong, DuriK kojong, PUS-Tapango (V) kŏjŏng, SekoP ma/koyong 'wound(ed)' < PSad. *koyong. If Bug. kojongɨng 'handle/grip of a lance' is cognate, we can reconstruct PSS *koyong.

One example apparently shows a word-final *y retained by the addition of a suffix:

87. Bug. tanrajɨng, Sad. tandaan, tandayan 'loom part: a bamboo pole to which the warp threads are fastened' < PSS ?*tanday+an.

3.4. Voiced stops and continuants. The reflexes of the PAN voiced stops show the greatest amount of irregularity in the languages of SSul. Only *g, which is rare in PSS as in PAN, shows unambiguous development, whereas *b, *d and *j present a rather confused picture. Similar confusion,

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however, shows up in almost all IN languages, where the historic voiced stops show a tendency to become continuants, so that possibly some of it, at least, could be ascribed to proto-IN, if not to PAN. Additional confusion can also have arisen through borrowing between related, phonologically similar, languages.

3.4a. PSS *g. Initially and intervocalically, *g is reflected as Seko /k/, all others /g/. There are isolated cases of /k/ < *g, and /k/ ~ /g/ doublets in all the g-retaining languages. Examples, for initial *g:

88. Bug. gɨnnɨq, Mak. Sad. DuriK gannaq, SekoL kannaq 'enough, complete'; SekoP kanaq 'perfect' < *gɨnnɨ(p?). The final consonant is reconstructed on the basis of Ml. gĕnap, Jav. gĕnĕp 'enough'.

89. Bug. giriq 'poke with a sharp instrument; to drill'; Sad. giriq, kiriq 'to file'; Sad. DuriC girik 'to twist'; SekoP mang/kiri 'to file' < PSS *giri(k?). From an apparent doublet *gere(C) we have: Bug. Mdr. Sad. Duri gereq, Mmj. geheq, kehe 'to slaughter (an animal, by cutting its throat)'.

90. Mdr-Bal.(A&K) gahun, Sad. gaun, PUS gahung, SekoP kahung 'cloud' < PSad.*gawun. (Since A&K's "Balanipa" Mdr. is probably really a dialect of PUS, we can only reconstruct for PSad.)

84. Cf. *gayang 'dagger' already cited.

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Intervocalically, *g is poorly attested after *i̱, occurring only in Bug. Mak. and Sad. as a geminate, in a few examples; we would predict, however, Seko /k/, others /qg/.

91. Bug. pi̱ggang 'to hold, have power over someone (esp. by magical means)'; Sad. paqgang 'those portions of the buffalo slaughtered at a slave's funeral which must be given to his master as a sign of the deceased's subordinacy' < PSS *pi̱ggang.

92. Bug. ti̱ggoq, Mak. taqgoq 'to swallow' < PSS *ti̱ggo(k?). Cf. Ml. tĕguk 'idem'.

In other intervocalic environments:

93. Bug. sugiq, Mak. sugi, Mak-Konjo sŭgiriq, Mdr. Sad. sugiq, DuriC sugih, DuriK sugi, SekoP sukiq 'rich' < PSS *sugiɣ (see §3.6.2b below regarding *ɣ). Mak. sugi with Ø final is probably a borrowing of Ml. sugih 'idem'. Compared to the Ml. form, the SSul forms with clear reflex of *ɣ are striking; possibly Ml. itself has borrowed the word from some language (such as Balinese) where PAN *ɣ > h.

94. Bug. aga, PUS Mmj. Seko aka 'what' < PSS *aga.

95. Bug. gegoq, genggo, Mak. genggo 'shake, jolt'; Mdr. Sad. gego 'to sway' < PSS *ge(ng)go.

96. Bug. Mak. Mdr. siga, Sad. sigaq, Mass. siga 'quick; rash, hasty' < PSS *siga.

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3.4b.1. PSS *b, initially, is generally reflected as /b/ in all the languages. A secondary development > /w/, and further /w/ > /h/ > ø is also found. Only in Bug. can a conditioning factor for /b ~ w/ be discerned, in that underlying /b/ > /w/ in absolute initial position, but remains /b/ in prefixed forms. Even this rule is not without exceptions, and there are numerous initial /b/'s, and a few cases of /w/ in prefixed forms (where the prefix ends in a vowel), though these can safely be ascribed to analogy. The Sinjai dialect of Bug., Mak-Konjo and Salayar, PUS, Mmj. and Seko often have /h/ against Bug. /b ~ w/ or Sad. /b/; Sad. in turn sometimes has ø where others have /b/ or /w/. As the correspondences are completely inconsistent, we must adopt a rather ad-hoc solution and accept /b/, /w/, /h/ and ø as reflexes of PSS *b-. However, where the witnesses disagree, it may be that the proto-language had already developed b/w doublets, and this situation is indicated with the symbol *(b)-.

Examples where all languages show /b/:

44. Cf. PSS *bawi 'pig' cited above.

97. Bug. bunga, wunga, Mak. Mdr. Sad. Duri PUS Mmj. Seko bunga 'flower' < PSS *bunga.

98. Bug. bukkang, Mdr. buqang, Sad. Duri Mmj. bungkang, SekoL bukkang 'crab' < PSS *bungkang.

99. Bug. ma/belang, Mdr. mem/belang, Sad. kam/-belang, SekoP mi/belang 'naked' < PSS *belang. Further, Bug. welampelang (redupl. of welang)

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'young girl, not yet of marriageable age'; the connection, according to my informants, lies in the fact that such a girl is still of an age where she may go around without a blouse. Sad. belang, belang-belang also means 'unmarried' or 'childless'.

The following, all with /b/, are surely loans:

100. Bug. Mak. Mdr. Sad. Duri SekoP baca, Sad. Seko also basa 'to read' < PSS *baca, < Ml. of Jav. baca 'idem' < Skt. vācayati 'to read', causative of vac- 'to speak'.

101. Bug. bissi, Mak. Mdr. Sad. Duri SekoP bassi 'iron' < PSS *bissi, cf. Ml. besi.

Examples with inconsistent /b/, /w/ reflexes:

102. Bug. uling (BWB also wuling, rejected by informants), Mak. Mdr. bulang, Sad. Mass. bulan, Seko hulang 'moon' < *(b)ulan.

103. Bug. watang, Mak. Mdr. Sad. Mass. batang Seko hatang 'tree trunk; fig., main part' < PSS *(b)atang. Forms reflecting *w < *b, with change in meaning: Bug. ma/watang, Sad. ma/atang 'strong'; Mass-Mai. pa/watang/ngi, Patt. pa/ma-watang/ngi 'to strengthen'.

104. Bug. Mak. Mdr. Sad. Duri PUS Mmj. bua, Seko hoa 'fruit' < PSS *(b)ua.

105. Bug. wala, Mdr. Sad. bala, PUS Mmj. hala 'animal pen, corral' < PSS *(b)ala.

The question of b/w variation in IN languages generally is discussed further in §4.3a below.

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3.4b.2. PSS *b, medially, is found in only a few environments: (1) following *ɨ, geminated, and reflected as a geminate in all languages except Seko where it is a simple stop /b/; (2) rare cases in other intervocalic environments, reflected usually as SSul /b/. The rarity of such examples, even though they are distributed throughout the family, suggests that they may be loans. A third possible source of /b/ in the modern languages could be from those items where there was variation between *b and *mb in PSS (or at some later stage). A fourth source--hypothetical since there are no conclusive examples-- could be the reflex of *b post-consonantally, i.e. following the PAN infixes *-l- or *-r-. The expected reflexes in the modern languages would be /qb/, and there are a few cases where modern /qb/ seems not to result from gemination after *ɨ and thus may reflect the infixes. But even so, such items could well be loans, since the single-consonant infixes do not appear productively in PSS.

The ultimate source of PSS *b is, of course, PAN *b. In the majority of etyma with PAN *b (except as noted above), that sound is reflected as PSS *w; see §3.4c.2.

Examples of PSS *bb / ɨ —— V:

106. Bug. lɨbbi, Mak. Mdr. Sad. Duri Mmj. laqbi, Seko labi 'more' < PSS *lɨbbi. The PSS item is irregular; we should expect **lɨbbe < PAN *lɨbiq. Probably this shows the influence of Ml. lĕbih in preventing or reversing an otherwise exceptionless change, PAN *-iq > PSS *-e.

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107. Bug. l̇ȧbboq 'to smelt'; Mak. l̇ȧqboroq 'to dissolve, destroy'; Sad. laqboq 'sword; wedge'; DuriC laqboh, DuriK laqbo 'machete'; SekoP pi/-lobo 'chisel' < PSS *l̇ȧbb(uo)ɣ. Aside from the Mak. form, the semantic connecting link is "iron", a meaning which occurs in cognates in Bare'e and Tagalog.

67. Cf. PSS *s̈ȧbbu 'thousand' cited above.

In the following, Seko is irregular, probably due to borrowing:

108. Bug. ẗȧbbu, Mak. Sad. Duri taqbu, Seko tuhu 'sugarcane' < PSS *ẗȧbbu. Note Napu, Rampi, Bada tuwu 'idem'.

Examples of modern /b/ (< PSS *b?) in other intervocalic environments:

109. Bug. ma/lebu, Mdr. ma/lewu 'round'; Sad. ka/lebu, lebu 'long and round, cylindrical', ka/libu 'oval-shaped'; Mmj. ka/lebu 'round' < PSS *libu, *lebu. Cf. Wotu limbu 'round'; Ledo libu 'to sit in a circle'; Bare'e mo/limbu 'sit in a circle', libu 'ring around the sun or moon'. On the basis of Philippine evidence, PAN *libut 'surround' is reconstructible; the SSul forms therefore appear to be borrowings from the Toraja languages. I hypothesize that the source's mb (structurally a unit phoneme) must have been heard, or reanalyzed, as a plain stop.

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110. Bug. toboq, coboq, Mak. toboq, Sad. tobok SekoP mu/toboko (?= tŏbok(o)) 'to stab'; Mak. coboq-coboq 'machete'; Mass.(V) coboq, SekoP toboko 'kris (dagger)' < PSS *tobok, which may reflect either PAN *tibik 'pierce, bore' (irregularly), or *tumbuk 'penetrate'.

111. Bug. Mak. tawaro, Sad. Duri SekoP tabaro 'sago, sago-palm, Metroxylon spp.' < PSS *tabaro. (Since the SSul peoples make little use of the sago-palm as a food source, the word is likely borrowed via trade, either from Eastern Sulawesi or the Moluccas, where sago is a staple food.) SWB cites, without glosses, Ml. tĕmbarau, Gorontalo towahu. Elsewhere we find: Ledo tabaro 'sago, sago-palm'; Lalaki (A&K; SE Sulawesi) tawaro 'palm fronds used for thatch'. Heyne (1950:330) gives Toli-toli (N.Sulawesi) tawaro, Lalaki towaro 'Metroxylon spp.' and also lists (p.167) Ml. tĕbĕrau, Minang-kabau tabarau, timbarau 'a reed species, Saccharum arundinaceum Retz.' of seemingly little value or use. Unless this might be used for thatching, it is difficult to see any connection with "sago-palm". Assuming all forms to be cognate, we could postulate a PAN *ta(m)bayaw; Gorontalo /h/ is strong evidence for *y.

Two further examples, limited to the Northwestern area:

112. Sad-Mangki (V), PUS Mmj. Seko keboq 'back'.

113. Sad-Mangki (V), SekoP kobu 'to gather'.

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On the possibility of r/l-infix clusters in PSS, see below, §3.8.

It would be reasonable to view medial /b/ in SSul languages as having been introduced through borrowing, and since other forms of [b] were already present-- initial [b], medial [mb] and [qb]-- this would have been a simple way of closing a gap in the sound systems of the individual languages.

3.4c.1. PSS *w < PAN *w, in initial position, is attested in a handful of examples only, reflecting a rarity that is apparent also in Dempwolff's reconstructed PAN vocabulary (ten examples out of a total of 2200-plus). In PSS, as in PAN, there are no instances of initial *w before *i̇ or *u; two of Dempwolff's etyma have it before *i, while the remaining eight, and all the PSS etyma, have it before *a.

In the SSul languages, initial *w is reflected variably, either as a bilabial [w] or labio-dental [ʋ], or as a syllabic [u] with following [w] glide; in PUS and Seko, where there has been the further change w > /h/, we find only the sequence [uhV...]. (The situation in the various PUS dialects, where *b, *w and *u[w]V have all undergone various mergers, is far from clear, as was shown above in §2.1.5.2c.) It is clear, however, that initial *w must have been distinct from the secondary <u>w</u> < *b, since they have developed differently: forms with secondary <u>w</u> (or <u>h</u>) never have the alternative pronunciation [uwV...] (or [uhV...]. All this suggests that we might reconstruct

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not a glide *w, but a non-syllabic *u̯-- as indeed Dahl has proposed for PAN (Dahl 1973:17-18). While this may be closer to the phonetics, it creates an asymmetry in the phonological system, for there is no good reason to suppose that in PSS the high vowels *u and *i could vary as to syllabicity. The development of *y (*i̯ ?) shows that that glide was structurally a part of the consonant system, not of the vowels, and it seems more economical to suppose that *w paralleled *y-- their rarity, and limitations on their occurrence, support this view.

Examples of PSS *w-:

114. Bug. wae, uwae, Bug-Sinjai hae, uhae, Mdr. uai, Sad. Duri wai, uai, Mass-End. Patt. (RAP72) "uwaiq", PUS uhai, Mmj. wai, Seko uhai 'water' < PSS *wai. (The End. and Patt. form with /-q/ occurs in the Swadesh list; in a sentence later on in the text we find End. "uwai".)

115. Bug. uwase, Mdr. wase, uase, Sad. Duri wase, uase, Mass-End. "uwase", Mmj.(A&K) uhase 'axe, hatchet' < PSS *wase.

116. Bug. (informants) awani (BWB lists the expected forms uwani, owani, rejected by informants), Mak. bani, Mdr. Sad. wani, uani, DuriK uani 'bee' < *wani. This is one of the two examples for *w- in Mak.

117. Mak. akaq (informant: ǎkaraq), Mdr. wakeq, uakeq, Sad. wakaq, uakaq, akaq, Mass. wakaq, uakaq, PUS uhakaq, Mmj. uhakaq, uakeq 'root' < PSS *waka(t).

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(See below §3.6.1c regarding PSS *-t, and the vowel change seen in Mdr.) This is the only other example for *w- in Mak, and the contradictory reflexes prevent us from stating the development in that language. The informant's ákaraq is probably < Ml. akar 'idem', as the Mdr. form, in particular, points only to *-t. The forms given by the Seko informants can be derived from *waka(t) only with difficulty: SekoL (heard) oaq, SekoP (written) "oä"[?]. To derive SekoL oaq, starting with *wakat > *uwakat > *uhakaq, we must posit (1) loss of *-k- (2) merger of the two like vowels (not found in other such cases) (3) loss of -h- (not found). Much more likely, the Seko forms are ultimately cognate with PAN *uγat 'root; tendon' via some Toraja language in which PAN *γ > ∅ regularly. (Bug. uri̇q 'root' also reflects this etymon.)

These four examples are the only ones (found so far) showing clear reflexes of PSS *w-.

PSS *w in intervocalic position has two sources: first, < PAN *-w-; second, < PAN *-b-. (The two cases will be discussed separately here, for clarity's sake, though of course the SSul reflexes are the same.) Dempwolff reconstructed PAN *-w- in all environments except following *i̇, but his reconstructions preceding or following *u can be eliminated, as there appears to

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to have been no real contrast in that position; consequently PAN *-w- is found only in the environments *a—a, *a—i, *i—a, and *i—i. The first of these was by far the most frequent, and is the only one reflected with certainty in the SSul languages. The reflexes are: Bug. Mak. Mdr. /w/, Sad. /w/ or ø depending on dialect, Mass. /w/, PUS Mmj. /w/ and /h/ (as well as b and v in PUS dialects, see §2.1.5.2c), Seko /h/. The two best examples for PSS *-w- < PAN *-w-:

77. Cf. PSS *ñawa 'soul' (< PAN *ñawa) above.

118. Bug. m/ecawa (presumably < earlier me/cawa), Mdr. me/cawa, Sad. me/taa, Duri, End. tawa, Mai. Patt. cawa, PUS taha, Mmj. cawa, taha, Seko taha 'to laugh' < PSS *tawa < PAN *tawa.

A problematical example:

119. Bug. (Old Bug.) uwe, Mak-Bont. uwe, Mak-Konjo uhe, Mdr. Sad. ue, Mmj.(A&K) SekoP uhe 'rattan'. The best reconstruction is PSS *we, though *ue would be possible under the assumption that Mmj. and Seko borrowed the word in e.g. its Bug. form. The change of w > h would then be secondary. Since rattan is an important trade item amongst the mountain people, that is a strong possibility. Dempwolff reconstructed *uway, but the *-w- has been eliminated in favor of a vowel sequence by recent scholars, and the form is now *quay (Dahl 1973:41 *quai̯). Either of these would have produced PSS *ue.

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3.4c.2. PSS *-w- < PAN *-b-. Since PAN *b could occur freely, it follows that the PSS reflex can be found in the environment of *u and *i, unlike *-w- < PAN *w. Examples:

120. Bug. wawa, Mdr. mam/bawa (Lontar "baba"), Sad. bawa, baa, Mass. bawa, PUS-Mayamba, Bulo-Bulo (V) "bava", Mmj. Seko mam/baha 'to carry' < PSS *bawa < PAN *baba.

121. Bug. Mak. tuwa (i.e. /tua/), Sad. tua, SekoP tuha 'Ml. tuba, extract of the plant Derris elliptica used to stun fish' < PSS *tuwa < PAN *tuba.

122. Bug. riwu, Mak. si/riu, Sad. sa/riu 'hundred-thousand; any extremely large number' < PSS *riwu < PAN *ribu (though possibly a loan < Ml. ribu). Mak. here shows its tendency to lose *w preceding /u/.

44. Cf. PSS *bawi 'pig' (< PAN *babuy) above.

Given the relative rarity of PAN *w, it is assumed that PSS *-w-, in the absence of other AN cognates, is more likely to reflect PAN *-b- than PAN *-w-, as in the following:

123. Bug. saliwing, Mdr. saliwang, Sad. salian, DuriK salean/an, PUS Mmj. salihan 'outside' < PSS *saliwAn (the symbol A is ambiguous for *a or *i, which cannot be determined without outside evidence). If, as I believe, this word is related to Ex. 124 next below, the reconstruction should be *sa+liwAn reflecting a putative PAN *li(m)bAn. Otherwise, it could reflect PAN **libAn, liwan, or even (though unlikely) **saliw+an.

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124. Bug. liwäng, Mak. limbang, Mdr. me/liwang 'to cross over'; Sad. lian 'to the other side' < PSS *li(m)(b)An, i.e. *limbAn or *li(b)An. Since PAN *-w- could not be prenasalized, the etymon must therefore have had *-b-; the final-syllable vowel remains ambiguous. Mmj.(A&K) ka/-limbang/an 'ford' is very likely cognate, though they derive it from a base limbang 'valley, basin'. Possibly we are dealing with homonymous bases. It is difficult to say at this point whether the PSS doublets were *limbAn ~ libAn (and the shift *b > w took place in post-PSS times) or *limbAn ~ liwAn (with the shift *b > w already present in PSS). A third hypothesis is attractive: that in PSS, as in present-day Mdr., *b (/b/) had a fricative allophone intervocalically-- phonemically, therefore, */limbAn/ ~ /libAn/ [liwAn], perhaps [liβAn].

3.4d. PSS *d, both initially and medially, is reflected variably as /d/ or /r/ in every SSul language. Only in Bug. can the variation be explained synchronically in that /r/ and /d/ alternate in initial and post-/q/ position. There are a number of doublets in Sad. which suggest that similar conditioning once occurred there (including post-N position), and probably also in the other languages.

Aside from this putative conditioning, there remains a substantial amount of variation, ranging from cognate sets where every language shows /d/, to those where every language shows /r/-- against /d/ in cognate languages like Ml. or Jav.

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Strictly speaking, where every SSul language attests /r/, we should reconstruct *r; the question then is, how to account for some PAN *d (and *ḍ) > PSS *r, while other PAN *d/ḍ > PSS *d or d~r. Our solution to this question will be discussed more fully when we deal with developments from PAN > PSS in §4.3; at this point, suffice to say that we believe that PSS must have had variation between d and r, like the modern languages, and so-- very likely-- did PAN.

In those cases where we find a mixed SSul reflex-- /d/ in some language(s), /r/ in others-- or /r/ in all against /d/ in an outside witness, we shall resort to the ambiguous symbol *(dr).

Only in Mak. do we find PSS *d represented by /r/ in such quantity that it seems safe to consider instances of Mak. /d/ as due to borrowing. Likewise, since *nd > /nr/ in both Bug. and Mak. with great regularity, instances of /nd/ in those languages can also be ascribed to borrowing.

In no SSul language do we find words of the shape /rVlV.../; rather, the (historically expected) initial r has assimilated to the following /l/-- but the presence of cognates with /d-/ shows that the change to r, then > l, is probably a post-PSS development. Further, one or two examples suggest that some of the languages (Sad. clearly, perhaps also Mdr. and Seko) do not permit the sequence /lVrV.../; the examples are contradictory, however, and show both progressive and regressive assimilation. Finally, there is the clearly secondary development in PUS and Mmj. whereby r (from whatever source) > /h/.

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(1) Examples of PSS *d- > /d/ in all the languages. There are in fact very few such examples, either because of vocabulary replacement, or simply gaps in my data; in the few that exist, borrowing from Ml. may be a factor.

125. Bug. Mak. Mdr. Sad. DuriK PUS Mmj. Seko duri 'thorn' < PSS *duri (PAN *(dḍ)uɣi). Also related: Bug. Mak. duriang, Sad. DuriK durian, Mmj.(A&K) hohiang, SekoP duriang 'the durian fruit' < PSS *duri+an, if not from Ml. durian 'idem'. (The name refers to the hard thorny shell which covers the fruit.) A&K's Mmj. form, for which they cite a base hohi, must derive from an intermediate stage with r, **rori(+ang).

126. Bug. damaq, Mak. dámaraq, Mdr. damar, Sad. damaq, DuriC damah, DuriK dama, SekoP damaq 'damar-resin' < PSS *damaɣ (PAN *damaɣ). For PUS, we note the name of a mountain in the area, Pedamaran (i.e. 'place where there is damar'). Damar is flammable, and its principal use in Indonesia is for making torches[8]. The word shows entirely regular development, especially in the retention of final *ɣ, but the /d/ of Mak., and the importance of damar as a trade item, strongly suggest influence from Ml. damar 'idem'.

127. Bug. dua, Mak. rua, Mdr. dua, daqdua, Sad. dua, daqdua, Mass. dua, PUS dua, deqdua, Mmj. dedua, Seko i/dua 'two' < *dua (PAN-Dempwolff *ḍuwa Blust *ḍuSa). Since Mak. /r/ < *d is regular,

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we can properly say that all forms reflect *d, though possible influence from Ml. dua should not be discounted, especially in view of an equally regular reflex with /r/ in the word for 'eight', Ex. 134 below. The reduplicated forms must derive from PSS *d̤i̤ddua, PAN ?*d̤i̤-d̤uSa. In Mdr., the simple form is used in serial counting, the reduplicated form as a modifier, e.g. tedong daqdua 'two buffalo'; information on PUS and Mmj. usage is lacking. The PUS informant called deqdua "old". (There is no ready explanation for /e/ < *i̤ in these two forms.)

(2) Examples of PSS *d- > /d/ or /r/. These are the majority.

128. Bug. dapoq 'small stove, brazier', dapuri̤ng 'kitchen'; Sad. dapoq, DuriC dapoh, DuriK dapo, PUS Mmj. dapoq, PUS(V) hapuq, SekoL (heard) rapuq, SekoP (written) dapo 'stove; kitchen' < PSS *dapuɣ *(dr)apuɣ. Mdr. has lapuran, lapurang, with an unexplained dissimilation of (presumed) initial r. The /u/ in Bug. dapuri̤ng may reflect influence from Ml. dapuran 'idem', but could also be a regular derivation from some unattested but possible dialect variant **dapuq; nevertheless, Bug. /o/ most often appears as the reflex of PAN/PSS *u before *-ɣ.

129. Bug. rengeq (maqdengeq), Mak. dengeq, Sad. rengeq, rengngeq, Mdr. man/dengngeq, Mmj.(A&K)

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madenge 'carry on the side/back < PSS *(dr)enge(C) or perhaps *(dr)(eɨ)ngnge(C)-- there is no good explanation for the variation between single and geminate /ng/. In a secondary sense, 'have responsibility for, have power over', Sad. has to di/rengngeq, Seko (J.Kruyt) to direnge 'the common people'[9]-- that is, the people for whom the nobility are responsible, whom they, in a sense perhaps, "carry".

130. Bug. rɨppa, Mak. rappa, Mdr. dappa, Sad. Duri daqpa, PUS Mmj. dappa, SekoL sun/dapa 'fathom (i.e., the distance measured by a man's outstretched arms)' < PSS *(dr)ɨppa. SekoP has rupa; /u/ < *ɨ before p is possible, but the word is more likely borrowed from a Toraja language; cf. Napu (A&K) rupa 'idem'. The /u/ in SekoL /sun-/ (presumably the prefix *sɨN- 'one') is also irregular, and may be due to metathesis of a form like *san-dupa. Thus, the Seko forms may not be directly inherited.

131. Mdr.(A&K) l/um/ole, Mmj. me/lolloq, SekoL (heard) d/um/oloq, SekoP dummolo 'to fly' < PSS *(dr)olo(C). Perhaps also Mdr.(RAP) l/um/oloq 'to dive'. There is no explanation for the /ll/ of my Mmj. form, nor for the written /mm/ of SekoP. Since A&K omit /-q/, if their lumole = lumoleq, the /e/ for expected /o/ is explicable, see §3.9.2. Forms with initial /l/, of course, reflect **rolo(C).

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132. Bug. dara (BWB: Old Bug. rara), Mak. rara Sad. Duri rara, Mass-Mai. Patt. dara, Mass-Letta(V) lara, PUS rara, PUS-Aralle(V) "chacha", Mmj. dara, Mmj.(A&K) haha, SekoL (heard) raqa, SekoP (written) raa 'blood' < PSS *(dr)ara (PAN *(dḍ)aγaq). The Seko forms probably show the influence of a Toraja language where PAN *γ > ∅, otherwise, they suggest that PAN *-γ- may have been retained as PSS *-γ-; see below §3.4e.

133. Bug. luruq, Mak. lűrusuq, Mdr. ma/doro, ma/roro, Sad. ma/ruruq, Sad-Mamasa(V) ma/doro, ma/lora, DuriC ma/ruruh, DuriK ma/ruru, PUS ma/-doro, PUS-Taludu, Tubi (V) ma/doro, Tapalang (V) ma/roroq, Mmj. ma/doho 'straight' < PSS *(dr)urus. The Bug. and Mak. forms are probably borrowings from Ml. or Jav. lurus, but this form too can reflect an earlier **rurus[10]; and note also Jav. (doublet) rurus, Balinese rurus 'straight'. At the same time, Ml. jurus and Bare'e joyo 'straight' suggest that we may be dealing with an example of PAN (Dyen) *Z; see §3.4f.4 below.

(3) Examples of PSS *(dr)- > /r/ in all languages, with evidence for *d from outside the family:

134. Bug. aruâ, Mak-Sal. karua, Mdr. arua, Sad. Duri PUS Mmj. karua, Seko (heard) karoqa 'eight' < PSS *ka+rua, but cf. PSS *dua 'two' (Ex. 127 above). The proto-form can thus be amended to *(dr)ua, but the implication is that PSS *d may

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have had the allophone [r] in intervocalic position. The form, as we explained in §2.2.4.1 above, can be interpreted as "the second (i.e. from ten)", parallel with the word for 'nine' in SSul languages based on *ka- plus the word for 'one'. The irregular stress in Bug. and the /q/ in Seko can be ascribed to "counting rhythm"; the words for 'nine' (Bug. aserå, Seko kamesaqa) show the same irregularity.

135. Bug. rɨnring, Mak. rinring, Mdr. Sad. Duri PUS Mmj. rinding, Mmj.(A&K) hinding, SekoP (and SekoL) rinning 'wall' < PSS *(dr)inding. Cf. Ml. dinding, Tag. dingding 'idem' < PAN *dingding--a reduplicated monosyllable (see §3.7 below).

136. Bug. ri/lalɨng, Mak. Mdr. i/lalang, Duri i/lalan, Mass.(V) i/lalang, PUS i/lalan, SekoP i/laling 'inside, in' < PSS *(dr)alɨm. The base, where it occurs as a free form in SSul languages, has the basic meaning 'interior'; the above examples all have an affixed locative marker. As evidence for the *-m, cf. also Bug. (Old Bug.) lalɨmmɨng 'interior, "inmost being"' presumably < PSS *(dr)alɨm+an; cf. also the next example, and also §3.6.1f.

137. Bug. menralɨng (< earlier men/dalɨng), Mak-Sal. anralang, Sad. mandalan, Duri madalan, PUS mandalan, Mmj. mandalang, Mmj.(A&K) mandalam, SekoP kaladung 'deep (water)' < PSS *(dr)alɨm

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with in each case a frozen prefix. Seko kaladung shows an irregular metathesis of the d..l.. sequence, while the pre-final /i/ in i/laling above may be due to Toraja influence; cf. e.g. Leboni (A&K) ilali 'inside'.

138. Bug. Mak. Mdr. Sad. Duri PUS Mmj. Seko lila 'tongue' < PSS *(dr)ila, cf. Tag. dilaq, PAN *dilaq.

(4) Examples of PSS *-d- / i—V. The reflexes are Mak. /-qr-/, Seko /-d-/, all others /-qd-/, which last can be analyzed as /dd/.

139. Bug. sidding, Mak. ma/saqring, Mdr. saqding, Sad. saqding 'to feel, experience'; DuriC pa/saqding, DuriK pe/saqding, SekoP pi/sading/i 'to hear' < PSS *sidding. The following are undoubtedly related, though the three dictionaries list them separately: Bug. sidding, Mak. aq/ñaqring, Sad. pa/naqding 'to wake up, become conscious'[11].

140. Bug. widding, Mak. maqring, Sad. maqdin (and waqdin, marked as "old"), DuriK, Mass-End. Mai. waqding, SekoP mading 'can, may' < PSS *(b)iddin, with derived *middin either via simple nasal substitution or, more likely, an um-form, *b-um-iddin > *middin. Pattinjo wading 'idem' in RAP72 is undoubtedly a misprint.

141. Bug. tiddiq, Mak. tînrisiq, Mdr. tiqdis, Sad. tiqdeq, DuriC tiqdeh, DuriK tiqdeq (irreg. /-q/), SekoP ni/tidi 'to squeeze, squash

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(specifically, lice, with the fingernails)' < PSS *ṫi(n)dis; all except Bug. show assimilation of the *i-- influence from Ml. tindis 'idem' is possible. Dempwolff reconstructed both *tiṇḍis and *ṫiḍis; PSS *ṫi(n)dis best reflects PAN *tiṇḍis with vowel metathesis.

72. Cf. PSS *ṫiddung 'umbrella; shelter' already cited above.

(5) Examples of PSS *d or *(dr) in other intervocalic environments. The reflexes vary between /d/ and /r/; since Mak. /r/ is most frequent, instances of /d/ in that language probably represent borrowings. If all the SSul witness show /r/, outside evidence is necessary to reconstruct *(dr).

142. Bug. sadang 'chin'; Mak. sadang 'the soft parts under the jaw'; Mdr. sadang 'chin'; Sad. PUS sadang 'mouth'; Mmj.(A&K) SekoP sadang 'chin' < PSS *sadang. (Mdr. /-d-/ is, of course, [ɗ].)

143. Mdr. ma/uduq, Sad. uduk, Mmj. mang/udiq/i 'to smell (trans.)'; SekoP mu/uduk/ang 'to smell (intrans.)', mang/uduk 'to kiss' < *uduk. Surely related are: Sad. PUS puduk, Mass-End. Patt. puduŋ 'nose' < PSS *puduk, perhaps < ?*pa+uduk (*pa- 'agentive'; lit., "the smeller"). Cf. also the next example.

144. Bug-Sid. si/orong, Mdr. Sad. DuriK udung 'to kiss'; Sad. undung 'to smell/sniff something' < PSS *u(n)dung. Also note Mdr. pudung, Mdr.(A&K) purung, PUS, Mmj. pudung 'nose' < *pudung, perhaps

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< ?*pa+udung. BWB m/orong 'hold in the mouth (e.g. candy, a betel- or tobacco-quid)' may be related.

145. Bug. ridi, Mdr. Sad. DuriC riri, Mass-End. ma/liri, Mai. ma/ridi, PUS riri, PUS-Aralle (V) "ma/chichi", Mmj. riri, hihi < PSS *ri(dr)i or more likely *(dr)i(dr)i on the basis of Sangir dĭrihi̇q reflecting a probable PAN *didiγ; loss of the final is irregular for PSS.

146. Bug. Mak. uring, Mak-Sal. korong, Sad. DuriK kurin, Mmj.(A&K) kohing, SekoP koring/tampo 'cooking pot' < PSS *ku(dr)in if we ignore the Salayar form, otherwise PSS *ku(dr)i̇n with an irregular change of *i̇ > /i/. Cf. PAN *ku(dḍ)i̇n.

147. Mak. rarang 'to dry/warm in the sun'; Sad. rarang 'to roast', ma/rarang 'red (in the face)'; Sad. men/darang 'to warm oneself by the fire'; Mdr.(A&K)di/rarang 'roasted' < PSS *(dr)a(dr)ang, on the basis of PAN *da(n)dang 'to heat'.

148. Bug. Mak. linrung, Mdr. lindung, Sad. rerung, SekoP lilong 'shade, shelter' < PSS *li(n)dung. Sad. shows regressive assimilation of the l..r.. sequence, Seko progressive; whether that is regular for Seko cannot be decided on the basis of this sole instance[12]. In view of the semantic relationship with PSS *ti̇ddung (Ex. 72 above), we might extract a monosyllabic root **dung (most likely at the PAN level, **ḍung) which also appears reduplicated in Mdr. rundung, also 'shelter'.

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In those cases where the available SSul forms have /r/, and there are no outside witnesses, PSS *r will be reconstructed. Only as data become available from other languages will it be possible to confirm, or necessary to revise, such reconstructions.

3.4e. PSS *r, corresponding to e.g. Ml. /r/, is reflected in all SSul languages as /r/, and as in Ml. represents the merger of two PAN sounds. One of these is assumed to have been a dental, alveolar or retroflex articulation-- PAN *r-- while the other appears to have been a velar-- Dempwolff's PAN *ɣ. For the same reasons discussed in the preceding section, it follows that PSS *r can be established with certainty only if outside witnesses are available.

(1) Examples of PSS *r-, with known PAN etyma:

149. Bug. raiq, Mak. Sad. rakiq, Mmj.(A&K) haki 'raft' < PSS *raki(t?), PAN *ɣa(ng)kit. Note Bug. maq/daiq 'to carry on a raft', showing the extension of the r/d alternation to historic r.

150. Bug. riwuq, Mak. rimbuq, PUS rihuq '(strong) wind'; PUS heoq, reoq, Mmj. heoq, reoq, rehoq 'storm' < PSS *ri(m)(b)u(t?). Since the Mak. prenasalized consonant may be a sign of borrowing[13], a less ambiguous PSS *riwu(t?) appears if we ignore Mak. (PAN *ribut.)

151. Bug. roppo-roppo, roppoq-roppoq, Mak. rompo-rompo, rompoq-rompoq, PUS rumpuq, Mmj. humpu, rumpuq 'grass, weeds' < *rumpu or *rumpu(t?),

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cf. PAN *rumput. Perhaps also Mdr. roppong 'idem' with /-ng/ of analogical origin[14].

76. Cf. PSS *racun 'poison' (PAN *racun) above.

(2) Examples of PSS *-r- / i̱—V. The reflexes are /rr/ in all languages, except variable /rr/ or /r/ in Seko. Note the difference between this reflex and that of *d/i̱—V, especially as regards Bug. and Mak.

152. Mdr. Sad. Duri PUS Seko parra 'press, squeeze' < PSS *pi̱rra, PAN *pi̱ɣaq.

153. Bug. ti̱rruq, Mak. tâ̱rrusuq, Mdr. tarrus, Sad. tarruq, DuriC tarruh, DuriK tarru 'straight, direct'; probably also Mass-Mai. ma/tarru 'brave' (misprint? Later Mai. kamatarrukan 'bravery' suggests a base tarruq) < PSS *ti̱rrus, PAN *ti̱rus.

154. Bug. ti̱rrung, i/ti̱rrung, Sad. tarrung, katarrung, DuriK SekoP katarrung, SekoL katarung 'eggplant' < PSS *ti̱rrung, PAN *ti̱rung.

(3) Examples of PSS *-r- in other intervocalic environments:

155. Mak. uruq, Mdr. uriq, Sad. Duri uruq, SekoP mang/uru 'to rub' < PSS *uru(t), PAN *urut. See §3.9.2 regarding the vowel change in Mdr.

156. Bug. paruq, Mak. paroq, Mdr. Sad. Duri paruq, Mmj. pahuq 'rasp, grate' < PSS *paru(t?), PAN *parut.

157. Bug. Mak. Mdr. saraq, Sad. DuriK sarak, SekoP saraka (/sâ̱rak(a)?) 'to separate' < PSS *sarak, PAN *sarak.

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158. Bug. buruq, Sad. DuriK buruk, Mass-End. Patt. buruʔ 'rotten, decayed' < PSS *buruk (PAN *buɣuk). Perhaps also SekoP ma/huru 'wet'.

159. Bug. Mak. Mdr. Sad. turuq, Mmj. tuhuq 'to follow' < PSS *turu(t), PAN *tuɣut. Perhaps also Mdr. curuq 'to imitate, copy'.

132. Cf. PSS *dara 'blood' (PAN *(dḍ)aɣaq) cited above.

(4) Examples of PSS *r probably reflecting a PAN *r or *ɣ, but not yet reconstructed at that level.

160. Bug. ringiŋ, Mak. Mdr. ringang, Sad. DuriK ringan, Mmj.(A&K) ma/hingan, SekoP ma/-ringang 'light (in weight)' < PSS *ringan. Cf. Ml. ringan 'idem'; PAN ?*(rɣ)ingan.

161. Bug. riwa 'hold on the lap'; riwáng (< riwa+ang) 'lap'; Mak. riwa 'lap'; Mdr. mar/-riwa 'to carry (a child) on the hip'; Sad. riwa, ria 'lap' < PSS *riwa. Cf. Ml. riba, ribaan 'lap'; Sasak iwa 'hold on the lap', iwaq, riwa 'lap' (Sasak ø can reflect any of the PAN r or d sounds); PAN ?*(rɣ)iba.

162. Bug. ruiq (with deriv. paduisiŋ), Mak-Bant. ruiq, Sad. ruiq, riuq, Duri ruiq (with deriv. ruitan), Mmj. ruiq, huiq, SekoL (heard) mo/riuq, SekoP mangriu 'to pull out/up' < PSS *rui(t). Cf. Rampi mo/ruiq 'pull, drag', Sangir hĭudiq 'pull'. Charles (1974) has reconstructed a Proto-Philippine *ɣuyud, which shows unusual

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treatments of the *-uyu- sequence in many languages; but these remain inexplicable as this is a unique sequence. Dempwolff, it is true, reconstructed *ḍuyung 'sea-cow, manatee' on the basis of Ml. Jav. and Hova (Malegasy), but the word is likely borrowed from Ml. in all cases. Matthes' Bug. rujung, Mak. ruyung 'a sp. of dolphin' were not recognized by my informants.

163. Bug. rɨnnu (derivs. with -d-), Mak. Mdr. Sad. rannu, DuriK po/rannu, SekoP ranung 'to hope' < PSS *rɨnnu, ?*(d)ɨnnu. No cognates outside SSul.

164. Bug. roaq, Mak. rõasaq, Mdr. roaq, Sad. ruaq, DuriC roah, DuriK roa, SekoP roaq 'lively, noisy, BI ramai' < PSS *ruas. From a possible doublet PSS *rua: Mak Bont. roa 'lively'; Mdr. pe/roa 'to summon' Sad. roa-roa 'talk/cry loudly, make lots of noise'. Bare'e, Parigi, Mori roa 'lively' could reflect either source, cf. also BI ruah 'to call'.

165. Bug. ɨrrɨq (BWB, rejected by informants), Mak. (and Bug. informants) m/arreq (irregular), Sad. m/arraq, SekoP p/araq 'tight'; Mass-Mai. pa/erreq/i, SekoP mempaparai 'to tighten' < PSS *ɨrrɨ(t). On the basis of Ml. ĕrat, Tag. higit, Bis. hugot 'tight' < PAN *hɨɣɨt (reconstructed by Blust, 1970). Mak. and Mai./-eq/ is irregular, though explicable (see §§3.6.1c and 3.9.2.). Mai. /e-/ shows assimilation of *ɨ.

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166. Bug. k̇rraq 'howl'; Mdr. arraq 'cry loudly (of a child)'; Sad. karrak 'scream, yell; loud cry of a bird'; DuriK karrak, SekoP karraka (/kȧrrak(a)/?) 'to cry' < PSS *k̇rrak, perhaps relatable (as an early "intensive" form?) to Blust's (1970) PAN *k̇raq 'cry; chatter (of monkeys)'. Other relatable SSul forms appear to embody sound-symbolism: Mdr. irriq 'to shout'; Sad. kirrik 'shrill penetrating noise' and k/um/errek 'squealing of slaughtered pigs'. Finally, SekoL kirak 'to cry' is no doubt related, though irregular.

167. Bug. ir̈q (suffixed forms with both -kk- and -ss-), Mdr. maq/eras, Sad. iraq, DuriC mang/irah 'to slice, carve' < PSS *iras. Cf. Tag. hilas = hilis 'to cut, slice'; Jav. BI iras 'of one piece' < PAN ?*hiras, doublet of Dempwolff's *hiris. The latter is reflected in SSul in DuriK mang/iriq 'to slice', SekoP mang/ere-ere 'to chop, hack, BI meng-iris2'.

168. Bug. m/ṙrrung, Mak. maq/marrung, Sad. n/urrung 'make a droning noise (e.g. a motor); to rumble' < PSS ?*ṙrrung. While there is a clear onomatopoetic element, the following may be related: Tag. ũgong 'loud noise; murmur, thunder'; Bis. hugõng 'hum, drone, buzz' (the initials are contradictory); Tonga uõ 'crowded and noisy'. If cognate, these all point to a probable PAN ?*(hØ)ṙɣung, with To. from a metathesized (?) *(hØ)uɣṙng > POc. ?*uo.

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Perhaps related to the above, and certainly related to each other within Sad. itself, are Sad. moron 'rumble/crash when a large object falls' and m/orron 'give off a low, broken, hoarse sound'.

169. Bug. taru, Sad. taru 'deaf'; Sad. pa/taru 'deafen with a loud noise', me/taru/an 'be unable to hear because of surrounding noise'; DuriK ma/-tarru '1. loud (noise); 2. deaf'; SekoL taru 'deaf'; me/taru 'noisy'; SekoP mi/taru 'noisy(?)' < PSS *taru. Cognates outside SSul are unknown. The DuriK /-rr-/ may reflect an "intensive" form. The SekoP meaning is questioned because the form was actually given for 'storm, BI ribut'-- however, ribut can also mean 'noise, commotion' and I believe the informant so interpreted it.

170. Bug. Mak.-Turateya boro 'swollen'; Mmj. boro, boho, Seko boro 'sated' < PSS *boro. Cognates outside SSul are unknown.

171. Mak. bĭrisiq, Mak-Konjo hirisi (sic, = hĭrisiq?) 'bored with; dislike'; Sad. ma/biriq DuriC ma/birih, DuriK ma/biri 'angry'; Sad. ka/-biriq, DuriC mang/ka/birih, DuriK ka/biri 'to hate' < PSS *biris. Mdr. mam/bireq 'to hate' is irregular with /-q/ for expected /-s/. Outside cognates are unknown.

(5) Since the PAN contrast *r : *γ appears to have been retained in PSS in final position (see §3.6.2b), the question naturally arises whether there is evidence

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for its retention in other positions. A firm answer cannot be given at this point, since the languages which point to retention, unfortunately, are those for which the least and poorest data are available-- PUS, Mmj. and Seko, sometimes Mdr. too. In these languages, we occasionally find ø where /r/ (or secondary /h/) would be expected:

172. Bug. Sad. DuriK ratuq, Mass-End. Mai ratu, DuriC ratuh; versus Mdr. atus, Seko atuq 'hundred' < PSS *ratus, PAN *ɣatus. Toraja languages also usually have ø: Bare'e, Ledo atu 'idem'.

173. Bug. (BWB) russuq, (informants) rusuq, Mak. rusuq; versus Sad. usuk, Mdr. usuq, PUS (V) oseq, Mmj.(A&K) usu, SekoP ɓsoko 'ribs'; SekoL usuq, SekoP ussu 'house-poles' < PSS *rusuk, PAN *ɣusuk. There is no explanation for the /-ss-/ in the Bug. and SekoP forms.

174. Bug. duro 'sauce, broth'; Sad. duro 'oily film, or fat globules, on top of water or sauce'; DuriK duro 'sauce, broth'; versus Mdr. duo 'sauce'; SekoP ruo 'honey' < PSS *(d)uro, PAN (Dyen) *Zuɣuq meaning 'juice; sauce; sap; blood' in various languages.

Compare also Exs. 46 and 132 above: 46 PSS *lari 'rün' (PAN *laɣiw), 132 PSS *dara 'blood' (PAN *(dḍ)aɣaq).

There are a few other examples, but the total number is hardly sufficient, it seems to me, to warrant positing the contrast *r : *ɣ initially and intervocalically in PSS. Other irregularities in the examples also tend to militate

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against the hypothesis, and suggest rather that the items in question are either borrowings, or remnants of a Toraja substratum. As should be clear, the usual reflex of PAN *ɣ in those languages is ∅. Further data from the isolated PUS/Seko area, however, may eventually lead to a revision of PSS in this regard.

(6) Comparisons with known PAN etyma have revealed three clear exceptions to the rule PAN *ɣ > PSS *r > modern /r/:

175. Mdr. guma 'sheath, scabbard' (cf. Bare'e guma 'idem') presumed cognate with PAN *ɣumaq 'house'.

176. Sad. gaun, Mdr-Bal.(A&K) gahun, PUS gahung, SekoP kahung 'cloud'-- traceable on this evidence only to a PSad. *gawun. Dempwolff, however, reconstructed *ɣa(m)bun. Bare'e has gawu 'idem' also irregular (expected **awu). Some Philippine languages in which *ɣ apparently does <u>not</u> > /g/ also show a form reflecting *g-; it is possible, therefore, that a doublet existed at some stage.

177. Mdr.(A&K) bagang, Sad. buang, Mmj.(A&K) bahang 'molar', cf. PAN (Dw) *baɣang. This word shows irregularities in many IN languages; recent scholars have amended the reconstruction to show a medial cluster-- e.g. Charles' (1974) *baɣqang. There is little evidence for the retention of *-Cq- clusters into PSS. One might hypothesize that the Mdr. /g/ is due to the "hardening" of

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the velar *γ under the influence of the glottal *q, but since this is a unique example it seems more logical to assume borrowing. As for the Sad. form, neither the /u/ nor the loss of the medial consonant(s) can be explained. The Mmj. form could regularly reflect the expected PSS *barang.

3.4f. PSS *j, initially and medially, is reflected as follows: Bug. Mak. Mass. /j/, Sad. /d/. Mdr. shows both /j/ and /d/, with the former predominating but even so, possibly a borrowed phoneme. Unfortunately, the number of cognates available from PUS, Mmj. and Seko is so low, and they are so suspect, that a definite statement would be out of order; we note the occurrence of both /j/ and /d/ in all three languages. Seko /j/ can, with some confidence, be ascribed to borrowing. The comments made above in §3.3a on PSS *c and *ñ apply here as well: it is possible that the palatals had a marginal status in PSS, being perhaps in process of merging with other sounds, and that instances of /j/ are due to Ml. or Jav. influence. Examples:

178. Bug. jangkoq, Mak. janggoq, Mdr. janggoq, Sad. danggoq, Duri PUS Mmj. janggoq < PSS *jang-gu(t), PAN *janggut. On Bug. /ngk/ as the regular reflex of PSS *-ngg- see below §3.5.2d; the form janggoq also occurs in Bug.

179. Bug. jaji, Mak. Mdr. jari, Sad. dadi, Mass. jaji, PUS jari, PUS-Aralle (V) dahi, Mmj. jari, SekoP jadi 'to become; be born' < PSS *ja(d)i, PAN *jadi. The medial /j/ in Bug. and Mass. must

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be due to (sporadic) assimilation of earlier *d to the final vowel; the Mass. forms are probably borrowed < Bug.

180. Bug. Mak. jarung, Mdr. rarung, Sad. darun, DuriK jarung, PUS darung, SekoP jarung 'needle'; SekoP man/daung 'to sew' < PSS *jaru(m?), PAN *jaɣum. One or another of the Seko forms must be a borrowing. The irregular Mdr. /r-/ presumably reflects an earlier **d.

181. Bug. Mak. jarang, Sad. darang, Duri jarang, Mmj. dahang, SekoP jarang 'rare, seldom' < PSS *jarang, PAN *jarang. Perhaps < Ml. jarang 'idem'.

182. Bug. Mak. jaiq, Mdr. raiq, Duri jaiq, Mmj. daiq 'to sew' < PSS *jai(t), PAN *jaqit. Sad. dasiq 'idem' if cognate appears to be a corruption of Ml. jahit (pronounced jait)-- perhaps borrowed at a time when the h was still pronounced.

183. Bug. Mak. jama, Sad. jama, dama, Mass. jama, SekoP mang/kama 'to work' < PSS *jama, PAN *jamaq, but more likely < Ml. jamah 'idem'. Seko reflects earlier **gama, marked as a loan by the /g/; cf. Ledo ne/gama.

184. Bug. jälloq, Mdr. jolloq, Sad. dullok, dollok, dulluk, DuriK julluq, DuriC jilluk, Mmj. jolloq 'to point'; Mdr-Camp.(A&K) pi/dolok index finger' < PSS *jälluk, with assimilation of the *ä in all but Bug.

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PSS *j following *i̇ is attested in just one clear example, in Bug. and Sad. only:

185. Bug. li̇jjuq, Sad. loqdoq 'to pour out' < PSS ?*li̇jju(C). SWB cites Bare'e lojo 'idem'.

It is worth noting that the sequence *-i̇jV- was very rare in PAN: only two out of fifty-one examples of *-VjV- (see Chrêtien 1965:253), reflected irregularly (or not at all) in SSul. On the basis of the development of other consonants following *i̇, however, we would predict Bug. Mak. Duri /qj/, Sad. /qd/, the remainder in doubt.

In the remaining intervocalic environments, the reflexes are the same as for initial position. In Mdr., however, the single clearly non-borrowed cognate shows /nd/ < *ñj.

186. Bug. wujuq, ujuq, Mak. bŭjuruq 'stretched, long'; Mak. ŭnjuruq, Mdr. ne/undur 'sit with the legs stretched out in front' < PSS *(b)u(ñ)jur; forms with ∅ initial are assumed to show loss of w before /u/. DuriC bujuh 'to lay out a corpse' is clearly cognate; Sad. buyuq 'stretch out to full length', however, because of the /y/ < *j, is presumed to be borrowed. Cf. Ml/BI bujur 'stretch', bĕlunjur 'sit with legs stretched out', Jav. ujur 'stretch out'; these suggest a PAN *bu(ñ)jur.

187. Bug. Mak. tuju, Sad. tudu 'aim, intention'; Mass-End. mat/tuju 'go towards, head for' < PSS *tuju, PAN *tuju, if not borrowed < Ml. tuju 'idem'.

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188. Bug. Mak. Mdr. taji, Sad. tadi, taji 'steel spur for a fighting cock' < PSS *taji, PAN *taji.

189. Bug. aje, Sad.(poetic) ade, Sad-Paloppo (Adriani 1898a) kaje, Duri aje 'foot, leg' < PSS ?*(k)aje. One of the few examples of PSS *j which does not have a cognate in Ml. or Jav. The word seems to occur elsewhere only in Wotu (aje), perhaps in Badaq, Besoa (A&K) pang/ade/a (?) 'afflicted with cracks in the sole of the foot'.

There are isolated instances of /r/ corresponding to a known PAN *j:

190. Sad. arak 'to call upon, to urge on', if cognate with Ml. Jav. ajak 'to urge, to invite'.

191. Mak. arĕng (< are+ang), Sad. Duri are 'chin'; probably in SekoP hurare 'beard' < *huru are < *hulu are < hulu 'body hair; feather' (PSS *(b)ulu). Cf. Napu wulu are 'beard'. From these we can only reconstruct PSS ?*are; but PAN *ajay.

We find /j/ for the most part in known loan words:

192. Bug. Mak. Mdr. puji, Sad. pudi, Mass. puji, poji, SekoP puji 'to like, love' < Ml. or Jav. puji 'to praise', presumed < Skt. pūj- (pūjayati) 'honor'.

193. Bug. Mak. Mdr. Duri aji or mang/aji, SekoP meng/aji 'to chant the Koran' < Ml. mĕng/aji 'idem'. A Bug. informant stated that a base /aji/ does not occur; thus the frozen prefix /mang-/ reinforces the probability of borrowing, quite aside from the exclusively Islamic (hence Ml. influenced) context.

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Since the Seko are quite emphatically non-Islamic, I suspect that the informant simply rewrote the BI word-- the spelling, though not the pronunciation, would be the same, "mengadji".

It is worth repeating here: for only a handful of examples of PSS *j do we fail to find a cognate in Ml. or Jav. with /j/. This suggests two hypotheses: (1) that PSS had lost PAN *j by merger with *d, but some languages have regained the sound via borrowing. The presence of a phonetic [j] < *y in Bug., Duri and Mdr. dialects would have facilitated the process. (2) That merger of pre-PSS *j > d was taking place in PSS at the time it became a separate entity-- that is, there was variation within the proto-language itself. A corollary of this would be that the other palatals, *c and *ñ, must have been undergoing mergers and variation at the same time-- which is borne out, of course, in the multiple reflexes of these sounds, already discussed in §3.3a above. Again, the presence of a phonetic [c] < *s and *t (in affective forms) in Bug. Mak. and Mdr. would have facilitated the retention, or reintroduction of palatals into those languages.

The evidence, however, is ambiguous, and the question is probably insoluble.

3.4g. In Dempwolff's reconstructed PAN, there are several cases of apparent variation between *j on the one hand and *d or *ḍ on the other; that is, to account for the reflexes found in his eleven test-languages, Dempwolff had to reconstruct proto-doublets or, in a few cases,

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had to dismiss irregular forms as "unexplained". Working from the same data (and later, data from Formosan languages) Dyen (1951; also 1965) proposed that the proto-doublets could be eliminated, and the "irregular" reflexes united under a new proto-phoneme, PAN *Z. Unlike Dempwolff, Dyen made no attempt to specify what his symbol might represent phonetically, nor where it might have fitted into the phonological system of PAN; though it was assumed to have been a stop or affricate, since it also occurred with pre-nasalization. We shall return to this problem in a later chapter; suffice to say that where SSul cognates have been found, they agree with Dempwolff's reconstructions with *d or *ḍ, seldom *j, in that they show /r/ or /d/. Aside, then, from this strong tendency to have /r/, SSul languages offer little evidence for PAN *Z, and certainly not for any new contrast in PSS. Examples:

194. Bug. laliṅg, Mak. lalang, Mdr. Sad. Mass. PUS lalan, Seko dalang 'path, road' < PSS *(dr)alan. PAN (Dw) *dalan, *jalan, (Dy) *Zalan.

195. Bug. uriṅ/riwuq 'tempest' (lit. rain/storm); Mak. oran/raya 'East monsoon' (lit. rain/inland); Mdr. urang, Sad. Duri uran, PUS uran, uhang, Mmj. uran, (A&K) uhan, Seko urang 'rain' < PSS *u(dr)an. PAN (Dw) *uḍan, hujan, (Dy) *quZan. In both his dictionaries, Matthes notes that the respective bases Bug. uriṅg, Mak. orang occur only in the compounds cited; the usual word for 'rain' in Bug. Mak. is bosi.

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196. Sad. PUS turo, Mmj. tuho, Seko turo 'to point' < PSad. *turo < PSS ?*tu(dr)o. PAN (Dw) *tunduq. Dyen's *tu(n)Zuq attempts to unite cognates found under Dempwolff's *tuju 'aim, goal' (cf. our Ex. 187 above) and *tu(n)duq 'to point' together with Ml. tujuh 'seven'.

197. Bug. darame, Mak. rarame, Sad. dadame, dalame, Sad-Paloppo (Adriani 1898) jajame, DuriK jarame, PUS Mmj. dalame, Mmj.(A&K) jalame, SekoP rarame 'rice-straw; stubble'. The considerable variation to which this word is subject not only in SSul but throughout the IN area suggests that it may originally have been a borrowing, and that it has subsequently been borrowed and re-borrowed countless times over in association with rice-culture. Consequently, a single proto-form may not be reconstructible. For PSS, we suggest two proto-forms, *dame and *jame, which have then been subject to either (1) reduplication of the initial syllable, *da+dame, *ja+jame, or (2) infixation with *-ar-/-al- 'frequentative or plural marker', thus *d-ar-ame,*d-al-ame,*j-ar-ame, *j-al-ame. (We could also reconstruct *dame alone, under the assumption that the j-forms reflect the influence of Ml. jĕrami 'idem'. Dempwolff reconstructed *dayami (the infix -ay- is implicit, though not so marked) and dismissed Ml. as irregular since his other languages-- Tag.

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and Jav. showed /d-/; however, Tag. dayami contains an irregular *ɣ > y (for expected /g/), while closely related Bisayan-- not used by Dempwolff-- has a doublet, dagami, lagami, which would reflect Dempwolff's *ḍ. Another explanation of Ml. jĕrami is that /je-/ is a prefix, of unclear meaning but found with some other plant and animal names (e.g. jĕnangau 'rice insect', jĕlatang 'nettle sp.', cf. Jav. lateng 'idem'); in such a case, Ml. still reflects **(jV-)+(dḍ)ami irregularly with -r- for expected -d-. It would appear, therefore, that PAN *(dḍ)ami would be a better reconstruction than either Dempwolff's *daɣami or Dyen's *Zaɣami. It is reflected without change in Jav. dami 'stubble', prefixed with ?*jV- in Ml., infixed with *-aɣ- in the Philippine languages. The same etymon may also be the source of Jav. and Bug. rami 'flax, Boehmeria nivea'.

198. Mdr. ka/rao, Mmj. ma/ka/hau (perhaps misheard for makahao), Seko ka/rao 'far' < PSS *ka+(dr)ao reflecting PAN (Dw)*jauq, daiq, (Dy) *Zauq. However, Mdr.(RAP67) karambo 'idem' suggests a possible ?*ka+ra(m)(b)o, with karao, kahau showing loss of w before the rounded vowel; thus the items may not be relatable to the PAN etymon. In any case, Dempwolff's *daiq is unacceptable with its non-permitted -ai- sequence.

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His *i̇ depends solely on the rigid assumption that the /o/ of Toba-Batak /dao/ can only reflect PAN *i̇, which is not the case: TB /o/ can also reflect PAN *u. The other cognate cited under *dai̇q-- Jav. doh-- could just as well reflect PAN *dauq, which would also be the source of PSS *(dr)ao.

199. Bug. wa/ri̇lle, Mak. bi/ralle, Mdr.(Heyne) "dale", Sad. Mass. dalle 'corn, Zea mays Linn.' < PSS *(dr)i̇lle. Cf. Ml. ěn/jělai, Bare'e jole 'plant sp. with edible seeds/ears, Job's tears, Coix lachryma Jobi' (see Heyne 1950:150ff). There is no explanation for the "prefixes" seen in Bug. and Mak. Examination of the names listed in Heyne for both <u>maize</u> and <u>coix</u> suggests that PAN *ji̇lay may originally have referred to <u>coix</u>; with the introduction of maize (undoubtedly by the Spaniards, thus no earlier than the 1500's), the name was applied to the new plant. Heyne's description shows that the two are very similar in appearance, and the kernels are cooked in the same ways. Like the word for 'stubble' discussed in Ex. 197 above, however, this word in the meaning 'maize' has probably been borrowed many times over-- from Philippine languages, from Ml. etc.; perhaps too the shift from <u>coix</u> to <u>maize</u> was made independently by some groups. Thus while the SSul forms suggest that we are dealing with another etymon

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with Dyen's *Z, such an assumption is unwarranted. Note, e.g. Mori, with two forms: dole 'maize', osole (<**i̱ji̱lay) 'wild plant sp., the dried seeds are strung as beads'. The word for 'soybean, Glycine Max Merr. (Heyne 1950:814ff)' may be related: Sunda kědělе, Jav. dělе, gădělе, kědělе, Balinese kadělе, Mak. (and Bug.) kadalle.

3.4h. PSS *z is the reflex of Dempwolff's *ǧ, a palato-velar stop in his system which was reconstructed in intervocalic and final positions only. PSS *z is attested only intervocalically, and since there are very few examples, the reconstruction is highly dependent on outside evidence; the number of PAN etyma with *ǧ is also low. PAN *ǧ in turn is reconstructible only on comparative evidence--it exhibits a distinctive reflex in no single language and thus, in the absence of cognates from such crucial languages as Toba Batak or Fijian, cannot be reconstructed with certainty.

The SSul correspondences are: Bug. /s/, others /r/ (after *i̱: Bug. /ss/, others /qd/ with Mak. unclear). In the absence of a Bug. cognate, thus, PSS *z cannot be reconstructed on SSul evidence alone. Examples:

(1) Following vowels other than *i̱:

200. Bug. (and Mak.) busa, Sad. bura-bura, Mdr. bura, DuriK kam/bura 'foam' < PSS *buza, PAN *buǧa(q). Several of Dempwolff's examples show irregularities; in addition, there is a possible doublet, PAN *buγa 'spray' perhaps

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reflected in Bug. ura, pabura, Sad. pabura 'medicine'; Mass-Mai. bura/i 'treat with medicine' < PSS *bura. Cf. Ml. bura 'to spray, to spit out'; the connection apparently lies in the shamanistic practice of spitting magical substances on the affected area. Note finally, from either etymon, Sad. burra 'slime'.

201. Bug. lasa 'sick'; Mak. lara 'strong, bitter taste (e.g. of grapefruit)'; Sad. ma/lala 'burning (wound); spicy-hot'; lallaq 'fever'; DuriC ma/lala, SekoP ma/lalang 'spicy-hot' < PSS *laza, PAN *laga. Sad. Duri and Seko show assimilation from an earlier **lara. The semantic range parallels that of PSS *panas (see Ex. ... below). From the same PAN etymon, but presumed borrowed < Ml. lada 'pepper' are: Bug. ladang, Mak. Mdr. Sad. SekoP lada, DuriK lada, laqdang 'idem'.

202. Bug. using, Mdr. boring, Mmj. ohing, SekoP oring 'charcoal'; DuriK boring 'dirt on the skin, BI daki' < PSS *(b)uzing, PAN *uging (Dempwolff 1924: *buging). Sad. End. PUS SekoL and Mmj. (doublet) osing are presumed borrowings from Bug. (SekoP may in fact be <u>osing</u> too; the handwriting is not completely clear.) Since a number of Philippine languages also have <u>using</u> (see Reid 1971, item no. 44), there may have been a proto-doublet with *-s-.

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203. Mak. pirang, Sad. Duri Seko pira 'how much, how many'; Sad. Duri Seko pira-pira 'several' < PSS *piza on the basis of PAN *piǧa. Further, Mdr. pirang, Sad. Duri piran, PUS piran, "di/-pichang", Mmj. piran, SekoL pirang 'when' < PSS *pizan (perhaps *piza+an) probably reflecting PAN *piǧa+an.

204. Bug. (and Mak.) ase, Mak. Mdr. Sad. Duri pare, PUS pare, (V) "pache", Mmj. pare, pahe 'rice plant' < PSS *paze, PAN *paǧay. Mass-Mai. ase, like Mak., is probably borrowed from Bug., but cf. also Mmj.(A&K) mang/asi 'to plant rice'. An unrelated form **asi may be involved (cf. Ml. nasi 'cooked rice' < ?*in-asi).

205. Mak. (and Bug.), Mdr. Sad. Duri sura 'sharpened stake, man-trap'; Bug. (Basa Bissu) SekoP sura 'thorn' < PSS *suza, PAN *suǧa.

206. Bug. siseq, Sad. siri 'to winnow' < PSS ?*sizi, PAN *siǧi-- a good fit except for the final /q/ of Bug.

207. Mak. pallu/mara 'dry-cooked' (that is, with little liquid, as opposed to pallu basa 'stewed' lit. cook/wet); Sad. ma/mara 'dry', mara/i 'to dry' < PSS *maza on the basis of PAN *maǧa. Probably also Sad. ("intensive"?) maqda 'dry, drained (of a rice field or fish pond)'. These items are of some interest because Dempwolff cited only a Tag. cognate from the IN area.

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There are a few other examples, but cognates tend to be limited to one or two languages, and often show irregularities, like:

208. Sad. Duri illong, SekoL (heard) ilong, SekoP (written) ilong 'nose', surely cognate with PSS *iŋung, but there is no explanation for the /l/, nor for its gemination.

(2) Following PSS *i (exhaustive list):

209. Bug.(BWB) issuq, (informants) issung, Mdr. paqdung, Sad. Duri PUS paqdu, Mmj. paqdu, paqde, SekoP puru 'gall, bile; liver' < PSS *pizzu, PAN *piŋu. The final consonants of Bug. and Mdr. are no doubt due to back-formations from possessed forms e.g. Bug. issukku 'my gall' < issu+ng+ku. Mmj. paqde shows the common, but inexplicable, change of /u/ > /e/ typical of that area. The loss of /p-/ in Bug. may be due to homonymic clash with issuq 'snot', missuq 'blow the nose' related to pissuq 'to shoot out'. SekoP may not be regular, for as the remaining examples show, the Seko reflex in this environment is indeterminate. Finally, Mak. parru, Bug. pirru 'urine-smell', if cognate, may be irregular; no other IN language shows this semantic shift.

210. Bug. pisseq 'sharp tasting; ginger'; Mak. paqrisiq, Sad. paqdiq, Mass-End. paqdiʔ, DuriC paqdik (these last two "intensives"?), PUS (V) pidi, piddi, Mmj. piddiq 'sick, sore' < PSS

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*pɨzzis. Perhaps also SekoP pidiq 'urine-smell' and Mdr. paqdis 'day, daylight'-- the connection here being the burning of the sun?. Throughout the Indonesian and Philippine areas, this word shows difficult phonological and semantic changes: doublets are frequent, and perhaps the effort to unite all cognates under a single etymon is mistaken. For example, in SSul, a more logical cognate set is obtained if we ignore Bug. pɨsseq 'ginger' and substitute pɨddiq 'sick, sore'-- the set then shows a common meaning and can be traced to PSS ?*pɨddis. Further we find: Bug. pɨrriq Mdr. Sad. parriq 'difficult, sad; suffer', SekoP parri 'suffer' possibly < PSS ?*pɨrri(C). And again: Bug. pɨrraq, Mak. parraq 'bitter' < PSS ?*pɨrra(C). Bug. pɨjje 'salt' might even be ultimately related. Dempwolff's reconstructions were: *pɨ(dḍ)iq > Jav. pĕrih, Ml. pĕdih 'painful, smarting' (the Ml. doublet pĕdis was ignored!); *pɨǵɨs > TB pogos 'poor', NgD. peres 'sick', Fi. vocota, vosota 'suffer'; *pɨḍɨs > Jav. pĕḍĕs Ml. pĕdas 'spicy-hot'. Dempwolff's only Philippine language, Tagalog, happens to lack cognates for these words, but a wealth of forms exists in other Philippine languages which suggest that Dempwolff's reconstructions could be revised to *pɨ(dǵ)iq, ?*pɨ(dǵ)is, *pɨǵɨs. If the SSul developments are correctly reflected in the

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cognate set as originally given (i.e. with Bug. pɨsseq included), then Bug. pɨddiq 'sick' must be ascribed to outside influence-- most likely Ml. pĕdih, pĕdis 'idem'. The Jav. form of the word-- pĕrih-- could be the source of SSul forms reflecting ?*pɨrri(C). The Bug. and Mak. words for 'bitter' may reflect Ml. pĕdas.

211. Bug. ɨsso, Mak. Mdr. Sad. Mass. PUS Mmj. allo, SekoL (heard) allo, SekoP alo 'day, sun' < PSS *ɨlzo reflecting PAN *a-l-ǧaw. Whether these forms can be derived from a single etymon is, again, a difficult question. Many Philippine languages show that the proto-form sometimes had an infixed *-l-: Isneg qalgaw, Tausug (with metathesis) qadlaw 'sun', among many others listed in Reid 1971, < Proto Philippine *alǧaw (Charles 1974, with orthographic change of his *j to my *ǧ). Bug. ɨsso could derive from a proto-form (*ɨzzo) without the infix (assuming it was optional), but we should expect /-qd-, -qr-/ in the others in that case. We must therefore assume that since the cluster *-lz- is unique to this example, it underwent a unique development. Probably first *-lz- > *-lr-, followed by <u>progressive</u> assimilation *-lr- > -ll-; Bug. on the other hand shows the more expected development: *-lz- > *-ls- > -ss- by regressive assimilation[15]. Finally, we assign the initial *ɨ to PSS, an irregular change of PAN *a

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but one noted with varying degrees of regularity elsewhere, as Charles has pointed out (1974:2)--

> In a wide array of languages or language groups ...secondary changes take place conditioned by medial consonant clusters.... The vowel in the syllable preceding the cluster is replaced by secondary *ɨ.... (my orthographic change of Charles' *e to my *ɨ)

212. Bug. sumɨrrɨng, Mdr. sumarrang, Sad. sirrin, SekoP sirring 'ant'. Dempwolff (1924) reconstructed *sɨǧɨm, but in view of the irregularities in the SSul forms, we consider this word a loan (from an unknown source; a reflex does not occur in Ml. or Jav.), probably from a form like **sɨrɨm. Otherwise, we should expect Bug. /-ss-/, Mdr. Sad. /-ɋd-/; Sad. and Seko /i/ seems to show raising and fronting or *ɨ (during a stage **sɨrɨn) in the environment of preceding and following consonants marked [-grave, +diffuse].

In view of the manifold irregularities in the above examples, one might question whether it is necessary to posit PSS *z. (It is unnecessary to posit the corresponding nasal cluster *nz, as will be shown in §3.5.2e.) Bug. ɨsso, busa and using seem particularly convincing, however, in view of the known etyma. The principal argument against calling the Bug. forms with /s/ loans is that the change PAN *ǧ > s is very uncommon in Indonesia, and has not taken place in any IN language with which Bug. is known to have had extensive contact; and if a borrowing situation were responsible for these words in Bug., one would surely expect

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to find instances of /s/ in the other SSul languages too. The alternative-- that Bug. is not directly related to the other languages-- is inconceivable in the face of all the other evidence. Finally, Dempwolff's *ǥ is reflected so variously (and often irregularly) in other languages that the problems associated with its reconstruction can very likely be traced back to very early proto-stages. We shall return to this point again in Chapter 4.

3.5. Nasal clusters. Now that the plain stops of PSS have all been described, we can discuss the prenasalized stops, or nasal clusters. In PSS, as in PAN, it appears that only true consonants could undergo prenasalization-- that is, only those sound marked in a feature system as [+obstruent], or [+consonantal, -vocalic]. Examples already cited have shown that this process was also, apparently, variable or optional, with the result that reconstructed forms occur with the shape CV(N)CV, with some languages reflecting CVCV, others CVNCV. In PSS, these clusters are reconstructible with certainty only in intervocalic environments; it is true that several of the languages permit /NC/ in initial position as the result of morphophonemic processes but these are most likely independent developments. Likewise in Dempwolff's PAN, nasal clusters were reconstructed only intervocalically, again despite evidence that some IN languages permit, or permitted, such clusters initially, and despite the appearance in Oceanic languages of clear reflexes of *NC in initial as well as medial position. In no AN language are these clusters reflected finally[16].

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The purpose of the optional prenasalization in PAN has not been determined; it may have been a purely phonetic phenomenon, or may have had some morphological value. Adriani believed that prenasalized stems (in Bare'e especially, but also generally) had a somehow more "intensive" meaning; Hockett (1974) provides a convincing hypothesis about the morphological function in Proto-Fiji-Polynesian. In the SSul languages, as in IN languages generally, nasalization or prenasalization in initial position is a feature of the verbal system.

Another area of difficulty involves the phonetic nature of the nasal. For Dempwolff, who seems to have view it as an optional and purely phonetic accretion, it followed that the nasal must always have been homorganic with its consonant. (And if the clusters are analyzed as units, this view is almost obligatory.) At least one recent scholar, Blust (1970:111), has proposed, first, that the nasal was an infix, of as yet undetermined morphological value but parallelwith the -r- and -l- infixes seen elsewhere in PAN, and second, that it was a velar nasal. In most languages, and in almost all environments, this later assimilated to the following consonant. The principal support to this argument is the presence of the sequence /ngs/ in Ml. and Jav. in place of expected /ns/ (or perhaps /ñs/, since /s/ is a systematic palatal in these languages); and assuming a relationship between "infix" *-ng- and the nasal found in the verbal prefix *maN- (*mang- under this analysis), then the occurrence

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of the allomorph /mang-/ before vowels and non-obstruents is also evidence-- though weak, since analogical and paradigmatic pressures could be responsible. (Note also that *mang+sV... results in Ml. meñV..., Jav. *ng+sV...> ñV... or nV....) The other languages claimed by Blust to show retention of this *-ng- are not discussed. Simply from the viewpoint of Ml. and Jav., the occurrence of /ngs/ can just as easily be called a dissimilation as a retention, and one could speculate endlessly about its origin. Perhaps it is due, for example , to something as slippery and ill-defined as native concepts of what does and does not constitute an euphonious sequence.

Interestingly, there could be supporting evidence for Blust's position in the SSul languages. First, note that in Duri-- quite retentive in some other respects, too-- the base form of the verbal prefix is /mang-/. But unfortunately, while the nasal does not assimilate in most cases, it does do so before /s/. Second, and somewhat more compelling, in the archaizing language of the Sa'dan texts (van der Veen 1965, 1966) a number of items occur with a velar nasal preceding consonants other than /g k/ in positions which do not seem to contain morpheme boundaries. For example: ongliq (~ oli) 'to call, summon'; tangdoq (~ tandoq) 'front gallery of a house', perhaps related also to tadoq 'sacrificial pole, erected in front of the house at certain rituals'. The dictionary lists about fifty such items all told; this figure includes several double listing (e.g. anglaq, manglaq, identical in meaning--

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and the listing under anglaq makes clear in fact that only the prefixed form occurs), and several forms relatable either by metathesis or vowel-variation (e.g. dongloq, longdoq 'to creep', langsaq, langseq 'the langsat-fruit' probably < Ml.) and so on. Without exception, the /ng/ occurs only before the dental consonants: before /d/ several examples, /l/ many, /s/ several, and /r/ one example. In all but three cases, the preceding vowel is /a/ or /o/, and this in all probability is the conditioning factor. (The three exceptions are: (1) bingsu (~ bissu) 'native priestess', a known loanword, probably < Bug. bissu 'idem'[17] via Ml/Jav. ultimately < Skt. bhikşu 'sage, hermit'. (2) pungsa 'curved end of a roof-beam' (cf. Ml. puncak 'tip, peak'). (3) mengleq 'clearly visible', perhaps borrowed and reanalyzed < Bug. eleq, meleq 'idem'.) Many of the items are marked "poetic", hence liable to be archaic; the possibility exists too that they have been deliberately deformed precisely to give them a poetic/religious connotation. In the data provided to me by two young informants (in their twenties), only one such form occurred-- banglaq 'new'; the others were replaced either by unrelated lexical items or by forms lacking the /ng/; consequently it is safe to assume that the majority are no longer current, and especially in the language used by Christian converts (as my informants' families were). Thus, evidence which appeared to support Blust's hypothesis turns out not to do so. There is therefore no reason to reconstruct heterorganic clusters with /ng/ within PSS word-bases.

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The question whether the nasal clusters of PSS and PAN should be considered as clusters or units will be dealt with in later sections. In terms of the present-day languages, it is most economical to view them as clusters.

3.5.1. PSS nasal + voiceless consonant.

3.5.1a. PSS *mp is reflected in the languages as follows: Bug. Mdr. /pp/, Mak. /mp/, Sad. Mass. /mp/, and /pp/ in a large number of items, which I believe reflects dialect variation; PUS, Mmj. SekoP /mp/, with occasional /pp/ in PUS and Mmj.; SekoL probably /pp/ on the basis of the change observed at morpheme boundaries-- the only SekoL cognate with morpheme-internal *mp is a likely loan. Examples:

213. Bug. loppo 'big'; Mak. Sad. Duri PUS Mmj. SekoP, SekoL lompo 'fat' < PSS *lompo. Mass-End. and Duri (RAP72) loppo probably show Bug. influence.

214. Bug. tappaq, cappaq, Mdr. tappaq, Sad. tampak, SekoP tampaka (/tám̆pak(a)/?) 'tip, point, end' < SS *tampak. Mak. cappaq 'idem' is presumed borrowed < Bug., Mak. appaq 'idem' is no doubt related too, but irregular.

215. Bug. lappoq, Mak. lám̆poroq, Sad. lampoq DuriC lampoh 'pile, heap' < PSS *lampoɣ.

216. Bug. sa̱ppulo, Mak. sampulo, Sad. Duri sangpulo, Mdr. sappulo, PUS Mmj. SekoL sappulo, SekoP sampulo 'ten' < PSS *sa̱N- 'one' + pulo 'ten'.

3.5.1b. PSS *nt is reflected in parallel fashion as Bug. Mdr. and perhaps SekoL /tt/, Mak. SekoP /nt/, Sad. Mass. PUS, Mmj. /nt/ and /tt/. Examples:

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217. Bug. wittoeng, Mak. bintoeng, Mdr. bittoeng, Sad. bintoen, Duri bintuin, bentuin, PUS bittoen, Mmj. SekoL bittoeng 'star' < PSS *bintuin.

218. Bug. sittaq, Mak. sintaq, Sad. Duri sintak, SekoP sintaka (/síntak(a)/?), Mdr. sittaq 'to jerk, pull sharply' < PSS *sintak.

219. Bug. uttuq, Mak. kulantuq (< earlier **k-al-untuq?), Mdr. uttiq, Sad. Duri guntuq, Mass-End. guttuq, SekoP kuntuq 'knee' probably < PSS *guntu(C), with irregular devoicing of the initial in Bug. Mak. Mdr. (and subsequent loss of /k-/ in Bug. Mdr.). Surely related, but with affixes which are difficult to account for: Bug. mak/kalutuq, Mdr. me/palinguttiq, Sad. malinguntuq, malimuntuq, SekoL mo/kakuttuq, SekoP mu/kalimuntuq 'to kneel'.

Some examples showing the development in SekoL, across morpheme boundary: SekoL mattokaq, SekoP mantokaq 'to touch, handle'; SekoL mattibe, SekoP mantibe 'to pour out'.

3.5.1c. PSS *ñc is rare, and attested with certainty only in Bug. Mdr. /cc/, Mak. /ñc/; single examples in Sad. and Duri show expected /ss/ and /ñc/ respectively. Cognate forms are lacking in the PUS, Mmj. and Seko data, but see below, Ex. 240. Examples:

220. Bug. ciccing, Mak. ciñcing, Sad. sissin, Duri ciñcin '(finger-)ring' < PSS *ciñcin. Not the best example, as it reflects a PAN reduplicated monosyllable, *cincin.

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221. Bug. goccang 'to shake up', Duri goñcang 'to stir' < PSS *goñcang, ?*guñcang.

222. Mak. puñca, Mdr. pucca 'that part of a sarong where the pattern is completely different' < PSS *puñca. (In a Mdr. sarong, the pucca consists of twenty vertical stripes close together; in SSul, as indeed also in Java, this part of the sarong is worn to the rear.) A connection with Sad. pungsa, cited above, is possible, via the general sense "(decorated) end or tip of something."

223. Mak. (and Bug.) bõñcoroq, Mdr. boccor 'leak' < PSS *boñco(r), ?*buñcu(r). Possibly also a loan word, in view of Ml/Jv. bocor 'leak' or Jav. buñcur 'to bleed'.

3.5.1d. PSS *ngk, again parallel with the others, is reflected as Bug. Mdr. SekoL(?) /kk/, Mak. SekoP /ngk/, Sad. Duri Mass. PUS Mmj. /ngk/ or /kk/ variably. Examples:

224. Bug. bɨkkaq 'tight (e.g. clothing)'; Sad. bangkak, Mmj. bangkaq 'swollen'; Mass-End. bakkaʔ 'full, sated (said of chickens)' < PSS *bɨngkak; *bɨ(ng)kak is equally possible[18].

225. Bug. bukkang, Mdr. buqang, Sad. Duri Mmj. bungkang, SekoL bukkang 'crab' < PSS *bungkang. Mdr. /q/ for *ngk or *k occurs in two or three cases, but is apparently irregular.

226. Bug. lika 'to go', lengka 'to depart, to move away from'; Mak-Sal. lingka, Sad. lingka, likka, Mass. l/um/ingka 'to go, to walk' < PSS

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*lingka, perhaps *li(ng)ka. Bug. lika could be a mis-reading (from an old text) of likka, if the word was no longer current in Matthes' day. Bug. lengka is most likely borrowed.

227. Bug. sakkaq, Mak. sângkaraq, Sad. sangkaq 'broad'; Sad. saqkaq, DuriC sangkaq, SekoP sumangkaq 'to open up, swell, enlarge' < PSS *sangka(r). Bis. sangkad 'wide, extensive' and Jav. sĕkar 'to bloom', if cognate, suggest PAN *sɨ(ng)kaḍ; if so, both vowels of the Bug. form are irregular (see §3.6.2a regarding PSS *-ar).

3.5.1e. PSS *ns is attested as a nasal cluster in a very few forms from one subgroup (PUS, Mmj.), but its presence can be inferred in other cases where /ss/ occurs after vowels other than *ɨ. Examples:

228. Bug. issɨng, Mak. asseng (metathesized vowels?), isseng (loan?), Mdr. Sad. PUS Mmj. issan, PUS-Aralle (V) insan, Duri issen, SekoL issang, SekoP isang 'to know' < PSS *insA(n). SekoP also (in a different hand) pa/issang 'clever, capable'; further too, Duri issan-issan 'common, well-known'. In the absence of an outside witness, both the final (PSS *m or *n) and the prefinal vowel (*a or *ɨ) are ambiguous. Cognates do occur in Toraja languages-- Bare'e íñcani Parigi iñjani (both regularly reflecting *ns), Ledo nang/isani, Napu isa 'to know'-- but these may be borrowings from SSul; Bare'e, with its

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/i/ support-vowel and original-penult stress[19], almost certainly is. Thus the proto-form must remain ambiguous.

229. Sad. dassi 'a bird sp.'; PUS dassi, dansi, Mmj. dangsi 'bird (in general)' < PSad.*dansi. Equally possible is *dɨnsi, in view of Bare'e tonci, Mori tonsi 'bird spp.' (irregular initials); but on the other hand Bare'e dañci, tadañci 'substitute term for chicken' and Jav. teḍasih, keḍasih 'a bird sp.' point to ?*ḍa(n)siq.

230. Mdr. ma/issang 'sour'; Sad. essun 'sour; in a bad mood'; Mmj. insung 'vinegar' < PSS *insɨ(m?). Cognacy with PAN *asɨm is certain; Charles (1974) reconstructs *alsɨm, and notes secondary changes of pre-cluster vowels to *i (as well as to *ɨ) in various areas. Mmj. /ns/ here against /ngs/ in Ex. 229 is probably due to the preceding vowel.

3.5.2. PSS Nasal + voiced consonant.

3.5.2a. PSS *mb is reflected as Bug. /mp/ SekoP /mm/, all others /mb/. Examples:

231. Bug. tamping 'privy, outhouse'; Mak. tambing 'small house behind the main house, either for rental or for poor relations'; Sad. tambing 'addition to a house; slaves' quarters'; SekoP tamming 'house' < PSS *tambing.

232. Mak. Mdr. Sad. Duri Mmj. kambang, SekoP kammang 'swollen' < PSS *kɨmbang; PSS *ɨ on the basis of PAN *kɨmbang.

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233. Bug. empuru, Mak. kimburu, 'jealous, jealousy'; Mdr. meq/imburu/i 'be jealous of...'; Sad. kimburu, Duri kemburu 'jealous(y)' < PSS *kimburu, PAN *buru or buyu.

234. Bug. Mak. bembe, bembeq, Sad. SekoL bembeq, SekoP bemme 'goat' < PSS ?*bembe(C?). Undoubtedly onomatopoetic, which may account for the irregularities. Cf. OJ wiwi, Sasak bembeq 'goat', Ledo no/mbee 'to bleat'.

235. Bug. (Old Bug.) warimpang, Mak. barambang 'chest'; SekoL balambang, SekoP balammang 'stomach' < PSS *bimba(N) with infixes *-ar- and *-al-.

3.5.2b. PSS *nd is reflected as Bug. Mak. /nr/, SekoP /nn/, all others /nd/. Examples:

236. Bug. m/anre, Mak. kanre, Mdr. umm/ande, Sad. Mass. kande, k-um-ande, PUS Mmj. umm/ande, SekoL m/ande, SekoP m/anne 'to eat' < PSS *kande.

237. Bug. Mak. tanruq, Mdr. tanduq, Sad. tanduk, Mass-End. tanduɣ, PUS Mmj. tanduq, SekoP tannuku (/tãnnuk(u)/?) 'horn' < PSS *tanduk.

238. Bug. Mak. tinro, Mdr. Sad. Mass. PUS Mmj. tindo 'to sleep' < PSS *tindo. In Sad. and Mass., the word can also mean 'to dream'.

239. Bug. inring, Mak. inrang, Mdr. indang, Sad. Mass. PUS, Mmj. indan 'to borrow' < PSS *inda(m?); note PAN (Dw) *hiñjam, hi(n)dam. SekoP indang (expected *innang) must be a loan.

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The change *nd > Bug. /nr/ is of interest. If *nd had followed the same development as the other voiced nasal clusters, we sould expect Bug. */nt/, but there is not a single example of such development. The Bug. reflex could be due to extensive contact with Mak., where *d > /r/ in all environments; but it could also be explained as an early Bug. change, taking place before the general cluster-devoicing. Thus with the change of *d > r /n—, this cluster was removed from the class of nasal + obstruent clusters (since /r/ is [-obstruent]) and could not undergo devoicing. Devoicing, as a matter of fact, must have taken place rather late in Bug. history; there are one or two cases of loan words which show it, the most interesting being Bug. parèngki (Mak. paranggi, Ml. peranggi, pranggi, Jav. prenggi) the earliest term for the Portuguese (later extended to any European, now replaced by Dutch terms). The original source is believed to be an Arabic or Persian word itself a corruption of Frank. Unfortunately, we do not know when Arabic, Persian or Islamic Gujerati traders first reached SSul, though it was, of course, well before contact with the Portuguese.

3.5.2c. PSS *ñj is reflected as Bug. /ñc/, Mak. /ñj/, Sad. /nd/. Duri has /ñj/ in the few examples available; Mdr. shows both /ñj/ and /nd/, while clear examples are lacking for PUS, Mmj. and Seko. Examples:

240. Bug. jañci, Mak. jañji, Sad. dandi, Duri, Mass-End. jañji 'to promise' < PSS *jañji.

Despite the regularity of these forms, the word

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may be a borrowing of Ml. jañji 'idem'. The Mdr. form-- ja$^{\tilde{n}}$ji, with "half-nasalized" /j/-- could be < Ml. or Mak. Sad. (doublet) and SekoP danti are most likely < Bug. jañci (Seko perhaps via Sad.)[20].

241. Bug. oñcoppi (< oñcong+pi), Mak. oñjong/a 'all the more..., increasingly...(BI makin)'; Sad. ondong 'exceed, surpass' < PSS *oñjong.

242. Bug. tuñcung, Mak. tuñjung 'water-lily' < PSS *tuñjung, if not < Ml. tuñjung 'idem'.

243. Bug. moñcong 'jaws'; Mdr. ka/muñjung 'snout, muzzle of an animal' < PSS *muñjung.

Note also Mdr. me/undur < PSS *(b)u(ñ)jur, Ex. 186 above.

3.5.2d. PSS *ngg is rare, but reflected as Bug. /ngk/, SekoP /ngk/ also (as would be expected, since *g > Seko /k/; but the Seko examples may be loanwords), elsewhere /ngg/. Examples:

244. Bug. angkiq, Mak. Mdr. Sad. anggaq 'price, value; to estimate' < PSS *anggi(p?). The final vowel and consonant are reconstructed on the basis of Ml. anggap, Jav. anggĕp, Madura angghĕp 'idem', PAN (Blust) *anggip.

245. Mak. tanggong, 'to carry'; Sad. tanggung 'be responsible for'; Duri tanggung/an, SekoP tangkung 'to carry' < PSS *tanggung. SWB notes specifically that the Sad. form is < Ml. tanggung 'idem', and the same may be true for the others.

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246. Bug. galongkong 'dried out, empty (of coconuts)'; Mdr. galonggong/an 'noise made when a round, hollow object is struck'; Sad. gonggong 'deep (voice)', ma/garonggong 'low, hollow sound' < PSS *gonggong, ?*gunggung, with infixes *-ar- or *-al-. This appears to be a reduplicated monosyllabic root related to PAN *ŋgung 'gong'-- clearly onomatopoetic. Other forms are relatable: Mak. kalongkong (perhaps a borrowing of Bug. galongkong; the meanings are identical), Sad. k/um/alonggong-longgong 'make a hollow noise-- e.g. inside a cave', karonggong (= ma/garonggong). DuriK garonggong 'hole' seems likely also.

178. Cf. PSS *janggu(t) 'beard' already cited.

In one example, we find evidence for borrowing:

247. Mak. sengka, s/um/engka, SekoP ming/singka 'to stop by, visit'. Assuming cognacy with Ml. singgah 'idem', we can posit a PAN *singgaq which would regularly > PSS ?*singga. Seko could then be a regular reflex, while Mak. would reflect borrowing from a predicted (but unattested) Bug. *singka or *sengka.

3.5.2e. PAN *ñg would have produced PSS *nz. But just two of Dempwolff's etyma are reconstructed with *ñg, and in both the nasal is optional. Neither is reflected clearly in the SSul languages. Two PSS etyma may also reflect a PAN *ñg (or *(ñ)g) not yet reconstructed at that level, but in any event the present-day SSul languages reflect only *nd.

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Although every other nasal + obstruent cluster is reflected in PSS, we do not find considerations of symmetry sufficient grounds for positing PSS *nz. Instead, we assume that PAN *ñg̃ had already merged with PAN *nd and *ŋḍ at some stage prior to PSS. The examples are (exhaustive list):

248. Bug. ari, anri (BWB), anriq (informants), Mak. ari, andiq, Mdr. kandiq, andiq, Sad. adi (note SWB "vocative"form adiq), DuriK adi (note possessed forms adikku, adimmu etc. suggesting an inserted /q/ or nasal), DuriC adik (inexplicable /-k/, perhaps due to Ml. influence), Mass-End. andi, Mai. adiq, Duri adi, PUS Mmj. adiq, Mmj. (dialectal) andiq, Seko adi/nna 'younger sibling' < PSS *a(n)di, PAN *a(ñ)g̃i. The forms with /d/ may show influence from Ml. adik 'idem', widely used as a term of address to young boys, servants etc. PAN *a(ñ)g̃i is one of the two etyma reconstructed by Dempwolff; the other *a(ñ)g̃aw is not found in this form in PSS-- see Ex. 211 above, PSS *ȧlzo, PAN *alg̃aw.

249. Bug. linro, Mdr. Sad. Mass-Mai. lindo, Mdr-Camp.(A&K) linro, SekoP linno 'forehead; face' < PSS *lindo. Bare'e and Mori lio 'face, appearance' regularly reflect **liyo < either *lig̃u or*liɣu, while SSul and Samal (Sulu archipelago, southern Philippines) have a prenasalized form; since only *g̃ can be prenasalized, that is the indicated reconstruction. Samal lendoq

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'forehead' further reflects PAN *-q; therefore, PSS *lindo regularly < PAN *li(ñ)ǧuq. As a possible substratum item or borrowing we find: Sad. si/lio 'to look alike'. Possible but less convincing is: Bug. Mak. lio-lio 'the back part of a gunsight (i.e., which in a sense is placed against the forehead?)'.

250. SekoP mo/ronno 'to write'. J.Kruyt (1920) cites ronno 'tattooed figures on the body' and mo/ronno 'to tattoo'. Cf. Rampi (Woensdregt 1929:318) ni/rondo 'scarred'-- Kruyt claims that the Seko borrowed tattooing from the Rampi (it was no longer practiced in Seko at the time he wrote). The /y/ of Bare'e royo 'scar', as in Ex.249 above, points to PAN *(ñ)ǧ, and we can reconstruct several possible PAN etyma (using an ad-hoc symbol "*(R)" to represent the ambiguous initial *d, *ḍ or *r): *(R)ɨ(ñ)ǧɨC (pre-final *ɨ must be followed by a consonant), *(R)u(ñ)ǧu(C?) or *(R)ɨ(ñ)ǧu(C?). The last of these is strongly suggested by Lindu (northern Palu valley area) Mporandu '(Lit., the tattooed man) name of a former king who had been tattooed in Rampi' (A.C. Kruyt 1938:138). Possibly Mak. roqroq 'stick, stab, poke' would reflect *(R)ɨǧuC > PSS ?*rɨzzuC. Sad. roro 'stick a long object into a hole as deeply as possible' is irregular in not reflecting a geminate after *ɨ or the final consonant.

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If Mak. roqroq and Seko ronno are compared, it is still not conclusive evidence for PSS *nz, as Mak. /-qr-/ also reflects PSS *-dd- after *ɨ. The PSS form could be ?*rɨ(n)duC, that is, *rɨnduC and *rɨdduC.

3.5.3. Aside from the Sad. forms with /ngl/ and /ngr/, which appear to be unique to that language, there is no evidence for the existence of PSS intramorphemic clusters consisting of nasal + *l r γ w y (all [-obstruent]). Similarly, the existence of such clusters in PAN appears to be very unlikely.

One of the Sad. forms, however, may be reflected in the other languages:

251. Sad. oli, ongliq 'to call, summon': cf. Bug. m/olliq, Duri, Mass-Mai. Mmj.(A&K) oli 'to call, shout'; further Mai.(V) me/odi cited as equivalent to Sad. me/oli but not glossed, and Bug. sang/odi 'to shout agreement'. If Bug. olliq and odi are viewed as borrowings from the Mass. area, then /ngl/ can still be limited to the Sad. subgroup. The /d/ could arise as follows: *ngl > *nl > [$n^d l$] > nd > d or else *ngl > ngd > nd > d. The /ll/ of Bug. olliq reflects the more expected assimilation. Possibly cognate are: Bare'e ode 'to bewail' or ui (< *uyi, regularly < *uli) 'call, cry out for someone. A proto-form (at some indeterminate level) **uli seems indicated; Sad. ongliq is

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probably a secondary "intensive" form, as both prenasalization and addition of /-q/ are employed in such cases. The forms with /d/ could be borrowed from there or, as the two Bare'e words suggest, another unrelated form **(uɨ)de may have existed.

According to Charles (1974:6, 29) Mak. sânggaraq 'to fry' reflects *ngl from the Proto-Indonesian level--*sanglaγ-- but further cognate forms are not found in the other SSul languages[21]. The proposed etymon, however, may also reflect metathesis of an earlier *...-l-ng... infixation, as Charles' best examples come from Philippine languages, where such metatheses are common. The isolation of the word in Mak. (and borrowing by other languages from Mak.) suggests that it may be a loanword in any case.

Concerning the clusters found in medial position in reduplicated monosyllables, see §3.7; regarding the possible PSS clusters reflecting earlier *-r- and *-l- infixes, see §3.8.

3.6. PSS final consonants. In this section we shall discuss the evidence for the final consonants of PSS, together with the changes observed in pre-final vowels in some of the languages.

In §2.1 we regularly focussed attention on the final consonant inventories of the individual languages and on the morphophonemic changes which they undergo. To summarize them again here (based on my own data):

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	Stops	Nasals	Continuants
Sad., PUS	q k	n ng	---
Seko	q k	n? ng	---
DuriC	q k	n ng	h
DuriK	q k	n ng	ø
Mdr.	q	n ~ ng	r l s
Mak.	q	ng	r l s
Bug.	q	ng	---

Using data reported in A&K and van der Veen 1929, we add:

Mmj.(A&K)	q	m n ng	r l s
Mdr.(A&K)	q	m n ng	r l s

The morphophonemic alternants of /-q/ (as attested only in my data) are:

(a) before *-an only:

Sad. -q > -r- or -s-

DuriC -q > -t-

-h > -r- or -s-(?)

Mdr. -q > -ø-

(b) before both *-an and *-i:

Bug. -q > -r- or -s- or -k-

Mak. -q > -k-

Whether the alternating consonants are present in underlying forms is still, perhaps, debatable; but it is clear that they reflect earlier patterns of final consonantism from which we can posit, at a minimum, PSS final *t k r l s m n ng-- and in addition a fourth continuant, PSS *-γ, reflected in Duri /-h/ and in Bug.

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Evidence for PSS final *p is not entirely lacking, though it is weak, as we shall see. In favor of its presence-- aside from the actual evidence-- is the criterion of symmetry in phonological systems. Thus a system

t k

m n ng

excites our suspicions, and fairly well cries out for the gap to be filled. Even so, since many languages of the world have gaps in their systems, we should not pontificate on this point. Where final *p might be reconstructed on the basis of internal or external evidence, it is indicated as "*(p?)".

Thus a relatively complete and-- for the Indonesian area-- typologically valid set of final consonants can be posited for PSS: *(p?) t k, m n ng, r γ l s. There is no evidence for final voiced stops, from which we assume that the PAN voiced finals underwent devoicing and merger in pre-PSS times.

The most interesting question is, how did such a system come to be so reduced in the present-day languages? Before giving our answer, we shall first establish the final consonants on the basis of the following correspondences.

3.6.1. Stops and nasals.

3.6.1a. PSS *-k is attested with fair certainty by Sad. Duri /k/ against /q/ elsewhere. Seko, PUS and Mass. also have /k/, but occasionally /q/, probably due to outside influences, in particular Bug. Obviously, an outside witness with final /k/ or /g/ is conclusive proof not only

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for PSS *-k, but also in most cases for PIN or PAN *-k or *-g. Sad. /k/ versus others /q/ in the absence of an outside witness probably reflects PSS *-k, but not conclusively, in view of the Sad. process of "intensification" mentioned above in §2.1.4.2 and noted in some of the preceding cognate sets.

Examples of PSS *-k, with a known PAN etymon or outside cognate:

252. Bug. Mak. Mdr. anaq, Sad. Duri anak, PUS Mmj. anaq, SekoL anak, SekoP (heard) ánaka[22] 'child' < PSS *anak. Mass. forms cited in RAP72 show variation (or mis-hearing, or mis-prints): End. Duri ki/anaq, Mai. keanaq, Patt. ke/anang 'have a child'; End. anaƛ ciaƛ 'baby chick', kanaƛ-kanaƛ 'k.o. doll'. (PAN *anak)

253. Bug. baliq, waliq, Mak. Mdr. baliq, Sad. balik 'turn around, turn; change' < PSS *balik, PAN *balik. Cf. also Sad. baliq, Mass-End. baliƛ SekoP baliki (/bálik(i)/?) 'to fade'.

24. Cf. PSS *manuk 'chicken' already cited. We can add PUS (V) (dialectal) manöq, mänö 'idem', cited as "transitional" stages of the change u > e found in much of the PUS area; in §3.9.2 we propose an explanation for the phenomenon.

254. Bug. utaq, Mak. otoq, Mdr. utaq, Sad. otak, utak, Mass-End. utaƛ, Duri otak, SekoP otak, etiki (/étik(i)/?) 'brains' < PSS ?*utak, ?*utɨk.

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Unfortunately, this, the best example for possible *-i̱k, shows irregularities not only within the family but also at the PAN level-- cf. Dempwolff's doublet *u(n)ti̱k, *utak[23]. The Bug. could reflect a proto-form with *-ak, or could have been influenced by Ml. otak''idem'. Mak. would reflect *-i̱k, with schwa-assimilation. Seko etiki is difficult; perhaps < *uti̱k via (1) unmotivated change of *u (> i?) > e, followed by (2) schwa-assimilation.

Examples of probable PSS *-k, lacking outside cognates:

255. Bug. weluaq, Mdr. beluaq, Sad. Duri beluak, Mass-End. Patt. beluaʔ, Mai. beluaq, PUS beluaq, Mmj. beluaq, beluhaq, (A&K) "beluha", SekoL (heard) beloak, SekoP bahulak (metathesized < **baluhak?) '(head) hair' < PSS *belu(w)ak. The *w in this word should derive from PAN *b or *w, since Seko does not ordinarily reflect the phonetic w-glide after *u as /h/. Regarding the initial-syllable /a/ in SekoP-- there are not enough examples of trisyllabic roots in Seko to warrant an assumption that pre-tonic V > /a/.

256. Mdr. litaq, Sad. Duri PUS litak, Mmj.(A&K) "lita" 'earth, ground'; SekoP litaka (/lítak(a)/?) 'wet-rice field, BI sawah' < PSS *litak. Bug. lita 'sticky', tana ma/lita 'clay' may be related.

257. Bug. enreq, Mdr. endeq, Sad. endek, kendek Duri endek, Mass-End. endeʔ 'to climb, go up' < PSS *endek or possibly *kendek[24].

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184. Cf. PSS *jɨlluk 'to point' cited above.

81. Cf. PSS *kotik 'to poke' cited above.

In cases where an "intensive" form can be ruled out, then Sad. Mass. or PUS /-k/ allows the reconstruction of PSS *-k, as in:

258. Mdr. curuq, Mass-End. cumuruɲ 'to dive' < PSS *(tsc)uruk.

3.6.1b. PSS *-ng is reflected as /ng/ in all the languages. The same criteria apply as for *-k concerning presence or absence of outside cognates, but since the reflexes are less diverse, cases of ambiguity due to borrowing can be more frequent. Interestingly, SWB records a number of examples where Sad. /-n/ corresponds to Bug. or Ml. /-ng/, with the comment "uit het Maleisch" or "uit het Boegineesch". Occasional instances of Sad. /-ng/ corresponding to Ml/Jav. /-n/ or /-m/ are undoubtedly loans via Bug.

Examples of PSS *-ng with known PAN etyma or outside cognates:

259. Bug. waramparang, Mak. Duri SekoP barang-barang, Mass-Mai. barang-parang 'goods, merchandise' < PSS *barang, PAN *barang. Quite possibly a borrowing of Ml. barang2 'idem', though Bug. shows normal development. It is not clear whether the Mai. form shows regular development, as it is the only example for nasal + /b/ in a reduplicated form; likely < Bug. Note also Sad. (SWB) paran-paran 'idem' marked "uit het Boegineesch."

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260. Bug. Mak. Mdr. giling 'to turn, twist; grind'; Sad. giling 'to turn, twist' < PSS *giling, PAN *giling.

261. Bug. Mak. saung, Mdr. sawung, Sad. saung 'to fight (of cocks)' < PSS *sawung, PAN *sabung.

And compare the following examples, already cited:

103. PSS *(b)atang 'stem, trunk', PAN *batang.

148. PSS *li(n)dung 'shelter', PAN *li(n̩)d̩ung.

Examples of probable PSS *-ng, lacking outside witnesses:

262. Bug. Mak. Mdr. awang, Sad. awang, aang, PUS(V) ahang 'chaff' < PSS *awang.

263. Bug. ɨllong, Mak. kallong, Sad. Duri, Mass.kollong 'neck' < PSS *kɨllong. Cf. Sasak kalong 'neck-band, necklace'.

Several examples have already been cited:

99. PSS *belang 'naked'.

86. PSS *koyong 'wounded'.

139. PSS *sɨdding 'to feel, to hear'.

231. PSS *tambing 'house'.

In the absence of a Sad. cognate or outside evidence, it follows that many words attested only in Bug. Mak. Mdr. or Seko must be reconstructed with an ambiguous final nasal, symbolized "*(N)" reflecting PAN *-m, -n, or -ng.

3.6.1c. PSS *-t. Here we are in less certain territory, since /t/ does not appear as a final in any of the present-day languages. Nevertheless there are three developments which point to the reconstruction of a final dental stop. First and most important, the alternation /-q/ > /-t-/ in

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Duri (and perhaps in other Mass. dialects as yet unreported). There are also two forms with fossilized suffixes which indicate that Mdr. also once had a /-t-/ alternant. Second, a distinct reflex in Bug. of PSS *a > Bug. /ɨ/ preceding the /-q/ which corresponds to the dentals /t d l r s/ in related IN languages; similarly, *a > ɨ before the Bug. /-ng/ corresponding to /m n/ in other languages. We shall refer to this as the Bug. "schwa-dental rule". Third, a tendency in Mdr. for PSS *a and *ɨ to be reflected respectively as Mdr. /e/ and /i/ preceding the /-q/ corresponding to /t/ and some /d r/ in other languages, specifically, those reflecting PAN *t d ǰ. There are occasional examples of this (as well as in pre-nasal position, not found in Mdr.) in Mak. Sad. PUS Mmj. as well. The most examples occur in Mdr., but because the change is sporadic, we cannot call it the regular development of any one language; rather, we propose that there was one dialect group (at least) within PSS where it was a regular development, but speakers of this dialect did not form the nucleus of any single migration out of the homeland area. Consequently we find *a > /e/ before final dentals in many SSul languages, along with "regular" retention of *a as /a/. Dialect mixing and borrowing must, through the centuries, have played a role in spreading the a-forms at the expense of the e-forms.

Examples of Duri q > t, presumably reflecting PSS *-t:

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264. Bug. (informants) tukaq, SekoP tumukaq 'to climb (mountains)'; Mak. tukaq 'ladder'; Sad. Duri tukaq 'to climb, rise', DuriC tukatan 'climbing (noun, BI pendakian)' < PSS *tukat, PAN *tukat. (Though Sangir tũkadɨq 'idem' indicates PAN *tukad.) Note also Sad. tukaran 'ladder'. The /a/ in Bug. is irregular.

265. Bug. bokoq, Mak. boko (irreg. ∅ final), Sad. DuriC PUS bokoq 'back (dorsum)'; Duri(V) bokotan 'back-strap of a portable loom'[25], DuriC si/bokotan 'to depart, abandon (lit., turn the back on one another)' < PSS *bokot. DuriK jio wokoq 'behind (preposition)' shows sporadic /w/ for *b, but is probably a fossilized form, as this informant's word for 'back' was pondok. Probable cognates: Loinang (Esser 1927: 21) bungkut, Minahasa Badjo (Adriani 1900:465) bukut 'back'; perhaps also Jav. bongkot 'the thick end, front or back end, as opposed to pucuk, the tip, point'. These point to a PIN **bu(ng)ku(td). On the basis of variants-- Mak. dongkoq 'back'; Sad. lekoq 'turn around', talikuq 'back-strap'; BI pungkur 'rear end'; Jav. ungkur, pungkur 'backwards', ke/pungkur 'behind the back'; PAN *likuḍ 'back'-- we might posit a PAN root **kud, kuḍ or kuǧ. (SSul, especially Mak. /-q/, points only to *-ǧ or *d.)

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266. Bug. tikiq, Mak. tikaq 'vigilant, alert'; Sad. tikaq 'quick'; Mass-End. ka/matikaqtan [sic -qt-], Duri ka/matikat/an 'caution, vigilance' < PSS *tikAt. Note Bug. tikirri 'watch over, guard'. Probable cognates: Jav. tékad 'undertake, decide on, persevere'; BI tékad (< Jav.), tékat 'determined, strong-willed' suggesting PIN *tikad.

267. Bug. Mak. Mdr. Sad. Duri siriq 'ashamed, shy'; DuriK ka/sirit/an 'feel shy towards (someone)' < PSS *siri(t). Outside cognates are not known. Note Bug. asirising 'be ashamed of...', Sad. kamasirisan 'shame'.

Examples of Bug. /-iq/, Mdr. /-eq/ < PSS *-at, with outside witnesses or known PAN etyma:

268. Bug. paliq, Mak. palaq, Mdr. paleq, Sad. Duri PUS Mmj. Seko palaq 'palm of the hand' < PSS *palat, PAN *palaG.

269. Bug. ippaq, Mak. appaq, Mdr. appeq, Sad. Duri PUS appaq, Mmj. uppaq, (A&K) "upa", Seko (heard) upaq 'four' < PSS *ippat, PAN *i(m)pat. The /a/ of Bug. is probably due to Ml. influence (empat'idem'); Mmj. and Seko /u/ < *i probably (?) due to the following labial. Note retention of the *-t in the combining forms: Bug. pata/pulo, Mak. patam/pulo, Mdr. patap/pulo, Sad. patang/pulo 'forty' < PSS *pat+a(N)+pulo.

117. Cf. PSS *wakat 'root'. For PAN, Dempwolff reconstructed both *aka(r) and *waka(r), where

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"(r)" indicates ambiguous reflexes in the available cognates for *ḍ r γ and perhaps *d ǧ depending on the languages involved. But the single IN cognate for *waka(r) is Malegasy-Hova vahatră 'settlement in process of formation', and Hova /-tră/ seems to reflect <u>regularly</u> only PAN *t d ǧ (like PSS *-t). Mak. is irregular for both of Dempwolff's forms--if the final is a continuant *ḍ r γ we should expect Mak. ăkaraq (as indeed we do in the list of one informant, but it is probably an adaptation of Ml. akar); while the reflex of PSS and PAN *w in Mak. is unclear, it is clear that Mak. akaq can only reflect a PSS final stop.

Examples of Bug. /-i̱q/, Mdr. /-iq/, others /-aq/ < PSS *-i̱t with outside cognates or known etyma. A problem here is that all Mdr. examples involve the putative reflex of a single PAN sound, Dempwolff's *ǧ (> PSS -z-) which need not be reconstructed in (PSS) final position. In any case, for the Mdr. "dental fronting rule" it is immaterial whether the final is *t or *z, since what is involved is assimilation of the feature <u>grave</u>:

<u>Mdr. Dental Fronting Rule</u>

$$\text{Early Mdr. } \left[\begin{smallmatrix}\dot{\imath}\\ a\end{smallmatrix}\right] \longrightarrow \left[\begin{smallmatrix}i\\ e\end{smallmatrix}\right] / \text{—t\#}$$

$$[+\text{grave}] \longrightarrow [-\text{grave}] / \begin{bmatrix}+\text{syll} \\ \overline{\quad} \\ -\text{round} \\ \alpha\text{diffuse}\end{bmatrix} \begin{bmatrix}+\text{obst} \\ -\text{grave}\end{bmatrix}\#$$

(The final need not be specified as to diffuseness, since the only [-grave] final obstruent will be /t/.

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As we point out in §3.9.2, the sound change may actually have taken place via several stages.)

270. Bug. laḷiq, Mdr. laliq, Sad. lalaq, laliq, DuriK SekoL laliq 'fly (the insect)' < PSS *laḷit, PAN *laḷiᵹ. Mmj. daliq and SekoP dali show an inexplicable dissimilation of the initial. Could there have been restructuring of the PAN to PSS ?*daḷit, with /d-/ retained in Mmj. Seko, but *d > r > l / #—VlV.. in the others? Dempwolff's witnesses, especially Batak and Ml. unambiguously reflect *l-, so it is unlikely the PAN form had *d or ḍ.

271. Bug. uḷiq, Mak. oloq, Mdr. Sad. Duri ulliq, PUS olliq, PUS(V) illiq 'worm' < *uḷit, PAN *uḷiᵹ. Mak. shows progressive schwa-assimilation; PUS illiq shows the characteristic PUS change u > i, with the final-syllable /i/ due to the fronting rule. Mmj. has ile 'worm; snake' with irregular ∅ final; this calls to mind Toraja forms e.g. Napu ile 'snake' < **ule < **ulay < either PAN *uḷiᵹ or *ulaɣ (*-iᵹ and *-aɣ develop the same in most of these languages). SekoP tabulu 'worm' is not cognate; SekoL otoq might possibly show metathesis of **olot, but is probably not cognate. The SekoL informant also gave ulliq, but commented that it was a Sa'dan word.

272. Bug. posiq, Mak. poccіq, Mdr. Sad. Duri SekoL posiq, Mmj.(A&K) posi 'navel'. Just on

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this evidence, we should reconstruct PSS *posit, but Mak-Sal. posoq and PAN *pusiǧ point to a PSS *posit or *pusit. Note also the DuriK variant (with vowel metathesis and infix *-al-?) palisuq. Mak. poccіq may be borrowed from an unattested Bug. "diminutive" *poccіq < *poñciq. SekoP pisiki (/pisik(i)/?), if cognate, has no ready explanation.

273. Bug. bibbiq, balibbiq, Mdr. balaqbaq, Mak. baqbaq, Sad. baqbaq, biqbiq, DuriK Mmj. baqbaq, SekoP mam/baba/i 'to wrap, wind up; to tie up; to bandage' < PSS *biqbit, PAN (Dw) *biǧbiǧ, a reduplicated monosyllable. Charles (1974) reconstructs *bidbid, also a possible ancestor to the PSS form. (On the PSS cluster *-qb- see §3.7.)

Examples where PSS *-it and *-at are reflected as Bug. /-iq/, all others /-aq/-- by far the most common development.

274. Bug. uriq, Mak. Mdr. Sad. Duri Mass. uraq, PUS(V) "uchaq", Mmj.(A&K) "ura", "uha", SekoP uraq 'vein, tendon' < PSS *urat, PAN *uɣat. Since the Bug. form also means 'root', probably SekoL oaq, SekoP (written) oä 'root' can be included here; but the Seko forms show irregular loss (?) of -r-. (See §3.4e.(5) regarding PAN *ɣ : PUS Mmj. Seko ø.)

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275. Bug. sukiq, Mdr. Sad. Mass. Seko sukaq 'to measure' < PSS *sukat, PAN *sukat.

276. Bug. luppiq, Mak. lumpaq, Mass-End. Patt. luppaq, Mai. lupaq 'to jump'; Sad. lumpaq 'to shoot out, rush out', l/um/umpaq 'to rush at, to attack' < PSS *lumpat, PAN *lumpat. (The nasal may be optional, if Mai. is correctly transcribed.) In view of the Sad. meaning, we can probably include Mmj. lomumpaq (= lumumpaq?) 'to run'.

277. Bug. sumangiq, Mak. Mdr. Sad. Duri sumangaq, SekoP "semanga" 'soul, life-force' < PSS *sumangit, PAN *sumangit. The Seko form may show the influence of Ml/BI semangat, with the initial-syllable schwa pronounced as /e/.

In the absence of outside witnesses, Bug. /-iq/ versus others /-aq/ is ambiguous for both final consonant and vowel: either < *i + any stop, or < *a + *-(p?) or *-t.

PSS *-t following vowels other than *i and *a can be reconstructed with certainty only with the aid of outside evidence:

278. Bug. Mak. Mdr. Sad. Duri PUS Mmj. SekoL langiq, SekoP langi 'heaven, sky' < PSS *langit, PAN *langit.

279. Bug. uliq, Mak. kuliq, Mdr. uliq, Sad. Duri Mass. PUS Mmj. Seko kuliq 'skin' < PSS *kulit, PAN *kulit.

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280. Bug. Mak. Mdr. Sad. Duri lumuq, Mmj. lomoq, SekoP lomo-lomo 'moss' < PSS *lumut, PAN *lumut. Note DuriC lumuq-lumutan 'mossy'.

Cf. also the examples already cited:

149. PSS *rakit 'raft', PAN *ɣa(ng)kit.

150. PSS *ri(m)but 'storm', PAN *ribut.

159. PSS *turut 'to follow', PAN *tuɣut.

3.6.1d. PSS *-n is attested with almost complete certainty by Sad. /-n/. Mass. and PUS also show /-n/ with fair reliability though cases of /-ng/ are found; even more so is this the case in Mmj. Mdr-Majene (RAP67), like Bug. Mak. and Seko has only /-ng/, while my Mdr. informant had /-n/ and/or /-ng/, sometimes in free variation, sometimes /ng/ only. His irregularities could well result from borrowing from Bug., but also from bilingualism or bidialectism (I suspect that is the case in PUS and Mmj.), or they could be evidence of a merger in progress. For the sequence *-an, Bug. shows its typical change *a > ɨ before the dental, but in the other languages *-n seems not to have affected a preceding *a in the way that *-t did. On the other hand, *-ɨn often shows unusual and inexplicable changes in all languages. Examples:

281. Bug. Mak. taung, Mdr. Sad. Duri PUS Mmj. taun 'year' < PSS *taun, PAN *taqun. One of the few examples of /-n/ in Mmj.; influence < Ml. tahun (spoken taun) is likely.

282. Bug. tɨnnung, Mak. tannung, Sad. Duri tannun, Mmj. SekoP tannung 'to weave' < PSS *tɨnnun, PAN *tɨnun.

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283. Bug. -ɨng (~ -ang), Mak. -ang, Mdr. -an ~ -ang, Sad. Mass. -an, Mmj. Seko -ang 'nominal affix (see §2.2.2b above)' < PSS *-an, PAN *-an. A homonymous (identical?) suffix can be reconstructed in the verbal system, PSS *-an 'benefactive marker'-- in this case, Seko -ing is of dubious cognacy (see §2.2.1.2b above).

284. Bug. tɨkkɨng, Mak. takkang, Mdr. teqeng, Sad. Duri tekken, SekoL (heard) teken/na (tekeng(?) + -na 'his') 'stick, staff' < PSS *tɨkkɨn, PAN *tɨkɨn. Mdr. /q/ for expected */kk/ is unexplained; likewise /e/ in all the northern languages. Note further: Bug. tulɨkkɨng 'lean on / against'; Mak. tulekeng 'lean to the side'; Sad. tulekken 'prop, support' (cf. Ml/BI tĕlĕkan 'lean on')-- SWB calls this an "*-al- derivation" but the variant -ul- is unique. Finally, Bug. Mak. tokong, Sad. tokon 'to pole a boat or raft; the pole used for that purpose', which suggests a variant *tokon, possibly borrowed from a language such as Bare'e where PAN *ɨ > /o/ regularly. But it would have to be a very early borrowing, since final consonants have been lost in Bare'e.

285. Bug. ɨddɨng, Mak. m/aqrang, Sad. PUS erren, Mmj. mang/eqdeng, meng/eheng 'squeeze, press out (as when defecating, or a woman giving birth)' < PSS ?*ɨddɨn, PAN (Dw) *hɨdɨn, (Dy) *ɨZɨn-- thus, with variation in PAN between *d and *j.

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Bug. and Mak. reflect only PSS *-dd-; Sad. PUS /-rr-/, Mmj. /-h-/ do not regularly reflect either *d or *j. The fronting of the *ɨ > /e/ here seems to be due to the environment of preceding and following [+diffuse, -grave] consonants. DuriK mang/aqjang 'idem' is clearly related, but possibly borrowed < Ml/BI ějan. Mdr. oqdong 'swallow the wrong way; gag' is probably connected too, though *ɨ > /o/ is irregular[25]. Cf. also the developments noted above in Ex. 212 (PAN *sɨgɨm).

3.6.1e. PSS *(-p?). The only evidence for *-p lies in a handful of words whose known PAN etyma have *-ɨp, in which some SSul languages occasionally but not uniformly show a change *ɨ > /u/. This change seems to be most common in the north-west area-- PUS, Mmj. Seko-- and also (with a secondary change) in Mdr.; it may be significant that PUS and Mdr. are the only languages reported to retain /-m/. The examples (an exhaustive list):

286. Mdr. areq, (A&K) "are", Mmj. areq, (A&K) "ahe" 'belly'; Sad. araq, arasan, SekoP aruq 'chest' < PSS *arɨ(p?), PAN *ha(n)dɨp 'front'. The Mdr. Mmj. and Seko forms can be derived from *arɨp with the following rules (which affect other items as well):

(i) *ɨ > u/—labial # ("Schwa-Labial Rule")

(ii) *-p > **-t (all SSul languages)

(iii) u > /e/ or /i/ /—t# (Mdr. PUS; Mmj.?)

(iv) *-t and **-t > **-k (Bug. Mak. Mdr.)

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(v) *t > q (Sad. group)

(vi) *k and **k > q (Bug. Mak. Mdr.)

(As we show in §3.9.2, Mdr. areq cannot derive from *arɨp > arap > arat > aret > areq via the "Dental Fronting Rule" given above.) Bug. aro 'chest' is relatable, but irregular in the loss of the final; but cf. Bug. rako, Ex.291 below.

287. Bug. atɨq, Mak. ataq, Mdr. ateq, Mmj. Seko atuq 'roof (usually of thatch, BI atap) PSS *atɨ(p?), PAN *atɨp.

288. Bug. sekɨq (sekɨrr-), (informants also cikkɨq), Mak. sekeq, Sad. (informant, not in SWB) sikkuq, SekoL ma/sukuq, SekoP ma/siki 'narrow'; Sad. ma/singkiq 'narrow', singkiq 'claw, pincer (of a crab)', singkuq 'tweezers' < PSS *si(ng)kɨp assuming that all must descend from a single etymon. PAN *sikɨp. The Sad. items with /u/ against Bug. /ɨ/ are the relevant ones here; Mak. SekoP and the other Sad. forms merely show schwa-assimilation; the assimilation (?) of *i > u in SekoL is irregular. Even without the PAN form, we could suspect the presence of final *p: as a form of sound symbolism, words having to do with pinching, tightness etc. frequently end in /p/ in many IN languages.

289. Bug. isoq, Mak. isuq, Duri isaq, isoq, Mass-End. Patt. isoq 'to drink, sip' < PSS *isɨ(p?), PAN (Dw) *his(aɨ)p and *sɨpsɨp[26]. DuriK mang/isaq

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may be due to Ml/BI isap 'idem'. The /-t-/ in DuriC isotan 'place (or thing) from which one drinks' is secondary, as will be shown. Bug. and Mak. are irregular infosfar as the "Schwa-Labial Rule" is rarely found in them.

In two examples, a presumed *-p shows up intervocalically due to a fossilized suffix (Ex. 290) and to possible metathesis (Ex. 292).

290. Bug. rakapi̇ng, Mak-Sal. (with metathesis of the first two consonants) kanrapang, Mdr-Cen.(A&K) daqapan, Sad. rangkapan 'harvesting-knife'; DuriK rangkapan 'carpenter's plane' < PSS *(dr)a(ng)-kapan (< earlier ?*(dr)a(ng)kap+an). The harvesting-knife is the small, hand-held knife used to cut the individual stalks of rice (BI ani2). If the item is ultimately cognate with PAN *ḍaki̇p 'embrace', the connection would be, perhaps, the gathering up ("embracing"?) of the stalk or sheaf. See Ex. 291 next below for SSul cognates of PAN *ḍaki̇p; the *-a- before *-p-, and the *(ng), suggest that *(dr)a(ng)kapan may be a borrowing.

291. Bug. rao, ka/dao, Mak. rakaq, Mdr. si/raetti Sad. rakaq, DuriK, Mass-End. si/rakaq, Mmj. si/-hakaq 'to embrace'; DuriC si/rakat/an, Patt. si/-rakas/an 'embrace (each other); to grapple with (in fighting)' < PSS *(dr)aki̇(p?), PAN *ḍaki̇p. Sad. dakkak 'grab, grasp firmly' would be an "intensive" form; Sad. rakuq 'pick up (something

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crumbly like rice) in the hand' may also be cognate. Bug. rao, ka/dao (and Mass-Mai. si/rako 'embrace') show the same loss of the final as Bug. aro 'chest' cited in Ex. 286. Elsewhere, however, Bug. reflects *-p as /-q/, and the same would be expected of Mai.

292. Bug. kapuq 'to close'; Mak. kapuq 'tight'; Mak-Konjo sassang mak/kapuq 'pitch-dark'; Sad. kapuq 'completely covered' < PSS ?*kapu(t?). Cf. BI katup 'valve', katup+an 'close (something) tightly', gĕlap katup 'pitch-dark'; Jav. tub, tup 'press in on, crowd around', a/tub, a/tup '(of a tree) covered with fruit'. Perhaps the SSul forms are borrowings[27], but they would appear to derive in any case from *katup. The Jav. words suggest a PAN root **tub, no doubt present also in Ml. tutup 'to close, cover' < **tu(b)tub[28].

In at least two examples (one of them not yet reconstructed for PAN), PSS *(-p?) can be posited despite the limited number of SSul witnesses:

293. Bug. anr+q Sad. DuriC andaq 'k.o. phosphorescent millipede' < PSS *anda(p?), PAN *andap. Note that Bug. treates *-ap the same as *-at.

294. Bug. anc+q (BWB) 'an offering to the spirits of the dead', (informants) 'sort of tray or platform hung from a banyan tree on which offerings are placed'; Mak. añja-añja 'idem (both senses)' < presumed PSS ?*añjA(p?) < presumed PAN *anjAp on the basis of Simalungan Batak añjap-añjap[29].

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'altar erected at the dedication of a house' (It is not known whether Sim. Batak /a/ reflects PAN *a, *i or both.) On the other hand, we find also Jav. añcak 'woven bamboo tray for food-offerings', BI añcak 'bamboo stand or container for offerings'; these forms cannot be regularly connected with the Batak. Mak. of course shows irregular loss of the final.

Reconstruction of PSS *-i(p?) and *-u(p?) depends entirely on outside evidence:

295. Bug. Mak. iruq, Mdr-Camp.(A&K) m/iru, Sad. unn/iruq (-s-), PUS umm/eruq 'to drink' < PSS *iru(p?), PAN *hiyup.

296. Bug. sisiq, Mak. sissiq, Sad. sisiq 'to insert, stick s.t. into/between...'; Sad. pa/-nisiq 'wedge' < PSS *sisi(p?), PAN *sisip. The Mak. /ss/ suggests perhaps PSS *siqsi(p) < *sipsip.

3.6.1f. PSS *-m is attested as /-m/ in PUS, to judge from examples in van der Veen 1929, as well as in the so-called Mmj. of A&K, and in their Mdr-Campalagiang. Otherwise, the Mass. languages have /n/ with occasional /-ng/; PUS and Mmj. /-n/ and /-ng/ in about equal numbers; my Mdr. /-n ~ -ng/ but mostly /ng/; Mdr-Majene (RAP67), Bug. Mak. and Seko /-ng/ only. In Bug. we can assume that *-m first merged with *-n, since *-am, like *-an, > Bug. /ing/, whereas *-ang > Bug. /ang/. As was the case with *-p, *-m sometimes affects a preceding *i.

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For Mdr-Camp., A&K merely state "het dialect...heeft geen andere sluiters dan ng, n, m en hamzah....(p.156), without citing examples. Elsewhere, however, we find the following:

297. Bug. Mak. Mdr. Mass-Mai. m/inung, PUS (V) (varicus dials.) menum, menung, inuq, Mmj. m/inung, Mmj.(A&K) menum, Seko menung 'to drink' < PSS *inum, PAN *inum. The *-m probably also appears as the result of metathesis in Sad-Mangki imun 'idem'.

298. Bug. ɨnnɨng, Mak. Mdr. annang, Sad. Duri annan, PUS annan, annang[30], PUS(V) unung, unnuq, Mmj. annang, unnung, (A&K) unum, Seko unung 'six' < PSS *ɨnnɨm, PAN *ɨnɨm.

299. Bug. tanɨng, Mak. Mdr. tanang, Sad. DuriK Mass-End. tanan, Mass-Mai. Duri tanang, Mmj.(A&K) man/tanam 'to plant' < PSS *tanɨm, PAN *tanɨm.

136, 137. PSS *(dr)alɨm, PAN *ḍalɨm, cited above. Note especially the /u/ of Seko ka/ladung, which must be due to the "Schwa-Labial Rule".

300. Mak. saleang 'wall-louse, Du. wandluis'(MWB); 'pubic louse' (informant); PUS(V) unspecified dial. and Sad-Mangki saleong, PUS-Bamban(V) saneom 'wall-louse'. (We frequently find l > n if another nasal occurs in the word.) Probably related are Bug. (BWB) samelang, Sad.(SWB) samelang, timayong 'wall-louse'. The numerous irregularities (and the no doubt local nature of this pest[31]) point to borrowing, as does the proposed reconstruction:

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?*sale(y)ɨm, probably ?*se(y)ɨm with infix *-al-. There is a striking resemblance to PAN *sɨǧɨm 'ant' (also with irregular reflexes in SSul-- see Ex. 212 above), and must be borrowed from one of the Toraja languages, where *ǧ often > /y/ (note Parigi soyo 'ant'), and the ensuing sequence **ɨy then > /e/, probably by stages *ɨy > *oy > *ǒy > e.

The foregoing is an exhaustive list of forms with attested /-m/. In the data which I collected, only /-n/ or /-ng/ are found. A few examples show /-ung/ reflecting *-ɨm:

301. Bug. tarɨng, Mak. tarang, Mdr. tadang, Sad. Duri taran, PUS(V) tarang, Mmj. tadang, Seko tarung 'sharp' < PSS *ta(dr)ɨm, irregularly reflecting PAN (Dw) *tajɨm (but note that Dempwolff's Tag. talim is also irregular, and would reflect a PAN **ta(ḍr)ɨm). Note also a derivative with *-in- 'passive infix': Sad. tinaran, PUS(V) tinarun 'dart (for a blow-gun)'.

302. Bug. makka/pɨddɨng, Mdr. Mmj. mem/piqding[32], PUS mem/piqdin, SekoP ka/pidong 'to close the eyes; to blink' < PSS *pɨddɨm, PAN (Dw) *pɨ(n)dɨm, *pɨjam, (Dy) *pɨZɨm. Note the same vowel change here as in Ex. 212 (<PAN *sɨǧɨm) and Ex. 285 (PSS *ɨddɨn, PAN(Dy) *hɨZɨn). Sad. Duri ka/pidi, ka/pidi-pidi, Mmj. pihi, piri 'idem' are no doubt related, but quite irregular.

230. PSS *insɨm 'sour', PAN *asɨm, ?*alsɨm, already cited.

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After vowels other than *i, the development for *-m is the same as for *-n:

303. Bug. -king, Mak. -kang, Mdr. -ang, Sad. -kan, Mass.(V) unspecified dial. -kang 'verbal suffix: 1st person plur. marker' < PSS *-ka(m?). Strictly speaking, only *-n is indicated, but we assume that the suffix is ultimately related with the free form of the pronoun, PAN *kami.

304. Mak-Sal. etang 'black'; Sad. etan 'black (of pigs or buffalo)'; Mmj. ma/etang 'ebony-wood' < PSS *itim on the basis of PAN *hitim. The Mmj. may be borrowed from Mak.: it occurs in a list of trade items (Hoorweg 1911:148).

See also the already cited examples, 180 PSS *jarum 'needle' and 239 PSS *indam 'to borrow'.

It may be that PSS final labials were in process of being lost at the time PSS became a separate entity. The steps whereby the loss occurred are detailed below, §3.9.2.

3.6.2. PSS final continuants. For PSS final *r l s, we are on firm ground, since they are actually found in two languages which can probably be assigned to different subgroups; further, the alternation of /-q/ > -r- or -s- in Bug. and Sad. attests to their presence in earlier stages of those languages. (The converse is not true, however: present-day alternating /r/ or /s/ do not necessarily reflect PSS *r or *s, as will be shown.) The fourth continuant, PSS *-ɣ, is sufficiently well-attested that its reconstruction is valid.

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3.6.2a. PSS *-r is reflected as Mdr. /-r/, Mak. /-r-/ plus echo-vowel + /q/, and /-q/ in all the others[33]. Since *r l s can be described as dentals-- [+diffuse, -grave]-- we should expect to find the typical Bug. development of pre-final *a > /ɨ/; it is found, but there are numerous exceptions and doublets. But since there is no principled way to exclude *-ar from the environment of the rule--

Bug. Schwa-Dental Rule

$$\text{Early Bug. } *a \longrightarrow ɨ \;/\; \text{—}\ t\ n\ r\ l\ s\ \#$$

$$[\text{-diffuse}] \longrightarrow [\text{+diffuse}] \;/\; \begin{bmatrix}\text{+syll}\\ \text{+grave}\\ \text{-round}\end{bmatrix} \begin{bmatrix}\text{+cons}\\ \text{+diffuse}\\ \text{-grave}\end{bmatrix} \#$$

we assume that Bug. /-aq/ for *-ar is due to outside influences. Examples:

305. Bug. (Old Bug.) putɨq 'to tie, bind'; utɨq-utɨkkɨng 'device for braiding rope'; mang/utɨq 'to wring out'; Mak. (and modern Bug.) pũtaraq Mdr. putar, Sad. DuriK PUS putaq 'to turn, rotate' < PSS *putɨr, with *ɨ on the strength of PAN *putɨr. DuriC putah 'turn, rotate' is clearly cognate, and one of several examples where /-h/ wrongly (?) reflects *-r; see below §3.6.2b.

306. Bug.(BWB) bakkaq, Mak. bãkkaraq 'to open, unfurl'; my Bug. informants did not recognize the word, but cf. Bug-Sid. "bakã" glossed '(BI mekar) to open, bloom'. Further: Bug. wɨkkɨq, Sad. baqkaq 'to grow, increase'; Sad. bangkaq in tibangkaq masiang 'dawn/day is breaking' (lit., "spontaneously-bangkaq light"). These suggest

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PSS *bi̇(ng)kar, which with BI mĕkar, Bis. bakad 'spread out, unfurl; to flower', point to PAN *bi̇(ng)kaḍ. Bug. bakkaq above could be borrowed from Mak. in the period before Mak. added the echo-vowels. If cognate, mod. Mak. bakkaq 'grown up' fails to reflect the final continuant.
Dempwolff did not reconstruct an etymon in this case, but cf. his *bu(ng)kar next below. Zorc's compilation (1971) of PAN etyma lists *bi̇kar and *bi̇ngkaḍ (attributed to Charles, and Blust 1970 respectively).

307. Bug. wuki̇q, Sad. bungkaq, Mmj. mang/hokaq 'to clear land for planting, esp. for the first time'; Mak-Tur. bŭkaraq, Sal. bŭngkaraq, DuriK mang/bukaq 'to open' < PSS *bu(ng)kar. For the semantic link between "opening" and "clearing land" cf. BI membuka tanah 'to clear land, lit., to open land'. PSS *bu(ng)kar could reflect either Dempwolff's PAN *bu(ng)kar 'dig up, agitate' or (Zorc/Charles) *bukaḍ 'open'. A Bug. variant uki̇q and Mak. okkaq 'uprooted' (Mak. probably < Bug.) would best reflect Dempwolff's etymon.
There has also been confusion with PAN *buka 'open' surely due to the influence of Ml. buka: Bug. buka, wukaq, Mak. buka, Sad. buka/i 'to open'. The following forms are ambiguous as to whether they end in /q/ or ø (because /q/ may elide, or because of errors in transcription): Mdr. mam/bua/i,

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Mass-End. Duri Mai. ti/bukka, SekoL mang/huka/i, SekoP mang/hungka/i 'to open'; SekoP mang/hungka/i tampo 'clear land'. Finally, SekoP mam/bongka 'to collapse', mam/boka 'uproot' can be included, though they may be borrowed < Ml/BI bongkar 'uproot, tear down (e.g. a building); unload a ship'.

As for Dempwolff's *bu(ng)kar, only Tag. bungkal dictates PAN *-r; the Ml. Jav. TB and Dayak cognates (if not all borrowed < Ml.) with /-r/ could reflect either PAN *-r or *-ḍ. Since Tag. bungkal 'unload a ship' matches a rather specific meaning of the Ml. word, it is quite likely borrowed, and so the PAN can be amended to *bu(ng)kaḍ. If we now compare this with Ex.306 PAN *bi̇(ng)kaḍ and Ex.227 PAN *si̇ngkaḍ, we might posit a monosyllabic PAN root, **kaḍ 'open'.

308. Bug. sauq, cauq, Mak. sa̍uruq, Mdr. saur, Sad. sauq 'defeated, powerless'; Duri cauq 'exhausted' < PSS *saur. Cf. also Sad. sauq 'downstream (hence, South)'; Mass-Duri sauq 'South'; Mdr. sau 'toward the sea (South, generally). Bug. man/noq 'to descend', manori̇ng 'North' (if related to *saur by nasal substitution) are irregular in the vowel merger.

Jav. sor 'underneath; defeated; inferior' permits a tentative PAN **sahu(ḍr), though this is contradicted by Tag. Bis. pa/naog 'descend' < ?*saqu(ɣg); neither the medials nor the finals match.

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309. Bug. ukiq, Mak. ŭkiriq, Mdr. ukir, Sad. ukiq, okiq, DuriK Mmj. ukiq 'to write; to engrave' < PSS *ukir, PAN *uki(r). Probably borrowed from Bug.: Mak. okeq 'to bore (a hole)'.

3.6.2b. PSS *-ɣ is presumed to have been, phonetically, a voiced velar fricative, reflecting PAN *ɣ. Judging from its developments in many languages besides SSul, this sound must have had an r-like quality. PSS *-ɣ is directly attested in Duri-Cakke (and the Duri dialect in RAP72) /-h/ corresponding with fair regularity to ø in Duri-Kalosi and some of the other Mass. dialects discussed in RAP72. It is also attested in Bug., in that the sequence *-aɣ > /-aq/; if *ɣ had first shifted to *r (as it ultimately did) we should expect Bug. /-iq/ < *-ar. Sad. has /q/, with several instances of ø due probably to influence from the Mass. area; PUS and Seko have /-q/ and ø in the few examples available; clear cognates are entirely lacking in my Mmj. data. In Mak. and Mdr. *-ɣ is reflected the same as *-r.

A majority of examples from Bug. Sad. Duri and Mak. show fairly regular changes in the vowels preceding their reflex of *-ɣ, to wit:

	Bug., Sad.	DuriC	Mak.
PSS *-iɣ	-eq	-eh	-ereq
PSS *-uɣ	-oq	-oh	-oroq
PSS *-aɣ	-aq	-ah	-araq

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as opposed to the vowels in pre-*r position:

	Bug.	Sad.,DuriC	Mak.
PSS *-ir	-iq	-iq	-iriq
PSS *-ur	-uq	-uq	-uruq
PSS *-ar	-ɨq	-aq	-araq

The same changes are found in the other languages, but there are fewer examples and less regularity; consequently we do not feel they can be assigned to the PSS level, though it would be tempting to do so on the grounds that it was one of the factors which led to the creation of phonemic /i/:/e/ and /u/:/o/ contrasts. It should be pointed out that the vowel changes are not 100% regular even in Bug. Sad. Duri and Mak.; we find /e o/ before reflexes of *-r, and /i u/ before reflexes of *-ɣ.

There is no really clear example for *-ɨɣ in any of the SSul languages, and that sequence was also uncommon in PAN (only seven instances in sixty-five *-Vɣ etyma, according to Chrêtien 1965).

Examples are:

310. Bug. ipaq, Mak. íparaq, Mdr. ipar, Sad. DuriK ipaq, DuriC ipah, SekoL (heard) ipaq, SekoP (written) ipa 'brother/sister-in law' < PSS *ipaɣ, PAN *hipaɣ.

311. Bug. ulaq, Mak. úlaraq, Mdr. ular, Sad. Mass-End. ulaq, DuriC ulah, DuriK ula, Seko ulaq, olaq 'snake' < *ulaɣ, PAN *ulaɣ. Mmj. ile 'idem' could be related (irregularly) either to this or to PSS *ulɨt, cf. Ex. 271 above.

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312. Bug. (BWB only) uloq, Mak. ûloroq, Sad. uloq, uluq, DuriC uloh, DuriK ulo, SekoP uluq 'to let down, to lower (e.g. on a rope)'; SekoP mingng/uluq 'to descend' < PSS *uluγ, PAN *huluγ Modern Bug. uses loroq (also cited in BWB), presumably a corruption of the Mak. word.

313. Bug. ampoq, Mak-Konjo âmboroq, DuriC amboh 'to strew, scatter; sow seed' < PSS *ambuγ, PAN *ha(m)buγ. Dempwolff also reconstructs two variant forms, both reflected in SSul: Sad. samboq, SekoP mas/sahu/i 'idem'; SekoP s/in/ahu 'seed-rice' < PSS *sa(m)buγ, on the strength of PAN *sabuγ. Mak. tâburuq (> Bug. tâboroq), Mak-Konjo tâhuruq 'strew, scatter, sow'; Sad. tabu-tabu 'to scatter around; be careless'; SekoP tahu/i 'to spray, rinse' < PSS *tabuγ on the strength of PAN *tabuγ. In view of Jav. wur 'scatter' we might posit a root, PAN **buγ, even though the /r/ of Jav. is irregular.

314. Bug. m/aliq 'drift away'; Sad. aliq 'drive out, expel from society' (SWB notes "formerly such people were drowned"), m/aliq 'to sink'; DuriC m/alih, m/aliq 'to flow' < PSS *aliγ, PAN *aliγ.

315. Bug. wuleq, uleq, Mak. bûlereq, Sad. DuriC buli 'ear (of grain, esp. rice)' < PSS *buliγ, PAN *buliγ. One of my Sad. informants gave bureq (not in SWB), which possibly shows the *-γ (> r) preserved by metathesis[34].

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Examples for PSS *-i̱ɣ < PAN *-i̱ɣ hardly occur; those that do are difficult to deal with because the words tend to be of limited distribution, or highly irregular. We find:

316. Mak.(MWB) lăngereq, Konjo and informants lăngngereq, Mdr. maq/irranni, Duri, Mass-Mai. pe/ranni, PUS pa/rangiq, PUS(V) "chingi", hingi, Mmj. hini, hingi 'to hear'; Sad. pa/rangi 'able to hear', pe/rangi 'listen to'. All these are ultimately cognate with Ml. dĕngar, OJ rĕngö, PAN *ḍi̱ngi̱ɣ 'to hear', but a PSS etymon is not reconstructible. Among the inexplicable irregularities: (1) Mak. l- for expected r- or d-, -er < *-i̱ɣ. (2) Final ∅ in most forms. (3) n for expected ng (fronting caused by the -i?). (4) Final -i. (5) Simple -n-/-ng- for expected geminate. No language is known which could be the source of Mak. **li̱ngnger; the others appear to reflect something like **ri̱ngi which points in the direction of the Toraja languages, where *-i̱ɣ would >*-i̱y, then > i or e (usually the latter).

317. Sad. SekoP sali 'floor' (Seko-J.Kruyt 1920 'the main room of a Seko house'); presumably cognate with PAN *sali̱ɣ 'floor'. Perhaps Bug. salima 'floor', but the added final syllable is inexplicable.

318. Bug. sanreq, Mak. sándereq, Mdr. sandar, sender, Sad. sandeq, DuriC sus/sare, DuriK sis/sare, SekoL sis/sare, SekoP mi/sa/sare 'to lean against,

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lean on'; Sad. sare 'support prop up', sis/sare 'lean on' (informant's sis/sarreq not in SWB); Mass-End. pa/sanreq 'helper' (probably < Bug.). MWB also lists sânraraq, sânrereq, cross-referenced to the main entry under sândereq; these variants with /nr/ are more regular that the main item. We posit a rather tentative PSS *sa(n)deɣ, which reflects (Zorc/Charles) PAN *saṇḍiɣ better than Dempwolff's *sa(ṇ)ḍi̇ɣ[35].

319. Bug. lasi̇q 'scrotum', not attested elsewhere in SSul, but undoubtedly cognate with Zorc's *lasi̇(gɣ) based on Philippine evidence where a final /g/ ambiguously reflects PAN *ɣ or *g. We also find Roti lase 'idem' (regular *i̇ > e, and final consonants > ø) and Proto-Polynesian (Biggs and Walsh) *laso. The Bug. item does nothing to resolve the ambiguous final.

While at first glance it might appear that PSS *-i̇- > i/e /—ɣ#, we believe that the discussion above shows that the examples are in fact quite irregular. Further, aside from the relative homorganicity of an [i̇] and a [ɣ], the phonetics of such a change are atypical of this language family. We prefer, therefore, to attribute these items to outside influence, especially from Central Sulawesi, where such a change is indeed found.

There is some evidence to suggest that in probable Ml. loans with /-h/, the Ml. /h/ was interpreted as PSS *-ɣ. The examples have already been cited: 54 PSS *manaɣ 'inherit',

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PAN *manɨq, and 93 PSS *sugiγ 'rich', Ml. Jav. sugih 'idem', no PAN. The *ɨ of *manɨq is questionable: the only cognates cited are Ml. manah and TB -mano, which could be borrowed from a Ml. dialect or other Sumatran language where standard Ml. -a(h) is reflected as /o/[36]. In any case, the word is believed to be < Skt. manaḥ 'heart, mind'.

Finally, it must be mentioned that Duri /-h/ sometimes reflects not *γ but *r, as in /putah/ 'turn' cited above (Ex.305). Similarly, it occurs in several items reconstructed with PAN ambiguous final *(r), or in items not yet reconstructed for PAN for which Jav. cognates with /-r/ exist. However, while ∅ is considered the regular Jav. reflex of *γ, there has been such heavy influence from Ml. that numerous instances of Jav. /r/ corresponding to PAN *γ are found. Examples for PSS *-γ:

320. Bug. lawaq, Mak. lâwaraq, Mdr. lawar, DuriC lawah 'dish made of chopped raw meat/fish with spices'; Sad. lawaq, laaq 'idem; also, to taste, test food' < PSS *lawa(γ), PAN *lawa(r) (PSS is ambiguous for *r/γ, PAN is ambiguous for *r/ḍ). Dempwolff's cognates are: TB rabar 'spices', Jav. lawar 'meat without other food (i.e. rice)', Ml. lawar 'finely chopped meat'. The semantics are an obstacle, but we could view Jav. lawar as a Ml. loan, and PAN *lawaγ would then be possible. We should expect Bug. **lawɨq as a reflex of Dempwolff's *lawa(ḍr).

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321. Bug. wɨllɨq 'mat'; Mdr. ma/walleq 'wide'; Sad. DuriK ballaq 'bloom, open out' presumed < PSS *bɨllat < PAN *bɨlaG with basic meaning "spread out". However, DuriC ballah 'mat' cannot regularly reflect the PSS/PAN final.

186. PSS *(b)u(ñ)jur 'to stretch out' cited above. DuriC bujuh 'lay out a corpse' seems a likely cognate and points to PAN **(b)u(ñ)juɣ but the Jav. forms cited with /-r/ imply PAN *r or *ḍ, not *ɣ

Since such examples in Duri are in the minority, it seems likely that they represent borrowings of words with final /r/ < *r, devoiced and laxed to [h]. The source language cannot be pinpointed, however; and at least for Duri ballah 'mat' it cannot be Ml., for Ml. has no cognate form.

3.6.2c. PSS *-s is regularly reflected as Mdr. /s/, Mak. /s/ plus echo-vowel, DuriC /h/, DuriK ∅, all others /q/. The schwa-dental shift is found in Bug. Examples:

322. Bug. apɨq, Mak. kápasaq, Sad. Mass. kapaq, DuriC kapah, DuriK SekoP kapa 'a cotton-like fibre derived from certain trees; in modern usage, cotton (BI kapas)' < PSS *kapas, PAN *kapas.

323. Bug. panɨq, Mak. pánasaq 'a plant sp. used medicinally, and in pickling (Amomum acre Val., Heyne 1950:484)'; Sad. panaq 'pepper; ginger; spicy-hot'; DuriC panah, DuriK pana 'ginger'; PUS ma/panaq 'hot'; Mmj. panaq, panas 'spicy-hot';

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SekoP ma/panaq 'sick' (probably via "feverish, hot") < PSS *panas, PAN *panas. Note the similar semantic range of Ex.201, PSS *laza, and Ex.210, PSS *pɨzzis.

324. Bug. nipiq, Mak. nĭpisiq, Mdr. nipis, Sad. nipiq, DuriC nipih, DuriK nipi PUS Mmj. nipi 'thin' < PSS *nipis, PAN *tipis, nipis. SekoP ma/nipa 'idem' appears to be related, but the /-a/ is unexplained.

325. Bug. walɨq, Mak. bălasaq, Mdr. balas, Sad. DuriK balaq, DuriC balah, Mmj. balaq, SekoP mam/pala/i 'to repay, requite' < PSS *balɨs, PAN *balɨs. The /p/ in Seko is inexplicable, perhaps due to borrowing from a Bug. dialect form mpalɨq < N+walɨq.

326. Bug. awiuq, Mdr. beu(w)as, Sad. biuaq, DuriC biuah 'stinging nettle (BI jelatang)' < PSS *biu(b)as. The Bug. form shows metathesis.

See also the examples already cited: Ex. 153 PSS*tɨrrus 'straight, direct', PAN *tɨrus; Ex. 171 PSS *biris 'hate'; Ex. 172 PSS *ratus 'hundred', PAN *ɣatus.

3.6.2d. PSS *-l is reflected as Mdr. (and sometimes Mmj.) /-l/, Mak. /l/ plus echo-vowel, all others /-q/. The schwa-dental shift is presumed to be the regular development in Bug., though the examples are few and often irregular. If A&K and van der Veen are correct in denying /-l/ in Mdr., then its presence in my data must be due to borrowing, and of relatively recent origin (since 1929!?).

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In a number of examples, *-l appears as Sad. /-n/, others /-ng/, but the correspondence is too infrequent to permit any generalizations. Thus, either *-l > /-n/ or *-l > /-q/ could be taken as "regular" in Sad., though it is the latter reflex which predominates elsewhere.

In Brandstetter 1911, we find the suggestion that in "Old Buginese" /-l/ must have merged with /-r/ in view of the q/r alternation in items known to reflect PAN *-l. In Brandstetter's examples, and many others too, this is indeed the case. I too consider it a logical development, but much more hypothetical, for closer examination of the Bug. dictionary would have revealed to Brandstetter derivatives with both /-r-/ and /-k-/ for his examples, and nowadays, one could probably find speakers who use /-s-/ derivatives as well. Examples:

327. Bug. tungkiq, Mak. tũnggalaq, Mdr. tunggaq-tunggaq, Sad. tunggaq 'each, every'; Bug. a/tungkirr/ing 'be alone'; Mdr. si/tunggal/an, Sad. si/tunggar/an 'one by one, one against one' < PSS *tunggal, PAN *tunggal.

328. Bug. sissiq, Mak. sássalaq, Mdr. manossoq (< sossoq), Sad. DuriK menassan (< sassan), Mmj. manosoq, SekoP minassang 'to regret' < PSS siqsil, PAN *silsil. The forms with /o/ are inexplicable. Note Bug. derivatives: sissikking 'to blame', sissirring 'reproof, reproach (noun)'.

329. Bug. atiq, Mak. kátalaq, gátalaq, Sad. Duri katiq, SekoL mi/kating 'to itch' < PSS *katil,

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PAN *gatɨl-- but Dempwolff includes "irregular" Tag. and Hova forms with /k-/. Mak. gâtalaq is no doubt < Ml. gatal. The /i/ < *ɨ in Sad. Seko seems to be due to the environment, between [+diffuse, -grave] consonants.

330. Bug. sompɨq (sompɨrr-), Mak. sŏmbalaq, Mdr. so^{m}bal (the informant wrote "sobal"), Sad. sombaq 'sail'; Mmj. s/um/obal 'to sail' < PSS *so(m)bAl. Cognate forms are found in eastern Indonesia (where they might be borrowed from Mak.?), but have not yet been found in western Indonesian languages. Letti sopla 'to sail' (Jonker 1932) reflects the etymon, but does not help in disambiguating the pre-final vowel regardless of whether it is "regular" or borrowed < Mak.[37]

331. Bug. mas/suq, Mak. as/suluq, Sad. DuriK tas/suq 'come out, go out' < PSS ?*sul-- one of the few monosyllabic roots encountered so far at the PSS level. Since Bug. and Mak. often lose /w/ between identical rounded vowels, and *-l can sometimes be reflected as /n, ng/, the following may be cognate: Sad. sun, Sad-Rong. suwun, Mdr. sung, Mdr-Cen.(A&K) suu (= suuq?), PUS(V) suwun, SekoL (heard) soho, SekoP sohong 'to come out, emerge'. All forms together then point to a PSS ?*su(b)ul, an attractive hypothesis since the syllable bul might reflect the same PAN "root" (**bul) seen in PAN *timbul 'rise, emerge'.

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332. Bug. bakkiq, Mak. bângkalaq 'tree sp., Sarcocephalus undulatus Miq. (Heyne 1950:1396)'; perhaps too Sad. bakan 'tree sp., Litsea sp.' < PSS *ba(ng)kAl. If the word is not borrowed from Ml., the pre-final vowel is *a, as the following indicate: Ml. bangkal 'Sarcocephalus sp.'; Jav. wangkal, Mad. bangkal 'tree sp., Albrizzia procera (Heyne p.707)'; Bis. bangkal 'a tree sp., the straight trunk is often used as an outrigger' < PIN *ba(ng)kal. My Sad. informant also gave bangkaq as "the same" as Ml/BI bangkal, but the word is not listed in SWB.

333. Bug. sissiq, Mak. ku/sîssiliq 'k.o. small gnat'; Sad. DuriK kasisiq, Mdr-Cen.(A&K) asisi 'mosquito' < PSS *siqsil and/or *sisil < earlier **silsil. The "prefixes" are unexplained.

334. Bug. sittuq (cited in MWB, rejected by informants), sittung (cited in BWB, Heyne, and by informants), Mak. sâttuluq 'fruit-tree sp., Sandoricum Indicum L. (Heyne p.891, S. Koetjape Merr., the same)' < PSS ?*sittul. A rare instance of Bug. /-ng/ for *-l. Forms cited in Heyne point to a PIN *si(n)tul: Batak sotul, Ml. Jav. Bal. sĕntul.

3.7. Reflexes of the PAN reduplicated monosyllables. In every SSul language there are words of the shape $C_1V_1qC_1V_1C_2$ or $C_1V_1C\underline{C}_1V_1C_2$ (Seko $C_1V_1C_1V_1C_2$) and $C_1V_1N\underline{C}_1V_1N_2$

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(where CC and NC symbolize geminate and nasal clusters respectively). These are words, then, whose two syllables are of amost identical structure, and whose medial /qC/ or /CC/ clusters to not result from the automatic (proto-) gemination after *i. Comparative evidence shows that they reflect PAN morphemes consisting of two identical syllables--usually referred to as reduplicated, or repeated, monosyllables, hereafter RMs[38]. Their PAN structure was thus $C_1V_1C_2C_1V_1C_2$ or $C_1V_1N_2C_1V_1N_2$; and while constraints on PAN syllable structure have not yet been completely formulated, the following stand out: (1) In no case does the root syllable contain two identical consonants, i.e. there is no (bVb)2 or (nVn)2 etc. (2) In no case are root syllables found in which the two consonants differ only as to voicing, thus, no (bVp)2 or (tVd)2 etc. There are two exceptions--*gakgak and *gukguk-- but these are onomatopoetic terms for animal sounds and so probably not valid for comparative purposes. (3) Root syllables containing both *l and *r are not found; in particular, the sequences *#rVl.. and *..rVl# do not occur in any PAN etymon so far proposed. However, *lVr.., *lVɣ.. as well as *..lVr# and *..lVɣ# are attested, so that (lVr)2 might have been possible. Otherwise, most combinations of consonants appear to have been possible.

In many languages of the Philippines, these words are retained with their original structure intact, with the result that Philippine languages permit diverse clusters < *..C_1C_2.. and heterorganic nasal + stop clusters in medial position. Most languages of the Indonesian area, however,

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have lost the final of the initial syllable, thus reducing *..C_1C_2.. to -C_2-, and the nasal clusters have been assimilated to become homorganic NC. For example, where Philippine languages like Tag. have forms (hypothetical) like "taptap" or "bungbung", IN languages like Ml. have "tatap" or "bumbung". The SSul languages stand midway between these two positions: on the one hand, -C_1C_2- are reflected as /qC/ (and as we mentioned in §2.1, /qC/ and /CC/ are often indistinguishable), while on the other hand -N_1C_2- have assimilated > -N_2C_2- and then undergone the same changes as any other NC. Thus, Sad. e.g. would show "taqtaq" or "tattaq" < *taptap, "bumbung" < *bungbung; Bug. would have "tattaq" and "wumpung".

Since PSS nasal + stop, regardless of source, undergo the same developments, there is no reason to reconstruct special PSS *NC clusters < PAN *-N_1C_2-; rather, we can say that the nasals had already assimilated to homorganic in pre-PSS times. The situation with regard to syllable-final stops and continuants, however, is less clear. Since C_1 in *-C_1C_2- is reflected only by modern /q/ (or by assimilation to C_2), there is no justification for reconstructing the original consonants in that environment; rather, the choice is between reconstructing a geminate-- thus assuming full consonantal assimilation in pre-PSS-- or a cluster *-qC-. This latter is chosen, because the rule changing pre-PSS *C_1C_2 > PSS *qC within RMs appears again later, generalized to operate on other consonant sequences in PSS-- specifically, the rare cases of infixed *-r- and *-l- --

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as well as on clusters occurring across morpheme boundaries--specifically, those involving the prefixes *mar- and *tar-. Secondly, the presence of *qC clusters in PSS suggests the mechanism whereby another important SSul sound change--final C > /q/-- might have begun (see §3.9.2). Third, the *qC clusters suggest how the geminates (purely allophonic in PSS) came to be realized phonetically as [qC], becoming in a sense phonemic. Finally, there is the working hypothesis underlying any historical reconstruction: one can only reconstruct back to that point which the evidence allows. To reconstruct RMs in their original form as PSS would be to push the proto-language one step past what our evidence allows. The assumption is made, then, that the change of $*C_1C_2$ > PSS *qC is one of the changes which serve to characterize PSS as a separate entity, and to set the SSul languages apart as a distinct subgroup. At the moment, we know of no other languages which might be included in the same subgroup, but if such languages are uncovered by future research, and if (let us assume) they retain RMs with consonant clusters, then our reconstructions can be revised.

3.7a. PSS *qC reflecting PAN $*C_1C_2$, where C_1 = stop:
335. Bug. bɨbbuq, Mak. Mdr. buqbuq, Sad. buqbuk, Mass-End. buqbuʔ 'wood-borer (a k.o. ant)'; Mak. boqboq, Sad. boqbok 'to bore a hole' < PSS *buqbuk, PAN *bukbuk. Undoubtedly also: Bug. caruqbuq (< car- (=tar-) + (w)uqbuq?), Mak. b/ar/uqbuq 'dust, clippings, scraps'. In many RMs, Bug.

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reflects initial-syllable *i or *u as /ɨ/, but there are too few examples to say whether it is a regular development. It is regular in Sangir, but extensive borrowing from that language into Bug. seems unlikely.

336. Bug. tɨtteq, cɨcceq, Mak. teqteq, Sad. teq-teq, teqtek 'to tick, click' < PSS *teqtek, PAN *ṭiḳṭik. In modern usage, also '...o'clock' as Bug. tɨtteq aruwa '8 o'clock'. Perhaps later secondary formations: Sad. maka/n/etek 'make a soft ringing sound, like wood when struck; to crackle'; Mass-End. tetek 'to knock'-- though a PSS doublet ?*tetek is possible. Mdr. ma/n/etteq 'to weave' can also be aligned here, on the basis of the figurative usage cited for Mak. teqteq: "...ook gebezigd van het slaan met de balira onder het weven".

337. Bug. sissiq, sɨssiq, Mak. Mdr. sissiq, Sad. sissik, DuriK sisik (misheard?), SekoP (written) sisiki/na (poss. form) 'scales of a fish' < PSS *siqsik reflecting earlier **siksik, but cf. Dempwolff PAN *sisik. The three dictionaries all give a second meaning: 'the scaly part of a chicken's leg'.

338. Bug. dedeq, Mak. deqdeq 'to create, to forge (ironwork); to punish'; Mdr. deqdeq 'to hit'; Sad. dedeq 'hit, tap gently', dedek 'hit, beat with a regular rhythm' < PSS *deqdek and

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variant (?) *dedek. This could reflect, irregularly, PAN *dɨgdɨg 'hit', but SSul doublets suggest that a PAN *di(kg)di(kg) could have existed too: Sad. riqdik 'to pound carefully (specifically, a small quantity of rice)'; Mdr. par/riqdiq 'rice-pounder, BI alu' < PSS *(dr)iqdik. SWB marks riqdik as "intensive" of ridiq 'to wring out, squeeze, which seems remote.

339. Bug. (BWB) luqluq, (Informants) lulluq, Mak. luqluq, Mdr. luqluq 'to wipe, polish' < PSS *luqlu(C), probably *luqlut on the basis of BI lulut 'massage', Jav. lulud, lulur 'rub, wipe, massage' strongly suggesting PAN **luǧluǧ. SWB lists two possible, but semantically remote, cognates: lolloq 'to praise, encourage, flatter' (cf. the currently popular Engl. stroke:?) and lulluq 'to trample, step on; thresh rice (by having the buffalo walk on it)'.

3.7b. PSS *qC reflecting PAN *C_1C_2, where C_1=continuant;

340. Bug. pupuq (irreg. /-p-/), Bug-Sid. puppū, Sad. pūqpusuq, Sad. puqpuq, DuriC puqpuh 'to use up, wear down, consume' < PSS *puqpus, PAN (Blust 1970) *puspus.

341. Bug. mimmiq, Sad. mīqmisiq, Sad. mimmiq, DuriC ka/mimmih 'to suck' < PSS *miqmis < earlier **mismis. Cf. also Bug. karumimiq, karumɨmmiq, Mak. kumīqmisiq, karumīqmisiq 'make smacking sounds with the lips as a sign of sympathy or disapproval'.

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342. Bug. pɨppɨq, Mak. pápparaq, Sad. pappaq, paqpaq 'level'; SekoP mang/papar/i 'to sharpen, BI mengasah'(?) < PSS *pɨqpɨr. Reflexes of more than one PAN form may be confused here; note Jav. pĕpĕd 'cut/broken off level with the ground' and papar 'level', Bal. papar 'to file the teeth', Ml. pĕpat 'flat, smooth'. Jav. pĕpĕd with Ml. pĕpat could reflect *pɨpɨ(dǵ), as could Bug. and Sad., but not Mak., above. Mak.(MWB) pappaq 'level' could, however. Jv. Bal. papar, Mak.pápparaq and Sad. pappaq could reflect *pa(ḍr)pa(ḍr); Ml. and Bug. could not.

343. Bug.(BWB) leleq, Mak. (and Bug.) léqlɘreq, to cross over, to spread (e.g. a fire)'; Mdr. leller 'pull along, drag'(?) < PSS *leqle(r), no PAN. The /e/, however, suggests *-ɣ, thus < probable **liɣliɣ; cf. PSS and PAN *aliɣ 'flow', perhaps from a root **liɣ.

344. Bug. tottoq, Mak. tŏqtoloq 'bamboo device for restraining a criminal or animal'; Sad. toqton 'bamboo tube with a rope through it, to lead a difficult buffalo or dog' < PSS *toqtol, no PAN. The root *tol may appear in Mak. tolang (< *tol + -an?) 'wooden halter, used for wild buffaloes' (Matthes' gloss). Note also Jav. tol, totol 'to lever, pry up'.

For PSS *qC < PAN *lC cf. also Ex. 328 PSS *sɨqsɨl 'regret', PAN *sɨlsɨl, and Ex. 333 PSS *siqsil 'gnat' cited above.

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3.7c. PSS *NC reflecting PAN *N_1C_2:

345. Bug. kɨkkɨng 'make a fist, close the hand'; Mak. kangkang 'grasp'; Sad. kangkan 'carry on the palm of the hand', karangkang (poet.) 'to hold'; SekoL kakkang, SekoP kangkang 'hand' < PSS *kɨng-kɨ(m?), PAN *kɨmkɨm. A PAN doublet *gɨmgɨm is also reflected in Bug. gɨngkɨng, Mak. ganggang 'idem' < PSS ?*gɨnggɨ(m?). The Seko forms, of course, could stem from either source.

346. Bug. sɨssung, Mak. sussung 'a tax or fee (e.g. for a market stall); to give change'; Mdr. sussun, PUS sussun 'to give change' < PSS *sunsun. It is difficult to see any connection between this and PAN *susun, whose basic meaning is exemplified in Ml. susun 'to pile up, arrange'. The following do seem to reflect this item, as a RM: Sad. sussun, PUS sussun 'to push, crowd in on'; SekoP mam/pa/si/-susung 'to pile up, BI menyusun' < an homonymous (?) PSS *sunsun.

347. Bug. kalubampa (irreg. final ∅) 'small butterfly sp.'; Mdr. kaluwambang 'butterfly'; Sad. kalubambang, kalibambang 'butterfly spp.', kabambang 'k.o. grasshopper'; SekoP kalubammang 'butterfly' < PSS *-bambang, with an unanalyzable prefix. Cf. Bare'e kalabamba, Badaq, Napu, Ledo kalibamba 'butterfly'. Charles has reconstructed a proto-form *alibangbang (Zorc 1971) 'butterfly' based on Philippine evidence. A root PAN **bang

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probably with the basic meaning "fly" is visible; cf. also Ml. tĕrbang 'to fly' and kumbang 'bee'. For other examples, see Ex. 135 PSS *(dr)inding, PAN *dingding 'wall' and Ex. 220, PSS *ciñcin 'ring', PAN *cincin.

A special problem involves those items where the sequence nasal + *l would have occurred; in these cases PSS would have been required to assimilate the nasal to a consonant which could not be prenasalized. There are very few clear examples, but in those that exist, Mak. shows contradictory reflexes:

348. Bug. lɨllɨng, ulɨllɨng, Mak. leqleng, Sad. DuriK lillin 'black' < PSS *lɨ(?)lɨ(m?) probably reflecting PAN *lɨmlɨm 'dark, cloudy'.

349. Bug. Mak. Mdr. Sad. laqlang 'umbrella' < PSS ?*la(?)la(N), possibly < PAN *lɨmlɨm too. BWB marks the Bug. form as a borrowing < Mak., which suggests that all might be.

350. Bug. (BWB) luqlung(= lullung?), Sad. lulun 'to roll up' < PSS *lu(?)lun, PAN (Dw)*lulun, but possibly *lunlun.

351. Mak. pi/lollong 'to bark' < PSS ?*lo(?)long, PAN (Dw) *lulung, but possibly *lunglung.

*Lɨmlɨm is the only RM in Dempwolff with *(lVN)2 structure; Zorc's list contains two others--*lamlam 'bland' and *lunlun 'devour'-- not reflected in SSul. Nowhere do we find RMs with the structure *(rVN)2, but in the present state of our knowledge it is unclear whether this is a systematic or an accidental gap.

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3.7d. Examples possibly reflecting PAN *C_1C_2 where C_1 was a laryngeal (PAN *q or *h). Dempwolff did not reconstruct such forms, as none of his witnesses reflected them. Other Philippine and Formosan languages, however, do, and Zorc lists perhaps a dozen or so forms with the structure $C_1V_1qC_1V_1q$ or (very rare) $C_1V_1hC_1V_1h$, out of a total ±120 RMs. PAN *h is lost without trace in PSS; PAN *-q, as was shown in §3.2b.1, effected changes of vowel quality (in pre-PSS times) and then > Ø in PSS. Most of the RMs, therefore, with medial and final laryngeals are reflected in PSS with the shape CVCV, but there are two examples, where *q preceded a voiced stop, which suggest that PAN *q was reflected in the PSS etymon. They are:

352. Bug. rede, Mak. rere, Mdr. Sad. DuriK reqde, Mmj. dede, rere, hehe 'to boil' < PSS ?*(dr)ehde, PAN *ḍiqḍiq. Further, Mdr. ma/rere 'to dissolve in water'; Sad. rede 'to smelt, melt metal.'

353. Bug. babang (< earlier baba+ang?) 'door'; Mak. bawa, Mak-Bont. baba 'mouth'; Mdr. baqba 'river-mouth'; Sad. baqba 'door'; DuriC baqba 'one of the rooms in a house'; Sad-Rong.(A.Kruyt 1920) baqba 'entry-way, hall' < PSS ?*bahba, PAN *baqbaq. Further: Sad. baba 'opening of a basket', babangan ("old"), bamba 'entrance to a village'; Mass-Patt. babangan 'door'; Bug. baba 'river-mouth'. Possibly DuriK baraba 'curtain'; perhaps Mdr. bamba 'voice'.

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There is little reason, aside from considerations of symmetry, to posit the reconstruction of PSS *h in final position in these items. (In addition, such a step would require the unnecessary revision of e.g. PSS *pute 'white' to *puteh, *bulo 'bamboo' to *buloh, with the rule PSS *-h > ∅ occurring very early. The highly irregular cognate sets above do not offer sufficient grounds for such a revision.) The symbol "*h" is chosen as the PSS reflex of PAN *-q- for two reasons: (1) to distinguish these clusters from PSS *qC clusters, for the two develop differently, and (2) where PAN *q is reflected in other languages of the IN archipelago, it is usually as /h/, less often as /q/. It is true, of course, that either a phonetic [h] or [ʔ] would effect the vowel lowering found in PSS.

Whether the presence of *h (that is, a [+continuant] segment) contributed to the Mak. development is hard to say; *d > r is regular in any case, so only the rare /w/ < *b is evidence. Such a change is realistic, either as a single rule, or as the result of two rules:

(1) *-hb- ⟶ Mak. /w/

$$\begin{bmatrix} -\text{cons} \\ -\text{syll} \\ +\text{cont} \end{bmatrix} \begin{bmatrix} +\text{cons} \\ +\text{obst} \\ +\text{grave} \\ +\text{diff} \\ +\text{voi} \end{bmatrix} \longrightarrow \begin{bmatrix} -\text{cons} \\ -\text{syll} \\ +\text{grave} \\ +\text{diff} \\ +\text{cont} \end{bmatrix}$$

or else:

(2) i. b ⟶ w / h—

ii. h ⟶ ∅

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i. $\begin{bmatrix}+\text{cons}\\+\text{obst}\\-\text{cont}\end{bmatrix} \longrightarrow \begin{bmatrix}-\text{cons}\\-\text{syll}\\+\text{cont}\end{bmatrix} / \begin{bmatrix}-\text{cons}\\-\text{syll}\\+\text{cont}\end{bmatrix} \begin{bmatrix}\overline{+\text{grave}}\\+\text{diff}\\+\text{voi}\end{bmatrix}$

ii. $\begin{bmatrix}-\text{cons}\\-\text{syll}\\+\text{cont}\\-\text{voi}\end{bmatrix} \longrightarrow \emptyset$

(This is somewhat simplified, as the change of b to w presumably passed through a [β], that is [+cons, +obst, +cont], stage.)

It does appear to be true that the presence of *h could have prevented the expected changes *b > w and *d > r in Bug. Assuming that the rule for these changes required (at least in part) an intervocalic environment--

$$[-\text{cont}] \longrightarrow [+\text{cont}] / [+\text{syll}] \begin{bmatrix}+\text{obst}\\+\text{voi}\end{bmatrix} [+\text{syll}]$$

then it is obvious that a sequence -hb- or -hd-, that is, [-syll][+obst], no longer fits into the environment. (For similar reasons Bug. /w/ and /r/ are not found as reflexes of *b or *d following *ɨ, or in other RMs.)

It would be possible, of course, to ignore these two examples and treat the /qd/:/d/:/r/ and /qb/:/b/:/w/ correspondences as unexplained irregularities. We do not choose to do so, however, since the "irregularity" is explicable, and has a certain predictive value. It does mean that *h must be reconstructed in some environments where only comparative evidence requires it, i.e. before PSS voiceless stops, as in:

354. Bug. Mak. Mdr. Sad. toto 'to prune, trim' < PSS *tohto (not *toto), PAN *tuqtuq (Zorc).

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DuriK mang/tuqtuk 'idem', if cognate, is assumed to be a secondary (intensive) development. The PSS form must have developed as follows: *tuqtuq > tuhtuh > tohtoh > PSS tohto > modern toto.

355. Bug. Mak. papa 'bamboo lath'; Sad. papa 'split bamboo pieces used for roofing' < PSS *pahpa. Also related: Bug. Mak. Sad. palapa 'rib of the palm leaf (also used in building)' < PSS *p-al-apa. PAN (Zorc)*paqpaq, *palaqpaq.

Is there any indication that PSS *h < PAN *q occurred in any other environment? There is some slight-- and ambiguous-- evidence that *h was retained between like vowels. In Bug. Mak. and Mdr. it was lost and the two vowels coalesced to a single vowel. In some of the other languages, we find a /q/ reflex which can be viewed either as a direct retention, or else the result of two rules: (1) loss of *h (2) automatic insertion of [q] between like vowels-- a rule which operates in other cases of consonant loss, e.g. SekoL raqa 'blood' < PSS *(dr)ara or buqu 'bone' < PSS *buku. Since the occurrence of /q/ reflecting PAN *q can be explained without positing any segment in PSS, we therefore take the position that PAN *q > PSS Ø in initial, intervocalic and final position, and is retained as PSS *h only pre-consonantally (and apparently only in RMs). Where sequences of like vowels resulted from this loss, they subsequently develop as follows:

a) they coalesce to a single vowel in Bug., Mak. Mdr.

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b) they remained in PSad. and then--

(1) are separated by automatic [q] in PUS Mmj. Seko.

(2) remain as sequences in Sad. and Mass. where they are found as phonetically long vowels. Good examples are in fact lacking, but this is the development observed in other cases where V_1V_1 has arisen due to consonant loss-- e.g. Sad. penaa 'soul' < PSS *nawa.

Between unlike vowels, the status of PAN *q is difficult to determine. Most of the examples involve the environment *a—V, with only a handful for *u—V and *i—V. The post-a items are reflected clearly as PSS *-aV-; cognates for post-i are not found at all, while those for post-u show both PSS *-uV- and *-oV-. On the basis of PAN final *-uq > PSS *o, we might view the examples with internal *o as also reflecting *q; however, the correspondence is rare, the number of examples is low, and there are so many other possible sources for internal *o (borrowing, sporadic assimilation to a following /a/, lowering due to closed syllables) that we reject the hypothesis. It is, again, a question of how far back the evidence permits us to go.

Examples of PSS ∅ < PAN *q between like vowels:

356. Bug. Mak. paq, Sad. (SWB) paq, (informant) paaq, Mdr. paeq, PUS paqaq 'chisel' < PSS *paat, PAN *paqat. While influence from Ml. pahat 'idem' should not be discounted, Mdr., at least, shows a characteristic change, *-at > /eq/.

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357. Bug.(BWB) pang, (informants) poppang (= pong 'basis' + pang?), Mdr. upa, (dial.) upaqa, Sad-Mangki, Mamasa apan, Duri upa, PUS (same informant on two occasions) apaqang, apan, PUS (V) apan, apang, Tapalang (V)(on the coast S. of Mamuju) paang, Mmj. paqa, paang, apang, Seko paqa 'thigh' < PSS *paa, PAN *paqa. The final nasal may be due either to (1) analogical re-formation from the possessed forms e.g. *paa+N+ku 'my thigh', or (2) constraints against a monosyllabic CV. The initial vowels may be due to these constraints.

358. Bug. ma/jaq, Mak-Sal.(MWB)"daä", Mass-Mai. ma/jaq 'bad' < PSS *jaa(t), PAN *jaqat. Probably also Mdr. ka/daeq, if this is not related to Sad. Mdr. kadake 'idem'. Matthes does not explain his use of the dieresis in the Salayar form; it could indicate [q] or simple hiatus. The ø final is irregular in any case. The item may also be present in Mass-End. Duri Patt. gajaq 'bad'.

359. Bug. pong 'trunk, stem, basis'; Sad. pong 'capital for investment; property' (perhaps < Bug.); Mmj. pon/na ayu 'tree' (cf. pong aju 'idem' in Bug.) < PSS **puun, PAN *puqun. Perhaps Mak. pun/na 'if', though semantically remote.

360. Mak. song (informant songong) 'to carry on the head', cf. PAN *suqun.

Examples of PSS ø < PAN *q between unlike vowels:

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361. Bug. ma/coa, Mak. Mdr. toa, Sad. Mass. PUS Mmj. SekoP ma/tua 'old' < PSS *tua, PAN *tuqa. Probably also in Bug. batoa 'big', SekoP ma/tua 'hard (e.g. iron)'; perhaps Mdr. ma/coa 'tasty'.

362. Bug. luwang, lowang (irreg. /-ng/), Sad. ma/luaq, ka/luaq, DuriC ma/luah, DuriK ma/lua, PUS Mmj. ka/luaq, SekoP ba/luaq 'wide' < PSS *luaɣ, PAN *luqaɣ if we include Mak. lûaraq 'wide'; or from PSS *luas, PAN *luas if we include Mak. lûasaq 'idem'. However, Matthes suggests that this latter is < Ml. luas 'idem'.

Cf. also Ex. 217 PSS *bintuin 'star', PAN *bituqin, and Ex. 281 PSS *taun 'year', PAN *taqun.

3.7e. Examples reflecting PAN *C_1C_2 where C_1 was a glide, PAN *y or *w. Etyma are very rare. Two fairly certain PSS examples are:

363. Mak. Sad. tete 'small bridge' < PSS *tete, PAN *taytay (Dyen *tɨytɨy). Probably also Bug. lete (> Mdr. leteang) 'idem' if from an earlier **t/al/ete reanalyzed as ta- '..?' + lete.

43. PSS *lele 'spread, go around', probable PAN *laylay (rather than Dempwolff's *ḍayḍay). Dempwolff's *ḍayḍay depends on the presumed cognacy of Jav. ḍeḍe 'to sun oneself' with Tag. l/ag/aylay 'spread out' and Tonga, Samoa lele 'moved along by the wind.' He did not include Fijian lele (1) 'end of a branch farthest from the trunk' or lele (3) 'cross over a river or bay; to ferry across.'

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(Capell 1968), which cannot reflect *ḍ but only *l. We therefore propose that Jav. ḍeḍe be excluded from the set, which then reflects our *laylay. Cf. also, however, our Ex. 343, PSS *leqle(r), PAN ?*liɣliɣ, of which PSS *lele may be an irregular variant; semantically, Fi. lele (3) fits better here. Moreover, if we compare PSS *lele with BI leleh 'trickle down, melt', a PAN *liliq or possibly *liqliq is indicated.

364. Bug. Mak. Mdr. lolo 'young'; Sad. lolo 'young; pretty'; Duri lolo 'young'; Mass-Duri, PUS lolo 'good' < PSS *lolo. Perhaps < PAN (Zorc) *lawlaw 'weak', but PAN ?*luqluq or even ?*lulu would be possible.

3.8. Reflexes of other possible consonant clusters? From the foregoing and from other examples already cited in different contexts above, it should be clear that any sequence of two unlike consonants will be reflected as /-qC-/ in the SSul languages (with the exception of Seko). In other languages of the IN area, clusters occur which reflect infixes reconstructible as PAN *-ɣ- and/or *-r-, or *-l-; these also occur as *-aɣ-/-ar- or *-al-. They serve, in general, to give a <u>frequentative</u> or <u>pluralized</u> meaning to the base, though this is not always clear, and many of the formations appear to be fossilized. The infixes are most frequently encountered in Philippine languages, Batak of Sumatra and Javanese.

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3.8.1. In principle, any SSul /qC/ cluster which is not otherwise explicable could be the reflex of an earlier -r- or -l- cluster. It is striking, however, that most such inexplicable examples in SSul lack cognates in other IN languages, and for the most part are limited to Bug. Mak. and Sad.[38] Some fairly certain examples, however, are the following, with known cognates:

365. Bug.(BWB) buqne (=/bunne/?), Mak. buqne Sad. boqne 'a berry-like fruit, Antidesma Bunius' < PSS ?* bu-r-ne. Dempwolff reconstructed only PAN *bun(i) on the basis of Ml. and Jav. forms-- no doubt to avoid having to explain other forms with /-r-/ like (from Heyne 1950:915-16) Mad. burneh, Ml. (A. neurocarpum) bĕrunai bĕrcuping. It is generally held that the place-names Brunei (a region of Borneo) and Borneo itself reflect the word. In SSul, it could-- like all the others reflecting known clusters-- be a borrowing.

366. Bug. pallaq, Sad. paqlak 'garden' < PSS ?*pa-r-lak; cf. Old Balinese (Goris 1954) parlak 'idem' (from an inscription datable to ca. 915), "Old Malay" (Coedès 1930) parlak 'idem' (from the Talang Tuwo inscription, datable ca. 684), Angkola Batak (Eggink 1936) porlak 'idem'. The Batak /o/ would reflect *i, thus **pi-r-lak; the Ml. form could be from **p-ar-ilak with regular syncope of the schwa (cf. Jav. rĕsih 'clean', Ml. bĕrsih 'idem' < probable bĕ(r)+rĕsih). The SSul forms,

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if native, would only reflect *parlak. No doubt related is a Mak. word-- parallakkeng 'courtyard, forecourt of a house'-- found in the epithet of the 7th King of Goa "Tumenanga ri parallakkenna" 'he who rests (died) in his courtyard'. This seems to reflect *parɨllak + -eng (an irregular but occasional variant of -ang < *-an 'noun formative'), although Matthes derives it from parang 'field' + lakkeng (listed without gloss, found only in this "compound") which strikes me as a possible folk etymology. It could also represent a borrowed /parlak/ with insertion of (early) ɨ to break up the cluster-- cf. the known borrowing Bug. parɨllu Sad. Mak. SekoP parallu 'to need' < Ml. pĕrlu, ult. < Arab. The final impression is that this may be a borrowing in all SSul languages, though perhaps an early one, due to early contact with the South Sumatran Çrivijaya empire.

367. Bug. bɨtte, wɨtte, Sad. baqte 'parched or puffed rice' < ?*bɨ-r-te; cf. Ml. bĕrtih, Toba borti 'idem' < PAN (Dw) *bɨtiq, revised to *bɨɣtiq by Charles. Because of SSul gemination, the SSul forms could equally well reflect the form without *ɣ.

368. Mak. butta 'land, earth', cf. PAN (Charles) *buɣtaq (and doublet *butɨq, which could not produce the Mak. item).

369. Mak. jeqneq 'water' related to or borrowed from Ml. jĕrnih 'clear (of water)'[39]. The word,

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in the Islamic context 'water for ritual ablutions at the mosque', has been diffused into Islamic SSul and Toraja areas.

370. Sad. mem/bano '(poet.) to rinse' does not reflect a cluster, but cf. PAN (Zorc) *baLnaw 'rinse' (his L represents any of several possible consonants in Philippine languages), based on evidence which I have not seen. But is it not possibly a corruption of Spanish baño 'bath' or (spoken) bañao = bañado 'bathed', or of Port. banho, banhado 'idem' (a more likely source for SSul)?

Cf. also the discussion at Ex. 211, PSS *±lzo 'sun, day' < PAN *alg̃aw. Other examples exist, without clear outside cognates or a known PAN etymon, which on semantic grounds seem to have a frequentative or pluralized sense, such as:

371. Bug. Mak. suqbiq 'to carve out; to tattoo'; Sad. suqbeq 'to poke, gouge, pry out' < PSS ?*su-(rl)-bi(C); cf. BI cubit 'to pinch', or Jav. suwir 'ripped', sumbit 'pick/knock down fruits with a stick', cuwit 'scratch/pick off with the nails', cuwil 'pinch/break off with thumb and forefinger' > cruwil ~ sruwil, ñruwil 'to pinch off a piece of something'. This last shows the *-ar- form of the infix (*caruwil > *cəruwil > cruwil).

372. Bug. eqbaq 'make an incision in a sago-palm to obtain the sap'; Mak. eqbaq 'to slice'; Sad. iqbaq (iqbar-) 'to split, divide up'; DuriC ibaq 'to slice' < PSS ?*i-(rl)-ba(C). Note also

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Sad. (intensive?) iqbak 'to open with force' and siqbaq 'cut up ubi (yam) for cooking'.

There may be, however, other sources for these /qC/ clusters, especially where a voiced stop is involved (and these are the majority). One of course is the presence of *ɨ which has undergone some irregular development; but since Bug. generally retains *ɨ, other explanations should be sought. Among the possibilities:

(1) In various IN languages, the voiced stops have pre-glottalized or slightly imploded allophones. Such allophones have even been noted (in initial position only) in Bug. and Mak.[40] In Madurese-- another seafaring group with whom the Bug. and Mak. seem to have had some contact-- PAN voiced stops are reflected as aspirated stops. Thus the "complex" voiced stops in loanwords from such languages might well be heard as equivalent to the "complex" /qC/ in SSul.

(2) Baby-talk. SWB cites a number of words with the comment that they are "kindertaal", for example teqna = tenda 'word used to encourage a child to hop or skip'; appung = lampung 'wild (animal)'. Perhaps we could include here also deliberate phonological deformation in the ritual language of shamans and healers, which is known to occur in other areas of Indonesia though not specifically reported in SSul. (Cf. the Ngaju Dayak "Basa Sangiang"; the Bare'e priestertaal and Bug. "Basa Bissu" probably also contain examples, though for the most part these seem to be made up of borrowed and/or archaic vocabulary.)

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(3) /qC/ ~ /ŃC/ variation. Van der Veen's religious texts provide a few examples, with the /ŃC/ form marked as standard. It was also noted that in the Bug. Sidenreng dialect (Sikki 1970, see §2.1.1.3 above) word-final /ng/ > /q/ before a following <u>voiced</u> stop (as well as-- like the standard-- before a voiceless stop); the change of /maN-/ > /maq-/ in the same environment in the standard might show the extension of such a rule (aided no doubt by analogy and paradigmatic pressures). Thus, there might be unreported dialects where such a change could occur <u>within</u> a morpheme, resulting in /qC/ ~ /ŃC/ variants. (As a matter of fact, Pelenkahu's (1967) Mdr-Majene data contains such examples: RAP poddang 'pineapple', my informant pondang, RAP taqgal 'rust', my tanggal-- but more often, RAP /ŃC/ = my /NC/.)

3.8.2. Finally, Charles (1974) cites a number of examples where -<u>r</u>- or -<u>l</u>- clusters are reconstructible in Proto-Philippine, both innovative as well as reflecting PAN or PIN clusters. Noting the unusual developments encountered, he rightly adds:

> It is difficult to ascertain what regularity there is in such changes for some languages for which data is limited or where the particular cluster is reflected in few forms. (1974:2)

Among the changes observed with some frequency are (1) the vowel preceding the cluster is replaced by secondary *ɨ, sometimes *i (this applies to the clusters of RMs too); (2) the first consonant of the cluster is replaced by another consonant, frequently a nasal. We shall now

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examine those of Charles' reconstructions for which cognates are found in SSul[41].

(a) PIN *haɣZan (Dw *hɨjan) 'ladder'. Cognates are found only in Sad. PUS Mass. Mmj. and Seko, thus in a single subgroup, with irregularities: Sad. Duri eran, PUS erang, eheng, Mmj. era, ehe SekoL erang, SekoP ereng (A&K also cite Mdr-Cend. oran, outside the subgroup, but also irregular). There is no way to derive these from a PSS base with cluster; only PSad. *eran is possible. The final-syllable /e/ could be due to sporadic assimilation, or to the occasionally encountered fronting/raising of *a between two [+diffuse, -grave] consonants; loss of /-n/ in Mmj. is inexplicable. Bare'e, however, has /eja/, regularly < **ayja(n) < **aɣjan < PAN *haɣZan; the crucial change *-aɣ- > **-ay- > /e/ is not typical of SSul, but is typical of the Toraja languages; therefore, PSad *eran can be called a borrowing or substratum form.

(b) PIN *baɣqang, *baɣqam 'molar'. The irregular SSul forms have already been cited at Ex. 177 above, and are not evidence for the cluster.

(c) PAN *baqɨɣu > PIN ?*baqɣu 'new'. Bug. Mdr. Sad. Mass. SekoP baru; Mak. has beru with inexplicable /e/. The Sad. group again shows an unusual variant: Sad. bakaru, baqru, PUS bakaru, Mmj. bakaru, bakahu, SekoL bakaru.

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This must be a borrowing from some language where PAN *q is reflected as /k/, or as glottal stop which was interpreted as /k/ in the Sad. area. But none of the neighboring languages has a form which could have been the source.

(d) PAN *bɨnSiq, PPh. *bɨnhiq 'seed-rice'. Mak. Mdr. Sad. Mass. PUS Mmj. banne regularly < PSS *bɨnne; Bug. bine, wine, Mak-Konjo Mdr. bine, SekoL hine regularly < a doublet *bine, possibly a borrowing < Ml. binih. Dempwolff reconstructed doublets, *bɨniq (> PSS *bɨnne) and *biniq (> PSS *bine); these are adequate to explain most forms found within the IN archipelago (his *biniq in fact probably < *bɨniq via schwa-assimilation). including SSul. Forms reflecting a cluster could just as well be Philippine innovations.

(e) PIN *bɨɣat, ?*bɨɣqat 'heavy'. Found only in Bug. wɨrrɨq, presumably < PSS ?*(b)ɨrrat, where the geminate *-rr- is automatic and need not reflect a cluster. Mdr. ma/weqi (if it is even cognate) would be quite irregular.

(f) PAN, PIN *bɨɣngi 'night'. Bug. wɨnni (n presumed fronted < ng due to the i), Mak.(MWB) bangi, (Informants) bangngi, Mak-Konjo hangngi. These are regular (< PSS *bɨngngi) and again, the gemination is normal and does not reflect a cluster. Mdr. and the Sad. group show forms attributable to Toraja influence (like 'ladder' above and for

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similar reasons): Mdr. Sad. Mass. PUS bongi, Mmj. bongi, bengi, Seko hengi. Cf. Bare'e wengi < **wɨyngi < PAN *bɨɣngi, and Ledo wongi < **bɨngi; perhaps the PAN form should be reconstructed with optional *-ɣ-, *bɨ(ɣ)ngi.

(g) PAN, PIN *bɨɣsay 'paddle'. Bug. wise, Mak. bise, Sad. Mdr. PUS Mmj. bose. The Bug. and Mak. words perhaps show Charles' substitution of *i for *ɨ before the cluster, but we would expect the cluster to be reflected as /-ss-/. On balance, all forms probably reflect borrowing or a Toraja substratum.

(h) PIN *sanglaɣ 'to fry, parch'. See the discussion of Mak. sánggaraq above, §3.5.3. Since the word is isolated in Mak. it is quite likely a borrowing in any case.

(i) PPh. *(Øq)aɣta 'Negrito, black person'. Almost certainly reflected-- without the *-ɣ- infix-- in Bug. Mak. ata 'slave'; likewise in other lN languages: Mori ata 'slave' (< Bug. or Mak.?), Nias, Simalur, Lio (Flores) ata 'person'.

(j) PPh *qalsɨm 'sour'. PSS *insɨm (Ex. 230 above) seems to show both changes: *V > secondary *i before a cluster, and substitution of a nasal for the first member. But the limited distribution of cognates in SSul makes even this a suspect example.

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(k) From another source: Proto-Manobo (Elkins 1974) *balugtu 'rainbow' (presumably < earlier **baluɣtu). SekoL baluttu 'thunder', SekoP baluntu 'lightning', showing *C > N /—C. The word is not found elsewhere in SSul or (so far) in Toraja languages. Borrowing between Seko and Manobo (southern Mindanao) seems a very remote possibility.

Forms attesting PAN clusters seem to be restricted in large part to Philippine languages. The presence of cognates in SSul languages-- when a cluster is reflected-- is perhaps due to borrowing from such languages, for it can be assumed that peoples of the Philippines were just as active in sea-going trade and/or piracy as the SSul peoples. In addition, the Toraja languages show affinities to the Philippine group, due either to (rather remote) genetic affiliation, or else to contact, and these languages could have been the intermediary. Between these two factors, most of the highly irregular SSul examples reflecting clusters can be explained.

3.9. Development from PSS to the modern languages.

In this section we shall formulate and discuss the rules for some of the more noteworthy sound changes. It will hardly be necessary to state such obvious rules as e.g. the one whereby PSS *p- and *-p- > /p/ in all the modern languages; consequently, the focus here will be on:

(1) the phonetic nature of the PSS nasal clusters, (allophonic) geminates, and *-qC- clusters in RMs;

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together with their subsequent developments in the modern languages.

(2) the neutralization of final consonant contrasts and the associated vowel changes.

(3) a tentative subgrouping of the SSul languages.

(4) an hypothesis regarding the PSS "homeland".

Chart 3 sets forth the distinctive features with which the sounds of PSS will be described. Note that the NC have been included, and are considered as units marked [+tense], and that same feature serves to distinguish the vowel *i; the reasons for this will become clear in the discussion.

Given the syllable structure (in polysyllabic morphemes) (C)V(C)-- that is, $[-syl]_0^1$ [+syl] $[-syl]_0^1$ -- certain morpheme structure conditions can be stated:

1. In word-final position, only *p t k s m n ng r l and γ occur (the Condition eliminates c and ñ); *w y q and h do not occur.

$$[-syl] \longrightarrow \begin{bmatrix} +cons \\ \alpha obst \\ \beta grave \\ \gamma diff \\ -\alpha voi \end{bmatrix} \quad /\text{——}\#$$

Condition: β or γ must = +.

2. Only *r l q h may occur before another consonant.

$$[-syl] \longrightarrow \begin{bmatrix} \alpha cons \\ -obst \\ \alpha diff \\ \alpha voi \end{bmatrix} \quad /\text{——}[+cons]$$

(Thus, if α = +, *r or l; α = -, *q or h.)

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CHART 3

Distinctive features of PSS

	p	b	mp	mb	m	t	d	nt	nd	n	s	z	ns	nz?	c	j
Consonantal:	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Syllabic:																
Obstruent:	+	+	+	+	-	+	+	+	+	-	+	+	+	+	+	+
Grave:	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-
Diffuse:	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-
Nasal:	-	-			+	-	-			+	-	-			-	-
Tense:	-	-	+	+		-	-	+	+		-	-	+	+	-	-
Continued:	-	-	-	-		-	-	-	-		+	+	+	+	-	-
Voiced:	-	+	-	+		-	+	-	+		-	+	-	+	-	+
Lateral:																

	ñc	ñj	ñ	k	g	nkg	ngg	ng	r	l	ɣ	w	y	q	h
Consonantal:	+	+	+	+	+	+	+	+	+	+	+	-	-	-	-
Syllabic:												-	-	-	-
Obstruent	+	+	-	+	+	+	+	-	-	-	-				
Grave:	-	-	-	+	+	+	+	+	-	-	+	+	-	-	-
Diffuse:	-	-	-	-	-	-	-	-	+	+	-	+	+	-	-
Nasal:			+					+	-	-	-				
Tense:	+	+		-	-	+	+								
Continued:	-	-		-	-	-	-		+	+	+	+	+	-	+
Voiced:	-	+		-	+	-	+								
Lateral:									-	+					

	i	e	ɨ	a	u	o
Consonantal:	-	-	-	-	-	-
Syllabic:	+	+	+	+	+	+
Obstruent:						
Grave:	-	-	+	+	+	+
Diffuse:	+	-	+	-	+	-
Rounded:	-	-	-	-	+	+
Tense:	+	+	-	+	+	+

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3. *z does not happen to occur word-initially. (While this seems rather ad-hoc, it reflects a constraint that also affected PAN *ǧ-- assuming that Dempwolff's reconstruction of this sound is valid (see §4.4).)

$$\begin{bmatrix}+\text{obst}\\+\text{voi}\end{bmatrix} \longrightarrow [-\text{cont}] \;/\; \#\text{——}$$

(In other words, an initial voiced obstruent must be a stop.)

4. *γ only occurs finally, i.e. not before vowels. (This again may seem ad-hoc, but reflects a complication introduced into PSS morpheme structure by the pre-PSS merger of non-final *γ with *r.)

$$\begin{bmatrix}+\text{cons}\\+\text{cont}\end{bmatrix} \longrightarrow [+\text{diff}] \;/\; \text{——}[+\text{syl}]$$

(This permits only *r l s pre-vocalically; *w and *y ([-cons]) are not affected.)

Other morpheme structure conditions of PSS will be presented in the following discussion.

3.9.1a. PSS *NC. In 3.5 above it was established that PSS had intramorphemic nasal clusters consisting of homorganic nasal plus obstruent (stops, *s and perhaps *z). Identical clusters occur widely throughout the languages of IN, the Philippines and Oceania (with appropriate mergers at the Proto-Oceanic (POC) level), and on that basis they can be reconstructed back to a fairly remote level. Perhaps at some even more remote level, the nasal was an infix-- *ng according to Blust-- with some as yet undetermined morphemic function; but in this discussion we will be

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concerned only with the PSS level and the stage or stages immediately superordinate to it. In PSS and pre-PSS, the *NC reflect not only the *NC and *(N)C reconstructed by Dempwolff, but also the heterorganic clusters of N+C found in reduplicated monosyllables; for the moment we are dealing only with the first type.

Neither Dempwolff nor later researchers seem ever to have considered the question of whether the *NC were true clusters (i.e., a syllable boundary fell between the N and the C) or units (the syllable boundary preceded the N). Certainly for PSS, it is useful to analyze them as <u>units</u>-- specifically, marked [+obst, +tns], specified further as [+nas] by redundancy rule. For one thing, this simplifies the statement of PSS morpheme structure: all bases with the exception of the inherited RMs are of the form $C_0^1VC_0^1VC_0^1$, with a mere handful of the shape $C_0VC_rC_1^1VC_0^1$ (where "C_r" indicates the old infixes *-r- and -l-). Secondly, an intervocalic consonant may be [+tns]-- the rule may have applied variably (dialectally?) to individual bases, so that today we find reflexes of both [+tns] NC and [-tns] C.

These are by no means ad-hoc arguments. Both statements could also hold true for PIN and POC. All IN and OC languages reflect variation between *C and *NC; also, some IN languages which permit both open and closed syllables still consider the NC systematically as single consonants. This is the case, for example, in modern Jav. where NC functions as a single consonant in determining the vocalic

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allophones-- in particular of /a/, for which the rule is:

Jav. /a/ ⟶ [ɔ] / (—C_1^1)—# [42]

This produces such forms as (all citations from Jansz 1913):

/lala/ = [lɔlɔ] 'low, common'

/langka/ = [lɔngkɔ] 'rare, unheard of'

as opposed to:

/arta/ = [artɔ] 'goods, property'

/sastra/ = [sastrɔ] 'literature'

and morphophonemic alternations like:

/mata/:[mɔtɔ] 'eye' > /matane/:[matane] 'his/the eye'.

The fact that most (perhaps all) of the -CC- examples happen to be loan words should not mislead, for loanwords of /CaCa/ shape also obey the rule-- e.g. /pada/ = [pɔdɔ] 'foot, metric unit in poetry' < Skt. pāda 'foot'.

POC offers even stronger evidence for this analysis, as do those IN languages (e.g. Bare'e and many in eastern Indonesia) which like POC have open syllable structure but allow phonetically prenasalized stops. Rather than positing radical changes in morpheme structure whereby (1) medial clusters [+nas][+obst] are simplified to units [+obst, +nas] and then (2) allowed to occur initially, we can say that these languages have only undergone a relatively minor change with respect to privilege of occurrence. Compare the PSS and putative PIN rule--

PSS/PIN MS(i): [+obst] $\xrightarrow{\text{opt.}}$ [+tense] / V—V

with the probable POC rule:

POC MS(ii): [+obst] $\xrightarrow{\text{opt.}}$ [+tense] / —V

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where, by a simple change (generalization) in the environment, any pre-vocalic (not just intervocalic) intramorphemic obstruent may be prenasalized[43]. It is perhaps worth noting that Jav., where intervocalic NC function as a single C, also permits initial NC-- though it is true that most of these are due to morphophonemic processes. Tagalog, on the other hand, where NC clearly functions as a sequence of two consonants (in that words of the shape $CV\{^{C}_{N}\}CVC$ are automatically stressed on the ultima), does not permit initial NC.

The main advantage of analyzing the PSS *NC as [+tns] units is that the later development of these consonants is closely connected to that of the geminates and RM clusters, as we shall now show.

3.9.1b. PSS geminates and *-qC-. Since the geminate consonants were purely allophonic in PSS, any explanation of their origin must be sought within PSS or some closely preceding stage, and their phonetic realization must be accounted for within the phonological rules of PSS.

The consonantal allophones following *ɨ can be viewed as resulting from (1) something in the nature of that vowel, or (2) some other factor(s), or (3) some combination of these. Comparing PSS and the modern languages with other schwa-retaining languages in the IN area, an answer becomes clear: in languages with gemination, penultimate syllables with /ɨ/ can be stressed (Bug., Madurese and Sangirese), whereas in non-geminating languages such as Ml. and Jav., if the penult contains schwa then the ultima is stressed.

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In addition, in Tagalog-- where *ɨ > /i/ and which has synchronically unpredictable stress-- there is a strong correlation between final-syllable stress and a reflex of *ɨ in the penult[44], suggesting that the Proto-Philippine stress rule probably resembled that of Ml/Jv. in this respect. By implication, then, at the proto-stage ancestral to Ml., Jav. and Tag. the stress rule must have been (informally stated):

$$\text{PIN SR}_1\text{:}\quad V \longrightarrow V \,/\, \left\{\begin{matrix} \text{ɨC—(C)\#} \\ \text{—CV(C)\#} \end{matrix}\right\}$$

The rule as stated, however, obscures an important typological fact about IN and AN languages: a strong tendency toward penultimate stress. Verbally, the rule should run something like this: "Stress the penult if at all possible, but if it contains schwa, stress the ultima." (Bear in mind that RMs are still out of consideration here.) We conclude, thus, that *ɨ was somehow set apart from the other PAN vowels *i a u, and the distinction tense/lax seems logical. (There is additional evidence for the peculiarity of *ɨ in its varied reflexes: /i/, /e/, /a/, /u/, /o/ in various languages, sometimes within a single language.) We therefore say that *ɨ was marked for tenseness (thus [-tns]) while *i a u were unmarked (by convention [+tns]). The Stress Rule can now be restated formally as:

$$\underline{\text{PIN SR:}}\quad [+\text{syl}] \longrightarrow [+\text{stress}] \,/\, [_____{<+\text{tns}>}]<C_0V>C$$

That is, if the penult contains a tense vowel (*i a u)-- and this holds for the vast majority of bases-- stress it;

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otherwise, stress the ultima, whatever its vowel (*i a u or ɨ). Ml. and Jav. essentially retain this rule; changes there and in Tag. will be discussed later.

Languages like Mad. or Bug., and by extension PSS, have eliminated the special condition on the rule; that is, they have generalized the environment to cover any penultimate vowel:

PSS SR: $[+syl] \longrightarrow [+stress] / \text{—}C_0VC_0\#$

(In PSS, this rule clearly applied to all bases, RMs included.) PSS-SR can be viewed as an innovation, since it is accompanied by another change, gemination after *ɨ. Other rules played a role here, rules which in turn are traceable to the PIN stage since they appear to have operated in several distinct subgroups. They are:

PIN/PSS "Rule M": In an open penult, a stressed tense V is phonetically long.

$$[+tns] \longrightarrow [+long] / [+\overline{\text{stress}}][\begin{smallmatrix}-syl\\-tns\end{smallmatrix}]VC_0\#$$

PIN/PSS "Rule N": Vowels in other environments (stressed or not) are phonetically short.

$$[+tns] \longrightarrow [-tns] / \text{———} \begin{Bmatrix}[\begin{smallmatrix}+obst\\+tns\end{smallmatrix}]\\[-syl][-syl]\\([-syl])\#\end{Bmatrix}$$

The environment of Rule N, strictly speaking, need not be stated, since it is in fact "elsewhere"; but since languages differ as to which parts of the environment are retained, we prefer not to omit it here. The relevant portion for PSS

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is in Rule N: [-tns] vowel preceding [+tns] consonant. Leaving aside pre-cluster and pre-final vowels, we note the inter-relationship between [+tns] long stressed V followed by a single consonant ([-tns] i.e. not a NC) versus [-tns] stressed vowel followed by a [+tns] consonant (at this point in the history, and in our discussion, only a NC). Assuming that the Stress Rule (PSS-SR), Rule M and Rule N operated in a pre-PSS stage, we can see their interaction on the following (hypothetical) forms:

(a) forms with [+tns] penultimate vowel (*i a u)

	—CV(C) "tapu"	—NCV(C) "timpa"	C—CCVC (a RM) "tuktuk"
PSS-SR	tá̠pu	tí̠mpa	tú̠ktuk
Rule M	tá:pu	---	---
Rule N	tá:pŭ	tí̠mpă	tú̠ktŭk
Surface	<u>tá:pŭ</u>	<u>tí̠mpă</u>	<u>tú̠ktŭk</u>

(b) forms with [-tns] penultimate vowel (*i̱)

	—CV(C) "ti̱pu"	—NCV(C) "ti̱mpa"	C—CCVC (RM) "ti̱kti̱k"
PSS-SR	tí̱pu	tí̱mpa	tí̱kti̱k
Rule M	(cannot apply: *i̱ is [-tns] by definition)		
Rule N	---?	tí̱mpă	tí̱kti̱k
Surface	???	tí̱mpă	tí̱kti̱k

Correct surface forms (as would occur in e.g. Bug.) are produced in all cases except anomalous *ti̱pu, which was neither the input to, nor the output of, Rules M and N. But the situation can be saved, for if a relationship exists between the tenseness of stressed vowels and their following consonants, then a new rule can be created by analogy:

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$$\text{"IF } [+\overset{\bullet}{V}][{}^{+obst}_{+tns}] \Longrightarrow [{}^{+\overset{\bullet}{V}}_{-tns}][{}^{+obst}_{+tns}]$$

$$\text{THEN } [{}^{+\overset{\bullet}{V}}_{-tns}][+C] \Longrightarrow [{}^{+\overset{\bullet}{V}}_{-tns}][{}^{+C}_{+tns}] \text{"}$$

In other words, formally stated:

Pre-PSS "Rule 0": The stressed non-tense vowel of an open penult must be followed by a [+tns] consonant.

$$[+cons] \longrightarrow [+tns] / \begin{bmatrix} +syl \\ -tns \\ +stress \end{bmatrix} \text{——} [+syl]$$

Rules M and N were purely phonetic rules (and remain so in modern IN languages); Rule "O" originated as such, but would soon have been reordered to become a morpheme structure rule, supplementing the original optional rule. So beside that rule--

PSS-MS "D": $[+obst] \xrightarrow{opt.} [+tns] / V\text{—}V$

there is a new rule:

PSS-MS "E": $[+cons] \longrightarrow [+tns] / [{}^{+syl}_{-tns}]\text{—}[+syl]$

Rule "D", it will be recalled, served to create only the prenasalized <u>obstruents</u>; Rule "E", however, creates a whole new class of tense <u>consonants</u>. At this point, the underlying forms of PSS, and the feature specifications of the consonants must be changed, for while the two classes [cons] and [obst] overlap, the new tense [cons] were clearly not prenasalized. Because of this overlap, the feature [nasal] of the old [+tense] obstruents (NC) is no longer redundant, but must be included in the underlying specification. The NC now are specified as at (a) below, the new [+tense] consonants as at (b):

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(a) $\begin{bmatrix} +\text{cons} \\ +\text{obst} \\ +\text{tns} \\ +\text{nas} \end{bmatrix}$ = NC (in fact, a sub-class of (b) below)

(b) $\begin{bmatrix} +\text{cons} \\ \alpha\text{obst} \\ +\text{tns} \\ \beta\text{nas} \end{bmatrix}$ = both geminates and NC.

Filling in the appropriate signs (+,-) for α and β, we have:

(i) α = +obst, β = +nas = NC

(ii) α = +obst, β = -nas = CC

(iii) α = -obst, β = +nas = NN

(iv) α = -obst, β = -nas = *rr, *ll

The point at which "Rule 0" (a phonetic rule) was reordered to become "Rule E" (a morpheme structure rule) must have been just prior to, or within, PSS, not later[45]. Other evidence to justify the presence of [+tns] consonants in PSS will be discussed later, in §3.9.1c.

We must now deal with the RMs, which up to now have been excluded from our consideration of early morpheme structure rules. RMs seem to have arisen from processes and rules quite distinct from those which produce ordinary bisyllabic bases. They can be interpreted as being derived from single-syllable roots; the process of reduplication is not entirely clear, but many of the items already reconstructed by Dempwolff can be analyzed as follows: the single syllable = an onomatopoetic term, the reduplicated term = a verb descriptive of the action or sound. For example, *ṭuk 'sound of a heavy blow' (comparable perhaps to Engl. "pow" or "bam") vs. *ṭukṭuk 'to hit, pound, knock'; such examples could be multiplied. They are, however, the obvious ones. In others, it is unlikely that onomatopoeia

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is involved, and for items such as *kilkil 'greedy' (Toba hilhil 'chew', Ml. kikil 'greedy') Dempwolff did not venture to reconstruct any monosyllabic base. In a few such cases, one is attested (though usually in OJ, not used by Dempwolff in his reconstruction)-- e.g. (Dw) *butbut 'pluck, pull out', OJ but, a/but 'to pull up, BI cabut'.

Rather than being generated directly by the morpheme structure rules, RMs must have resulted from a transformational rule such as:

$$T_{\text{redup.}} \quad (\text{PAN})$$

$$\frac{\text{Redup}}{1} + \frac{\text{CVC}}{2} \quad \Longrightarrow \quad 2\ 2$$

Further evidence that this was the case lies in the fact that RMs often show unusual developments (e.g. divergent stress patterns in some Philippine languages (see Zorc 1972); in Sangir (and others) the vowel of the first syllable > *i or a reflex thereof), and also show constraints on consonant sequences which do not affect ordinary CVC syllables. We have already mentioned some of these (§3.7 above); of particular interest is the constraint on identical consonants. Thus, there is no RM *nan-nan, but nan occurs in *wanan 'right(hand)'; no RM *tut-tut, but tut occurs in *patut 'fitting, proper' and *i(n)tut 'fart'. (Sequences of like consonants in the same syllable, however, are very rare in the PAN vocabulary, as Chrêtien's figures show (1965: 266).)

The reduplication rule undoubtedly depended on some syntactic or derivation process; in any case, RMs would

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not have been generated in their full form by the morpheme structure rules (at the very earliest PAN level). This situation seems not to have continued very long; very few languages maintain the relationship between monosyllable:RM. Consequently, with the loss of that relationship, RMs would have been incorporated into the lexicon in their bisyllabic form, and thereafter had to be generated by the MS rules. This is certainly true of the modern SSul languages, and by implication was also true of PSS, and probably also of pre-PSS.

Given a basic (pre-PSS) structure $C_0^1VC_0^2VC_0^1$ for all bisyllabic bases, the main problem as we approach the PSS level arises in keeping -CC- of RMs distinct from the fossilized -CC- of the old infixed forms like *burne 'Anti-desma sp.' or *ɨlzo 'day, sun'. Note too that for PSS, RMs of the structure (CVN)2 need not be kept distinct from ordinary bisyllables with a medial [+tns, +nas] obstruent; thus in pre-PSS at some point, a rule of nasal assimilation must have operated on the heterorganic RM N_1C_2 clusters (tne same rule affects Ml. and modern Jav., but not Proto-Philippine):

RM Nasal Assimilation (pre-PSS)

$$\begin{bmatrix}\alpha\text{grave}\\ \beta\text{diff}\end{bmatrix} \longrightarrow \begin{bmatrix}\gamma\text{grave}\\ \delta\text{diff}\end{bmatrix} / \left[\overline{+\text{nas}}\right]\begin{bmatrix}+\text{obst}\\ \gamma\text{grave}\\ \delta\text{diff}\end{bmatrix}$$

followed by reanalysis and reassignment of these clusters as units:

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NC Reanalysis Rule (pre-PSS)

$$[+\text{nas}][+\text{obst}] \Longrightarrow [^{+\text{obst}}_{+\text{tns}}]$$

(and further [+nas] by redundancy rule).

It is difficult at this point to say exactly how the morpheme structure of PSS compared with that of earlier stages, for in the absence of reconstructed proto-languages of other subgroups we cannot determine with any accuracy what pre-PSS or PIN were like. We can hypothesize, however, several stages of development from PAN to various modern languages, from which it appears that a relatively simple PAN system developed into relatively more complex ones, which in turn have become once again simplified. Among these stages could have been the following:

I. PAN (or some early stage between PAN and PIN).

The MS rules produce: 1. CVC (of certain restricted shapes)

2. $C_0^1VC_0^1VC_0^1$ (a medial C may be [+tns], i.e. NC)

RMs and infix-clusters arise transformationally.[46]

II. Post-PAN$_1$.

(Assume that RMs are no longer derived transformationally.)

MS rules produce: 1. a few CVC

2. RMs, $C_xV_yC_zC_xV_yC_z$

3. $C_0^1VC_0^1VC_0^1$ (as in 2 of Stage I)

Infix-clusters still arise transformationally.

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III. Post-PAN$_2$.

(Assume that infixation ceases to be productive.)

MS rules produce: 1. a few CVC

2. RMs, $C_xV_yC_zC_xV_yC_z$

3. CV(R)CVC (R = a cover symbol for *-γ-, *-l-)

4. $C_0^1VC_0^1VC_0^1$ as before.

Apparently an even more complex system: how to distinguish -γC- or -lC- (old infixes) from -γC- or -lC- in RMs? A possible simplification would be to reanalyze NC as a sequence of two consonants and combine 3 and 4 to become $C_0^1VC_0^2VC_0^1$; the rule for non-RM clusters can now be:

$$C \longrightarrow \left\{\begin{matrix} N \\ \gamma \\ l \end{matrix}\right\} / \text{——}C$$

Because of their conditions on syllable identity, RMs would still require special rules. Philippine languages appear to have developed from such a stage as this; it might also be the PIN stage, though it seems unlikely that NC were reanalyzed as clusters this early. PIN could also develop out of the next stage, IV.

IV. Post-PAN$_3$ (= PIN?).

(Assume merger (via nasal assimilation $N_xC_y > N_yC_y$) of /CVN/ RMs with CVNCVC, but /CVC/ RMs still distinct.)

MS rules produce: 1. a few CVC

2. RMs, $C_xV_yC_zC_xV_yC_z$ (where C_z is stop or continuant only)

3. $C_0^1VC_0^2VC_0^1$ (where $C \longrightarrow N,r,l$ /——C)

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If we assume that N+C clusters (always homorganic) were subsequently reanalyzed back to [+obst, +tns] units, then this could be the stage immediately prior to PSS.

V. Post-PAN$_4$.

(Assume that /CVC/ RMs begin to merge-- via CVqCVC -- with ordinary CVCVC. With the addition of gemination after *i, this could be PSS.)

MS rules produce: 1. a few CVC
2. CVHCVC (H = a cover symbol for *q or *h)
3. $C_0^1VC_0^2VC_0^1$ (where C $\rightarrow$ only r,l / —C)

This represents a simplification of IV in that RMs can now be distinctively identified by their medial cluster consisting of $[^{-cons}_{-syl}][+cons]$. A remnant of the identity conditions remains, as will be seen.

VI. Post-PAN$_5$, Post-PSS.

(Assume merger of *qC, *rC, *lC, all > /qC/, and NC reanalyzed as a cluster N+C. This is essentially modern Makassarese.)

MS rules produce: 1. a few CVC
2. $C_0^1VC_0^2VC_0^1$ (C $\rightarrow$ N,q / —C)

VII. Post-PAN$_6$ (a typical modern development).

In modern Malay, RMs have been entirely eliminated by (1) nasal assimilation as in Stage IV above and (2) loss of syllable-final consonants, either outright (C $\rightarrow \emptyset$ / —C) or perhaps via a glottal-stop stage

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(like the SSul languages); there is no way, from present data, to reconstruct which route was followed. A handful of infix-clusters remains (usually /-rC-/, but if Consonant Loss applied unrestrictedly, then these items could be explained as later loans (most likely < Jav. or Sund.) further influenced by the presence of many other clusters in loanwords from Skt., Arab., Du. and Port. Even so, modern Ml. MS rules need only produce (1) a few CVC and (2) $C_0^1VC_0^2VC_0^1$, where a pre-consonantal C ⟶ N, r, l (mainly in native vocabulary) plus p, t, k, s (among others, in non-AN vocabulary)-- a considerable simplification over any of the preceding stages.

Now, if we take Stage IV as the most likely Pre-PSS stage, what sort of MS rules will be necessary, and how do they compare with reconstructed PSS MS rules? The basic shape of morphemes is specified by two rules:

PRE MS-1. Morpheme ⟶ $\#Syllable_1^3\#$

(In all AN languages, morphemes of four syllables or more appear clearly to be compounds or later derivations.)

PRE MS-2. Syllable ⟶ $[-syl]_0^1[+syl][-syl]_0^1$

(We ignore for now the requirement that a monosyllable be $\#[-syl]_0^1[+syl][-syl]_1^1\#$ i.e. (C)VC.)

These rules are common throughout much of the IN area, and we posit that they were carried over into PSS as PSS MS-1 and MS-2.

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The next rules, specifying consonants, depend on our hypotheses about the Pre-PSS sound system. For purposes of argument here, we take it to have been similar to the PSS system with the following exceptions: (1) *γ and *h (< PAN *q) could occur morpheme-internally, (2) voiceless stops, nasals, continuants as well as *w y h occurred both word- and syllable-finally, (3) there was probably only a four-vowel system, *i ɨ a u, *ɨ being [-tns] as in PSS, (4) as in earlier and later stages, no reflex of *z occurs initially. In formulating these rules, the problem arises of distinguishing between *-γC- and *-lC- in infix and RM clusters.

PRE MS-3.

$$[\text{-syl}] \longrightarrow \left\{ \begin{array}{l} [\text{+cons}] \;/\; [\text{-syl}]\text{——} \qquad \text{(a)} \\ \begin{bmatrix}\alpha\text{cons}\\ \beta\text{obst}\\ \gamma\ F\end{bmatrix} \;/\; C_1^{1\text{-}3} \begin{bmatrix}\alpha\text{cons}\\ \text{-syl}\\ \beta\text{obst}\\ \gamma\ F\end{bmatrix} \text{CV——\#} \qquad \text{(b)} \\ \quad \underline{\text{CONDITION}}\text{: Optional if } \beta = \text{-}. \\ [\alpha\text{cons}] \;/\; \left\{ \begin{array}{l} \text{\#——} \\ \text{V——V} \\ \text{——\#} \end{array} \right\} \qquad \text{(c)} \end{array} \right\}$$

(Environment (a) dictates a stop/nasal/continuant as the second member of a cluster; Env. (b) dictates identical segments at syllable and word-final, if these are obstruents (*p t k s) or glides (*w y h); if they are [-obst] nasals or continuants, there need not be identity. Env.(c) is in fact "elsewhere", but has been specified in full for clarity.)

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PRE MS-4.

$$[+\text{cons}] \longrightarrow \left\{ \begin{array}{ll} \begin{bmatrix} \alpha\text{obst} \\ \beta\text{grave} \\ \gamma\text{dif} \\ -\alpha\text{voi} \end{bmatrix} / \text{---} \begin{Bmatrix} C \\ \# \end{Bmatrix} & \text{(a)} \\ \underline{\text{CONDITION}}\text{: } \beta \text{ or } \gamma \text{ must } = + / \text{---} \# & \\ [-\text{cont}] / \begin{Bmatrix} C \\ \# \end{Bmatrix} \begin{bmatrix} +\text{obst} \\ + \text{voi} \end{bmatrix} & \text{(b)} \\ [-\text{obst}] / [{}^{-\text{syl}}_{\alpha\ F}]^{1}_{0}\ V \text{---} [{}^{+\text{cons}}_{\beta\ F}] \ldots & \\ \quad \ldots V [{}^{-\text{syl}}_{\gamma\ F}]^{1}_{0} \# & \text{(c)} \\ [\alpha\ F] / \# \text{---} V [{}^{-\text{syl}}_{\beta\ F}] [{}^{+\text{cons}}_{\alpha\ F}] \ldots & \\ \quad \ldots V [{}^{-\text{syl}}_{\beta\ F}] \# & \text{(d)} \\ [\alpha\ F] / \begin{Bmatrix} \# \text{---} \\ V \text{---} V \end{Bmatrix} \text{ (= elsewhere)} & \end{array} \right.$$

(Env. (a) specifies final consonants, the Condition eliminating *c or *ñ; Env. (b) disallows *z in word- and syllable-initial (RM) position; Env. (c) allows a nasal or liquid in non-RMs, while Env. (d) dictates that the syllable-initial consonants of a RM must be identical.

PRE MS-5.

$$[+\text{nas}] \longrightarrow [{}^{\alpha\text{grave}}_{\beta\text{dif}}] / \text{---} \begin{bmatrix} +\text{cons} \\ \alpha\text{grave} \\ \beta\text{dif} \end{bmatrix}$$

(This rule dictates that nasals, both from Rule 3(b) and Rule 4(c), are homorganic with the following consonant.)

Due to sound changes that took place between Pre-PSS and PSS, the corresponding rules in PSS are quite different.

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These changes were:

(1) syllable-final stops and continuants in RMs only shifted to glottal stop (PSS *q).

(2) word-final *w y h > Ø, with changes in the preceding vowels (*-aw, *-uh > PSS *-o; *-ay, *-ih > PSS *-e; *-ah > PSS *-a; evidence for the existence of *-iw and *-uy just prior to PSS is inconclusive). Apparently *-Vw- and *-Vy- in RMs also underwent these changes (or else had done so even earlier), but *-Vh- seems to have been retained into PSS-- though the evidence is tenuous, see §3.7d above.

(3) reanalysis of N+C clusters as [+tns] units.

The shift of syllable-final (RM) consonants > PSS *q can be described in more detail: perhaps it was motivated in part by the loss of distinctive RM structure when N_xC_y > N_yC_y (PRE MS-5 above), but also by the (presumably) highly redundant nature of the RM clusters. Most likely, <u>stops</u> shifted > /q/ first; little structural ambiguity would arise, since the features of the lost stop are still recoverable from the final; thus Pre-PSS **bukbuk > PSS *buqbuk, Pre **lutlut > PSS *luqlut. The rule can be stated as follows:

<u>PRE-PSS Stop Neutralization (RM).</u>

$$\text{Stop} \longrightarrow q \;/\!\!-\!\!-\; C$$

$$\begin{bmatrix} +\text{cons} \\ +\text{obst} \\ \alpha\ F \end{bmatrix} \longrightarrow \begin{bmatrix} -\text{cons} \\ -\text{obst} \\ -\ F \end{bmatrix} / \begin{bmatrix} -\text{syl} \\ \hline -\text{cont} \end{bmatrix} [+\text{cons}]$$

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With the subsequent addition of a rule affecting continuants (but only in RMs), the process could then become generalized to affect all [+cons] segments. The continuant rule is:

PRE-PSS Continuant Neutralization (RM).

$$r\ l\ \gamma\ s \longrightarrow q\ /\ C_xV_y\text{——}C_xV_yC\ (=r\ l\ \gamma\ s)$$

$$\begin{bmatrix}+\text{cons}\\+\text{cont}\\ \alpha\ F\end{bmatrix} \longrightarrow \begin{bmatrix}-\text{cons}\\-\text{cont}\\ -\ F\end{bmatrix} / \left[\begin{smallmatrix}+\text{cons}\\ \beta\ F\end{smallmatrix}\right]\left[\begin{smallmatrix}+\text{syl}\\ \gamma\ F\end{smallmatrix}\right]\left[\begin{smallmatrix}\text{——}\\ -\text{syl}\end{smallmatrix}\right]\ldots$$

$$\ldots\left[\begin{smallmatrix}+\text{cons}\\ \beta\ F\end{smallmatrix}\right]\left[\begin{smallmatrix}+\text{syl}\\ \gamma\ F\end{smallmatrix}\right]\begin{bmatrix}+\text{cons}\\+\text{cont}\\ \alpha\ F\end{bmatrix}$$

and the later generalized rule is:

PRE-PSS Consonant Neutralization (RM).

$$\text{All } C_z \longrightarrow q\ /\ C_xV_y\text{——}C_xV_yC_z$$

$$\left[\begin{smallmatrix}+\text{cons}\\ \alpha\ F\end{smallmatrix}\right] \longrightarrow \left[\begin{smallmatrix}-\text{cons}\\ -\ F\end{smallmatrix}\right] / \left[\begin{smallmatrix}+\text{cons}\\ \beta\ F\end{smallmatrix}\right]\left[\begin{smallmatrix}+\text{syl}\\ \gamma\ F\end{smallmatrix}\right]\left[\begin{smallmatrix}-\text{syl}\\ \text{——}\end{smallmatrix}\right]\ldots$$

$$\ldots\left[\begin{smallmatrix}+\text{cons}\\ \beta\ F\end{smallmatrix}\right]\left[\begin{smallmatrix}+\text{syl}\\ \gamma\ F\end{smallmatrix}\right]\left[\begin{smallmatrix}+\text{cons}\\ \alpha\ F\end{smallmatrix}\right]$$

The whole-word environment still seems to be necessary, because (as we assume) infix-clusters with *-γ- and -l- did not undergo the rule. Could this be because the morphemic nature of the infixes was still felt, even though they were no longer productive?[47]

Likewise, the rules affecting final *w, *y and *h can be viewed as the product of several stages. The loss of *-h apparently proceeded via two rules, (1) lowering of preceding high vowels and (2) loss of *-h in word-final (but not syllable-final) position, as follows:

PRE-PSS Vowel Lowering and *h-loss.

$$1.\ \left[\begin{smallmatrix}*i\\ *u\end{smallmatrix}\right] \longrightarrow \left[\begin{smallmatrix}e\\ o\end{smallmatrix}\right] / \text{——}h\left\{\begin{smallmatrix}C\\ \#\end{smallmatrix}\right\}$$

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2. $h \longrightarrow \emptyset \; / \; \text{—} \left\{ \begin{matrix} V \\ \# \end{matrix} \right\}$

1. $[+dif] \longrightarrow [-dif] \; / \; \begin{bmatrix} -syl \\ \alpha grave \\ \underline{\quad} \\ \alpha round \end{bmatrix} \begin{bmatrix} -cons \\ -syl \\ -dif \\ -voi \end{bmatrix} \left\{ \begin{matrix} C \\ \# \end{matrix} \right\}$

2. $\begin{bmatrix} -cons \\ -syl \\ -voi \end{bmatrix} \longrightarrow \emptyset \; / \; \text{—} \left\{ \begin{matrix} V \\ \# \end{matrix} \right\}$

Note that this rule could be used also to lower high vowels preceding *-γ, if there were firmer evidence that the low vowels were present in PSS (see §3.6.2b above), by revising the environment to--

$$\ldots\ldots / \begin{bmatrix} -syl \\ \alpha grave \\ \underline{\quad} \\ \alpha round \end{bmatrix} \begin{bmatrix} -dif \\ +cont \end{bmatrix} \left\{ \begin{matrix} C \\ \# \end{matrix} \right\}$$

This shows the assimilatory nature of the rule even more clearly; but since evidence for this change prior to PSS is poor, we exclude this form of the rule here, and ascribe the changes to the individual languages.

The changes of *-aw and *-ay can be expressed as a single rule, or as a sequence of rules similar to the foregoing; in either case, it appears to have happened independently of h-loss, since both word- and syllable-final positions were affected. Assuming that a sequence of rules was involved, we have:

PRE-PSS Final Vowel+Glide Rules.

1. $*a \longrightarrow \begin{bmatrix} e \\ o \end{bmatrix} \; / \; \text{—} \begin{bmatrix} y \\ w \end{bmatrix} \left\{ \begin{matrix} C \\ \# \end{matrix} \right\}$

2. $\begin{bmatrix} y \\ w \end{bmatrix} \longrightarrow \emptyset \; / \; \text{—} \left\{ \begin{matrix} C \\ \# \end{matrix} \right\}$

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$$1.\ \begin{bmatrix}+\text{grave}\\-\text{round}\end{bmatrix} \longrightarrow \begin{bmatrix}\alpha\text{grave}\\\alpha\text{round}\end{bmatrix} / \begin{bmatrix}+\text{syl}\\\hline -\text{dif}\end{bmatrix}\begin{bmatrix}-\text{cons}\\-\text{syl}\\\alpha\text{grave}\\+\text{voi}\end{bmatrix}\begin{Bmatrix}C\\\#\end{Bmatrix}$$

$$2.\ \begin{bmatrix}-\text{cons}\\-\text{syl}\\+\text{voi}\end{bmatrix} \longrightarrow \emptyset / \text{——}\begin{Bmatrix}C\\\#\end{Bmatrix}$$

With these changes, therefore, the PSS MS rules to specify consonants are as follows:

PSS MS-3.

$$[-\text{syl}] \longrightarrow \left\{\begin{array}{ll}\left\{\begin{bmatrix}-\text{cons}\\-\text{syl}\\+\text{voi}\end{bmatrix} / \begin{Bmatrix}\#\\V\end{Bmatrix}\text{——}V\right\} & \text{(a)}\\ [+\text{cons}] & \text{(b)}\\ \begin{bmatrix}\alpha\text{cons}\\-\text{obst}\\\alpha\text{dif}\\\alpha\text{voi}\end{bmatrix} / \text{——}C & \text{(c)}\\ [+\text{cons}] / \begin{Bmatrix}[-\text{syl}]\text{——}\\ \text{——}\#\end{Bmatrix} & \text{(d)}\end{array}\right\}$$

(Environment (a) excludes PSS *q h (allowing *w y) in initial and intervocalic position; Env. (b) allows any [+cons] segment in those positions. In Pre-PSS, there were no such limitations. Env. (c) allows *q h r l (old RM and infix clusters). Env. (d) is "elsewhere" but is specified for clarity.

In sum, while the rules of consonant distribution in basic CVCVC morphs have become more complicated due to the loss of final *w y and of *h in all but RMs, the complex environment (PRE 3(b)) required to account for the RMs is much simplified here.)

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PSS MS-4.

$$[+\text{cons}] \longrightarrow \begin{cases} \begin{bmatrix} \alpha\text{obst} \\ \beta\text{grave} \\ \gamma\text{dif} \\ -\alpha\text{voi} \end{bmatrix} / \text{——} \# & \text{(a)} \\ \quad \underline{\text{CONDITION}}\text{: } \beta \text{ or } \gamma \text{ must} = +. & \\ [\text{-cont}] \; / \left\{ \begin{matrix} \text{C} \\ \# \end{matrix} \right\} \begin{bmatrix} \text{+obst} \\ \text{+voi} \end{bmatrix} & \text{(b)} \\ [\text{+dif}] \; / \; [\underset{\text{+cont}}{\text{——}}] \text{V} & \text{(c)} \\ [\alpha \text{ F}] \; / \; \# \text{——V} \begin{bmatrix} \text{-cons} \\ \text{-syl} \end{bmatrix} \begin{bmatrix} \text{+cons} \\ \alpha \text{ F} \end{bmatrix} & \text{(d)} \\ \emptyset \; / \; \begin{bmatrix} \text{-cons} \\ \text{-syl} \\ \text{+cont} \end{bmatrix} \text{C V} \text{——} \# & \text{(e)} \\ [\beta \text{ F}] \; / \; \begin{bmatrix} \text{-cons} \\ \text{-syl} \end{bmatrix} \begin{bmatrix} \text{+cons} \\ \alpha \text{ F} \end{bmatrix} \text{V} \text{——} \# & \text{(f)} \\ [\alpha \text{ F}] \; / \left\{ \begin{matrix} \#\text{——} \\ \text{V——V} \end{matrix} \right\} (= \text{elsewhere}) & \end{cases}$$

(Envs. (a) and (b) are carried over without change from PRE PSS MS-4; Env. (c) allows only *r l s as continuants in morpheme-internal position; this is brought about by the pre-PSS merger of non-final *γ with *r. Envs. (d), (e) and (f) specify the identical consonants of old RMs; note that the whole-word environment is unnecessary in PSS, RMs being defined by the presence of the $\left\{ \begin{matrix} \text{q} \\ \text{h} \end{matrix} \right\}$ + C cluster[48].)

The Pre-PSS rule specifying vowels is similar to the PSS rule, except that in PSS the complex RM environment has been simplified. The Pre-PSS rule would have been:

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PRE MS-6.

$$[+\text{syl}] \longrightarrow \begin{cases} [+\text{tns}] \;/\; \left\{ \begin{matrix} [\alpha\text{syl}^{-\text{cons}}] \\ \text{——}\# \end{matrix} \right\} & \text{(a)} \\ [\alpha\text{tns}] \quad \text{elsewhere} & \text{(b)} \end{cases}$$

PRE MS-7.

$$[+\text{syl}] \longrightarrow [\alpha\ F\ ] \;/\; [{}^{+\text{cons}}_{\beta\ F}][{}^{+\text{syl}}_{\alpha\ F}][{}^{-\text{syl}}_{\gamma\ F}]\ldots$$

$$\ldots[{}^{+\text{cons}}_{\beta\ F}]\text{——}[{}^{-\text{syl}}_{\gamma\ F}]$$

(Env. (a) of Rule 6, without the environment bar, means here "either side of" *w y h (if α = -) or another vowel (α = +), apparently reflecting a PAN constraint; if further research should uncover instances of *i in these environments, then the rule will require revision. Env. 6(b) excludes *i from final position. Rule 7 specifies identical vowels in both syllables of a RM.

In PSS, PRE MS-6 appears without change as PSS MS-5. PSS MS-6, the RM condition, is as follows:

PSS MS-6.

$$[+\text{syl}] \longrightarrow [\alpha\ F\ ] \;/\; [{}^{+\text{syl}}_{\alpha\ F}][{}^{-\text{cons}}_{-\text{syl}}][+\text{cons}]\text{——}$$

Finally, PSS has added the rule dictating a [+tns] consonant following [-tns] *i:

PSS MS-7.

$$[+\text{cons}] \longrightarrow [+\text{tns}] \;/\; \begin{cases} [{}^{+\text{syl}}_{-\text{tns}}]\text{——}\text{V} & \text{(a)} \\ \left(\left[\begin{matrix} +\text{obst} \\ +\text{nas} \end{matrix} \right] \right)\text{——} & \text{(b)} \end{cases}$$

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(Env. (a) specifies a geminate or NC following *i; perhaps the environment should contain a morpheme boundary (that is, "../ *i—(+) V"), as this is the form of the rule in Bug. Env. (b) allows for the optional (N)C.)

The outcome of the Pre-PSS rules, thus, is the PSS morpheme structure rules given above. These account for the origin of the PSS geminate and nasal tense consonants and the clusters *$\left\{\begin{matrix}q\\h\end{matrix}\right\}$C and *$\left\{\begin{matrix}r\\l\end{matrix}\right\}$C. Let us now consider how the clusters and tense consonants might have been realized phonetically in PSS. Speculation on this point is justified, if it provides reasons for the later developments and mergers which these sounds have undergone.

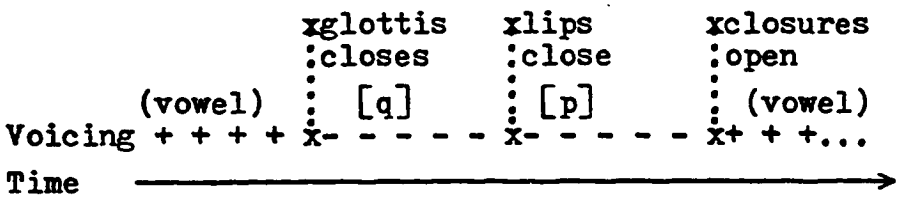
Clusters of *-r- or *-l- + consonant were presumably pronounced as such. The evidence suggests that they did not undergo any change until after the break-up of PSS (see §3.9.1c below). The same appears to be true for the clusters of *-h- + consonant. Perhaps the common feature [+cont] accounts for this.

Clusters of *q + C would of course have been glottal stop + C; thus [qp, qt] etc., [qb qd] etc., [qm qn] etc., [qr ql qs]. (There is no *qz, because *z did not occur in word-initial, thus not in RM syllable-initial, position.)

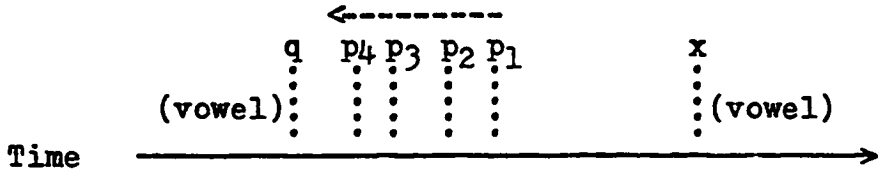
Universal assimilatory processes-- as well as the modern reflexes, suggest how the *qC clusters developed from this stage. In the case of q + voiceless stop, there would be a tendency for the closure of the articulators to occur

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sooner and sooner after the glottal closure, until both closures came to occur simultaneously. Assuming that each portion of the articulation lasted a certain unit of time, we can represent a cluster (such as /qp/) graphically as:



Time being constant, as the moment of labial closure changes, the diagram looks like:



When lips and glottis close simultaneously (time still being constant), the articulation has ceased to be a cluster, and can now be considered a lengthened stop:



Noteworthy here is the pronunciation of /qC/ which I encountered occasionally in my Sad. and Duri informants-- i.e. the sequence /..áqpa../ was phonetically [..áq$^{(ă)}$pa..]. Apparently these speakers, rather than moving the moment of stop closure back towards the [q], have shortened the period of glottal closure, and before articulating the stop closure, the glottis opens briefly, during which the intrusive echo-vowel is heard.

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In the case of q + voiced stop, not much change is possible, since the duration of stop closure plus voicing is limited by physical factors and cannot be lengthened appreciably. If one tries, the result is something like e.g. [qp̄b̥][49]. No doubt such a pronunciation occurs in SSul languages (perhaps in fast speech?), but in my experience it is not the norm. These clusters are invariably [qb], [qd] etc., sometimes (in Sad. and Duri) with the echo-vowel pronunciation. (In Bug., a lengthened pronunciation is considered more elegant, i.e. [b:], [d:] etc. The duration of these is longer than for a plain [b d..], but not so long as for a geminated voiceless stop.)

For q + nasals/continuants, it is not at all surprising that the [q] should be shortened, and the articulation changed to a long consonant. Such a development would certainly be facilitated by the fact that, in SSul languages, these clusters only occur between vowels, thus [+cont] segments. In point of fact, the change of PSS *qs > /ss/ could be attributed to PSS (though we have not done so) since it is found in all the modern languages-- even in Mak. which otherwise retains q + continuant. Reassignment of *qs to **ss results in a change in morpheme structure. Thus PSS had the rule (Env. (d) of PSS MS-3):

(d) [-syl] ⟶ [+cons] / [-syl]——

and since any consonant could occur, no further rule is needed to specify additional features in that environment. After *qs > **ss, a new rule must be added (probably as part of PSS MS-4), such that--

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$$\underline{\text{Post PSS.}}\quad [+\text{cons}] \longrightarrow \left\{ \begin{matrix} [^{+\text{obst}}_{-\text{cont}}](\text{stops}) \\ [-\text{obst}](^{\text{nas.,}}_{\text{cont.}}) \end{matrix} \right\} / [^{-\text{cons}}_{-\text{syl}}]\text{——}$$

Ultimately, this rule is generalized in all SSul languages (except Mak.) to permit only q + stops.

The PSS $[^{+\text{tns}}_{-\text{nas}}]$ consonants were undoubtedly long phonetically; the modern languages offer ample proof of this. Clearly too, the interplay between [+tns] vowel/[-tns] consonant (that is, long vowels in open syllables) vs. [-tns] vowels /[+tns] consonants was important; this phenomenon was apparently connected with phonetic requirements on the length, or "weight" of stressed syllables. The nucleus of a stressed syllable, let us say, had to be two morae in length/weight; in CVCV [CV:CV] (or[CVVCV]) the long vowel fulfills this condition; but a stressed [-tns] vowel would, presumably, be only 1 mora-- thus the extra mora must be "borrowed" as it were from the following consonant, to make the syllable have two morae. These developments are shown in the following; the level is PSS. (The forms are hypothetical. For the stress rules, refer to pp.402-4 above. A period indicates syllable boundary.)

1. Underlying *sita (=[+cons][$^{+\text{syl}}_{+\text{tns}}$][+cons][$^{+\text{syl}}_{+\text{tns}}$])

a) Stress Rule	s	í	.	t	a
b) Rule "M"	s	$^{\text{í}}_{+\text{long}}$	.	t	a
c) Rule "N"	s	$^{\text{í}}_{+\text{long}}$	.	t	$^{\text{a}}_{-\text{tns}}$
d) Surface	s	$^{\text{í}}_{2\text{mora}}$	.	t	$^{\text{a}}_{-\text{tns}}$

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2. Underlying *sinta (=[+cons][+syl +tns][+cons +tns][+syl +tns])

a) Stress Rule s ɪ́ . nt a

b) Rule "M" does not apply....

c) Rule "N" s ɪ́ (-tns) . nt a (-tns)

If Surface were the next stage in this derivation, a non-permitted form would result, with [-tns, 1mora] vowel in an open syllable. Therefore, we posit a Resyllabification Rule at this point, whose effect is to move the syllable boundary, thus changing a unit (nt) into a sequence (n+t):

d) Resyl. Rule s ɪ́ (-tns, 1mora) n (+C, 1mora) . t a (-tns)

The same sequence of rules would apply to forms like *sɪ́tta or *sɪ́nta, > sɪ́.tta, sɪ́.nta > sɪ́t.ta, sɪ́n.ta. Note that RMs (e.g. *taq.tak) already fulfill the 2-mora condition.

This was, in fact, my early hypothesis on the origin of the tense consonants; it was rejected partly because it complicated the underlying feature specifications and MS rules[50], but also because such conditions on syllable weight, number of morae, syllabification etc. seem more likely to be the result of phonetic rules, rather than part of the underlying phonological structure of languages. It is clear, however, that some such development led to the reanalysis of the PSS [+tns] consonants into sequences in all the modern languages.

Gemination of stops presents no problem phonetically; the articulators are simply kept in contact about twice as long (for [-voi] stops) as for a single stop. Simultaneous

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glottal closure throughout most of the articulation seems to be a concomittant. Geminate voiced stops could be phonetically [b̚ b̥]-- i.e. voicing fades, then restarts as the closure is released. Again, since there is a physical limit to the maintenance of voicing with the air-stream closed, this could easily develop into [p̚ b̥] [qp̚ b̥] > [qp̄ b̥] > [qb], which would explain the reflexes in the modern SSul languages. Even so, as we have noted, the preferred pronunciation in Bug. is [b̚ b̥], [d̚ d̥], [d̚ d̥ʒ] (= /jj/), etc.

The phonetic realization of voiced continuants or nasals likewise requires little comment. PSS *zz, however, shows an unexpected development to /qd/ in Sad. Mdr. Mass. PUS and Mmj.; since *z > /r/ otherwise in those languages, we might expect *zz > /rr/. The real problem here is that, of all the reconstructed consonants of PSS, only for *z are the phonetic correlates uncertain (the same holds for its predecessor, Dempwolff's *ǧ); it is thus to some extent an abstraction, even though the reflexes (Bug. /s/, others /r/) accord well with the assumption that it was <u>dental</u>, <u>continuant</u>, and probably <u>voiced</u>. (Some IN languages, e.g. Manobo, do reflect *ǧ as /z/, but generally speaking a [+obst, +cont, +voi] is typologically very rare in the archipelago.) Quite possibly, PSS *z was phonetically an affricate [^{d}z] rather than a true continuant; thus when geminated-- [d̄dz]-- the stop element came to predominate, resulting in merger with /dd/ or perhaps even /jj/, for the languages in question also reflect *j as /d/.

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In addition, it will be noted that if-- as appears likely in stages prior to the modern languages-- voiced tense consonants and /qC/ clusters merge, then *zz > **qz; but such a sequence is forbidden by the MS rules (PSS MS-4(b) above). It is possible too, that /qd/ < *zz arose analogically, via such a reanalysis as--

IF *d > r and *nd > nd and *dd > qd
THEN *z > r and *nz > nd and *zz > ...

The [+obst, +tns, +nas] consonants were, undoubtedly, prenasalized. Like the geminates, they seem to have straddled syllable boundaries. The elimination of *ns and *nz (if it occurred in PSS, which we doubt) is of interest. Since *nz > /nd/ is common to all the languages, it is reconstructed as PSS *nd, and the change from *nz is ascribed to pre-PSS stage(s); *ns > /ss/ is found everywhere except PUS and Mmj., and since these can be shown to belong to the same subgroup as Sad., Mass. and Seko, it follows that PSad. still had *ns < PSS *ns. The change to /ss/ is therefore an independent development in Bug. Mak. and Mdr., and later in most of the Sad. languages.

Regardless of when *nz merged with *nd, the rule would have been:

PRE-PSS (PSS?).

*nz > *nd

$$[+\text{cont}] \longrightarrow [-\text{cont}] \,/\, \begin{bmatrix} +\text{obst} \\ +\text{tns} \\ +\text{nas} \\ \overline{+\text{voi}} \end{bmatrix}$$

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which results in a change in the MS rules:

PRE MS "Rule K".

$$\begin{bmatrix}+\text{obst}\\+\text{tns}\\+\text{nas}\end{bmatrix} \longrightarrow [-\text{cont}] \,/\, [\underline{\quad}_{+\text{voi}}]$$

(Thus, according to this rule, only N + voiced stops, while N + voiceless stops and *s is still permitted.)

Note then that the change *ns > ss, via the rule

Post-PSS.

*ns > /ss/

$$[+\text{nas}] \longrightarrow [-\text{nas}] \,/\, \begin{bmatrix}+\text{obst}\\+\text{tns}\\ \underline{\quad}\\+\text{cont}\\-\text{voi}\end{bmatrix}$$

not only results from the generalization of the environment of "Rule K", but also leads to a simpler rule in Post-PSS:

Post-PSS MS "Rule K_1".

$$\begin{bmatrix}+\text{obst}\\+\text{tns}\\+\text{nas}\end{bmatrix} \longrightarrow [-\text{cont}]$$

(That is, the only permitted nasal clusters are Nasal + Stop. The rule affected Bug., Mak., Mdr. and later Sad. Mass. and Seko.)

3.9.1c. We can now proceed to the description of post-PSS developments. It will be useful to keep in mind the permitted morpheme structures of PSS, abbreviated as follows:

a) $C_0^1VC_0^1VC_0^1$ = CVCV, VV, CVV, etc. including CVNCVC (nasal clusters) and CVCCVC (geminates).

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b) CVRCVC, where R stands for *-r- or *-l-. The structure of these words is otherwise equivalent to (a) except that [+tns] consonants may not occur after R.

c) CVHCVC, where H stands for *-q- or *-h-, and there are constraints on consonant identity.

3.9.1c.1. Makassarese. It seems likely that Mak. was the first language to diverge from the proto-language. What follows is part of the evidence; other parts will be discussed in later sections.

Mak. has preserved PSS phonetic structure with relatively little change. Particularly striking, vis-a-vis the other SSul languages, is the retention of the contrasts /qN/:/NN/ and /qr, ql/:/rr, ll/. Changes in the underlying morpheme structure have included: (1) merger of the PSS infix cluster *rC (but not *lC) with *qC; (2) loss of the feature [+tns] from the matrix due to merger of *i > /a/ and the reanalysis of [+tns] consonants as sequences; (3) loss of *-h-, and (4) unconditioned change of *d > /r/.

We have shown above (p. 416) how syllable final (RM) continuants shifted to /q/ in pre-PSS times. A similar rule operated again in early Mak. to eliminate *-rC- in the only remaining environment (old infixes):

Mak. Pre-consonantal R Rule.

$$*r \longrightarrow q \;/\; \text{—}C$$

$$\begin{bmatrix} +\text{cons} \\ +\text{dif} \\ +\text{cont} \\ +\text{voi} \end{bmatrix} \longrightarrow \begin{bmatrix} -\text{cons} \\ -\text{syl} \\ -\text{F} \end{bmatrix} / \begin{bmatrix} -\text{obst} \\ \hline -\text{lat} \end{bmatrix} [+\text{cons}]$$

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This rule can be written somewhat more simply if we consider *r as [+cons, -obst, -nas, -cont] as opposed to *l [+cons, -obst, -nas, +cont]. This has the advantage of eliminating the otherwise unnecessary feature [lateral] from the matrix; hereby, also, the rule embodies a more natural process, i.e. non-continuant segments > /q/ before other consonants. Considering *r as [-cont] also captures the relationship between *d and *r more easily. However, we have not made this change, as the specification of /r/ as [+cont] or [-cont] in languages of the world seems to be a matter of debate; phonetically, of course, [r] is a continuant.

Probably following merger of *i > /a/, the [+tns] consonants were reanalyzed as clusters, there being no longer any motivation for the relationship $[^{+\ V}_{+tns}][^{+\ C}_{-tns}]$ vs. $[^{+\ V}_{-tns}][^{+\ C}_{+tns}]$. Thus for the NC, Mak. developed the following rule:

Mak. Nasal Clustering Rule.

$$\underline{NC} \longrightarrow N+C$$

$$\begin{bmatrix} +obst \\ +tns \\ +nas \\ \alpha\ F \end{bmatrix} \longrightarrow \begin{bmatrix} -obst \\ +nas \\ \alpha\ F \end{bmatrix} \begin{bmatrix} +obst \\ \alpha\ F \end{bmatrix}$$

and for the geminates:

Mak. Geminate Clustering Rule.

$$\underline{CC} \longrightarrow C+C$$

$$\begin{bmatrix} +cons \\ +tns \\ \alpha\ F \end{bmatrix} \longrightarrow \begin{bmatrix} +cons \\ \alpha\ F \end{bmatrix} \begin{bmatrix} +cons \\ \alpha\ F \end{bmatrix}$$

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Addition of these rules of course led to changes in Mak. morpheme structure. Clusters can now be specified in early Mak. with the following rule:

Early Mak. MS Rule (Clusters).

$$[\text{-syl}] \longrightarrow \left\{ \begin{array}{ll} [\begin{smallmatrix}\text{+nas}\\ \alpha\ F\end{smallmatrix}] \ / \ \text{——} [\begin{smallmatrix}\text{+obst}\\ \alpha\ F\end{smallmatrix}] & \text{(a)} \\ [\begin{smallmatrix}\text{+cons}\\ \alpha\ F\end{smallmatrix}] & \text{(b)} \\ \begin{bmatrix}\text{-cons}\\ \text{-syl}\\ \text{-voi}\end{bmatrix} \ / \ \text{——} [\begin{smallmatrix}\text{+cons}\\ \alpha\ F\end{smallmatrix}] & \text{(c)} \end{array} \right.$$

(Env. (a) permits N+C; Env. (b) permits identical C+C; Env. (c) permits $\left\{\begin{smallmatrix}q\\ h\end{smallmatrix}\right\}$ +C. Note that the rule still generates ns, qr, qs.)

Subsequent changes have complicated this somewhat:

(1) Proto-Mak. *ns, *qs > /ss/.

(2) PMak. *nd > /nr/ (as the result of the general shift *d > /r/; there is no reason to specify modern Mak. /(n)r/ as underlying /(n)d/).

(3) PMak. *h > ∅, already discussed above in §3.7d.

(4) PMak. stop + stop > /q/ + stop-- obligatory for [+voi], optional for [-voi]. (The shift of *qd > /qr/ in later Mak. has no effect on the MS rules, since /qr/ is permitted in any case.) The rule can be stated:

Mak. Degemination Rule.

Stop + Stop ⟶ /q/ + stop

$$\begin{bmatrix}\text{+cons}\\ \text{+obst}\\ \alpha\text{voi}\\ \beta\ F\end{bmatrix} \longrightarrow \begin{bmatrix}\text{-cons}\\ \text{-syl}\\ \text{-voi}\\ -\ F\end{bmatrix} / [\underline{\quad}_{\text{-cont}}] \begin{bmatrix}\text{+cons}\\ \text{+obst}\\ \text{-cont}\\ \alpha\text{voi}\\ \beta\ F\end{bmatrix}$$

CONDITION: Obligatory if α = +, optional if α = -.

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(5) Geminate nasals and continuants ($\left[\begin{smallmatrix}+\text{cons}\\-\text{obst}\end{smallmatrix}\right]$) and /q/ plus the same, are unchanged.

Thus, the clusters of modern Mak. are specified by the rule:

MAK. MS RULE (CLUSTERS).

$$[-\text{syl}] \longrightarrow \left\{ \begin{array}{ll} [+\text{nas}] \;/\; \text{—} \left[\begin{smallmatrix}+\text{cons}\\ \alpha\text{obst}\\ -\alpha\text{cont}\\ -\text{lat}\end{smallmatrix}\right] & \text{(a)} \\ \left[\begin{smallmatrix}+\text{cons}\\ \alpha\text{obst}\\ -\alpha\text{ voi}\end{smallmatrix}\right] \;/\; \text{—} \left[\begin{smallmatrix}+\text{cons}\\ \alpha\text{obst}\\ -\alpha\text{voi}\end{smallmatrix}\right] & \text{(b)} \\ \left[\begin{smallmatrix}-\text{cons}\\ -\text{syl}\\ -\text{cont}\end{smallmatrix}\right] \;/\; \text{—} \left[\begin{smallmatrix}+\text{cons}\\ +\text{voi}\end{smallmatrix}\right] & \text{(c)} \end{array} \right\}$$

(Env. (a) permits N + any stop or /r/; Env. (b) specifies geminate voiceless stops, nasals and continuants; Env. (c) specifies /q/ + voiced stops, nasals and liquids.)

Later, as a phonetic rule, a version of the Degemination Rule applies (optionally) to voiceless stop+stop, permitting /q/ + stop.

The shift of PSS *ə > Mak. /a/ would have eliminated [tense] from underlying feature specifications. However, in view of the irregular Mak. alternations in final position--/-aq/ > $\left\{\begin{smallmatrix}-\text{aC-}\\-\text{aCC-}\end{smallmatrix}\right\}$ / ——$+\text{V}_{\text{suffix}}$ (mentioned in §2.1.2.2 above)--it may be that some dialects underwent different developments. We could hypothesize, for example, the existence of dialects where, by analogy, -aC > <u>only</u> -aCC+, or <u>only</u> -aC+; variation in the standard could then be viewed as the result of dialect mixture. But since this is an unattested

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development, it seems more likely that PSS morphophonemic alternants were preserved in early Mak. even after *ɨ > /a/; in the course of time speakers forgot which forms underwent which alternation, and confusion arose.

See below §3.9.1c.5 for discussion of the change of PSS *ɨlzo 'sun, day' > Mak. allo.

3.9.1c.2. Buginese. The principal changes and their ordering from PSS to Bug. are:

(1) PSS voiceless *NC > Bug. CC.

(2) PSS *-rC- (and perhaps *-lC-) > Early Bug. *qC.

(3) PSS and Bug. *qC > CC.

(4) PSS *b, *d > Bug. /w r/.

(5) PSS *h > ø.

(6) (A later change) PSS, Bug. *nd > /nr/.

(7) (A later change) PSS voiced *NC > Bug. voiceless NC.

Another change, peculiar to Bug., is the shift of initial-syllable *i and *u > Bug. ɨ in RMs in many of the examples: e.g. Bug. bɨbbuq, Sad. buqbuk 'wood-borer (insect)' < PSS *buqbuk; Bug. tɨtteq, Mak. teqteq 'to tick' < PSS *teqtek or *tiqtik; Bug. rɨnring, Sad. rinding 'wall' < PSS *(dr)inding. Since there are also many exceptions, it appears that an incipient sound change was, for reasons unknown, arrested; nevertheless, it must have taken place between PSS and Early Bug., at some point where RMs could still be identified by their medial cluster. (Interestingly, in Sangirese, all syllable-initial RM vowels have shifted > /ɨ/.)

(a) *NC > CC. A rule shared in one degree or another by all the SSul languages except Mak. is the shift of N +

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voiceless stop > voiceless geminate stop. It is absolutely regular in Mdr., present in Sad. dialects and SekoL, found variably in Mass., PUS and Mmj. (perhaps more a function of the relatively small amount of data from these areas). It is presumed regular for Bug., with modern instances of N + vl. stop due to borrowing. Its absence in Mak. is another part of the evidence for considering Mak. the first language to diverge from PSS; by implication, then, the others shared a period of common development during which this rule was added.

The simplest rule would operate while the NC are still analyzed as units:

Post-PSS (minus Mak.) NC Shift.

$$\underline{NC}_{vl} \longrightarrow \underline{CC}_{vl}$$

$$[+nas] \longrightarrow [-nas] \,/\, \begin{bmatrix} +obst \\ +tns \\ \hline -voi \end{bmatrix}$$

and on the basis of its simplicity we choose this analysis. The phonetic change from [NC] to [C:] is not at all difficult to explain, and in fact will not be unfamiliar to English speakers. The motivating factor, without doubt, is the presence of a preceding stressed vowel; thus (using [nt] as typical)--

1. $\acute{v}nt > \acute{v}n^{q}t > \acute{\tilde{v}}n^{q}t$
2. $\acute{\tilde{v}}n^{q}t > \acute{\tilde{v}}qt$
3. $\acute{\tilde{v}}qt > \acute{v}qt$

Stages 1 and 2, of course, account for the typical American English pronunciation of "nineteen" [$n\tilde{a}\tilde{\imath}qt^{h}in$]; the stress and juncture are the probable conditioning factors (perhaps

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also the presence of "eighteen" [qe$\tilde{i}$qt^{h}in]). Nasalization of vowels preceding nasals, however, is atypical of IN languages, so that perhaps SSul went directly from *ɕn^{q}t to ɕqt. At this point, the [+tns] consonants consist of:

Early Bug. MS (Tense Cons.).

$$\begin{bmatrix} +\text{cons} \\ +\text{tns} \end{bmatrix} \longrightarrow \left\{ \begin{bmatrix} \alpha\text{nas} \end{bmatrix} / \begin{bmatrix} +\text{obst} \\ \overline{+\text{voi}} \end{bmatrix} \right. \quad \left. \begin{bmatrix} \alpha\text{obst} \\ -\alpha\text{voi} \end{bmatrix} \text{ elsewhere} \right\} \qquad \text{(a)}$$

(Env. (a) specifies only $\underline{NC}_{vd}$ or geminate voiced stops; "elsewhere" allows CC_{vl}, NN, rr, ll, ss.)

(b) *-rC- > *-qC-. Cf. the Mak. Pre-consonantal R Rule given above; no doubt the process was the same in Bug. The same rule could also perhaps be written so as to apply across morpheme boundaries, and so operate on the prefix *mar-, changing it > maq- before another consonant. Since Bug., however, seems to retain /mar-/ as the underlying form, the change may also be due to a later rule, the general assimilation rule.

It is unclear whether the rule should be broadened to include *-lC- (in the one example *ɨlzo), for whatever development is posited, the outcome is the same:

*ɨlzo > **ɨqzo > **ɨqso > ɨsso 'sun, day'

*ɨlzo > **ɨzzo > ɨsso

*ɨlzo > **ɨlso > ɨsso

(c) Merger of *-qC- and geminates. The fact of the merger is perfectly clear from modern Bug. phonology, but the process, and sequence of rules, can be reconstructed in several ways. We could say, for instance, that *-qC-

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merged with [+tns] C̲C̲ via the series of steps outlined above (p. 421ff.). Thereafter, C̲C̲ (and N̲C̲) were reanalyzed as clusters, and a later rule (a purely phonetic rule, as it is in modern Bug.) allows the optional pronunciation of C as [q] / —Stop. This sequence is:

1. *-qC- > C̲C̲
2. C̲C̲, N̲C̲ > C+C, N+C
3. (modern) C > q / ——Stop (not preferred)

We could also say that [+tns] consonants were first reanalyzed as clusters, C̲C̲, N̲C̲ > C+C, N+C; then (via the introduction of the general assimilation rule) *q > C / ——C. Again, the phonetic rule reintroduces [q] as above. This sequence is:

1. C̲C̲, N̲C̲ > C+C, N+C
2. q > C / ——C
3. as above.

This could be further refined to: (1. Cluster formation, as just given); 2. q > N, r, l, s / ——N, r, l, s only, but remains /q/ before stops. A later rule optionally (and preferably) changes this to Stop / ——Stop, while at the same time (3) continues to allow C > q / ——Stop; the interplay between these two conflicting rules produces the variation found in the modern language, where the pronunciation with [q] is considered less elegant. In terms of simplifying the MS rules, however, this last approach is not desirable, as it entails retaining /q/ in the underlying feature system. Under either of the first two approaches, *q can be eliminated, then reintroduced <u>phonetically</u> later.

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This is especially useful if we choose to analyze modern Bug. as having /k r s ng/ in final position in underlying forms.

Since Bug. retained *ɨ, it could well be that the first approach given is the correct one. This leads to a basic morpheme shape in PBug. $C_0^1VC_0^1VC_0^1$, and MS rules:

PBug. MS-1

$$[-syl] \longrightarrow \left\{ \begin{array}{l} \left(\left[\begin{smallmatrix} -cons \\ -syl \end{smallmatrix} \right] / \left\{ \begin{smallmatrix} \# \\ V \end{smallmatrix} \right\} \text{——} V \right) \\ [+cons] \end{array} \right\}$$

PBug. MS-2.

$$[+syl] \longrightarrow \left\{ \begin{array}{ll} [\alpha tns] / \text{——} C(\#) & \\ [+tns] & \text{elsewhere} \end{array} \right\}$$

PBug. MS-3.

$$[+cons] \longrightarrow \left\{ \begin{array}{ll} [+tns] / \left[\begin{smallmatrix} +syl \\ -tns \end{smallmatrix} \right] \text{——} V & \\ [\alpha tns] & \text{elsewhere} \end{array} \right\}$$

PBug. MS-4.

$$\left[\begin{smallmatrix} +cons \\ +tns \end{smallmatrix} \right] \longrightarrow \left\{ \begin{array}{ll} [-nas] / \left[\begin{smallmatrix} +obst \\ \hline -voi \end{smallmatrix} \right] & \text{(a)} \\ [\alpha nas] / \left[\begin{smallmatrix} \beta obst \\ \hline +voi \end{smallmatrix} \right] & \text{(b)} \end{array} \right\}$$

(Env. (a) generates voiceless geminate stops and /ss/; Env. (b) generates voiced NC, voiced CC, and geminate nasals and liquids.)

After reanalysis of geminates as C+C, the MS rules are (with a new basic morpheme shape $C_0^1VC_0^2VC_0^1$):

PBug.(2) MS-1. Same as above.

PBug.(2) MS-2.

$$[+syl] \longrightarrow \left\{ \begin{array}{ll} [\alpha tns] / \text{——} C \left\{ \begin{smallmatrix} \# \\ C \end{smallmatrix} \right\} & \\ [+tns] & \text{elsewhere} \end{array} \right\}$$

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PBug.(2) MS-3.

$$[+\text{cons}] \longrightarrow \left\{ \begin{array}{l} \left\{ \begin{matrix} [+\text{nas}] \\ [+\text{cons}] \end{matrix} \right\} / \left(\begin{bmatrix} +\text{syl} \\ -\text{tns} \end{bmatrix} \right) \text{——} C \\ [\alpha\ F\ ] \quad \text{elsewhere} \end{array} \right\}$$

(d) PSS *b d > /w r/. This rule operates in initial and intervocalic environments only; initial position is the more important, since Pre-PSS *b-d- had already > PSS *w r for the most part. Tense (or cluster) *bb and *dd are not affected. (We will assume here that this change took place after cluster formation).

PBug. b/d Laxing.

$$\begin{bmatrix} +\text{cons} \\ +\text{obst} \\ -\text{cont} \end{bmatrix} \longrightarrow \begin{bmatrix} -\alpha\text{cons} \\ -\text{obst} \\ +\text{cont} \end{bmatrix} / \left\{ \begin{matrix} \# \\ V \end{matrix} \right\} \begin{bmatrix} -\text{syl} \\ +\text{dif} \\ \alpha\text{grave} \\ \text{——} \\ +\text{voi} \end{bmatrix} V$$

It would be possible to include the shift of *nd > Bug. /nr/ here too, but we will discuss it separately below.

(e) PSS *h > Ø. This change has been discussed above, §3.7d (p. 381). It must be ordered after b/d laxing in order for /b/ and /d/ to be retained in the forms in question. Compare the following possible derivations:

PSS/PBug. *dehde 'to boil'

A.		B.	
1. Laxing	rehde	1. h-loss	dede
2. h-loss	rede	2. Laxing	rere
3. Modern	/rede/	3. Modern	*rere

(f) PSS/PBug. *nd > /nr/. This change may have been part of the laxing rule, but we shall treat it separately since it seems to have occurred later, and may be due to

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Mak. influence. The reasoning is as follows: only Mak. shows the shift *d > r in all environments, that is #—, V—V, q— and n—. All other SSul languages show the change (to greater or lesser degree) in the first two environments, but retain /d/ post-consonantally-- except Bug., which has /qd, dd/ but /nr/. While we do not know how long Bug. and Mak. have been in contact, 900-1000 years seems a reasonable estimate.

(g) PBug. voiced NC > voiceless NC. This change sets Bug. apart from all the other SSul languages; it must be ordered after the change of *nd > /nr/, otherwise we should expect Bug. */nt/ < *nd. It seems to have taken place in relatively recent times, since its effects are seen in one or two loanwords which cannot antedate the introduction of Islam or (no doubt earlier) contact with Arabic or Indian traders. Note: Bug. lăngkaraq, which because of its shape and stress must be from Mak. lănggaraq, in turn probably from Ml/Jav. langgar '(small) village mosque, chapel; Bug. parĭngki, Mak. paranggi 'Portuguese, European', probably from Jav. prĕnggi, Ml/BI paranggi 'European', from an Arabic or Persian word originally borrowed from Europeans, in Engl. 'Frank'; perhaps Bug. pañcajjaq Mak. pañjaqjaq, Ml. Jav. pĕñjajap 'kind of small boat, sloop'.(Matthes cites Ml. pañjajab) presumably reflecting *paN+ja(bp)ja(bp). The presence of this rule, and the morphophonemic changes occasioned by it (*maN+C_{vd} > maN+ C_{vl} for example) were probably the factor which motivated the addition of the NC letters to the Bug. alphabet

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(see Appendix C). In view of its later date, we assume that NC had already been reanalyzed as clusters.

Bug. NC Devoicing.

Early modern Bug. (?) b j g ⟶ p c k / N—

$$[+\text{voi}] \longrightarrow [-\text{voi}] \;/\; [+\text{nas}][\underline{\quad}^{+\text{obst}}]$$

(/nr/ < earlier *nd does not take part in the rule, of course, since /r/ is [-obst].)

In modern Bug., the rule continues to operate in a few cases, but the environment now has an obligatory morpheme boundary-- .../[+nas] + [$\underline{\quad}^{+\text{obst}}$]. Otherwise, final nasals, like all other final consonants obey the general assimilation rule:

Modern Bug. General Assimilation.

$$C \longrightarrow C_x \;/\; \text{——}(+)C_x$$

$$[+\text{cons}] \longrightarrow [{}^{+\text{cons}}_{\alpha\ F}] \;/\; \text{——}\ (+)\ [{}^{+\text{cons}}_{\alpha\ F}]$$

3.9.1c.3. Mandar. Rules affecting clusters and [+tns] consonants in Mdr. are very similar to those of Bug.:

(1) PSS *hC > *qC.

(2) PSS *rC (but not *lC) > *qC.

(3) PSS *zz > *dd.

(4) PSS voiceless*NC > voiceless CC.

(5) PSS *qC and *CC merge.

(6) PSS *ɨ > /a/.

The first two changes can possibly be stated with a single rule:

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Pre-Mdr. r/h Merger.

$$\begin{Bmatrix} *h \\ *r \end{Bmatrix} \longrightarrow q \;/\; \text{——}C$$

$$\begin{bmatrix} \alpha cons \\ -syl \\ +cont \end{bmatrix} \longrightarrow \begin{bmatrix} -cons \\ -syl \\ -cont \end{bmatrix} \;/\; [\underline{\quad}_{-lat}][+cons]$$

The unique *-lz- cluster of *ɨlzo was apparently retained, since otherwise the word does not show regular development.

The shift of *zz > *dd, and probably concurrently the shift of *z > r, can be expressed as follows:

Pre-Mdr. z-rule.

$$*[^{z}_{zz}] \longrightarrow [^{r}_{dd}]$$

$$[^{+obst}_{+cont}] \longrightarrow [^{\alpha obst}_{-\alpha cont}] \;/\; \begin{bmatrix} \text{——} \\ +dif \\ -grave \\ +voi \\ \alpha tns \end{bmatrix}$$

The merger of *qC and *CC in Mdr. could have taken place via any of the three routes suggested above for Bug. The prior merger of voiceless NC > CC would have been governed by the rule given above (p. 434) as "Post-PSS NC Shift", and suggests a period of common development for Bug. Mdr. and PSad.

The merger of *ɨ with *a must have been fairly late in the history of Mdr. As we will show in the discussion of the final consonants (§3.9.2 below), there must have been a contrast in early Mdr. between *-ɨt and *-at prior to the neutralization of *t > /q/.

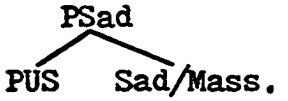
Present-day Mdr. has undergone little further change with respect to permitted consonant sequences. Loan words with $N+C_{vl}$ are apparently made to conform to the native

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rule N > C_x / ——$C_{x(vl)}$ (which makes the detection of Ml/BI loans in Mdr. especially difficult). The same rule continues to operate across morpheme boundaries, as in: andiang 'not' + pa 'still' > andiappa 'not yet', or maN- 'verbal prefix' + tanang 'plant' > mattanang 'to plant'. Loan words are probably responsible for the introduction of the few /qN/ of /q/ + continuant clusters found in the data; e.g. kuqmil 'k.o. nangka (fruit) with tough flesh', probably < Mak. kŭqmiliq 'tough'[51].

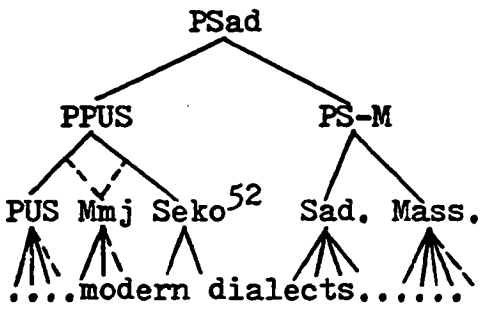
3.9.1c.4. Sa'dan and its descendants. Most of the evidence for subgrouping Sad. Mass. PUS, Mmj. and Seko into a single group-- Proto-Sa'dan-- will be presented later. At this point, with respect to the clusters, the modern languages can all be shown to descend from a single stage.

There is some evidence that PSad. kept *qC distinct from [+tns] consonants: (1) the present-day variation (in some cases contrast) between /q/ + stop (with echo-vowel) vs. geminate stop, indiscriminately reflecting *qC or *CC; (2) the possibility that PUS still distinguishes /q/ + continuant, based on a single example: PUS roqroq 'to rub' (cf. Mdr. roros, Bug. roroq, Duri pa/ruru 'idem'-- none of which, however, reflects the cluster; nor does Mak. rórosoq 'to let out (sails)', a perfect match phonologically, but semantically difficult to relate to rub). In Sad. and Mass., *q + continuant > geminate; therefore, this suggests a primary division--



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Other evidence, including lexicostatistics, tends to confirm this, and completes the picture to show that PUS, Mmj. and Seko in turn constitute a single subgroup against Sad. and Mass.; thus--



Developments from PSS to PSad can be summarized as:

(1) PSS *hC > *qC (pre-voiced-stop only; otherwise > ∅).

(2) PSS *qC and *rC, *lC retained.

(3) [+tns] CC and NC retained; shift of voiceless NC > CC may have begun at this time.

PPUS would have retained this system, later simplifying it in the same direction as other SSul languages; that is, in PUS (as in Mak.):

1) CC and NC > C+C, N+C, phonetically C+C = [qC] for stops, [C:] for nasals and continuants. Apparently *ns retained as /ns/ (in some areas, but > /ss/ in my PUS data).

2) *qC retained, at least for stops and /r/ (in the one example roqroq:). There are, however, no examples to show the development of **qC < PSS *-rC- or for *qN.

3) *lC (in *ɨlzo) retained, later > /ll/.

Our limited Mmj. data reveal a similar system, but the forms /dede, rere, hehe/ 'to boil' < (?) PSad deqde < PSS

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*dehde suggest loss of *h (cf. Sad. Mdr. reqde). But if /dede/ can be considered as a borrowing < Bug. rede, maqdede (this last not attested, however), then perhaps Mmj. developed a constraint on the cluster **-qr-, and the development of this word has been: PSS *dehde > PSad *deqde > > ?*reqre > rere (> hehe).

In Seko, it is clear that most if not all the *qC and geminate stops have been reduced to single consonants, thus (assuming for now that CC > C+C first):

Seko Degemination.

$$\begin{Bmatrix} q \\ C \end{Bmatrix} \longrightarrow \emptyset \; / \; \text{——} C$$

$$\begin{bmatrix} \alpha cons \\ -syl \\ \alpha obst \\ -cont \end{bmatrix} \longrightarrow \emptyset \; / \; \text{——} \; [+cons]$$

This change can be ascribed with fair certainty to influence from the neighboring Toraja languages, where N+C is the only permitted sequence of consonants[52]. It is clear that Seko retains NC, and some examples (and morphophonemics) suggest that geminate nasals and continuants remain; but on the basis of the informants' erratic spellings, it is dangerous to speculate at this point. Our data do show a clear dialect split with respect to the NC: SekoL (perhaps most influenced by Sad.) voiceless NC > CC, voiced NC retained, while SekoP, voiceless NC retained, voiced NC > NN. The SekoL rules appear to operate both intra- and inter-morphemically; in SekoP the change is found only intra-morphemically.

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Developments from PSad > PS-M (Proto Sa'dan-Massenrempulu) can be summarized as follows:

(1) PSad. voiceless NC > CC, voiced NC retained.

(2) PSad. *qC and *CC merge; the route, as in Bug. and Mdr., is uncertain.

(3) PSad. *rC > /qC/

(4) PSad. *lC (*lz only) > /ll/

The voiceless NC shift appears variably in all the data; we could suspect (but do not know) that there might be dialects where it is categorical, as in Mdr. This suggests that perhaps the shift was just getting underway at the time PSad broke up. Further, the variation noted for reflexes of *q + stop and geminate voiceless stops ([C:] ~ [qC]) may result from an intersection of rules such as was proposed as a third alternative for Bug., i.e.

(1) CC > C+C (and NC > N+C)

(2) *q > N, r, l, s / — N, r, l, s

(3) a) *q optionally > C_x / —$C_{x(vl)}$

b) C_x optionally > [q] / —$C_{x(vl)}$

(obligatorily / —$C_{x(vd)}$)

The variation in standard (dictionary) Sad. brought about by 3(a) and (b) is probably due to dialect mixing, though it might also be that one or another of the optional pronunciations represents a "substandard" usage.

The change of PSS/PSad *rC > /qC/ (examples only for Sad.) must be ordered after the changes involving PSad *qC; the reason is that the examples of *rC involve *r + l

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(in PSS *parlak 'garden') and *r + n (PSS *burne 'Antidesma sp.'). If *rC > qC prior to (2) above, we should have Sad. */pallak/, */bunne/, as in Bug., instead of the actual forms /paqlak/, /buqne/.

3.9.1c.5. PSS *ɨlzo 'day, sun'. It should be clear by now that this word is a problem. Since it is the unique example of the cluster *-lz-, there is nothing else to compare it with, but other possible reconstructions would also require involved explanations for the apparently irregular correspondence Bug. /ss/, Mak. Mdr. Sad. Mass. PUS /ll/, SekoL /l/. The alternative reconstructions are ?*ɨzzo and ?*ɨnzo, presumably reflecting Dempwolff's *a(ñ)ǥaw.

Suppose we reconstruct ?*ɨzzo, < pre-PSS *ɨzo. First, there is now no explanation for PAN *a > pre-PSS *ɨ (this is true for *ɨnzo too), whereas, as Charles 1974 has shown, there are at least other cases where a PAN vowel has gone to secondary *ɨ before r/l clusters. PSS *ɨzzo, second, would produce Bug. /ɨsso/, but we should expect Mak. *aqro (perhaps *arro), Sad. Mdr. *aqdo-- cf. Exs.209 and 210 above, PSS *pɨzzu 'gall' and *pɨzzis 'burning, sharp (pain or taste)' respectively. Third, if we reconstruct *ɨnzo, Bug. /ɨsso/ may be regular (if *nz > ns > ss), but the only other possible examples of ?*nz suggest that it had already merged with *nd prior to PSS times; thus we should expect Bug. *ɨnro, Mak. *anro, Mdr. Sad. *ando etc.

If we posit borrowing as the source, then the most likely source languages/areas are, in descending order:

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(1) Ml. or Jav.: reflexes of PAN *a(n̈)g̈aw are present, but with changes in meaning and, in any case, with /d/ or /r/, not /l/ or /s/.

(2) Toraja languages: the most frequent form is /eo/, as in Bare'e (and note Old Bug. "eyo" in BWB), regularly < **ayo < *ag̈aw. A&K cite Napu/alo/, but Napu is a coastal language and may have been influenced by Mak.-- and Leboni (near Seko) /ando/, but the reflex of *n̈g̈, and of *g̈, is uncertain in that language. No Tor. language is reported to have a form with /s/.

(3) Eastern or Southeastern Indonesia: Stresemann (1927) has reconstructed a form *l̇ag̈aw for "Proto-Ambon", which also turns up in Flores (Lio /leja/) and perhaps Sasak (with metathesis?) /j̇alo/, among other places. This *l̇ag̈aw looks suspiciously like a syncopated and/or epenthesized variant of PAN ?*al-ag̈aw or ?*a-l-(ȧ)-g̈aw which are reflected (to our knowledge regularly) in Mori /oleo/ and Banggai /oloyo/. (The development has been: *al(aȧ)g̈aw > *al(aȧ)yo >?*ȧlȧyo > oloyo (Banggai and pre-Mori) > modern Mori (*-oy- > /e/) oleo. (The form ȧlȧyo is questioned, because other explanations are available for Banggai /o/, e.g. vowel harmony in that language; another pre-Mori possibility is **aloyo or *alȧyo-- pre-tonic *a > Mori /o/ (via *ȧ?).)

(4) North Sulawesi, Borneo: most of the languages have forms with /nd/ reflecting *n̈g̈; Sangir does have /ȧllo/, but that is also, I think, irregular for the language[53].

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(5) Philippine languages: various languages of the southern Philippines have /d, nd, r, l, ld, dl/ < Proto-Philippine (Charles) *aljaw (I feel that a better reconstruction would show the optional nature of the *-l-: *a(l)jaw or *a($\{^{l}_{n}\}$)jaw). Contact between these languages and SSul can certainly be assumed, and a borrowed "adlaw" in particular would produce Mak. Mdr. Sad. etc. /allo/-- but then Bug. /ɨsso/ becomes a problem, and no Philippine language has /s/ < PAN *ǧ.

In any case, borrowing seems to be an extremely weak argument for a basic word like this. We really must try to explain SSul developments in this case without recourse to outside influences.

Since PSS, like many other IN languages, apparently permitted sequences of *r + consonant, we conclude that it also permitted *lC; at the moment *ɨlzo constitutes the sole example, but closer comparison with Philippine languages might turn up others (only in that area are these infix-clusters retained with any clarity). Further, it seems clear that the infixes *-r- and *-l- were optional (at the time they were productive); so we can posit PIN (and perhaps too PAN) *a(-l-)ǧaw > PSS *ɨlzo, showing Charles' sporadic shift to *ɨ before the cluster. The question is then whether, in post-PSS times, all languages except Bug. shifted *z > r, or whether Mak. Mdr. and the Sad. group made the shift independently, as we assumed in the preceding discussion. Lacking knowledge of events in the post-PSS period, we can only give a hypothetical answer here.

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If we posit that the break-up of PSS took place within a relatively short period of time, and if (as we suggest in §3.9.4. below) the proto-Bug. community was located in the easternmost part of the homeland, then it is possible that the remaining languages were in contact long enough to share the sound change *z > r

If *lz > *lr > ll prior to the complete break-up of PSS, it would certainly simplify our statements of the morpheme structure of the individual languages, by eliminating the aberrant *-lC- cluster. (It is irrelevant whether *zz > *dd concurrently, or later. The rule for concurrent change *z > r, *zz > *dd is cited above (p.441).). The pertinent rules would have been:

1. *z > r
2. r > l / l—, that is:

$$[-\text{lat}] \longrightarrow [+\text{lat}] \;/\; [+\text{lat}]\left[\frac{+\text{cont}}{\quad}\right]$$

This is an admittedly ad-hoc rule, but not an unlikely one given the known restructions on such sequences as /rVlV../ or /lVrV../ in SSul languages; at the same,time, however, it contradicts another known SSul phenomenon namely, <u>regressive</u> assimilation of consonant clusters. It may be that the more highly-marked /l/ in this case dictated the atypical progressive assimilation. The possibility that *lz or *lr underwent metathesis has been considered (many Philippine languages show it-- cf. Tausug adlaw vs. Bikol aldaw), but rejected, since there is another instance of PSS *-rl- in PSS *parlak > Sad. paqlak 'garden'; thus from **±zlo or **±rlo we should expect Sad. */aqlo/[54].

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As was mentioned above (§3.9.1c.2, p.434), the development of this sequence in Bug. is ambiguous. We could posit *ɨlzo > *ɨlso > /ɨsso/, thus retaining the *lC cluster into PBug.; a more simple solution, however, has both *rC and *lC > PBug. *qC. Since the ordering of the *z > s change cannot be determined (since it does not matter), we could have either:

*ɨlzo > ɨqzo > ɨqso > ɨsso

or:

*ɨlzo > ɨlso > ɨqso > ɨsso

or:

*ɨlzo > ɨqzo > ɨzzo > ɨsso

If, in the other languages, the changes are independent, then it is a little surprising, though certainly not impossible, to find the same development, including the atypical assimilation, in the three distinct subgroups, Mak. Mdr. and Sad., and that in no case did the cluster undergo the somehow more expected change to *qz, thence to modern /qd/, /qr/ or /rr/. I incline toward common development as the simplest solution.

3.9.2. Neutralization of final contrasts, and associated vowel changes. Evidence for the PSS finals *p(?) t k m n ng r γ l s was presented in §3.6 above. In this section we will present our hypothesis on the mechanics of the neutralization of these contrasts, which has resulted in the present-day systems:

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PROTO SOUTH SULAWESI

AND

PROTO AUSTRONESIAN PHONOLOGY

VOLUME TWO

by

Roger Frederick Mills

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Modern SSul languages: Final Consonants (Surface)

Bug.	q		ng			
Mak.	q		ng	r	l	s[55]
Mdr.	q		n~ng	r	l	s
Sad.	q	k	n	ng		
Duri	q	k	n	ng		h
PUS	q	k	m?	n	ng	
Mmj.	q		m?	n~ng	(r l s)?	
Seko	q	k	n?	ng		

In addition the hypothesis will account for the observed morphophonemic alternations[56], whereby final /q/ ⟶

Bug.	r, s, or k
Mak.	k
Mdr.	ø
Sad.	r or s
Duri	t (and -h ⟶ r or s)

In essence, it appears that final contrasts were neutralized in several stages, beginning with the stops and nasals and ending with the continuants. Within the stop and nasal systems, the changes apparently began with the labials, which eventually merged with the dentals. At a later point, the dentals merged with the velars in Bug. Mak. and (some) Mdr, but not in the Sad. group. At about that same point, in Bug. and the Sad. group the continuants entered into the process, merging and shifting to /q/. Where, as in Bug., final /k/ also > /q/, the neutralization was complete.

Let us examine the changes in more detail. When we say "labials merge with dentals" we are really saying nothing

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about how such a rather unlikely change could come about. Similarly, neither the formula "p > t" nor the rule "[+grave] ⟶ [-grave] / [$_{\overline{+\text{diffuse}}}$]" offer anything more than a statement of <u>what</u> happened, not <u>how</u> it happened. Although it is true that attempts to define the <u>how</u> of sound changes can become highly imaginative, still in the case of SSul languages (and IN languages generally) there are certain factors which permit reasonably well-grounded speculation.

One such factor is: <u>relative frequency</u>. Using Chrétien's statistical analysis of Dempwolff's PAN vocabulary (1965:249[table]), we find the following ranking for final stops, nasals and continuants:

PAN	F	PAN	F	PAN	F
ng	2	l	8	d	15
k	3	ɣ	9.5	b	16
t	5	p	11	ḍ	17
s	6	m	12	g	18
n	7	r	14	ǵ	19

(The gaps are due to *' (1), *q (4), and ambiguous finals.)

In PSS, allowing for mergers and assuming that PSS reflects every PAN morpheme (which of course it does not), the frequencies would have been:

PSS	F	PSS	F	PSS	F
ng	1	s	4	ɣ	8
k(+g)	2	n	5	m	9
t(+dǵ)	3	l	6	r(+ḍ)	10
		p(+b)	7		

Whatever the actual frequencies of PSS reconstructed finals, clearly the labials *-p and *-m are among the rarest[57].

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A second factor is the (presumed) rather high rate of redundancy for final consonants in IN languages. At least that is my impression for BI, and it would probably be true of any language with relatively firm and simple rules of morpheme structure. Furthermore, a steady progression toward fewer and fewer contrasts in final position is observable within AN as a whole-- thus, most of the languages of the IN archipelago undergo devoicing of final stops; many Ml. dialects have lost or neutralized final contrasts still present in standard Ml/BI-- Minang Kabau has /q/ for all final stops, ø for continuants-- and many languages of eastern IN, as of Oceania, have lost all final consonants. It might even be said that a "continuum of consonantal attrition" (to borrow J. Matisoff's phrase) is one of the areal characteristics of Southeast Asian languages.

The third factor, and a concomittant of the second, is the rather weak articulation of final consonants in IN languages, especially the stops. Systematic voiced stops (where they occur) are usually imploded and semi-voiced; voiceless stops are typically unreleased (with simultaneous glottal closure) in phrase-final, imploded elsewhere.

It is implicit in our reconstruction that PSS, like so many other IN languages, had already devoiced final stops-- thus had taken the first step on the road to attrition. If we now assume that the final stops were, or were becoming, unreleased-- the second step-- it becomes possible to posit a series of stages of variation which will lead to merger. The first stage involved *-p: let us assume that it had

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allophones [$^{q}\tilde{p}$ ~ p] in absolute final position, [p] in other environments, of which <u>preceding vowel-initial suffix</u> is the one relevant here. Thus for a hypothetical form *tutup 'to close' there might have been:

/tutup/ : [tú:tu $^{q}\tilde{p}$] 'closed'

/tutup+i/ : [tutú:pi] 'to close, cover (something)'

Given the redundancy of the final consonants, we hypothesize that in time /-p/ came to be pronounced simply as [q]--hence underlying /tutup/:[tú:tuq] alternating with /tutup+i/: [tutú:pi]. Next, a new generation of speakers would begin to analogize (since /-i/ is probably the most productive suffix and the simplest form of the rule says, "Affix /-i/ to the base form"), and /tutup+i/ would be pronounced variably as [tutú:pi ~tutú:qi]; ultimately this would lead to change in the underlying form, a rephonemicization, /tutup/ > /tutuq/, with the corresponding change in the final stop system /p t k/ > /q t k/. We can list the allophones of /p/ at each stage, in more detail:

		—#	—+V
/p/:	(a)	[$^{q}\tilde{p}$]	[p]
	(b)	[$^{q}\tilde{p}$ ~ q]	[p]
	(c)	[q]	[p]
	(d)	[q]	[p ~ q]
/p/ > /q/:	(e)	[q]	[q]

If the last (rephonemicized) stage was ever reached, it would have been temporary, for at the same time PSS *-t was beginning to undergo the same series of changes:

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		—— #	—— +V
/t/:	(a)	[^{q}t$^{\urcorner}$]	[t]
	(b)	[^{q}t$^{\urcorner}$ ~ q]	[t]
	(c)	[q]	[t]

It strikes me as most likely that the developments of *-p and *-t intersected just at the stage when (e)...[p ~ q]/——+V and (b) [^{q}t$^{\urcorner}$ ~ q]/——#... were contemporaneous. At such a point, the motivation for the [q]# > [-p-] alternation is vanishing, and the alternation [t$^{\urcorner}$ ~ q] (perhaps [q]) ~ [-t-] would be of much greater frequency. Thus, speakers could form the analogy: "Bases a, b and c end in -q [that is, < /p/], and bases d, e and f end in -q, which is really /t/; bases d, e and f have -t- before suffixes, and therefore a, b and c ought to too." This might have led to three-way variation-- /tutu(pq)/ > tutuqi, tutupi, tututi-- which would quickly be regularized to (underlying) /tutut/ : [tú:tu^{q}t$^{\urcorner}$ ~ tú:tuq], /tutut+i/ : [tutú:ti]. The important thing is that such bases now have underlying forms with /-t/, whatever its surface realization may have been, and they will now undergo any rules affecting /t/-- e.g. vowel changes, and the continuing progress toward /q/:

		—— #	—— + V
/t/:	(d)	[q]	[t ~ q]
/t/ > /q/:	(e)	[q]	[q]

It is frankly unclear whether the rephonemicized stage is ever reached; it is sufficient that the development of any two consonants overlap during one of the crucial variation stages. An additional reason why speakers might reassign

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a phonemic or near-phonemic q to some other phoneme might lie in the fact that there appears to be a typological "aversion" to intervocalic [q] in most SSul languages, especially following a stressed vowel; in some sense, perhaps, even modern /-q/ is felt to be "some other" sound, which may also explain why the written languages -- whether in the native or Roman alphabet-- tend not to indicate it. The languages of the Sad. group, however, constitute a major exception to this statement: the suffix /-i/ is added to the base form with /-q/, which then results in a sequence stressed vowel + q + vowel.

No doubt parallel with the reassignment of *-p to *-t, final *m merged with *-n. Perhaps this took place after the restructuring of the stops, from /p t k/ > /t k/, and so could be ascribed to pressure toward symmetry--

p t k			t k		t k
m n ng	⟶	m n ng		⟶	n ng

Presumably *-m and *-n varied for a while--

(a) *-m *-n

(b) -m ~ -n

(c) /-n/

It is significant, I am sure, that the area which shows a distinctive reflex of *-p (in that *-ɨp > /-uq/)-- that is, PUS, Mmj. and Seko-- is also the area where /-m/ is said to be retained (PUS, Mmj.) or reflected in a similar change *-ɨm > /-un(g)/.

The series of changes just described reflects the historical development of Duri, where we find--

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Duri /-q/ > -t- / —+/-an/
-q- / —+/-i/

Duri underlying /k/, of course, remains as [k] both in final and pre-suffix environments; /-n/ reflects *m and *n[58]. There is no ready explanation for /-q + i/ rather than the more "regular" */-t + i/, but this may have to do with the greater productivity of the /-i/ suffix. Nominals with /-an/ may in some sense be classed as independent lexical items in the modern language, whereas VERB + /-i/ is a clear and well-motivated derivation. But for just this reason, it is somewhat unclear what final consonant to posit in the underlying forms. I believe that a good case can be made for underlying /-t/, as will be shown below.

Furthermore, it is clear that the changes just outlined have affected not only the Sad. group, but also Bug. and Mdr. Aside from the Duri q/t alternation, the evidence consists of such facts as:

(1) *i̱ > u / —labial# in PUS Mmj. Seko and early Mdr.

(2) Bug. *a > i̱ /—dental#, and Mdr. *a i̱ > e i /— t#.

(3) u̲ and o̲ > i̲ and e̲ in certain environments in Mdr. and PUS.

(4) a handful of fossilized -t̲- forms.

We shall discuss each of these in more detail.

(1) PUS group *i̱ > u /——labial#. (There are sporadic instances in other languages too.) It seems quite clear that only a labial element can account for such a change. The rule must have been:

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Schwa-Labial Rule.

$$[\text{-round}] \longrightarrow [\text{+round}] \,/\, \begin{bmatrix} \text{+syl} \\ \text{+grave} \\ \text{+dif} \\ \hline \text{-tns} \end{bmatrix} \begin{bmatrix} \text{+cons} \\ \text{+grave} \\ \text{+dif} \end{bmatrix} \#$$

This rule is motivated in part by the presumed instability of the [-tns] *ɨ, and also accords with a universal tendency for highly marked segments to become less highly marked-- in this case, for [+grave] vowels to be [+round].

From this it follows that Proto-PUS, and by implication PSad., retained both *-p and *-m. It also follows that *ɨ must have been retained in both PSad and PPUS, and consequently, the general shift *ɨ > /a/ must have taken place independently in each language after the break-up of PSad. The Schwa-Labial rule is not found in Bug. or Mak. (with just one or two exceptions), but appears to have operated in early Mdr. on the basis of the changes discussed in (3) below. This in turn suggests that Proto-Mdr. and PSad. retained the final labials longer than Bug. and Mak.; thus the series of changes leading to eventual merger of *-p and *-t must have begun in Bug. or Mak. before the rule was added, then spread next to Mdr., then to PSad. Developments within this last group are not totally clear, since we lack the necessary data from the PUS area; within the Sad-Mass. group, however, it is clear that Sad. has progressed further than Duri in terms of final neutralizations.

(2) Bug. *a > ɨ /——dentals # ("Schwa-Dental Rule") and Mdr. *a, ɨ > e, i /——t # ("Final-t Rule"). Both processes can be explained in purely phonetic terms, as being the

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result of transitional glide-sounds produced by the movement of the tongue from low and/or back (vowel) position toward the relatively high front position for the dental sounds. Eventually the glide-sounds came to predominate over the original vowel quality, and the sound-change was accomplished. In Bug., the glide must have been centralized, and the development would have been (using "D" as cover symbol for all the dentals, *t n r l s):

*-aD > *a$\overset{\dot{\pm}}{\wedge}$D > *±D > (modern) /±q/

and the rule can be stated as:

Bug. Schwa-Dental Rule.

$$[\text{-dif}] \longrightarrow [\text{+dif}] \;/\; \begin{bmatrix} \text{+syl} \\ \text{+grave} \\ \hline \text{-round} \end{bmatrix} \begin{bmatrix} \text{+cons} \\ \text{-grave} \\ \text{+dif} \end{bmatrix} \#$$

In Mdr., however, the glide was apparently more fronted, resulting in:

*-at > *a$\overset{\dot{i}}{\wedge}$t > *æt (or *ɛt) > mod. [ɛq] = /eq/

*-±t > *±$\overset{\dot{i}}{\wedge}$t > *it > mod. /iq/

and the rule stated as:

Mdr. Final-t Rule.

$$[\text{+grave}] \longrightarrow [\text{-grave}] \;/\; \begin{bmatrix} \text{+syl} \\ \hline \alpha\text{dif} \\ \text{-round} \end{bmatrix} \begin{bmatrix} \text{+cons} \\ \text{-grave} \\ \text{+dif} \\ \text{-cont} \end{bmatrix} \#$$ 59

(Interestingly, a similar sequence of changes has taken place in Minang Kabau; examples for *-Vt are

ampɛ́q 'four' (Ml. ĕmpat, PAN *±(m)pat)

langíq 'sky' (Ml. langit, PAN *langit)

takuíq 'fear' (Ml. takut, PAN *takut)

ulɛ́q 'worm' (Ml. ulat, PAN *ul±g)

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and similar changes are attested in Sino-Tibetan languages on the Southeast Asian mainland[60]. Evidently, as a language neutralizes contrasts in one area, new contrasts develop in other areas to avoid excessive ambiguity or homonymity.)

In at least one case, this allows us to reconstruct a tentative *-i̇t just on the basis of Sad. and Mdr. cognates: Sad. lambaq, Mdr. lambiq 'to arrive' < PSS ?*lambi̇t.

(3) Since a process of glide-formation/vowel-change is attested for Mdr. *-at and *-i̇t, it now enables us to form a good hypothesis for the correspondence Mdr. /eq/, Seko /uq/ < PSS *-i̇p, as well as instances of Mdr. /i/ or /e/ against some other language's /u/ or /o/.

For Seko /aruq/, Mdr. /areq/ 'belly' < PSS *ari̇p, the developments must have been:

SEKO	PSS/PSad/PPUS *ari̇p	
	1. Schwa-labial	arup
	2. p > q > t > q	aruq
MDR.	PSS/PMdr *ari̇p	
	1. Schwa-labial	arup
	2. *-p > [q]	aruq
	3. Vowel lowering	aroq
	4. *-p~q > */-t/	arot
	5. Final-t rule	arot > aroi̇t > arö̈t
	6. Unrounding	aret
	7. t > q > k > q	areq

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Step 3, Vowel Lowering, could be eliminated, or postponed to a later period (for it is a well-motivated rule, and can be used to account for some instances of sporadic lowering in the other languages; the /q/ appears to be the conditioning factor). In that case, the changes would be: arup > /arut/ > aru̯t > arüt; if the atypical [ü] was not as high as [i] it could have been unrounded to [e^] or a lowered [ɪ˅], then assigned phonemically to /e/.

The above is the only workable derivation for Mdr. /areq/ and other such items. If we were to posit the general shift *ə > Mdr. /a/ first (thus, without the Schwa-Labial Rule), /areq/, it is true, will be correctly derived, but not other forms. Compare:

MDR.	*arəp	*əppat 'four'	*lalət 'housefly'
1. *ə > a	arap	appat	lalat
2. *-p > t	arat	---	---
3. Final-t	aret	appet	lalet
4. *-t > q	areq	appeq	**laleq

Modern /laliq/ 'fly' clearly shows that *ə > /a/ must be ordered <u>after</u> the Final-t Rule:

	*lalət 'fly'	əppat
1. Final-t	lalit	əppet
2. *ə > a	---	appet
3. *-t > q	laliq	appeq

Van der Veen's PUS data (1929:81-93) show that similar changes have taken place in that area, but his examples also show that environments other than <u>final-t</u> are affected.

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Cf. for example, PUS(V) oseq 'ribs', Sad. usuk; PUS-Tabulahan kompeng, Sad-Mangki kompong (Bug. ɨppong) 'belly'; (my) Mmj. paqde, maneq, Sad. paqdu, manuk 'gall; chicken' respectively. PUS(V) ileq 'snake' and illiq 'worm' (my PUS ulaq, olliq, Sad. ulaq, ulliq) not only show the changes in final position, but also in the initial syllable-- perhaps an "umlauting" due to the following front vowel. Further, if Mdr. iqo mieq 'you (pl.)' is relatable to PAN *kaw + miu, we have the change attested in that language also, in a position other than preceding *-t. In PUS(V) mäñäng 'coconut blossom' (PSS *mayang) and köjöng 'wounded' (PSS *koyong) the vowel change is probably due to the medial palatal; thus it may be that the change affected the environments ——dental # and —y— independently, then was generalized to other (all?) environments. Subsequent migrations and dialect-mixing could well account for the fact that the changes seem to be sporadic in every dialect. More data, of course, are needed.

The possibility of substratum influence also exists, especially for PUS/Mmj. (Since Mdr. u > e is part of a general tendency in that language, substratum influence is perhaps less of a factor there. We may, however, be dealing with an areal feature.) The language of the To Rampi and To Leboni, who live just east and north of Seko, has two apparently phonemic u-like vowels (see Woensdregt 1925, 1929)[61]. Woensdregt equates one of these with Du. [u], written "oe", the other with Du. [ü], written "u"; with a few exceptions, both derive from PAN *u. From the small

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amount of data available, it appears that the ü may be merely an unstressed variant of /u/ in a few cases; but in the majority, that argument does not hold up. In some fifty examples with ü and u, ü is found predominantly following (sometimes preceding) dentals, especially /l/, but there are also instances of u in the same environment. Dialect mixing is a strong possibility. Some examples: Leboni düə 'two', welehü 'mouse' (Seko balesu, Bug. belesu), tükaq 'ladder' (Sad. tukaq 'go up'); Rampi düə 'two', hiqaḷü 'at the same time'; further, Leb. rutü, Ram. rütu-rütu 'crushed, reduced to a powder'. Note also ü for *i in Ram. əlüpa 'millipede' (Bug. alɨping, PAN *lipan), Leb. lülaq 'tongue' (PSS *lila).

If such a language were formerly more widespread, into the PUS area, it might explain the presence of these unusual changes in PUS. There is other evidence, too: the pronouns cited for various PUS dialects-- kodi, kori, kadoq, kado '1st pers. sg.', Bada kodoq; PUS ingkaiq, kaiq, ingke 'we (incl.)' Rampi ingka 'we (excl.)', ingkiq 'we (incl.)', ingkei 'you (pl.)'. Also, if some of van der Veen's PUS dialect forms are correctly transcribed, it would appear that in some areas, at least some final consonants have been lost. But this could be due as much to tendencies within SSul as to Toraja influence[62].

(4) Fossilized forms. Among these we would include Mdr. raetang 'coward', perhaps < kadaeq 'bad' (*ka+daeq < (?) PSS *jaat). More certain is Mdr. si/raetti 'to embrace'; the base is /raetti/ with frozen /-i/ suffix < an earlier

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*raet + /-i/ or *raket + /-i/ (cf. Duri si/rakat/an 'idem' < rakaq) < PSS *(dr)akɨ(p?). In Bug. we find a single form retaining *-m, in lalɨmmɨng '(Old Bug.) interior, inmost being' < *(dr)alɨm+an (mod. Bug. lalɨng). There are three rather dubious forms possibly showing *-t:

a) notɨq (Old Bug.) = modern /noq/ 'descend'. This could represent earlier /not/ with atypical (for Bug.) support vowel. Better, it could represent /notɨng/ < **not+an 'descend (something)', for if the form is from some old text, possibly Matthes or his informants were unfamiliar with it and simply read the letters as they stood: ᨊᨗᨈ = no.tɨ (the native syllabary does not indicate final consonants)[63].

b) sakuta, also marked Old Bug., = modern /sangguq/ 'capable, ready, willing (BI sanggup)'. Again, ᨅᨘᨀᨗᨈ = sa.ku.ta in the syllabary could also be read "sangkutang", thus < sangku(q/t)+an < ?*sanggu(p?)-- though the suffix should be /-ɨng/, not /-ang/. The expected Bug. reflex of **sanggup would be /sangkuq/; mod. sangguq is presumed to be a loan from Ml/BI.

c) baratɨng 'poles to which the outrigger float is attached'. Because of the initial-syllable /a/ and the non-geminate /r/, this is probably a loan < Ml. bĕrat 'heavy' + /-an/ 'nominalizer', thus lit., "the heavy (side)". Mak. also has baratang 'idem', the only case of t-retention found there so far.

Bug. has a single form showing retained *-n: m/angin/ang, mar/angin/ang (Mak. pangingang) 'to hang (clothes e.g.) out to dry'; ar/anginang/ɨng 'rope or line over which such

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things are hung' cited by Matthes s.v. anging 'wind'. Still, this is likely to be a formation based on Ml. angin 'wind'; the /-ang/ suffix is perhaps indicative of Mak. influence, or a direct borrowing of Ml. /-an/.

The manifold examples of the "Schwa-dental Rule" conclusively prove that Bug. must once have had final /t/ (< PSS *-t, *-p) and /n/ (< PSS *-n, *-m). The evidence is clear, too, that Mdr. passed through such a stage, and that the Sad. group has not passed too far beyond it. This seems to be proof of a period of common development, though we cannot be sure. Furthermore, we must assume that Mak. also underwent similar changes, even though no trace of them remains; the alternative is to say that at some point in its history Mak. underwent a single rule--

All final stops, nasals > velar

$$\begin{bmatrix} \alpha\text{grave} \\ \beta\text{diff} \end{bmatrix} \longrightarrow \begin{bmatrix} +\text{grave} \\ -\text{dif} \end{bmatrix} / \begin{bmatrix} +\text{cons} \\ \hline -\text{cont} \\ \alpha\text{nas} \end{bmatrix} \#$$

Such a rule seems extremely unnatural, and it seems unlikely that a language could make such changes without going through intervening stages.

From the point where various languages had final stops /t k/ and matching nasals /n ng/, the journey toward attrition continued. In Mak. and Mdr. we can assume that as /-t/ developed toward /q/, /-k/ also began to change; once again the systems overlapped, and /-t/ was reassigned to /-k/. The steps would have been:

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		—#	—+V			—#	—+V
/t/:	(c)	[q]	[t]	/k/:	(a)	[k̚]	[k]
	(d)	[q]	[t ~ q]		(b)	[k̚ ~ q]	[k]
/t/ > /q/:	(e)	[q]	[q]		(c)	[q]	[k]
				> new /k/:		[q]	[k]

Similarly, /n/ and /ng/ began to vary, leading eventually to the generalization of /-ng/. This reflects the state of modern Mak.: final [q] (= /k/) for all stops, /-ng/ for all nasals, plus continuants /r l s/, of which more later. A stop system like that of Mak. represents what we might call "pre-modern Mdr."-- for modern Mdr. has gone one step further by adding the rule k ⟶ ∅ in some environments. (This probably took place via stages: in pre-suffix, later pre-vocalic, /k/ ⟶ [k ~ q] ⟶ [q] ⟶ [q ~ ∅] ⟶ ∅, which may account for some of the instances of Mdr. /q/ corresponding to PSS intervocalic *k.) Thus Mdr. /-q/ deletes before /-an(g)/ but remains before /-i/. Mdr. nasals, on the other hand, have apparently not yet completed their merger in my informant's dialect-- where there was variation between /-n/ and /-ng/-- but have done so in the Majene dialect reported in Pelenkahu 1967. (Recall too, that A&K reported /m n ng/ present in another dialect.) Continuants are retained, as in Mak. If the present-day Mdr. rule for /-q/ is

$$q \longrightarrow \emptyset \;/\; \text{—} + an(g)_{sfx}$$

(remains q / — + i_{sfx})

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then it is possible to predict (assuming unimpeded development) how "future Mdr." might lose its /-q/ entirely:

	—#	—+V
/q/:	(n) [q]	ø / —+ $^{-i}_{-an(g)}$
	(n+1) [q ~ ø]	ø
	(n+2) ø	ø

Meanwhile, Bug. and Sad. also continued to change, but via a slightly different route. In these languages, it appears that when /-t/ reached the stage [q]# ~ [t~ q]+V the stop system intersected with changes that had been taking place in the continuant system, roughly:

1) merger of *γ, r (and l?) > /-r/
2) /-r/ > [q] /—# ~ [r]/—+V
3) /-s/ > [q] /—# ~ [s]/—+V

The merger of the two r-sounds could have taken place at any time within Sad., though there is some slight evidence that perhaps /γ/ has remained distinct in a few areas. Sad. Sad. lemba 'carry on a shoulder pole' (DuriC lembah, Mak. lembaraq) and a few other examples of ø final for expected /q/ would be borrowings from such areas. The development would have been:

1) *-r > q /—# ~ r /—+V
2) *-γ > [x] (general constraint on voiced finals)
3) x > h > ø

(This may have happened in the PUS group, but the quality of the data is such that we cannot be sure.) In any case, the result in Sad. has been the reassignment of the presumed

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-q ~ t/q alternation to either -q ~ -r- or -q ~ -s-, and the presence of both possibilities suggests that there has been, and perhaps still is, considerable dialect variation. Of the derived forms cited in SWB, the majority show /-r-/.

Bug. followed a similar path. The outcome is the same as in Sad., but in Bug. we can determine the ordering of the changes:

1) Schwa-dental rule and/or *-l > *-r (these are unordered with respect to each other; thus, *-ar and *-al > *-ɨr, but *-aγ remains)
2) *-γ > *-r (thus creating a new *-ar sequence)
3) *-r > q /—# ~ -r- /—+V
4) *-s > q /—# ~ -s- /—+V (unordered)

Because of this, Bug. /-aq/, Mak. /-araq/, Duri /-ah/ is evidence for PSS and PAN *-γ <u>if all forms are native and regular</u>; unfortunately it is not a totally reliable correspondence, since one or another language may reflect a borrowing, and Duri /-ah/ sometimes reflects PSS *-ar. Outside evidence is still desirable, especially forms from the Philippines where *γ > /g/, or a Jav. form with ø against a Ml. /r/.

From this point, Bug. has gone one step further than Sad. in shifting *-k > q /—# ~ k /—+V, later k ~ q /—+V; and although modern /-k-/ tends to occur for the most part in etymologically correct places (thus showing this to be the later change), there has also been considerable analogical re-shuffling of the alternating consonants, so that it is unpredictable in Bug., as in Sad., whether a given

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derivative will have /-r-/ or /-s-/, or /-k-/. The numerous doublets and occasional triplets show that dialect variation (perhaps even idiolectal variation) continues[64].

In Duri, the continuants have merged, but the outcome was different than in Sad.:

1) *-l > ? (there are few good examples; perhaps *-l > /n/ or /q/-- if the latter, then it has joined the q/t alternation)

2) *-γ and *-r > -γ /—# ~ -r- /—+V (see below)

3) *-γ > x > h /—# ~ -r- /—+V (Cakke dial.) This /-h/ > ∅ in Kalosi dial. but we have no examples to show whether the morphophonemic alternation is still present.

4) *-s > h /—# (Cakke; further > ∅ in Kalosi) ~ -s- /—+V (rare in Cakke data; no examples for Kalosi).

The merger of *γ and *r could have followed several different routes. Perhaps (a) *-r, *-γ > -r > (voiceless) -r̥ > -h. Or perhaps, (b) assuming phonetic similarity between the velar and dental continuants (not unexpected-- witness the pre-PSS merger of the two in non-final positions) *-r > r ~ γ /—# while at the same time *-γ > γ ~ r /—#. At this point, analogy might create new base forms with etymologically wrong finals, e.g. Duri ?*putaγ 'turn' for expected *putar < PSS *putər; this would account for those instances in Duri where /-h/ seems to correspond to a known PSS *-r.

Any of these proposed routes of merger will serve to explain the change of /r/ (from any source) > /h/ or /x/[65]

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in PUS and Mmj. If the finals merged to a voiceless [x], [r̥], or [h], which was simply allophonic, then it would be possible for /r/ in other environments to be realized the same way. Even so, a velar or uvular pronunciation of systematic /r/ has arisen in many languages, and is not necessarily due to any feature present in earlier stages; this could just as well be the case in PUS/Mmj.

Tables 4, 5, 6a and 6b sum up the entire series of changes leading to neutralization. It should be understood that each variation stage represents a continuum, e.g. when word-final [tˀ] and [q] are in variation, [tˀ] predominates at first, while [q] is infrequent and innovative. As the change progresses, the percent of speakers using [tˀ] declines, while the precent using [q] rises. As the percent of [q] approaches 100%, it is probable that the phonological rules and underlying forms have changed for the youngest generation of speakers, while only the elderly would retain the [tˀ] pronunciation. Labov (1972) has shown that a sound change can be observed taking place within the space of two to three generations; I am inclined to believe that in SSul there were factors which would result in a slower rate of change. One such factor would be multilingualism-- especially if Ml. were involved-- whereby a person familiar with Ml. would retain, or be aware of, the "real" final consonats of the many words which were cognate (and indeed, almost identical) both in Ml. and his own language. Other factors, perhaps even more important, are

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CHART 4

Neutralization of PSS final stops

PSS:	*-p#	*-p+V	*-t#	*-t+V	*-k	*-k+V
1.	-p˥	-p-				
2.	p˥ ~ q	-p-				
3.	-q=/p/	-p-	-t˥	-t-		
4.	-q	p ~ q →	t˥ ~ q	-t-		
5.	/q/	-q-	-q=/t/	-t-		
6.			-q=/t/	-t-	-k˥	-k-
7.			-q	t ~ q	k˥ ~ q →	-k-
8.			/q/	-q-	-q=/k/	-k-
9.					-q=/k/	-k-
10.					-q	k ~ q
11.					/q/	-q-
12.					-q	q ~ ø
13.					-q	ø
14.					q ~ ø	ø
15.					ø	ø

CHART 5

Neutralization of PSS final nasals

PSS:	*-m	*-n	*-ng
1.	-m ~ -n		-ng
2.	/-n/		/-ng/
3.		-n ~ -ng	
4.		/-ng/	

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CHART 6A

Neutralization of PSS final continuants

(Bug., Sad.)

PSS:	*-r#, *-γ#	*-r+V, *-γ+V	*-l#	*-l+V	*-s	*-s+V
1.	r ~ γ	r ~ γ				
2.	-r	-r-	-l	-l-		
3.	-r-	-r-	l ~ r	l ~ r		
4.	-r	-r-			-s	-s-
5.	r ~ q	-r-			s ~ q	-s-
6.	-q	r ~ s			-q	s ~ r

CHART 6B

Neutralization of PSS final continuants

(Duri)

(Regarding PSS *-r and *-l in Duri, see p. 469 above)

PSS:	*-γ#	*-γ+V	*-s#	*-s+V
1.	γ ~ x	-r-		
2.	-x	-r-	-s	-s-
3.	x ~ h	-r	s ~ h	-s-
4.	-h	r (~ s?)	-h	s? (~ r)

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(1) the seemingly inherently conservative nature of traditional societies, (2) the great respect accorded to the elderly in such societies in Indonesia, and (3) familiarity with more archaic forms of the language retained in the oral literature-- folk tales, religious rituals etc. Running counter to these factors, however, would be the relatively small size and isolation of speech communities, especially in mountainous areas like Massenrempulu, Pitu-Ulunna-Salo and some of the Sa'dan area. Here, a "village" frequently consists of no more than five to ten houses, each containing two to four generations, all mutually inter-related. When such a village becomes too large and can no longer feed itself from the produce of the immediately surrounding land, the excess members typically migrate to another area and found a new village. Where wet-rice culture is in use (as in the Bug., Mak. and Sad. areas) food production is greater, more reliable, and the villages are larger and more heterogeneous[66].

By means of the Charts given above, each language can in a sense be classified in terms of its progress through the three sets of changes. Thus, Bug. seems to have progressed furthest and most consistently-- stops at Stage 9, continuants at Stage 6 (with an earlier merger with the stops when these were at Stage 7), nasals at Stage 4. Mak. shows the same development for the nasals, and further development for stops (in that final [q] has been phonemicized as /k/), but has hardly changed at all in the continuants-- only the merger *γ > r is found. Mdr. has moved

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even further through the stops, but is only just reaching nasal Stage 3 (my data; Majene dial. has reached Stage 4), and like Mak. has undergone only the merger of *-r and *-γ. For Duri-- as in Mak., where there is likewise only one morphophonemic alternant for /-q/-- it seems safe to claim that [-q] is /t/ in underlying forms.

The Charts also enable us to determine the relative chronology of changes, and to some extent support other arguments advanced for the subgrouping. Because Mak. and Mdr. have progressed furthest, the implication is that they have either (1) changed more rapidly than the other languages, or (2) been separated longer from the others-- other evidence supports this last. Bug. and the Sad. group apparently shared developments up to Stop Stage 6, Nasal Stage 2, Continuant Stage 6; thereafter Bug. probably began to merge q/t with /-k/ before the q/r,s. When q/t finally did merge with q/r,s, some instances of q/k also became mixed in, leading to the present-day confusion. Sad. and Mass., on the other hand, ceased to merge stops at this point and then (after splitting) developed the continuants in different ways.

From the point of view of synchronic analysis of the modern SSul languages, an important question is, what underlying consonants are to be posited in final position which will satisfactorily account for the morphophonemic alternations?

In Mak. we clearly have underlying final /k r l s ng/. The continuants undergo an echo-vowel rule whereby the

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final-syllable vowel is repeated and [q] added on; this rule has to occur after stress has been assigned, and also after the definite article and/or verbal pronominal suffixes have been incorporated into the surface phonological "word" for we have such forms as:

/nipis/ > /nípis/ > [nípisiq] 'thin'

/hotel + a/ > /hótel + a/ > [hóteleka] 'the hotel'

/harus + ak/ > /hárus + ak/ > [hárusukaq] 'I have to..'

(Note that even this -q, of clearly secondary origin, is treated as if it were /-k/.) Underlying final /k/ undergoes a single rule, late, shifting it to [q] in word-final; otherwise it appears as [k] in all prevocalic environments:

1. Def. Article /-a/: bállaq 'house', bállaka 'the house'
2. 1st pers. /-ak/: añcíniq 'see', cínikaq 'I see'
3. 3d pers. /-i/: añcíniq, cíniki 'he sees'
4. Benefactive /-ang/: cinínkang 'see to, look after'
5. Nominal /-ang/: jéraq 'grave', pajerákang 'cemetery'
6. Transitive /-i/: ciníki 'to look at'

In Mdr., some of the possible environments are not attested (for examples, we find no instances in the Lontar of /-e, -o/ 'demonstrative' added to base-final /q/). The following, however, are found:

1. 1st pers. /-aq/: tanaq 'boil', tanaq, tanaaq 'I boil' This is the only example found.
2. 3d pers. /-i/: móngeq 'sick', móngeqi 'he is sick'
   róaq 'lively', róaqi '(it) is lively'

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3. Benefactive /-ang/: lámbiq 'arrive', lambí(y)ang 'convey to, offer to' (i.e. cause to arrive).

tóqdoq 'stand', toqdó(w)ang 'to build'

There are many such examples, which show that /q/ deletes following /i e u o/. Following /-aq/:

ráqdaq 'fall', raqdángang 'drop'

káppaq 'suitable', kappángang 'suitably'[67]

These are among the few examples of /-aq + ang/ in Pelenkahu 1967, and accord with my informant's statement that "usually" /q/ changes to /ng/ in that environment. In the Lontar, however, the single example shows deletion:

pajaq 'k.o. food offering',

pa/pajāng 'made into pajaq'

It is conceivable that deletion of /q/ was an earlier rule; then, for unclear reasons[68], the suffix /-ang/ was re-added. That is, perhaps raqdaq > earlier *raqdaang = raqdāng, later raqdang+ang. Note that forms with /-a/ also add /-ng-/ before /-ang/, but not, apparently, before /-aq/ '1st pers.':

ala 'take', alangang 'take for...'

m/ita 'to see', mitaq, mitaaq 'I see'

(Note, however, Lontar sitang 'see each other' < /si+ita+ang/.)

4. Nominal /-ang/: mongeq 'sick', amonge(y)ang 'sickness'

gauq 'work', pappogau(w)ang 'place where one works'

pesauq 'bucket', pesau(w)ang 'well'

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There are no examples for /-aq + ang/ (nominal) except pa-pajāng above (it is really ambiguous whether /-ang/ there is verbal or nominal), but there are one or two examples showing /-ng-/ inserted after /-a/:

ala 'take', paqalangang 'place where one takes'

lamba 'walk', pellambangang 'place where one walks'

5. Transitive /-i/: lípaq 'sarong', pilipáqi 'put a sarong on'

ɓloq 'wish, desire', olɓqi 'to like'

tűttuq 'hit', tuttűqi 'beat'

It is clear that /q/ is retained in all cases before this suffix.

In sum, Mdr. /-q/ should probably be analyzed as underlying /q/ rather than as some other consonant. Note too, that /q/ is phonemic in the language, occurring also in intervocalic position (siqung 'elbow', taqe 'branch'). The substitution of /-ng-/ after /a/ can be viewed as a secondary development, and assuming that it is a regular procedure, we can posit the following Mdr. rule:

$$q \longrightarrow \left\{ \begin{array}{l} ng \;/\; a\text{—} + ang \\ \emptyset \;/\; V\text{—} + \left\{ \begin{array}{l} ang \\ aq \end{array} \right\} \end{array} \right\}$$

In Duri, and even moreso in Bug. and Sad., the question of underlying final consonants is less easily resolved. Duri /q/ alternates with /-t-/, and /h/ alternates with /-r-/ and (less often) /-s-/, only before /-an/ verbal or

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nominal, and remains /q/ in other environments-- specifically 3d pers. /-i/ and Transitive /-i/. There are apparently no vocalic deictic suffixes, and the 1st pers. marker is /naq/. Sad. /q/ alternates with /-r-/ or /-s-/ in the same environments, while Bug. /q/ alternates with /-r-/, /-s-/ or /-k-/ before nominal and verbal /-ɨng/ as well as transitive /-i/, but remains /q/ before the person markers and the definite article /-e/. There are three possible solutions to the problem:

(1) The derived forms are to be considered as separate lexical items. This is totally unjustified, as -an/ɨng and -i are quite productive.

(2) The various consonants are present in underlying forms.

(3) Only /q/ is present in underlying forms, and the various languages have innovated rules to change it.

Both (2) and (3) have their merits; (3) probably accords best with native speakers' feelings about their languages, and it is probably the solution which a purely synchronic "structuralist" analysis would arrive at. However, (2), by considering the history of the languages, is better able to explain why /q/ alternates with /-r-/ or /-s-/ etc. rather than with, say, /-b-/ or /-l-/; furthermore, it can be shown that (3) is a natural outcome of (2). We shall examine both hypotheses in detail.

We posit underlying final /t r s/ in Duri, /r s/ in Sad. and /r s k/ in Bug. There will be occasional Sad. or Bug.

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doublets or triplets (e.g. Bug. sɨssɨk-, sɨssɨr- 'regret')-- somewhat ad-hoc, but probably indicative of the dialect variation which must have given rise to these in the first place. The presence of the underlying consonants in both *-i 'transitive' and *-an '1. benefactive, 2. nominal' forms in Bug. (and Mak.)-- but only in *-an forms in Sad. and Duri-- must then be due to different orderings in the application of transformational rules and/or to different orderings of boundary deletion rules in the transformational cycles of the respective languages[69]. The following forms are typical:

Sa'dan

i. ungkambiq 'to herd cattle; watch over (something indefinite or unspecified)'

ii. (ung)kámbiqi 'he/she herds/is herding cattle'

iii. kambíqi 'to herd, guard (something-- the object-- in focus)'

iv. pangkambíran 'to herd/guard for (someone-- in focus)'

Duri

i. mangbukaq 'to open'

ii. (m)bűkaqi 'he/she opens (something unspecified or indefinite)'

iii. bukáqi 'to open (something-- in focus)'

iv. bukátan 'to open (something) for (someone-- in focus)'

Buginese

i. (m)ampiq 'to herd cattle; watch over'

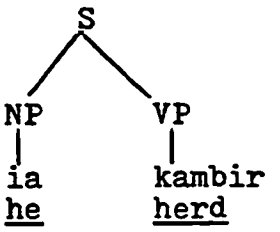
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ii. mámpiqi 'he herds/is herding cattle'

iii. mampíri 'to herd/guard (something-- in focus)

iv. ampíring 'herd for (someone-- in focus)'

In all three languages, the forms with /-i/ '3d pers.' (exs. ii above) must be considered as transformationally derived, by a sort of concord rule which deletes the underlying subject pronoun while inserting an affix marked for the same person. The input to the transformation is the basic structure (using Sad. as typical):



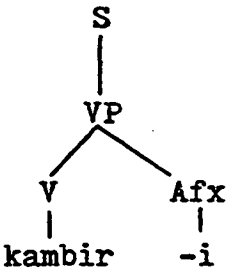
The transformation may be informally stated as:

T-concord

$$\text{S.D.} \quad \underset{1}{\left[\begin{smallmatrix}+\text{Pro}\\ \alpha\text{Pers}\end{smallmatrix}\right]} \quad \underset{2}{\text{V}}$$

$$\text{S.C.} \quad 1 \quad 2 \quad \Longrightarrow \quad \emptyset \quad 2+\left[\begin{smallmatrix}\text{Afx}\\ \alpha\text{Pers}\end{smallmatrix}\right]$$

and the new constituent structure is probably something like:



equivalently: $[_S[_{VP}[_V \text{ kambir }]_V[_{Afx} \text{ i }]_{Afx}]_{VP}]_S$.

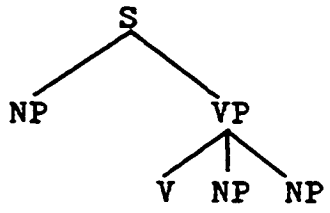
The phonological rules then apply as follows:

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Underlying	kambir ## i
1. Stress	kámbir ## i
2. Final C Rule	kámbiq ## i
3. Boundary deletion	kámbiq i
Surface	kámbiqi

Also in all three languages, Benefactive verbs with *-an are probably derived from an underlying structure like:

II.



The verb in such a structure must be obligatorily supplied with the Benefactive marker--

T-benefactive

S.D. $\frac{V}{1}$ $\frac{NP}{2}$ $\frac{NP}{}$

S.C. 1 2 ===> 1 + $[^{Afx}_{BEN}]$ 2

followed by the concord rule whereby the appropriate affix is introduced agreeing with the immediately following NP (by definition the Beneficiary or Indirect Object)[70].

The result is to change the constituent structure from

II. $[_S[_{NP}]\ [_{VP}[_V kambir]_V[_{NP}][_{NP}]]_{VP}]_S$

first (via T-ben) to:

IIa. $[_S...[_{VP}[_V[_V kambir]_V[_{Afx} an]_{Afx}]_V[_{NP}][_{NP}]]_{VP}]_S$

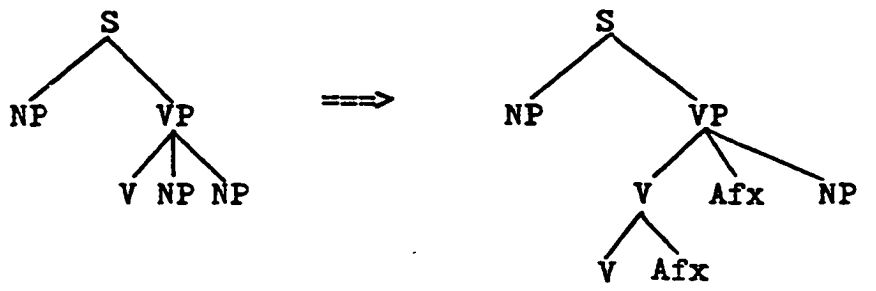
then (via T-concord) to:

IIb. $[_S..[_{VP}[_V[_V kambir]_V[_{Afx} an]]_V\ [_{Afx} PERS]_{Afx}[_{NP}]]_{VP}]_S$

In tree-form, the change from II to IIb can be seen as:

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II.



Phonological rules now operate as follows:

Underlying	kambir # an ## i
1. Inmost bound.del.	kambir an ## i
2. Stress	kambír an ## i
3. Bound. del.	kambír an i
Surface	kambírani

The principal difference between the derivations of kámbiqi and kambírani would thus be, perhaps, the embedding of BEN into VERB, while the person markers are embedded into VERB PHRASE.

Derivations with /-i/ 'transitive/locative' are another matter. It is unlikely that any of them are directly generated by the base-structure rules; rather, they represent complex structures derived from more basic ones. Forms in /-i/ can have several meanings, among which are:

1) Transitive/locative, presumably derived from basic intransitive verb plus prepositional phrase. Cf. Bug. tinro ri biliqe 'sleep in the room' vs. tinrói biliqe 'sleep in (i.e. occupy, use) the room'.

2) Causatives/inchoatives (usually with a locative connotation), e.g. Bug. nipísi, Duri penipíhi 'to shave, make thin (a board)' < Bug. nipiq, Duri nipih 'thin'; or Bug. biccúki, Duri pebeccúqi 'make smaller, reduce' <

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Bug. ɓiccuq, Duri beccuq 'little'; or Sad. kapuqi 'add lime to' < kapuq 'lime'. There are at least two possible structures from which these can derive: either from simple causative/inchoatives (CAUS - X BECOME - VB), or causative + locative (CAUS - X BE IN/ON NP). There is an added complication, in that not all causatives are formed with /-i/; some are formed with /pa-/ or /pe-/. In the main, the choice appears to be morphologically determined (perhaps semantically in some cases, if the base does not permit of a locative interpretation). There are also Sad. and Duri examples which suggest that /pa-, pe-/ must be used if there is another suffix on the verb-- e.g. Sad. gannaq 'complete, enough', gannáqi 'to complete (something)', but pagannaran 'complete for (someone)'.[71]

3) Object focus. The difference between e.g. Bug. mampiq tedonge 'watch over/herd the buffalo' and mampíri tedonge 'idem' is difficult to capture in English, except to say that in the former it is the action of herding that is emphasized, in the latter it is the buffalo. In a sentence like "those are the buffalo that I herd" the form would probably be: iyaro tedonge uampíri (u- 'I').

4) Repeated actions: cf. Mdr. tuttuq 'hit' (implied: once) vs. tuttúqi 'hit repeatedly, beat'. The underlying structure of these is unclear.

Whatever the deep structure of these formations, it seems reasonable to suppose that in the course of their derivation, the embeddings take place in such a way that (in Sad./Duri) the Final C Rule applies before the rule

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deleting boundaries between base and suffix. In Bug. and Mak., even though the constituent structure is probably the same, it appears that the Final C Rule does not apply until much later. Some examples:

1. Sad. gannáqi 'to complete (something)' < gannaq, gannar- 'complete, enough'[72].

Underlying	$[_V$CAUS $[_V$gannar$]_V]_V$
1st Cycle:	
1. Boundary del.	$[_V$CAUS gannar $]_V$
2. Final C	$[_V$CAUS gannaq $]_V$
2nd Cycle:	
1. CAUS Suffixing[73]	$[_V$ gannaq i $]_V$
2. Stress	$[_V$ gannáq i $]_V$
Surface	gannáqi

2. Sad. pagannaran 'complete (something) for...'.

Underlying	$[_V$CAUS$[_V[_V$gannar$]_V[_{Afx}$an$]_{Afx}]_V]_V$
1st Cycle:	
1. Boundary del.	$[_V$CAUS $[_V$ gannar an $]_V]_V$
2nd Cycle:	
1. Boundary del.	$[_V$CAUS gannar an $]_V$
2. Stress	$[_V$CAUS gannár an $]_V$
(Other rules)	$[_V$ pa gannár an $]_V$
Surface	pagannáran

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3. Bug. biccuki 'to reduce (something), make (something) smaller' < biccuq 'little'.

Underlying	$[_V$CAUS $[_V$biccuk$]_V]_V$
1st Cycle:	
1. Bound. del.	$[_V$CAUS biccuk $]_V$
2nd Cycle:	
1. CAUS Suffixing[73]	$[_V$ biccuk i $]_V$
2. Stress	$[_V$ biccúk i $]_V$
Surface	biccúki

Mak. follows Bug. in not applying the Final C Rule until very late in the phonology. This seems to be the principal difference between Sad./Duri on the one hand and Bug./Mak. on the other-- namely, that Sad./Duri apply the rule earlier; in other words, that they have incorporated the rule into their transformational cycles. In Bug./Mak., it remains a post-cyclic rule, like the stress rule.

Note that Mdr., where all original final stops are now underlying /q/, has also undergone restructuring of the transformational rules: where Sad. Duri Bug. and Mak. apply no rule to *-an derivatives, Mdr. has innovated:

Mdr. "Final-q Rule"

$$/\text{-q}/ \longrightarrow \begin{Bmatrix} /\text{-ng-}/ & / \text{ a---+an} \\ \emptyset & \text{elsewhere} \end{Bmatrix}$$

And where Sad. and Duri apply their Final C Rule (C $\longrightarrow$ /q/ / ---#) to /-i/ derivatives, Mdr. applies

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no rule, thus following in a sense Bug. and Mak. This is one more bit of the evidence for the existence of the Sa'dan subgroup vs. Bug., Mak. and Mdr.

The foregoing hypothesis-- that final consonants are present in underlying forms in Bug., Mak., Sad. and Duri-- seems reasonable, and is of course based on the presumed historical developments. Of the languages in question, only Mdr. can be described as having underlying final /ɋ/ (plus /r l s ng/ and perhaps /n/), with the innovative Final-q Rule. Duri can be described with underlying final /t r s/ (plus /k n ng/), Sad. with /r s/ (plus /k n ng/), Bug. with /r s k/ (plus /ng/), Mak. with /k/ (plus /r l s ng/). In each of the four languages, the Final C Rule has a slightly different form:

Duri

$$\begin{bmatrix} t \\ r,s \end{bmatrix} \longrightarrow \begin{bmatrix} q \\ h \end{bmatrix} / \text{—} \begin{Bmatrix} \# \\ \text{Person markers} \\ \text{Transitive } \underline{-i} \end{Bmatrix}$$

$$\begin{bmatrix} +\text{cons} \\ +\text{dif} \\ \alpha\text{cont} \\ \alpha\text{voi} \end{bmatrix} \longrightarrow \begin{bmatrix} -\text{cons} \\ -\text{F} \\ \alpha\text{cont} \\ -\text{voi} \end{bmatrix} / \begin{bmatrix} -\text{syl} \\ \text{—} \\ -\text{nas} \end{bmatrix} \begin{Bmatrix} \# \\ \text{Person markers} \\ \text{Transitive } \underline{-i} \end{Bmatrix}$$

Sa'dan

$$\text{r, s} \longrightarrow \text{q} \; / \text{—} \; \text{(same env. as Duri)}$$

$$\begin{bmatrix} +\text{cons} \\ \alpha\ \text{F} \\ +\text{cont} \\ \beta\text{voi} \end{bmatrix} \longrightarrow \begin{bmatrix} -\text{cons} \\ -\text{F} \\ -\text{cont} \\ -\text{voi} \end{bmatrix} / \begin{bmatrix} -\text{syl} \\ \text{—} \\ -\text{nas} \end{bmatrix} \begin{Bmatrix} \# \\ \text{Person markers} \\ \text{Transitive } \underline{-i} \end{Bmatrix}$$

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Buginese

$$r, s, k \longrightarrow q \;/\; \text{—} \left\{ \begin{matrix} \# \\ \text{Person markers} \\ \text{Definite art.} \end{matrix} \right\}$$

$$\begin{bmatrix} +\text{cons} \\ \alpha\ F \\ \beta\text{cont} \\ \gamma\text{voi} \end{bmatrix} \longrightarrow \begin{bmatrix} -\text{cons} \\ -\ F \\ -\text{cont} \\ -\text{voi} \end{bmatrix} / \begin{bmatrix} -\text{syl} \\ \text{—} \\ -\text{nas} \end{bmatrix} \left\{ \begin{matrix} \# \\ \text{Person markers} \\ \text{Definite art.} \end{matrix} \right\}$$

Makassarese

$$k \longrightarrow q \;/\; \text{—}\# \text{ (the sole environment)}$$

$$\begin{bmatrix} +\text{cons} \\ +\text{grave} \end{bmatrix} \longrightarrow \begin{bmatrix} -\text{cons} \\ -\ F \end{bmatrix} / \begin{bmatrix} -\text{syl} \\ \text{—} \\ -\text{cont} \\ -\text{voi} \end{bmatrix} \#$$

It is probable, however, that the rule given for Bug. represents the merger of two distinct stages: at one point (let us call it "Pre-modern Bug."), the Bug. Final C Rule would have resembled the Sad. rule with respect to the features, though with a different environment. That is, in this stage, as in modern Sad., only /-r, -s/ were affected, not /-k/. A later change has added /-k/ to the rule; this could be due to the general SSul tendency to neutralize final contrasts, or, just possibly, it may be due to contact with Mak.

The other possible hypothesis (number 3 on p. 478 above) is less abstract and probably more in line with native speakers' intuitions about their languages. According to it, (underlying) final /q/ (and Duri /-h/)

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"becomes" some other consonant with the addition of certain suffixes. I consider such a view inadequate, since it offers no explanation for the choice of consonants, nor for the fact that with Duri /-h/ > r,s, the speaker must choose (out of thin air?) the etymologically correct consonants. The solution, no doubt, would be to mark the various morphemes to indicate which consonant is to be chosen. Thus among the features of e.g. Sad. /gannaq/ would be one specifying

[-r- /— +an]

while a Bug. word like /sɨssɨq/ 'regret', which has both /-r-/ and /-k-/ derivatives, would perhaps be marked:

[-r- /— VBL
  -k- /— NOM]

It is quite possible that Bug. and Sad. are in fact tending in this direction-- witness the overwhelming choice of /-r-/ in Sad., or of /-r-/ and /-k-/ (to the exclusion of /-s-/) in Bug. As we mentioned in §2.1.1.2a above, at least one Bug. informant felt that /-r-/ was "usually" chosen for verbal derivatives (thus /-ri/ and /-rɨng/-- has /-ri/ been reinforced by analogy with the locative marker /ri/?), and /-k-/ was "usually" chosen for nominals (thus /-kɨng/; but verbs with /-ki/ also occur). Most likely, this should be viewed as a <u>potential</u> direction of change for Bug., a means of avoiding ambiguous forms. If such a change is just beginning, therefore, it means that a new rule is being added to Bug. grammar:

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Bug. (Potential) Suffix Rule.

$$\text{Transitive } /\text{-i}/ \longrightarrow \begin{Bmatrix} \text{-ri} \;/\; \text{q+}__ \\ \text{-i} \;/\; \overset{\text{ng}}{\text{V}} \text{+}__ \end{Bmatrix} / ____]_{\text{V}}$$

$$\begin{Bmatrix} \text{Benefactive} \\ \text{Nominal} \end{Bmatrix} /\text{-i̇ng}/ \longrightarrow \begin{Bmatrix} \begin{Bmatrix} \text{-ri̇ng} \\ \text{-ki̇ng} \end{Bmatrix} / \text{q+}__ \\ \text{-ang} \;/\; \text{V+}__ \\ \text{-i̇ng} \;/\; \text{ng+}__ \end{Bmatrix} /____]_{\substack{\text{BEN,} \\ \text{NOM}}}$$

Such a change, if it is occurring, must be of fairly recent date, for in the derivatives listed in Matthes' dictionary there is no clear correlation between part of speech and chosen consonant.

The idea is not so far-fetched, however, for comparable changes have apparently taken place in other languages--Bare'e and Mori, for example (cf. Adriani 1931, Esser 1927/1933). These languages, which have open-syllable structure, "insert" various consonants before the suffix /-i/-- usually /-k-/, /-ng-/ or /-s-/. According to the grammars, the affix /-si/ has, aside from its transitive-locative force, the additional connotation "plural actors". Thus a no-longer transparant morphophonemic alternation has been endowed with a new syntactic/semantic element; such a development in SSul languages need not be unexpected[74].

While this hypothesis might be more accurate from a purely synchronic point of view, I feel that an analysis which reflects the historical developments is superior. The only problem which arises concerns bases with /-q/ which never take affixes, or at least, for which no

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derivatives are listed in the sources. It is not clear what underlying final consonant should be posited in such cases; but since /-i/ and /-an/ derivations are extremely productive, it might be possible, with a good informant, to elicit forms with a consonant[75].

3.9.3. Subgrouping. It must be understood that any attempt to subgroup the SSul languages at this point is highly speculative and tentative by nature. Our only real criteria are: the detailing of the phonological history just accomplished, our often limited vocabularies, and a few grammatical features in common. The lacks are very serious: no more than a superficial view of the comparative grammar, almost no firm historical data (nor even a coherent body of published legendary materials), hardly any archeological data, hardly any cultural data, no modern data on the physical anthropology of the people. If such data become available in the future, this subgrouping will at least serve as a working hypothesis, and also as a test of the ability of historical linguistics alone to contribute meaningful information to other disciplines.

In addition to our formal study of the historical phonology, we have also carried out a rather informal lexicostatistical survey-- informal in the sense that the raw percentages are used, without taking Standard Error into account (see Gudschinsky 1956). In the course of collecting and analyzing the wordlists, it also became

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clear that the lexicostatistical method left much to be desired, at least insofar as the SSul and other IN languages were concerned. It seems likely, for example, that the contact situation in SSul almost certainly has resulted in somewhat skewed percentages. Happily, however, the formal study and lexicostatistics, taken together, do support one another. The percentages, for both 100- and 200-word lists, are displayed in Chart 7a and 7b.

The phonological features which seems especially important in determining subgrouping are:

1) voiceless NC > CC
2) retention of final continuants
3) final stop neutralization

All languages except Mak. show some trace of (1). Only Mak. and Mdr. show (2), and the same two languages show the most advanced developments in (3), in that Mak. has underlying /k/, Mdr. /q/, for all proto-stops. On balance this suggests either that the two languages form a subgroup of their own, or that they have been separated from the other languages for the longest period-- Mak. somewhat longer, since it is completely unaffected by (1). The lexicostatistical percentages do not support a Mak/Mdr. subgroup, but conclusively show Mak. as quite distinct from all the others. Grammatical data also support this-- viz. the pronoun system, verbal prefixes with optional /m-/, loss of /me-/. We can therefore say with some assurance that Mak. apparently was the first to break off from the proto-language, perhaps well before any other group.

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CHART 7

Lexicostatistical Percentages

A. 200-word list.

	Mak.	Mdr.	Sad.	DuC	DuK	PUS	Mmj.	Seko
Bug.	39.3	44.5	44.	50.3	47.7	45.3	42.1	29.8
Mak.		34.6	30.9	34.8	32.9	33.	34.9	26.7
Mdr.			54.2	53.4	50.5	58.5	60.8	37.1
Sad.				73.	72.3	67.1	58.9	42.9
DuC					84.6	63.1	54.7	42.6
DuK						60.3	53.7	41.5
PUS							69.8	43.9
Mmj.								48.4

B. 100-word list.

	Mak.	Mdr.	Sad.	DuC	DuK	PUS	Mmj.	Seko
Bug.	44.5	50.5	46.	54.	51.	48.4	44.3	35.6
Mak.		36.	33.	36.4	32.8	33.3	33.	31.8
Mdr.			60.	58.	51.	63.	66.	41.4
Sad.				77.8	75.7	72.9	60.3	50.5
DuC					86.8	69.2	58.2	50.
DuK						62.5	55.1	49.5
PUS							74.6	49.5
Mmj.								49.5

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The remaining languages, as we noted in the preceding section, appear to have undergone a period of common development, to the extent that *-p and *-t merged > *-t (together with probable *-m and *-n > *-n, which must have begun at this period but did not go to completion until after the departure of Mdr. and PUS). At this stage too, *i̱ was still present. It appears that Bug. and Mdr. both broke off at about this point, though the order of their going is unclear. Perhaps Bug. preceded-- retaining *i̱-- while Mdr. and the Sad. group then began the shift of *i̱ > /a/. On the other hand (and this is our choice), perhaps Mdr. went first: the evidence for this lies in the categorical NC rule in that language, vs. variation in the remainder[76]. In this case, the shift *i̱ > /a/ is an independent development in Mdr. and Sad.-- although, if Bug. were somewhat isolated geographically, it could still have affected Mdr. and Sad. together before their split. (The *i̱ > /a/ in Mak. is definitely taken as an independent development there, and perhaps an early one, since irregularities like the Mdr. Final-t Rule etc. are practically absent.)

The percentages suggest that Bug. broke off before Mdr., but I suspect that the high Mdr:Sad. and Mdr:Duri ratings are due to contact or at least, to general geographical proximity throughout most of their history. Conversely, the lower Bug. percentages could be due to contact with Mak. Mdr.'s high percentages with PUS and Mmj. are certainly due to relatively recent contact and mixture, but it is possible too that the two groups were in contact in

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the homeland. If Mdr.'s percentages with Sad. Duri PUS and Mmj. are lowered by 5-10% to account for contact, its apparent membership in the Sad. group becomes less likely--in this case, the 200-word list seems to reflect matters more reliably. However, this remains a point of ambiguity in the subgrouping. On the one hand, Mdr. retention of final continuants argues for an early split; on the other, the presence of /me-/, /-um-/ and /ti-/ align it with the Sad. group versus Bug. with non-productive /me-/, no /-um-/, and /tar-/. Still, if /me-/ and /ti-/ are viewed as areal (substratum) features, this argument too is weakened. And it may be that Bug. has retained and generalized /tar-/ on the strength of its long contact with Mak.

In any case, we are left with our hypothetical Sad. group, consisting of Sad. Mass. PUS Mmj. and Seko. Since the Duri data measures over 80% for the dialects sampled (including my Enrekang data, in an inadequate list of 175 of the 200 words), these can safely be called representatives of a single language. Their high percentage with Sad. suggests near-mutual intelligibility, hence recent split; cultural, political and religious differences have done more to separate the two groups than has geography or any other factor, and while the split surely antedates the introduction of Islam to Mass. (probably mid to late 17th Century), it has certainly been exacerbated by it. As for the other Mass. languages, for which rough percentages were computed in Pelenkahu 1972 (see §2.1.5.1 above), we can probably attribute the lower percentages

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(e.g. Endekan-Maiwa 67%, Duri-Maiwa 67%, Pattinjo-Duri 70%, vs. End.-Duri 78%, End.-Patt. 81%, Patt.-Mai. 79%) to the relative distance between Duri and Maiwa/Pattinjo, and to the fact that Maiwa, especially, has been heavily influenced by Bug., due to geographical proximity.

The close relationship between Sad. and PUS is also evident, though I suspect my PUS list is somewhat atypical (cf. §2.1.5.2 above). On the basis of Hoorweg's information (Hoorweg 1911, Mededeelingen 1909), Mmj. can be viewed as a dialect of PUS with heavy Mdr. influence-- this is best evidenced by the (apparent) re-introduction of the final continuants. Seko is a problem: the low percentages suggest an early separation, yet it shows relatively unexceptional developments with /q/ < *-p, *-t and the continuants, retention of /-k/ (like other Sad. languages), but merger of all nasals > /-ng/. Vocabulary, the change *w > /h/, and the pronoun system-- not to mention the informant's statement about his people's migrations-- all tie it closely with the PUS area. The low percentages are due, I believe, to Seko's isolation, and exposure as it were to non-SSul influences from the North and East, for whereas all the other language groups have always been oriented toward the South, and Buginese, Seko has not-- witness Kruyt's statement about cultural borrowing from the neighboring To Rampi. It also appears from Kruyt that such contact as the Seko have had with Buginese Luwu has been through the intermediary of the To Rongkong. It is unlikely that they have ever had much contact with the

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Makassarese, and since both languages seem to be unusually open to loanwords, that will account for the extremely low Seko:Mak. percentage.

Even assuming that the Seko did in fact originate in the PUS area, one can still speculate on their linguistic affiliations. As we have suggested earlier, perhaps they were an autochthonous (Toraja-speaking) tribe who were pushed out of their more south-westerly homeland after undergoing a period of contact with the newly-arrived PUS. Or perhaps they were an off-shoot of the PUS group which has undergone strong Toraja influence since reaching their present home-- the hypothesis which we prefer. Some combination of the two hypotheses is also possible-- it is in cases like this where the lack of supporting data is most frustrating.

If we accept the Sad. traditions described by van Lijf, then these people have migrated outward from the Makale-Rantepao area within recent times, that is, during an indeterminate period ending in the 16th Century. Probably two main branchings can be postulated: one to the West (Mamasa area), the other to the North (Rongkong area). The Mangki in the north-west are then probably a mixture of later off-shoots from both Mamasa and Rongkong (migrations out of Mamasa can be assumed on the basis of geography; those out of Rongkong are supported by Hoorweg 1911). There have also been minor migrations from Makale-Rantepao to the East, across the mountains and toward-- but not all the way to-- the coast, which remains in Buginese hands.

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Adriani's discussion of the "To Sada" of the Palopo area (Adriani 1898), shows that their language has undergone strong Bug. influence-- insofar, that is, as his (really A.C. Kruyt's) data are phonetically trustworthy. He mentions the common bilingualism; the data show only final /ng/, as we would expect from Bug. influence. The total lack of /-q/ and /-k/ in the data is striking, but I suspect the explanation is that /k/ has become /-q/, which Kruyt's informants did not indicate (if he drew on written word-lists collected at second-hand), or which he failed to hear (if he collected the data himself)[77].

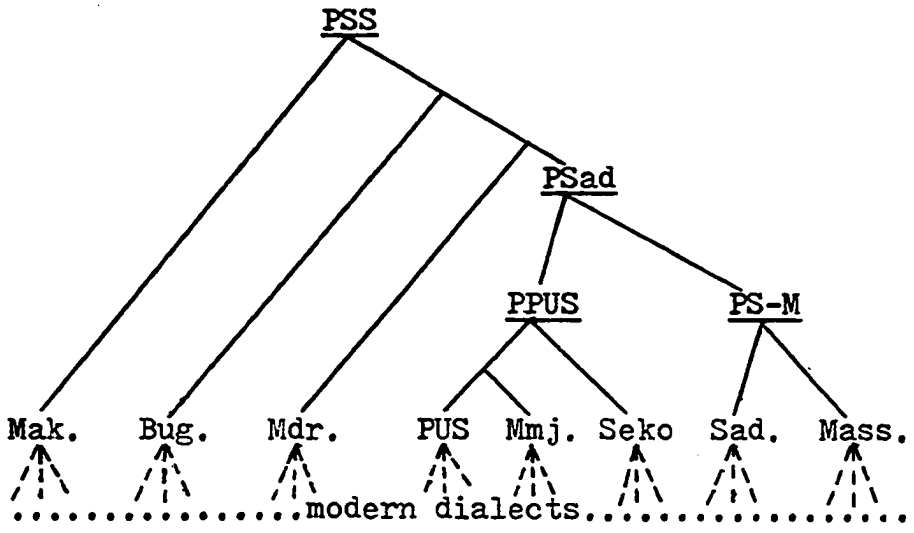
The languages of Massenrempulu have probably diverged from an earlier dialect group centered on the lower Sa'dan valley (Enrekang area, most likely). Since they were hemmed in not only by mountainous terrain but also by well-settled and powerful neighbors-- Sad. to the North, Bug. to the South-- they have not been able to move far from their original area. Further research will have to be carried out to determine whether the languages of the coastal strip along Teluk Bone are in fact "Massenrempulu" languages or simply Sad. dialects with Bug. admixture, which strikes me as the most likely possibility. It may, however, be difficult to classify such languages, since Sad. and Duri (and probably other Mass. languages) are still close to being mutually intelligible[78].

In sum, we can propose the following "family trees" for the SSul languages-- choice between them depends on how we choose to view Mdr. The first (A) attaches more

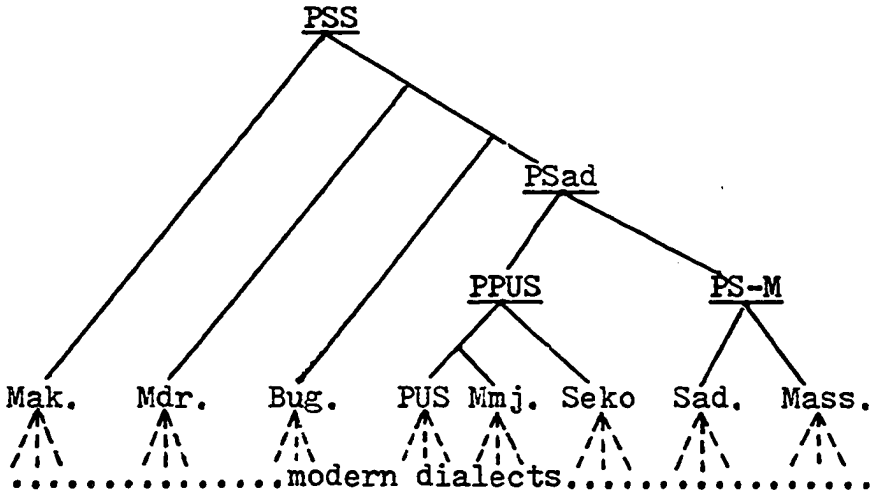
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importance to the lexicostatistical evidence. The second (B)--which we prefer-- reflects our belief that modern Bug. must descend from a Sad.- or Mass.-like stage, which is not necessarily true of modern Mdr.

(A)



(B)



3.9.4. Speculations on the PSS homeland, and substratum.

3.9.4.1. Homeland. We readily admit, of course, that in the absence of any supporting data other than the languages themselves, a few scattered legends, and more or less secure hypotheses about the past based on present circumstances

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in the Indonesian archipelago, all speculation on a "homeland" is little more than educated guesswork. It is worthwhile only insofar as it enables us to eliminate some possibilities and suggest areas for future research which offer the most promise of success.

A number of unsupported assumptions underlie this discussion, and it is well to cite them here:

(1) The nucleus of PSS speakers arrived by sea in a migration from some other island. Any island in the archipelago could have been the starting point; the Sad. tradition of "an island in the South" is, however, too weak to allow any great precision. Nor does the linguistic evidence, for while PSS seems to bear some resemblance to the "Old Malay" of South Sumatran inscriptions, there are also points in common with Madurese, Balinese and Sasak. The North (Philippines) and East (Moluccas) can, however, probably be discounted as points of origin on linguistic grounds.

(2) While it would be simpler, it would be unreasonable to say that the PSS group arrived all at once, in a single large migration. Consequently, we posit a series of smaller, perhaps closely spaced movements into SSul, and a period of common development before the break-up began.

(3) The PSS group came to a land which was already inhabited. The indigenes also spoke an AN language (or languages), and were in all likelihood related to the present-day Torajas of Central Sulawesi. This accords with either Heine-Geldern's or Solheim's theories of AN origins. Despite the real lack of any supporting evidence as far as

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SSul is concerned, this must-- faute de mieux-- serve as our working hypothesis.

(4) Following on this, a major motivating factor for the coming of PSS speakers can be discerned: trade. It is true that present knowledge does not allow us to ascertain how the very early (pre-Christian Era) trade in eastern Indonesia fitted into the known trade networks within the Orient and between the Orient and the Mediterranean, but we can easily see how it could have constituted one small link in that vast chain. More importantly, it provides a strong clue as to where and why PSS first established itself on Sulawesi.

We can assume that the process began with annual trading visits-- this in itself suggests an ultimate origin in some (south-)western part of the archipelago where the trade could link up with the wider network. On the West Monsoon (roughly November - April) sailing vessels would go out to the East, spend a few months distributing and collecting trade goods, then return on the East Monsoon (April - November). Until the development of steam power, it was difficult if not impossible to observe any other schedule. Now, there are few natural harbors along the coast of SSul; Pare-pare with its protected bay is one, but there is no river leading to the interior. The mouth of the Sa'dan River (originally not far north of Pare-pare) would have been another (though it is not now), and more importantly, the Sa'dan is the only major river leading into the mountains. Assuming that the indigenous peoples preferred

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to dwell in the high mountains and valleys, such a river would be a useful communications route. The same assumption allows us to suggest that the less mountainous southern half of the peninsula may have been thinly populated; in any case, there are few protected anchorages along its coasts. The Palopo area, again, has rivers leading inland, as does the Wotu area; A.C. Kruyt finds evidence for very early trade between these points (i.e. Luwu) and Central Sulawesi (see 1938:I:478), but as a point of dispersal for SSul, Luwu presents problems, as we will show below.

The trade would have involved-- as it still did in early Contact times-- importation of "luxury" goods of low bulk and high value (van Leur's (1960) criteria), in exchange for local raw materials, usually forest products like lumber, rattan, resins, rare hides and colorful feathers; but interior Sulawesi also has items of much greater value: gold and iron, which are not common in the archipelago[79].

The development must therefore have been: first, annual trading visits; next, a small permanent colony; finally, larger immigrations. This last, plus natural population growth, would ultimately lead to a complex of settlements, and then the break-up of the linguistic community.

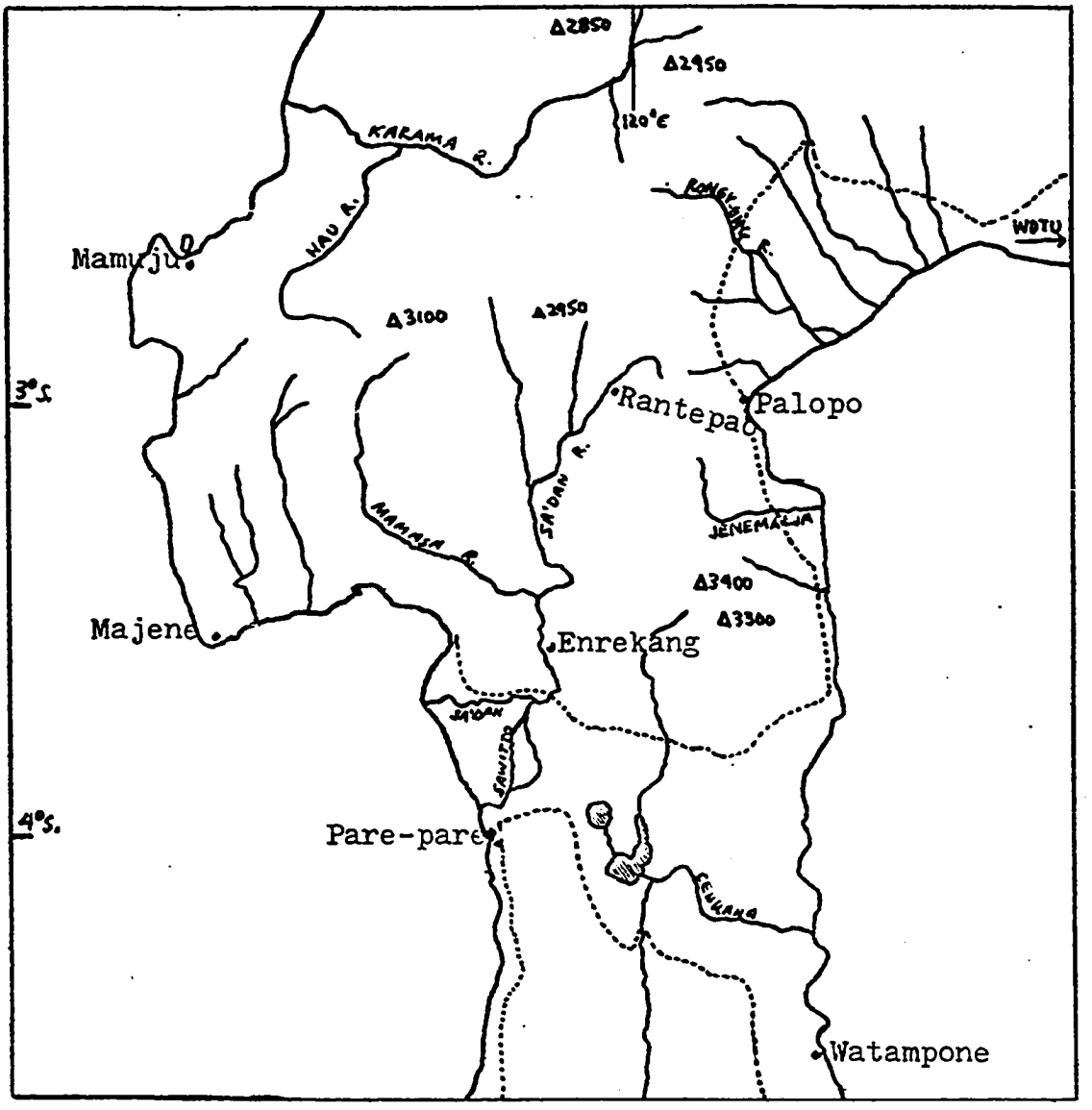
From this point on, we can begin to connect the hypothetical dispersal with geographical factors. We shall present first what seems to be the most logical homeland and dispersal theory, for our rejection of alternative locations and routes depends on their failure to explain the present-day distribution of languages.

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On the basis of the present-day distribution of language groups, and on the available evidence regarding migrations, the PSS homeland can be located, we believe, on the lower course of the Sa'dan River, as it apparently flowed from the area below Enrekang in a south-westerly direction toward the Straits of Makassar[80]. From there, we can deduce what routes must have been followed by groups migrating out of the area; and if our description of the order in which groups broke off is correct, the approximate location of each group within the homeland can be hypothesized.

The proto-Makassarese, for example, probably occupied, or later spread toward, the South into flatter land; in the course of time, they may have spread all across the peninsula at this general latitude. It is suggestive that we find place-names with "jene" (Mak. jeqneq 'water') on both sides of the peninsula: in the West, Pangkajene (Mak. pangka 'fork, branch') north of Sidenreng[81], in the East the river Jenemaeja (Mak. maeja 'red') in the narrow coastal strip between the Latimojong Range and Teluk Bone. However, if the Mak. ever occupied this last area, they had spread quite far indeed; the river may have acquired its name later-- like the Mdr. town Majene far to the northwest. It is unlikely to have been a Mak. settlement, but could easily have been named later by Mak. traders-- perhaps because it was a source of fresh water? It is not mentioned in the Mdr. Lontar, and so might even date from post-16th Century. For these early Mak. movements, see

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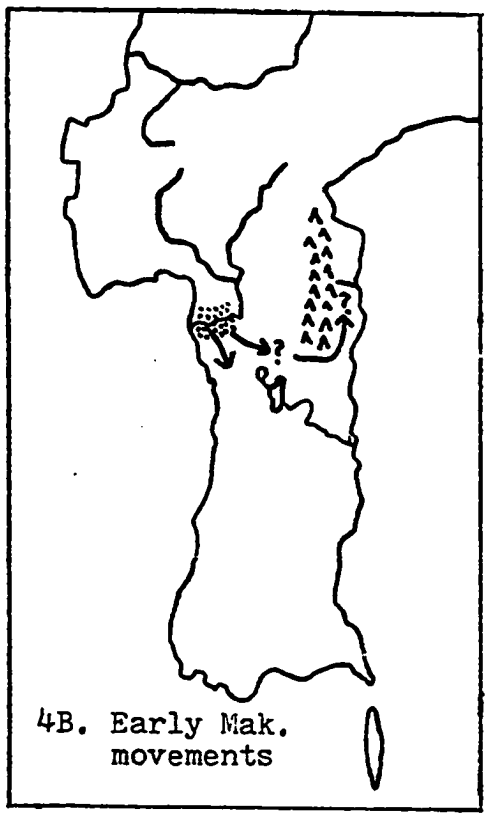


MAP 4A (Scale ±1:2,000,000)

Showing the presumed shape of the SSul peninsula, ca. first millenium B.C. Present-day rivers are indicated. The dotted line marks approximately the 100-meter contour, the lowest one indicated on the maps available to me (Atlas van Tropisch Nederland and U.S.Army Map Service). Throughout the hypothetical "channel" area, low-lying hills are found, but the Tempe Lake (the larger one indicated) is only 8m. above sea-level, and the Sa'dan-Sawitto triangle is marked as swampy on the maps. The modern highway from Palopo east follows the solid ground of the "old coastline", not the more direct but swampy new coastline. I find it striking that the Bug.-Mass. linguistic boundary follows almost exactly the old northern coast of the presumed "channel".

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the appended maps: Map 4A shows the SSul peninsula as it may have appeared in the 1st Millenium B.C.-- the changed course of the Sa'dan River seems fairly certain, while the channel cutting the peninsula and the "bay" north of Palopo are more conjectural. Maps 4B et seq. are sketch-maps only, not to scale, and for convenience are based on the modern lay of the land.

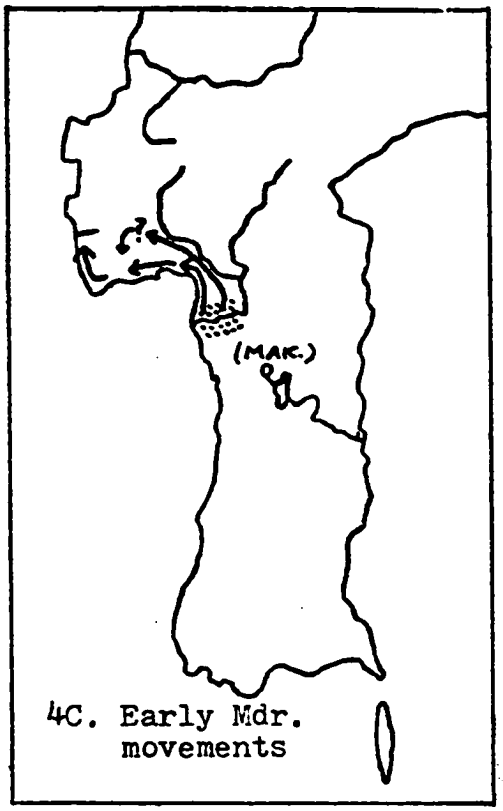


Map 4B

Our inference is that the Mak. were the group closest to the coast, and that the way South was the easiest for them to take. Thus we can infer further that (1) land to the South must have been open, i.e. relatively thinly populated, and (2) the way to the North was blocked, perhaps by some other group which could not be easily displaced. These early Mak. movements are illustrated on Map 4B.

The group to the North would have been the proto-Mandars who, when the time came for their migration, went North along the coast toward their present location. There is a contradiction here, since Mdr. legends (Tenriadji 1961) claim an origin in "Ulu Sa'dan" (the head, or upper course, of the Sa'dan). Modern Mdr. /saqdan/, however, can be

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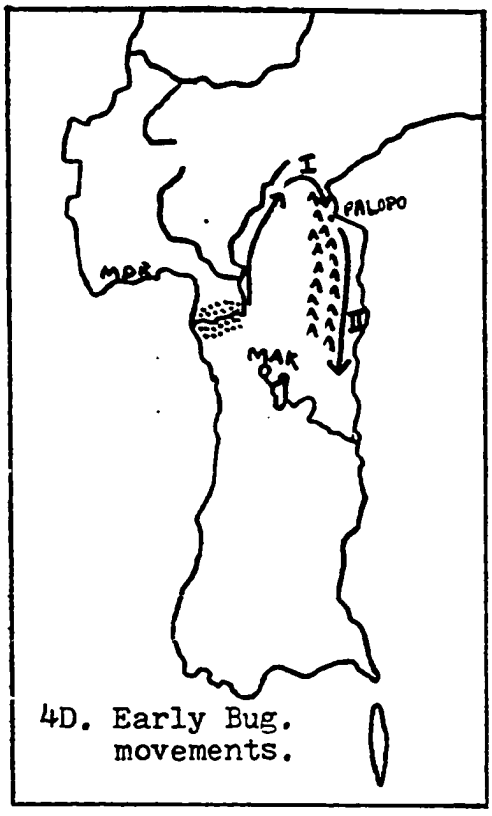
4C. Early Mdr. movements

Map 4C

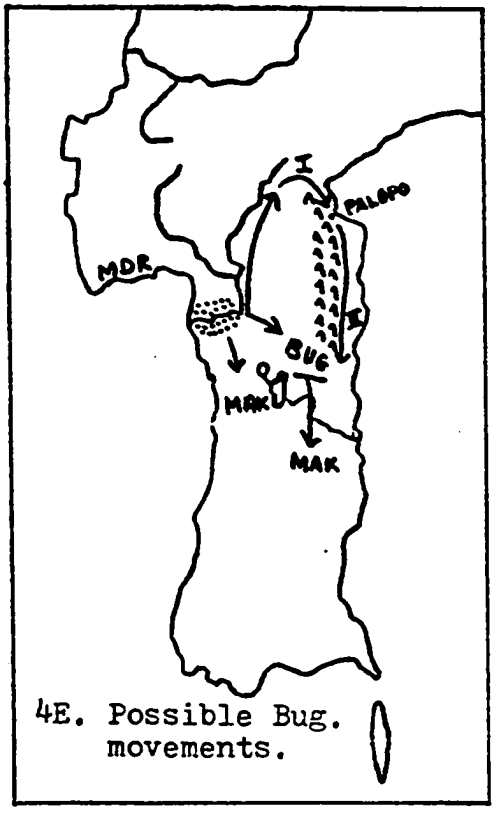
applied to any river, and so need not necessarily refer to the present Sa'dan River. Possibly the Mdr. followed an inland route up the Mamasa River (conceiving it to be the main branch of the Sa'dan?) to its headwaters, then later came down to the coast under pressure from newly-arriving PUS peoples; these possibilities are shown on Map 4C. (It might also be-- if the Mdr. are the product of mixing between some indigenous Toraja group and a SSul group-- that an origin myth was adopted from the more numerous indigenous component.

Since the Buginese traditionally ascribe their origin to Luwu, we must posit a preliminary migration to that area from the lower Sa'dan valley. The route would have been up the Sa'dan to its headwaters (near modern Rantepao), then across the low mountains there to the north end of Teluk Bone. (The very high Latimojong range would have precluded a migration directly East out of the homeland, then North up the coast to Luwu.) There was probably already a trading center in the Luwu/Wotu area-- perhaps founded by SSul people, perhaps not. In any case, we can say that the Bug. took possession of it, and later expanded from it in the easiest (most uncrowded) direction: South

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Map 4D

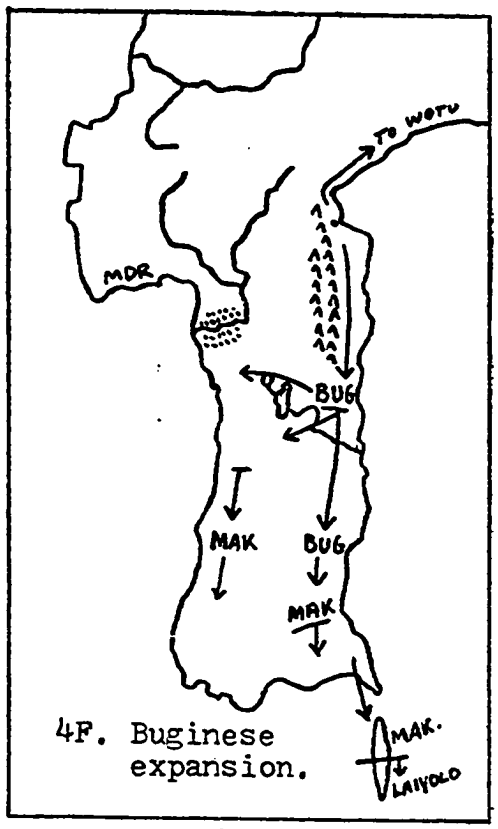


Map 4E

down the coast[82]. (Cf. Map 4D.) The implication here is that the Bug. must have been the most easterly of the SSul peoples. It is possible too that while one group of Bug. went North upriver, another group moved South, into the Maiwa area; eventually the two groups would have rejoined (this is shown on Map 4E). In any case, the present-day distribution shows that the Bug. have expanded well to the South, and also to the West, over the entire central portion of the peninsula. Presumably as this expansion took place, the early Mak. were pushed along before it, always southward, and the lopsided area of modern Mak. attests to this. The Bug. have advanced furthest (because earliest?) along the coast of Teluk Bone, while their advance West to the

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Straits of Makassar and southwest toward Makassar city has covered less territory. Furthermore, we can say that Bug. expansion is still going on: A&K's language map (based on pre-1914 data) shows mixed Bug. and Mak. in the area north of Makassar city, and in the Bulukumba area on the southeast tip of the peninsula. According to the researchers of the Lembaga Bahasa Nasional, the area along the road from Bulukumba to Sinjai (the southernmost all-Bug. area) is now solidly settled by Bug. speakers.



4F. Buginese expansion.

Map 4F

One result of this pressure, especially intense in the SE tip, must have been the migration of some Mak. to the island of Salayar, where in turn they forced an indigenous population into the southern end of the island. Those people speak a language called Laiyolo, apparently related to the languages of Muna/Buton (and so ultimately with Bungku-Mori). These developments are shown on Map 4F.

It may be that a thorough study of Bug. and Mak. historical and epic literature will fill in some of the details. Recall, for example (and see §1.3b), that after the first three mythical kings of Luwu, there was a period of anarchy when "men swallowed each other up like fish." This could reflect the period when the Bug. were fighting

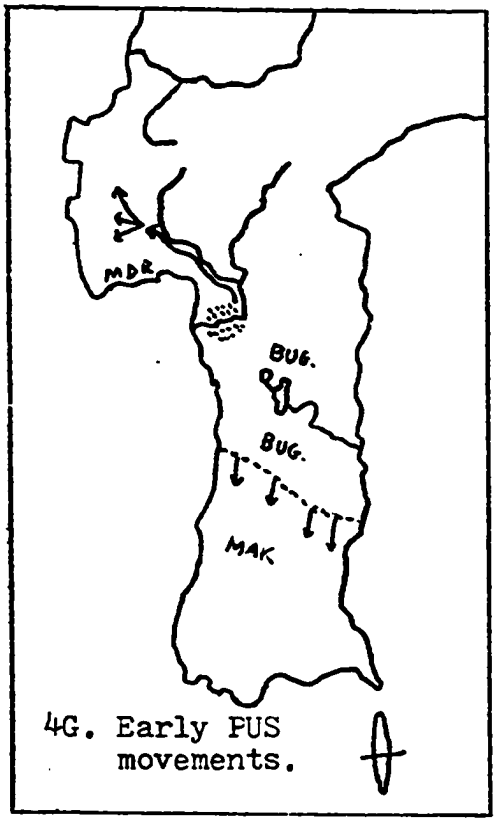
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their way South down the coast and into the central part of the peninsula. The most powerful Bug. kingdoms have always been Bone and Wajo, both on the Teluk Bone side, and their first kings are said to have come from Luwu. Andi Zainal, further, has suggested that the I La Galigo epic dates from, perhaps, the 9th Century, "when the Bug. still lived along the coast" (i.e. Palopo and the coastal strip to the south?). On this basis, we might propose that Bug. expansion must have taken place somewhere in the period 9th - 15th Century[83].

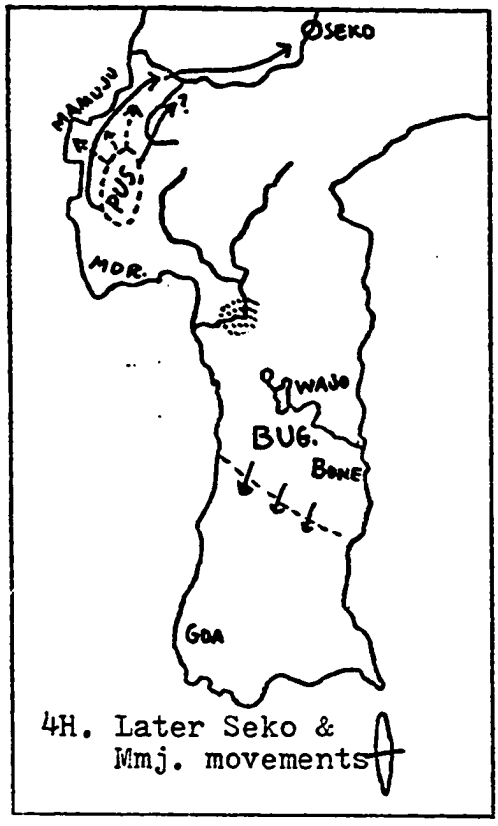
This may explain, too, the rather divergent vocabulary of Mak. As they were pushed to the South, it fell to them-- not to the Bug.-- to have to contend with the indigenous population. Male indigenes were probably killed or enslaved; women were enslaved or taken as wives, which no doubt led to a certain number of bilingual children. And it may also account for the three strata of traditional Mak. society-- nobles, freemen and slaves-- though it is true that such an arrangement was not peculiar to Mak. but prevailed in all SSul societies (and some Toraja groups) until the first years of the present Century, when slavery was effectively abolished by the Dutch[84].

Returning to the homeland area, which is now occupied only by the Proto-Sa'dan group, we can propose PUS as the next migration. They could have travelled up the Mamasa River to its headwaters and then expanded in that area, moving to their present area later under pressure from newly-arriving Sad. peoples. (Presumably they followed

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Map 4G

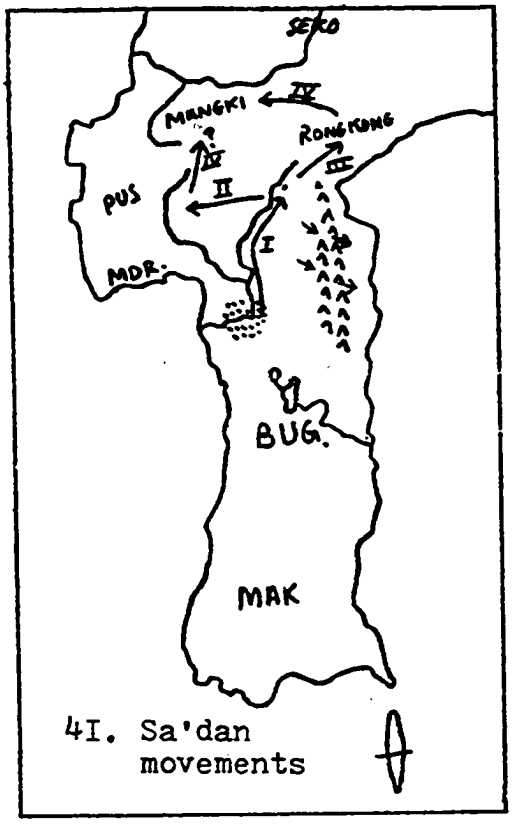


Map 4H

the Mamasa because the Sad/Mass. people blocked the way up the Sa'dan.) See Map 4G. The subsequent Seko migration has already been mentioned, as well as the movement of some PUS groups down to the coast where, mixing with Mandars, they now form the Mamuju linguistic group. Map 4H shows these later migrations (Seko-- solid arrows; Mmj.-- dotted arrows).

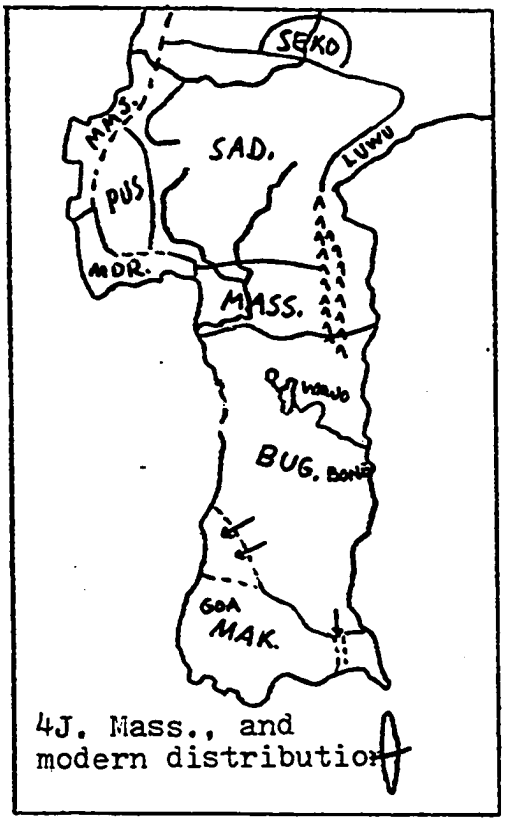
From their location in the Sa'dan valley-- tradition says near Enrekang-- the Sad. speakers have clearly moved North, up the river into the Makale-Rantepao area, with subsequent migrations West and North, and finally into the northwest corner of the territory (ending, if van Lijf is accurate, sometime in the 16th Century). See Map 4I.

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4I. Sa'dan movements

Map 4I



4J. Mass., and modern distribution

Map 4J

The Mamasa migration may have been responsible for the Seko having to move on, but natural population growth or the desire for better land could also have been.

That leaves the Mass. languages still in the homeland area. If we may judge from the small amount of legendary/historical data presented in Pelenkahu 1972, this accords with their traditions, for there is no suggestion of an outside origin (see Map 4J).

What of the alternative homeland sites? In principle, we could locate them anywhere on the peninsula, but if trade was the motivating factor, then a good harbor with access to the interior and exportable products are the first conditions. This effectively eliminates the

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southern half of the peninsula, for it lacks good anchorages, may have been thinly populated, and offers nothing of value except forest products. Further, from a homeland in the South, it would be difficult to account for the known Bug. movements from North to South, and the traditional Sad. movement from Enrekang North. Nor do we find any evidence of Sad. influence in the toponymy, as we might expect if the Sad. group had spent several centuries moving through the area on their way North.

The only real alternative is Luwu, probably the Palopo area rather than Wotu. Both places could have been early trading centers, but Wotu shows every sign of being a Bug. outpost, the limit of Bug. expansion, rather than the starting point of all the SSul migrations.

Starting from Palopo, then, there is no problem as far as the Mak. Mdr. and Bug. migrations are concerned: first, the Mak. went down the coastal strip, eventually spreading across the peninsula to the West coast. Then the Mdr. can be sent west over the mountains to-- note-- the headwaters of the Sa'dan, thence either overland, or else downriver and then up the coast, to their present area. The problem, however, lies with the Sad/Mass. group. If we accept their tradition of origin in the Enrekang area, that would mean that from Luwu they went over the mountains, all the way down the river and then back up, which seems unlikely.

Further, it is somewhat difficult to see what would have motivated migrations from the Palopo area, for it is (and presumably always has been) a flourishing port.

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Population growth and the need for more land are about the only factors discernible. These would also have motivated migrations from the Sad. valley, but we can also point to the silting up of the lower course of the river, and its subsequent decline as a useful harbor.

Another possibility could be that there were two original settlements-- one at Luwu, the other on the lower Sa'dan. This would mean that PSS was already split from the time of its arrival on the island. I do not feel that the differences between the various languages support such a concept; quite the contrary, in their treatment of the voiceless NC and final consonants (as far as the */-t/ stage), Bug. Mdr. Sad. and Duri show signs of having undergone a period of common development, which could not have taken place if Sad/Duri were in one location, Bug Mdr. (and Mak.) in another more distant one. Even if this period of common development took place after the Bug. expansion, and after the Mdr. movement downriver (?)-- around, let us say, the 9th Century-- this affords us the unusual situation of a linguistic unity which broke up, then came back together again. An alternative would be to posit parallel developments in each language group-- Bug., Mdr., Sad.-- which would be coincidental indeed.

All the evidence fits best with the concept of a centrally located homeland, in which <u>all</u> the ancestral groups lived; and the lower Sa'dan valley fulfils the conditions best.

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3.9.4.2. Substratum? We must indulge in more educated guesswork on this point. If the underlying assumption--that SSul was already inhabited when the PSS people arrived--is correct, then we must ask what became of the original inhabitants and their language(s). Some, no doubt, fled before the newcomers, into the security of the mountains. Others, no doubt, gave up their lives along with their land. Those who remained would inevitably have been assimilated, thus further swelling the population and increasing the need for territory. After the expansion began, we can imagine the proto-Makasaarese, for example, gradually absorbing all sorts of heterogeneous groups as they spread first across, then down the peninsula. We suggested above that that may be one explanation for the divergent Mak. vocabulary. As other SSul peoples spread north into the mountainous areas favored by the indigenes, there was almost certainly assimilation. It may even be that small groups of SSul people managed to impose themselves on the mountaineers as a ruling class, by virtue of some slight cultural superiority. It may be too, that as SSul peoples moved into the mountains, others were forced out; thus the peoples who today live on the northern border of the Sad. territory--Rampi and Leboni-- may have lived further south in earlier times. The presence of such a substratum in the PUS area, in particular, helps to account for the peculiar *u > i change found both there and in Rampi/Leboni. At the time van der Veen wrote his 1929 article, there was still an enclave of Toraja speakers within the Sad. area, at

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Waibunta, north of Palopo. (The language was called Lemo-la(ng) and from the examples cited seems to have been distinct from other Tor. languages. It is probably extinct now.) Even to the untrained observer, the physical appearance of the Sa'dan Toraja-- especially the women-- is markedly different from that of the Bug. or Mak.[85]

The linguistic evidence certainly shows that the substratum-- let us call it specifically Toraja-- must have been strongest in the northern languages: we can point to the productive use of the prefixes /me-/, /pe-/ and /ti-/ versus their non-productive remnants in Bug. and Mak., where the regular (for SSul) reflexes of *mar-, *pa- and *tar- are found. This suggests that the Toraja element was sufficiently numerous in the North, but not in the South, to guarantee the survival of the variant forms.

We have compiled 100-word Swadesh lists from published sources for four of the Toraja languages: Bare'e, Mori, Ledo and Uma. Comparison of these with SSul produces very puzzling results. All four languages, for example, would appear to be more closely related to Bug. than Bug. is to Seko; Seko in turn appears to be more closely related to the Torajas than to Bug. Mak. or Mdr. Thus, taken at face value, the percentages should dictate the inclusion of the Toraja languages within the SSul family. (See Chart 8 for the percentages. Duri has been omitted from SSul, since its percentages tend to be so close to those of Sad. that for practical purposes, Sad. may be taken as equivalent.) Let us examine the evidence more closely.

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CHART 8

Lexicostatistical Percentages: SSul/Toraja

100-word list.

	Bare'e	Uma	Ledo	Mori
Bug.	42.	41.4	42.	38.8
Mak.	28.	30.6	31.5	31.8
Mdr.	40.5	46.2	45.5	44.2
Sad.	41.5	46.8	44.5	41.4
PUS	47.4	50.5	47.4	40.5
Mmj.	46.4	51.1	44.3	40.9
Seko	42.4	47.8	43.4	38.
Bare'e		61.8	59.	50.
Uma			65.	48.2
Ledo				44.7

(For reference, compare (100-word list): Bug/Seko 35.6, Bug/Mak. 44.5, Sad/Seko 50.5, PUS, Mmj/Seko 49.5)

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Only Bare'e and Mori are in direct contact with any SSul language-- viz., Buginese, in the Wotu area. But there are sizeable colonies of Bug. traders in all parts of the Bare'e and Mori lands, and the Bare'e (though not the Mori) used to be vassals of the king of Luwu. My Bare'e list was compiled from the dictionary (Adriani 1928); the Mori list came from an informant in Indonesia, with a few items found in Esser's grammar (Esser 1927/1933). The Ledo and Uma lists likewise were compiled from dictionaries-- Esser 1934 and 1964 respectively. Ledo is the language of Palu, and the lingua franca of the Palu River valley; Uma is spoken by the To Pipikoro, who live on the Koro River about midway between Palu and Seko. Neither group is in direct contact with SSul, though Palu-- a port town, and Islamic-- is said to have a large colony of Bug. and Mak., and the To Pipikoro are known to have waged war on the Seko (A.Kruyt 1938:I:179-180). We have also examined the languages of Bada, Rampi and Leboni as reported in Woensdregt 1925 and 1929; the latter two, at least, are closely related, and are contiguous with Seko and the northern Sad. area. Unfortunately, the texts provide too little material to compile a complete Swadesh list.

Two factors may have served to skew my lists for these languages. First, the simple fact that they were compiled from dictionaries. I was, of course, searching for cognates, and may have chosen a clearly cognate form from among several synonyms, one or more of which may in fact be more commonly used. This was especially a problem with Bare'e,

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even though Adriani is very careful about marking forms as "archaic" or "ritual language" or "coastal" (these last are often obvious Bug. loans-- religious and marine terminology). Esser's lists are more concise, and less likely to note loans; also, his contact with the languages was limited to a few months each (though his extensive work with Mori and Bare'e must have enabled him to approach Ledo and Uma much more quickly). Both Adriani and Esser, in their turn, may have tended to be biased in favor of cognate items. Even my Mori list has its problems: the informant no longer spoke the language, though his command of it had been revived in the course of preparing his thesis; further, his own dialect differed somewhat from the standard.

Second, there may be hidden influences from Ml/BI, both in the Toraja lists as well as the SSul lists. My SSul informants were all fairly young, educated in, and fluent in, Bahasa Indonesia. Esser's wordlists too were compiled in the 1930's, after a period of fairly widespread missionizing and education in Ml. by missionaries; they may contain Ml. material disguised, e.g. by the dropping of a final consonant.

Several problems arise, if we attempt to unite the Toraja languages with SSul under a single proto-language. Some of the languages-- Ledo and Mori, for example-- still retain verbal tenses; this is usually taken as a sign of affinites with the Philippines. Most of them also have a benefactive suffix /-aka/ or /-ako/ (cf. Jav. /-akĕn/) which is entirely lacking in SSul. Generally speaking, too,

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their use of verbal prefixes is more complex than in SSul. These are the main grammatical differences.

In phonology, several revisions would be required, whose net effect would be to make the SSul + Tor. proto-language look much more like PAN. (1) We should have to reconstruct *γ in non-final positions, and *z (*ǧ) in final position, for these two sounds have distinct reflexes in Bar. and Mori. In Bar., they merge > **y, and likewise in early Mori; in modern Mori, this **y > ∅ after affecting the quality of the preceding vowel. In Ledo and Uma, it appears that *γ > either /y/ or ∅ (PAN *y > ∅ too), while reflexes of *z are mixed-- both y/∅ and r/l (cf. Bar. Uma Ledo eo, Bad. aḷo 'sun, day', PAN *aǧaw). (2) We should have to reconstruct PAN *-y in the sequence *-uy, for in some of the Tor. languages this *y simply drops, while in others the sequence *-uy > i, as in SSul. (3) It would be necessary to reconstruct a reflex of the PAN laryngeal *q, for Bar. Mori and Uma reflect it as glottal stop-- e.g. Bar. Bad. taqi (Bug. Sad. et al. tai) 'excrement', PAN *taqi; Bar. Mori taqu (Bug. taung, Sad. taun) 'year', PAN *taqun. Also in final position it is attested in Bad. and Rampi-- Bad. wuaq (Bug. et al. bua, Ml. buah) 'fruit', PAN *buaq; Bad. tu(w)oq (Bug. et al. tu(w)o, Ml. tumbuh) 'alive', PAN *tu(m)buq. And if Muna is truly a language of the Bungku-Mori group, then there is a distinct reflex in initial position too: e.g. Muna "ghate" (Mori, SSul ate) 'liver' PAN *qatay, among others. The increasing resemblance of

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such a SSul + Tor. proto-language to PAN or PIN suggests that we are no longer dealing with a distinct subgroup. Note that languages like Ml. or Madurese could more easily be subgrouped with PSS; in fact, PSS could be considered superordinate to early Ml, and Mad.-- except for its divergent vocabulary (possibly due to borrowing from Ml/Jav.)-- might even be viewed as a SSul language. (Lexicostatistically, Mad/Jav. 38.7, Mad/BI 48.4; Mad/Bug, Mak, Duri,Seko all in the range 25-27; Mad/Bare'e also 26.7.)

The rather high lexicostatistical percentages between SSul and Tor. actually seem to be due not to noticeable innovations but, quite the contrary, to a rather high retention rate of common AN vocabulary-- nearly 40% in some cases. (Mori, for example, has reflexes of more of Dempwolff's PAN etyma than does Ml/BI!) The only real signs of Toraja influence in SSul are:

(1) loss of the final *ɣ in the words for 'water' (PSS *wai, PAN *wahiɣ) and 'hear' (PSad. **rangi, cf. Bar. donge, Mori ronge, PAN *dɨngɨɣ; the PSad *-i is best explained as being < earlier **-ɨy); and of the medial *ɣ in 'give' in PSad. (something like **bei or **bee, cf. Mdr. bei, bengan, Bar. wai, Bada weqi, Mori wee; Bug. were, PAN *bɨɣay).

(2) Toraja vocabulary, most noticeable in the Sad. languages, especially the PUS group. Note Mmj. dangsi, Uma danci 'bird'; Mmj. Mori Bada bau 'meat' (probably < **bawu < **babu < *babuy 'pig'); Sad. PUS sanga, Bada sangaq 'name' (< ?**sangaq); Seko tampo, Bada tampoq

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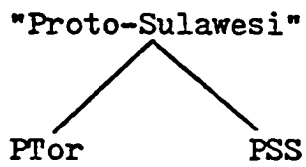
'earth', and so on. Especially striking are: Mak. bayao 'egg', Bar. bayawo 'meat', ultimately cognate with Bug. et al. bala(w)o 'mouse'; and Mak. mangge 'father', Ledo mangge 'uncle' (perhaps < Mak., if the introduction of Islam resulted in changes in the kinship system). There are no more than nine or ten such items all told.

(3) A similar list of items common to most SSul and Tor. languages (as well as others, within and without the island of Sulawesi), but without PAN etyma. Apparently restricted to Sulawesi are PSS *kande 'eat' (cf. Bar. kande 'graze'), *sɨdding 'hear' (Bad. hadi, Leb. həri), *belu(bw)ak 'hair' (Bad. weluaq, perhaps Bar. wuyua, Ledo bulua), *insAn 'to know' (Bad. isa; Ledo isani and Bar. incani may be borrowings). With outside cognates: Sad. kekeq, Ledo nang/giki (/ng+k/ > /ngg/ is regular) 'to bite', cf. Madurese kekkeq, Samal (Philippines) keket 'idem' < PAN ?*kitkit, possible doublet of Dempwolff's *gigit (?*gitgit) 'bite'; PSS *isi 'tooth', Bar. Ledo Mori ngisi, Sangir isi, Tagbanwa (Phil.) isiq 'idem', Tag. Bis. -ngisi 'to grin' < PAN ?* (ng)isi.

The seemingly high retention rate of PAN material may of course be due to Adriani's, Esser's and my bias toward clearly cognate items. Or it may be that constant contact between the closely related Tor. languages has slowed the rate of lexical change in the interest of maintaining mutual intelligibility (though this is not now the case). In sum, the Tor. languages seem to be unusually conservative, considering their presumed antiquity.

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That is probably the most compelling factor in our decision not to group Tor. with SSul-- namely, the loss of final consonants in most of the languages. Bada, it is true, retains a /-q/ reflecting (most regularly) PAN *-q and (sporadically) final stops. Final nasals, however, have been lost everywhere, and most languages have also lost stops and continuants. With the addition of suffixes (especially /-i/ 'transitive') certain of the finals reappear, but without the regularity visible in SSul. It must be assumed that the loss of final consonants took place over a considerable period of time. If the two language groups descend from a single source, there must have been a very early split--



Yet if the lexicostatistical percentages are to be believed, Tor. is an offshoot of the PUS group, itself a relatively late branch of PSS. The Tor. languages cannot simultaneously be an independent branch, and a branch of PUS.

Thus despite the lack of good data, it seems reasonable to conclude that the Tor. languages and SSul are not immediately related. We might even consider Tor. to be the indigenous AN language of Sulawesi-- especially if Solheim's theory of AN origins is correct. This must remain, however, a tentative conclusion until better data are available, and relationships within Tor. (if it is a single family) can be sorted out.

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FOOTNOTES: CHAPTER III

1. I cannot think of a single important instance where my informants' pronunciation differed from Matthes' transcription-- a particularly worrisome point where final /q/ is involved. Consequently, I have felt safe in citing forms from Matthes which I have not heard.

2. Quite possibly native speakers could demonstrate some difference in the connotations of such words; BI sepit and sempit, for example, have different meanings in their derived forms: e.g. menyepit 'to pinch' vs. menyempitkan 'to narrow, make smaller'. Notwithstanding, the phenomenon is so widespread, that if it ever had any morphological value, that was at a very early level, and has ceased to be productive in every language.

3. The sweet potato and, of course, the common white potato are both imported plants in Sulawesi, the latter probably within the past century or less. However, the name lame is peculiar to SSul. If, as seems likely, the sweet potato was brought by the Spaniards, via the Philippines, then Bis. lamiq 'delicious' could conceivably be a source; this and PSS *lame could regularly reflect a proto-form **lamiq.

4. We will not give the complete set of rules here; they are lengthy, and slightly different for each vowel. Let two examples suffice. (1) The tense allophone [i] of /i/ occurs in

a) —#
b) —(N)CV#
c) —CVC# where V ≠ i,u
d) —NCVC#, where V = ə.

(2) The lax allophone of /i/ [ɪ˅ ~ e^] occurs in:

a) —C#
b) —CVC# where V = i,u
c) —NCVC# where V = i,a,u

5. Dyen reconstructs PAN *maẗy, but the proposed contrast *-ay:-ɨy depends on very weak evidence, and is suspicious to me, also, on structural grounds. See Ch. 4 regarding the probable non-occurrence of PAN *ɨ + semivowel sequences.

6. See the further discussion of this ex. in §3.7e, p.385.

7. According to the old Dutch conventions for writing IN languages, which I assume this informant was following, the dieresis indicated intervocalic /q/. Thus oä = /oqa/. As this is the only word where the informant used the dieresis, his intention remains unclear.

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8. According to Heyne (1950:1106), properly the resin of various trees of the Dipterocarpaceae spp., but also applied to that of Agathis alba Roxw.-- this latter known as "copal" in international trade.

9. This Seko term is very likely borrowed from Sad. Kruyt describes three classes in Seko society: the nobility (to makaka), commoners (to direnge), and slaves (to kaunan). Slaves, however, were very rare, and it is clear that kaunan is a Sad. loan. I feel that the term to makaka may also be borrowed; it is found not only in Sad., but also in Bare'e, Mori and other Central Sulawesi languages. Thus the third term also stands a good chance of being borrowed.

10. Jav. regularly dissimilates the sequence #rVrV.. to #lVrV.. as in /loro/ 'two' < presumed **roro < *dua.

11. In A&K, we find an attempt to derive (various) Tor. hori, horingi 'to hear' < PAN *dȧngi̇ɣ, ignoring the initial syllable. Obviously the words derive from my *si̇dding.

12. In Sad. we find both kinds of assimilation for the sequence l..r..: regressive here and in /laqrari, raqrari, aqrari/ 'flying termite', likewise /saluaraq, saruaraq, sararaq/ 'k.o. short, tight-fitting trousers', and /saruran/ (DuriK idem) 'water-course, channel, Du. waterleiding'. The first is unique to Sad. and contains a very rare /qr/ sequence; the second is borrowed via Mak. salŭaraq < Ml. sĕluar, ult. < Indic/Persian sharwal (there are several Ml. variants, too). The third is very likely also < Ml. saluran 'irrigation ditch.' There is progressive assimilation in Sad. ma/lala 'burning, spicy-hot', cf. Mak. lara 'strong, bitter-tasting' < PSS *laza.

13. Note also e.g. Mak. danggang 'trade' presumed < Ml. dagang. The final nasal may have conditioned the medial accretion. And the usual Makassarese pronunciation of the brand-name "Commodore" (cigarettes) is [komondŏre].

14. The Bug. and Mak. forms without /-q/ are cited in MWB, the forms with /-q/ only in BWB. The latter was published 15 years after the former, and from this and similar cases one might conclude that either Matthes was hearing final /q/ better, or else the later work was more carefully printed. Where Matthes gives forms both with and without /-q/, present-day informants almost invariably accept only those with /q/.

15. See the further discussion of PSS *i̇lzo in §3.9.1c.5, pp. 346-50.

16. It is generally agreed that Dempwolff's PAN is weighted heavily toward the IN side; for example, many etyma have reflexes only in IN, whereas a great many possible Proto-Oceanic forms (possible, that is, to Dempwolff, from the sources available to him) were excluded since they had no

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reflexes in the IN area. If equal weight had been given to Oceanic cognates, the reconstruction of optional NC in initial position, furthermore, would have been required.

17. Van der Veen glosses the word as 'priestess' only; the Bug. bissu were male or female, sometimes male transvestites, perhaps hermaphrodites. The word also occurs in Mdr.; my informant glossed it (in English) 'sissy', probably a euphemism for homosexual.

18. For the Endekan form, I have had to translate the BI gloss literally: 'kenyang, (tentang ayam)'. This is obscure to me; perhaps it means 'plump, well filled-out'?

19. Adriani seems to view such words either as loans, or as instances of final-C retention; I feel they are all fairly certain loans. However, there are cases where apparently native words with final /-Ci/ (usually reflecting a frozen *-i transitive suffix) have been treated in the same way, and show irregular (or alternative) antepenultimate stress.

20. This is the only sure example for *ñj in Seko. But cf. Sad. ma/lando, ka/lando, Mass. ma/lando, PUS Mmj. ka/lando, SekoP balando (?) or balanto (?) 'long', and Bare'e lañjo 'idem'. The problem is that the written Seko form is unclear: the letter in question seems to be a "d", but there is a cross-bar on the upright. Otherwise, it is not certain how *ñj would have developed in Seko; most likely, we should expect /nn/ < **nd.

21. The Mak. word, however, has diffused widely, with the meaning 'cake', 'fritter' or especially 'fried banana': sanggára, sanggáraq, sánggaraq variously in Sad. Mdr. etc., Mori sanggára 'cake; fried banana'.

22. For SekoL I recorded [anaq], but can recall that the two informants argued over whether the word ended in glottal stop or /k/. Elsewhere, the SekoL informant-- who distinguishes final apostrophe (/q/) and final /k/ in etymologically correct places-- later writes "mosanganak" 'to play' (lit., probably something like 'be the same as (sang-) a child').

23. Chrêtien (1965:253-54) finds a moderate negative association between PAN *i and final *k and *ng. The gross figures are: of 201 items with *-Vk, only 8 have *i; of 287 with *-Vng, 17 have *i -- thus in the approximate range 4-5% for both. This is striking because *k and *ng are the most frequent final consonants, occurring in respectively 10% and 18% of the 1950 PAN forms used for Chrêtien's computations. Clear examples of PSS *-ik are also rare.

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24. Both items may be morphologically complex, at a pre-PSS level, based on a root *dek < *daik. Cf. *dai(C) and *kɨdde(C) in the Wordlist, Appendix E.

25. One of Dempwolff's cognates under *hɨdɨn-- Tag. hirin-- has the same meaning as the Mdr. form. Possibly there were two homophonous proto-forms, one for 'press out', another for 'gag', but the forms (and indeed the two physical processes) are so close that this seems unnecessary hair-splitting.

26. In view of *sɨpsɨp, I see no reason for Dempwolff's ambiguous vowel in clearly related *his(aɨ)p, which should thus be *hisɨp.

27. Consonantal metathesis is occasionally found in loan words in e.g. Bug.; cf. (informant) toñco 'model, example' said to be < Ml/BI contoh 'idem', or (inf.) lawida (BWB walida) 'weaver's batten', presumably from a Ml.-like source, but not Ml/BI bĕlira. The Ml. word is probably from Jav., since */bĕlida/ would be the expected Ml. reflex of PAN *baliga.

28. Dempwolff reconstructed only *tutup in this case. However, Mori /tutuwi/ 'close, cover' only < *tutub+i; likewise, Letti tutwu 'idem' (Jonker 1932) unambiguously reflects *-b, presumably via *tutub > *tŭtub(u) > *tŭtuwu or *tŭtbu > tutwu.

29. In some Batak areas also called añjapan. Illustrated and described in Bartlett, Harley Harris, The Labors of the Datoe, Michigan Papers on South and Southeast Asia No. 5, Center for South and Southeast Asian Studies, Univ. of Michigan, Ann Arbor, 1973 (see Plate VI, p. 85, and Plate XXI, page 225).

30. Both PUS forms come from the same informant, on two different occasions. The first (annang) was very early in my fieldwork-- a very informal and confusing session with four or five men all at once. Possibly I mis-heard, since at that time I did not expect to find /-n/, based on my knowledge of Bug. and Mak.; possibly the informant simply agreed to whatever his neighbor had said; or possibly there truly is variation in his dialect. I recorded annan from him some months later under less hectic circumstances, but comparing items elicited on both occasions, it strikes me that this informant was on his 'best behavior' linguistically the second time around. For example, hardly any /h/ < *r forms appeared.

31. Adriani (1928, s.v. kolŏkosi) describes the wall-louse as larger than a clothing louse; it lives in the woven bamboo or thatch walls of native houses, also in woven sleeping mats, and bites. No doubt it is infrequent in the more solidly built wooden houses of the Mak. area, which may account for the semantic change. In any case, it is a bug.

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32. The Mdr. and Mmj. forms did not come from my regular informants. One day my Mmj. informant brought along two friends whom he described as speakers of other dialects of Mdr. and Mmj. They wandered off before I could get their names or birthplaces.

33. The limited data for PUS and Mmj. really show a mixed reflex: Mmj. /r/, /q/ or ∅; PUS /q/ or ∅. The written SekoP materials also show a mixed reflex (if not haphazard spelling) /q/ or ∅.

34. It is equally possible that /bureq/ is a borrowing of Ml. bulir > *burir > *burer > bureq, since l..r.. is not a permissible sequence in Sad. Still, the form could be native, with the same developments.

35. Dempwolff's doublet *sandar is probably spurious; the two languages which attest the *-ar most likely have borrowed Ml. /sandar/ which could reflect either etymon. None of the reconstructions will account for Ml/BI /sender/.

36. While Minang Kabau, for example, still keeps *-ah and *-a distinct (/-ah/ and /-o/ respectively), there may well be dialects which have lost -h as well as the continuants -r, -l, -s, and then allow a > o.

37. Lettinese developments can be viewed in two ways. Either there was metathesis of *-VC > **-CV, or, a support vowel was added and the original pre-final V later dropped. Thus *sombal > (1) pre-Letti **sopal > sopla, or (2) pre-Letti **sŏmbala > sŏpăla > sopla. Jonker (and I) prefer the support-vowel hypothesis, but Letti is located in an area where metathesis is common.

38. But this is surely a function of the quantity of vocabulary available: 7-10,000 words in each of the dictionaries, vs. only about 1200 in each of my wordlists.

39. Ml. jernih < either **jə-r-nih, or *j-ar-ənih >*jərənih > jərnih-- with regular pre-tonic V > ə, and syncope of the original *ə.

40. As noted in the theses of two IKIP-Malang students: Kusuma 1964 on Mak., Kustini 1967 on Bug. If as I suspect, however, the writers were Javanese, then perhaps they were simply hearing the Bug. Mak. fully voiced stops as different from the typically breathy voiced stops of Jav. To my ear, the Mak. and Bug. sounds are not noticeably imploded, except sometimes in careful speech and citation forms.

41. To avoid confusion and unnecessary explanation, I have substituted my symbols for some of his, specifically my *ə g̈ j γ = Charles' *e j z R. For the sake of brevity, I also substitute PIN for his "Protohesperonesian".

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42. Whether the consonant could be specified as simply C_0^1 is unclear, as bases of the form /Caa/ do not occur. In those cases where the suffix /-a/ is added to base-final /-a/, the two vowels coalesce and [ɔ] occurs according to the rule.

43. Some restriction on the environment seems to be necessary even for POC, for the final consonants (at least some of which were retained in POC) are never reflected as NC.

44. See Zorc 1972. My own comparison of Dempwolff's etyma with their Tag. reflexes (seminar paper, 1970) showed final stress in about 75% of the cases where the penult had had *ɨ.

45. It is only fair to point out that at least one other analysis is possible: it would view (for PIN) the NC as sequences of two consonants. The morpheme structure of bisyllabic bases could then be stated as $C_0^1VC_0^2VC_0^1$; preconsonantal consonants would have to be restricted to nasals (or the nasal *ng), *r, *γ, and *l, i.e. [+cons, -obst, +voi]. (If *ng is chosen as basic, there will have to be a nasal assimilation rule.) The structure of RMs would still, I think, have to be specified separately.

Under this analysis, Rule N becomes somewhat simpler:

$$N'.\ [+tns] \rightarrow [-tns] \,/\, __ [-syl] \left\{ \begin{matrix} [-syl] \\ \# \end{matrix} \right\}$$

(But this is undesirable for PIN, since not every language treats NC the same as CC; some Philippine languages do, but Jav. and open-syllable IN languages do not.)

It would then be possible to say that Rule 0 inserts a dummy consonant-- glottal stop or a copy of the following C-- thus either

$$0'.\ \emptyset \rightarrow q \,/\, ɨ __ C$$

or

$$0''.\ \emptyset \rightarrow [{}^{+cons}_{\alpha\ F}] \,/\, ɨ __ [{}^{+cons}_{\alpha\ F}]$$

Rule 0' would require another assimilation rule. Neither 0' nor 0" seems particularly well-motivated; they explain certain surface phenomena in some languages, but do not contribute much to our understanding of the general phonological processes. Why, for example, should a /q/ or C be inserted after *ɨ? Nor are 0' and 0" particularly desirable as predecessors of PSS, for their presence there would mean that PSS RMs must be reconstructed with the original syllable-final consonants intact rather than with *q. That possibility was discussed in 3.7 above but dismissed as unwarranted by the evidence. It will be shown too, that PSS geminates and *qC clusters do not develop the same in every SSul language, particularly Mak.

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46. Arbitrarily assigning the meaning 'frequentative' to the -r- and -l- infixes, we can posit a transformation something like:

(PAN?) T-freq.

$$\left\{\begin{matrix}r\\l\end{matrix}\right\}_{freq} + \#C_xV_yC_z.. \text{ ===> } \#C_xV_y\left\{\begin{matrix}r\\l\end{matrix}\right\}C_z...$$

for example: -γ- + *haZan 'ladder' ===> *ha-γ-Zan

Alongside the single consonant infixes there must also have been syllabified variants *-ar-, *-al-; these are found infixed in the "normal" way:

$$\{\text{INFIX}\} + \#C_xV_y... \text{ ===> } \#C_x\{\text{INFIX}\}V_y...$$

as in e.g. Tag. sulat 'write' > sinulat 'be written' or Ml. getar 'tremble' > geletar 'tremble'.

47. To jump ahead somewhat: the problem specifically revolves around PSS *±lzo 'day, sun'. If <u>all</u> C+Stop clusters > *q, why not this one? If the infix-clusters shifted later, it is possible that the rule affected only *-rC-, leaving *-lC- (attested only in this one form) to develop in its own way. In such a case, we might ascribe *-rC- > *qC to pre-PSS; but it seems more reasonable to locate it in PSS, since CC > qC can be assumed to have applied several times in the history of these languages. Note for example, the progressive loss of medial clusters via (1) N_xC_y> N_yC_y> NC_y, (2) Stop+C > qC, (3) Cont+C > qC in RMs, (4) -rC-> qC, (5) -lC- > ??. Perhaps *l can be excluded from the rules by virtue of its being more highly marked, [+lat]; a stronger possibility is that *r could be considered as [-cont]. Finally, there is evidence that other cross-morphemic clusters with *r were still present in PSS-- viz., the prefix *mar-, whose presence is attested as late as modern Bug. in the alternation /maq+C../ vs. /marr+V../.

48. We could collapse Envs. (e) and (f)--

$$\longrightarrow \left\{\begin{matrix}\langle\emptyset\rangle\\ [-\alpha F]\end{matrix}\right\} / \begin{bmatrix}-\text{cons}\\ -\text{syl}\\ \langle+\text{cont}\rangle\end{bmatrix} \begin{bmatrix}+\text{cons}\\ \alpha\ F\end{bmatrix} V \text{ —— } \#$$

but have not done so for clarity's sake. Alternatively, we could allow -<u>h</u> to be generated, then delete it; in that case, either -<u>h</u> would be reconstructed in all other known cases (such as *puteh for PSS *pute), which is unwarranted; or else allowed only on RMs and immediately deleted, which is just as ad-hoc as forbidding it.

49. Ras (1968:525) notes that in the native writing system of Dairi Batak, voiced stops after /±/ are written as a sequence, e.g. <pb>, <tj>, and continuants are written double. Since in the modern language only a simple voiced stop is pronounced, he concludes that the writing system reflects an earlier stage resembling Bug. or Mak.

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50. For example, it would require, even for PAN, that the syllable be the domain of the stress rule, to account for **tãba, tãmba; but in that case, how to prevent t̃mba? It is true, of course, that the concept of syllable is useful in describing many languages-- e.g. tone languages-- but the concept has not yet received any coherent formulation within generative phonology.

51. The form of the Mak. word is odd, and may be ult. < Du. koemelk 'cow's milk'-- see Heyne (1950:562) under Aftocarpus Kemano Miq. (a nangka sp.), "de gewaande Indische Koemelkboom". Apparently stories circulated amongst the Dutch that the sap of this tree could be used as a substitute for milk or cream in coffee, cocoa etc. Thus it may be that Matthes misunderstood his informant's explanation; perhaps the informant gave "nangka kũqmiliq" and described it as having tough flesh, unaware that the modifier was actually a Du. word.

52. We can say that the (pagan) Seko were further isolated from the Mmj. and PUS relatives by the introduction of Islam (probably late 17th or 18th Century) into those areas; and within this century, the isolation has been furthered by the Christianization of the Seko and their neighbors in Rampi and Leboni.

53. Charles (1974:5) sees the Sang. word as the outcome of (1) replacement of *a with *i̇ before the cluster, (2) replacement of the first C in PPh *aljaw with a nasal, thus > Proto-Sangir ?*i̇njo. But the usual reflex of PPh *j (PAN *ǧ) in Sang. is /r/, not /l/, and the presumed reflex of *nj (*ñǧ) would probably be /nd/. Perhaps the Sang. form reflects Proto-Sangir *i̇rlo or *i̇dlo, both metathesized < **i̇ljo. *i̇rlo could go directly to /i̇llo/, or *i̇dlo > **i̇qlo > /i̇llo/. In either case, it is interesting to note that the treatment of CC in Sang. is very similar to that in Bug.

54. We could, it is true, rescue the metathesis hypothesis by viewing *parlak as a loan word of relatively late date. Still, to posit metathesis seems as ad-hoc as the route we propose; further, metathesis is only rarely encountered in SSul languages.

55. We consider Mak. /r l s/ as surface, not underlying, finals since they do appear (albeit with support-vowel) in unsuffixed surface forms. Distinguish this from e.g. Bug., whose underlying /r s k/ appear as /q/ in the unsuffixed form, only coming into view in the suffixed forms.

56. We leave aside the Mass. languages other than Duri, as well as PUS, Mmj. and Seko, as the data are insufficient on this point. Pelenkahu 1972 contains scattered examples showing /q/ → /r s/ and/or /k/ variously in Endekan, Maiwa and Pattinjo. In the Seko wordlist we find forms such

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as papari 'to sharpen' < /papaq/? + -i, and (contradictorily) babai 'to bind, tie' undoubtedly < /babaq/ + -i (cf. Mdr. Sad. baqbaq); for final /k/ in Seko, cf. kirrak 'weep', kirrakki 'to weep over...'.

For Mmj., a single suggestive form appears in Mededeelingen 1909: to liutang 'the inhabitants of the island in Mmj. Bay'. /liutang/ is undoubtedly cognate with Sad. libukan, Bug. liwukaṅg 'island'; the -t- is etymologically correct, but since this is an ethnic designation, it is quite possibly fossilized or non-native.

57. We have made no attempt to calculate the real frequencies for PSS, since the number of reconstructions is surely biased in favor of those forms which permit a clear reconstruction. Thus PSS final stops seem rather rare, while continuants (which are clearly reflected in Mdr. Mak.) seem to be more frequent that the figures given would indicate.

58. There is one example so far where Duri /-q/ reflects *l: pasokkotan 'basket for steaming rice', cf. Mak. songkolang. The regular reflex of *-l is vague in Duri, as in Sad., and may be either /q/ or /n/.

59. A similar change may have affected Sad. **ɨ in the more restricted environment $\left[\begin{smallmatrix}-\text{grave}\\+\text{dif}\end{smallmatrix}\right]$——$\left[\begin{smallmatrix}-\text{grave}\\+\text{dif}\end{smallmatrix}\right]$#, but there are too few examples to permit a good generalization. Some Toraja languages, e.g. Bada and Leboni, show *ɨ > i in that environment, but the data, again, are inconsistent.

60. Data presented by Dr. J. Matisoff in his course "Southeast Asia as a Linguistic Area", Linguistics Institute, Summer 1973, Univ. of Michigan.

61. A&K, in their discussion of Leboni (1914:133-42), do not distinguish the two u sounds, though they do comment that the pronunciation of Leb. /u/ tends toward that of Du. /ü/ rather than /u/. Some of the words which Woensdregt cites with /ü/ are cited in A&K with i or e or u. Perhaps Woensdregt is guilty of over-differentiating; but in view of other errors and peculiarities in A&K, I am inclined to accept the judgment of Woensdregt, who spent several years amongst these people.

62. Unfortunately, none of the available evidence is supportive of this hypothesis. Kaudern (1925), without direct study of the To Rampi or To Leboni but in line with his general theory of migrations in Central Sulawesi, concluded that they probably came from the East, from roughly the general inland area at the North end of Teluk Bone, or even further East, from the Matano Lake area. A&K held that all the Torajas came from the North-- ultimately true, I suspect. That need not mean, however, that they never occupied a more southerly area than at present; they could have been pushed back toward the North by pressure from the

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SSul peoples. In this respect, it is interesting to note that as late as the 1920's, when van der Veen wrote, there was an enclave of non-SSul speakers at Waibunta, near Masamba in the Sad-Rongkong area. See van der Veen (1929: 93-96); the small amount of data there seem to indicate that the language is "Toraja", but not immediately related to any of the known Tor. languages.

63. Much of the very old vocabulary is unfamiliar to modern Bug. speakers, and a text like I La Galigo (probably the oldest) sometimes baffles even the most knowledgeable.

64. A good example of how the choice of consonant can vary: BWB lists the single (etymologically correct) derivative /nipisi/ 'make thin, shave, plane a board' < /nipiq/ 'thin', PSS *nipis. My youngest (early 20's) informant, who had very definite opinions about his language, insisted that the only correct derivative was /nipiri/.

65. According to van der Veen (1929:89) the PUS sound is a "faucal spirant", which he writes ch, apparently in contrast with his h < *b and *w. (Even so, on p.88, he cites some examples using h < *r.) I only heard a relatively frictionless h-like sound for both, but do not deny the possibility that I mis-heard.

66. Most of the SSul peoples know wet-rice culture, apparently from some time back. Not all the tribal groups in the PUS area do, however-- or rather, did not in the 1900's when Hoorweg's reports were written. The settlement and migratory patterns I have described were typical of the Torajas as late as the 1920's when Kaudern and Kruyt did their research; before the establishment of firm Dutch control (1900's on) it was quite dangerous for villagers to go too far away from their fortified dwellings-- to work distant fields, e.g.-- because of the frequent inter-tribal warfare and head-hunting raids. The Dutch military, and Christianization, eliminated much of the physical danger, and introduction of wet-rice culture allowed larger settlements. There was also a program of forced re-settlement which for many reasons was not a striking success; even so, both Kaudern and Kruyt mention the sites of abandoned villages.

67. The BI gloss is 'tampan2', the exact translation of which is difficult since the meaning of reduplicated forms in BI depends on context. They may mean '...-ly' or 'a little bit...' or 'thoroughly...'.

68. We might speculate that forms like /pajāng/, with long vowel or final stress, were somehow felt to be anomalous; or perhaps the pattern "bisyllabic base > trisyllabic derivative" exerted pressure.

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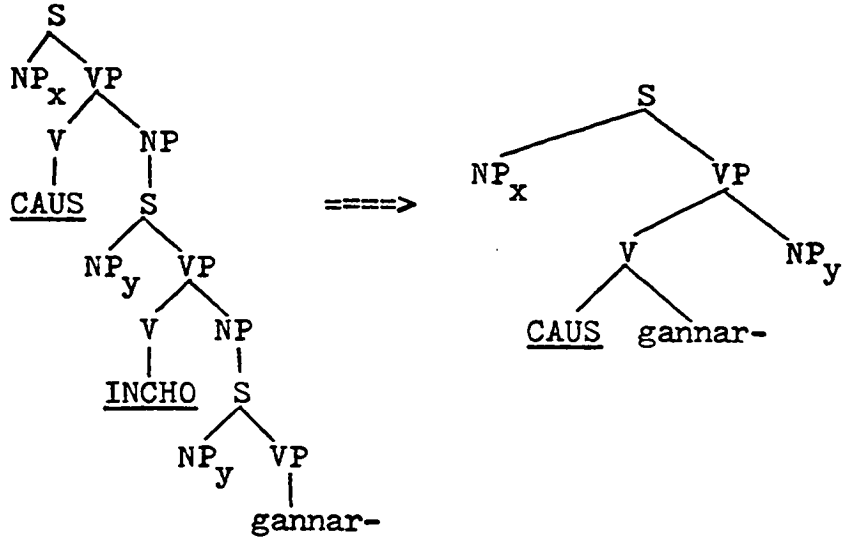
69. It is admittedly premature to be discussing transformational rules and cycles in these languages, when adequate descriptive grammars have not yet been written. It must be understood, then, that my proposals are tentative.

70. The agreement is treated as obligatory here, but "preferred" would be more accurate. If the IO constituent is preposed, there is no agreement marker; similarly, the IO can be moved to the end of the sentence (just as in Engl.,'give y x' ==> 'give x to y') into a prepositional phrase, and again, there is (usually) no marker. In these cases, however, there is ∅ marker-- i.e., the Direct Object is not marked either.

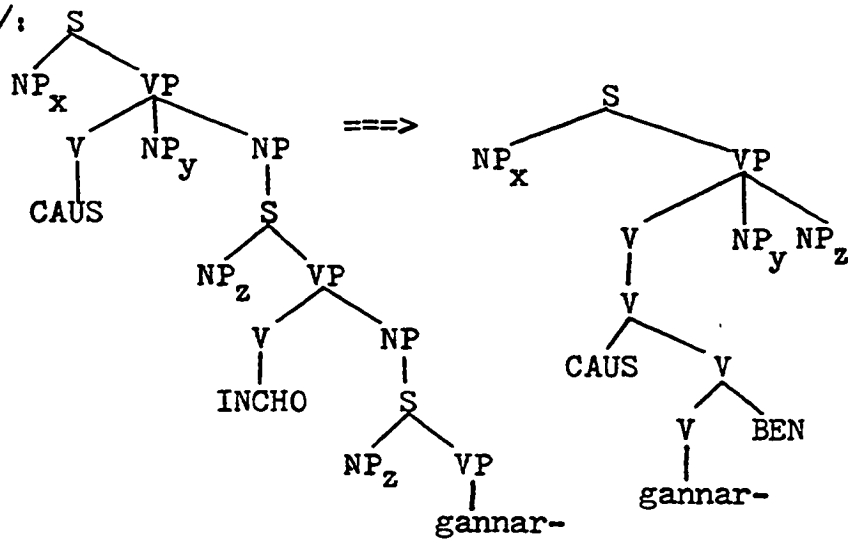
71. In these cases, it appears that Bug. and Mak. allow both /-i/ and /-ang ~ -ing/ to co-occur, as in Bug. /paccing/ 'clean', /paccingi/ 'to clean s.t.', /paccingiang/ 'clean s.t. for...'.

72. For present purposes, we propose the following tree-structures for /gannaqi/ and /pagannaran/:

/gannaqi/:



/pagannaran/:



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It is further assumed that choice of /-i/ or /pa-/ is lexically determined in some cases, but that choice of /pa-/ is obligatory if there is another constituent embedded in the verb-- BEN in the case of pagannaran.

73. We posit here an ad-hoc transformation, which assumes that in a structure CAUS + V without other suffixes (e.g. BEN) following, certain verbs suffix the CAUS as /-i/ (others will prefix it as /pa-/).

74. A recent study of the transitive suffix system in Fijian (Arms 1974)-- which resembles Bar. and Mori in this respect-- suggests that each of the allomorphs of the suffix has become marked with specific semantic connotations: e.g. /-ri/ indicates "motion towards" in a very large number of cases, /-ki/ indicates "violent action on...".

75. With a consonant-- yes. But how could we be sure that the informant was not simply inventing or analogizing? (We could not, I fear.) Would a Bug. informant show any tendency to favor one particular consonant (evidence for analogy)? And would other informants necessarily choose the same consonant?

76. It is unclear whether the NC rule was ever categorical in Bug. If it was, then present voiceless NC (= e.g. Ml. voiceless NC) must be due to borrowing or contact. If it was only a variable rule (as in modern Sad.), then it has been arrested by those same factors.

77. Note that A&K, in their brief discussion of the Sad. group (1914:144-46) claimed that Rongkong retained /q k n ng/ but Makale-Rantepao had only /q ng/-- an egregious error. One wonders where, by whom and from whom their data were collected.

78. This according to my DuriC informant. He did not consider his language and Bug. to be mutually intelligible, though he knows both languages.

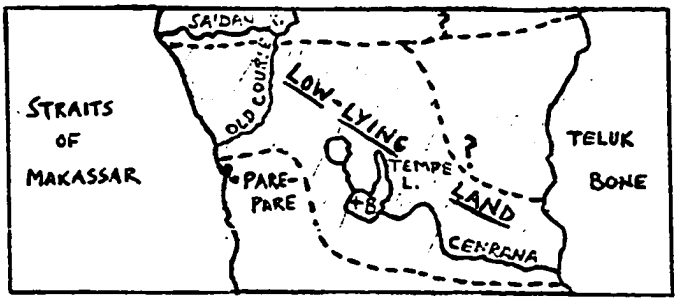
79. Iron ore is found, among other places, in the Seko and Bare'e areas; there is gold in the Sad. area and elsewhere. Near Rantepao, there is also a small (modern) copper mine, begun by the Japanese during World War II but apparently in disuse now; perhaps natural copper occurs, or occurred. There are nickel deposits in the Mori area further East; I do not know whether nickel could be extracted with primitive technology, though apparently by Majapahit times (ca. 14th Century) Javanese kris-makers used iron-nickel ores from Sulawesi in the manufacture of their famous damascened daggers (see BWB, s.v. pāmoroq-- this word evidently < Jav. pamor 'damascened patterns in a kris-blade').

80. At some earlier time, the main channel of the Sa'dan seems to have followed that of the modern Sawitto River to

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the Straits, debouching near modern Jampue. Van Vuuren states, based on evidence of Abendanon, that the river still followed that course "25 years ago" (1920:190); nowadays, the main channel debouches some 25 km. to the North, at Salipolo, where in the course of some 10 years, over 1 km. of mud-bank was created at the river's mouth because of the considerable quantities of silt etc. carried down from the mountains. Such silting activity may have filled in a rather considerable area-- say, the triangle between the Sawitto and the modern Sa'dan's main channel. If, as we have hypothesized, there was once a channel of the sea across the peninsula, this activity (along with perhaps seismic uplifting) might even have closed off the western end.

The existence of this sea channel seems indisputable, though I know of no geological research that confirms it. Even today, a low-lying area extends from the presumed Sad. delta over the Sidenreng and Tempe Lakes (8 m. above sea-level, average depth 1-2 m.) thence via the Cenrana River to Teluk Bone. (See the appended sketch map, and also Map 4A). It is known that the sea-level was once much higher (or the land was lower), for to the South of Makassar are found caves, 30 m. above sea-level, created by wave action in limestone formations (see van Vuuren 1920:480, Plate XLV).



81. There is another Pangkajene about 40 km. North of Makassar.

82. Clearly they also expanded East. as far as Wotu/Malili. At that point, they must have come up against resistance of some sort, for they did not go further. In this respect, the history of Wotu becomes important; but we find only a suggestion that it was ever a powerful "kingdom". On the Wotu language, and its implications in this respect, see Appendix D.

83. 15th Century is probably too late as a cut-off date; we must allow time for the consolidation of power in Bone and Wajo which, along with Mak. Goa, were already powerful in the 1600's when the Dutch arrived. It appears too that linguistic groups were distributed then in the same areas as they are now.

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84. In all cases, the slave class was made up of war captives, captives taken on slave-raids (the Bug. used to raid the Sad. peoples for this purpose), as well as debtors and others who had violated some customary-law.

85. They are, stereotypically, shorter, darker and round-headed. The same types occur in Bug. and Mak. areas, but less consistently. Other factors of course are present: principally, I am sure, the protein-rich, fresh-fish diet of the Bug. and Mak., not to mention the foreign elements-- Ml., Jav., Chinese, Arabic-- with which to some extent there has been intermarriage.

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CHAPTER IV

FROM PAN TO PSS

4.1. In tracing the developments that took place to result in PSS, we find that there is a parallel with those developments which produced the modern SSul languages out of PSS. That is, certain sounds in PSS can be clearly traced back-- in fact, without change-- to much earlier stages; others, however, seem to have a mixed or ambiguous history. Interestingly, the "easy" correspondences in the modern languages are also the easy ones in a comparison of PSS with PAN, and similarly the difficult ones.

Before entering into the history of PSS, we shall cast a glance backward toward the presumed starting point, Proto-Austronesian. Dempwolff's construction or reconstruction[1] of the proto-language's sound system was as follows:

	Stops		Nasals	Resonants	Nasal + C	
	vl.	vd.				
Bilabial	p	b	m	v	mp	mb
Dental	t	d	n	l	nt	nd
Retroflex	ṭ	ḍ		ḷ	ṇṭ	ṇḍ
Palatal	t'	d'	ñ	j	ñt'	ñd'
Palatovelar	k'	ǵ			ñk'	ñǵ
Velar	k	g	ŋ	ɣ	ŋk	ŋg
Laryngeals	h	ʿ				
Vowels	i	u				
	ə					
	a					

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This was originally posited as the sound system of Proto-Indonesian (PIN) in volume I of his Vergleichende Lautlehre des Austronesischen Wortschatzes (1934; hereafter VLAW I); after consideration of several IN, Melanesian and Polynesian languages revealed no need to amplify the system, it was consequently equated with PAN (VLAW II, 1937).

Dempwolff's background, working methods and philosophy have been well set forth in Dahl 1973 (pp. 5-13), and need not be repeated here. Major revisions of the proto-sound system have been proposed by I. Dyen over the years: in particular for the laryngeals, Dy *q and *h to replace Dw *h and *ɛ (Dyen 1953a); Dy *Z to account for discrepant correspondences in Dw *d ḍ j (Dyen 1951); four sets of correspondences for Dy *R (= Dw *γ) (Dyen 1953b); a new proto-phoneme Dy *W (Dyen 1962). Finally, on the basis of material from Formosan AN languages which was not available in Dempwolff's day, a vast number of new or readjusted correspondences: six for *S (replacing earlier Dy *h for the most part), four for *x, a *ʔ, *C (part of Dw *t) *N, and new trisyllabic forms in place of older bisyllabic ones (Dyen 1965).

This is not the place for a full-scale review of Dempwolff's and Dyen's work; Dahl (1973) has attempted one, with considerable-- though I feel partial-- success. I only find it suspicious that as more data become available, proto-phonemes proliferate; the reason is, I fear, that all too often the data have not been subjected to thorough diachronic or even synchronic analysis, and

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languages are presumed to subgroup together solely because they happen to be neighbors or because they measure a few percentage points higher than others on the basis of a Swadesh list. In some cases, the only data consist of the two-hundred words of the Swadesh list, which in my experience is very definitely not sufficient to determine with any accuracy what the correspondences are; I am sure other researchers in the AN area will confirm that experience. It is worth adding that when some of these "odd" languages are analyzed-- especially from the viewpoint of generative phonology-- the underlying forms turn out not to be so odd after all, and what appear to be multiple reflexes (or multiple proto-phonemes) can usually be explained as dialect variants, borrowings from neighbors or stylistic/social variants. See for example Li 1972 and 1974, Stanley 1974, or Reid 1972.

A brief analogy on the basis of SSul: suppose we had a limited amount of Bug. and Mak. data, accurately recorded but glossed in rather general terms. A 'strict constructionist' might find evidence for several proto-phonemes in the correspondences:

1. Bug. /c/, Mak. /c/ : $*c_1$
2. Bug. /t/, Mak. /t/ : *t
3. Bug. /s/, Mak. /s/ : *s
4. Bug. /c/, Mak. /t/ : $?*c_2$
5. Bug. /t/, Mak. /c/ : $?*c_3$
6. Bug. /c/, Mak. /s/ : $?*c_4$
7. Bug. /s/, Mak. /c/ : $?*c_5$

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The multiplicity of these reflexes in correspondence with Sad. /s/ and /t/ even led astray (in my opinion[2]) a skilled and experienced linguist like Dr. van der Veen, when he proposed Sad. /t/, not /s/, as the "regular" correspondence for Ml. Jav. Bug. /c/. Yet more complete data (in this case the large Bug. and Mak. dictionaries), more experience with the languages involved, and careful attention to the meanings (e.g. the relationship between Bug. tɨllongɨng 'window', tɨllong 'lean out' (could also be glossed as 'look out'!), and cɨllong 'protrude a little bit' might not be obvious to one who has never seen someone's head peeping out of the glassless window of a Bug. house)-- these would all show that in fact only three phonemes *t, *c and *s are involved, plus a no-longer productive process of forming diminutives.

Another brief example: isolated vocabulary items in PUS and Mmj.-- e.g. paqa 'thigh, leg' against Ml. paha 'idem'-- seem to show a reflex of PAN *q; but as we have shown, the occurrence of the /q/ in PUS and Mmj. most likely results from the environment, to wit, between like vowels.

None of the proto-phonemes posited on the basis of Formosan evidence is reflected in PSS (no *C N S x ? W); the same seems to be true of most, if not all, languages of the Indonesian archipelago, and likewise (except for *S) of the Philippines (see Charles 1974:25). The only laryngeal reflected in PSS is Dy *q (Dw *h) in reduplicated

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monosyllables (see §3.7d), and there it appears that something like a phonetic [h] is the preferred reconstruction.

Certain changes of an orthographic nature have been made in Dempwolff's system. Some of these were motivated by mere convenience and the typewriter's keyboard; the general-- and admirable-- result has been to transform Dempwolff's symbols (based on proposals of Meinhof in his work on Proto-Bantu) into those more familiar to American and European linguists. The following changes, originally proposed by A.Capell, later by Dyen (1947a), are followed here:

Dw t' = s	Dw k' = c
ñ = ñ	v = w
l̤ = r	j = y

In addition, many writers now employ (as we do) the digraph ng for Dw *ŋ. In this work, however, I have rejected other "orthographic" changes, either on the grounds that they are confusing, or because they obscure structural facts about the proto-language and its descendants.

Thus to avoid confusion, I eschew the use of Dy *e for Dw *ə, and use *ɨ. The use of *e becomes confusing when we deal with languages which have /e/, i.e. a low/mid front vowel. The symbol ɨ, it is true, implies different phonetic features than *ə, but in terms of the PAN vowel system, it can be interpreted (like *ə) as high in relation to the low central vowel *a. For similar reasons, and also-- quite frankly-- on aesthetic grounds, I continue to use

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Dw *ṯ ḏ γ (Dyen and others *T D R). These, and their implied phonetic correlates, are familiar to all linguists, Austronesianist and non-Austronesianist alike.

Changes in the symbols used for the palatal consonants have, I believed, obscured matters. Most writers follow Dyen with:

Dw t' = s	Dw k' = c
d' = z	ǵ = j

Dempwolff had valid reasons for considering all these as stops, though his alignment of the voiced/voiceless pairs was illogical. His choice of symbols is defensible, though a bit wrong-headed and dependent on an overbearing desire to construct a symmetrical sound system. The main argument in his favor is the fact that the processes of nasal substitution and nasal accretion (prenasalization) in AN languages affect the stops plus /s/, but not the resonants or other continuants. Ergo, Dempwolff reasoned, /s/ must descend from a stop. This is unnecessary within the framework of generative phonology; the stops and /s/ form a natural class, either as "true consonants"-- [+cons,-voc]-- or as obstruents-- [+obst]. The phonetic nature of *s thus becomes somewhat irrelevant, and we are free to assume that it could have been a voiceless continuant *[s]. That is indeed the most common reflex, though in a few languages it appears as /t/ (Philippines and Melanesia) or /ts/ (Formosa); these may be secondary developments, or they may indicate that the proto-articulation was an affricate. In any case, its voiced counterpart *d', where it is

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reflected, is a stop [d] or affricate [dž]. For this reason the use of *z is very misleading; I prefer to use *j. Dw k' = c is reasonable; *c is reflected as an affricate [tš] in IN languages, or as [s] in the Philippines. *c is conventional for a palatal affricate and is, further, the conventional voiceless counterpart of *j, which is as it should be. In addition, *c, *j and *$\tilde{n}$ can now all be located at a single place of articulation, and a generalization can be made about the distributional characteristic which they all share: non-occurrence in word-final position. Both Dempwolff's and Dyen's symbols obscure this fact: palatal *d' and palatovelar *k' do not form a natural class (*z and *c even less so), though neither occurs finally; palatal *t' (*s) and *$\tilde{g}$ do occur in final position, but do not form a natural class either.

It is true, of course, that symbols are only symbols, and in historical linguistics can have any value we care to assign to them. We could as well use numbers or geometric figures, if our intention was only to provide a reference point for sets of correspondences-- e.g. "*17" represents Tag. d-, -r-, Ml. Jav. j-, -j-, Fiji ~~d~~-, -~~d~~- and so on. But it is a useless pretense, for we know that real languages with real sounds develop from other real languages with equally real sounds; the record of the past may well be lost to us, but that is no reason to avoid thinking about the nature of those earlier sounds. And if we are going to do this, we owe it to each other to use those symbols which most clearly illustrate our assumptions--

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in a conventional way, where conventions already exist, or in a logical way otherwise. I hope therefore, that other Austronesianists will follow me in the proposed change of Dw *d', Dy *z to *j.

The problem of Dw *ǧ remains. In §3.9.1b (p.426 above) I suggested that for PSS it makes some sense to consider the PSS reflex as *z, the systematic voiced counterpart of *s; its reflexes in the modern languages indicate that it may have been, phonetically, an affricate [dz]-- highly marked, in terms of features, and also typologically rare in IN languages. It is much more difficult to place PAN *ǧ phonetically, for it is reflected so variously: r, l, d, g, y, j, z, đ, s, h, ∅. Of these, the /g/ reflexes are the real problem, for all the others can be logically derived from a palatal articulation, as follows:

*g > *dz or *dž > d > r > l

*ǧ > *dz or *dž > z, y, ž > đ; or z > s > h > ∅

Perhaps Dempwolff was right in viewing it as a palato-velar, for the change of [ǧ] > [dž] is well-known in languages of the world. On the other hand, while the reverse change is not so well attested (that is, [dž] > [g]), it is not impossible, and is in fact found in languages of Indonesia where we find the /j/ of Ml. loanwords appearing as [g]. Cf. Mori gambata 'bridge' < Ml. jembatan either directly or via Bug. jambatang; Mori gagi 'become' (anomalous too in that it has no derived forms), almost certainly < Bug. jaji 'idem' (because of the <u>two</u> /g/s), not < Ml. jadi[3].

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My further thoughts on *g̃ will be presented later; for now, we continue to use Dempwolff's symbol.

4.2. Now we can outline the PSS reflexes of the PAN sound system. We find, reflected without change in initial, medial and post-consonantal (RM) position:

PAN *p t c k g m n ñ ng r,γ l s >
PSS *p t c k g m n ñ ng r l s

Both Dw *ṭ and Dy *C (usually [ts] in Formosan languages) are reflected as PSS *t. We have already commented several times on the possibility that the palatals *c j ñ may have been either entirely absent from PSS, or else in variation (hence, vanishing), and that they may have been reintroduced via Ml/Jav. loans.

PAN permitted final voiced stops. These, we assume, had been devoiced prior to PSS times, so that in final position we have:

PAN *p,b t,d k,g m n ng r γ l s >
PSS * p? t k m n ng r γ l s

PAN *ṭ, and *c j ñ are not reconstructed finally; Dy *C is reflected only as *-t in IN languages, including PSS.

Further, we find these regular reflexes:

PAN *-y- > PSS *-y-
PAN *-ay > PSS *-e
PAN *-uy > PSS *-i

PAN initial *y is not attested in PSS; there are only two

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examples in Dempwolff, eleven in Zorc's list-- many of them suspect. PAN *-i̱y- and *-i̱y have been proposed by Dyen (1947a), but PSS does not provide evidence for them: *-i̱y- is not attested, and *-i̱y is reflected the same as *-ay.

PAN *w- and *-w- > PSS *w
PAN *-aw > PSS *-o
PAN *-iw > PSS *-i (two doubtful examples)

Instances of PAN *-iw- and *-i̱w, if they occurred (Dyen 1947a, Hendon 1964), are either unattested (most of Hendon's proposals) or reflected the same as *u (in Dy *ḍi̱wha 'two', Dw *ḍuwa).

Initially and medially, all PAN laryngeals are reflected as PSS ∅:

PAN Dw *h *ʿ ; Dy *q h W S X x etc. > PSS ∅

Pre-consonantal Dy *q in RMs appears to be reflected in two PSS etyma as *-h. In final position, only Dw *h, Dy *q, is reflected in (pre-PSS) changes of vowel quality:

PAN *-iq > PSS *-e
PAN *-uq > PSS *-o

while PAN *-aq simply shows loss of the final, > PSS *-a, and PAN *-i̱q does not have a clear reflex (see §3.2b.1, exs. 52, 53, 54).

Aside from the final *-Vq reflexes just given, the PAN vowels are reflected as follows:

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PAN *i > PSS *i (sometimes *e)

PAN *u > PSS *u (sometimes *o)

PAN *a > PSS *a

PAN *ə > PSS *ə

It is possible that some PSS reconstructions (perhaps some of Dempwolff's too) contain hidden instances of PAN *ə assimilated to the vowel of the neighboring syllable, if this occurred in pre-PSS times, e.g. our PSS *songkol 'steamed rice', OJ skul (= səkul). The occurrence of *e and *o for PAN *i and *u seems to be random, though some conditioning is probably to be ascribed to (1) a preceding or following *a, or (2) a closed final syllable. As was suggested in §3.6.2b. *e and *o before *-γ could probably be ascribed to PSS if there were more data from the PUS-Mmj.-Seko area. Since final *e and *o arose regularly from the loss of *-q, *-w and *-y, thereby creating new phonemic contrasts, it is not hard to see how lowered first-syllable allophones of *i and *u could be rephonemicized as /e/ or /o/ in individual languages.

The nasal clusters-- or prenasalized consonants-- of PAN are also reflected clearly in PSS:

PAN *mp	mb	nt,ṇṭ	nd,ṇḍ	ñc	ñj	ngk	ngg	>
PSS *mp	mb	nt	nd	ñc	ñj	ngk	ngg	

The reflex of PAN *ñg is identical with that of *nd, ṇḍ, that is, PSS *nd, reflecting a presumed pre-PSS merger. In all the available examples, the nasal appears to have been optional, *(ñ)g and PSS *(n)d.

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4.3. The voiced stops (except *g) are more difficult to handle.

4.3a. PAN *b. It does appear that PAN *b is most often reflected as PSS *b in word-initial position, syllable-initially in RMs, and as PSS *bb following *i; in other intervocalic environments as PSS *w. The shift *b > *-w- can be assumed to have taken place in pre-PSS; yet there are also cases where PSS *-b- or *w- (distinct from PSS *w- < PAN *w) are reconstructible. In §3.4b we suggested that these are most likely due to undetected borrowings (in the case of *-b-), or to analogical back-formations from prefixed forms (in the case of *(bw)-), but this remains an area of uncertainty.

The possibility of phonetic conditioning for b/w in intervocalic position has been examined in some detail, both in the SSul languages and for the pre-PSS stage. The impetus was my detection of a possible conditioning for the occurrence of h ~ w ~ Ø in the Sad. languages, on the basis of van der Veen's frequent comment that such-and-such a dialect had Ø or w between two /a/s against, respectively, w or b elsewhere. But unfortunately, what at first appeared as phonetic conditioning-- in fact a series of environment ranging from most to least favorable-- turned out simply to parallel the approximate frequences of the environments. Thus Chrêtien (1965:262) shows the following occurrences of intervocalic environments (based on a total of 1950 bisyllabic PAN morphs, excluding RMs):

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1. a—a 385	4. u—a 172	5. i—a 155
2. a—u 217	3. u—u 205	7. i—u 77
6. a—i 152	9. u—i 65	8. i—i 75

Now it is true that the SSul languages show a reflex /w/ in the vast majority of the first four environments, i.e. a—a, a—u, u—u and u—a, but there are also /b/ reflexes. In the remaining environments, there are so few examples to begin with that the scattering of *w and *b reflexes need not be significant. We could say, then, that *-b- > *-w- was categorical in pre-PSS, and new instances of /-b-/ are due to borrowing.

The four most frequent PAN and PSS environments are precesely those where we could expect a /b/ to have [w] or [β] allophones-- in a—a because of the maximum opening of the mouth, and before or after /u/ because of the lip rounding.

It could well be, however, that the change took place under such phonetic conditioning, long before PSS times. We know, for example, that Ml. has /w/ < *-b- regularly in just one environment: *a—a (VLAW II:20, §70a), or in features, [+low]—[+low]. This would affect (using Chrétien's figures) roughly 385/1950 or 20% of the "total" vocabulary. If a later period generalized the rule to [+low]—[+grave]-- that is, a—a (385) + a—u (217)-- 602/1950 or about 33% will be affected. The next logical generalization of the rule would take in the first <u>four</u> environments-- [+grave]—[+grave]-- and 978/1950 or almost

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50% of the vocabulary. The next stage is unclear, because the frequencies are so close together: [+syl]—[+grave] would affect 1211/1950, while [+grave]—[+syl] would affect 1196/1950; the very last step would be categorical application [+syl]—[+syl] (leaving aside *i—V for now). Perhaps after the first four environments have undergone the shift, such a large percentage of the vocabulary was affected that the shift could proceed to categorical application without intervening stages.

As for the cases of initial b/w/h/Ø in SSul languages, these could be ascribed to post-PSS developments. It may be, for example, that after the *-b- > -w- shift became categorical it began to affect initial *b. Significantly, the most frequent environment here would have been /...a+ba../ since prefixes with a final /a/ are the most common-- ma- 'stative; adjective', pa- 'causative; agentive', ka- '"accidental" passive; adjective', and ka-...-an 'nominalizer'-- and since /ba../ would be the most frequent initial CV sequence[4]. Probably, then, (pre?)PSS *b- had an allophone [w] or [β] in such an environment, but remained [b] after prefix-final consonants (i.e. after maN-, paN-, mar- and tar-). It is somewhat unclear what the situation would have been in initial position-- whether b > w applied directly, or whether w-initial roots arose analogically from prefixed forms. Perhaps both processes were at work.

This provides an internal origin for the double reflexes found across the SSul languages, so that we find one item with e.g. Bug. Sad. Seko /b/, another with Bug.

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Seko /b/, Sad. ø, another with Bug. /w/, Sad. /b/, Seko /h/, still another with Bug. /b/, Sad. ø, Seko /h/, and so on. It must also be true that borrowing has obscured even further what may never have been a totally systematic correspondence, for in probable source languages, only Ml. has regular initial /b/, while Jav. and Tor. languages have indiscrimiate /b/ or /w/ just like SSul. This has reached the point where one could argue with equal conviction that e.g. in Seko, on the available data, either /h/ or /b/ is the regular, native reflex, the other borrowed-- for the two occur in almost equal numbers in the basic vocabulary. (For example, just in the Swadesh-200 list, there are 18 cases of /b-/, 14 of /h-/.)

The one thing that can be said, however, is that the /w/ < PSS *b must have differed from the /w/ < PSS *w (< PAN *w), since as we have noted (§3.4c.1 above), /w/ < *b does not have the optional pronunciation [uwV..]. This can be handled easily if we consider the feature specifications: the continuant allophone of *b would be [+cons, +cont]-- distinct from *w [-cons, +cont] yet sufficiently like it (and more highly marked) so that merger would be the logical outcome. This implies that *b shifted to [β] or [v] before merging with *w, which on the basis of modern pronunciations must have been either bilabial [w] or labiodental [ʋ].

The shift of *b > w seems to predominate in the Indonesian archipelago. I know of no case where PAN *b is reflected the same as *w in Oceanic languages; nor in

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well-documented Tag. and Bis. do we find any cases. The short lists in Reid 1971 indicate an almost total lack of *b > w reflexes in those less well-known languages, though it does appear that in some, /b/ or /w/ have allophones [f], [β], [v] etc. The shift is very common in Jav., and there are numerous doublets. Dempwolff accepted either of Jav. /b/ or /w/ as evidence for PAN *b, just as I have had to do in the SSul languages. In the absence of a thorough historical study of Jav. phonology, we can only ascribe the variation there to the same factors proposed for SSul: some variation inherent in the language (perhaps phonologically conditioned) aided and abetted by borrowing and dialect mixing (in which I include social/ stylistic variation, especially potent factors in Jav.).

In a recent paper, Prentice (1974) has raised the possibility of a second PAN b phoneme, apparently to be considered a fricative-- the source of Jav. /w/ against Ml. /b/, Idahan (Borneo) *w alternating morphophonemically with ∅. PAN *b is retained as the source of Jav. Ml. /b/ and Idahan *b, and corresponding too, it appears, to the /bh/ discussed by Blust (1974) in the Kalabit language (also spoken in Borneo). While Prentice and Blust are obviously thoroughly familiar with historical developments in these languages, one could question whether they have considered all the possible factors which might have given rise to the discrepant correspondences. My examination of their arguments reveals the following: Prentice's *b (= PAN *b, and presumed to have been a stop) occurs most often

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in environments reflecting *i—V (13 of 17 clear examples). Of the four examples not involving *i, one is a known loan-word *labu 'gourd' < Indic probably via Ml.), another is probably onomatopoetic (*bibi 'duck'[5]). So there are really only 15 clear cases, and 13 have *i—V. For the new *B (a fricative?), 16 examples are offered, of which one involves *i—i (reflected as /o—o/), another *a—i, while all the rest involve *a and *u in their four possible combinations. Reflexes of the two sounds in initial position show no peculiarities in distribution, though no reflex of *B seems to occur in loan words; the situation here looks very similar to that in SSul. I might add, that SSul languages do not reflect Prentice's *b and *B with any consistency: both appear as /b/ or /w ~ h ~ ∅/.

The /bh/ of Kelabit, which Prentice identifies with his *b, also tends to occur mainly after schwa (whether historic or developed within Kelabit). It is noted further that neighboring languages have a phoneme in correspondence with Kel. /bh/ which is transcribed "bp" and described as beginning voiced and ending voiceless. I strongly suspect that these reflexes after *i are conditioned, probably by factors very similar to those which produced the /qb/ etc. in SSul languages (see our discussion of the phonetic mechanism presumed to be involved, in §3.9.1b above, pp. 421ff, and note that [b^h] or [bp] are also possible outcomes of the process). "Regular" developments in these languages can then be stated as (1) mixed stop/fricative allophones (due to analogy) in initial position, and

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(2) "strengthened"[6] (i.e. complex) allophones after *i̇, (3) fricative allophones in other intervocalic environments. A plain [b] could have been introduced by loanwords, and the result is a new phonemic contrast on the surface[7], but not one which should be attributed to PAN.

4.3b. PAN *d, *ḍ, *j. PAN *d is reflected as PSS *d, *(dr) and occasionally *r in non-final positions; finally it is reflected in all SSul languages as a stop, /q/ < presumed PSS *t, from which we conclude that *d took part in the pre-PSS final-stop devoicing rule. PAN *ḍ is also reflected as PSS *d, *(dr) and *r non-finally; finally, however, it is clearly reflected as PSS *r. Thus that shift can be placed in pre-PSS times. PAN *j (Dw *d', Dy *z) is probably reflected as PSS *j, though it is also possible that it may have merged, or begun to merge, with pre-PSS *d, and that instances of modern /j/ are due to borrowing. It is also possible that the merger of *j and *d began just shortly after PSS became a separate entity, and thus PSS itself had variation between *j and *d.

Let us assume for the moment that in some pre-PSS stage there was a 3-way contrast between a dental/alveolar */d/, a retroflex */d/ and an affricate */j/ which may have been phonetically a palatalized dental [d̪ʒ] or [d̪ʲ] (like modern BI /j/) or an alveolar/retroflex [dž] or [ḍž] (more like Engl. /j/)[8]. Along with */r/, these can be specified with the following feature matrices:

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	d	ḍ	r	j(=[d͡ʷʸ]) OR	j(=[ḍ͡ʒ])
Cons.	+	+	+	+	+
Obst.	+	+	-	+	+
Grave	-	-	-	-	-
Diff.	+	-	+	+	-
Cont	-	-	+	-	-
Strident (or Del.Rel.)	-	-	-	+	+

We need not be concerned here with the change of *-ḍ > *r, except to note that it is widespread in the Indonesian archipelago; perhaps at some earlier stage, too, *r was classed as [-dif, -cont] (vs. *l [+dif, +cont]) which would increase the similarities between *ḍ and *r. But the change of *-ḍ may have been the first step, the impetus, toward later changes in other positions. Intervocalic position might have been affected first, such that /VḍV/ > allophonic [VrV], > later phonemic /VrV/. Initial *ḍ could then begin the same alternation when preceded by a vowel-final prefix: thus /ma+ḍV../ = [marV..] versus /maN+ḍV../ = [manḍV..], thus creating morphophonemic alternants of bases which could occur with both prefixes. Possibly too, not all speakers had this rule. (We are assuming that at this point, */d/ did not have an [r] allophone.)

If now */ḍ/ begins to merge with *d, we can see how the confused d/r reflexes of PSS (as well as other languages such as Jav. or Tag.) might have arisen:

Initial (stable) stage: contrast d : ḍ

Merger begins: d → variable ḍ ~ d (%ḍ > %d)

Merger continues: %ḍ decreases toward ∅,
%d increases toward 100%

Final (stable) stage: /d/ categorically

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If the allophonic/morphophonemic alternation in initial position continued to operate during the interim stages, quite possibly former */ḍ/ items would come to be re-phonemicized with /r-/; similarly, there would be vacillation as to whether "new" /d/ (< old *ḍ) should still have the [r] allophone, with the result that the former d/r alternation would simply be transferred to both new and old /d/ in the final stage. And from then on, individual lexical items with /d/ could also be reassigned to /r/ by analogy. It seems clear that such reassignments have taken place in post- as well as pre-PSS times. (Cf. also Dyen 1947b for a discussion of the same process in Tagalog.)

However we regard *j-- present, absent or variable in PSS-- it could easily have been caught up in the same processes; a change of *j to *d, *ḍ or *r involves only one or two features.

In §3.4g above we presented evidence showing that the SSul reflex of Dy *Z was generally identical to that of PSS *(dr)-- in fact, a preponderance of *r. The basis on which Dyen proposed this proto-phoneme was itself rather suspect, and depended (at that time) on divergent reflexes in Ml. and Jav.:

Ml. /d/, Jav. /d/ < *d (cf. Fi. /r/)
Ml. /j/, Jav. /j/ < *j (cf. Fi. /đ/)
Ml. /j/, Jav. /d/ < *Z (cf. Fi. /đ/)

Haudricourt (1965:321) correctly pointed out that this position was unnecessarily strict, if Dyen did not also propose

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a new phoneme to account for other discrepant correspondences-- e.g. Ml. /b/, Jav. /w/, which Dyen, like Dempwolff, was content to ascribe to dialect variation within Jav. Dempwolff explained away the j/d discrepancies by reconstructing proto-doublets in most cases, or else simply leaving them as "unexplained". In view of the explanation just offered for d/r/j variation, I consider it very likely that Dy *Z can more properly be explained in the same way, though at a much earlier level. This will be discussed in more detail below, in §4.4.

4.3c. PAN *ǥ. In §3.4h above we established that PAN *ǥ was reflected as PSS *z in intervocalic position only; in final position it had merged with *-t, and *ñǥ had merged with *nd, in pre-PSS times. It is true that only Bug. reflects *z distinct from *d/r, and that the Bug. cognates are somewhat suspect; conceivably we might have posited *r as the PSS reflex. Yet the best evidence for a proto-contrast lies in the one PSS etymon which was most difficult to establish-- PSS *i̇lzo 'day, sun'. If PAN *ǥ > PSS *d/r we should expect **i̇ldo, perhaps *i̇ddo or **i̇ndo, from which, given known processes in the SSul languages, neither modern Bug. /i̇sso/ nor others /allo/ can derive. The shift of *ǥ >*-t is also of interest in helping to determine the phonetic nature of the proto-phoneme: while the intervocalic reflexes Bug. /s/, others /r/ attest a continuant element, the post-schwa /qd/ and final /q/ reflexes attest a stop. Together, they suggest an affricate. If that is so, then developments in final position would have been either--

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1. Devoicing [dz] > [ts]
2. Non-release [ts] > [t]

or else--

1. Non-release [dz] > [d]
2. Devoicing [d] > [t]

This last seems to me the more likely ordering for those languages which do not devoice final stops (Philippines in particular), where we find *ǵ reflected as /d/ or (a presumed later development) /r/. Ml. or PSS could have followed either route.

4.4. Variation in PAN? The question of variation in AN languages generally-- not to mention at the proto-level-- has barely been touched on by Austronesianists up to now. They are hardly to blame, of course, for until very recently there was no theoretical machinery with which to deal with variation (otherwise known as irregularity) in any but the most ad-hoc ways. Of course there is variation in AN languages (as in every living language), and its existence has not been denied, only explained away rather wishfully as "borrowing", "dialect mixture" and so forth. Neogrammarians like Dempwolff and structuralists like Dyen tend to view variation as an aberration from some theoretical norm. Yet the thrust of recent work by Labov, among others, has been to show that variation is the norm in living languages, and that, as Weinreich wrote, "...in a language serving a complex (i.e. a real) community, it is absence of structural heterogeneity that would be dysfunctional" (quoted, Labov 1972:xvi).

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Linguists who work with European languages (including English) have enormous extra-linguistic resources to draw on in their discussions of linguistic history and of the social factors conducive to variation-- complex and detailed social, economical and historical data, quite aside from ancient textual material. The European linguist who is well acquainted with another European country and its language can eventually feel at home in its culture, and make worthwhile observations. This is not, unfortunately, the case in the AN area. In the first place, socio-economic and historical data may never have been compiled, and what there is may be out of date or unreliable. In the second place, the foreign linguist, however fluent in the local language, is isolated and treated with the utmost respect socially; it would be practically impossible for a foreigner to collect the sort of relaxed vernacular data which Labov obtained in this country. Third, except in the most Westernized urban areas, the foreign linguist is in a cultural environment that is alien to him; however much he may have read about Islam, Buddhism, Hinduism or animism, he lacks the direct involvement and experience with which to assess accurately the influence of such institutions in his area.

The obvious solution, of course, is for native linguists to do the job, and we can hope that current training programs will utlimately produce the requisite number of scholars. The sad fact remains, however, that in developing countries like Indonesia or the Philippines-- no less

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than in our own country-- the training of linguists is given a rather low priority; and since linguists most often end up as teachers-- poorly paid-- the demands of two or more teaching jobs leave little time for research. As these countries are also undergoing rapid development and social change, the linguist as well as the anthropologist views the assimilation of marginal groups with some alarm: their cultures are already changing, and their languages dying out. If such languages are to be recorded within the near future, assistance from foreign linguists will still be needed; but we must always remember that our analyses will necessarily be limited and quite likely distorted. Needless to say, the aid of local scholars in all fields should be enlisted whenever possible, especially for the socio-economic background which is often invisible to the foreigner, or even hidden from him[9].

In the absence of such counsel, we must make do with what we have, or can guess at in an intelligent way. Certain facts, after all, about Southeast Asian societies are well known: some of them are highly stratified, and the stratification is reflected more or less visibly in their languages. Within Indonesia, Jav. is probably the extreme case, with well-developed language levels wherein choice of vocabulary depends on the age and status of both speaker and hearer. Even in BI, deliberately chosen as the national language because it was felt to be more democratic than Jav., a clear formal/informal dichotomy exists-- in the pronoun system (hardly unusual), vocabulary (certain

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words like bangkai 'corpse' or bunting 'pregnant' are insulting when applied to humans; borrowed (Arab.) mayat and hamil are preferred), and phonology (in most areas where BI is the second language, the final diphthongs /ay/ and /aw/ are usually pronounced [e(y)] and [o(w)], with [ay] and [aw] occurring only in the most careful, formal speech).

Dialect studies could provide many of the "missing links" denied to us by the lack of ancient texts; but dialects remain terra incognita, even for Ml. and Jav., the two languages most widely known to Westerners. The single formal dialect study known to me-- A.Teeuw's study of Sasak, spoken on the island of Lombok east of Bali (Teeuw 1958)-- unearthed an almost shocking amount of phonological variation with respect to the reflexes of PAN *d ḍ ǵ r γ Z, in short, the palatal and r-sounds. As Teeuw has noted,

> ...there are d/r and r/h - ∅ isoglosses running all through the island, but in detail these isoglosses are different for practically every individual word. (1965:279-80)

Dyen (1947b) presumed Jav. dialect variation between /d/ and /r/ on the basis of one item in Jansz's dictionary marked "desa-taal" (village speech); my own data on five Jav. dialects, however, show very little such variation[10], and my own perusal of Jansz finds very few items so marked. It is certainly true, however, that the dictionary abounds in doublets, /b ~ w/, /d ~ ḍ/, /d ~ ḍ ~ r/, /r ~ ∅/, /j ~ d ~ ḍ/ etc., from which we can certainly infer variation

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in the past, and perhaps nowadays too; and it is very likely due to social factors, given the stratified nature of Jav. society. But which are the prestige features, which are not, is impossible for me to say.

Dahl cites a modern instance of d/r variation in Binokid (Philippines): older speakers and those in the mountains have /d/:[d] in all positions, others have an allophone [r] intervocalically, which "seems to be more popular with those who also speak Visayan." Further, "contrast seems to have been introduced in initial and final position by Spanish loans, but it has not yet rearranged the basic patterns of the original phonemes" (quoting Wm. Atherton, Dahl 1973:68). In present-day Tagalog, on the other hand, the intervocalic allophone [r] of /d/ seems to be no longer obligatory in affixed forms[11].

How many times in the past must similar changes have taken place in this linguistic area? Given several millenia of constant contact through trade and migration, we should perhaps be surprised not at the number of irregularities found in the languages, but rather at the regularities which have enabled scholars to reconstruct PAN, such as it is. Dempwolff, by judiciously glossing over many of the irregularities, created a relatively realistic sound system; Dyen, in trying to account for more of them, has on the other hand produced a plethora of proto-phonemes which cannot be arranged into any coherent system, and which violate common sense as well as

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postulated universals of language-- one might almost say, it is a reductio ad absurdum of the comparative method.

The difficulties in reconstruction lie particularly in two areas: the dentals/palatals, and the so-called laryngeals. Since the latter are all reflected as ∅ in SSul, and have not been discussed in much detail up to now, we shall deal with them first.

Dempwolff's *h was based on the following correspondences:

Dw *h	#—	V—V	—#
Tag.	h	∅	ʔ
Jav.	∅	∅/h[a]	h
Ml.	h/∅[b]	∅/h[a]	h
Tonga	ʔ/∅[b]	ʔ	∅ (-ʔ+V suffix)

Notes: a) Ml/Jv. orthographic h in some cases, most consistently between like vowels and following a.
b) Aberrant Ml. To. ∅ unexplained.

And his *ʕ was based on the following:

Dw *ʕ	#—	V—V	—#
Tag.	∅[a]	h	∅[b]
Jav.	∅	∅, VV>V[c]	∅
Ml.	∅/h[d]	∅/h[e]	∅
To.	∅/ʔ[d]	∅	∅

Notes: a) Phonetically [ʔ]/ #—V.
b) /-h-/ inserted before V-initial suffix.
c) Vowel merger: au,ua > o; ai,ia > e.
d) Ml. h, To. ʔ unexplained.
e) Orthographic h between like vowels.

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Ambiguities arose if one or another language lacked a crucial cognate-- this was especially the case for Tonga. In some cases, Jav. showed vowel merger against Tag. vowel sequence, or conversely, Jav. V-sequence against Tag. -h-. These were either assigned to other correspondences such as *-uwV- or *-iyV- or were not explained. It is probably fair to say that *h and *ʻ were the most unsatisfactory part of Dempwolff's system.

Using exactly the same data, with some additions, Dyen (1953a) proposed a realignment of the correspondences and new symbols for them. He proposed *q-- perhaps a glottal or post-velar stop or fricative)-- based on the following:

Dy *q	#—	V—V	—#
Tag.	ʔ	ʔ[a]	ʔ
Jav.	ø	ø/h[b]	h
Ml.	h/ø[c]	ø/h[b]	h
To.	ʔ/ø[c]	ʔ	ø (-ʔ +V suffix)

Notes: a) In standard Tag., [ʔ] only between like V or after a; otherwise [iyV], [uwV]. Dialect forms with [iʔV], [uʔV]-- see below.

b) Ml./Jv. orthographic h, as before.

c) Ml. To. ø unexplained.

Second, he proposed *h-- perhaps a fricative, but in contrast with *q in any case:

Dy *h	#—	V—V	—#
Tag.	h	h	ø (-h+V suffix)
Jav.	ø	ø, VV>V[a]	ø

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Dy *h	#—	V—V	—#
Ml.	ø/h[b]	ø/h[c]	ø
To.	ø	ø[d]	ø

Notes: a) Jav. vowel merger, as above.
b) Aberrant Ml. h unexplained.
c) Orthographic h between like vowels.
d) Based on one ex., regular merger is posited in one highly specific, and suspicious, environment.

Third, to account for remaining examples, Dyen proposed *ø or hiatus as a feature of the proto-language; for the most part, it covered examples where Dempwolff had reconstructed intervocalic *-uwV- or *-iyV- despite irregularities. The correspondences were:

Dy *ø	#—	V—V	—#
Tag.	?	glide[a]	ø[b]
Jav.	ø	ø, VV>V	ø[b]
Ml.	ø	ø	ø
To.	ø	ø	ø

Notes: a) That is, [?] between like V and after a; [iyV], [uwV], sometimes [ayi], [awu], in both standard and dialect forms.
b) Very isolated cases of irregular consonants inserted before affixes.

We note, most importantly, that To. /?/ is no longer compared to Tag. /h/, but to Tag. /?/, and that Dempwolff's Tag. ø, To. /?/ has been reinterpreted as Tag. /?/. Dempwolff's examples for To. /?/ were in fact ambiguous, corresponding as often to Tag. Ml. /h/ as to Tag. ø, Ml. /h/;

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this led him to reconstruct proto-doublets, with Ml. and To. subsumed under the *h-form, Tag. and others with ∅ initial under the *ʻ-form. In some cases, doublets in To. allowed him to make what amounted to random choices-- e.g. the set Tag. hangin, Ml. Jv. angin 'wind', To. ∅angi 'to blow' vs. To. faka/ʔangi 'stop, block the wind' led him to reconstruct *ʻangin for Ml. Jav. and To. angi, but *hangin for Tag. and To. faka/ʔangi-- yet logic would surely suggest that some way should be found to unite all the cognates under a single etymon.

One could argue with Dyen's interpretation of Tag. [ʔ]-- it really appears to be phonemic only in final position. Dyen's evidence for intervocalic [ʔ] came from the otherwise unreported Pagsanghan dialect plus Bikol and some Bis. dialects, and I suspect is based on variable data. We could hypothesize that either (1) an earlier categorical /VʔV/ is in process of being lost, or (2) that the standard Tag. hiatus-avoidance feature (i.e. [ʔ] between like vowels and after /a/) is being extended to other environments in other speech communities. Since Tag. is a prestige language vis-a-vis these others, we might expect such a feature to crop up irregularly as a hypercorrection. It could also be that both processes are at work simultaneously[12].

In general, Dyen's reconstructions seem preferable to Dempwolff's, and despite the suspicious three-way contrast have been widely accepted. No language of the Indonesian archipelago, the Philippines, or Oceania shows evidence

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internally for more than a two-way contrast, and neither in Dempwolff nor in Dyen has much consideration been given to possibilities of borrowing and contact. Thus, if Tag. borrowed a Ml. word with vowels in hiatus (say, a hypothetical "puat") which was reflected in Jav. with vowel merger ("pot"), an apparent instance of *Ø is created: Tag. "puwat". Ml. "puat", Jav. "pot", when in fact only Ml. and Jav. are comparable, and point to *"puhat". Similarly, there is at least one example where Tag. -h- corresponds irregularly to Jav. -VV-: Tag. buhang, Ml. Jav. buang 'throw out, throw away'. Taking all three languages as equal witnesses, no reconstruction is possible; assuming Jav. has borrowed the word from Ml, then Tag. and Ml. alone point unambiguously to *buhang.

Nevertheless, parts of the correspondence are clear: To. /ʔ/ clearly reflects something, and cannot be borrowed because none of the neighboring PN or MN languages have /ʔ/ in cognate items. Tongan doublets like Øangi vs. faka/-ʔangi remain inexplicable; as the correspondence Tag. /h-/, To /ʔ/ is neither more nor less preponderant than Tag. /ʔ-/, To. /ʔ/, no decision is possible.

Tag. /-ʔ/, Ml. /-h/ is clear, as is also Tag. /-h-/, Jav. V-merger. Others, however, are unclear, especially where Ml. initial /h ~ Ø/ is involved. The variation is probably a sign that a sound-change is in progress, leading to complete loss. Possibly too, it has arisen in imitation of more elegant Arabic, or perhaps Old Jav., in which (written) h- and Ø- doublets are common.

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The inclusion of Formosan data tends to support Dyen's reconstruction, though many problems remain. The data, first of all, are often poorly recorded and limited in scope. Second, almost nothing is known or reported about the history of the Formosan AN speakers, their movements or their inter-relationships. It does appear that they are aboriginal on Taiwan, and of considerable antiquity (Solheim 1974 suggests upwards of three millenia). Further, the languages can be considered distinctive in that they alone, of all AN languages, must have undergone considerable influence from Chinese. Oddly enough, sources rarely point out Chinese loans.

It happens that Dy *q is reflected in some Formosan languages as /q/-- that is, apparently, an uvular stop. The contrasting symbol ʔ is also used in transcribing the same languages. Other Formosan languages reflect *q as /h/ or /ʔ/-- though there is some doubt about the latter (as Dahl suggests) since many of the wordlists are phonetic, not phonemic. Dy *h is usually reflected as /s/, sometimes /š/ or /x/; there seems to be a contrasting /h/ in some of the languages too. Reflexes of *q are fairly consistent, but the correspondences for *h (now written *S) are so varied that Dyen (1965) listed six sets of them, some exemplified only in a single cognate set[13]. The lists of correspondences in Dahl (1973:31, 35) indicate even more variation than Dyen's. Under the assumption that a sibilant is more likely to become [h] than vice-versa, Dy *h is now symbolized *S in most current work. Though this

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assumption is valid in many languages of the world, I am not convinced that it is valid for AN; we return to this again below. In general, it seems unwarranted to draw too many conclusions from Formosan languages until much more information is available on their history.

Let us now turn our attention to the other great area of irregularity in AN linguistics: the dental/palatal d/r/j sounds. The evidence for Dempwolff's reconstructions was as follows (where two reflexes are given, the first is presumed to be the regular one):

PAN	d-	-d-	-d	ḍ-	-ḍ-	-ḍ	j-	-j-	-ǵ-	-ǵ
Tag.	d	r	d	d/l[a]	l	d	d/l	r/l	l	d
Jav.	d/r	d/r	d/t	ḍ/d/r	ḍ/r	r/d	j/d	j/d	r	r
Ml.	d	d	t	d	d	r	j	j	d	t
Toba	d	d	t	d	d	r	j	j	g	k
Fiji	r	r	?[b]	r	r	-r-[b]	ɗ	ɗ	ɗ	-ɗ-[b]

Notes: a) This reflects Dyen's revision (1947b) which I accept. Dempwolff posited l- as regular.

b) In Fi., the original finals reappear in suffixed forms, and /ɗ/ and /r/ clearly reflect the AN palatal and retroflex respectively. There are one or two exs. of /t/ < *-d, and a few of /r/ < *-d, so the ordering of final C changes is unclear for these two sounds.

Dyen's *Z was intended to eliminate eight or ten cases of ireegular Ml. /j/, Jav. /d/ (Fi. /ɗ/; the Tag. and Toba reflexes strike me as less clear than they did Dyen):

	*Z-	*-Z-
Tag.	d-	r/l?
Jav.	d	d/r

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	*Z-	*-Z-
Ml.	j	j
Toba	j/d	j/d
Fi.	đ	đ

Once again we are faced with considerable variation, both intra- as well as inter-language. Only Oceanic languages (typified in the above charts by Fijian) are free of it--that is, we never find instances of e.g. Fi. /r/, Ml. /j/. Ml. also appears to be relatively variationless, but we should bear in mind that almost all scholars have drawn on dictionary Ml., not the spoken language; there is a long literary tradition, and "substandard" dialect forms are not likely to be included in the dictionary[14]. In any case, if one looks, some likely doublets turn up, e.g. Ml. empedu, Madurese pɨddhu 'gall, bile' against BI (Ml?) peju, Mad. pɨjjhu 'sperm'; and cf. Bug. ɨssuq, ɨssung 'gall', vs. pɨssuq 'snot'[15], or (probably borrowed) pɨrru 'urine-smell.'

Turning to Formosa once again, we find Dw *d and *ḍ reflected usually as /d/ or /r/; in some languages as /đ/ or /z/. Dempwolff's *d' (my *j) is reflected in just two examples-- both botanical names and probably borrowed--but Dyen's *Z is found as an affricate /dz/ or as /r/, /d/ too. Most languages do have a two-way contrast between *d/ḍ on the one hand (Ogawa and Asai's "d_1") and *Z on the other ("d_2"). (Dahl (1973:ch.14) even finds a three-way contrast, positing an extremely variable "d_3", which I find unwarranted.)

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For the voiceless counterparts, Formosa reveals a similar aberrant patterning. The IN and OC languages show:

	*t	*ṭ	*c	*s
Tag.	t	t	s	s
Jav.	t	ṭ	c	s
Ml.	t	t	c	s
Fi.	t	t	ć	ć

(We might mention here that *ṭ has a very dubious status, being attested only in Jav. and Madurese and often attributed to Skt. influence.) But Formosan languages give evidence for an earlier stage with two t contrasts, one a stop, the other an affricate-- both corresponding to IN *t (and occasionally *ṭ). And again, IN *c is almost not attested (Dahl has found one possible cognate). Similarly for the nasals, Formosan can be reconstructed with two, $*n_1$ (usually > /n/) and $*n_2$ (frequently > /l/ or /ɬ/), both corresponding to IN/OC *n; IN *ñ is attested in just one Form. cognate. The extreme rarity of cognates reflecting IN *c j ñ suggests strongly that Proto-Formosan should be reconstructed without them; the few examples attesting them can probably safely be called borrowings.

My purpose here has not been to debate the correctness of the correspondences; they exist, and for the most part in clear and obvious cognate forms. The question in my mind is rather, what do these correspondences mean? Does each one, however rare or poorly attested, necessarily reflect a contrast that existed in PAN? I believe not,

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and will present here a theory as to how the present complex situation could have come about. At the same time, the complexity of the reflexes allows us to speculate on the nature of the PAN phonological system.

Let us think back to very early times, before the break-up of PAN. Let us assume a number of small tribal or clan groups living in the fertile river valleys high in the mountains of SE Asia. It is unimportant whether we locate them on the mainland (as Heine-Geldern did, in the upper Mekong/Yunan region) or in some other area (as Solheim would). Some of the groups may have practiced agriculture, probably of the slash-and-burn type. The way of life, in fact, could have been quite similar to that of the Torajas of pre-contact times (say, up to a century or two ago) or of the mountain tribes of Thailand, Burma, Laos and Vietnam. Settlements, thus, would have been small, perhaps no more than 5-10 mutually related extended families per "village". Life would be short, infant mortality high-- thus population growth would be slow, probably so slow that migrations to new settlements would seldom be necessary on that account. Movements would be necessary, however, as the surrounding land became exhausted-- for fire-cleared fields in the tropics not only erode quickly in the monsoon rains, but lose their fertility after a few years. Contact with neighboring groups would be minimal, especially if the mountains between the valleys were very high, for there would be little need of

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trade between groups all living at a subsistence level, in similar environments. Perhaps the most frequent form of contact would have been warfare-- raids for women, or for heads, or captives for ritual sacrifices.

Given that this collection of small tribes spoke a common language, it follows that each valley would have its own peculiarities of pronunciation. Given the similar living conditions of each group, there would be few real differences in vocabulary. And given the inherent conservatism of traditional cultures, we can suppose that phonological and lexical change sufficient to produce clear dialect splits, or to disturb mutual intelligibility, would be slow to take place.

We can also make certain assumptions about the phonology of this early language, based on present-day considerations of AN languages, and our knowledge of Southeast Asia in general as a linguistic area. There would have been voiced and voiceless (or perhaps fortis/lenis) stops at bilabial, dental, palatal and velar positions (just as in Sino-Tibetan, Proto-Thai and Mon-Khmer); a post-velar of some sort-- a glottal or uvular stop-- would not be improbable. There would be matching nasals, as well as some continuants, and a relatively simple vowel system. Let us call this language Early Austronesian (EAN), and set forth its sound system as follows (using capital letters to indicate its entirely hypothetical status):

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Early Austronesian

*	P	T	C	K	Q			
						I	ɨ	U
	B	D	J	G				
							A	
	M	N	ñ	NG				
	W	L,R	Y	ɣ(?)				
		S			H			

Note: We include the velar fricative *ɣ since the existence of such a sound at the very earliest level seems almost indisputable in AN. The use of *ɨ should not be taken to mean that the central vowel was necessarily phonetically high, only systematically higher than *A.

Each valley's dialect could probably have been described phonemically with such a system; phonetically, of course, there are several areas where differences could occur. The labial and velar stops and nasals, however, were most likely <u>not</u> one of these areas; evidence from modern AN languages shows that these two points of articulation undergo very little change, and must therefore have been very stable[16]. Minor variations in the velars might occur, depending on the surrounding vowels.

Certain other sounds could vary within limits. Thus *W might be realized variously as [w, β, ʋ, v]. The post-velar stop, too, could be realized in different ways: if some group pronounced its *K in a relatively forward position, *Q could then be simply a backed [k̟]; in other groups it could be a uvular [q] or glottal stop [ʔ] without destroying the contrast. *H too might vary: as a voiceless vowel-- and so dependent on the surrounding vowels for its place of articulation; or as a velar [x̟]

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or post-velar [ħ]-- and these two could vary in accordance with environment. *Q and *H might even have contrasted as respectively [ħ] vs. [ɦ].

Dentals and palatals, however, can be formed almost anywhere in the front half of the mouth. Many modern Southeast Asian languages (including Ml/BI) have a dental /t/:[t] vs. alveolar /d/:[d]. Other possible articulations could have included:

*T	*D	*C	*J
t̼	d̼	t̼^{y}	d̼^{y}
t	d	t^{y}	d^{y}
t̤	d̤	t^{s}, ts^{y}	d^{z}, dz^{y}
t^{h}	ʔd	t$^{\theta}$	d^{ð}
		tš, t̤š	dž, d̤ž
		tç	dz,
		t̤^{r}	d̤^{r}
		š	ž

*S could also vary, but would have to maintain the contrast with *C; perhaps *S [s̼ s s̤ ^{t}s š θ ç] etc. Similarly for *L, *R, *N and *Ñ. And there could always be additional sub-allophonic variants: retracted in the environment of back vowels, or especially the low back *A (three of the four EAN vowels can be considered <u>back</u>, *A ∓ U); affricated or palatalized near high vowels (two of the EAN vowels are high, *I U; in some dialects, *∓ would have been); evidence from many languages of the world shows that the high front vowel [i] exerts an especially strong influence, which might

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over-ride the relative infrequency of *i in PAN. (Even so, the total of all V—V environments involving *i (V—i plus i—V) is (Chrêtien's figures) 548/1950, over 25%.)

If our small tribal groups now begin to merge with one another-- for whatever reasons-- it is clear how new phonemic or near-phonemic contrasts could result from the meeting of two or more groups with widely spaced allophones. One group's *J:[d̠ʸ] could be interpreted as an allophone of *D by another group whose own *J was more backed, e.g. [d̠ʒ̠] or [d̠ʳ]; such a backed *J might in turn be heard by the first group as their *R. *H:[ç]/—i could be heard as an allophone of *S, or vice versa; and so on.

What reasons can be proposed for such tribal mergers?

1) natural catastrophes: earthquakes, volcanic eruptions, floods, droughts, crop failures, epidemics;

2) internecine feuds;

3) pressure from/warfare with new immigrants;

4) warfare for new territory, due to population growth, or exhaustion of all surrounding land, or both.

Under any of these circumstances, the decision to move would be made quickly and in unsettled conditions. Upon reaching a new area, the migrants would not necessarily be received hospitably, for Group A might arrive in Group B's territory only to find them suffering the same difficulties that led to A's migration-- two such groups might then join forces and move on to still another area. In any case, there would have been no time to settle down, no time for a real merger of the groups, no time for the gradual

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adjustment of their mutually intelligible dialects. Later migrations-- such as those e.g. which took AN speakers into the Indonesian archipelago-- might have been made under the same sort of circumstances, and consisted of similarly heterogeneous groups; they may have taken place relatively rapidly[17].

It seems clear that Formosan AN groups must have been among the first to leave the homeland area-- wherever that was located. Solheim proposes this on the basis of archeological evidence, and the linguistic evidence supports it. I feel that such a theory is also implicit in some of Dahl's statements about Formosan languages. (Undoubtedly there was more than one migration.) It is precisely in Formosan languages that we still find a contrast reflecting my EAN *T:D and *C:J-- in that *T,D have usually developed into dental or alveolar stops, *C,J into (apparently) alveolar affricates (/ts/ and /dz/ seem to be the most frequent reflexes). The following correspondences are found between these sounds in Formosa, IN and Oceania:

EAN	*T	*D	*C	*J
Form.	t	d	ts	dz
IN	t,ṭ	d,ḍ	t,ṭ	d,ḍ,j (Dy *Z)
OC (Fi.)	t	r	t	đ

And as was mentioned above, IN *c, j, OC *s (> Fi đ) seem not to be found in Formosa.

We could, following Dyen and Dahl, posit a three-way contrast: *t C c, and *d Z j (as well as *n N ñ

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which we have not discussed, though the relationship Form. n_1< *N, Form. n_2 < *$\tilde{N}$ seems logical). We should then have to say that Formosan languages have lost all vocabulary items with *c j $\tilde{n}$-- a most unlikely occurrence. It may be equally unlikely to say that IN and OC have merged all *t and *T, all *n and *N, but such a merger seems more likely than the selective loss of lexemes with specific phonemes. Further, the failure of *Z to undergo the parallel merger with *d is striking, and suggests that the difference between *C and *Z was more than simply voicing-- perhaps the place of articulation differed too[18].

The more reasonable hypothesis, of course, would be that the vocabulary with *c j $\tilde{n}$ was not present in the language at the time the Formosans departed, but was acquired later by contact with some other linguistic group. If we follow Solheim's thesis about the AN homeland, it is a little difficult to say which group this might have been; but under Heine-Geldern's theory of a mainland origin, we could quite safely assume contact with the Mon-Khmer languages in the lower Mekong valley. (Contact with an Indic language is probably unlikely at this period; probably the time depth is such that these developments took place even before the Aryan invasions of India, but in any case, well before the spread of Indic influence in the centuries just before the birth of Christ.)

Another feature common to IN/OC can be dated to the period after the Formosan's departure: the development

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of the prenasalized consonants. Here again there is almost no evidence for their presence in Formosan languages-- Dahl finds just one example. Whether the nasal was a morpheme (and /ng/ according to Blust) with some function or other, or an optional pronunciation (possibly subphonemic, or perhaps for emphasis or some other affective purpose, as Hockett, and I, would believe) is an insoluble question at this point in AN research. As in the case of *c j ñ, it seems incredible that such a widespread feature was totally lost in Formosa; it is more logical to assume that it was never present.

Let us now look more closely at Dw *g̃. The reflexes are:

	V—V	—#
Philippines		
Tag.	l	d
Isneg	g	g
Indonesia		
Jav.	r	r
Ml.	d	t
Toba	g	k
Oceanic		
Fi.	ɗ	-ɗ(+V)
Formosa		
Puyama	ɗ	ɗ
Paiwan	d	not attested
Rukai, Atayal	g	not attested

(It is difficult to be sure of some of the Form. reflexes, as only 6 examples are cited in Dahl, of which no language attests more than 3; and there are only 27 instances in Dempwolff to begin with.) The rarest reflex is /g/ by far;

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it occurs in a few Philippine languages, the two Formosan ones listed, and Toba Batak. Since *ǧ and *j, as well as *s and *c, all merge in the OC languages, it can fairly clearly be assigned a palatal articulation. I consider it remotely possible that a [g] pronunciation could have evolved as an allophone of EAN *J in the environment a—a, which does in fact account for most of the occurrences, but the only real evidence for a velar articulation lies in the substitution of /g/ for borrowed /j/ in some modern languages. The occurrence of *ǧ compared with that of *j and Dy *Z is suggestive too:

#—	V—V	—#
*j,Z	*j,Z	--
--	ǧ	ǧ

The failure of *ǧ to occur initially is quite striking, and it was the only sound so restricted in Dempwolff's reconstruction. If we examine the occurrence of *j in initial position, we find 42 cases of *ja.. out of a total of 70 *jV.. etyma-- the only instance, also, in Dempwolff's wordlist of such lopsided distribution, even though it is true that *a is the most frequent vowel[19]. I would tentatively suggest, therefore, that Dy *Z (and perhaps some *j) initially and Dw *ǧ finally reflect the same sound-- my EAN *J. If we accept the hypothesis that IN/OC *j was borrowed or developed after the Formosans broke off, then Dy *Z/Dw *ǧ in intervocalic position represents a split of sorts-- not conditioned phonologically (as far

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as we can tell), but due to the coalescence of different dialect groups with differing allophones of EAN *J.

Other peculiarities in the distribution of *ǧ suggest that it may at some point have been in complementary distribution with *γ. Compare the figures:

	ǧ	γ
a—#	2	16
i—#	1[a]	13
u—#	1[a]	29
ɨ—#	5	7
Total V—#:	9	65

Note (a): Plus two etyma with ambiguous *-d/ǧ. The single instance of *-uǧ is from Dempwolff 1924, not the later VLAW.

While the number of cases of *ǧ may be too low to warrant firm conclusions, some things stand out. First, the extreme rarity of *γ following *ɨ (7/65, about 11%) versus the relatively high frequence of *ǧ in that position (5/9 or just over 50%). Second, the quite high frequency of *γ after *u (29/65, almost 46%)-- this is one of the few sounds which occurs more frequently in *u—# than in *a—#.

Because of the low number of examples, the dangers inherent in using mere percentages based on a small corpus, and the lack of evidence from the really crucial area, Formosa, this whole concept of variation within the proto-language can only be an hypothesis-- and I consider it a very attractive one, well worth closer investigation as far as the data will allow. A reanalysis of the statistical

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structure of PAN along slightly different lines than those used by Chrétien (1965) might also be worthwhile. The concept of variation does not, unfortunately, clarify the ambiguities and multiple correspondences found in present AN languages, but does, on the other hand, help us to avoid reconstructing a proto-language that is typologically and areally odd. It also enables us to make valid statements about the break-up of the proto-language and its later developments. Thus, the Formosan languages-- the earliest to break off-- retain the original contrasts EAN *T:C, *D:J with minimal variation-- though it might be useful to reconstruct a voiced counterpart of EAN *S, i.e. EAN *Z, as the source of *ǧ. Formosan languages do, however, show some variation in their reflexes of *D and *J, which can probably be ascribed to independent developments, influenced by (a) allophonic variation continuing in various groups and/or (b) contact with Chinese, which has both /ts/ and /dz/ phonemes. The influence of Chinese remains an unknown factor at present, but one which should be investigated.

The remainder-- which can now properly be called Proto Malayo-Polynesian-- merged *T and *C, then borrowed or somehow developed a new set of palatals *c j ñ, of which new *j alone must have been sufficiently close phonetically to old *J to produce confusion, reflected in the multiple reflexes of these sounds. We can state, however, that before the confusion began, the group ancestral to the OC languages must have broken off, for OC languages

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show only a single palatal reflex (POC *s and *ns) for EAN *J (Dy *Z), *j, *S, *ǧ, *c, but merger of *C with *T (POC *t), and a single reflex (e.g. Fi. /r/) for IN *d and *ḍ (that is, EAN *D)[20]. The reconstruction of a dental vs. retroflex contrast for the IN area may not be valid; although some Philippine languages seem to reflect the contrast, there may be other explanations (cf. Charles 1974, Wolff 1974); that would leave Jav. and Madurese as the only witnesses, and the influence of Skt. may account for the contrast there.

The most workable set of symbols which adequately represents the correspondences found in non-Formosan AN languages continues to be Dempwolff's, with some modifications, thus:

p	t	(ṭ)	c	k	q	
b	(d)	ḍ	j	g		plus ǧ
m	n		ñ	ng		
w	l	r	y	ɣ		.
		s			h	

*q can be taken to represent an uvular or glottal stop; *h a glottal fricative-- in view of possible allophonic conditioning, I see no reason to consider it as the sibilant which Dy *S implies. Where Formosan evidence is involved, Dy *C (= my EAN *C) could continue to be used for their affricated /ts/; for Dy *Z in both Formosan and non-Formosan, perhaps my EAN *J would be a better symbol, as it refers more directly to the presumed

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origin and palatal pronunciation which the various reflexes imply. Possibly too, *J could be substituted for *ǧ. Other proto-phonemes that have been proposed-- to account for irregularities e.g. of *q (Dy *Q, ?, x) or *h (Dy *S_1 through S_6)-- could more profitably be viewed as, and perhaps ultimately proven to be, due to borrowing or variation.[21]

We have dealt with this problem at some length here primarily because up to now, no one else has seriously proposed that some of the contrasts posited for PAN may be invalid. According to Dahl, Dempwolff once stated

> that perhaps PAN had not had all these sounds at the same time....but that he had been compelled by the testimony of the languages examined to give PAN this number of sounds. (1973:13)

and again, as Dahl recalls,

> it was possible that the proto-language had not had all the constructed "sounds" at the same time. I cannot remember if he ever explained which "sounds" might be later than the others. But I have always had the impression that he meant *d', *k' and *ñ [*j, *c, *ñ]. (1973:83)

Nowhere else do we find any comparable statements; quite the contrary, as more data have accumulated, the tendency has been to view almost every new correspondence as evidence for a new PAN contrast, with barely any attention to other possibilities. This "strict constructionism" is, to me, unrealistic and unacceptable. It is surely a function of the lack of documentary evidence for older stages of the languages involved. Where such evidence in fact exists-- Old Malay, Old Javanese, Old Balinese inscriptions, albeit limited and datable only to the 7th - 9th Centuries C.E.--

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it is all but ignored[22]. If more existed, and from more ancient times, we could trace back the phonological developments and historical influences with more accuracy, and it is unlikely that PAN phonology would seem so murky. But for most of the languages, such materials do not exist, and will never be found; the linguist must therefore try, as intelligently as possible, to fill in the gaps by hypothesis.

Our reconstruction of Proto South Sulawesi has been one such attempt to fill in the gaps. It provides a new reference point against which other IN languages and reconstructed proto-languages can be compared, rather than comparing them directly with PAN-- which is analogous to comparing English directly with Proto Indo-European without benefit of the Proto Germanic stage. The two factors which have most disturbed developments-- both pre- and post-PSS-- have been shown to be variation and continuous contact between related and phonologically similar languages, and our discussion has sought to show that these same two factors can be traced back to the very earliest stages of the AN language family, and should be taken into account more fully in future work.

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FOOTNOTES: CHAPTER 4

1. I shall pass over the utterly irrelevant squabble as to which term is proper; reconstruction is the term conventionally used by linguists writing in English to describe what Dempwolff did, and I see no reason to deviate from that practice.

2. And this is only an opinion. The number of clear examples is so low that reasonable men could well differ.

3. Mori in fact seems to show three "layers" of *j reflexes: (1) /s/ in those words which can be considered most basic, like /usa/ 'rain', /sala/ 'road'; (2) /g/ in a handful which, because of /gagi/, may be from or via Bug.; and (3) /j/ in a few others, known loanwords like /gareja/ 'church' < Ml. gĕreja, ult. < Port. These last are undoubtedly of very recent provenance-- perhaps only since extensive Dutch missionizing and government control dating from ca. 1920.

The regular, and clear, reflex of *ǵ in Mori is ∅ with vowel changes produced by an intervening **y stage.

4. *b is the most frequent initial C in PAN, 237/1950 items in Chrêtien's count (1965:249); initial syllable vowels are ranked: (1) *a 816, (2) *u 462, (3) *ɨ 336, (4) *i 335. Sequences of *bV.. are ranked: (1) *ba 95, (2) *bu 70, (3) *bɨ 48, (4) *bi 24.

5. In fact, the only cognate cited-- Highland Murut bibiq, bibik-- is marked "[perh. borrowed from Ml.]" (Prentice 1974:6).

6. This term is from Charles 1974.

7. Neither writer seems to have considered the question whether Idahan *b and *w, or Kelabit /b/ and /bh/ are in fact in contrast in the underlying forms.

8. It is worth pointing out that such a minor phonetic difference could easily occur dialectally at any stage, from proto-language to modern times.

9. I cannot claim to have followed my own advice with much consistency, though I wish to reiterate here my debt to Mr. Andi Zainal Abidin and Drs. Abu Hamid for their copious information on Bug. life and culture (and language) during many hours of delightful conversation.

10. The source is my 1200-item wordlist, and analyses by five Jav. students in a Comparative Indonesian Seminar held at IKIP-Malang, Feb.-June 1972. The students had all had 3-4 years training in linguistics though, as it

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turned out, none in historical linguistics. All were highly fluent in English. Their dialects were: (1) West-central Jav. (where /-a/ does not > [ɔ]), (2) Jogjakarta, (3) Solo (these two generally identical-- and standard), (4) Surabaya, and (5) Bañuwangi (the so-called Osing dial., quite interesting and divergent). Except for the last, all the dialects represented urban, relatively standardized Jav. (probably upper-class, too). Some variation was noted in the use of /d/ and /ḍ/, although some instances could be due to slips of the pen, interference from BI, unfamiliarity with written Jav., or, in fact, to a vanishing contrast amongst younger speakers. The writers were most attentive to differences in the vocalic allophones; and while I had suggested that they look especially for variation between /d/, /ḍ/ and /r/, and /b/, /w/, their data do not reveal anything significant in those areas.

11. This according to statements of the informant in a Field Methods course, Univ. of Michigan, Winter 1974.

12. It appears that Proto-Philippine must be reconstructed with intervocalic *q (cf. Charles 1974), and that Tag. has lost it. We might say that it is lost categorically, and new homorganic glides have arisen between vowels: /y/ after /i/, /w/ after /u/, /ʔ/ after /a/ and between like vowels. Or we could say that it has been lost only in the environment [high V]—[unlike V]; I suspect no firm decision is possible here. I would be surprised to learn that Tag. and Bis. dialects, or Bikol, can definitely be shown to retain *-q- except variably.

13. Dyen's data consisted of texts published by Ogawa and Asai in 1935 (Myths and Traditions of the Formosan Native Tribes), plus Swadesh lists. Of Ogawa and Asai, Dyen himself noted "it is not easy to maintain a high degree of accuracy in dealing with the material in OA because its phonetic notation must be simplified" (1965: 286n). Another work of Asai's-- The Sedik Language (Kanazawa 1953)-- is also characterized by a phonetic notation which is either inconsistent or else the victim of sloppy typesetters. Dahl 1973 draws on Dyen's article, plus the more recent publication of R.Ferrell-- Taiwanese Aboriginal Groups (Taipei 1969)-- whose wordlists, though also phonetic, seem somewhat more reliable to Dahl's view. Ferrell's work has not been available to me.

14. My experience with BI shows it to be relatively free, too, of d/r or d/j variation-- but this is a special case, for with rare exceptions BI is an acquired language for most Indonesians.

15. Perhaps the semantic element in common would be: "various (unpleasant?) excretions from inside the body."

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16. If instead of a voicing contrast we posit a fortis/lenis contrast, the phonetic realizations might be:

*P (fortis)	*B (lenis)
$p_$	mp
p^h	p
p/b	mp/b (voicing irrelevant)

17. Heine-Geldern suggested "dass jener Teil der Uraustronesier, der dahin [i.e. the Malay Peninsula] auswanderte, den Weg vom nördlichen Hinterindien bis zur Strasse von Malakka sehr rasch, innherhalb weniger Jahrzehnte, wenn nicht Jahre, zurückgelegt haben muss. Diese Austronesierwanderung erinnert sehr an die zweieinhalb bis drei Jahrtausende später, im 13. Jahrhundert n.Chr., erfolgte Wanderung der Thai. Auch die Thai durchstiessen, aus derselben Gegend wie die Uraustronesier kommend, auf genau dem gleichen Weg ganz Hinterindien und seine ältere Bevölkerung, drangen ebenfalls in wenigen Jahrzehnten von Ober-Laos bis nach Malakka vor, und nur der Umstand, dass sie dort auf malaiische und javanische Grossmächte stiessen, hat sie verhindert, auch nach Indonesien übersetzen" (1932:575-76). The analogy of the Thai migrations seems very apt, and it is possible that at least some part of the Austronesians followed the route proposed by Heine-Geldern-- and perhaps with the rapidity he claims.

18. Haudricourt (1965:321) holds that just such a difference in place of articulation prevented the merger of *t and *d in POC, even while the other pairs of voiced/voiceless stops did merge.

19. Generally speaking, in Chrêtien's tables, we note that the *a environments most often equal about 1/3 to 1/2 the total of all the other environments combined. This is to be expected, since *a is the most frequent vowel, occurring approx. 42% of the time. Thus, compare the figures for *jV.. in Chrêtien: #ja 33, #ju 8, #ji 5, #j± 9 (my figure #ja 42 includes RMs and some 3-syllable forms excluded by Chretien); or #ja 33, #j(ui±) 22. Against this compare the figures for *bV- and *tV-, *b- and *t- being of great frequency and therefore more nearly random in distribution: #ba 95, #bu 70, #bi 24, #b± 48 (or #ba 95, others 142); #ta 64, #tu 41, #ti 28, #t± 42 (or #ta 64, others 111). Roughly the same proportion holds for other positions as well, which makes the high number of *-uγ (almost double that of *-aγ) stand out. Cf. Chrêtien's tables, 1965:253-54.

20. There seems to be a single exception: Dw *tindaw, *tiñjaw 'look at'. Ml. tinjaw and others reflect the *j-form, but POC *tiro reflects the *d-form. This is the reverse of what we usually find in cases of Dy *Z: Ml. and OC *j, Jav. and others *d. As Dahl notes, this single item suggests that at least some of Dempwolff's proto-doublets seem to be justified.

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21. Cf. in this respect Dahl (1973:86-96), where he effectively explains away the quadruple correspondence for *γ which Dyen proposed in his 1953b.

22. No one since Coedès (1930) has examined the OMl. material at all carefully; it is admittedly not copious, and difficult to interpret. We are left with impressionistic statements about how "close" it is to modern Ml.--and we could say it is rather "close" too, to PSS! OJv. has been known and studied ever since von Humboldt's time-- since the very birth of modern linguistics-- and it is possible that the High level of mod. Balinese is a continuation of some earlier form of Jav., say, post-11th Century. Yet to my knowledge, there has yet to appear a formal statement of the changes that have taken place between OJ and modern Jav. The Old Balinese inscriptions, which (so far) date back to 882 C.E., have been published (Goris 1954); yet except for Teeuw (1965), practically no use has been made of them. This OBal. also shows points of resemblance to PSS. Nor is there an adequate grammar or dictionary of modern Bal.

Even the most elementary statements of dialect differences within Ml., Jav. and Bal. are completely lacking.

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APPENDIX A

INFORMANTS AND SOURCES

1. Buginese. The principal source was Matthes 1874. Approximately 2000 words of clear or possible cognacy with Dempwolff's reconstructions were culled. All were checked with native speakers to determine currency, change in meaning, correct pronunciation, etc. In the course of this checking, perhaps as many words again were obtained. The informants were:

a) Drs. Husen Abas, M.A. (age about 40, native of Bulukumba), in 1968 a student at the University of Michigan where he served as informant in the Field Methods course, Summer 1968. In 1971-72, during my stay in Indonesia, he was Dean of the Faculty of Letters, Hasanuddin University, Makassar.

b) Drs. Abu Hamid (about 40, native of Bone), of the Faculty of Letters, Hasanuddin Univeriity. An anthropologist and expert in Bug. literature, Mr. Hamid was especially helpful in identifying old forms, Arabic loans and dialect variants. Under other circumstances, he should have been my collaborator, not merely an informant.

c) Drs. Ambo Gani (about 40, native of Sinjai), Faculty of Letters, Hasanuddin University. Also expert in Bug. literature and Arabic.

d) Mr. Abdullah Gamal (age 20's, native of Bone), student at Brawijaya University, Malang, Java. He patiently assisted in checking the bulk of the Matthes words.

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e) Sikki 1970, on the dialect of Sidenreng. Unfortunately, there was no opportunity to check her material at first hand with an informant.

f) Samsuri 1965, a transformational grammar of the Rappang dialect, similar to that of Sidenreng.

g) Kustini 1967, on the dialect of Bug. settlers on the island of Buton in Southeast Sulawesi. If the material is phonetically accurate, this dialect departs quite radically from standard Bug.

h) Mention must also be made of Prof. Mr. Andi Zainal Abidin, S.H., then Dean of the Faculty of Law, Hasanuddin University. In many delightful hours of conversation, he imparted a great deal of information on Bug. history, literature, genealogy, and folklore.

2. Makassarese. Again the principal source was the work of Matthes (1859; the second edition of 1885, said to be more accurate, and larger, was not available to me). Perhaps 1500-2000 words were culled, and checked with native speakers. These were:

a) Drs. Nurdin Yatim (about 35, native of Goa), Faculty of Letters, Hasanuddin University. He was able to verify all but a handful of words, mostly dialect forms.

b) Ms Trees Salim (about 30, native of Makassar), student at IKIP-Malang, Malang, Java. She provided a nearly complete version of my Comparative Wordlist, as well as her own analysis of the historical developments.

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c) Pelenkahu et al. 1971, a survey of the Konjo dialect. A few vocabulary items of interest were found, but the dialect does not differ markedly from standard Mak.

d) Kusuma 1964, a phonemic analysis of present-day standard Mak.

3. Mandar. As no dictionary exists, almost all the 'ata came from my informant, Mr. Abdul Majid (age 20's, native of Balanipa), then a student at Hasanuddin University. We filled in my Comparative Wordlist, along with several hundred other items. Written sources-- usually discovered by accident-- included:

a) Pelenkahu 1967, on the Majene dialect (the informant was Mrs. Pelenkahu); a most valuable work and, as the writer correctly notes, the first work to deal formally with Mdr. phonology, morphology and syntax. The theoretical framework is structuralist.

b) Tenriadji and Wolhoff 1955, the Mdr. lontar. Only Part II of this 2-part article was available to me in Indonesia; I am indebted to Mathew Charles, Cornell University, for providing a copy of Part I.

c) Through the courtesy of Dr. A.L. Becker, I received in Fall 1974 copies of preliminary studies for a Mdr/BI dictionary project-- Muthalib 1974ms, and Sahur 1974ms. While very brief, these papers served to confirm what I had already concluded about Mdr. phonology, and provided one or two new vocabulary items. We hope that this dictionary project will soon bear fruit.

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4. Sa'dan. The dictionary (van der Veen 1940) did not become available to me until after my departure from Indonesia. It is a work of very high quality, and has provided probably the bulk of my Sad. forms-- most of them not elicited from, or checked with, native speakers. Because of the dictionary's accuracy (from an historical point of view) I have tended to accept its citations in cases where my informant's pronunciation differed-- especially in the matter of /-q/:ø or /-q/:/-k/, which were sometimes hard for me to hear. My principal native informant was:

a) Mr. Robert Lantang (20's, native of Makale, but long resident in Makassar), a student at Hasanuddin University. We compiled my Comparative Wordlist, plus several hundred other items.

b) Pararrungan 1969. This writer's phonemic analysis was very helpful, as were his extensive wordlists. In a few cases, he and Mr. Lantang disagreed as to pronunciation or meaning. Assuming that their disagreement reflects dialect variation, I have generally chosen whichever form agrees best with cognate forms in other languages.

c) Mr. Martin Luther Manda (20's), then a student at IKIP-Malang. Mr. Manda provided a version of my Comparative Wordlist, and also very kindly gave me a copy of the Sad. translation of the Bible.

d) Drs. C. Parinding (60's), retired from the Faculty of Letters, Hasanuddin University. A lifelong student of his native language, he has compiled a pedagogical grammar and Sad/BI dictionary-- both, unfortunately, unpublished.

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e) van der Veen 1924, 1929, 1965, 1966. The 1929 article is a rich compendium of dialect and comparative data for the entire northern area of SSul. The three literary collections were valuable mainly for their comments on grammatical structure, for all the vocabulary is included in the Dictionary. Dr. van der Veen was also the translator of the Bible.

f) I have recently learned of the appearance of a (Sad.) Toraja/Indonesian dictionary, published by Balai Pustaka, Jakarta, in 1972; I am told it is a translation of van der Veen's dictionary.

5. Massenrempulu. At the time of my stay in Indonesia, there was no published material on this language group, other than the 10 pages or so in van der Veen 1929. My informants were:

a) Mr. P.B. Barrang (about 35, native of Kalosi), on the staff of the Lembaga Bahasa Nasional, Makassar. We completed my Comparative Wordlist.

b) Drs. Syukur Abdullah (about 35, native of Cakke), Faculty of Social and Political Sciences, Hasanuddin University. We compiled a 200-word Swadesh list, plus a number of items showing /-h/. By rare good fortune, Mr. Abdullah came to the Univ. of Wisconsin in 1973-74, where I was able to check further with him on /-h/ forms, and the /q/ > /-t-/ alternation.

c) Pelenkahu et al. 1972, a report containing data not only from Duri, but also the other languages of the Endekan region; it was a major contribution to my work.

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6. Pitu Ulunna Salo. Aside from the 10 pages in van der Veen 1929, and A&K's "Mamuju" data, nothing else seems to have been published. I was able to locate one informant: Mr. Mohammed Saleh, on the staff of the Library, Hasanuddin University, from whom I obtained a Swadesh-200 list plus a few other items. He suggested others for me to contact, but in the rush of my last days in Makassar, there was no time.

7. Mamuju. My sole informant was Mr. Daud Limbugau (age about 35, native of Kaluku), on the staff of the Faculty of Letters, Hasanuddin University. His village, as I later learned from van der Veen 1929, was settled by people from Aralle in the PUS area, which helps to explain the mixed nature of his dialect (which he himself pointed out, but did not give the reason). I collected the Swadesh-200 list, plus about 200-300 additional items, before my growing confusion, and Mr. Limbugau's other duties, forced us to stop.

8. Seko. With the kind help of the Rev. Gordon Chapman, I was able to locate two informants-- only in the last weeks, regrettably, of my stay in Indonesia.

a) Lt. J.Z. Dasinglolo (about 35, native of Seko-Pada), who kindly provided (with the help of some unknown others) a nearly complete version of my Comparative Wordlist.

b) Lt. D.P. Kalambo (about 35, native or Rantedanga', Seko-Lemo), who took the time to fill in about 1/3 of the Wordlist. Both these gentlemen were chaplains, stationed with the Indonesian Army, KODAM XIV, Makassar.

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Two other important, but non-SSul, sources should be mentioned, as they have provided insight into some of the irregularities encountered in SSul languages. These were:

a) Drs. Hans Lapoliwa (about 35), a native speaker of Mori and at the time a student at IKIP-Malang. Even though he was busy with writing his Sarjana thesis, he was kind enough to take time out to serve as an informant, while I collected vocabulary for an historical analysis of his language. Only after the project was completed did we discover a copy of Esser (1927/1933) in the IKIP library, mis-bound under another title.

b) Adriani 1928, the Bare'e dictionary. Almost every entry cites numerous cognate forms, often from Bug. and Mak., which have proven very helpful. In addition, the information on ritual language and taboo-substitution have suggested ways in which other languages of Sulawesi have undergone semantic change.

Other sources in which cognate forms have been found--dictionaries, for the most part-- are listed in the Bibliography.

It goes without saying that a dissertation of this sort would be impossible without the cooperation of the informants, and I extend to them all my most sincere and heart-felt gratitude.

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APPENDIX B

SSUL LANGUAGES: ESTIMATED NUMBER OF SPEAKERS

The following figures are taken from the results of the 1971 General Census of Indonesia, as reported (for SSul only) in Sulawesi Selatan dalam Angka 1971 (Kantor Sensus dan Statistik, Makassar, 1972). I am grateful to Mr. Ron Hatley (then of Yale University), who not only managed to lay hands on this scarce book, but was also of great help in interpreting some of the figures-- pointing out settlements of Javanese, e.g., and otherwise providing demographic data of which I was unaware. Since the Census report does not include data on languages, I have, in addition to Mr. Hatley's information, drawn on the following sources in making my estimates-- some of which should more properly be called guesses:

a) van der Veen 1929: while the article gives quite detailed information on which villages and areas speak what languages, it is often difficult to correlate with the Census data because many names seem to have been changed, and the maps available to me are not very detailed.

b) Pelenkahu et al. 1972: the figures they provide for the Mass. area are drawn from Sulawesi Selatan dalam Angka 1971, with the difference that they have more personal knowledge of the area than I.

c) various language maps: The best of these is the map accompanying van der Veen 1929; though it does not include the Bug. and Mak. areas, these are sufficiently

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large and well-defined that they present no problem. In addition, the Lembaga Bahasa Nasional, Makasar, provided me with a copy of their language map. Finally, the very large map in A&K has proven useful, though it contains some errors, and the PUS/Seko area is practically a blank. For locating the old Dutch, and many modern, place names, the best map has been the beautiful 1:1,250,000 map included in van Vuuren 1920-- a sad commentary on more recently published maps.

Finally, some of the informants were patient enough to go over the lists of figures with me, and point out which kecamatans contained speakers of their languages.

The Census figures classify "Foreign Nationalities" (i.e. Chinese, for the most part) separately, and these are of course excluded from my figures. Figures are given in the Census for three administrative levels: (1) Province, that is, Sulawesi Selatan, (2) kabupaten, e.g. Bone, Wajo, Tana Toraja (the old Dutch afdeelingen, though now sometimes with different boundaries), (3) kecamatan, roughly equivalent to our counties, or the New England "town" (Dutch onderafdeelingen). Below this would be desa (village) and kampung (roughly, either a very small village, or-- in a large city-- a "neighborhood". My figures are restricted to the kabupaten level and as a rule of thumb, I assume that a kabupaten in e.g. the Buginese area will have almost 100% Bug. speakers; the more isolated the area, the more this is likely to be true. For all areas, I have no way of knowing the

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number of non-SSul Indonesians-- serving for example as school teachers, military, police or government workers; this is particularly a problem for the city of Makassar, a great melting-pot. My figures, thus, are probably on the high side; on the other hand, the Census is probably on the low side, as it is likely that much of the very poor floating population was not counted. With all these qualifications in mind, I present my estimates in the following table.

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KABUPATEN	TOTAL (000's)	BUG	MAK	MDR	SAD	MASS	LUW	PUS	MMJ	SEKO
1. Bone	601.3	600								
2. Makassar	434.8	150	150							
3. Gowa	385.5		380							
4. Luwu (a)	326.0	100			68		100			4
5. Wajo	322.2	320								
6. Pol/Mas (b)	314.1			206	47			28		
7. Tana Toraja	308.5				305					
8. Bulukumba	261.0	60	200							
9. Pinrang	258.1	186		5		64				
10. Soppeng	229.9	229								
11. Pang/Kep (c)	205.2	101	101							
12. Jeneponto	200.5		200							
13. Maros (d)	197.1	70	110							
14. Sid/Rap (e)	181.6	160				20				
15. Takalar	152.2		150							
16. Sinjai	150.2	130	30							
17. Barru	132.6	130								
18. Enrekang	121.1	2			1	117				
19. Selayar (f)	93.0		75							
20. Bantaeng	89.5		89							
21. Majene	79.1			53				4	22	
22. Pare-Pare	72.6	70								
23. Mamuju (g)	70.1	5		3				5	50	2
Foreigners	35.1									
TOTAL:	5,221.3	2,313	1,485	267	421	202	100	37	77	6

Notes:
a) Sad.=Rongkong; Luw may = Sad. or Mass.; there are also Javanese, Mori and Bare'e.
b) = Polewali-Mamasa; 25,000 Jav.
c) = Pangkajene-Kepulauan.
d) There is a large air-base in Maros.
e) = Sidenreng-Rappang.
f) Laiyolo is spoken in the S. half of the island.
g) The number of Bug. ("Ugi Riawa") is a pure guess.

APPENDIX C

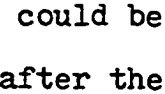
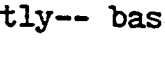
THE BUGINESE AND MAKASSARESE WRITING SYSTEMS

We can speak, in fact, of a single system, since they are identical save for the addition of four characters in Buginese. The principle is syllabic, that is, each character stands for a consonant sound plus an intrinsic /a/ vowel; other vowel sounds are indicated with small marks placed over or under, before or after, the main character. For syllables with the shape /V/, there is a character for /a/ (/qa/?), to which the other vowel symbols can be added. Syllable- and word-final /q/ and /N/ are not indicated, nor are the geminate consonants; this results in a great deal of ambiguity, and makes the reading of texts (even for the Bug. and Mak.) extremely difficult. For example, written ᨈᨈ can stand for: /papa, pappa, pampa, papaq, pappaq, pampaq, papang, pappang, pampang/, and the reader must supply the correct form from context.

Both the origin of the system, and the date of its introduction are uncertain; in any case, the question has never been researched. According to the Mak. lontar, it was the shahbandar (harbor-master) under Tumapa'risi Kallonna, Ninth King of Goa (regnabat ca. 1510-1546 C.E.)-- a man named I Daeng Pamatte'-- who "ampareki lontaraq mangkasaraka" i.e., 'made the Makassarese lontar' (or letters according to Wolhoff and Abdurrahim's translation)(Wolhoff and Abdurrahim n.d.:18, §36). It remains unclear, however, whether these were the Old Mak. letters, or the present ones

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(for there are two very distinct systems known). If Daeng Pamatte introduced the older one, then the change to the modern one must have occurred in post-Contact times, but there is no mention of this, as far as I know. Since the older system seems to have cognate forms in other parts of the Indonesian world (e.g. in the Philippines, where several native scripts were in use at the time of Spanish contact, ca. 1500; see Holle 1877/1882), possibly it had some currency in Makassar too in earlier times; thus Daeng Pamatte would be responsible for the newer system. According to Andi Zainal (in conversation), the keeping of port records and-- amongst the nobility-- of personal diaries and genealogies really began to flourish after contact with the Portuguese (1511, according to the lontara). This might well be because the new characters are so much simpler to write.

At some point in the 16th or 17th Century, Arung (Queen) Pancana added the four NC characters used in the Bug. syllabary-- that is, /mp/, /nr/, /ñc/ and /ngk/, representing earlier *mb, *nd, *ñj and *ngg. Note that these are precisely the characters needed if one wishes to show the morphophonemic changes of Bug. and still avoid an ambiguous base form; i.e., early **manggauq 'to rule' < gauq could be written  and read without difficulty, but after the devoicing of the nasal clusters, the base gauq and prefixed mangkauq would have to be written differently-- base  , derived . The new writing lets the reader know that a

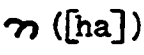
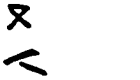
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morphophonemic change is involved. I do not mean to imply that the sound change took place at this late date; rather, the NC letters seem to have been introduced for the sake of greater clarity. There are lontar where they are not used, so that e.g. mangkauq is written  (ma.ka.u); and their use nowadays is not consistent either.

As for the origin of the systems, the Old Mak. letters may ultimately be shown to descend from a Javanese model, though the forms listed in Holle do not seem directly cognate. The new system most closely resembles the modern South Sumatran Rejang syllabary (see Jaspan 1964); if some earlier form of this was in use amongst the pre-Islamic Minang Kabau and Malay traders, it could very well have served as Daeng Pamatte's model. There are resemblances too-- though more distant-- with the Batak writing system; probably both Batak and Rejang descend from a single original. Note that both systems, unlike the Mak., have ways of indicating closed syllables.

All Indonesian syllabaries are apparently based on Indian originals. A complete paleographic survey, however, has yet to be made, either in Indonesia or India, and we will not attempt to trace the SSul writing system any further back. The appended tables give the Old Mak. characters, modern Bug/Mak., and, for comparison, the Batak and Rejang. (The list of Old Mak. was furnished to me by the Lembaga Bahasa Nasional, Makassar.)

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	Old Mak.	Bug/Mak.	Rejang	Batak
ka				 ([ha])
ga				
nga				
(Bug. ngka)			 =ngga	
ca				
ja				
ña				
(Bug. ñca)			 =ñja	
ta				
da				
na				
(Bug. nra)			 =nda	
pa				
ba				
ma				
(Bug. mpa)			 = mba	
wa				
ra				
la				
ya				
sa				
ha				
a				
i	not given			
u				
e				
o				
ɨ				

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APPENDIX D

THE LANGUAGE OF WOTU

1. Now that the phonological history of the SSul languages has been completely set forth, it will be easier to look at Wotu, and to assess its possible relationship with PSS.

The language is spoken by perhaps three to four thousand people, from all reports only in the town of Wotu at the head of Teluk Bone. The town lies just at that point where Buginese, Bare'e and Mori are all in contact. The Bug. element, here as elsewhere in Eastern Sulawesi, probably consists of traders; Adriani's statement (1898a:113) "te Wotu ook Bug. gesproken wordt" implies that bilingualism may be common, and certainly Bug. would be the prestige language. Throughout much of its history, Wotu has probably been a trading port-- the outlet for the forest products and perhaps iron from East and Central Sulawesi-- and so open to many linguistic influences.

Adriani 1898a constitutes the sole source of data; we can only regret that he chose to discuss only the "interesting" words and did not reproduce the entire Holle Wordlist which A.C. Kruyt collected (1898a:111). Additional insights have been gained from the work of S.J. Esser, who visited the area in 1939 and had materials ready for the press at the outbreak of World War II; during the war they were lost, and we know of his findings now only indirectly (see Noorduyn 1963, Esser 1961).

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2. The sound system of Wotu (hereafter Wo.) can be given as follows:

Consonants:	p	t	c	k	Vowels:	i	u
	b	d	j	g		e	o
	m	n	ñ	ng		a	
	w	l,r	y?				
		s					

Permitted clusters are:

mp	nt	ñc	ngk
mb	nr		ngg

The lack of /ñj/ may, as Adriani notes, be accidental. /ñc/ appears to reflect *ns and morphophonemic N+s, not *ñc. /j/ reflects both *j and *y, while /y/ is cited in just two examples which have no known cognates. /nr/, as in Bug., corresponds to *nd. The nasal clusters might be considered unit phonemes, since the language has no final consonants and could thus be described as having open syllable structure; however, there are no examples showing NC in initial position. According to Esser (1963:351) the NC have an unusual pronunciation-- [N:C].

3. The principal points of resemblance between Wo. and SSul are the following:

a) loss of *k.

b) *ɨ > /a/ (but also /o/).

c) presence of /nr/ < *nd.

d) presence of the palatals

e) *j (actually Dy *Z) > /d/.

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The Wo. reflex /j/ < *y is not a factor, as Bare'e shows the same development.

3a. k > Ø. Loss of *k is much more general than in Bug. Where it has taken place between like vowels, the sequence apparently remains, as a phonetically long vowel (written e.g. â; in final position, this seems to imply final stress, as in burô 'neck' (= /burðo/?), cf. Sad. baroko, Bar. wuroko 'idem'). Other examples are:

i. manre 'eat'; Bug. idem, PSS *kande.

ii. aju 'wood'; Bug. idem, PSS *kayu.

iii. ani 'eyebrow'; Bug. ɨnning, PAN *kɨning.

iv. "yuna" (/iu+na/?) 'its tail'; Bug. (irreg.) iko, PAN *ikuɣ.

v. taliu 'back'; Old Bug. idem, Bar. taliku, PAN *likud.

vi. babâ 'door'; Napu babaka, and ultimately cognate with Bug. baba 'idem', PAN *ba(q?)baq.

vii. sarâ 'to separate'; Bug. saraq, PAN *sarak-- note Seko saraka (=/sárak(a)/?).

3b. *ɨ > /a/ (or /o/). The examples are about equally divided between the two reflexes, so it is difficult to say whether the /a/ is a criterion for SSul affinity.

/a/: i. talu 'three'; PSS *tɨllu.

ii. ani 'eyebrow'; Bug. ɨnning.

iii. ali 'price'; Bug. ɨlli, mɨlli 'buy'.

iv. anralle 'corn'; Bug. warɨlle, Sad. dalle.

/o/: i. bongi 'night'; Sad. Bar. idem.

ii. nosu 'rice-mortar'; Bar. noncu, PAN *lɨsung (but Wo. losu cited in Adriani 1928).

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iii. ome 'to swallow'; Bar. idem, Bug. m/ɨmmɨq.

iv. sowu 'thousand'; Bar. idem, Bug. sɨbbu.

3c. *nd > /nr/. The examples cited all show the same change in their Bug. forms:

i. manre 'eat'; Bug. idem.

ii. anri 'younger sibling'; Bug. anriq.

iii. ganra 'drum'; Bug. gɨnrang.

3d. Palatals. These all occur in forms which could be loans-- e.g. an animal name /picarâ/ 'lizard' (Adriani cites Sad. idem, but it is not in SWB), and others:

i. peca 'cooked rice'; Bug. pecaq 'rice porridge'.

ii. mañ/jio 'to bathe'; Bug. dio, Duri meñ/jioq.

iii. ma/ñama 'sweet'; Bug. ma/ñamɨng 'pleasant'.

Regarding Wo. /ñc/ < *n+s, see below.

In at least one case, Wo. has /j/ where SSul languages attest *(dr): Wo. ma/taja 'sharp'; Bar. idem, Bug. tarɨng, Mdr. ma/tadang.

3e. *j (Dy *Z) > /d/. This appears in two examples, which thus match SSul rather than Bare'e:

i. uda 'rain'; Sad. uran, Bar. uja, PAN *quZan.

ii. dala 'road'; Seko dalang, Sad. lalan,
Bar. jaya, PAN *Zalan.

Examples of final stress (aside from those resulting from loss of some consonant between like vowels) are difficult to account for, and show no regularity. /sarâ/ 'separate', given above, and /tobô/ 'to stab' (cf. Seko toboko (= /tɔ́bok(o)/?), Sad. tobok 'idem') suggest that

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perhaps an echo-vowel rule once applied, as these must descend from forms like **saráka, tobóko-- if they are not borrowings from somewhere. Other examples, like mocû, micû 'to spit' (Bug. mîccuq) may reflect monosyllabic bases. /malasî/ 'good' probably reflects a borrowed form with initial syllable *ɨ, such as Bug. ma/lɨssi 'strong, well-built (man); good-looking'. We can think of no explanation for /arô/ 'chest', Bug. âro 'idem'.

4. The principal differences with SSul-- and at the same time, resemblances with Toraja languages, especially Bare'e-- are:

a) loss of final consonants.

b) *z (Dw *ǧ) > ø (perhaps via **y).

c) *γ > ø (but also /r/).

d) N+s > /ñc/.

e) a distinct reflex of PAN *-uy > /u/ (> PSS *-i).

f) retention of PAN *walu 'eight' and *siwa 'nine'.

g) use of /mo(N)-/, where SSul has /maN-/.

h) specific points of resemblance with Ledo (the language of Palu): a peculiar form of the word for '(finger)nail'; the word for 'no, not'; and the numerical classifiers.

<u>4a. *-C > ø.</u> No SSul language has reached this stage, even though we might call it an inevitable development, given the tendencies described in §3.9.2 above. Unless Wo. has undergone especially rapid sound change, we would

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have to assume that it was the very first SSul language to depart from the homeland area.

4b. PAN *ǧ > Ø. Only three examples reflecting *ǧ occur, of which two show the change:

i. eo 'sun, day'; Bar. idem, Sad. allo, PAN*a(l)ǧaw)

ii. impia/pe 'when?'; Bar. impia 'when; how'; Sad. pirang 'when', PAN *piǧa.

The third example shows an irregularity also found in Sad. and Seko-- /ilo/ 'nose', Sad. illong, Seko ilong, PAN *iǧung; this word is not found in Bug. or Bar.

4c. *ɣ > Ø (and /r/). There are several examples of each development:

Ø: i. usu 'rib'; PAN *ɣusuk, note Seko osoko.

ii. râ 'blood'; PAN *ḍaɣaq, note Seko raqa.

iii. kaî 'left (hand)'; PAN *(ka-)wiɣi.

iv. atu 'hundred'; PAN *ɣatus, note Seko atuq.

/r/: i. dambara 'light'; presumably < PAN *damaɣ, Mak. dámaraq 'resin (for torches)'-- the word means 'light' in other languages too.

ii. warû 'new'; Bug. Ml. baru-- the final stress is inexplicable.

iii. riwu 'thousand'; Ml. ribu 'idem', Sad. riu 'any large number'-- there is some doubt whether the word shows *ɣ or *r. Dempwolff reconstructed *ribu, but Jav. sewu (sa+iwu) suggests *ɣibu, and forms reflecting *r could all be borrowed < Ml.

The form /ranrâ/ 'maiden' probably does not, as Adriani

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supposes, show retention (and prenasalization!) of *ɣ, but rather loss; we can derive it from *daɣa > daa > (via reduplication) da(N)+daa > ranrâ.

4d. *ns > /ñc/. This is typical of Bare'e, and appears in two examples in the Wo. data:

i. sani 'know' > mangiñcani, mañcani (Bug. iss±ng, Bar. ĩñcani. The base has apparently undergone reanalysis, which suggests it is a borrowing.

ii. sañcowu 'one thousand'; Bar. idem, < saN+sowu.

However, in /ansara/ 'nest' (Bug. Mak. Ml. sarang) the change fails to appear; perhaps it only affects a morpheme boundary?

4e. A single example shows PAN *-uy > Wo. /u/, as in Bar. and other Tor. languages: Wo. "papuwa" (< pa+apu+a(n)) 'firewood' < apu 'fire'; Bar. idem, PSS *api.

4f. Wo. reflects the PAN words for 'eight' and 'nine':

i. uwalungo 'eight' < *walu.

ii. sasiongo 'nine' < *siwa.

All the SSul languages show formations based on the old ordinals, *ka- + 'two' = 'eight', *ka- + 'one' = 'nine' (see §2.2.4.1 above). On the affixed /-(V)ngo/, see below.

4g. The prefix /mo(N)-/ seems to be more common than /maN-/-- as it is in Bar. We could derive it < *maN- via an intermediate stage (pre-tonic V > *±) **m±N-. In general, too, it appears that the Wo. verbal prefixes more closely resemble those of Bar. in their uses, than those of the SSul languages (see Adriani 1898:131ff).

4h. Esser (1961:384) found the resemblance between Ledo /ledo/ 'no, not' and Wo. /laedo/ 'idem' very striking,

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and also found evidence in Wo. traditions for the migration to Palu of a Wotu prince and his retinue after a disagreement with the King. (The traditions also related that another prince went to Buton, where Esser claimed to have found traces of Wotu influence in Wolio, the court language of Buton.) It could be, however, that Wotu and Ledo are more intimately connected than this tradition indicates. Ledo has an unusual form of the word /kanduku/ '(finger)nail' (Bug. kanuku, Bar. konuku, presumably < *k-an-uku, cf. Ml. kuku and PAN *kuku), and Wo. reflects exactly this form in /anrû/ 'idem'. Further, the two languages have an element in common in the numerical systems:

Ledo	Wotu
sangu 'one (piece)...'	sango 'one'
ruangu 'two (pieces)...'	duwango 'two'
taluangu 'three....'	taluango 'three'

However, Adriani notes that a similar suffix (apparently a classifier, though its meaning is not specified) is used in Parigi (/-ongu/) and non-Tor. Loinang (/-ango/).

We can also point out Wo. nosu (and losu?) 'rice-mortar' and Bar. noñcu 'idem' as having a feature in common, that is, the retention of the initial consonant (PAN *l̤sung > ?*l̤nsung > ?*n̤nsu(ng) by assimilation?). SSul languages attest only a form with ø initial: Sad. issung, Mak. assung < PSS ?*i̤ssung.

Under an assumption that Wo. and Ledo are closely related, we might speculate that at some early time, all of

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Central Sulawesi was occupied by a single language group, consisting of groups ancestral to the West Tor. languages and to Mori-Bungku in the East, with the Bare'e speakers just one among many small tribal groups. But after the Bare'e expanded in all directions from their (assumed) homeland around the Poso Lake (traditionally, near the northern end), this homogeneous area was split, and thereafter the languages to the East and West of the Bare'e have developed separately. Thus we find, for example, verbal tenses retained both in some West Tor. groups, and in Mori, but not in the intervening Bar. area. Wotu, then, as a trading center, added to its own linguistic stock diverse elements drawn from others who came down from the surrounding mountain areas, first to trade, later to settle-- and we could view the Bug. element as nothing but the most recent addition. Wotu may, therefore, have the nature of a koiné, such as we proposed also for our Mamuju area.

More research, of course, is needed, but on balance we find the points in common between Wo. and Tor. languages not only more numerous, but weightier. It seems unlikely that the language of a prosperous trading center would borrow such features from less prestigious mountaineers. Conversely, the features in common with SSul (specifically with Bug.) could have been borrowed if, from early times on, Bug. stood in a superior relationship to Wo. In general, the question revolves around the problem of contact between (ultimately) related languages, and in my opinion, Wotu cannot claim a direct genetic affiliation with PSS.

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APPENDIX E

WORDLIST

The following list of PSS reconstructions, as complete as possible, is in three parts: (1) the main body, consisting of forms attested in most or all languages, (2) forms attested in one subgroup, or a few languages, only-- this includes many items apparently belonging to the Toraja substratum. Both (1) and (2) may include undetected loans from Ml/Jav. (3) Loanwords-- non-Austronesian, as well as (to our view) obvious borrowings from Ml/Jav. We exclude many Arabic words found only in Bug/Mak.-- religious terms, names of the months, and the like.

The alphabetical order is: a, b and (b), c, d-(d)-(dr)-z-r, ɨ, g, e and i, j, k, l, m, n, ñ, ng, p, s, t, u and o, w. NC are ordered by consonant, not by nasal (thus *-mb- is treated as *-b-); *-qC- are treated as if the *q were the original consonant (thus *baqbal is ordered as *balbal); cases of *-hC- are treated as if the *h were not there.

Abbreviations of language names will be familiar to the reader by now. Non-SSul languages are abbreviated according to the list given in the introduction, p. viii above. We will reiterate here, however, the following conventions: "(..WB)" means that a form occurred in one of the dictionaries but was not recognized by an informant; "(I)" means that a form was supplied by an informant, usually different from the dictionary form; "(V)" refers to Sad. dialect forms, PUS and Mass. forms

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known only from van der Veen 1929; all forms cited from A&K, and all Seko forms not specifically marked "(heard)" must, because of the nature of the source, be understood as "[sic]". The use of "(C)" and "(N)" in reconstructed forms means that the consonant in question cannot be reconstructed, usually in the absence of non-SSul cognates; "A", similarly, is ambiguous for *a or *ə in PSS forms, and "(r)" is ambiguous for final *r or *γ. PSS etyma marked "?*" are questionable in one way or another-- insufficient witnesses, irreconcilable irregularities or the like; on the other hand, proposed PAN (or PIN) forms so marked are my own creations, not attested in Dempwolff or others (to my knowledge). Finally, whereas in the text we did not assign any meaning to the proto-forms, we do so here, and in the absence of other indications, the cognate forms will have the same meaning.

- - - - - - - - -

A

*a(b)ang 'chaff': Bug. Mak. Mdr. awang, Sad. awang, aang, PUS(V) ahang. Ledo owa.

*a(b)ang 'float, drift': Bug. awang, Mak. m/awang, Sad. menn/aang, DuriC n/awang, Mmj. m/ahang, ti/ahang (dial. maha; marang-- a hypercorrection?). Cf. BI awang 'far off, undertain; indulge in fancies' and Fi. yawa 'distance'; PAN ?*awang.

*ambe(C?), ambo(C?) 'father': Bug. ambeq (fam.), amboq(hon.) Sad. PUS Mmj. ambeq, Duri ambeq, amboq, Patt. ambe.

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Cf. also Sad. paqamberan 'uncle', DuriC pangambetan 'treat/consider as one's father'.

*a(b)u 'dust, ashes': Bug. Mak. awu, Mdr. Sad. End. Duri au, Mai. Patt. awu; PUS abu 'dust', tai/ahu 'ashes'; Mmj. au, Seko ahu; SekoP ma/ahu 'grey'. PAN *abu.

*ambuγ 'strew, scatter': Bug. ampoq (-r-) (BWB ampo 'make widely known'), Mak-Konjo ámboroq, Mdr. maq/embur (/e/ unexpl.), Sad. amboq, DuriC mang/amboh; End. di/ambo/i, Mai. Patt. di/amboq/i (passives). Cf. also *sabuγ and *tabuγ. PAN *ha(m)buγ.

*anda(p?) 'phosphorescent centipede sp.': Bug. anrɨq, Sad. DuriC andaq. PAN *an(dḍ)ap.

?*azan 'name': Bug. asɨng, Mak. areng (/e/ unexpl.). PAN *aǧan.

*arɨ(p?) 'chest, belly (i.e., front of the body)': Sad. araq, aras/an; Mdr. Mmj. areq, Mdr(A&K) are, Mmj(A&K) ahe 'belly'; SekoP aruq 'chest'. Bug. aro 'chest' has unexpl. loss of the final. Cf. Wo. arǒ. For clarity we have separated these forms from those given in the next item, but all can be subsumed under *a(dr)ɨ(p?) 'front'.

*adɨ(p?) 'in front; appear before': Bug. adaq, adɨq, Mak. adaq, Mak-Sal. ri/arak/ang; Mdr. Mmj. mang/adaq 'to face, appear before'. PAN *ha(n)dɨp, but no doubt also influenced by Ml/BI mĕng/hadap 'appear before, face'.

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*a(n)di 'younger sibling': Bug.(BWB) ari, anri, (I) anriq, Mak. ari, andiq, Mdr. andiq, kandiq, Sad. adi (NB vocative adiq), DuriK adi (NB poss.forms adikku, adimmu etc.), DuriC adik, PUS adiq, Mmj. adiq, andiq, Seko adi/nna 'his....'. PAN *a(ñ)ǧi, *ha(ñ)ǧi.

?*a(dr)e(C) 'it is said...': Bug.(BWB) gare, (Sid.) gareq, Mak-Konjo ni/areq 'be mentioned', bedeq 'it is said...' Mdr. deq, Sad. adeq, Mmj.(cited SWB) pong/adeq.

?*ado, ?*ka+ado 'nod the head': Bug. ado, kado; caq/kado-ado 'fall asleep'; ado, kado, taq/kado2, taq/rado2; Sad. ado 'nod', kado 'say yes, agree'; Mmj.(A&K) meng/-ado 'nod'. Perhaps Mmj. kado2 'adam's-apple'?

?*andung 'mother': Mak. anrong. Cf. MK andúəng, BI andung 'grandmother'.

*aga 'what?': Bug. aga, PUS Mmj. Seko aka. Various derivatives: Bug. siaga 'how many?'; PUS sangaka, Mmj. sang/aka-aka 'several'; Seko iaka 'where', mangaka 'why, how'.

*anggɨ(p?) 'price, value; estimate': Bug. ankɨq, Mak. Mdr. Sad. anggaq. Cf. Ml/BI, NgD anggap, Jav. anggĕp, Mad. angghĕp. PAN *Sanggɨp (= my *hanggɨp).

?*ai(C) 'breath; spirit': Bug. m/aiq 'to breathe', pamaiq 'pity'; Mak. am/maiq 'to breathe'; Mdr.(Lontar) paqmaiq 'heart'. Cf. NgD mait 'power (fig.)'?

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?*aja(C?) 'vetative part.': Bug. ajaq, Mdr. daq, Sad. daq, da, Mmj. daqa. Cf. Jav. aja, Mad. ajjhaq, Malegasy aza; perhaps Ml. jangan.

?*a(dj)ak 'call on, urge on': Sad. arak. Cf. Ml. Jav. ajak 'urge on, invite', PAN *ajak.

?*anjA(p?) 'offering': Bug. ancik 'offerings to spirits (hung on banyan trees on a small bamboo tray)', Mak. anja2 'idem' (irreg. -Ø). Cf. Batak añjap2, añjapan k.o. altar', but also Ml. Jav. añcak 'bamboo stand or tray for offerings'.

*aje 'foot, leg': Bug. aje, Sad. (dial., poet.) ade, End. Duri Mai. Patt. aje. Adriani 1898a cites: Sad. (of Palopo) kaje, Wo. aje. Cf. Bad., Bes. pang/ade/a 'a disease of the sole of the foot'.

?*a(jdr)e 'chin': Mak.(MWB) arẽng (= are+ang?), Sad. Duri are; SekoP hurare 'beard' (prob. < **hulu are < bulu are 'hair of the chin', cf. Napu A&K wulu are). Cf. Bad., Bes. are, Ledo ade, Bar. aje, Tonsea (NSul) adeq; PAN *ajay.

*angkat 'lift up': Bug. akkaq (irregl./-aC/), Bug-Sid. akkã, Mak. angkaq; Mdr. meq/akkeq 'depart, BI berangkat'; Sad. DuriK angkaq. PAN *angkat.

*aku 'I': Bug. i/aq (irreg. -V>Ø), Mdr. i/au, Sad. aku, Duri aku, akuq, End. Mai. Patt. i/akuq. Other less regular forms cited in §2.2.3.1.

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*ala 'take': Bug. ala, Mak. alle (?), Mdr. Sad. Mass. ala, DuriK si/ala 'to pick up, meet someone', Patt. di/peng/ala 'harvested'. Cf. also Bug. m/engala 'harvest' (< earlier **meng/ala?), Mak-Sal. m/ingala 'idem'. PAN *alap, with irreg. loss of the final in PSS.

?*(m+)ala 'be able': Mdr. Sad. mala. Cf. Parigi A&K mala, Ledo na/mala 'idem'. Perhaps = *ala 'take'.

?*alas 'descendant; line': Mak. álasaq 'descendant'. Cf. Ml/BI alas 'basis', Tag. álas 'equal, in a line; to line up', Fi. yala 'to extend to', yalana 'terminate, make a boundary' < PAN ?*alas.

*alas 'forest': Bug. al̈q, Mak-Sal. álasaq, Sad. alaq, pang-alaq, DuriC alah, pangalah, DuriK pangala, PUS pangalaq, Mmj. SekoL pangalaq. SekoP pilalai is irreg. if cognate. Mdr. pangale, irreg., cf. Bar. Ledo pangale. PAN *alas.

*aliɣ 'drift, float': Bug. m/aliq; Sad. maliq 'sink', aliq, paliq 'expel, exile (formerly, such people were drowned)'; DuriC malih 'to flow'.

*ali(t?) 'troubled': Bug. (BWB) aliq, (I) mang/aliq2 'nervous'; Mak. ang/aliq2 'bother, annoy'; Sad. maq/aliq2, maq/allik2 'keep silent, be stubborn', (intens.?) ti/-aqleq 'fearful, dejected'. Cf. Tag. alit 'discord, quarrel', < PIN ?*alit.

*alo 'rhinocerus-bird, Cranorhinus cassidix': Bug. Mak. Sad. alo. Cf. Bar. Loin alo, Ml. alau, < PIN ?*alaw.

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*alu 'rice-pounder': Bug. Mak. Sad. alu, DuriK pi/alu, SekoP alu. PAN *halu.

*aluk 'customs': Bug. (OB) aluq, Sad. aluk; End. alu/ 'ceremony'.

*ama 'father': Bug. ama, Mak-Konjo amma (possibly archaic; the title of the Konjo adat-chief), Mdr. kamaq, Seko ama. Note also Bug. Mai. ama/ure, Mdr. ama/na/ure, Mai. ama/ure, SekoL amanna 'uncle'. PAN *ama.

*anak 'child': Bug. Mak. Mdr. anaq, Sad. Duri anak, End. ana/, Mai. Patt. anaq, PUS anaq, PUS-Tapango(V) änä2, Mmj. anaq, SekoL (heard) anaq, SekoP (heard) ánaka. Cf. also End. kana/2 'k.o. doll'; SekoL (written) mosang/anak 'to play'. PAN *anak.

*ane 'termite': Bug. ane2, Mdr. Sad. ane, DuriK ane2, Mmj. ane. PAN *anay.

*anu 'something; what-you-may-call-it': Bug. Mak. Mdr. Sad. Duri, Seko anu. Also in all languages, anu + N + poss. 'poss. pronoun' e.g. Bug. anukku, Mak.(MWB) anungku, Mdr. anukku, Sad. Duri SekoP anungku 'mine'. PAN *anu.

*a(nñ)a(m?) 'to weave, braid': Bug. aniṅng, Mak. anang, Sad. mang/anan, Mdr-Cam.(A&K) mang/anan, DuriK mang/añan. PAN *añam.

?*añit 'to flay': Bug.(BWB only) añiq; Mak.(I) maqñiq (?) 'to peel'. Cf. Bis. ("rare") anit 'skin, hide',

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Tag. ánit 'skin; to skin'; Tinggalan Dayak anitan 'to peel', Tidung Dayak nganit (dĕ kulit) 'to skin'. PAN (Blust) *(q)añiC.

*añu(t) 'to drift': Mak. añuq, Sad. di/anur/an 'carried away by the current'. PAN *qañud.

*anga(p?) 'mouth; open the mouth': Mak. ng/angaq 'wide open; scream'; Mdr. nanga (?), Sad. (poet.), Duri, Mai. angaq 'mouth'. Cf. Jav. angap 'gape, yawn'. PAN *angap.

*angin 'wind': Bug. Mak. anging, Mdr. Sad. Duri, Mmj. angin. NB Bug. mar/angin/ang 'to air out, hang out to dry'. PAN (Dy) *hangin.

*angu(s?) 'burnt smell': Bug. m/anguq; Sad. bu/angoq 'sharp smell, as of s.t. burnt, or urine'. Ml.Jav. (h)angus. PAN *hangus 'sniff'; PAN (Blust) *qangus 'burnt smell'.

*apa 'what': Mak. Mdr. Sad. Mass. Mmj. apa. Various derived forms, e.g.: Mdr. mangapai, Sad. maqapa, DuriK mangapai 'why'; Mdr. sangapa 'how much'.

*a(m)pa(r) 'unroll, spread out': Bug. m/appaq, Mak. áparaq, Mdr. maq/appar, Sad. ampaq. PAN *ha(m)pa(r)-- the SSul forms, if all are regular, suggest *-aɣ.

*ampɨllas 'tree sp., Ficus poliloria L.': Bug.(BWB) ampɨlliq, (I) apɨlliq, Mak. ampállasaq, Sad. DuriK ampallaq DuriC ampallah. (The leaves of this tree can be used like sandpaper.) Possibly borrowed < Ml. ampĕlas. PAN *hampɨlas.

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*api 'fire': Bug. Mak-Sal. Mak-Bant. Mdr. Sad. Mass, PUS Mmj. Seko api. Perhaps also SekoP ampiapi 'firefly'. PAN *apuy.

*a(m)pi(C) 'nearby, almost': Bug. apiq, ampeq, Mak. ampiq; Sad. apiq 'close together', si/ampeq2 'almost'. If < PAN *ha(m)pir, Mak. has irreg. /-q/; possibly < Ml. hampir 'almost'. Cf. the next item.

*api(t?) 'weaving term': Mak. apiq, Sad. apiq 'loom part'; DuriK pang/apiq 'the woof'. Cf. Jav. apit 'close together; loom part', PAN *ha(m)pit.

*asa 'to sharpen': Bug. Mdr. Sad. PUS Mmj. asa, Seko (A. Kruyt 1920) mo/asa 'to file the teeth'. Probably also Mak. mang/asa 'to roar/crash (surf)'; the basic meaning might better be 'rub'. PAN *ha(n)saq.

*asang 'all': Mak. aseng, ngaseng (irreg. /e/), Mdr. nasan, nasang, Sad. nasang, DuriC ia/nasang, DuriK sola/nasang, PUS Mmj. ia/q/asang, SekoL nasang, SekoP nasan/na (= /nasang+na/?). The initial /n-/ may arise from contraction of e.g. /ia+na+asang/ with reanalysis as /ia+nasang/.

*ase 'pity': Bug. Mak. m/ase, Sad. mase, ka/mase/i; SekoL mase2 'poor', makkamase 'to love'. PAN *asiq. Cf. *asi.

*asi 'poor, misery': Bug. Mak. Mdr. k/asi2 (< ka+asi2), Sad. Duri ka/asi2 'poor'; Sad. asi2 'misery'. PAN *asiq, but most likely borrowed < Ml. kasih.

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*asin 'salty': Mdr. m/asin, Sad. m/aqsin (/q/ unexpl.), DuriK asing, Mmj.(A&K) masing. PAN *asin.

*asu 'dog': Bug. Mak-Sal. Mdr. Sad. Mass. PUS Seko asu. Note also Sad. PUS Mmj. mo/asu 'to hunt (using dogs)'. PAN *asu.

*ata 'slave': Bug. Mak. ata. Cf. Mori, Letti, Samal ata 'idem'; Lio (Flores) ata 'person'. PAN (Charles) ?*aɣta 'Negrito, black person'.

?*a(n)ta '...': Bug. atta 'understand, outwit'; Mak. atta 'to know something well; to get free of'; Sad. atta 'to stand in a fighting posture; prepare to defend oneself'. Perhaps cf. Bis. hatáq 'feint, ruse; pretended movement to divert attention'; To. qata 'shadow, reflection'(?)--Bis. /h/:To. /q/ are contradictory: PAN ?*(qh)antaq. The following is probably a diminutive, with *t > /c/.

?*a(ñ)ca 'clever': Bug. m/acca, Duri, Mai. End. m/acca; End. maqcaŋ 'very clever' (intens.). Cf. BI pacak 'skilled, experienced'. Possibly Mak. kaccaq 'inquisitive', though Matthes equates it with Bug. kaccaq, and glosses both 'disobedient.' Wotu, Sad.(Palopo) maca.

*ate 'heart; liver': Bug. Mak. Mdr. Sad. Mass. PUS Mmj. Seko ate. Bug. Mak. and Mass. also ati, no doubt < Ml. hati. PAN *qatay (Dy *qatə̀y).

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*ant̪ir 'to carry, deliver': Bug.(obs.) att̪iq, Mak. (and mod. Bug.) ántaraq, Mdr. (< Mak.) antaraq; Sad. antaq 'lead, show the way'; DuriK mang/antaq 'bring, carry'; DuriC antaq (arch.) 'a certain feast'. Perhaps influenced by Ml. antar 'deliver'. PAN *ha(n)t̪id.

*at̪i(p?) 'roof': Bug. at̪iq > at̪ikki 'fasten thatch to the rafters'; Mak. ataq, Mdr. ateq, Mmj. Seko atuq. Cf. Napu (A&K) atu, Sang. atuq. PAN *at̪ip.

?*awo(C) 'bamboo sp.': Bug. awoq, Bug-Sinjai ahoq, Sad. aoq, DuriK ao. Cf. Ml. aur, Sasak awur, Bar. aboki (irreg., <*abok <?*abog): all suggest a PAN ?*a(bw)uɣ. PAN (Dw) *hau(r).

*awak 'waist': Mak. ayaq (irreg.), Sad. aak, awak, ayak, PUS(V) ahaq. PAN *awak. Mak. must be borrowed; note note also the reflexes of *bulawan 'gold'. The Sad. dial. form with /-y-/ appears to be a hypercorrection.

*ayo 'movement of the body': Bug. ajo2; Mak. ayo2, m/ayo2 'walk back and forth'; Sad. ayo 'wave the hand'. PAN *ayu or *ayung.

B, (B)

*(b)a(b)a 'carry': Bug. wawa, Mdr. mam/bawa (Lontar mam/-baba), Sad. baa, bawa, Mass. bawa, PUS-Bulo2(V) bava, Mmj. mam/baha, Seko mam/baha; SekoP mam/pem/baha/ing 'to deliver'. No doubt also: Bug. Mai. sibawa, SekoL sibaha 'with'. PAN *baba.

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*bahba 'opening': Bug. baba 'river-mouth', babâng (=baba+ang) 'door'; Mak. bawa 'mouth'; Mdr. baqba 'river-mouth'; Sad. baqba 'door; entry-room of a house'; DuriC baqba 'guest-room'; SekoP baba 'door'. The following do not reflect *-hb- in the (presumed) regular way: Mak-Bant. baba 'mouth'; Sad. baba 'opening of a basket', babangan (arch.) 'entrance to a village: opening in the earthen wall'; Patt. babangan 'door'. From a possible variant ?*bamba: Sad. bamba 'entrance to a village'; Mdr. bamba 'voice'(?). Cf. Ledo bamba 'mouth of the Palu River', wamba 'door'; Rampi wambaq, Bad. babaq, Tawaili wombo, Bar. baba 'door'. DuriK baraba 'curtain' may be cognate also, if < **b-ar-a(?)ba. PAN (Dw)*babaq, (Zorc) *baqbaq.

*ba(b)ang 'only, just': Bug. Mak. bawang; Mak-Sal. bahang 'very'; Sad. bang, Sad-Mamasa bawang. Perhaps also the Mdr. suffix -baN-.

*ba(b)o 'top': Mdr. bao (di/wao 'on top'), Bal.(A&K) di/aho, Sad. babo '1. partially cooked rice at the top of the pot, 2. (=bubun) fontanel of a child's head', dao, jao (< **di/wawo?) 'on top'; Duri jao 'on top', ma/jao 'high'; SekoP i/aho 'on top; high'. PAN *babaw.

?*bara 'embers': Bug. wara, Mak. bara. Ult. cognate, but presumed substratum items (suggesting a source **waya): Old Bug. awaja, luwaja 'fire'; Mdr.(A&K) Bal. ubaja, Maj. awaja, Bin. waya, Sad. uaya, ruaya; cf. Ledo na/waya 'to burn', Uma rea, Bar. wea, waa 'embers'. PAN *baya.

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*(b)arani 'brave': Bug. warani, Mak. Mdr. Sad. Mass. barani, Seko harani. PAN *bayani.

*barang 'goods, merchandise': Bug. waramparang, Mak. Sad.(I) Duri SekoP barang2; Sad.(SWB "from Bug.) paran2; Mai. ke/barangparang 'wealthy'. Likely borrowed < Ml. barang2 'idem'. PAN *ba(r)ang.

*bara(t) 'strong wind': Bug. barit̆q, Mak. Mdr. barat 'West monsoon'; Sad. baraq 'wind that brings rain'; Mmj. baraq 'West monsoon'. Mak-Bant. wara 'West' shows irreg. -ø. On the basis of Sad. baraq '1. great, strong (of wind or rain)', thence: to baraq 'adat-chief' (to 'person'), SekoP tu baraq 'king', uhai bara 'river' (uhai 'water'). PAN (Dw) *bayat, (Dy) (ha)bayat.

?*bara(t) 'cross-wise': Bug. warit̆q, Mmj. beheq (?)(irreg. lst-syl. /e/). Leb. (A&K) wowaqa (< **ba/baqa?) suggests PAN **bayat, cf. PAN (Dw) *ba(r)at.

?*barana(C) 'banyan tree': Bug. Mak. maranaq; Mak. baranaq 'tree sp. (not banyan)'; Sad. baranaq; Duri baranaq 'tree (in genl.)'. Possibly related to Ml. bĕranak 'having children'-- with reference to the many aerial roots and shoots which the banyan puts out?

*baris 'in a line': Bug. wariq, Mak. bărisiq 'rank, class'; Mdr. baris 'to inherit'; Bug. Mdr. bariq 'striped; grain in wood', Sad. bareq 'grain in wood'. Mmj. boriq, bohiq 'grain in wood' has irreg. /o/. PAN *ba(r)is.

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*baru 'new': Bug. baru, Mak. beru (irreg. /e/), Mdr. Sad. Mass. SekoP baru. Probably cognate, but from an unknown (and irreg.) source **bakaru: Sad. bakaru, baqru, PUS bakaru, (V) bakachu, Mmj. bakaru, bakahu, SekoL bakaru. PAN (Dw) *bayu, bahayu, (Dy) baqiyu.

*baroko 'neck': Mdr. baro (NB bărо), Sad. Duri PUS baroko (also 'throat'), Mmj. baroko, bahoko, SekoP barako. Note Wo. burŏ, Ledo Bar. wuroko, Mori buroko, Buol (A&K) buloko, Gor. buloqo; Sasak tĕmbroko, tĕmĕroko 'throat, wind-pipe'. PIN ?*b(V)ruku.

*barumbu(mn) 'a color': Bug. warumpung, barumpung 'bluish-white color (of chickens)'; Mak. barumbung 'dusty-white color'; Sad. barumbun 'grey-brown color (of chickens). The PSS final could be either *m or *n; *-ar- probably an infix, thus *bumbu(mn). Cf. Fi. vuvu 'muddy, troubled (of water)'.

?*bai 'female': Bug. bai, kampai 'female (of animals); cf. also Bug. cala bai, Sad. tala bai 'chicken which has the feathering of a hen, but the comb and wattles of a rooster; also, a transvestite or effeminate man' (cala, tala (< sala) 'false'). PAN (Dw) *bayi, (Dy) *bi.

*ba(b)ine 'woman, wife': Bug. baine; maq/bawine 'to marry'; Mak. bainne (/-nn-/ by analogy with buranne 'husband'?) Mak-Konjo bahine, Mdr. Sad. Mass. baine, PUS baine, (V) bavine, Mmj. baine, bahine, Seko bahine. Apparently a redup. of (Dw) *binay (**ba/binay), (Dy) b-in-i.

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?*baka (PSad.) 'head': PUS baaq, Mmj. baqa, SekoL baqa, SekoP baka. Cf. Napu (A&K) waa, Bar. woqo.

*baka(ɣ) 'tree sp., Artocarpus spp.': Bug. bakaq, Mak. bȧ́karaq, Sad. bakaq, DuriC bakah.

*ba(ng)kal 'tree spp.': Bug. bakkɨq, Mak. bȧ́ngkalaq (BWB, MWB) 'Nauclea orientalis D.C.', (Heyne) 'Sarcocephalus undulatus Miq.'; Sad. bakan (?) 'Litsea sp.'. All used in building. Cf. Ml. bangkal 'Sarcocephalus', Jav. wangkal, Mad. bangkal (Heyne) 'Albizzia procera'; Bis. bangkal 'a tree sp.' PIN ?*bangkal.

*bangke 'corpse': Bug. Mak. Mdr. bakke; Sad. bakke tau 'body of a man killed in battle'. Perhaps Sad. bangke 'wound'? PAN *bangkay.

*bangko 'mangrove, Rhizophora conjugata L.': Bug. bakko, Mak. bangko. PAN *bakaw.

*(b)ala 'animal pen, corral': Bug. wala, Mdr. Sad. bala, Mass. bala, PUS(V) hala; Mmj. hala 'fence'. Cf. also Mori wala, Gor. bala 'fence', Lalaki (A&K) me/wala 'to surround, enclose'. PIN ?*bala.

*b-{al/ar}-ɨmba(N) 'chest; stomach': Bug.(Old Bug.) warɨmpang, Mak. barambang, SekoL balambang, SekoP balammang. Cf Bob. borombang 'back'(?), Bar. Parigi bambara 'belly' (metathesized?).

?*balala (*ba/lala?) 'rare': Bug. Sad. balala; SekoL balala 'stingy'. Perhaps Mak. balala 'greedy'?

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*balanak 'fish sp.': Bug. Mak. balanaq, End. balanaʔ.

*bala(b)o 'mouse': Bug. Mak. balawo, Mdr. Sad. Duri balao, Sad-Rongkong(V) balawo, PUS-Aralle(V) balaho, Bamban(V) balabo, Mmj. balaho. Note Bar. bayawo 'meat', Mak. bayawo 'egg'. PAN *labaw, with prefix ?*ba-.

*baqbal 'whip': Bug. babbaq, Bug-Sid. babbā, Mak. bāqbalaq. Cf. TB balbal 'thick piece of wood with which one beats'; perhaps Fi. mbamba 'to strike (with the hand)'; PAN ?*balbal.

*balɨs 'repay, requite': Bug. walɨq, Mak. bālasaq, Mdr. balas (dial. balaq), Sad. DuriK balaq, DuriC mang/balah, Mmj. mam/balaq. SekoP mam/palai, if cognate, shows irreg. /p/.

*bale 'fish': Bug. Sad. Mass. bale 'fish'; PUS Mmj. bale 'meat'. Perhaps Fi. mbali 'a fish sp.'?

*bali(dr)a 'weaver's batten': Bug.(BWB) walida, (I) lawida, Mak. balira, Mdr. balerang, Sad.(SWB) balida, (I) balira, DuriK balira. Undoubtedly borrowed-- the r-forms perhaps < Ml. bĕlira (itself irreg. /r/ < *g), the d-forms presumably from a Ml-like language with reg. /d/ < *g. PAN *baliga.

*bali$_1$ 'side': Bug. bali, wali, Mak. bali (MWB also wali); Sad. (sam)bali 'side; friend, partner'; Duri sang/bali 'side; one half.' PAN *bali 'accompany'; the following items, kept separate for clarity, are also related.

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*bali+i 'to stand beside; to help': Bug. Mak. balĭ, Sad. um/balii, Duri m/balii. PAN *bali 'accompany'.

*bali+an '...': Sad. balian 'castrated buffalo'; Seko (J.Kruyt) haliang 'women in a state of taboo during certain feasts'; PAN *bali+an 'medium, priest(ess)'--who accompanies the soul to the spirit world. In some areas, the balian are hermaphrodites or transvestites, which accounts for the Sad. word.

*bali$_2$ 'enemy': Bug. Mak. Mdr. bali; Sad. bali 'oppose'; eali, ewali, uali, wali 'enemy' show influence from Tor. languages: Bad. ewaḷi, Bes. ewali, Bar. Parigi iwali 'enemy', Ledo Gor. bali 'oppose'. Perhaps relatable to PAN *bali, or *balik 'turn around'.

*bali$_3$ 'to answer': Bug. bali, Mak. bali, pi/wali, Mdr. mam/bali, Sad. me/bali, DuriK bali. Cf. Ledo ne/bali 'contradict, answer back'. Relatable to PAN *bali, *balik, or *baliw 'change'.

*balik 'turn, change': Bug. baliq, waliq, Mak. baliq; Mdr. mem/baliq 'return'; Sad. balik 'turn around', baliq 'to fade'; End. baliɲ, SekoP baliki (=/bălik(i)/?) 'to fade'. PAN *balik.

?*balli, ?*bălli 'to beget': Mdr. si/walli 'to mate (of animals)'; Sad. (si-)balli 'to mate (coarse)', ballik 'sperm'. Cf. Bar. me/wali, mem/bali 'to become, happen', Napu (A&K) pe/wali/a 'totality, all creation'. Perhaps relatable to PAN *baliw 'change'. There is

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no good explanation for the /-ll-/ either in the modern or the proto-form, as the Tor. cognates do not seem to reflect *l.

*balu 'widow': Bug. walu, Mak. Sad. Duri balu. PAN *balu.

*balo 'colored': Bug. Mak. Sad. balo 'multi-colored;' DuriK balo 'color', balo2 'multi-colored.'

*baluk 'to sell': Bug. Mak. Mdr. baluq, Sad. Duri baluk, End. balu/, Mai. baluq, PUS Mmj. mam/baluq, SekoL mam/-balok, SekoP mam/baloko (= /bálok(o)/?). Cf. Loin. baluk, Banggai baluk/on, Sang. baḷuq, Tagabili hbaluq 'idem'. PIN ?*baluk.

*balulang 'hide, skin': Bug. belulang, welulang (irreg./e/), Mak-Sal. Sad. balulang; Seko balulang 'water buffalo'. Likely borrowed < Ml. bĕlulang. PAN *balulang.

*balun 'to wrap': Bug. walung, Mdr. mam/balung, Sad. Mmj. balun. Usually refers to wrapping a corpse for burial. PAN *balun.

*balu(t) 'to roll up': Bug. Mak. baluq; Sad.(I) baluq 'a spring'; DuriK mang/baluq. PAN *balut.

*bane 'bladder; lower abdomen area': Bug. wane, wanéng (= wane + ang), Mak. bane/ang, Sad. banne/an. (The /-nn-/ of Sad. is unexpl.)

*banua 'home': Bug. banua, wanua; Mdr. banua 'village'; Sad. PUS banua 'house'; Duri banua 'island'; Mai. tu

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pa/banua 'the people (lit., the villagers? the dwellers?). In Bug. and Duri, the word can also refer to the sheath of a knife. PAN *banua 'land, country'.

*bangi '...': Bug. ma/wangi (Old Bug. m/ongi) 'fragrant'; Mdr. ma/wangi (< bangi), PUS, Mmj. ma/bangi 'dry'. Cf. Bes. Bad. Bar. Kulawi ma/bangi 'dry'. PAN *bangi.

*bangun 'stand; wake up': Old Bug. wangung, Mak. bangung, Sad. bangun. PAN *bangun.

*baraqba(s) '...': Duri C baraqbah, DuriK baraqba, Sad. baraqbaq 'garden'. Final /s/ only if cognate with Mak. barâqbasaq 'to rain in'. Forms without the *-qb- cluster: Mak. bâbasaq 'wet'; Sad. baraba 'moss, algae on top of water'(?). *-ar- appears to be an infix; the basic meaning may be 'wet, wet place'. Cf. Jav. brabas 'to drip, to soak in'.

*basa 'wet': Bug. basa, wasa, Mak. basa; Mdr. Sad. DuriC mam/base 'to wash' (< earlier **basa+i?), DuriK mang/-basai 'to rinse'; PUS mam/base, Mmj. mam/base/i, SekoP mangng/ase (?) 'to wash'. PAN *basaq 'wet'.

*base(C) 'sadness, cares, troubles': Bug. Mak. waseq2. Cf. Jav. bosak-basik, bosah-basih 'in a mess, disorderly'; To. fāsifasi 'hurt, offended', pahi 'fed up, exasperated', ma/mahi (trans. mamahiqia) 'painful; suffer pain, be sorrowful, annoyed.' These point to PAN ?*basi(kq), POC.*(m)pa(n)si. Fi. wade 'weary' indicates PAN *w-.

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*bata(r) 'grain sp.': Bug. bataq, Mak. bâtaraq 'corn or millet spp., Andropogon sorghum Brot. spp.'; Mdr. bataq 'corn'; Sad. bataq 'millet sp.'; SekoL bataq, SekoP bata 'corn'. Cf. Bis. batad 'millet sp.'; possible but very remote, To. pata 'k.o. plantain'. Heyne (1950: 142) sub Zea Mays Linn. lists cognate forms all over the archipelago. We assume borrowing in many of these, but interestingly, the out-island forms are closer in form and meaning ('corn') to SSul than to Ml. batari 'Andropogon sorghum'.

*(b)atang$_1$ 'stem, branch; main part of s.t.': Bug. watang, Mak. Mdr. Sad. Mass. batang, Seko hatang; Seko (Kruyt) hatang 'sawah-dyke'. Reflecting secondary **w-, with change of meaning: Bug. ma/watang, Sad. ma/atang, Mai. Patt. ma/watang 'strong'. PAN *batang.

?*batang$_2$ 'corpse': Sad.(I) batanrabuk (= /batang rabuk/?), SekoP hatang punti. (Sad. rabuk 'dust, decayed matter'; Seko punti 'banana'(??)-- perhaps because the stem of the banana plant decays quickly?) The word could easily be cognate with *batang above; Dempwolff, however, reconstructed a contrasting *batạng on the basis of Jav. batạng-- perhaps an error.

*batu 'stone': Bug. batu, bacu, Mak. Mdr. Sad. Mass. PUS Mmj. batu, Seko hatu. PAN *batu.

?*bau$_1$ 'meat': Mdr. Seko bau; PUS Mmj. bau 'fish'. Undoubtedly a borrowing from the Tor. area: cf. Ledo bau 'fish',

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bawu 'pig'; Tawaelia bau 'fish'; Mori bau 'meat'; Bar. bau 'fish', bou 'the gabus fish (the most common fresh-water fish in Sul)', wawu (dial. mbawu) 'pig'. Cf. *bawi 'pig', below.

*bau$_2$ 'smell': Bug. bauq, wauq (marr/emauq 'to smell (intrans.)'), Mak. bauq (the final /q/ is unexpl.); Mdr. maq/bau 'to smell'; Sad. Duri bau; probably also as Sad. Duri Seko bu- 'prefix to words denoting smells'. Note also Bug. maq/bau 'to kiss'. PAN (Dy) *bahu.

?**ba(b)ulu 'sirih, Piper betel Linn.': Mdr.(Heyne) baulu, Sad.(V) baulu, bolu, PUS-Aralle (V) bahulu. Bug. bolu, baulu 'a fish sp.' fits phonologically, but with no semantic connection known to me. Cf. Bar. Sausu baulu, Parigi bolu 'sirih'. The form of the word suggests that it is a reduplication-- **ba/bulu.

*bawi 'pig': Bug. Mak. bawi, Sad. Mass. bai, PUS bahi, Mdr. boe, Mmj. boe, bahi, Seko bahi. If not borrowed, Mdr. and Mmj. boe show the sequence *-aw- > o, but cf. Leb.(A&K) boe.

*baya$_1$ 'early': Bug. baja2, PUS-Tibung baya2, Mmj.(A&K) me/baja 'early in the morning'.

*baya$_2$ 'spleen, milt': Sad. baya, baa, Sad-Rong.(V) baja, PUS(V) baya, PUS-Taludu(V) bå̊yå. Bug. bao 'part of the spleen'-- if cognate-- shows inexplicable changes.

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*bayar 'to pay': Bug. wajaq, Mak. bá́yaraq, Mak-Sal. bá́jaraq, Mdr. bayar (dial. ma/mañar), Sad. bayaq, baaq, ma/mayaq, DuriC bajah, DuriK bajaq (irreg. /q/), Mass. bajaq, PUS mam/bajaq, (V) ma/majaq, Mmj. mam/bajaq, ma/majaq, (dial. ma/mayar), Seko mam/bayaq. PAN *bayaḍ.

*bayang 'shadow': Bug. bajang (BWB also wajang, rejected); Mak. bayang 'thin'; Sad. bayang, baang 'transparent, clear (of fluids)'. PAN *bayang.

*(b)ayo 'shadow': Bug. wajo2; Mdr-Cend.(A&K) bajo-wajo 'ghost'; Sad. bayo(2), ayo; ti/ayo2 'to shimmer, shine'; Sad. (SWB, Rante Balla dial.) pu/ajo 'soul of a dead person' (pu 'lord, master'?); DuriK bajo2, SekoP kali/-hayo. Cf. Ledo wayo; limbayo 'ghost, spirit'; Bar. wayo, limbayo 'shadow', bayo 'soul'-- we should expect /j/ for *y in Bar.

*bi̇ñci 'to hate': Bug. bacci (irreg. /a/, < Mak.?), Mak. bañci, Duri ka/bacci, PUS(V), Mmj.(V) si/ka/bassi. Possibly borrowed < Ml. bĕnci.

*bi̇dda(k) 'rice-powder (cosmetic)': Bug. bi̇ddaq, Mak. baqraq. Cf. Ml. bĕdak, Jav. wĕḍak 'idem'; Tag. barak 'pale, colorless; "white with fear"'. Assuming some borrowing, the PAN depends on the direction: ?*bi̇dak (Jav. < Ml.) or *bi̇ḍak (Tag. < Ml. or elsewhere). The SSul forms may also be borrowings, though their forms-- esp. that of Mak.-- show regular developments. (Borrowed Ml. /ĕ/, also, tends > SSul /a/ or /e/.)

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*(b)ɨrrang 'plant sp.': Bug. awɨrrang, Mak. warrang, awarrang, Sad. warrang, marrang '(Heyne) Commelina nudiflora Linn., similar to bamboo'. Perhaps Bar. posi/wara (dial.) 'a tree sp. (unspecified)', and Ml. Jav. bĕrang/an 'Castanea sp. (Heyne)'. PIN ?*bɨrang if all forms are native; otherwise ?*bɨ(ḍrɣ)ang depending on direction of borrowing.

*bɨrras '(unhusked) rice': Bug. bɨrrɨq, wɨrrɨq, Mdr. barras, Sad. End. DuriK barraq, Mai. barra, PUS barraq. The remaining languages have irregular, though ult. cognate, forms: Mak. bĕrasaq, Mdr. beras, probably corruptions of Ml. beras; Mdr-Cend.(A&K), Mmj. (dial. and A&K) bea, Seko hea (Seko 'padi' as well as 'beras') < presumed Tor. **wɨya < *bɨɣas, cf. Bar. wea, Limolang (spoken at Waibunta in Rongkong area) wia. Mmj. variant boas cannot be explained. PAN *bɨɣas.

?*bɨrre 'to spread': Bug. taq/bɨrre (BWB, = taq/bure), Sad. berreq '(of daylight) to break'. Cf. the following.

?*bɨ(dr)e(C) 'to cut': Bug. wɨrreq; Sad. barrek 'scratch, graze, tear open', berrek 'tear open', berre 'cut open, split (an animal)'. Cf. Mak. beqre 'piece ('split'?) in si/beqre 'one (classifier)...'; also Jav. berek 'cut by sawing; cut an animal's throat'.

*(b)ɨddin 'can, may': Bug. wɨdding, Mak. maqring, Sad. maqdin (old: waqdin), Mass. waqding, Seko mading. If Tag. bĭlin 'charge, mandate', then PAN ?*bɨḍin, or else ?*bɨ(dḍ)in.

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*(b)bi̇rru(N) ~ *(b)i̇rru(C) 'to blow': Bug. wi̇rrung (maqb-) 'blow on', pa/bi̇rrung 'bamboo tube for blowing on a fire'; Sad. barrung (=ta/morron) 'padi-flute (a primitive "oboe" employing a split padi-stalk as the double reed)'; DuriK mang/burrung 'blow on'; SekoP hurong 'flame'(?)-- cf. here Bar. mburu 'flickering (flame)' < wuru 'blow on'. Reflecting the non-nasal final: Sad. burruq 'spit/blow medicine on a sick person', burrusan 'blow on s.o., s.t.', (intens.) burruk 'hit by heavy, wind-blown rain'; Mmj. pem/buhuq, (A&K) pimbuhu 'wind'; sim/buhuq 'blow/play a flute', SekoP mas/sa/muru/i (?) 'blow on'. Cf. Parigi (A&K) ni/wuru 'blown away', Ledo ne/buru 'to blow (wind)', Bar. wuru cited above; Bar. derived wuru/naka 'blow on s.o., s.t.' and Sad. ta/morron (?) suggest *-n for the nasal, but the Bar. inserted consonants are often analogical in origin. Cf. also *i̇rru(N) below.

*bi̇rro(C?) 'proud, arrogant': Bug.(BWB) bi̇rro (I also borro), Mak.(MWB) borroq, (I) borro; DuriC borro 'conceited'; Mdr. ka/im/borroq 'big, great'. Cf. Bis. bu̇rot 'swell, bulge; swell with pride; "swelled head"', which suggests PAN ?*bi̇dut. Cf. also *boro 'swollen' below.

*bi̇(ng)ka 'split': Bug. wi̇kka, bi̇kka, Mak. bangka, Sad. bakka. Bug.(I) also 'too tight (of clothing)-- but cf. *bi̇ngkak below. PAN *bi̇(ng)kaq 'split in two'.

*bi̇(ng)ka(r?) 'grow, increase; open up': Bug. wi̇kki̇q; Mak. bakkaq (irreg. /q/) 'grown up'; Bug. bakkaq (irreg./aq/) Mak. ba̱kkaraq 'open, unfurl'; Bug-Sid. bakā (sic) 'bloom';

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Sad. ti/bangkaq (masiang) '(dawn) is breaking'. Cf. Ml. bĕngkar 'expand, be in bloom', BI (prob. < Jav.) mĕkar 'to bloom', Jav. sĕkar 'kromo of kembang 'flower' '; Bis. bukad 'spread out, unfurl; to bloom'. PAN (Blust) *bi(ng)kaḍ, cf. also *bu(ng)ka(r) below.

*bingkak 'swell': Bug.(BWB) bikkaq, (I) bikka 'tight, become tight (e.g. outgrown clothing); to swell'; Sad. bangkak 'swollen, upset (stomach)'; End. bakkaʔ "sated (said of chickens)"(sic, RAP72); DuriC bangkaq 'proud, conceited'; Mmj. bangkaq 'swollen'. Cf. Ml/BI bĕngkak 'swollen'; PIN ?*bingkak. Perhaps To. poka '(of a mosquito) full of blood'.

?*bikku(r) 'turtle-dove': Bug. bikkuq, Mak. bŭkuruq (irreg. /-k-/), Sad. buqkuq, Duri(RAP) buqku, DuriC buqkuh. Cf. BI bĕkut, bĕkur (but also dĕkut, dĕkur), Jav. bĕkur, To. kūkū 'to coo'. As an onomatopoetic term, not a good candidate for reconstruction. The BI forms with /-t/ vs. /-r/ suggest PAN *-g̃, but the SSul forms can only reflect *-r or *-γ; cf. PAN (Dw) *kur 'cry used to call hens'.

*billat 'open, spread out': Bug.(Old Bug.) willɨq 'mat'; Sad. ballaq (-r-) 'open, unroll (esp. a mat)'; Mdr. ma/walleq 'wide'; DuriK mang/ballaq 'to open, bloom'; DuriC ballah 'mat', ballaran 'unroll a mat'-- the /-h/ may be due to borrowing/back-formation, otherwise it is quite irregular. PAN *bilag̃.

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*bɨllang 'spotted': Bug. bɨllang, Mak. Mdr. Sad. ballang.

*bɨlle 'tell a lie': Bug. bɨlle, Mak. balle2, Sad. DuriK balle. Cf. BI bĕlai 'flatter'; Fi. mbole(2) 'boast, challenge'; To. pole 'challenge'. PAN ?*bɨlay.

*(b)ɨlli 'to buy': Bug. ɨlli (also bɨlli "rare"), Mak. balli, Mdr. Sad. End. Duri Mai. alli, Mai. ammalli (< aN+balli?), Mmj. mang/alli, SekoP mam/bali (loan?), SekoL mo/alli. PAN *bɨli.

*(b)ɨllun 'cloud': Bug. ɨllung (Bug. "Bone", Kustini 1967: "wɨlung ~ wɨlong"); Mdr. ballung/an 'fog, mist', ma/-ullung 'shade, cool time of day, dusk'; Sad. allun(2) '(of the sun) covered by clouds'; Mai. allung. Cf. Banggai ti/bolun 'smoke'.

*bɨllu(C) 'to bend': Bug. wɨlluq '(BWB) bend back-- e.g. the fingers, in dancing; (I) bend over without breaking (like a wilted flower, or candle in hot weather)'; Sad. balluk 'bend back the fingers in dancing'. PAN *bɨlut 'wind, roll'(?).

*bɨnnang 'thread': Bug. bɨnnang, wɨnnang, Mak. Mdr. Sad. Duri bannang, PUS-Ratte(V) bännäng, PUS-Besoangin(V) bännä, SekoP banang. PAN *bɨnang.

*bɨnne 'seed (usu. rice)': Mak. Mdr. Sad. Mass. PUS Mmj. banne (Mak-Sal. 'millet'). PAN (Dw) *bɨniq, (Charles) *binhiq. See also *bine.

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*bɨnni(C) 'crushed; powder': Bug. bɨnniq, Sad. banniq (refers the those kernels of rice completely ground to powder in the pounding process). Cf. Sad. barinniq 'fine' ("sometimes shortened to rinniq"), and also *rɨnnis.

*bɨngngi 'night': Bug. wɨnni (*ng > n irreg., due to the following /i/?), Mak. (MWB) bangi, (I) bangngi, Konjo hangngi (but cf. Konjo patam/bangngi 'four nights'). The remaining forms are irreg. and show influence from the Tor. languages: Mdr. Sad. Mass. PUS bongi, Mmj. bongi, bengi, Seko hengi. Cf. Wo. Ledo bongi, Mori wongi, Uma bengi, Bad. Bar. wengi. PAN (Dw) *bɨngi, (Charles) *bɨɣngi-- the Tor. /e/ forms from this last.

*bɨngngo 'stupid': Bug. bɨngngo; Mak.(MWB) bango, (I) pi/-bangngo 'take advantage of, cheat s.o.'; Sad. bangngo 'disturbed, uneasy (e.g. from guilt, regret)'; DuriC bango (the single /ng/ is unexpl.). Cf. also Sad. bongngoq 'stupid', Bug.(BWB) bongoq 'ignorant'.

?*bɨssa(r) 'big': Bug. wɨssaq 'coarse'; Mak. bâsaraq (irreg. /-s-/, perhaps < Ml.); Mdr. ma/wassar 'big (of rice-kernels); well-built (man)'. PAN *bɨsa(r)-- the Bug. form, if entirely regular, suggests *-ɣ.

*bɨssi 'iron': Bug. bɨssi, Mak. Mdr. Sad. Mass. Seko bassi. PAN *bɨsi. Perhaps also Bug. bɨcciq, Mak. bassiq 'plumb-line (because of the little weight on the end?)'.

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*bi̇(sc)e(C?) 'little girl': Bug. bi̇sseq 'term of address to little girls of aristocratic birth', bi̇cceq 'idem to commoners'; Mdr. cicciq (irreg., borrowed?); Sad. besseq 'name for high-born girls' (SWB marks this "from Bug."). Cf. Jav. bĕcik 'good'(?), Sasak bĕciq 'little'; Ledo besi 'female (of animals)' (prob. < Bug.). Possibly relatable to Manobo (Mindanao) **bi̇tiq 'vagina', thus PSS should be *bi̇(tsc)e, with /-q/ added to form a vocative? Cf. the similar use of derivs. of *laso 'penis' as a term of address for boys.

*bi̇ssi(k) 'spatter': Bug. taq/bi̇ssiq, Mak. taq/bassiq, Sad. ti/bassik, ti/bissik. Cf. To. pihi 'to splash, spray, squirt' (with schwa assimilation, not often found in OC languages) or better, mohi2 'drizzle'. Perhaps ult. from a root **cik, cf. Ml/BI mĕ/rĕcik 'spatter'.

*bi̇ssu(ɣ) 'sated, full': Bug. wi̇ssoq, Mak. bássoroq, Mak-Konjo hássoroq, Mdr. bassuq, bassoq (irreg. /-q/), Sad. bassoq; bassu '1. to ripen (of fruit, rice-- i.e. to fill out?); 2. thick part of the lower arm'. Perhaps also Mak. bosoq 'sated'. PAN *bi̇suɣ

*bi̇tta 'to split': Bug. wi̇tta (maqb-), Mak. batta, Mdr. mam/batta, Sad. baqta, DuriK baqtang 'to split, chop (e.g. firewood)'. Cf. also Sad. (intens.) baqtaq 'to split, crack (e.g. dry soil)'. Banggai ma/bata, Bar. weta (< **wi̇ɣta?); Fi. vota 'apportion, divide up' suggest PAN ?*bi̇ta; cf. Dempwolff's *bi̇ṭak 'split'.

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*bɨqbɨt 'wind up': Bug. bɨbbɨq, balɨbbɨq, Mak. baqbaq, Mdr. balaqbaq; Sad. baqbaq 'to tie', biqbiq 'wrap/wind s.t. aronnd', balaqbaq 'sugar-palm leaf that grows twisted'; DuriK baqbaq 'wind up, bandage'; SekoP mam/babai. Cf. Bar. wewe 'wind up', which best reflects PAN (Dw) *bɨǧbɨǧ; Charles (1974) rejects Dw's Toba cognate (bobok) to reconstruct PAN *bɨdbɨd; PSS could reflect either one.

*bɨttɨ(mn) 'millet, Panicum viride spp.': Bug. wɨttɨng, Mak. battang, Sad. baqtan, Mass. (Heyne) "batang". Heyne (1950:236) cites no cognate forms in Western Indonesia; millet there is called "jawa" or "jawawut" from an Indic language, hence, it is believed, the name of the island Java. Forms from NSul reflect *-m: Buol butumo, Talaud batung (Sangir gětung shows an occasionally encountered labial/velar interchange); forms from S. and E. Indonesia mostly reflect *-n, but the phonological history of these languages is unknown: Solor, wetan, Wetar hetan, Tanimbar, Kai botan, Buru beten, feten. Note, in non-AN N.Halmahera, Galoli boboötěne (=/boboqotene/?), Tobelo botěme, boteme, Ternate, Tidore futu. Bis. batong 'cow-pea' is no doubt related, but must be borrowed from e.g. Talaud because of the final /ng/. Perhaps Fi. voto 'thorn'? PAN ?*bɨtɨm, very tentatively.

*bɨttang 'stomach, belly': Bug. wɨttang, Mak. Mdr. Sad. Duri battang, End. Duri Patt. "baatang" (=baq$^{(a)}$tang?). From a secondary /w/-initial form, Sad. ke/aqtang

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'pregnant (= kebattang)'. PAN *bə(n)tə̀ng-- we reconstruct PSS *-ang on the assumption that Bug. is regular; if it is borrowed (from where?), then PSS *bəttə̀ng.

*bətte 'to parch (esp. corn)': Bug. wətte, Mdr. batte, Sad.(SWB, not heard) baqte. On the strength of Ml. bertih 'idem' (and other languages) Charles (1974) posits PAN *bəɣtiq for Dw. *bətiq. If Sad. were more consistent in showing only [C:] after *ə, we could say that the /q/ in this item reflects the infix, thus PSS **bərte.

*bəttis 'calf of the leg': Mdr. battis; perhaps Sad. DuriK.PUS Mmj. bittiq, SekoP bitiq, DuriC biqtih. PAN (Dw) *bə(n)tis, but cf. also *bi(n)tis below.

*bəttu 'pierce through, come out': Bug. bəttu 'pierce'; Mak. battu 'come'; Sad.(SWB) taeq bang nabattu kada "er kwam geen woord los" (not a word came out, not a word did he say); maq/battu 'to mean' (see the next item); buqtu 'come into view, come to light'. PAN *bətu 'appear'. The next item is considered as a derivative, but is rather difficult semantically:

*bəttuan (?*bəttu+an) 'meaning; to understand': Bug. bəttuang, Mak. Mdr. battuang, Sad. battuan. Perhaps "understand" via "to penetrate"?

?*(b)ia 'pain': Mak. bea2 'to blush, flush'; Mdr. beang 'wound(ed)'; SekoP mi/hia 'dull pain, headache'; perhaps too SekoP (different hand) mi/hiaq 'sour'.

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*bia(ɣ) '...': Mdr. biqar 'to rise (of the sun)', (A&K) a/wi-ar/an 'East'; Sad. biaq 'torch', (I) 'compass; guide; BI pedoman'; biaq, beaq 'fruitful'. Note Ledo na/bia 'brave; to dare'. No doubt relatable to PAN (Charles) *bihaɣ 'alive; stimulate'.

?*bemba 'water-jar': Bug. bempa, End. Mai. bemba.

*bembe 'goat': Bug. bembe(q), Mak. bembe, Sad. bembeq, SekoP (heard) bemmeq, (written) bemme, SekoL bembeq. Obviously onomatopoetic; but cf. OJ wiwi, Sasak bembeq; Ledo nom/bee 'to bleat'; Ttb. (cited in SWB) membeq 'goat'; Stresemann (1927) Proto-Ambon *bibi.

?*bi(b)i(ɣ) 'lips': Bug. wiweq (I also iweq, uweq, with irreg. changes), Mak. bĭbereq; probably Mmj.(A&K) bibi, hihi. Seko beu shows irreg. changes; cf. Gor. bihu, of uncertain development. Cf. further, Bug. ri wiwinna... 'on the edge of... < wiwing (or wiwiq); SekoP hihing 'edge' (usually with /-na/-- hininna). Ledo biwi, Bar. wiwi 'lips; edge'; Bad. wiwi tahi 'shore' (tahi 'sea'). For Seko beu, Gor. bihu cf. also: Bar. wequ 'raised inner lip (e.g. of a chest) on which the lid fits' (Mori wequ 'neck'?). PAN *bibiɣ.

*bidang 'cloth': Bug.(BWB only) widang; Mak. birang 'shroud for a corpse', si/birang 'classifier for pieces of cloth'; Sad. bidang 'cloth for a sarong'. Perhaps PAN *bi(n)dang 'spread out'. Dempwolff's Tag. cognate means 'cloth'.

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?*birang (PSad.) 'female': Sad. birang (dial. biraq) 'female (of birds and animals); End. tu birang 'woman'. Cf. Leb. bira ntodi 'buffalo cow'; Bar. bira, weqa, Laki wira, Parigi wega 'woman, female'. Bar. weqa and Par. wega, though irreg., show common developments of borrowed *ɣ; consequently we can posit PIN ?*biɣang.

?*bere, ?*bee 'to give': Bug. were,(maqb-) is the only SSul form reflecting the *r; all the others reflect the r-less form, presumably due to Tor. influences. Many irreg. developments are seen, most of which are to be ascribed to avoidance of a /CV/ base: Mak. bembeng 'to serve, to present'; Mdr. mam/bei (*be+i), mam/bengan, Sad. ben, bengan, DuriC benni, DuriK benni, mang/pa/bengan, End. bengan, Duri(RAP72) di/been, Mai. map/pa/beq, PUS beqen, Mmj. me/bea, SekoL ma/heing, pa/hengi, SekoP mang/henging. Cf. Napu, Bad. Bes. wei, Leb. woi, Bar. Parigi wai; further Sasak beng (loss of *ɣ is regular in all these languages). The initial-syllable /e/ in Bug. is irreg., but the form of the word makes borrowing of Ml. bĕri unlikely. PAN (Dw) *bi̯ɣay, (Dy) *bi̯ɣi̯y.

*biring 'edge': Bug. wiring; pamiring 'edging of a mat' (BWB biring rejected); Mak. Mdr. Sad. Duri End. Mai. biring; DuriK ma/biring, miring 'aslant' (the last possibly a repeat of the BI, miring). SekoP hihing may be cognate, if borrowed e.g. from a Mmj. *wihing < *wiring. Also related: Mdr. Sad. tumbiring, Mmj.(A&K) tumbihing, SekoP mi/tuhehe (the 2nd /h/ < *r irreg.). Note Wotu

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tumbiri 'aslant'; Bar. wii 'edge', me/tumbiri 'to lie on one's side'; Samal (Sulu Is., PI) bihing tasik 'shore'; BI miring 'aslant'; Jav. bing 'edge' (Jansz: "perhaps shortened < tĕmbing 'edge, shore'"); Banggai mo/biing, tom/biing 'oblique, slanting'. The apparent prefix *tum- is of uncertain origin and function. PIN ?*biɣing.

*biris 'to hate': Mak. bĭrisiq, Mak-Konjo hirisi (sic for hĭrisiq?), Mdr. mam/bireq (irreg. /-q/), Sad. ma/biriq, ka/biriq (-s-); Duri C ma/birih 'angry', mang/ka/birih 'hate', DuriK ma/biri 'angry', ka/biri 'hate'; SekoP mang/ka/biri.

?*biru 'palm sp., Licuala Rumphii (Heyne 1950:321)': Bug. Mak. biru. Bar. wiu, Bima biru, probably reflecting PIN ?*bi(ɣg̃)u.

?*bindu(C?) 'make, do, build': Bug. winruq (maqb-), End. binduq. Cf. BI bindu 'work with a lathe', Jav. windu 'cycle of 8 years', pamindon (< pa/m/indu+an) 'lathe' (Jansz derives it < windu). The discrepant finals are inexplicable.

?*bika(C?) 'to split': Seko mam/bika. Cf. Jav. bikak 'kromo of bukak 'open''; Ledo na/bingga 'split' (/ngg/ reg. < *ngk), na/beka 'split (of the earth)'; Bar. beka 'to split'; NgD. bingkas 'rip, tear'. Perhaps a metathesis of *bisak, q.v.

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*beke 'goat': Mdr. Sad. Mass. beke. Onomatopoetic; cf. *bembeq above. Parigi beke.

*bingkung 'hoe, BI cangkul': Bug. Mak-Konjo bingkung, Mdr. biqung (/-q-/ unexpl.), Sad. Mass. bingkung. Probably borrowed, as the /ngk/ of Bug. suggests. PAN (Blust) *bi(ng)kung 'adze' (note Western Bukidnon Manobo bingkung 'mattock').

*bela$_1$ 'far': Bug. bela, wela, Mak. bella (/-ll-/ unexpl.), Mdr. Mass. mabela, Sad. PUS mambela (does not occur without prefix).

*bela$_2$ 'friend': Mak. bela, Sad. maq/bela 'be friends'. Cf. Tag., Bis. bilás 'relative'; BI bela 'sacrifice; sacrificial victim', pĕmbela 'nurse, attendant'; Jav. bela 'participate; share s.o. else's lot, suffer with s.o.; die for s.o.' Sasak bela 'one who offers himself for another'; Bobongko mo/bela2 'friendly'; Mongondouw bila (cited without gloss in SWB).

*bela$_3$ 'wound(ed)': Sad. bela/i 'to wound'; SekoP hela 'a boil'. Perhaps Mdr. beang 'wound', though the loss of *l is irreg. Cf. Bar. Parigi wela, Rampi belĕ, Ledo, Mori, Tawaelia(A&K) bela 'wound(ed)', and cf. *belA(r) next below.

*belA(r) 'to hew, chop': Bug. weli̇q, Mak. belaq (MWB welaq rejected), Mdr. maq/belaq, Sad. belang (also kelaq 'chop off' < ?k(a)-(w)elaq); DuriC belah (-r-), End. Mai.

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di/bela/i (base not given), Duri(RAP72) di/belaq/i. As these refer to the chopping down and clearing of underbrush (to make land for planting), cognacy with Jav. wilah 'split bamboo for laths' is remote though possible; the SSul finals, however, are irreconcilable with Jav. /-h/. Cf. PAN (Dw) *bi̇laq, *bilaq 'split'.

*belang 'naked': Bug. ma/belang, Mdr. mem/belang, Sad. (ma)kam/belang, SekoP mi/belang. Further: Bug. welampelang 'young girl not of marrigeable age'; Sad. belang2 'unmarried', belang 'childless'; DuriC belang2 'unmarried'. Cf. also Sasak belang 'coquette'.

*bilang 'to count': Bug. Mak. Sad. DuriK PUS bilang. Also Bug. wilampilang 'worry-beads, rosary'. In the sense 'count', likely < Ml. bilang 'idem'. PAN *bilang.

?*(bw)ile 'to see': Seko hele; SekoP si/hele/i 'to face one another', i/hele 'in front of'. The remaining SSul forms (if cognate) show ø initial: Bug. Mak. Sad. Duri sa/ile 'to turn the head around, look behind'. Cf. Ledo nom/pe/wile 'to look at', Limolang mo/wele 'see' (the initial may have arisen, or been lost, as the result of being interpreted as a glide after /mo-/ prefix?); Rampi noq/ele, Leboni (passive) ni/ele, Bad. Bes. Balantak ile (some Tor. languages, and Balantak, lack /w/), Bar. ele. Perhaps Sula Is. (A&K) belen 'eye'. Note also Jav. wèlèh 'clear, evident'; less likely, bèlèk 'inflamed eyes'. PIN ?*biliq, very tentatively.

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?**b(V)lesu 'mouse': Bug. belesu, Seko balesu. Cf. also Ledo, Bar. walesu, Uma wulehu, Napu walehu, Leboni wa̤lehu. Undoubtedly borrowed by Bug. and Seko. The initial-syllable vowel (probably *a, cf. bala(b)o 'idem', where *ba- can be reconstructed as a "prefix") has been changed due to pre-tonic position.

*(b)elo 'good': Bug. ("Basa Bissu") ma/belo; Bug. Mak. belo2 'ornament'; Sad. elo, melo, maelo 'good'; DuriK melo; Duri(RAP) ma/elo 'pretty'; Sad. belo2 'embroidery'; PUS meloq 'cold' (/-q/ unexpl.; for the usage, cf. Sad. sakke '1. cool, 2. blessed, fortunate'), SekoP belo. Conceivably < Port. belho 'pretty', but cf. also *eloγ 'want'.

*belu(b)ak 'hair (of the head)': Bug.(BWB) weluwa, (I) we-lu(w)aq, Mdr. beluwaq, Sad. Duri beluak, End. Patt. beluaʔ, Mai. PUS beluaq (PUS expect /-k/), Mmj. belua (?), beluhaq, (A&K) beluha, SekoL beloak, SekoP bahulak (metathesis?). Cf. Napu (A&K) welua, Pipikoro (Uma) wulua, Ledo bulua, Bar. wuyua, Parigi wulua, Bad. weluaq; and Fi vulua 'pubic hair', this last presumed < PAN *bulu 'body hair' + -an. It is very unusual in Indonesia to find *bulu used for the head-hair; further, from *buluan it is difficult to account for the /e/, as well as the /-k/ in SSul. In Uma (see Esser 1964:1) and Bare'e dialects, a pre-tonic vowel often assimilates to the tonic vowel; this may account for the first-syllable /u/ in the Tor. forms above.

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*binanga 'river; river-mouth': Bug. minanga, Mak. binanga, 'river'; Mdr. binanga 'river' (Camp. dial. (A&K) 'small river'); Sad. minanga 'river-mouth'. Perhaps < Ml; but forms with /b/ or /m/ appear all over the archipelago. PAN *b/in/anga (morphological complexity assumed).

*bine 'seed (esp. of rice)': Bug. bine, wine, Mak-Konjo bine, Mdr. bine, SekoL hine. PAN *biniq; cf. also *bɨnne above.

?*beñus 'scrape; remove the skin': Bug. beñuq 'bruised'; Mak.(MWB) bénusuq, (I) béqnusuq 'remove the skin/husk of s.t.'; Sad. benuq 'outside fibers of the coconut husk'. Perhaps too Mdr. keñuq 'torn', though it and the Bug. word may not belong to the set. Cf. Ledo, Bar., Bar-Ampana benu 'coconut-husk fibers'; Mori benu 'coconut'; Fi. venuki 'coconut-husk fibers'. Noting PAN (Dw) *bunut 'tree sp. (whose bark is useful)'-- including Tag. bunot 'coconut-husk fibers'-- we may posit a doublet **binut, reflected at least in Sad., Tor. and Fi.

?*bi(n?)sa 'to wash': Bug. Mak. bissa. Cf. NgD. bisa, tambisa 'wet'; Fi mbisa 'to fall (of rain)', mbisa/a 'to rain on'. PAN ?*bi(n)sa(qØ).

*bisak 'chop wood': Bug. wisaq2, Mak. bisaq2, Mdr. bisaq ~ bissaq; Sad. bisak 'split wood; hit hard', (intens.) bissaq 'split (split) wood into even smaller pieces'; Mmj. bisaq 'to cut'. Cf. Bar. wisa 'cut into pieces'; Pipikoro(A&K)(Uma) ha/meha 'one piece..' (< *sam+besa),

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NgD. bisak 'to split', perhaps bingkas 'to rip'; Bal. sibak, ñibak 'to split'. Remote is: Fi. visa, visā, 'set fire to, burn up'. Possibly PIN ?*bisak, but cf. *bika(C?) above, and *i(C?)bak below.

*bisik 'whisper': Bug. biciq, Mak. bisiq(2), Mdr. bisiq (si/wisiq 'to plot behind s.o.'s back'), Sad. bisíkki 'whisper to s.o.'. PAN *bisik.

*beso 'to pull': Mak. besoq (/-q/ unexpl.), Mdr. mam/beso, Bug-Sid. (not in BWB) weso, PUS beso. Possible but remote: Bug. (BWB) peso (< ?mpeso < ?weso), 'rub/brush up against', Sad. beso 'push a little, move over a little'. Perhaps Bar. weso, mombeso, Napu, Bes. beho 'to split ("pull apart"?)'.

*beta 'defeat; win': Bug. Mak. beta 'win'; Mdr. beta 'defeat' pa/weta 'to win'; Sad. beta 'win (at gambling)'; Mmj. (A&K) pa/beta 'winner'. Cf. also Ledo ne/beta 'win', Bar. beta (coastal, < Bug.) 'win'.

*biqbi(t) 'break/pinch off': Bug.(BWB) bibiq, (I) biqbiq; Mak. biqbiq 'pick up with two fingers; peel off little bits of s.t. (e.g. peeling skin)'. PAN *bitbit.

*bete 'fish sp.': Bug. Mak. bete2; Sad. bete '1. the sawah-fish, ikan gabus 2. (< Bug.) a sea-fish'; Patt. bece2 'a fish sp. (unspecified)'; Mmj. bete2 'fish sp.' (may be the Mak. word; found in a list of exports); SekoL bete 'fish (in general)'. Bar.(dial.) bete 'a sea-fish' is presumed borrowed < Bug.

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*bi(n)tis 'calf of the leg': Bug. witiq, Mak. bĭtisiq, Sad. DuriK bittiq, DuriC biqtih, PUS Mmj. bittiq, Seko bitiq. The forms with /-tt-/ could reflect the NC, or else reflect *bi̇ttis q.v. PAN *bitis, bi̇(n)tis.

*bintuin 'star': Bug. wittoing, wittoeng, Mak. bintoeng, Mdr. bittoeng, Sad. bintoen, Duri bintuin, bentuin, PUS bittoen, Mmj. SekoL bittoeng. Irregularly < PAN (Dy) *bituqi̇n; perhaps the final-syllable /i/ < *i̇ is due to its position between high vowel and a dental?

?*biu(bw?)as 'stinging nettle sp.': Bug.(BWB) weuq (with metathesis?), Mak. kaŭasaq 'tree sp., Kleinhovia hospita Linn. whose sap causes itching'; Bug.(I) awiuq, Mdr. beuas, Sad.(SWB) beuaq, (I) biuaq, DuriC biuah, beuah 'stinging nettle, BI jelatang (Laportea spp.)'. Cf. Banggai (which lacks /w/) beas 'plant with sharp thorns' apparently < **bewas; from this and the Mak. it appears that we may be dealing with a "prefix" (bi-, ka-) plus "root" **was, whose expected development in SSul would be */u(w)as/. Thus perhaps PIN ?*(bi-, ka-)+was. (Accroding to Heyne (1950:1064) the Kleinhovia tree is the source of the rare and strikingly-grained pèlèt wood.)

*bua 'fruit': Bug. Mak. Mdr. Sad. Mass PUS bua, PUS-Aralle (V) buha, Mmj. boa, (A&K) buha, Seko hoa. In Sad., Mass. PUS Seko, also 'heart'. With a prefix meaning 'one', used as a classifier for fruits and round things in general; this is the source of Bug. seuwa, ceuwa

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(< earlier **sewua). With the meaning 'belly': cf. also Bug.(BWB) babua, (I) baua (< **bawua), bubua (redupl. forms) with which cf. To.(?) pāfua 'lie flat on the stomach; collide with s.t. in such a way' (Churchward posits a compound with $pā_2$ 'collide'). PAN *buaq.

*buang 'throw away': Bug. Mak. Sad. buang; Sad. paq/buang 'surrender s.t. to..'; DuriK mang/buang 'pour', ti/buang 'spill', pangbuangan 'garbage heap'; Mai. ma/buang 'spilled'. PAN *buhang.

*buaya 'crocodile': Bug. (> Mak.) buwaja, Sad. Duri Seko buaya. PAN *buqaya.

*bumbang 'wave': (Bug.) Mak. bombang, Sad. bombang, SekoP balumba. Perhaps Mak. (bosi) balumbang 'drizzle'(?). Cf. Ledo, Bar. balumba 'wave', Ml. gĕlombang. PAN (Dw) balumbang.

*bu(b)un 'well': Bug.(BWB) bujung (/j/ unexpl.), (I) also (Bone) bubung, (Sinjai) buhung, Mak. buwung, bungung (/-ng-/ unexpl.), Sad. bubun. Cf. Ledo buwu, Banggai bubung; OBal. (Goris 1954:230) buwun '??' in place names-- cf. Sasak buwun 'well'; perhaps mod. Bal. bon. Bar. tibubu 'well' is possible, but more likely related to e.g. Mak. timbŭburuq 'bubble up; spring'.

*bubun 'crown of the head': Bug. bubung, buwung, Mak. buwung, ubung (< (u)buøung?), Mdr. bung, Sad. bubun2, Mmj.(A&K) talibubung. PAN (Blust)*bunbun, (Zorc) *bubun.

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*bumbun 'heap up, pile': Bug. wumpung, Mak. bumbung/i, Sad. bumbun, DuriC bumbun. Perhaps also Sad. barumbun 'thick, dense'. PAN *bunbun.

*bu(m)bung 'roof-peak': Bug. bewung, wewung (/e/ unexpl.); (cited in MWB) buwungang; Mak. bumbung, buwung/ang, Mdr. balimbung/an (base uncertain-- if b/al/imbung, cf. Bug. with /e/), Sad. Duri SekoL bubung. PAN (Dw) *bubung, (Dy) *bungbung.

*boco(C) 'curtain, mosquito-net': Bug.(BWB) boccoq, (I) bocoq, Mdr. bocoq, Sad.(SWB) bosoq (marked "from Bug." but not necessarily, in my view), (I) bocoq, DuriK bocoq. BWB also gives a meaning 'to curtain off', apparently no longer current; but cf. Bad. bosoq 'enclosure', Bar. boñco (=/bonso/) 'animal pen, corral', and perhaps Mori bonso 'door'; To. poho 'covered part of a canoe'. PAN ?*b(uɨ)(n)(cs)(uɨ)(C).

?*bura$_1$ 'to bark (dog)': Mdr. ma/mura, PUS ma/bura. Cf. Jav. wurah 'loud, noisy, boisterous'. PIN ?*bu(ḍrǧ)aq.

*buza 'foam': Bug. (> Mak.) busa, Mdr. bura, Sad. bura2; (intens.) burra(2) 'slime'; DuriK kam/bura. PAN *buǧa(q). Cf. also the next item.

*bura$_2$ 'medicine': Bug. ura (maqb-) 'treat with medicine', pa/bura 'medicine'; Sad. pa/bura; Mai. bura/i 'to treat'. No doubt refers to the native healers' practice of spitting medicine on the patient; thus cf. BI bura 'to spit'. PAN *buǧa(q) 'foam' or *buɣa 'spray'.

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?*bundAng 'boil, tumor': Mdr. Sad. bundang. Perhaps Mak. bunrang 'light colored (of the eyes)', with which cf. Jav. bundrĕng 'cloudy, dirty, turbid (liquid)'.

?*buqbur$_1$ 'to well up': Bug. bubbuq, Mak. tim/bŭqburuq, Sad. buqbuq (these refer to the welling up of saliva just before one vomits). Perhaps a simple root **bur, visible in Mdr. tumbur 'to come out; a spring'.

*buqbur$_2$ or *bubur 'porridge, mush': Bug. bubuq, Mak. bŭburuq, Mak-Sal. bŏboroq 'cooked rice'; Mdr. bomboq (?), Sad. boqboq 'cooked rice'; End. Patt. boqbo/na 'his rice' (perhaps for *boqbonna; no base cited); DuriK (< Mak.) bŭburuq 'porridge, BI bubur'. Perhaps also Mak. bobo 'crop of a bird, thence (vulgar) to feed'. Borrowing of Ml/BI bubur 'rice porridge' is very likely. PAN (Dw) *buḍbuḍ, (Charles) buɣbuɣ.

*bunde 'k.o. large net': Bug. unre, bunre, Mak. bunre, Sad. bunde.

?*boro 'swollen': Bug. Mak-Turatea boro; Mmj. boro, boho, Seko boro 'sated'.

*buruk 'rot, decay': Bug. buruq, Sad. DuriK buruk, End. Patt. buruɣ; probably also Seko ma/huru 'wet'-- cf. the semantic range of *bosi, below. Perhaps also Bug. amporo, Mdr. amboroang, 'rotten egg'; Sad. amburuang, amburang 'fish-spawn'; cf. Sasak tĕmburuk(an) 'rotten egg'.

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*bue 'beans, Phaseolus spp.': Bug. bue, Mak. tiboang (?), Mdr. Sad. Duri bue. Cf. Bar. Ledo Parigi tambue, (Sang. timbue, Mong. buoy, cited in Bar.WB); Banggai labue 'rice'; Heyne (1950:836ff) cites many cognate forms in the archipelago, from Bima east-- Letti wuri (reg. < **bu(dḍrǧ)ay), plus the Tor.,and Tag. bulay strongly suggest PIN ?*buǧay, with PSS borrowed from Tor.

?*(b)oe(C?) 'descendant/ancestor': Bug. owe 'term of address to one's parents (non-aristocratic)'; Mak. boe 'great-great-grandfather', boe2 'ancestors', Mak-Sal. ohe 'grandfather'; Mdr. boeq 'descent, BI keturunan', men/di/woeq 'behind, last (in time or place)'. Cf. Mong. buiq 'descendants', Fi. mbui 'old woman, grandmother, a gossip'; perhaps Napu hi/bui 'heart'(?). PAN ?*buiq. Cf. the next item.

*(b)ui(C) 'underneath': Mdr. di/wuiq 'behind, in back', Mdr-Cend.(A&K) pilis bui 'buttocks' (pilis 'cheek'); Sad. (Pangalla dial.) uiq, PUS(V) Mambi uhiq, Tabulahan ohiq, Bamban ibiq 'space under the house'; Seko hoiq 'under', i/hoiq 'low'. Probably related to the foregoing, PAN ?*buiq, with unexpl. PSS final C. If PAN (Dw) *burit 'rear end' could be changed to ?*buɣit, we need only account for the loss of *ɣ, which does occur sporadically in the witness languages.

?*boñjeng 'naked': Bug.(BWB) boñceng (rejected), Mak. boñjeng. Cf. Ledo na/boñji 'chafed'; Fi vo̱di, To. fohi 'to skin'. PAN ?*b(uɨ)(ñ)ji(N).

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*(b)u(ñ)jur 'stretch out; straight': Bug. wujuq, Mak. (and Bug.) bŭjuruq, also 'honest'; Mdr. me/undur 'sit with the legs stretched out'; Bug. ujuq, Mak. ŭñjuruq 'idem'; Sad. buyuq 'stretch out, lie at full length' (/y/ for *j probably a sign of borrowing); DuriC bujuh 'to lay out a corpse'. Cf. Ml. bujur 'length', membujur 'stretch out', luñjur 'stretched out', be/luñjur 'lie stretched out'(possibly reanalysis of b-el-uñjur?); Jav. ujur, loñjor, kojor (=ka+ujur?) 'length; stretch out', jujur 'straight', boñjor 'long and round'(?); Sasak ujur 'front; facing towards', uñjur(an) 'corpse'; NgD. kujur, kujoh 'stretched out', (tan-)tujuh, -tujoh 'stretched out (of the legs)', bujur 'straight, honest'. On the strength of Jav. kojor, NgD. kujur, kujoh, Dempwolff wrongly reconstructed *kuju(r)-- these forms are morphologically complex (Jav. at least at the synchronic level). We propose PAN ?*bu(ñ)jur; forms with /u-/ could show loss of secondary /w/ before the rounded vowel (SSul and Jav.) or borrowing from such a language.

*bongka 'to bark (dog)': Bug. bokka; Mak-Bant. bokka2 'aquatic bird sp. whose call resembles a dog's bark'; Sad. bongka, End.(I) ma/bongka, DuriC ma/mongkaq. Cf. Wotu "bŏka" (Adriani does not explain his use of the grave accent); Rampi ma/bŭngkaq, Bada bungkaq 'to attack (of dogs)'. The two Tor. forms with /-q/ suggest a possible PIN ?*bungkaq, less likely ?*bungka(C).

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?*buka 'to open': Bug. Mak. buka, Mdr. mam/bua/i, Sad. (SWB) buka/i, SekoL ma/huka/i, SekoP mang/hungka/i. PAN *buka. But cf. Jav. buka, bukak, Sasak bukaq, and note the following.

*bu(ng)ka(r)$_1$ 'to open': Bug. wukaq (-r-), Mak-Sal. bŭng-karaq, Mak-Tur. bŭkaraq, Sad. bungkaq, DuriK mang/bukaq; End. Mai. ti/bukka 'opened'; possibly (because of the inconsistent representation of /q/) SekoL ma/huka/i, SekoP mang/hungka/i. If all forms are regular, this would show PSS *-γ. Bis. bukad 'open up, bloom' might belong here, or with *bi̇(ng)kar already cited above. Cf. also the following.

*(b)u(ng)ka(r)$_2$ 'clear land; uproot': Bug. wuki̇q (maqb-), 'clear land', uki̇q 'uproot'; Mak. okkaq 'uproot'; Sad. bungkaq 'begin work on the sawahs'; Mmj. mang/-hokaq 'clear land'; SekoP mang/hungka/i tampo 'clear land (lit., open land)', mam/bongka 'collapse', mam/boka 'to uproot'. Cf. Ml. bongkar 'tear apart, dig up; unload a ship'; Sasak bukaq bĕburan and bungkah, both 'to plow for the first time'; Sasak ungkah, ungkar 'dig up'; NgD ungkar, bungkar 'unload a ship (< Ml.?); tear up the ground (of pigs)'; Ledo pa/buka 'pull out/up (e.g. a pole out of the ground), pa/bongga/r/aka 'open up a water-channel'. Dempwolff reconstructed *bu(ng)kar, but as we showed in the discussion at Exs. 306, 307 (p.357ff above), this should be revised to *bu(ng)kaḍ.

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*bu(ng?)kang 'crab': Bug.(BWB)bukang, (I) bukkang, Mdr. buqang (irreg. /q/), Sad. DuriK Mmj. bungkang. Cf. Bar. Mori bungka, Ledo Parigi bungga. PIN ?*bungkang.

*boka(C) 'copra; coconut oil': Bug.(Wajo dial., according to BWB) bokaq, Bug-Sid. bokā, Sad. bokaq 'coconut oil'; Mdr.(Lontar) bokaq 'copra'. Perhaps cf. Jav. bukĕt 'murky, congealed (e.g. of something being cooked, a soup or sauce)'.

*buqbuk 'wood-borer (insect)': Bug. bȧbbuq, Mak. Mdr. buqbuq, Sad. buqbuk, End. buqbuɲ; also refers to the wood-dust resulting from these insects' activities (for this Mdr. has buqbuang). Cf. also Bug.(BWB) bȧbbuq Mak. boqboq, Sad. bubuk, boqbok 'to make/drill a hole'; further Bug. (from a /w/-initial form) car/uqbuq, Mak. baruqbuq 'dust, clippings, scraps, sawdust'. PAN *bukbuk.

?*buke 'full': Bug. Sad. buke. Cf. Bar. Mori Parigi buke 'idem'; Loin. no/buki (A&K) 'idem'; Ledo ne/woke 'to swell, rise'; and Hockett (1974) Proto-Fiji-Polynesian *mpuke 'mound'-- the Fi. cognates mean 'mound of earth', pregnant; budding, ready to burst', the PN 'mound; well up, flood'. PAN ?*bukay (the Loin. form, if correctly heard, contradicts this).

*buku 'bone, joint': Bug. Mak. Mdr. Sad. Mass. PUS Mmj. buku, SekoL (heard) buqu, SekoP buu (/buqu/?). PAN *buku.

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*boko 'to steal': Mak. pa/ri/boko (lit., put behind the back), Sad. Mass. boko, SekoL mo/boko. On the basis of the Mak. (presumed) derivation, cf. *boko(t?) below.

?*bungku 'mountain': Mak. bukku (irreg. /-kk-/) '1. bump 2. mountain', SekoP mungku 'mountain'. Cf. Bar. bungku 'bulky' (which Adriani equates with Ml. bungkus 'bundle'), mungku 'mountain (ritual lg.)', Kulawi tamungku 'mountain'; Sasak mongkor 'mountain ridge' (cf. bongkor 'back'); NgD. bungko 'a boil, swelling'. No doubt more than one proto-form is involved. Note also Loin. bungkut 'mountain' (Adriani 1900), and cf. *boko(t?), *bu(ng)kus below.

*bungkuk 'bent over': Bug. (> Mak.?) bukkuq 'bent over; hump-backed'; Sad. bukkuq (irreg. /q/), bungku 'bend the body', bokkok 'to fold'; End. bukkuʔ 'bent over'. PAN *bungkuk.

*bokong 'provisions': Bug. Mak. bokong, Mdr. bong, Mdr-Cend.(A&K) pe/woung/an (/woqung/?), Sad. bokong. Cf. Uma boku 'idem'.

*bu(ng)kus 'to wrap': Bug. ukuq, bukuq, Mak. (and Bug.) bŭngkusuq, Mdr. (Sahur) bukkus, Sad. DuriC bukkuq (DuriC irreg. /q/), DuriK bungkuq, SekoL ma/boku. Perhaps (with metathesis?) Sad-Mangki(V) si/koboq, SekoP kobu 'assemble, gather'. PAN *bungkus.

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*boko(t?) 'back': Bug. bokoq (-r-), Mak. boko (irreg. -Ø), Sad. DuriC PUS bokoq; DuriK jio wokoq 'behind' (jio 'at'); Bug. abokoriṅg, Sad. (si)bokoran, Duri si/bokotan 'turn the back on, depart'. Cf. Sasak bongkor (and bokong 'small of the back'?); Uma bokoq 'behind, after'; Mori bungku, Loin. bungkut, NSul Bajo (Adriani 1900-- two dials.) bukut, buku, all 'back'; perhaps Jav. bongkot 'the thick end of s.t., as opposed to pucuk 'the tip' ', ungkur (~ pungkur, mungkur) 'backwards; behind'. SSul, Sasak and Jav. together point to PAN ?*bu(ng)kuĝ; SSul and Loin. together suggest ?*bu(ng)kut-- the Bajo form with /-t/ may represent either proto-form. Perhaps also Fi. mbuku 'the peaked end of a thing; hence in some dials. the tail'-- but the compounds cited could also reflect PAN *buku 'bone'.

?*bola 'house': Bug. Mak-Konjo, Sad.(poet.), Mass. bola. Further, Mdr. (A&K Cend., and my) boyang, (A&K and Lontar) bojang < a Tor. model **boya, with /-ng/ probably due to back-formation from possessed forms. Because of the change *l > /y/, Bare'e can be pinpointed as the source language: Bar. boya 'village', (note po/pam/bola (ritual lg.) 'house'), Ledo, boya, Bad. Bes.(A&K) boia, Uma bola, Rampi bola. In most of the Tor. languages, *y > Ø, hence the vocalization of borrowed /y/ > i is clear proof of borrowing.

*(b)ulan$_1$ 'moon, month': Bug. uliṅg (BWB wuliṅg rejected), Mak. Mdr. bulang, Sad. Mass. bulan (but note Patt.

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anaq/bulang 'star'), Seko hulang. PAN *bulan. The next item may be derived metaphorically, or a proto-homonym.

*bulan$_2$ 'white, albino': Bug. buliṅg, wuliṅg, Mak. buleng (/e/ unexpl.); Sad. bulan (wulan "archaic") 'white (of buffalo)'. Cf. Iedo na/bula 'white, unblemished (Du. blank, not wit)', Parigi (A&K) na/bula 'white'.

*bulang 'attach spur to a fighting cock': Bug. Mak. Sad. bulang (Bug.(I) passioq; bulang rejected); SekoP bula 'fighting cock's spur (BI taji)'. PAN *bulang.

*bulawan 'gold': Bug. ulawiṅg, Mak. bulaeng, Mdr. bulawang, Sad. bulaan, bulawan, bulayan (dial. variants), Duri bulawan, Mmj. bulahan, SekoP bulahang. PAN *bulaw (Dw: 'shiny') + -an 'nominalizer'; cf. Uma bulawa, Mori wulaa, Bis. bulawan, NgD. bulaw all 'gold'; Bis. bulaw 'yellow, golden', Tag. bulaw 'red'. Mak. bulaeng appears to be borrowed from a form such as Sad.(dial.) bulayan, itself a hypercorrection due to loss of both -w- and -y- in Sad. dialects.

*bule(C?) 'to carry': Bug. uleq, Mak. buleq, Mdr. Sad. bulle 'carry by two or more, usually on a pole'; DuriK mang/-bulle 'carry, lift up'. There is no ready explanation for the presence/absence of a final C, nor for the single/geminate /l/. Cf. Bar. wule 'look after, see to', wulea 'task, job'; bule 'carry (e.g. a child) in a sarong'; Ttb. wuleng.

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*buli(ɣ) 'ear, stalk (of grain, esp. rice)': Bug. uleq, wuleq, Mak. bŭlereq, Sad.(SWB) buli, (I) bureq, DuriC buli (irreg. -ø). PAN *buliɣ.

?*bu(ñ)cilik, ?*bulilik 'lizard': Bug.(BWB) bucili, Mak. buñciniq (*l > /n/ due to the preceding nasal?), Mak-Bant. bulili, Sad. bulilik, Mass-Mai.(V) buciliq, SekoP hule-liki (/hulĕlik(i)/?). The /c/:/l/ correspondence is unique, and irreconcilable; we include the item here in hopes that other investigators will recognize cognates.

*bulu 'body-hair; feathers': Bug. Mak. Mdr. Sad. Mass. PUS Mmj. bulu, Seko hulu. PAN *bulu.

*bulo 'bamboo': Bug. Mak. Mdr. Sad. Duri PUS bulo. Cf. also Sad. bulu 'bamboo sp. used to make flutes'. PAN *buluq.

?*b(oɨ)lo 'to pour': Bug.(BWB) bolo, Bug-Sid. bollo, Mak. bollo, Sad. bollo (cf. also bolo/i 'pour sauce on food'), SekoP bolong 'spill, pour (BI tumpah)'.

*bolok 'snot; have a cold': Bug. boloq, woloq, Mdr-Camp. (A&K) bolokang, Bal.(A&K) bolokan, Sad. bolok, bolokan, End. bolo⁄.

*bolong 'black': Bug. bolong ('esp. of horses'), Mdr. Sad. Patt. bolong. Cf. Jav. wulung 'blue-black'. Probably related: Seko mali/holong 'green'; cf. Mori molowulu, Bar. mayawuyu 'green' and forms meaning 'leaf' in various Philippine languages (Reid 1971)-- Ibaloi bolong,

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Ivatan vugung, Kallahan bulung, Sambal bolong. We posit PIN *bulung 'color (dark and shiny)'.

*(b)uni 'to hide': Mdr. mem/buni, Sad. Duri buni, Mmj.(A&K) mim/buni, SekoP mang/huni. Probably also: Mak. taibuni Sad. tawuni, tauni, toni 'afterbirth'. The Mak. appears to be derived (folk etymology?) < tai 'excrement' + buni; SWB derives the Sad. < tau 'person' + wuni; a third possibility is that it is simply an old derivation with **ta- (~ *tay-?); cf. NgD. tabuni, Ledo tawuni. PAN *buni. Note too, Mak. buni 'illegitimate child'.

*bu(r?)ne 'fruit plant sp., Antidesma Bunius': Bug.(BWB only) buqne (bunne?), Mak. buqne, Sad. boqne. Cf. Heyne (1950:915-16), Mad. burneh, Ml. (another sp.) berunai. PAN (Dw) *bun(i)-- better, ?*bu-r-nay.

*buno 'to strike, kill': Bug. wuno (mp-, maqb-), Mak. Sad. Mass. buno; Seko (Kruyt) pabuno 'a feast'. PAN *bunuq.

?*boño(k) 'over-ripe, unpleasant tasting': Bug. boñoq, Mak. boñoq (also boqñoq 'rotten'), Mdr. boññoq (perhaps < Mak. boqñoq?). Cf. Jav. boñok 'soft, mushy'. PIN ?*buñuk. Possibly related (via 'unpleasant odor'?) Fi. mbuno 'sweat'.

*bunga 'flower': Bug. bunga, wunga, Mak. Mdr. Sad. Mass. PUS Mmj. Seko bunga. PAN *bunga.

*bungas 'first': Bug. bungiq, wungiq, Mak. bungasaq, Sad. bungaq, DuriC bungah. Cf. Jav. bungas 'end, limit, top'.

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*bungin 'sand': Mdr. Sad. Duri Mmj. bungin, Seko hunging. Perhaps to be restricted to PSad. Cf. Ledo bungi 'sand-bar in a river'; Mong. bungin, Napu wungi; Bar. bungini 'island'. These forms may reflect reduction of an early compound ?*bua angin 'fruit of the wind'(?)-- cf. Philippine (Reid 1971) Tausug buhangin, Mansaka buwangin 'sand'.

?*busa (PSad.) 'white': Sad. End. ma/busa (Sad. ma/busaq 'completely white'), Mmj. SekoP ma/musa, SekoL ma/busa. Likely related (borrowed?) to Bug. busa 'foam' < *buza.

*bosi 'rotten': Mdr.(Sahur), Sad. PUS Mmj. Seko bosi 'rotten, rotten smell'; probably also Bug. Mak. bosi 'rain'-- cf. the same semantic range for *buruk above. Cf. Bar. wosi ("uit wausi"(?)) in ue wosi (ue 'water') 'watery exudation from a wound; water in which sago is put to settle'; Bar-Ampana dial. ma/wosi 'stinking'. Adriani does not give evidence for his derivation < "wausi". Perhaps a basic meaning 'wet and smelly'? Conceivably related: To. mohi2 'drizzle'. Cf. also *busuk below.

*bus(ou)ɣ 'bow; bow-like device': Bug. usoriŋ, Mak. bissoroq (/i/ unexpl.) 'device for cleaning kapas fibres'; Bug. (BWB only) usoq (mp-) 'to use the usoriŋ'; Mdr. busor, Sad. busoq, pamusoq, DuriC busoh 'bow'; DuriC busoran 'tool for cleaning kapas'. PAN *busuɣ.

*busuk 'wet; to wash' (PSad.): Sad. busuk/ki, ma/musuk, DuriC ma/mosok, DuriK mang/bosok, End. bosoɲ, Patt. bosong (or bosoɲ, if "n" misprinted for "ɲ"); Duri

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bosok 'wet'; PUS bossik 'wet', Mdr-Bin.(A&K) busuk 'wash clothes'. In most of the languages, the word refers to the washing of clothes specifically; SWB derives it from Sad. busuk 'to hit with the fist'; it is unclear whether this is the original meaning, or a secondary derivation via "wet > wash clothes > hit." Perhaps we are dealing with more than one proto-form; cf. PAN *busuk 'rotten' and the apparent semantic ranges of PSS *bosi and *buruk, while on the other hand, Fi vudu (vuduka) 'hit; knock or push away roughly' suggests a possible ?*busuk 'hit'.

*busung 'incur supernatural punishment': Bug. ma/busung '(BWB) have a swollen belly, dropsy', (I) 'evil, sinful'; Mak. bassung (inexplicably < **bissung) 'swollen belly, dropsy (BI busung)'-- MWB and I agree; Sad. busung 'get a swollen belly-- punishment for violating a taboo', Seko(Kruyt) busung 'idem'. Cf. Bis. busong 'eat a lot without being sated', Ml. Jav. busung 'swollen belly, dropsy'-- these and the SSul can all be added to Blust's set of cognates (1970, no. 70) for PAN *busung 'incur supernatural punishment-- specifically, a swollen belly'.

*buta 'blind': Bug. wuta, Mak. buta; Mdr. mem/buta 'to close the eyes'; Mdr. Sad. Duri Seko buta. Perhaps also SekoP mam/pu/huta 'forget'(via "become blind to..."?). PAN *buta.

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*bota(C) 'bald': Mdr. botaq, Sad. botaq. Likely < Ml/BI botak (pronounced [botaq]); PAN *buṭak.

*buqbu(t) 'pull up/out': Bug. Mak. buqbuq (BWB marks the Bug. as "< Mak."), Mdr. buqbiq, Sad. buqbuq, Mmj. mam/boqbeq. Cf. also Bug. bebbuq, Sad. beqbuq 'idem, of little things'. Cf. also *ṙi(m)bu(t) below. Sasak a/but; Proto-Chamic (Lee 1966) *būc 'scratch, uproot'; PAN *butbut.

*bunting 'bride; groom': Bug. botting, Mak. bunting; End. Duri Mai. ka/botting/an 'marriage'. PAN *buṇting

*buto 'penis, scrotum': Mak. Mdr. buto 'scrotum'; Sad. buto '(SWB) testicles; (I) penis'. PAN *butuq. Cf. also Sad. Duri Seko ka/buto2 'to tell a lie', which SWB relates to this item; perhaps via "commit adultery, cheat > lie"(?). PAN (Dw) *bu(tṭ)uq 'penis'.

*buntu 'high ground; mainland': Bug. botto, Mak. bonto; Mdr. buttu, Sad. DuriC, DuriK buntu, End. Patt buttu, PUS buntu, Mmj. buttu. Cf. Bar. boto (ritual lg.), woto 'height, mountain', and Philippine (Reid 1971) Kalagan bontod, Manobo (dials.) buntud, bontod, Subanun bontod 'mountain'. Assuming PIN ?*buntu(dḍǧ), PSS must be due to Tor. influence.

*buyang 'colored paper': Bug. ujang, Mak. buyang (NB Bug. ujampujang 'to play cards') 'playing cards'; Mdr. buyang 'paper (e.g. paper money)'. Cf. (Adriani 1898) Sausu,

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Palu buya, Tawaili, Pakuli, Sigi wuya, Lindo bua (all Tor. languages), NSul. Tombulu, Pakewa wuyang 'sarong', Ledo Uma buya 'idem', Ambonese area fuya 'bark cloth'. PIN ?*buyang.

*boyo(k) 'Cucurbita spp.': Bug. bojoq, Mak. boyoq, Sad. boyoq, boyo, boo, Mdr. boyoq, (Lontar) bojoq, Mdr-Bin. (Heyne) boyo, PUS(V) boyo, bojo, Mmj.(V) bojo. The word means variously 'cucumber; squash; pumpkin'. Cf. Mad. (Kangean dial., cited in Heyne 1950:1419) boyuk 'cucumber'. PIN ?*buyuk.

?*buyoko, ?*bukoyo 'snail sp.': Bug. Duri bojo (< **buyoØo or **buØoyo with vowel coalescence), Sad. bukoyo. Perhaps Mak. sikuyu 'crab'(?). Cf. Gor. buqoyo 'snail', which suggests PIN ?*bukuyu; Saluwan (Loin.) boyukuq which suggests PIN ?*buyuku. Bar. woku 'snail' must be borrowed from a (Tor.?) language which loses *y.

C

*care 'rags, scraps': Bug. Mak. care(2), Sad. sare(2); Mdr. care2 'clothes'. Cf. also Sad. (intens.) sarek 'to rip up'. Relatable (via borrowing?) to Ml. carik(2) 'rags, tatters' or better, Jav. corah-carih 'messy, in disrepair'. PIN ?*cariq ~ carik.

?*carepa(C?) 'dirty': Bug.(BWB) carepaq, (I, Samsuri 1965) ma/carepa, Sad. ma/sarepa, Duri ma/carepa. Undoubtedly cognate, but irreg.: Mdr.(RAP) carupuq, (I) sarupo,

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PUS sarupuq. The Bug. can be analyzed as /car-/ (=/tar-/) + /repa/, in which case the other SSul forms must be borrowings. Cf. Philippine (Reid 1971) Mamanwa, Mansaka ma/ripaq, Sarangani Manobo ma/lipaq 'dirty'; PIN ?*ripaq.

?*cai(t?) 'angry': Bug. caiq; Mak-Konjo ka/caik/i 'be angry at'; Mdr. ma/caiq, Mass. ma/caiq. Perhaps related to e.g. Bug. saiq 'sickness, plague' < PAN *sakit 'sick'.

*cɨqcak 'small lizzard, BI cĕcak': Bug. cicaq, Mak. caqcaq, Mdr. sassaq, Sad. siqsak, saqsak, DuriK ciqcak, End. ciqcaɣ, Mmj.(A&K) sasa. The change of *ɨ > /i/ is no doubt due to its position, between two palatals. An onomatopoetic term. PAN *cɨcak.

*(cs)ɨkke(C) 'cool, cold': Bug. ma/cɨkkeq, Sad. ma/sakke, ma/sakkeq, ma/sakkaq, DuriK, Mai. cakke, DuriC, Patt. cakkeq, Duri(V) ma/cakka, End. ma/cekkeq.

*cɨkku(r) 'medicinal plant sp., Kaempferia galangga Linn.': Bug. cɨkkuq, Mak. căkkuruq; Mdr. saqur 'plant sp., unspecified'; Sad. saqkuq 'plant sp., the extract is used to stun fish'; DuriC caqkuh. According to Heyne (1950: 494) distributed widely throughout the archipelago, as a cultivated plant only; all forms cited in Heyne show reflexes for PAN final *r or *ḍ, but may be borrowed, while Stresemann's Proto-Ambon *sokur suggests *-ɣ. Cf. among many others, Sasak cĕkur, sĕkur, sĕkuh, Tonsea sukur, Buol tukolo; Ml. Jav. (metathesis) kĕñcur.

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*cɨlla(k) 'red; eyepaint': Bug. cɨllaq (-k-) 'red'; Mak. callaq 'eyepaint'; Sad. sellaq 'chicken sp., dark-red in color, used for offerings', sillaq 'black eyepaint used by Moslems during Ramadan'; Patt. ma/cellaʌ, Mai. ma/callaq 'red'. PAN (Dw) cɨlak 'shine'.

*(cs)ɨnning 'sweet': Bug. cɨnning, Mak. ("< Bug.") canning, Sad. ma/sanning, Mass. canning (note also DuriK cannik); perhaps Mdr. cangi 'honey'. Possibly PSS *(tsc)ɨnning in view of: Mak-Sal, Konjo tanning, Sad. tanning; Sad. taniq 'honeycomb'.

*cere(C) 'pot': Bug. Mak. cereq 'teakettle'; Sad. sereq 'water-jar', serrekan 'to pour out', ti/serrek 'have diarrhea', ti/sirrik 'squirt out of a small opening', bu/sirrik 'urine smell'; Duri cereq 'water-jar'. Probable influence from Ml/Jav. ceret 'kettle; spout'; PAN *cirit.

?*ci(-r-?)nong 'clear (water)': Bug. ma/cinnong, Mak. ciq-nong, Duri cinnong. Cf. To. hino, mahino 'clear, lucid'. PAN ?*cinu(N).

*ciñcin '(finger-)ring': Bug. ciccing, Mak. ciñcing, Sad. sissin, DuriK ciñcin. PAN *cincin.

?*curi(C) 'stripe': Bug. curiq 'lines', cureq 'striped pattern in a sarong'; Mak. coriq 'stripe'; Sad. ma/sureq flecked, striped', sori (irreg. -ø) '(white) stripe', toriq 'scratch or draw a line'. Possibly borrowed, cf. Jav. corek 'scratch', BI corek, coret 'scratch, line'.

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?*(c)uruk 'to dive': Mdr. curuq, End. curuʎ, cumuruʎ.

?*corong 'funnel': Mak. SekoP corong. Most likely borrowed < Ml. or Jav. corong; cited here for the cognates: Bis. sugõng 'bamboo tube (container)', Fi. su 'basket of coconut leaves, round with a small mouth, used for catching fish'. PAN ?*cuγung.

D, (D), R

*ramba 'to chase': Sad. End. ramba, Mmj. mang/hamba, SekoL ma/ramba. PSad. only, unless Bug. rampa2 'move a little bit' can be included; and Mdr. mar/rimba 'chase' with irreg. /i/.

*ramba(C) 'decorated': (Bug.) Mak. rambaq 'excessively decorated, florid; sumptuous'; Mdr. Sad. rambaq 'decorated (apparently without negative connotations)'. The dictionaries equate Ml. rambak 'spread out'. Forms closer in meaning to SSul: Bar. ramba 'decorated', Mori ma/ramba 'beautiful', Ledo ramba 'pretty (of clothes)'. If Jav. ambak 'amazing' can be related, then PIN ?*γambak.

?*rAmba 'abreast': Bug. ramba, rambang, Mak. rambang/eng (/-eng/ for /-ang/ irreg. but occasionally found) 'to walk abreast, side by side'; Sad. rambangan 'orderly, regular'. Bug., with /-mb-/, must be borrowed; cf. Ml/BI rĕmba 'pair. Perhaps an alternate form with *-ng is reflected in the SSul, and also Bis. lambang 'join 2 things together'.

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?*ramba(t) 'to hang': Bug. rampaq, Mak. rambaq 'hang down loosely; messy'; Sad. rambaq 'net for catching birds'. PAN *rambat.

?*(dr)a(bw)u 'to mix': Sad.(SWB) rau, (I) rawu, DuriK mang/pe/rao. Cf. Jav. ḍawuk 'pepper-and-salt color', abuk, rabuk 'to mix', or sĕkul rawu 'rice prepared with grated coconut'.

*rambu$_1$ 'smoke': Sad. Mass. PUS rambu, Mmj. rambu, hambu; cf. also Sad. rambu roya, Duri rambu roja 'mist'. PSad. only, but cf. *rumbu-- perhaps PSS ?*rɨmbu. Note also Napu Ledo rambu 'smoke'.

*rambu$_2$ 'fringe': Bug. rampu, Mak. rambo, Sad. Duri rambu. PAN *rambu.

*racun 'poison': Bug. Mak. racung, Mdr. rasung, Sad. rasun, Duri racun, PUS Mmj. Seko rasun. PAN *racun.

*dara 'girl, virgin': Bug. anaq/dara, Mak. anaq/rara 'sister'; Sad. anak/dara 'young girl, sister'; Mmj.(A&K) dara, daha 'young girl'. Cf. also Bug. manuq dara 'hen that has not yet laid eggs'; lunrara (Basa Bissu) 'young girl'; Sad. lundara 'young female animal (esp. buffalo) that has not yet had offspring'. Cf. Mori, Bar. lundara 'idem'; Parigi randaa, Ledo randara, Wo. ranrâ (=/ranraa/?) 'young girl'. PAN *daya.

*(dr)ara 'blood': Bug. dara, Old Bug. Mak. Sad. Duri rara, Mai. Patt. dara, PUS rara, PUS(V) chacha, Mmj. dara,

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Mmj.(A&K) haha, SekoL (heard) raqa, SekoP raa. Note Wo. rā (/raa/?). PAN *(dḍ)aɣaq.

*dada 'chest': Bug. Mdr. Sad. Duri dada. Perhaps < Ml. dada 'idem'; PAN *ḍaḍa.

*(d)a(d)ang 'to roast': Mak. rarang, Mdr. rarang, Sad. rarang, men/darang 'to warm oneself by the fire', ma/rarang 'red (face)'. PAN *da(n)dang.

*(d)anda(n) 'rope': Bug.(I) ranrɨng (BWB ranrang rejected), Mak. ranrang 'anchor line'. PAN *ḍaṇḍan.

*(d)aqda(p?), *(d)ada(p?) 'tree sp., Erythrina': Bug. radaq (irreg. for expected */raqdɨq/), Mak. raqraq, Sad. raqdaq, raqda, raqdeq (different species), DuriK raqdaq. PAN *ḍapḍap.

*dara(t) 'garden, field': Bug. darɨq, Mak. Sad. Mai. daraq. PAN *daɣat 'land'.

*dai(C) 'climb, go up': Bug.(Bone) o/raiq (/o-/ unexpl.) 'west'; Mak-Konjo an/raiq 'landwards (toward Mt. Bawakaraeng)'; Mak. mandaiq (?) 'place name: a town NE of Makassar, toward the mountains'; Mdr. daiq 'go up, climb a mountain'; Duri req 'north' (/e/ irreg.); PUS(V) daiq 'up, above', PUS-Tapalang(V) dahi 'above' (perhaps < **daki, perhaps not cognate); Mmj. daiq 'east'. Cf. Ml. naik 'go up' (PAN *nahik), or men/daki 'climb a mountain' (metathesized > pre-PSS *daik?); cf. also PSS *endek. Note also NgD man/dai 'go up; climb; increase'.

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*dae(N) 'title of respect': Bug. Mak. daeng 'noble title; also a term of address to older men'; Mak. ka/raeng 'king'; Mdr. daeng 'older brother'; Sad. denden 'term of address between siblings'; Mai. daekkuq 'my older brother' (base not given but probably daeng), Mmj. daeng 'respectful term of address'. Cf. Jav. ra/den 'title for younger sons of the nobility', < earlier ?*dahin, though the Jav. word is usually derived < ra- 'honorific prefix' + adi 'younger sibling' + -an.

*raga 'woven rattan ball (and the associated game)': Bug. Mdr. Sad. raga. PAN *raga.

*da(ng?)kala 'plow': Bug.(SWB) rakala, (I) rakkala (maqd-), Mdr. daqala (irreg. /q/), Mai. dakala. Cf. also Mak-Bant.(MWB) nangkala, which Matthes equates with Ml. tanggala.

?*(ka-)dake 'bad': Sad. Mmj. kadake; perhaps Mdr. kadaeq (metathesis?). Cf. Bad. Bes. kadake, Leboni kodake, and cf. the next item.

?*ra(ng)ke(C) 'afraid': Mdr. ma/rakkeq, Mmj. ma/rakeq. Cf. also Mdr. pe/parakkeq, Bug. Mak. parrakang, DuriK parakang 'ghost'; there is no good explanation for the irregularities, assuming the Bug. Mak. and Duri forms are cognate.

*dakɨ(p?) 'embrace': Bug. rao, kadao (irreg. -Ø), Mak. rakaq, Mdr. ma/raetti, si/raetti, Sad. rakaq, rakuq

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'pick up (s.t. crumbly e.g. rice) in the hand', (intens.) dakkak 'grasp, grab firmly'; DuriK si/rakaq, DuriC si/-rakat/an, End. si/rakaq, Patt. si/rakas/an, Mai. si/-karakoa, Mmj. si/hakaq. PAN *ḍakɨp.

*(dr)a(ng)kapan 'k.o. knife': Bug. rakapɨng, Mdr-Cend.(A&K) daqapan, Sad. rangkapan 'harvesting-knife, BI ani2'; DuriK rangkapan 'carpenter's plane'. Mak-Sal. kanrapang 'harvesting knife' shows metathesis of the first two consonants. Cf. Tidung (Borneo) angkapan 'idem' with apparently irreg. ∅ initial. Perhaps related to *ḍakɨp.

*(dr)aki 'dirt on the skin': Bug. rai, Mak. raki, SekoP rai. PAN *(dḍ)aki.

*(dr)alan 'road, path': Bug. lalɨng, Mak. lalang, Mdr. Sad. Mass. PUS Mmj. lalan, Seko dalang. Note Wo. dala. PAN (Dw) *dalan, *jalan; (Dy) *Zalan.

*(dr)alɨm 'interior, inside': Bug. lalɨng (NB Old Bug. lalɨm-mɨng < **lalɨm+an), Mak. i/lalang, Mdr. i/lalang, DuriK, Mass.(V) i/lalan, i/lalang, PUS i/lalan, Mmj. i/lalang, SekoP i/laling (the /i-/ in all these is the locative marker). PAN *ḍalɨm. Note also Sad. lan, PUS i/lan 'in' either < /lalan/ by haplology, or else reflecting a variant **lɨm (cf. PAN (Blust) *lɨm 'in'). Note Bar. raya, Bad. Napu i/lalu, Leb. i/lali (/-i/ < *u via **ü?). Cf. also the next item.

*-(dr)alɨm 'deep': Bug. menralɨng, Mak-Sal. anralang, Mad. mandalan, DuriK madalan, PUS mandalang, Mmj.

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mandalang, (A&K) mandalam, Seko (metathesis) kaladung. Cf. Ml/BI mĕndalam, NgD. handalem.

*damaγ 'flammable resin, BI damar': Bug. damaq, Mak. dămaraq, Mdr. damar, Sad. damaq, DuriC damah, DuriK dama, SekoP damaq. PAN *damaγ.

?*dame (~ *da-dame, d-al-ame, d-ar-ame; *ja-dame?) 'straw, stubble (usu. of padi)': Bug. darame, Mak. rarame, Sad. dadame, dalame, (Palopo, Adriani 1898a) jajame, DuriK jarame, PUS dalame, Mmj. dalame, (A&K) jalame, dalame, SekoP rarame. Perhaps also Bug. rami 'flax', Jav. idem. PAN (Dw) *daγami, (Dy) Zaγami; I propose a base *(dḍ)ami with prefixes/infixes in various lgs.

*damu(γ?) 'dew': Bug. namo-namoq (/n/ unexpl.), Sad. damoq, DuriC damoh, SekoP damu. Cf. Bal. damuh. Dempwolff reconstructed *lamuγ on the basis of Tag. hamog (irreg. /h-/) and Jav. lamur (irreg. /-r/); his form could underlie Bug. namoq (with sporadic *l > /n/ due to the following nasal), but not the other SSul or the Bal.

*rapa(ng) 'pattern, form, example': Bug. Mak. Mdr. Sad. rapang. Cf. Ledo rapa2na 'for example'.

*rapɨ(t) 'close, tight': Bug. rapɨq, Mak. Sad. rapaq. PAN *rapɨt.

*(dr)a(m)pi(t) 'close': Bug. dapiq, Mak. rapiq 'connect'; Bug. dappiq 'nearby', si/dappiq, si/rappiq 'side by side'; Mak. dampiq 'nearby'; Sad. dampiq, dapeq 'near',

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man/dappiq 'move s.t. closer', rapiq 'twins'; DuriK si/-kan/dappiq 'close (of friends)'; kandoppiq, DuriC si/-kanduppiq 'nearby' (/o,u/ unexpl.); Seko rapi 'twins'. Jav. rampid, rampit, Bis. Tag. dapit 'close, get close to'; Ledo rapi, Bar. rapi, Ttb. rapit, Jav. ḍampit 'twins'; Tag. lapit 'near; approach'; Jav. dèmpèt (first-syllable /è/ unexpl.) 'close (friends); stuck together'; NgD. hapit 'glued, stuck together'. Further Fi. ravi, ravi/ta, To. lafi 'lean against'. PAN *dapit 'side, coast'-- though probably more than one proto-form is involved; Jav. /-d/ is contradicted by Philippine /-t/ (unless they are loans); Jav. ḍampit, Tag. lapit suggest *ḍa(m)pit. Finally NB Tidung, Tinggalan Dayak gapid 'twins' pointing to *ɣapid.

*(d)apuɣ 'brazier; kitchen': Bug. dapoq 'brazier', dapuring 'kitchen' (/u/ unexpected; < Ml.?), Mdr. lapuran, lapurang (/l-/ irreg. dissimilation), Sad. dapoq, DuriC dapoh, DuriK dapo, PUS(V) hapuq, PUS Mmj. dapoq, SekoL rapuq, SekoP dapo. PAN *dapuɣ.

*(d)asa(N) 'house, home': Bug. Mak. pa/rasang/ang (Mak. also parasangeng) 'land, country' (Bug. < Mak. according to Matthes); Mmj. dasang, SekoP rasang 'house' (Seko also 'field'). Cf. Uma Mori raha 'house', Mengkoka(A&K) (Bungku-Laki group) raha, Tambe'e (A&K, Bungku-Laki, spoken near Matano Lake) rodoha 'house'; Letti krasna (< earlier *kV+rasa(n,ng))'hut'. The Tor. words fit better here than with PAN *das(aɨ)(r) 'base'.

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*dAnsi 'bird' (PSad.): Sad. dassi 'a bird sp'; Sad-Rong.(A&K) dasi 'bird (in general)'; PUS dassi, PUS(V) dansi, Mmj. dangsi 'bird (in general)'. Cf. Uma dañci, Bar. dañci, toñci, Ledo toñji (/ñj/ < *ñc < *ns regular), Tawaelia tosi, tonsi, Napu, Bes. Bad. tadahi, tadasi; Jav. kĕḍasih, tĕḍasih 'a grey bird, like a swallow'. The Jav. clearly reflect PIN *ḍasiq; the SSul and Tor forms are ambiguous as to the initial-syllable vowel. The Tor. forms with /t-/ are unexplained.

*(d)ante 'flat, level' (PSad.): Sad. rante (dial., ratte); End.(V) dante 'plains'; Mdr.(A&K) rate (probably for /ratte/), PUS ma/rante, PUS(V) ma/chante, Mmj. hante, SekoP ma/rante. Cf. Parigi(A&K) na/rate 'long'; Bar. rate 'high, deep'; Ledo nan/date 'long'; Balantak (Loin.) ate/an (< earlier **rate/an) 'deep'. Taking all at equal weight, PIN ?*da(n)tay; with a Tor. language as source of all forms, ?*da(n)tay < PAN (Dw) *ḍataγ.

*rante 'chain': Bug. Mak. rante, Mdr. ratte, Sad. Duri, SekoP rante. The Bug., and possibly all others, probably < Ml. rantai. PAN *(r)antay.

*datu 'prince, chieftain': Bug. Mak. Sad. SekoP datu. (MWB also ratu, rejected). Further, Bug. Mak. datoq 'old man, venerable' also used as the title for early Islamic missionaries from Sumatra, hence probably < Ml. datuk. PAN (Dw) *datu, (Dy)*(dḍ)atu.

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*da(w?)o 'tree sp., Dracontomelon mangiferum Bl.': Bug. dawo, Mak. rawo. Cf. Ml. rau, Jav. rahu, Sund. dahu, Mad. dhao, Bal. rahu, Bar. Mori raqu; these point to PIN ?*daqu, which suggests that the /-w-/ in Bug. and Mak. may be due to some spelling convention.

*daun 'leaf': Bug. daung, Mak.(Bant., Tur.) raung, Mdr. Sad. Mass. PUS Mmj. daun, SekoL daung. A&K cite Mmj. daqun with inexplicable /-q-/. PAN *ḍahun.

?*(dr)a(bw)a 'easy' (PSad.): Sad. ma/rawa, ma/raa, DuriK ma/rawa. Can also mean 'cheap'. Cf. Fi. rawa 'be able', rawa2 'easy'. PAN ?*(dr)awa(qØ).

*daya 'inland, landwards': Bug. toraja 'Toraja (lit., inland people)', raja, aja 'West (from Bone)'; Mak. toraya 'Toraja', raya 'East (from Goa)'; Mdr. di/(y)aya 'from the interior'; Sad. toraya, toraa, toraja 'Toraja', daa, daya, dae, jaja 'North'; Duri jaja 'North'. PAN *ḍaya. The forms with Ø initial probably result from haplology, from earlier **di/daya, ri/raya; Sad. Duri /jaja/ show sporadic assimilation of pre-tonic /di-/ > /j/ from earlier **di-ǻja.

*ṙibbung 'bamboo shoot': Bug. ṙibbung, Sad. Duri raqbung. Irreg. Mak. lebong is apparently borrowed, but from an undetermined source. PAN *ṙibung.

*(d)ṙinḍṙing 'continuous': Bug. ṙinṙing, Mak. ranrang 'last a long time, endure'; Sad. randang 'always, continually'. Cf. Jav. ḍĕṇḍĕng 'in a long row; work slowly, tediously'.

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*dɨrr(ɨi)s 'fast-flowing (water)': Sad. darraq 'fast current', dirriq 'quick'; DuriC ma/dirrih, DuriK ma/dirri, Mmj. (A&K) ma/jiri. Restricted to the Sad. group, unless Bug. dɨrriq 'heavy, serious, grave (e.g. an illness)' may be included. Cf. Ml. dĕras, PAN *dɨɣas.

?*rɨ(n)zo(C) 'to stick, stab, poke': Mak. roqroq; SekoP mang/ronno 'to write'; Seko (J.Kruyt 1920) 'to tattoo'. Cf. Rampi rondo 'scarred', Bar. royo 'scar'; Lindu (W. Tor., A.Kruyt 1938) mporando '(pers. name) The Tattooed Man'. Sad. roro 'stick a long object into a hole, as deeply as possible' is probably ult. cognate, but not directly relatable. PIN ?*rɨ(ñ)ǧ(uɨ)(C) is indicated.

*(dr)ɨlle 'grain sp., maize, Zea Mays Linn.': Bug. warɨlle Mak. biralle (the apparent "prefixes" unexpl.), Sad. Mass. dalle. PAN (Dw) *jɨlay 'grass sp.'. Heyne shows cognate forms distributed all over Indonesia, reflecting either *j- or *d-, meaning either 'Job's tears, Coix Lachryma Jobi' or 'maize', both plants of rather similar form and use. The use of maize cannot of course antedate the discovery of the Americas, and was probably (though not necessarily) introduced by the Spanish or Portuguese post-1500. (A less plausible route: America to Europe, thence via Arab traders to India and Indonesia.)

*rɨmmus 'feverish': Bug. rɨmmuq, Mak. rămmusuq, Mmj.(A&K) ma/hamu. Cf. Bar. ma/ramu 'warm'.

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*rɨnni(s) 'fine, powdery': Bug. rɨnniq, Mdr.(Lontar) ranniq, rinnis 'drizzle'(?); Sad. rinniq, DuriK ma/ranniq, End. ka/rinniɲ 'very small'. Cf. *bɨnni(C) above.

*rɨnnu 'hcpe': Bug. rɨnnu, Mak. rannu, Mdr. Sad. rannu, DuriK po/rannu, SekoP ranung.

*(d)ɨngngan 'accompany': Bug.(BWB) rɨngngɨng, (I) rangɨng (maqd-) 'friend, associate'; Mdr. man/dangngan/i 'add to'; Sad. rangngan, DuriC rangan 'add, increase'. PAN *(dḍ)ɨngan.

?*rɨngngAn 'to hunt': Bug. rɨngngɨng (maqd-); Sad. rumang-ngan 'to hunt', asu rangnganan 'hunting dog': End. mar/-rangngan. Sad. 'hunting dog' suggests that this item derives from *(d)ɨngngan-- a dog that <u>accompanies</u> the hunter.

*(d)ɨppa 'fathom': Bug. rɨppa, Mak. rappa, Mdr. dappa, Sad. Duri daqpa, PUS Mmj. dappa, SekoL sun/dapa (/sun-/ = irreg. /saN-/ 'one'?), SekoP rupa. For the SekoP, cf. Napu (A&K) rupa. PAN (Dw) *dɨpa, (Dy) ḍɨpa.

*rɨppo fruit; round object': Bug. rɨppo2 'knot, padlock'; Mak. rappo 'fruit'; Sad. kadong rappo, Duri bue rappo 'peanut'. Cf. BI rĕpuh2 'padlock'; PIN ?*rɨpuq.

*rɨ(m)pu(n) 'gather, assemble': Bug. rɨppung, dɨppung, Mak. rappung, Sad. rampun, rappun, rumpun.

*rɨtto 'fragile': Bug. rɨtto, Mak. rottoq, Sad. roqtoq. Cf. also Mak. rito, Sad. retok, reqtok, Jav. réto 'idem'.

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*di 'locative marker': Bug. Mak. ri, Mdr. di, Sad. di, (poet.) ri, PUS di; DuriK jio, DuriC joqo (probably < di+o 'deictic part.). Probably related, but with inexplicable ø initial: Bug-Sid. Sad. Mmj. Seko i. PAN *di.

*ria(C?) 'afraid': Sad. ma/rea 'alert, on guard'; Sad-Mamasa (V) ma/ria, PUS(V) ma/rea, PUS ma/reaq, Mmj. ma/heaq, SekoP ma/riaq, SekoL ma/reo (irreg. /o/). Perhaps also SekoP ma/dia 'ashamed'.

*dia(n) 'there is; to be': Mak-Sal. rie, Mak-Konjo rieng, Mdr. dian, diang; andian, andiang 'there is not'; Sad. DuriK den, PUS deqen, Mmj. diang. Cf. Ledo na/ria 'there is'; Bar. (dial.) ba/ria 'there is not', Bar. bareqe 'there is not'; Bar-Ampana dial. ka/reqe 'dwelling', all of which A&K relate to Ml. diam 'live, dwell', PIN ?*diam.

riwa 'lap': Bug. riwa, riwăng, Mak. riwa; Mdr. mar/riwa 'carry (a child) on the hip'; Sad. ria, riwa. Cf. Ml. riba 'lap', Sasak iwa 'hold on the lap', iwaq, riwa 'lap'. PIN ?(rɣ)iba.

*re(m)bA(C) 'to throw': Bug. rempɨq (maqd-), Mak-Konjo rembasa (/rĕmbasaq/?), Sad. rebaq, rembaq, End. mar/-reba, Mai. mar/rembaq, par/rebakan, Patt. mar/reba, pa/rebasan. If the Mak-Konjo form is correctly interpreted, PSS *re(m)bAs. Ledo pa/rempe(-taka) is presumably borrowed < Bug.

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*riwu$_1$ 'hundred-thousand': Bug. riwu, Mak. si/riu, Sad. sa/riu. Sad. also 'any uncountable large quantity'. Perhaps borrowed < Ml. ribu 'thousand'; PAN *ribu or (Wolff) *ɣibu.

*riwu$_2$ 'plant spp.': Bug. diu-riu, Mak. riu2 'a small shrub, with medicinal uses'; Sad. riu, Sad-Rong., Mamasa (V) rewu, Duri reu. Cf. Bar. ewo, Binongko(A&K) rewu 'grass'. PIN ?*ɣi(bw)u.

*ri(m)(b)u(t) 'storm': Bug.(SWB) riwuq, (MWB) rimbuq, Bug-Sid. rewo (for rewō?), Mak. rimbuq, PUS rihuq, heoq, reoq, Mmj. rehoq, reoq, heoq. If Bug. Mak. rimbuq reflect borrowing < Ml. ribut, then PSS *riwu(t); PAN *ribut.

*ri(d)i 'yellow': Bug. (and Mak.) ma/ridi, Mdr. ma/riri, Sad. Duri ma/riri, End. ma/liri, Mai. ma/ridi, PUS ma/-riri, Mmj. ma/riri, ma/hihi, PUS(V) ma/chichi. Cf. Sang. dĭrihĕq, which points to PIN ?*didiɣ, perhaps *diɣdiɣ.

*rere 'dirty': Bug. sa/rere 'dirty, messy person'; Sad. bu/rere 'dirt, faeces', bureqrek 'dirty, nasty person'; Seko burere 'dirty'. Cf. Bar. burere 'dirty person'.

*(d)ehde 'to boil': Bug. rede, Mak. rere, Mdr. Sad. reqde; DuriK reqde also 'to spatter'; Sad. rede, rende 'to melt, smelt metal'; Mmj. dede, rere, hede; pang/hehe, pe/hehe 'broth, sauce'. PAN (Blust) *ḍiqḍiq, to whose Ml.,

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Maranao and Manobo cognates we can add: Ledo rende 'boil', Fi. riri 'put on the fire', ai riri ni lolo 'pot used for boiling lólo (coconut milk)'; To. lili 'boil; be turbulent (of the sea)'; Sumba (Wielenga 1917) pandende 'cook'; probably Bal. didih 'foam', perhaps Jav. ḍiḍih 'blood'.

*(aC-?)(d)iri 'pole': Bug. aliri (/l/ irreg.), Mdr. aqri/ang (Sahur) arri/ang, Sad. aqriri, Sad.(Bikker, upper Karama) adiri, Mmj.(A&K) ahi, ahi/ang 'house-poles'; DuriK ariri 'mast'. Cf. Bad. Bes. ariqi, Leb. eri, Loin. ohi, Binongko korii, Napu arii; NSul Ttb. ariqi, Tombulu arihi. PAN (Dw) *ḍiɣi, (Wolff) *ha/ḍiɣi.

*di(n)di(k?) 'shake, tremble': Mak. dende '1. stand on one foot (in a certain game); 2. rattle, rumble (of wheels e.g.)'; Sad. me/rundede, rumende 'pound (of the heart)', dende2 'shake up and down', dede 'beat softly on s.t.', didik 'quick, fast (in work)(?)'; End. rumindiɣ 'tremble'; SekoP tumaradidi 'tremble'. Cf. Sigi ridi 'shake'; Bar. rere '1. (onomat.) rattling noise, 2. crawling with, swarming with'; rindi, mon/dindi 'tremble, move (e.g. an earthquake)', ridi 'sound of s.t. falling suddenly', rumidi '(ritual) lightning', te/rende 'shake, tremble'; Bar-Lage dial. montangkandende, Pebato dial. tumangkandende 'shake, tremble'.

?*dek, ?*de-dek, *deqdek 'to beat, knock': Bug. dedeq, Mak. deqdeq 'create, forge (blacksmith); punish'; Mak. reqreq

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'knock, beat'; Mdr. deqdeq 'hit', Sad. aqdek (also aqdak), dedek 'hit, beat (with a regular rhythm)', dede, dedeq 'hit or tap gently', me/meqdeq 'give off a dull sound when hit (e.g. the body)'. From a variant with *i (*diqdik): Mdr. par/riqdiq 'pestle, rice-pounder'; Sad. riqdik 'pound s.t. carefully (e.g. a small quantity of rice)' which SWB derives < ridiq 'pound rice'. Note Bug. rəddəq 'pound'. Ult. related to PAN *ḍəgḍəg or *ḍəkḍək. Cf. also *dodo.

*dio(C?) 'to bathe': Bug. dio, Mak. rio, Mdr. man/doeq (metathesis of the vowels?), Sad. dioq (-r-), Sad-Palopo (Adriani 1898a) mañ/jio, Duri men/jioq, Mmj.(A&K) min/dio, SekoP dumoi, SekoL dumoiq. PAN *diɣus or (Blust) *diɣuq; the loss of the *ɣ in PSS in inexplicable, though probably due to Tor. influence.

?*(dr)indu 'twin': Bug. anaq/dinru, Mdr. Sad. rindu.

*(dr)ila 'tongue': Bug. Mak. Mdr. Sad. Mass. PUS Mmj. Seko lila. PAN (Dw) *dilaq.

*(d)enden 'lead, pull': Bug. renreng 'pull'; Mak. renreng 'lead'; Sad. renden 'lead'; perhaps Sad. renden 'brother, sister-- term of endearment'(?). Cf. Sasak denden, renden 'lead by the hand, lead on a rope'. Possibly To. lelea 'driven off course by wind; carried away with astonishment'. PAN ?*dindin.

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*ringan 'light in weight': Bug. ringa̤ng, Mak. Mdr. ringang, Sad. DuriK ma/ringan, Mmj.(A&K) ma/hingan, SekoP ringan (/-n/ unexpected). Likely borrowed < Ml. ringan 'idem'; cf. Jav. aḍeng 'lightened, less serious', ĕḍeng 'to temper, moderate'. Possibly < root **ḍing 'light' + -an.

*dinding$_1$ 'cold': Sad. ma/darinding, ma/dadinding 'cold'; SekoP maka/rinning 'dark'. PSad. only, but cf. Milke's (1968) *ma(n)/di(n)ding, Blust's *ma(ng)- or maka-(dḍ)ing-(dḍ)ing, and Stresemann's (1927) Proto-Ambon *didi (*dindi in our symbols), to which we can add Bar. ma/-ranindi, ma/rarindi (stem /rindi/) 'cold', and perhaps Tambe'e (ESul, Matano Lake area), Mekongka (SESul) ma/rini.

*dinding$_2$ 'wall': Bug. ri̤nring, Mak. rinring, Mdr. Sad. Duri PUS Mmj. rinding, Seko rinning, Mmj. (A&K) hinding. PAN *dingding.

*(d)(ei̤)nge(C) 'carry on the back': Bug. rengeq (maqd-), Mak. dengeq, Mdr. man/dengngeq, Sad.(SWB) rengeq, (Merok) rengngeq; Mmj.(A&K) ma/denge 'carry at the side'. Bug. Mak. Sad. also have a secondary meaning, 'have power over, responsibility for', thus cf. Seko (J.Kruyt) to direnge 'commoners' (presumably, those for whom the nobility are responsible). Cf. Stresemann's Proto-Ambon *dingĕ (which must reflect a PAN **(dḍ)ingi̤C with lost final). The *i̤ here may explain the SSul forms with geminate /ng/, i.e. < **di̤ngngiC via vocalic metathesis.

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*dingin 'cold': Mak. dinging, Mdr. Mmj. ma/dingin. Likely < Ml.; PAN *ḍingin.

*ri(m)pun 'gather, assemble': Bug. Mak. ripung, Sad. rippun, reppung, mang/rimpung, rimpun (/-ng/ probably due to Bug. influence), DuriK si/rimpun. PAN *ṙi(m)pun; cf. *ṙi(m)pu(n) above. On the basis of this, the final nasal can be disambiguated, and a root **pun posited.

reso 'work': Bug. reso (marr-, makka-), Mak. Mdr. reso, Duri, Patt. ka/reso. Possibly Sad. reso, resoq 'be firm, stay in one place', but semantically remote. Bar. ma/-reso 'busy', ka/reso 'busy at, work at'. PIN ?(dḍrγ)isu, ?*(dḍrγ)isuq or ?*(dḍrγ)isaw.

rio 'glad; noisy': Bug. Mdr. ma/rio 'glad'; Sad. ma/rio 'sad', ma/rio2 'to mourn'. Cf. Ml. riuh 'glad, noisy, lively'. PIN ?(rγ)iuq.

?*rewa 'equipment': Bug. Mak. pa/rewa (Bug. also pa/ewa), Mdr-Bal.(A&K) pa/reha, Sad. parea, End. parewa. Cf. also Ledo Bar. parewa 'tools, equipment'. The morphemic analysis may be incorrect; cf. *ewa below.

*(d)ua 'two': Bug. dua, Mak. rua, Mdr. Sad. dua, daqdua, Duri Mai. Patt. dua, PUS dua, deqdua, Mmj. dedua, daqdua, Seko i/dua. PAN (Dw) *duwa, (Dy) ḍ̇wha, (Blust 1974) *duSa (*duha in our symbols). Cf. also the next.

*ka+(d)ua 'eight (lit., the second i.e. from ten)': Bug. aruẚ, Mak-Sal. karua, Mdr. arua, Sad. Duri PUS

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Mmj. karua, Mmj.(A&K) kahua, SekoL (heard) karoqa, SekoP karoqa. (Bug. irreg. final stress, and the /-q-/ in Seko apparently due to counting rhythm; cf. the words for nine at *ka+sera (under S), *ka+mesa (under isa).

*rua 'hit, struck by; fitting': Bug. Mdr. Sad. rua; Mdr. pa/rua 'true', pa/pa/rua 'to arrange'; Mmj. hoa, noa(?) 'true', (A&K) hoa 'hit, touch'. Cf. Bad. roqa 'good', Leb. roa 'good', Uma ruaq (could be reg. < *ruqa) 'to find', Ledo na/noa 'true'. (Forms with /n-/ may be unrelated.) For the semantic range cf. Ml. kĕna. PIN ?*ruqa(qØ).

?*roa 'call, summon': Mak. roa, Mdr. pe/roa; Sad. roa2 (Pangala dial.) 'talk loudly, make a lot of noise'. Cf. Ml/BI ruah 'to call', and the next item.

*ruas 'lively, noisy': Bug. roaq, Mak. rŏasaq (also metathesized sŭaraq), Mak-Bant. roa (cf. above), Mdr. ma/-roaq, Sad. ma/ruaq, DuriC ma/roah, DuriK ma/roa, SekoP ma/roaq. Cf. Parigi, Bar. Mori roa. PSS ?*roa above and *ruas can be combined (PSS *ruas) if (1) ?*roa reflects borrowing and (2) Ml. ruah is borrowed from a dial. or language (such as early Minang Kabau) where *-s > /h/.

?*ruang 'space': Bug. Mak. roang 'broad; also, the cabin and/or bilge of a boat (this likely < Ml.)'; Sad. ruang 'area, neighborhood'. PAN *ruwang, *ɣuqang 'space'.

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*(d)ombe 'fringe': Bug. Mak. Sad. rombe. Because of the /-mb-/, the Bug. must be borrowed-- cf. Ml/BI rumbai (also (BI) jumbai, with which cf. Bug.(I) jombe). A possible "native" Bug. reflex may occur in: Bug. rompe, Mak. rombeng 'long-haired'. Conceivably also cf. Fi. rumbe 'hung up, suspended'(?).

*rumbia 'the sago-palm, Metroxylon spp.': Bug. rumpia, Mak. Mdr. DuriK rumbia, Mmj.(A&K) hombia. Sad. rumbia 'a large sp. of Colocasia, used for pig fodder' shows an inexplicable semantic change. PAN *rumbia.

*rumbu 'smoke': Bug. rumpu, Mak. Mdr. End. Patt. rumbu, Mai. rombu. Note Samal (southern Philippines) humbu, where /h/ appears to be a possible reflex of *ɣ. PIN ?*ɣumbu. Cf. also *rambu$_1$ above; *rambu and *rumbu together suggest PSS ?*rɨmbu, PIN ?*(rɣ)ɨmbu.

*duri 'thorn': Bug. Mak. Mdr. Sad. Duri PUS Mmj. duri, Mmj.(A&K) hohi. PAN *(dḍ)uɣi; cf. also the next.

*durian 'the durian fruit and tree, Durio Zibenthus': Bug. Mak. duriang, Sad. DuriK durian, Mmj.(A&K) hohiang, SekoP duriang. While all the languages show regular developments, the word is suspected of being borrowed < Ml/BI. PAN (Dw) *duɣi+an (so-called because of the fruit's thorny skin).

*dodo '(woman's) sarong' (PSad.): Sad. Mass. dodo. Cf. Jav. ḍog 'onomat. for a heavy blow', ḍoḍog 'knock, beat',

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Bar. mon/dodo 'make bark-cloth' (it is beaten with a stone hammer), dinodo, more commonly inodo 'bark-cloth ready to be made into clothing'. PAN *ḍug, *ḍugḍug 'to beat', apparently a vowel-variant of *ḍɨg, ḍɨgḍɨg 'idem'-- the Bar. could reflect either one.

*duro 'broth; juice': Bug. duro, Mdr. duo, Sad. DuriK duro; SekoP ruo 'honey', ma/ruo 'sweet'. Loss of *-r- in Mdr. and Seko is unexplained. PAN (Dw) *duɣuq, *juɣuq, (Dy) *ZuɣuQ.

*dondo 'shake': Bug. ronroq (/-q/ unexpl.); Mak. dondo 'rock a baby in one's arms'; Mmj. pa/dondo 'shake up and down'. Cf. *(d)o(n)do(n) below.

*dondo(n) 'early; morning': Mdr. (Lontar) ma/dondon, (I) ma/rondon 'tomorrow'; Mass.(V) me/dondon 'early in the morning'; PUS(V) ma/dondong 'morning, tomorrow'. Cf. Ledo mpa/dondo 'early in the morning'.

*(d)o(n)do(n) 'fall, drop; collapse': Bug. runrung 'fall, drop (of leaves, hair, etc.); collapse (a wall or building etc.)'; Mak. taq/rorong 'unsteady, about to fall', ronrong 'shake; earthquake'; Sad. rondon, PUS me/dondon 'to fall'. Cf. *dondo above. If Fi. susu 'landslide' (Hazlewood, "dialectal") may be compared, we should have PAN *j or (Dy) *Z, not *d or *ḍ.

*(dr)u(n)du(n) 'to follow': Bug. Mak. rurung; Sad. rundun 'bring food to workers in the fields', rundun/an 'go

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along the edge, go from one end to the other; sequence' (note also runduq 'follow' with unexpl. /-q/); DuriC ma/rundun 'sail along the coast'.

*(d)uqdu(C) 'sleepy': Bug. caq/ka/ruqduq, Mak. caq/doqdoq, Mdr. men/duqduq, Sad. tikka/ruqduq. Also Sad. ruqduq 'to die (esp. of old people). Bar. rudu; Ml/BI rudu 'nod, droop'.

*(dr)u(rz)us 'straight': Bug. luruq, Mak. lŭrusuq, jŭrusuq (probably < Ml. or Jav.); Mdr. ma/doro, ma/roro, Sad. ma/ruruq, Sad-Mamasa(V) ma/doro, ma/lora (could be < **rora, /-a/ unexplained); DuriC ma/ruruh, DuriK ma/-ruru, PUS ma/doro, Mmj. ma/doho. Cf. Ml/BI jurus, lurus, Jav. lurus (rurus also listed, but lurus is the expected form < **rurus), Bal. rurus; Bar. joyo, Banggai loyos. The outside witnesses point to PIN ?*(Zḍ)uğus.

?*roqros, ?*roros 'to rub': Bug. roroq, Mdr. roros, DuriK pa/ruru, PUS roqroq. Mak. rŏrosoq is a perfect fit phonologically, but must be excluded on semantic grounds: '1. to let out the sails, 2. (=lŏrosoq) punish(ment)'. Cf. Banggai mo/lolos 'rub'.

*rui(t) 'to pull': Bug. Mak-Bant. ruiq, Sad. ruiq (also riuq "with metathesis"), Duri mang/ruiq,(-t-), SekoL mo/riuq (heard), SekoP mang/riu, Mmj. ruiq, huiq. Cf. Rampi mo/ruiq 'pull, drag'. It is difficult to say which is the original, which the "metathesized" form-- ruiq or riuq. Cf. Sang. hĭudĕq, PAN (Charles)

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*ɣuyud-- the only other PAN etymon so far reconstructed with the sequence *-uyu- is (Dw) *ḍuyung 'sea-cow (manatee); porpoise' which, where it is reflected, is likely to be borrowed < Ml.

?*doke 'stick': Mdr. doe, Sad. doke 'spear'; SekoP doke.

?*do(ng)ko(C?) 'thin, skinny': Bug. doko, roko '(BWB) sick, (Sid.) skinny'; Mak-Sal. dokkong, Mdr. ma/dokkor, Sad. doko, dokkoq, DuriK ma/dongkong, DuriC ma/doko. Cf. Bar. rungku 'upset, sick', Mori rurungku 'get thin'. The divergent final consonants are unexpl.

*(d)uku(t?) 'grass': Bug.(BWB) duq, ruq, (I) aruq, Mak. rukuq; Sad. (V, Ranteballa and Rongkong), Mass.(V) rukuq 'to weed the sawahs'. PAN *dukut.

*dongko(C?) 'sit': Mak. dongkoq '1. back of the body, 2. placed/located on, ride on'; Sad. dokko, ta/dongkon, ka/dokkon, DuriC ca/dokko, DuriK ca/rokko, End. Duri (RAP72) cuma/dokko; Mdr.(A&K) ta/dongkon/an 'seat (Du. zitplaats)', Mmj.(A&K) pa/dongko 'buttocks'. There is no ready explanation for the divergent finals. Cf. Jav. dokok 'set down, place'. The following appear to be related, but irreg.: Mdr. me/cokko 'sit squatting on one's heels', Mmj. mo/coko 'sit' (perhaps by wrong analysis of **ca/rokko as **c/ar/okko?). Mai. cadoq and End. cuma/dodoɲ 'sit' probably reflect the root *ḍuk and base *ḍukḍuk reconstructed by Dempwolff. Cf. also ?*ɨkko(C) below.

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?*doko(C) 'to wrap': Bug. dokoq, Mak. rokoq, Sad. dokoq. Perhaps containing the root **kus seen also in *bu(ng)-kus and *tu(ng)kus q.v.; if so, the Mak. must be borrowed < Bug. Cf. To. fa/luku(-a) 'gather together, enclose, hold, carry in hands or arms', luku2 'gather up or draw together (a garment) so that it look untidy'; perhaps Fi. (Hazlewood only) ruku i vale 'to sit in the house all day, as on a cold day' (i 'in', vale 'house').

*dulang 'tray; container': Bug. Mak. dulang 'feeding-trough (usu. for horses)'; Sad. dulang 'large footed tray or "compote" on which ritual offerings are presented'. If the word originally had religious connotations, the pejorative Bug. and Mak. meaning probably post-dates the introduction of Islam (early 1600's).

*(dr)olong 'to flow': Mdr. me/lolong, Sad. Duri PUS lolong (DuriC also 'to melt'), Mmj. me/loleng, SekoP d/umm/olong (/-umm-/ for *-um-(?) unexpl.). Cf. Uma joleq 'drift away'-- it is unclear, however, whether this is a native or borrowed form. Cf. also Rotinese (Mbuik 1971) dɔlɔ 'to glide' (but Roti reflexes of PAN have not yet been determined) or Fi. lolo 'to flow (of the tide).' SWB cites Bug. lolong (~dolong) 'to coerce; obtain by force', most likely a fortuitous resemblance.

*(dr)olo(C)$_1$ 'to dive': Mdr. l/um/oloq; Mdr.(A&K) lumole, Mmj. me/lolloq (/-ll-/ unexpl.), SekoL(heard) dumoloq, SekoP dummolo 'to fly'. Cf. Bar. dolo(-maka) 'go under

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water', Bar-Ampana mon/dolo/pi 'idem'; Bar. lodo(-ngi) 'sink, drown', Ampana lodo/maka 'dip/drop into the water' (one or the other of these is metathesized); Bar. loyo (< earlier ?*lolo < ?*rolo) 'religious "ordeal by water"'; Bobongko (Adriani 1900) dumolok 'to dive, duck under the water'. Perhaps also Roti dɔlɔ.

*(dr)olo(C)$_2$ 'to creep, crawl': Bug. Mak. loloq, Sad. dongloq. Cf. Bar. joyo (< earlier *jolo), jololo, Uma me/ñolo (reg. < meN+jolo) 'idem' (and again, Roti dɔlɔ?); and Ml. jalar 'spread, crawl'; perhaps BI julur-jalar 'to in and out all over the place' (the example sentence in E&S refers to ants swarming on sugar). These last suggest PAN final *r or *ɣ, in which case Mak. /-q/ is irreg.

*rumpu(C?) 'grass, weeds': Bug. roppoq, Mak. rompoq2 (both cited in MWB 1859); Bug. roppo, Mak. rompo2 (both cited in BWB 1874), Mdr. roppong (/-ng/ unexpl.), PUS rumpuq, Mmj. humpu, rumpuq. Forms with /-q/ may be in imitation of Ml. rumput. PAN *rumput.

*ro(tc)as 'dirty, disorderly': Bug. rotaq 'dirty', rocaq 'confused, in disorder'; Mak. rôtasaq 'confused, in disorder'; Mdr. ma/rocaq 'confused, noisy'; Sad. ma/ruta 'dirty' (the intens. form ruttak "more common"); DuriC ma/rocaq 'dirty' (probably < Bug., in view of /-q/ for expected /-h/); PUS ma/rota 'dirty'. Cf. Jav. rucah

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'common, low-class', rucĕk 'messy (of writing)'; Sasak rucah 'uproar, revolt', rucak 'bad'-- neither of these, however, is compatible with a reconstruction with *-s.

?*rutus 'worm sp. (marine), harmful to boats': Bug. rutuq, Mak. rŭtusuq. Ml. rutus, Tag. lutos 'idem'; Mad. rotos, rutus 'k.o. earth-worm'. PIN ?*rutus most likely, *ḍutus possible (Ml. irreg.) or *ɣutus (Tag. irreg.).

*runtu(k) 'to meet': Bug. si/runtuq; Mak. runtuq, si/runtuq 'push against (each other)'; Sad. runtuk 'pursue a goal until it is achieved'. Cf. Jav. runtut 'harmonize, match', Fi. utu 'join with, meet', undu 'meet, land (of canoes)'. If Sad. is viewed as an "intensive", PAN *ɣu(n)tu(C)-- but the Jav. shows irreg. /r-/.

?*(dr)uyung 'dolphin (Matthes' gloss)': Bug. rujung, Mak. ruyung. Not recognized by my informants. PAN (Dw) *ḍuyung-- for the sequence *-uyu- cf. *rui(t) above.

*(dr)oyong 'unsteady': Bug. tar/rojong 'weak, unsteady'; Mak. doyong, royong 'nod the head (because sleepy, drunk, etc.)'; Mdr. ti/royong 'waver, sway', maq/-doyong 'to suffer'(?). Sad. rodo 'shake, vibrate' either not cognate, or borrowed (< Bug.?); cf. Sad. ruyak, ruyang 'shake s.o. awake'. Note Jav. ḍoyong 'leaning, slanting'(?). Perhaps related (vowel-variant?) to PAN (Dw) *duyang 'swing'.

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ɨ

*ɨrrɨ(t) 'tight': Bug.(BWB only) m/ɨrrɨq, mang/ɨrrɨq, (I) marreq, Mak. arreq; Sad. m/arraq 'very tight' (considered as the intens. of m/andaq 'tight'); Mai. pa/erreq/i 'to tighten'; SekoP paraq; mam/pa/para/i 'to tighten'. Cf. Ml. ĕrat, Tag. higit, Bis. hugot 'tight, taut; to tighten, pull on'; perhaps CJ hŏt 'narrow' (and hĕthŏt 'to hide'?); Sasak pĕrĕt 'tight'. PAN (Blust) *hɨɣɨt. (If Sad. marraq is indeed related to mandaq (and also Duri m/andiq 'tight', perhaps PUS mang/andaq 'hold onto') the /nd/:/rr/ relationship must be due to analogy, since PAN *ɣ (and PSS *r) could not be prenasalized normally.)

*ɨ(dj)ɨn 'to press out': Bug. m/ɨddɨng, Mak. m/aqrang, Sad. erren, DuriK mang/aqjang, PUS meng/erren, Mmj. meng/eheng (dial. mang/eqdeng)-- all referring to squeezing, straining at stool or in childbirth. The Duri form may be borrowed < Ml/BI ĕjan. Cf. also Bug. taqtai maqmɨjjɨng 'have diarrhea' (BI mĕjan, mĕjĕn (the last < Jav.) 'dysentery'); Bug. kɨddɨng 'blockage in the windpipe leading to difficult breathing', Sad. kaqdan 'have the wind knocked out of one', perhaps kaqdang '(lit.) hard, not soft; (fig.) heavy-hearted, in difficulties', perhaps DuriK kaqdang 'jerk'. Mdr. oqdong 'swallow the wrong way, choke' no doubt cognate, but the /o/s are unexplained. Cf. Sasak ĕndĕn, ĕñjĕn 'press out, strain', mĕjĕn 'diarrhea', pĕjĕn

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'cram, stuff things into an already full container', pĕrĕn 'press'. Dempwolff reconstructed *hɨdɨn (with a Tag. cognate meaning 'swallow the wrong way'), but Dyen discarded the Tag. form and posited *ɨZɨn; but I feel that all the forms can be united semantically under the concept "make a sudden exertion/strain with the body".

*ɨlzo 'sun, day': Bug. ɨsso, Mak. Mdr. Sad. End. Duri allo; Mai. mata/asso 'sun' (perhaps < Bug.); PUS Mmj. SekoL allo; SekoP alo 'day'. PAN (Dw) *a(n)daw, *ha(ñ)g̃aw, (Charles) *alg̃aw.

*ɨrrung 'drone, roar': Bug. m/ɨrrung, Mak. m/arrung (Matthes glosses both as 'roar, as of wind, rain, surf'; Informants 'low droning noise, like a motor'); Sad. n/urrung 'noise of e.g. a motor, bees swarming, dog growling'. No doubt related (but with unexpl. /-n/): Sad. moron 'rumble, crash, when a large object falls', m/orron 'give off a low, broken, hoarse sound'. Cf. Bis. hugõng 'hum, drone, buzz', Tag. ũgong 'loud noise; murmur; thunder' (Bis. /h-/:Tag. ø are contradictory, but Tag. may be borrowed); To. uõ 'crowded and noisy' (from a metathesized øɨøu ?). PAN ?*hɨɣung.

?*ɨkko(C) '(sit?) quietly': Bug. m/ɨkkoq 'patient, quiet'; Sad. mokkoq 'sit still', n/okkoq 'sit', PUS umm/oqkoq, Mmj. moqkoq 'sit'. Forms meaning 'sit', however, may be unrelated; cf. *dongko(C) above.

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*ɨlla(t) 'interval': Bug. ɨllɨq, Mak. Mdr. Sad. Mmj. allaq. Cf. also Mdr. mang/alleq 'come and go at intervals (e.g. like malarial attacks)', and Bug. pa/ting/ɨllɨq, Mak. pa/ting/allaq 'interval between harvests'. Note Sad. (intens.) allak 'eat s.t. between meals', ellak 'go in between two things.' PAN *ɨlat.

*ɨmmA(C) 'swallow': Bug. m/ɨmmɨq, Mdr. ammeq, Sad. Duri mang/ammaq. Sad. also ammang; cf. Mak.(MWB) "kana ni/-mammang" '(lit., swallowed word) a secret word, sort of verbal amulet'-- on the order perhaps of a mantra. Cf. Bar. omo, Bob. mōmong (= mo+omong), Uma omeq, Ledo ome 'swallow'. The Mdr. form in particular points to ?*ɨmmat; Sad. Mak. and Bob. forms reflecting ?*ɨmmɨng may not be related. Uma Ledo /e/ unexpl.

*ɨmmas 'gold': Bug. ɨmmɨq, Sad. ammaq 'a certain unit of measurement for gold'; Mak. ámmasaq 'gold'. PAN *ɨmas.

?*ɨnna(sɣ) 'put, place; put away': Mdr. maq/annaq (irreg. /-q/), Sad. anna, DuriC mang/annah, DuriK, Mai. anna

*ɨnnɨm 'six': Bug. ɨnnɨng, Mak. Mdr. annang, Sad. Duri annan, PUS annan, annang, (V) unung, unnuq, Mmj. annang, unnung, (A&K) unum, Seko unung. PAN *ɨnɨm.

?*ɨññer 'smell of fish or blood': Bug. m/ɨññeq, Mdr. maññer. Mak. máñereq (because of the single /ñ/) probably shows Ml. influence (añir). PAN *hañir.

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*ɨppang 'musty smell': Bug. kɨppang (< ka+ɨppang?), Mak. mappang, Sad. bu/mappang, (SWB Riu dial. bu/meppeng, perhaps < Bug.?).

*ɨppa(t) 'four': Bug. ɨppaq (/a/ irreg., due to Ml.), Mak. appaq, Mdr. appeq, Sad. Duri PUS appaq, Mmj. uppaq, Seko upaq. Note also the combining form: Bug. pata(N)-, Mak. pataN-, Mdr. pataN-, Sad. patang- reflecting *pat+aN-. PAN *ɨ(m)pat.

*ɨmpu 'grandparent/grandchild': Bug. ippuq, Mak-Sal. ampu, Mdr. appo, Sad. Duri ampo (SWB also ampu 'owner'), 'grandchild'; SekoP ampe, SekoL appe 'grandchild, grandparent'. PAN *ɨ(m)pu. For related forms, see also *pu- below.

?*ɨ(n?)si 'contents': Mak. assi, Sad. issi; DuriC issi 'meat'; PUS issi tambuk 'guts' (tambuk 'belly'). Mdr. DuriK isi, Mai ise reflect the more common PAN *isi. Cf. Tidung, Tinggalan Dayak ansi. PIN ?*ɨ(n)si-- or does this reflect a cluster, ?*i-l-si, with secondary changes as per Charles 1974?

?*ɨ(n?)sung 'rice mortar': Mak. assung, Mdr. issung, Sad. DuriK issong, PUS(V) inseng, issaq, Seko isong. PAN *lɨsung-- could the irreg. PSS form derive via metathesis from ?*ɨlsung?

*ɨntɨ(n) 'stay; be calm': Bug. m/ɨccɨng 'calm'; Mak. m/an- tang 'to dwell'; Mdr. mottong 'stay, dwell'; Sad.

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maqtan 'calm, still'; Mmj. mattang 'dwell; calm'. Cf. Bar. onto; Banggai montong 'to stop (Du. ophouden)'; Bal. matang 'dwell; calm' (/a/ apparently irreg., as Bal. retains *ɨ); Jav. antĕng 'still, quiet, motionless' (with irreg. /a/?). For the meanings, compare Ml/BI diam '1. to live, dwell, 2. be quiet, calm'.

*ɨtti 'to ebb, recede (of water)': Bug. m/ɨtti, Mak-Sal. atti, Mdr. m/atti (also 'shallow'); Sad. aqti, m/aqti 'to drain, dry up (of ricefields)'. Cf. Bar. Ledo Tawaelia oti 'drain, dry up', Leb. ĕhi (< earlier ĕsi), Banggai ooti (= o/oti?), Ttb. ĕti. PIN *ɨti (reconstructed by Adriani and others, but not by Dempwolff).

?*ɨttu(t) 'fart': Bug. ɨttuq, Mak. rattuq (back-formation from taqr/attuq); bottoq 'to stink'; Sad. botoq, bottok, Mdr-Bin.(A&K) ti/boti, SekoP boti. PAN *ɨ(n)tut.

G

*ga(b)u(C) 'blue': Bug.(BWB) gauq, (I) gawuq, Mak. gauq, Mdr.(RAP67) "gavuq" (= /gabuq/), (I) gawuq. Cf. also Ledo na/gawu.

*gawun (PSad.) 'cloud': Mdr-Bal.(A&K-- probably a PUS dial.) gahun, Sad. gaun, PUS gahung, SekoP kahung. Cf. also Bar, Ledo gawu. If < PAN (Dw) *ɣa(m)bun, the /g/ is irreg., but a doublet ?*ga(m)bun seems likely.

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*garu 'to stir': Bug. Mak. Mdr. Sad. Duri garu. Sad. also garuk. Cf. Ledo nom/pa/garu 'idem'. Perhaps related: Ml/BI, Sund. aduk 'stir'; Ml. Jav. Sund. garu 'harrow, scraper (to "stir" the soil?), Sasak gau 'harrow'; Fi. kandru 'scratch, scrape', i kandru 'harrow, scraper'. PAN ?*ga(n)(dḍ)u

*garuang 'hollow': Bug. Mdr. garoang; Sad. garuang 'split, large crack in the earth or between two rocks'. Cf. Jav. growong, gruwung 'hollow' (possibly < **g-r-u(b)-ang); or < "prefix" *ga + ɣuqang 'space'/ruang 'hole'.

*gaqga(ɣ) 'argue': Bug. gagaq (< a variant ?*gaga(ɣ)?); Mak. gåqgaraq 'to scold, speak sharply to s.o.'; Sad. gaqgaq 'quick to take offense, quick to argue'. Cf. also Sad. gaga 'argue'. If NgD gagah 'resist, fight against' is removed from PAN (Dw) *gagaq and compared here, we can reconstruct PAN *gaɣgaɣ.

?*gaqga(p?) 'to stammer': Bug.(BWB) gaqgaq, (I) gagaq. Cf. Ledo na/gaga, Ml. gagap; Jav. gagap 'grope, feel one's way'; Fi kaka 'speak indistinctly, stutter, stammer (NB deriv. kakaṿaka). PIN ?*gapgap.

*g/al/aqga(r)$_1$ 'mucus, spittle': Bug. galaqgaq, Mak.(MWB) galågaraq, (I) galåqgaraq, Sad. galaqgaq.

*g/al/aqga(r)$_2$ 'beams, floor-boards': Bug.(I only) galåq-garaq 'ribs of a boat'; Mdr. galaqgar, 'Sad. kalaqkaq 'beams under the floorboards of a house'. Sad. /k/ for

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*g is occasionally found. The Bug. item must be borrowed from Mak., but neither the dictionary nor my informants knew the word.

*galung 'rice-paddy (BI sawah)': Bug. Mak-Konjo, Sad. End. Mai. galung. Possibly Mdr. galu-galung 'weeds'?

*gau(k?) 'to work, to do': Bug. Mak. Mdr. Sad. gauq, End. gauʔ, PUS-Tubi (V) pe/gau. Cf. Ledo gau 'treatment, behavior', magau 'prince (< Bug.)', nosipogau 'coarse word for sexual intercourse'; Uma gauq 'deed'; Bar. gau 'treatment (usu. bad); misfortune', mam/pogau 'to do, to carry out'. Adriani also cites Ttg. Sang. gau (without gloss) as equivalent. There may be a relationship with PAN *gawa or *gaway.

*gayang 'dagger; to stab': Bug. gajang, Mak. gayang, Mdr. gayang, Sad. gayang, gajang, gaang, Duri gajang. PAN (Blust) *gayang 'spear, lance'; in SSul the word refers to the kris.

*gi̇ndang 'drum': Bug. gi̇nrang, Mak. Mdr. ganrang, Sad. gandang. The Mdr. must be borrowed < Bug. or Mak., because of the /nr/. PAN *gi̇n̤dang.

*gi̇rring 'sick': Bug. taq/gi̇rring 'worried, upset'; Mak. Mdr. garring. Cf. OJ, Jav. Ml/BI gĕring 'sick'. PIN ?*gi̇ring.

?*gi̇rro(C?) 'belch': Bug. ting/ki̇rroq; the remaining cognates are all irregular: Mdr.-Camp.(A&K) ti/gere,

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Camp.(A&K) ti/ngere, Sad. ti/goro, PUS(V) ti/ngere "= Sad. tingoro". Cf. Bar. Tawaelia goro, Leb. ting/-koro; Ml. gĕruh 'snore', gĕrung 'to roar, bellow'.

*gɨllang 'armband, ankle-ring': Bug. gillang, Mak. Sad. Mdr. Duri gallang. Bug. Mak. Sad. also 'bronze'. PAN *gɨlang.

*gɨnggɨ(m) 'hold in the hand': Bug. gɨngkɨng, Mak. ganggang. Cf. also *kɨngkɨ(m). PAN *gɨmgɨm 'fist'.

*gɨnnɨ(p?) 'complete, enough': Bug. gɨnnɨq, Mak. Mdr. Sad. Duri gannaq; SekoP kannaq, gannaq, SekoL kanaq 'perfect'. Perhaps PUS ingganna 'all'. PAN *gɨnɨp.

*gɨtta 'gum, resin': Bug. gɨtta, Mak. Sad. gatta. PAN *gɨtaq.

*giri(k) 'poke, pierce, with a sharp object': Bug. giriq; Sad.(SWB) girik 'twist, wind', (I) giriq 'to file'; DuriC girik 'to twist'; SekoP mang/kiri 'to file'. PAN *girik 'drill'. Cf. the next item.

*gere(t?) 'slaughter, cut an animal's throat': Bug. Mdr. Sad. Duri gereq, Mmj. geheq, keheq. NB DuriC pang/-geret/an 'place where one slaughters'.

*gero 'shake, rattle': Mak. pa/gero 'piece of wood which moves at the slightest touch and makes a noise' (a sort of warning device?); Mdr. gero2 'shake, with a rattling noise'; Duri (metathesis?) ti/roge 'sway, waver'. NB OJ ringgu, ringgung 'sway'; mod.Jav. renggong 'stagger'.

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Cf. Leb.(A&K) mo/kero 'smashed, destroyed', Bar. gero 'destroy, pull apart'.

*ge(ng)go 'shake, sway': Bug. gegoq, genggo 'shake, jolt'; Mak. genggo(2) 'jolt, shock'; Mdr. gego; Sad. gego 'sway (of s.t. set in the ground), geqgo 'shake, jiggle; shock'; DuriC genggo 'earthquake'. Cf. also Mdr.(RAP67) ming/genggeng 'tremble, shake'.

*giling 'turn, twist': Bug. Mak. giling; Mdr. giling 'to grind'; Sad. giling. PAN *giling.

?*ge(C?)lu(C),?*gəllu(C) 'move': Bug. (BWB only) geqlung 'move from side to side', kelluq2 'move, sway, back and forth (like a snake)', perhaps also ("Basa Bissu") kello (= modern kedo) 'move'; Mdr. ma/gelloq 'moving around a lot, always in motion'; Sad. gelluq 'a certain ritual dance'; DuriK mang/gelluq 'to dance'. The origin of the /ll/ cannot be determined, but we suspect the presence of an *-r- or *-l- infix: ?*gi-r-lung.

*g- {ar / al} -umbang 'noise': Bug. galumpang, Mak. garumbang 'noise made e.g. when tables or chairs are pushed'; Mdr. galumbang 'sound of things falling or moving around on the roof'.

*goñcang 'to shake': Bug. (> Mak.) goccang; DuriK mang/-goñcang 'to stir'. PAN *guñcang.

*guci 'water-jar': Bug. Mak. guci, Mdr. Sad. gusi, DuriK guci. PAN *gu(ñ)ci.

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*gugu(r) 'to scatter, sow': Bug. guguq, Bug-Sid. gugū, Mak. gŭguruq; DuriC guguh 'to drop things (from above)'. Cf. Ml. Jav. gugur 'fall, cave in'(?). PIN ?*gugu(rd).

*gogos 'k.o. food': Bug.(BWB) gĭgosoq (< Mak. but with unexpl. /i/), Mak. gŏgosoq, Mdr. gogos. Almost the same as Jav. lĕmpĕr: a spicy filling wrapped in sticky-rice. Cf. Sasak gogos 'k.o. lĕmpĕr'; Banggai to/gogos 'wrapped around each other'; possibly Jav. gogos 'root in the ground (of pigs); to eat (of animals or-- coarse-- of people)'. PIN ?*gu(s)gus; if the basic meaning is 'wrapped, wound together' perhaps the root *gus is present in Ml/BI sĕkaligus 'all at once' (sĕkali 'one time'). The Jav. word, in that case, may not be related.

?*gona 'name': Bug. Mak. gona 'namesake'; Bug. si-ng/kona 'having the same title as..'; Sad. si/kona 'have the same name as..'; Seko kona 'name'. Cf. Ledo Leb. kona, Bar. ngkona, Rampi, Bad. konaq. PIN ?*guna(qØ).

*g-{al/ar}-onggong$_1$ 'deep, hollow noise': Bug. Mak. garonggong 'have a deep voice'; Mdr. galonggong/an 'noise when a round hollow object is struck'; Sad. gonggong 'deep voice'; DuriK garonggong 'hole'. Cf. Jav. gonggong 'to bark (dog)', gronggong 'hollow'; OJ gurunggung 'buzz, drone; loud noise'; BI gĕronggang-gĕronggong 'hollow'. Note also Sad. k/um/alonggong-longgong 'hollow noise, as when one shouts in a cave', showing renalysis of the root to /longgong/. All no doubt related to PAN *-gung 'gong', and onomatopoetic.

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?*g-al-onggong$_2$ 'shrivelled': Bug. galongkong, Mak. kalongkong 'shrivelled, twisted, e.g. like an arthritic hand'. The Mak. appears to be borrowed < Bug., and reanalyzed as k-al-ongkong, < **kongkong. Cf. To. koko 'press or squeeze to make smaller or alter the shape; makoko 'pressed, squeezed, dented out of shape.' PAN ?*ko(N)ku(N).

*gusu(k) 'to rub': Bug. galusuq, kalusuq, Mak. gusuq, kalusuq, DuriK mang/gosoq, Mmj. mang/gosoq. PAN *gusuk.

?*(gk)eso(k) 'to rub': Bug. gesoq, Mak. kesoq 'to rub, polish'; Mak. kesoq2 'violin, rebab'; Sad. meng/keso (dial. -kesok, -kessok) 'to clean one's rear after a bowel movement, by rubbing against a stone'.

*gun(tc)ing 'shears; to cut': Bug. Mak. goñcing, Mdr. goccing, Sad. gonting, Duri gunting, SekoP konting. Undoubtedly a multiple borrowing: we propose Ml. gunting > Mak. goñcing > Bug. and Mak.; Ml. directly > Sad. Duri; Seko probably < Sad., possibly from Bug. PAN *gunting.

*guntu(r) 'thunder': Bug.(BWB) gutuq, (I) guttuq, Bug-Sid. guttũ, Mak. gũnturuq, Mdr. guttur, Sad. Duri guntuq. Further, Sad. galuntuq 'droning, rumbling noise', perhaps the source of SekoL ma/baluqtuq (heard) 'thunder', SekoP baluntu 'lightning'-- loan words occasionally show interchange of labials and velars. Cf. Ledo pana/guntu 'gun' (pana 'shoot'); Jav. BI Sasak guntur 'thunder';

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Fi. kundru 'grunt, grumble', kundru2 'rumble of the bowels'. PAN ?*guntu(rḍ)

*goyang 'shake, waver': Bug. gojang (also gojeng), Mak. goyang, Mdr. goyang, Sad. goyak (/-k/ unexpl.), PUS ti/gojang, Mmj. ti/gojang. PAN *guyang.

γ

*γawi (ka+γawi+an) 'afternoon': Bug. arawéng, arawiéng, (Samsuri 1965) areweng, Mak. karuwéng, Sad.(SWB) karoen; (I) ma/karen 'late'; DuriK ma/karoen; Mdr.(Lontar) arabiang 'afternoon', Cend.(A&K) arawian 'late'. PAN *γabi.

*raki(t) 'raft': Bug. raiq (NB maqd-), Mak. Sad. rakiq, Mmj.(A&K) haki. PAN *γa(ng)kit.

*rampa 'plunder': Bug. Mak. rappa, Sad. rampa, rappa (Sangallaq dial. rampaq), DuriC rappa. PAN *γa(m)pas, with unexplained loss of the final.

*ratus 'hundred': Bug. ratuq, Mdr. atus, Sad. ratuq, DuriC ratuh, DuriK ratuq (irreg. /q/), End. Mai. ratu, PUS ratuq, Seko atuq. PAN *γatus; the Mdr. and Seko reflexes are possibly evidence for retention of *γ in PSS.

*raya 'great': Bug. raja, Mdr. ma/raya; Sad. pa/karaya, pa/karaa 'revere, pay respect to', (I) raya 'big, lively'; DuriK ma/raja; Mmj. to maraja 'important person (BI orang besar)'; SekoL tomaraya 'king'. PAN *γaya, but a likely borrowing < Ml.

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*rɨbba 'fall over, collapse': Bug. rɨbba 'lean'; Mak. Sad. Duri raqba (DuriC 'lie'). PAN *γɨbaq.

?*ruma 'house': Bug. peruma, Mak. peuma (Ø unexpl.) 'temporary hut (usu. near the rice fields)'; Sad. ruma2 'one of the interior walls of a house', lao ruma2 'go visiting (lao lako 'go'). PAN *γumaq. Mdr. guma 'sheath' is undoubtedly borrowed; cf. Bar. guma 'idem', Ledo guma 'sword', which in turn must be borrowed, apparently from a Philippine-type source.

*rusuk 'ribs': Bug.(BWB) russuq (/ss/ unexpl.), arusuq, (I) rusuq, Mak. rusuq, Mdr. usuq, Sad. usuk, PUS(V) oseq, Mmj. usuq; SekoL usuq 'house-poles', SekoP osoko/na '(its) side, ussu 'house-poles; mast'. PAN *γusuk. The Ø reflex in Mdr. and the Sad. group may be evidence for retention of *γ in PSS.

I and E

*ia '3d pers. pronoun': Bug. iyya (/i+ia/), Mak. Mdr. Sad. Duri PUS Mmj. ia; SekoL dea, SekoP dia (< di+ia?) PAN (Dw) *iya (to my view = *ia).

?*ia+ka+ia 'but, rather': Bug. iakia, Mak. iaka (contracted?), Sad. iakaya (perhaps phonemically /iakaia/?), End. Mai. iakia, Duri (RAP72, written) "iyyakia". While the form is reconstructible, the meaning of the individual elements is unclear.

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?*i-r?-bak 'to cut': Bug. eqbaq 'make an incision in a palm to obtain sap for tuak'; Mak. eqbaq 'cut into, slice'; Sad. iqbaq 'split, divide up', iqbak 'open (using force)'; DuriC mang/ibaq 'slice'. Cf. also Sad. siqbaq 'cut up ubi for cooking'. Undoubtedly related to PAN (Dw) *bak 'split', *bakbak 'peel', (Blust) *sibak 'cleave'.

?*imba(C) 'moved, shaken (by wind)': Bug. impaq, taqr/-impaq-kimpaq, Mak. taq/rimbaq (initial /r/ by analogy or borrowing < Bug.); Sad. imbaq '(of the sun) to shine on', imba 'restart a fire by fanning it'. Cf. Ml/BI imbas 'air current; electrical current'. Perhaps PIN ?*imbas (Mak. /-q/ irreg. in such a case).

*(iɨ)(ñ?)cu(C) 'little': Bug. ba/iccuq, biccuq, Mdr. keccuq (< ka+iccuq?); sa/iccoq, siccoq 'little bit, a few'; End. biccuq, Duri Mai. biccuq, beccuq, Patt. ba/eccuq. Cf. Atj. cut 'little'. Perhaps Sad. baittiq, bittiq, though doubly irreg. (/t/ for *c, prefinal /i/).

*iras 'to cut, slice': Bug. irɨq, Mdr. maq/eras, Sad. mang/iraq, DuriC mang/irah. Cf. Tag. hilas (= hilis), OJ iras 'slice' (mod. Jav. 'forming one piece'), NgD. (metathesized) haris = hiris 'slice'. PAN ?*hiras, doublet of *hiris-- cf. the next item.

*iris 'to cut, slice': DuriK mang/iriq; SekoP mang/ere2 'to chop, hack away at'. PAN *hiris.

*iri(C) 'to blow (of the wind)': Bug. m/iriq, Mak. m/iriq, mangng/iriq, also (I) mammiriq, Mdr. ma/iriq, Sad. Duri

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iriq; Sad. (intens.) irrik 'whistle, roar (of a strong wind)'; PUS mang/irriq. Perhaps also Mdr-Cend.(A&K) um/iri '(of a horse) to whinny'. Cf. Jav. m/idid 'to blow (wind)', which like SSul reflects a final stop-- PAN ?*(hØ)id(hØ)id, PSS ?*irit. Further Ledo, Parigi po/iri 'wind', Bar. iri 'blow', Kulawi wiri (irreg. /w/, perhaps by analogy < ?po(w)iri). PAN (Dw) *iriγ, (Dy) *qiriγ 'to fan'. Of Dempwolff's cognates, only Tag. ilig unambiguously reflects *-γ; Jav. ilir (< *irir) reflects it wrongly; OC-- e.g. Fi. iri 'to fan'-- could just as well reflect *-d- or *-ḍ-. Our proposed PAN form will account for all but the Tag.-- with Jav. ilir (< irir) a doublet of m/idid.

*ende(k?) 'to go up': Bug. m/enreq (-k-, -s-), Mdr. mi/-endeq; endeq 'ladder'; Sad. endek, kendek (< *ka-endek?) (note also kedeng 'idem'), End. endeɲ, endekki (trans.); DuriK menn/endek 'climb'; Mai. di/endekki 'be raised up'. Cf. also *kɨdde(C) below. Note Bar. kende, Ledo ne/-tende (/t/ unexpl.).

*(iɨ)di(C)$_1$ 'a little bit; few': Bug. ceqdeq (NB Basa Bissu ma/ide 'small'); Mak. caqdi 'small'(?); Sad. sidiq, sakkidiq, End. ceqdeq, Duri ciqdiq, Mai. ciqdi, PUS Mmj. saidiq. Cf. Napu ha/odi (< **sa-ɨdi); OJ kḍik (= kĕḍik). Probably from a root **(dḍ)ik (cf. PAN (Dw) *ḍikiq; Ml. sedikit); PSS has apparently added a *ɨ or *i epenthitic vowel to avoid a monosyllable. SSul also shows the prefix *sa- (ca-) 'one, a'.

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*(iɨ)di(C)$_2$ 'many': Mdr. ma/iqdiq, ma/eqdi, Mmj. ma/iqdi, (A&K) maidi, PUS(V) maidi. Probably related to *(iɨ)di(C) 'little bit' via rare (but not unheard-of) reversal of meaning.

*indo(C?) 'mother': Bug. indoq, Mdr. kindoq, Mdr-Camp.(A&K) inro, Sad. End. DuriC, DuriK indoq; Duri Patt.(RAP72) indo, Mai. indo, indoq (misprinted?); Cf. also Sad. paq/indor/an, Mdr. indo/na ure 'aunt'. PAN *in(ḍ)u.

?*ilong 'nose': Sad. Duri illong (/ll/ unexpl.), SekoL (heard), SekoP ilong. Note Bad. iḷo. Apparently a borrowing from some undetermined source, irreg. reflecting PAN *iğung.

*induk 'the arèn- or sugar-palm, Arenga pinnata Merr.': Bug. Mak. inruq; Mdr. induq 'tuak (a mildly alchoholic drink, the fermented sap of this tree)'; Mdr-Bal.(A&K) to indu (to 'tree'), Sad. DuriC induk, End. enduɲ. Cf. Jav. duk, ĕduk 'fibres of the arèn-palm', Ml. ijuk 'idem'. PAN (Dw) *ijuk-- but only Ml. and TB reflect the *-j- unambiguously; perhaps ?*i(n)duk or ?*i(n)Zuk.

*ida(m) 'crave': Bug. idaŋ, Mak. irang, Mdr. mang/idang, Sad. mang/iden (/e/ unexpl.)-- refers esp. to the cravings of pregnant women. PAN *iḍam.

*inda(m) 'borrow': Bug. inraŋ, Mak. inrang, Mdr. maq/-indang (note mapp/inrangi 'to owe', apparently < Bug. or Mak.), Sad. Duri PUS indan, Mmj.(A&K), Seko indang. PAN (Dw) *hinjam, *hi(n)dam, (Dy) *hinZam.

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*iru(p?) 'to sip; drink': Bug. Mak. iruq 'sip'; Mdr-Camp. (A&K) miru, Mdr-Bal.(A&K) um/iru 'drink', irusan 'drinking-cup'; Sad. unn/iruq (-s-), PUS umm/eruq 'drink'. PAN *hiyup.

?*ijo 'green'(PSad.): Sad. ma/ido, DuriK PUS ijo. Most likely borrowed < Ml. hijau. PAN *hijaw.

*i(ng)ko(C) 'tail': Bug. iko, Mak. ikong, Sad. Duri Mai. ikkoq, End. Patt. ikkoʔ, PUS engkoq; Mmj. oki, Seko uki (metathesized). Note also Sad. engkok 'the furthest point, the end'. PAN *ikuy; the irreg. SSul reflexes of the final are unexpl.

*iluy$_1$ 'saliva': Bug. eloq, Bug-Sid. elō, Mak. ĭloroq, ĕloroq; Sad. eloq, DuriC (and V) eloh, also meaning 'desire, wish'; DuriC eloh2 desire'. PAN *iluy, no doubt containing the root **luy 'flow'. Cf. the next.

*iluy$_2$ 'to want; will (future marker)': Bug. m/eloq, Mak. eroq (irreg. /r/ and /-q/, borrowed?), Mdr. m/eloq; Sad. ilu 'desire, yearn'; DuriC eloh 'desire'; DuriK End. Mai. melo, Patt. ka/eloq. Perhaps Seko mio, but the loss of *-l- is irreg. No doubt derived < *iluy$_1$.

*ina 'mother': Bug.(BWB) ina, (I) inang; ina/ure 'aunt'; Mak-Sal. ina; perhaps in purina 'aunt' if < puri (q.v.) + ina (but puri+na is also possible); Sad. ina/nna 'female animal that has borne young'; Seko ina; also SekoL ina/nna 'aunt'. Mostly replaced by *indo(C). PAN *ina.

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*inAng 'only, certainly': Bug. (BWB only) inɨng; Bug. Mak. Mass. ka/m/inang 'the most...'; Sad. inang 'certain; of course'.

*inum 'to drink': Bug. m/inung, Mak. inung, Mdr. inung, Mai. m/inung, PUS (all cited in V) Bamban menum, Ulu Mandaq menung, Bulo2 inuq, Mangki imun (metathesis), Mmj.(A&K) menum, SekoP menung. PAN *inum.

*ingɨt 'to remember': Bug. ingɨq, engɨq, Mak. ingaq, Mdr. maq/ingar/an (Lontar derives from a base /ingaq/, not found in my informant's dial.), Sad. ingaq (-r-), DuriK mang/ingarran. PAN *ingɨt.

*io 'yes': Bug. Mak. Mdr. Sad. Duri io; SekoP aio (also means 'to answer'). Note also Bug. ieq 'idem, less polite'; DuriC ieq 'idem, more polite'.

*ipaɣ 'brother/sister-in-law': Bug. ipaq, Mak. ɪparaq, Mdr. ipar, Sad. DuriK ipaq, DuriC ipah, SekoL (heard) ipaq, SekoP ipa. PAN *hipaɣ.

*i(m)pi 'to dream': Bug.(BWB) nipi, (I) nippi (/n-/ unexpl.), Mdr. mang/ipi, Sad. DuriK mang/impi, Mmj. mang/ipi, SekoP mangng/ipi. PAN *i(m)pi.

*ipo 'tree sp. with a poisonous extract, Antiaris toxicaria': Bug. Mak. Sad. ipo. PAN *ipuq.

*(ma-) isa 'one': Bug. isa...isa... (also seisa...; saisa...) 'the one/some...., others...'; isáng, esáng (/isa+ang/),

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Mak. pisång (< pa+isa+ang?) 'carry (by one person only)'; Mdr. mesa, Sad. misaq (also issaq "rare"), Mass. mesaq, PUS, Mmj. mesa, SekoL (heard) mesa, SekoP essaq (note besa in sampulo besa 'eleven'-- unexpl. /b/). Cf. also Sad. amisa, misa2, SekoL mesa2/na, SekoP besa2/na 'single, each' (note Sasak mesa2 'alone'). Perhaps also Mdr. sangissaq 'some, several'; Mmj. mang/issaq, SekoP mangng/essaq 'to count' (note NgD. isæ 'idem'). PAN *isa, *ɨsa. Cf. also the next two items.

ka+misa 'nine (i.e. "the first" from ten)': Mdr. amesa (A&K) amesaa (=/amesaqa/?), Mmj. kamesa, Seko kamesaqa. (The Seko form probably due to counting rhythm-- note the insertion of /q/ in the word for 'eight' s.v.(ka-)(dr)ua.) Note also Mak-Sal.(BWB) kaässa (=kaqassa?), suggesting a proto-form *ɨssa, not found elsewhere in SSul unless (irreg.) in the words for 'count' etc. given above.

?*baisan 'kin-term': Bug. baisɨng, Sad. baisen, besen-- refers to the relationship between a married couple's respective parents-in-law. Ml. Jv. besan, PAN *baisan < **ba+isa+an; probably borrowed.

*insAn 'to know': Bug. m/issɨng (NB also maqdissɨng!), Mak. asseng (< metathesized *ɨ(n)sin?), isseng (/e/ unexpl.), Mdr. ma/issan; pa/issann/i 'to inform'; Sad. issan, End. Duri issen, Duri(RAP72), Mai. Patt. isseng; DuriK issan2 'popular, common'; PUS Mmj. issan, PUS(V) insan, SekoL issang; ka/issan/ang 'popular, common'; SekoP isang,

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(in a different hand) pa/issang 'clever, capable'. The following forms may disambiguate the *A to *a, though we suspect they are borrowed < SSul: Bar. ĩñcani, Wotu sani, mañcani, mangiñcani, Parigi iñjani (/ñj/ regular < **ñc < *ns), Napu isa, Ledo nang/isani. Perhaps related to *isa 'one'?

*isi 'tooth': Bug. Mdr. Sad. Mass. PUS Mmj. isi; probably Seko sise (SekoL also isi). Note also Sad. me/langissiq 'to laugh with the mouth wide open (so that one's teeth show)'. Cf. Sang. Bar. Tawaelia, Ledo, Mori ngisi, Uma, Napu, Leb. ngihi 'tooth'; Tag. Bis. ngisi 'to grin', Tag. pangisi 'boar whose tusks have already begun to emerge'; Mori me/ngingisi 'to laugh'. PAN (Zorc) *ngisi 'smile', but this is probably a derived form and meaning (e.g. < **mangisi); we propose PAN *isi 'tooth', very likely related to PAN *isi 'contents' via some such expression as *<u>isi + mouth</u> 'contents of the mouth = teeth'. Cf. also *ngisi below.

*iso 'clean, smooth': Bug. eso; Mak. peso (refers esp. to polished rice), Sad. iso. Cf. also Bug.(I) m/iccong, End. micoŋ 'to shine, glitter'; Sad. riso 'to smooth newly-formed pottery (while wet)'. Cf. also *le(sc)o(C), *gusuk, and *(gk)eso(k). Mak. peso most likely derives < **pa+iso; but cf. To. fihu '1. finish off the edges of a mat, 2. k.o. fine mat, almost white and very soft'. Note also Jav. isuh, wisuh 'to wash'. PAN ?*-isuq.

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*isung 'to sit': Mdr-Cend.(A&K) poq/esung/an 'seat, place to sit'; Sad. esung, isung, Seko m/esong.

?*insɨ(m), ?*ɨ(n?)sɨm 'sour': Mdr. ma/issang; (> PSad. **insu(m)) Sad. essun, messuq, missuq (/-q/ unexpl.); Duri bau bissun 'smell of fish/blood'; Mmj. insung 'vinegar'. Cf. Bar. ma/iñcu; Ledo añja 'a type of mango' (probably borrowed: Ledo /a/ < *ɨ irreg.). PAN *asɨm, (Charles) (Philippine) *alsɨm.

*is(ɨu)(p?) 'to suck, sip': Bug. isoq, Mak. isuq, DuriK isoq, isaq (perhaps < Ml. isap), DuriC isoq; isotan 'place to drink'; End. Patt. m/isoq 'to drink'. Perhaps Sad. sussuq 'to suck (out)'. PAN *his(aɨ)p, which on the basis of *sɨpsɨp 'suck' should be amended to *hisɨp. Note also Bug. icoq 'tobacco', makk/icoq tole 'to smoke a cigarette' (cf. Ml. minum rokok 'idem', lit., "drink" a cigarette).

*ita(m) 'black': Mak-Sal. etang, Sad. etan (of pigs and buffalo); Mmj. ma/etang 'ebony wood'. PAN *qitɨm.

*e(bw)a_1 'to oppose, resist': Bug. Mak. ewa, Sad. ea, si/ea, s/ea; DuriK pa/ewa 'to defeat', si/ewa, s/ewa 'to bet'. Cf. Jav. ewa 'aversion, dislike', Bar. me/ewa 'oppose', perhaps Bar. Ledo ewa 'like, similar to', Mori ewa 'form, shape' (Bar. Ledo and Mori perhaps reflecting a homonym). Cf. also the next.

*(par-) e(bw)a_2 'tools, equipment': Bug. parewa, paewa, Mak. parewa, Mdr.(Lontar) pareba, Sad. parea, Duri

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End. Mai. parewa. Cf. Bar. Mori parewa (Adrinai 1928 derives < rewa), Ledo parewa. A further derivation: *e(bw)a+an(+an): Bug. ewangang, Mak. ewangang 'gun' (NB MWB cites the phrase ewangang pabundukang 'lit., equipment for war'); Sad. ianan (also ewanan in the texts, but not in SWB), DuriK ewanan 'goods, property'; Mdr. ewangan 'gun', Mdr-Bin.(A&K) ewanan 'inheritance'. (Possibly *e(bw)a_1 and *e(bw)a_2 are related; Matthes gives yet a third meaning for Bug. and Mak.-- 'to help'-- with which cf. the various meanings of *bali 'side; help; oppose'.)

J

*jaat 'bad': Bug. ma/jaq, Mak-Sal.(MWB only) daä, Mdr. ka/daeq; raetang 'coward'; Mai. ma/jaq. Perhaps also Duri gajaq, but a "prefix" element *ga- has not been identified. PAN *jaqat.

?*jambAl 'to close, block up': Bug. jampaq, Mak. jämbalaq (Mak. inf., 'close s.t. (e.g. a bottle) tightly). Cf. Ml/BI pĕñ/jabal/an 'rubber-band'?

*jamba(n) 'toilet': Bug. jambang 'faeces' (apparently a borrowed word, because of the /mb/); Mak. jambang 'toilet-area behind a house'; Mdr. jambang 'go to the toilet'. PAN *jamban; but all SSul possibly borrowed < Ml. or Jav. jamban.

*ja(b)i 'tree sp., Ficus sp.': Bug. Jak. jawi, Sad. dai2. PAN *jabi.

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*jarang 'seldom, rare': Bug. Mak. jarang, Sad. ma/darang, Duri ma/jarang, Mmj. ma/dahang, SekoP ma/jarang. PAN *jarang.

*ja(d)i 'be, become': Bug. jaji (sporadic assimilation of *d > /j/ before /i/), Mak. Mdr. jari; Sad. men/dadi 'be born'; Mass. jaji (< Bug.?), PUS men/jari, PUS(V) dahi, Mmj. men/jari, SekoP men/jadi. PAN *jadi.

*jaring 'net': Bug. jaring 'k.o. hunting net'; Mak. jaring 'covering, wrapping'; Mdr. jaring 'hunting net'; DuriK paq/jaring/an 'the warp threads (on a loom)'. PAN *jaring. Cf. also Bug. Mak. dari 'k.o. fishing net'.

*jaru(m) 'needle': Bug. Mak. jarung, Mdr. rarung (/r-/ irreg.), Sad. darun, Duri jarung, PUS darung; SekoP jarung; man/daung 'to sew' (both probably borrowed). PAN *jaɣum.

*jarumat 'repair, sew up': Bug. Mak. jarumaq, Sad. darumaq, DuriK mang/jarumaq. PAN *jarumat, but likely borrowed < Ml. One would assume a relationship with *jaɣum 'needle', but the element *-at is obscure.

*ja(ng)gu(r) 'fist; hit; fight': Bug. jåqguruq (< Mak.), Mak. jåguruq; Mdr. mañ/janggur 'hit', janggur 'fist'; Sad. pe/daqguru 'to pound'; Duri jangguruq, SekoP pi/takuru 'fist' (NB /t/ for /j/ in a loanword); Mmj. ma/jaqguru 'to hit'. Only the Mak. and Mdr. could be native SSul forms, but the word is undoubtedly a loan

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at the PSS level. Cf. Jav. jagur 'fist', Bal. Sasak jagur 'hit with the fist', suggesting PIN ?*jagu(rḍ) or ?*jaguɣ if borrowed from (non-attested) Ml. forms. Cf. further Fi.(Hazlewood only) ~~d~~anggu, ~~d~~anggu-~~d~~angguru 'injured in a certain way'(?); saku(-ta) 'to strike on the head (usu. with a club)', sako(-~~d~~a) 'beat with a stick; (some dials.) stroke gently with the hand'. PAN ?*ja(ng)gu(rḍɣ).

*janggu(t) 'beard': Bug. jangkoq (also janggoq), Mak. Mdr. janggoq, Sad. danggoq, Duri PUS Mmj. janggoq. PAN *janggut.

*jait 'to sew': Bug. Mak. jaiq, Bug-Sid. jaī, Mdr. manga/raiq (irreg. prefix /manga/? and irreg. /r-/); ma/raiq/i 'to sew up, repair'; Duri mang/jaiq; DuriC pang/jait/an 'place where one sews'; Mmj. pe/daiq 'needle'. Cf. also Sad. PUS Mmj. man/dasiq 'sew', possibly borrowed from Ml. jahit at a time when the /-h-/ was still pronounced? PAN *jaqit.

*jaja(r) 'in a row': Bug. jajariṅg, Mak. jǎjaraq 'part of the house with built-in benches, sort of "sitting room"; Sad. dadaq 'in a row', (SWB only) jajaran 'mat' (< Bug.). PAN *jaja(r); likely borrowed from Ml.

*jañji 'to promise': Bug. jañci, Mak. jañji, Mdr. jañ̃ji (half-prenasalized /j/ indicative of a borrowing?), Sad. dandi, danti (probably < Bug), End. Duri jañji, Mdr-Camp.(A&K) jañci (< Bug.?), Seko danti. PAN *jañji.

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*jangka 'comb': Bug. jakka, Mak. jangka, Mdr-Big.(A&K) daka, Sad. dakka, Sad-Palopo (Adriani 1898a) jaka, Mmj.(A&K) jaka. Note Wo. jâ (/jaa/?). Cf. also Ml. Jav. jangka 'compass (divider)'.

?*jali(C?) 'mat (usu. of split rattan)': Bug. Mak. jaliq, Sad. daliq. Cf. Jav. jalèn 'underlayer of bamboo laths, for a bed or bench' (< jali+an).

?*jalu(C?) 'to mate (of animals)': Bug. jaluq, Mak.(MWB) jaluq, (I) lalu, Sad. si/lalu, si/galuq (/g/ marks a borrowing, but from where?), DuriK si/jalloq (intens. form?). Cf. BI, Sund. jalu 'male (of animals). The SSul forms with /l-/ reflect a doublet (?) *(dr)alu.

*jama 'to handle, to work': Bug. Mak. jama, Sad. dama, jama, Mass. jama, SekoP mang/kama (< **mang/gama, borrowed). Note Uma ngkamaq 'to work/cultivate the sawah's', Ledo ne/gama 'to touch'. PAN *jamaq.

?*jangan 'bird, chicken': Mak. jangang 'chicken', jangang2 'bird'; Sad. dangan2 'dove'. Possibly related: Sasak jangan 'meat (for food)', Bal. jangan '(high level) vegetables', Bima janga 'chicken' (possibly < Mak.); NgD. jagan 'rooster' (/g/:/ng/ correspondence unexpl.).

?*jangka(l?) 'handspan (unit of measure)': Bug. (> Mak.?) jakkaq, Bug-Sid. si/jakkā, Mak. jĭngkalaq (/i/ irreg.), Sad. dangkan. PAN *jɨ(ng)kal.

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*j±lling 'ogle, leer': Bug. j±lling, Mak. jalling, Sad.(I only) dalling. Cf. Ml. jĕling, TB joling; Sasak jĕleng 'to squint at'. As a variant or borrowing: Bug. Sad-Rong.(V) juling 'squinting, cross-eyed'. Note To. holi 'want, desire; lust or long for'. PAN ?*j±ling.

*j±lluk 'to point': Bug. j±lloq, Mdr. jolloq, Sad. dulluk, dullok, dollok (also dullung, dullo), DuriC mang/jillok, DuriK mang/julluq, Mmj. meñ/jolloq. Derivative: Bug. pa/j±lloq, Mdr. pañ/jolloq, Mdr-Camp.(A&K) pidolok 'index finger'. Perhaps < earlier **j/±l/uk < root **juk-- cf. Mak. joqjoq, Ml. tuñjuk(?).

*j±(m?)pu(t) 'grasp, pick up with the hand': Bug. j±ppuq, Mak. jappuq; Bug Sid. si/j±ppū 'a handful'; Sad.(SWB) deqpuq, diqpuq; (I) jippuq 'take', ka/jippuq2 'thievish, "light-fingered"'. PAN *j±(m)put.

?*ji(q)ji(r) 'in a row': Bug. jijiq, Mak. jĭjiriq; Mdr. siñ/jijir, Mdr.(RAP67) sa/jiqjir 'a row/series of...' Cf. PAN *jiji(r)-- perhaps **ji(r)ji(r).

?*ji(N), *jiñji(N) 'raise, lift up (usu. with the hand)': Bug. jiñjing 'lift up high', m/eñceng (< earlier *meN/-jeng?), maka/jeñceng 'stand on tiptoe (e.g. to reach for something very high)'; Bug.(I only) maq/ku/dendeng 'hop on one foot'; Mak. ka/jeñjeng (MWB) 'stand on tiptoe', (I) 'stretch oneself (e.g. after waking), Mak.(I only) aq/dinding 'stand on tiptoe', mañjeng 'lean on'(?); Sad. ka/detten (< ka/denten?) 'stand on tiptoe'; note

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also ka/dette 'run on tiptoe'; DuriK jeñjen 'to stand'. If Bug. jiñjing be excluded as a loanword (because of the /ñj/ and divergent meaning), this set appears to be cognate with Dempwolff's *jɨng, *jɨngjɨng 'stand', but there is no explanation for the /-n/ of Sad. and Duri (even though the Sad. is apparently a loan < Bug.).

?*jo(bØ)a(C) 'follower; retinue': Bug. Mak. Mdr. jo(w)aq 'king's retinue'(e.g. sons of minor nobles attached to the court of the king to whom they are subject-- comparable perhaps to knights in medieval Europe); Sad. duaq 'subject to (e.g. a tenant farmer, indentured servant etc.)'. SWB equates with Ml. juak 'compete with, instigate'(?).

*joro(k?) 'overdo; extraordinary': Bug. Mak. joroq. Cf. Jav. jorog 'addition' jurug 'add even more to..'; To. hulu 'vast, very big; excessive, abundant, too much'. PAN ?*ju(rdd)ug.

*joge(t) 'dance': Bug. Mak. jogeq, Sad. dogeq. Perhaps borrowed, but cf. Ml. joget, Jav. joged 'dance'; Fi. dongge 'hop on one leg'(?). PAN ?*junggid.

*ju(ñ)jung 'carry on the head': Bug. jujung, cujung (< (ma)ñcujung), Mak. juñjung (I also jujung, < Bug.?), Mdr. man/dudung, Mdr-Cend.(A&K) ruru (irreg. /r/), Sad. dudung, Duri juñjung, Mmj.(A&K) dudun (irreg. /n/). PAN *jungjung.

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*juku(t) 'meat; food': Bug. jukuq; Mak. jukuq 'fish'; Sad.dukuq, Mass. jukuq 'meat'. Cf. Mad. jhukoq 'fish' (Mad. /-q/ < any PAN stop); OJ jukut 'vegetables, side-dishes'. PIN *jukut.

*jonga 'deer': Bug. Mak. Mdr. jonga, Mdr-Bin.(A&K), Sad. donga, DuriK, Mmj.(A&K), Seko jonga. Certainly a loan in Seko (because of the /j/), possibly a loan in all SSul, but a source language has not yet been found.

K

*kambi(C) 'to herd, guard cattle': Bug. ampiq, Mak. (< Bug.) kampiq, Bug-Sid. ampī; Mdr. paq/ambiq 'herder'; Sad. Duri kambiq 'herd/raise cattle'. Cf. Bar. kambi; Mori pom/pa/kambi 'herder'; Adriani equates Ml. kambing 'goat', which seems remote.

*kamboti 'k.o. basket': Bug. kampoti, ampoti, Mak. Sad. kamboti. NB Ledo kamboti.

*kada 'word; to say': Bug. ada, Sad. Duri PUS kada, Mmj.(A&K) aha. Bug. (k)ɨdda in makkɨdda 'to say' is presumed cognate, though the /ɨ/ is unexpl. Usually held to be borrowed from Ml. kata 'word', itself a borrowing < Skt. kathā; if so, the *-d- is unexpl.

?*kadawang (?*ka+dawang, ??kadaw+an) 'piece of land': Bug. adawang 'section of a large sawah to whose output the tenant-farmer is entitled'; Sad. kadaang, kadayang 'piece of land planted in crops, in sections separated

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by ditches'; SekoL (heard) kadaq 'garden, dry-rice field (BI ladang)'; SekoP kada 'plains'. The Sad. form with /-y-/ is probably a hypercorrection; Seko may be borrowed < Sad., and reanalyzed as kada+ang.

?*karVme (?*ka+rVme) 'finger': Bug. karameng, Mak. karemeng (/-ng/ probably analogical), Mdr. gareme (/g/ unexpl.), Sad-Palopo (Adriani 1898a) karame (< Bug.?), Mmj.(A&K) kaheme. Cf. Bar. karama 'finger', kalama 'hilt of a sword'; "Minahasa" (NSul) kama 'hand' also cited in Adriani 1928. Reid 1971 lists a variety of Philippine forms suggesting either **(kg)a+ramay or **(kg)-ar-amay.

*karang 'coral': Bug. Mak. karang; Sad. karang/an 'gravel, coarse sand'; Duri SekoP karang. Perhaps a loanword, esp. in interior languages like Sad., Seko. PAN *karang.

*kande 'to eat': Bug. m/anre, Mak. kanre, Mdr. umm/ande, Sad. kande, kumande, Mass. k/um/ande, PUS umm/ande, Mmj. m/ande, SekoL m/ande, SekoP m/anne. With the meaning 'food': Bug. nande, inande, Mdr. ande, Sad. kande, DuriK nande (< earlier inande?), Mai. kinande, SekoL ande/na '(his) food', SekoP kinanne 'cooked rice'. Cf. Bar. mande (dial.) 'eat', ande 'graze, pasture'; Napu ande, Ledo kande; Bad. Bes. ande/a 'cooked rice'. So far, cognate forms have not been found outside Sulawesi.

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*kariango 'plant sp., Acorus Calamus Linn.': Bug. areango, Mak kareango, Sad. kariango. Probably *ka+riango; cf. (Heyne 1950:418) Banjarmasin Ml. riangau, MinK. jari-angau; Bar. kariango; Ml. jĕrangau shows a different "prefix" /jĕ-/ and unexpl. loss of the *i. PIN ?*riangaw.

*kandora(C?) 'tuber, yam (BI ubi)': Bug. kandoraq, Mak. kandoraq, Mdr.(RAP67) kanderaq (misprint?), Mdr. (Heyne p.1031) kandora, Sad. kandoaq, andoaq, dandoaq, duaq, doaq, Duri kandoaq, SekoP annora, Seko (Kruyt) kanoa (= kannoa?). Cf. also Mori (Padoe dial., near Malili/Wotu) kandora, Bar. gandoqa, Ledo kadoe. While the word is very likely a borrowing, the irregularities of the /r/ suggest PIN ?*kandoγa(C). The source, however, is obscure, as Heyne lists no other cognate forms.

*ka(n)dupi(C) 'bag, sack': Bug. anrupiq, Mak. kanrupiq (Matthes, for both) 'small bag made of lontar leaves', (Informants, for both) 'sack-like blossom of the pinang, wherein the fruit develops'; Sad.(Merok text) karopiq 'bag made of palm leaves', (SWB) 'wooden tub in which greens are cooked'(?). Cf. Tag. kalupiq 'purse, bill-fold'. Tag. /q/:SSul /q/ are contradictory; we suggest that the Tag. is borrowed. PIN ?*ka(n)(dḍ)upi(C); or ?*ka(n)ḍupiq if Tag. is directly inherited.

*kairi (?*ka+iri) 'left (hand)': Mak. (> Bug., according to BWB), kairi, Mdr. kaeri, kiri (< BI, according to the informant), Sad. kairi, Duri kiri (< BI?), PUS

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SekoP kairi, Mmj. kairi, kiri, kihi. Cf. PAN (Dw) *wiɣi, often reflected as *ka+wiɣi (as in Ml. kiri). By failing to reflect the *w, PSS *kairi seems to be marked as indirectly inherited.

*kaia(ng) (?*ka+ia(ng)) 'big': Mdr. Sad. (poet.) kaiang, PUS(V) kaiong, Taramanu, Tubi dials. kaia, Mmj.(A&K) kayang, kaiang, Mmj.(my) kaiang. Cf. Limolang (Wai-bunta, near Masamba, Luwu) kaia, Napu(A&K) ngkaia, Bad. ngkoio. Possibly related to Dempwolff's *hiyang 'god; divine'-- cf. the TB meanings 'majesty; glory'.

*kaka 'older brother': Bug. Mak. kaka (Mak.I also kakaq, probably based on the poss. form), Mdr. kakaq, Sad. kaka (NB "vocative" kakaq), DuriK kakaq, SekoL (heard) kaqa/nna, SekoP kaa. Note also Sad. Mmj. to makaka 'nobles, ruling class', found widely throughout Central Sulawesi-- e.g. Mori to makaka 'king'. PAN *kaka.

*kangka(ng) 'scratch; curry a horse': Bug. kakkang, Mak. Sad. kangkang.

*kalapuan 'turtle': Bug. alapúng (< earlier alapuang), Mdr. kalapuang, Sad. Duri kalapuan, SekoP kalapuang. The word appears to be a *ka-...-an derivation, but a base *lapu is unattested. Cf. also Bar. Mori kolopua (pretonic *a > *i̱ > o), Parigi kalapuangi (probably a loan, as the -i̱ indicates), Napu kadapua (irreg./d/).

?*kalawe (and/or ?*kale) 'body': Bug. Mak. kale, Mdr. alawe (RAP67 alave, implying /alabe/), Mdr-Bal.(A&K)

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kale, Sad. Mass. kale, SekoP kalae (< *kalahe with irreg. loss of /-h-/?). Cf. Sad. sang/kalae 'of one piece (cloth)', dial. sang/kale. The forms /kale/ would appear to be borrowed from such a source, assuming that all are cognate. Cf. also Bar. Ledo Parigi kale 'root'. Further cf. Sad. Duri kale2 'naked', Bar. lambe(si) 'to undress, expose; naked'. Perhaps ult. < *ka+la(m)be?

*kali 'to dig': Bug. Sad. Mass. PUS Mmj. kali; SekoP k/in/ali 'irrigation ditch'. PAN *kali.

*kaluaya (?*k-al-uaya) 'crow (the bird)': Bug. kălluaja (Old Bug., /ă/ unexpl.); Mak. koayang 'k.o. hawk, predatory bird'; Mdr. (all A&K) Maj. kaluaja, Cend. Camp. kaloaya, Bin. kadoaya, Bal. kaduaja, Sad. kaluaja, kaduaya, kadoya. Cf. Napu Bar. Parigi kaloa (only in Napu is *y > ø regular).

*kal(i,u)bambang 'butterfly': Bug. kalubampa (irreg. -ø), Mdr. kalu(w)ambang, Sad. kalubambang, kalibambang (also kabambang 'sp. of grasshopper'), SekoP kalubammang. Cf. Napu, Ledo, Bad. Parigi kalibamba, Bar. kalabamba, aliwombo, Bob. kalibombangi; and Ml. bambang. The root **bang also seen in Ml. kumbang 'bumble-bee', tĕrbang 'to fly'.

*kaluku 'coconut': Bug. Mak. Mdr. Sad. Duri PUS Mmj. SekoP kaluku. Cf. Jav. glugu; Sasak kĕlukuh 'remains of coconut flesh after grating'; Parigi Ledo kaluku;

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Ttb. kaleqkew (< *kalewkew, perhaps <*-al- +*kayu2 'tree, the tree par excellence'(?). Also Atta (Reid 1971) ka:luk.

*kal(uo)ɣ 'ditch, furrow': Bug. aloq, Mak. kåloroq, Sad. kaloq (also 'small stream'); DuriC kaloh 'ditch' kaloran 'make a ditch'; DuriK kalo. Note also Bug. kaloriŋ, Mak. kalorang 'channel (in a reef or sand-bar)'; PIN ?*kaluɣ, containing the root **luɣ 'flow'.

*kami 'we (usu. exclusive)': Mdr. i/ami, Sad. Duri kami, PUS kamiq, PUS(V) i/ami, Mmj. SekoP kami. Also present (with irreg. loss of the *-i) in: Bug. i/kiŋ, Mak. i/-kam/be; PSS *-ka(mn) 'lst pers.pl. suffix' (see §2.2.3.2). PAN *kami.

*kanan 'right (hand)': Mak. kanang, Mdr. Sad. Duri PUS Mmj. kanan, Seko konang. In view of PAN *wanan (*ka+wanan), Seko may reflect PSS ?*ka+wanan, where all others have lost the *-w- due to the influence of Ml. kanan. Bug. has kanang, but informants felt it was < BI; the usual word is atau.

*kapal 'thick, dense': Bug. kapiq in pittang kapiq 'impenetrable darkness'; Mak. kåpalaq 'thick (of skin); Mdr. pattang kapaq 'very dark'. PAN *kapal.

*kapa(N) 'think, suspect; maybe': Bug. kapang 'guess'; Mak. kapang 'perhaps'; Mdr. Sad. kapang 'perhaps'. Cf. Ml. kapan 'when?'; probably ult. < *apa 'what'.

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*kapas 'plant fibre (modern, cotton)': Bug. apiq, Mak. kăpasaq, Sad. kapaq, DuriC kapah, DuriK kapa, End. kapaq, Mai. Patt. kapa, SekoP kapa. PAN *kapas.

*kampi(n) 'extra work, second job': Bug. apping, Mak. kamping. Cf. Bis. kapín '1. excess, surplus; exceed, 2. gain, profit'. PIN ?*ka(m)pin.

*kapu(t) 'to close, fasten': Bug. kapuq; Mak. kapuq (MWB) 'close, fasten' (Konjo) 'tight'; Sad. kapuq '1. completely covered, 2. tie up'; Duri C mang/kapuq (-t-) 'to tie'. Note also Mak-Konjo sassang makapuq 'pitch-dark', and cf. BI katup 'valve', katup/kan 'close tightly', gelap katup 'pitch-dark'; Uma kapuq 'tie'; Letti (Moa) (Jonker 1932) nagtu (= /nawtu/?; /n/ < *ng, /w/ < *p, metathesis of final *-VC all regular) 'dark'; NgD. kaput 'dark', kaputan, kalaputan 'knot, fastening; to tie'. Either the Ml/BI, or all the others, shows metathesis. Probably < a root **tup or **tub 'close'; cf. PAN *tutup.

*kaso 'spar, rafter': Bug. Mak. Sad. Duri Seko kaso. PAN *kasaw.

*katil 'to itch': Bug. m/atiq, Mak. kătalaq, gătalaq (< Ml.), Sad. Duri katiq (*i > /i/ between two dentals?), SekoP mi/kating (*-l > n/ng perhaps regular). PAN *gatil, but there are many cognate forms with *k-.

*katu 'to send': Bug.(BWB) de/atu (/de-/ unexpl.), (I) datu, Mak. pi/katu, Mdr.(Lontar) mapp/atu (=maN+pa+atu),

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Sad. pa/katu, Duri Patt. pe/katu, SekoP pa/katu. Cf. Bar. katu; Parigi pa/katu 'present'; Banggai kapatu, (metathesis, borrowed?), Balantak, Ledo -katu; Letti natu (/n/ < *ng), Ende (Flores) ngatu, Bima nggaḍu (reg. < **ngkatu); Stresemann Proto-Ambon *katu.

*ko '2d pers. pronoun': Bug. iko, Mdr. iqo, Sad. Mass. PUS iko, Mmj. dioa, Seko dio; PUS(V) dio, iqo. The element /i-/ probably reflects the "personal article"; /di-/ would be a deictic. See §2.2.3.1. Also as PSS *-ko '2d pers., suffixed form'. PAN (Dw) *kaw. Mak. i/kau does not reflect either form regularly, and may be due to Ml. influence.

*kawa(t) 'wire': Bug. awiq, Bug-Sid. kawiq, Mak.(MWB only) kawa, Mdr. kawaq, Sad. kawaq, kaaq (kaaq also 'thread of a spider-web'), DuriK kawaq, SekoP kawa. PAN *kawad, but possibly borrowed < Ml.

*ka(b)u (*ka(b)u2) 'kapok (the tree and the fibre)': Bug. kau2, Mak. Mdr. kau2, Sad. kakau, kau2, Duri kao2, SekoP kabu2. Mdr-Bal.(A&K) kahu2. Cf. Bar. kakawu, Mori kawu2. Perhaps related to PAN *kapuk.

*ang/kaya(m)'tree sp., Inocarpus edulis L.': Bug. akkajing, Mak. angkaeng. Cf. among others Jav., NgD. gayam; Stresemann Proto-Ambon *gayan (PAN *-m > PAmb. *-n reg.). PIN ?*gayam.

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*kayu 'wood, tree': Bug. aju, Mak. kayu, Mak-Konjo kaju, Mdr. ayu, Sad. kayu, Mass. kaju, PUS kaju, Seko kayu. PAN (Dw) *kayuh, (Dy) *kahiw.

*kɨbbɨl 'invulnerable': Bug. kɨbbɨng, Mak. kåqbalaq, Mdr. kaqbal, Sad. Duri kaban, SekoP kabang. There is no good explanation for Bug. /-ng/, nor the simple /-b-/ in Sad. Duri. Perhaps < Ml. kĕbal. PAN *kɨbɨl.

*kAmbA(n) 'thick': (PSad.) Sad. Duri kamban, PUS kamban, Mmj. kambang, SekoL kambang, SekoP kammang. Perhaps also Bug. ma/umpɨq (irreg. /-q/, *ɨ > /u/ before a labial?), Mdr. ma/umbang-- but here cf. Bar. ma/kumba. Perhaps related to the preceding(?), and cf. also the next item.

*kAmbang 'to swell': Mak. kambang, Mdr. Sad. Duri ma/-kambang, Mmj. kamban, SekoP kammang. PAN *kɨmbang, *kambang.

*kɨrrak 'to cry, shout': Bug. kɨrraq 'howl'; Mdr. arraq, Sad. karrak, Duri k/um/arrak; karrakk/i 'weep over, mourn for'; Mmj. arraq (probably < Mdr.), SekoP karraka (=/kårrak(a)/?); karrakk/i 'weep over'; SekoL k/um/irak. Cf. also Mdr. um/irriq 'shout', Sad. kirrik 'sharp, penetrating sound', k/um/errek 'to squeal (of pigs at slaughter)'. Note OJ krak (= kĕrak) 'shout'. PAN ?*kɨrak; cf. Blust *kɨraq 'monkey; cry out'.

?*kondali 'rope': Mak. konrali 'rope-- part of an ox's harness'; Sad. kundali 'rattan rope, for catching

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an escaped horse or buffalo'; PUS donggali 'rope' (irreg. metathesis); Mmj. kondali 'rope'. Cf. Ml. kĕndali 'reins', (Jav. 'bridle').

*kɨ(dr)ang 'to stand/open up': Bug. kɨrrang, Mak. kaqrang 'open up (e.g. an umbrella, sails)'; Sad. karrang 'stand on end (e.g. hair, from fright)'.

*kɨrras '...': Bug. kɨrrɨq, Mak. kărrasaq 'fearsome, imposing; evil, ill-omened'; Bug. ma/ti/kɨrrɨq 'strong, powerful (e.g. the sun's rays)'; Sad. karraq 'hard', (intens) karrak 'intrepid, dauntless'; DuriC karrah 'strict'; DuriC karra 'hard'; SekoL ma/keraq 'hard' (possibly < Ml. kĕras). PAN *kɨras.

*kɨdde(γ?) 'to stand': Bug. kɨddeq, Mdr. Sad. keqdeq, DuriC keqdeh, DuriK keqde, End. "keedeɣ" (=/keqdeɣ/?) Mai. PUS Mmj. keqdeq. Cf. also Sad. pa/teqdek 'build'; SekoL tedeq, SekoP tede 'stand', patedeq 'build'. Reid (1971) gives Philippine forms pointing to PIN *indɨ(gγ) and *tindɨ(gγ), which can be disambiguated to *-γ on the strength of DuriC. Perhaps the SSul shows metathesis of the vowels, *kɨddiγ < **k/i(n?)dɨγ, as well as contamination from the very similar *endek (*kendek) 'to rise'. Cf. also Bar. ka/kore, ko/kore, Uma kore, Bima kidi, Stresemann Proto-Ambon *kĕdĕ, kĕdĕ (*kɨndɨ in our symbols); further Rampi tindiq 'to erect'.

*kɨrris 'skin disease, BI panau': Bug. ɨrriq, Bug-Sid. ɨrrī, Sad. karriq, karreq, DuriC karrih (-s-). Cf. Bar.

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karisa, Ttb. kĕris/ĕn 'ichthyosis', Sang. kĕhe. Note also Jav. kaḍas (irreg. pre-final /a/) 'ring-worm'. PIN ?*kɨ(ḍr)is.

*kɨddo(ɣ) 'stubborn; stiff, inflexible': Bug. kɨddoq, Mak. kăqdoroq; Sad. kaqdo 'crude, coarse, rough'; DuriC kaqdo 'stiff, stubborn' (Sad. and Duri irreg. -Ø). Cf. Ml. kĕjur 'stiff (of fibres)'; Jav. kĕju 'stiff (of muscles)'. PIN *kɨ(dj)uɣ.

*kɨrru(t) 'shave, scrape': Bug. gɨrruq (/g/ irreg.), Mak. (MWB) kaqruq, Mdr. karruq, Sad. ti/karruq, -garruq, Duri karruq 'scratched (e.g. by thorns, an animal's claws)'; DuriK mang/kerruq 'to scrape' (/e/ irreg.); PUS Mmj. karroq, SekoL (heard) karuq, SekoP karu; pi/karu 'rasp, grater'. Perhaps also Bug. ɨrroq, mɨrroq-kɨrroq, Mak. karroq2 'crack, crackle'; DuriK ma/karro 'hoarse'. Showing Tor. influence: Sad. karo 'dig, poke around in', karo/i 'clean mud from a well or sawah'; Mdr. mak/karo/i 'to dig'; cf. Bar. karo 'scratch'; karu 'scrape out; (dial.) scratch'. PAN *kɨ(r)ud.

*kɨngkɨ(m) 'take/hold in the hand': Bug. kɨkkɨng, karɨk-kɨng (I: 'form a fist'); Mak. kangkang; Sad. kangkan '1. payment (rice) to rice-harvesters, 2. carry on the palm of the hand', karangkang (poet., < Bug.?) 'hold', kangkang (I only) 'to harvest rice'; SekoP kangkang, SekoL kakkang 'hand'. PAN *kɨmkɨm; cf. also PSS gɨng-gɨ(m) above.

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*kɨllu(C) 'to scrape': Bug. kɨlluq, Mak. kalluq; Sad. kalluq 'strip off, rub off'. Cf. Jav. kĕlud, kĕlut 'dust off, sweep off'.

*kɨllong 'neck': Bug. ɨllong, Mak. kallong, Sad. Mass. kollong. Cf. Samal (southern Philippines) kɨllong 'throat'; Sasak bĕlong 'neck', kalong 'necklace'.

*kɨnna 'to strike': Bug. kɨnna, Mak. Sad. Duri kanna. PAN *kɨna.

*kɨnning 'eyebrow': Bug. ɨnning (also añning), Mak. kañning (/ñ/ irreg.), Mdr. anning, Sad. kanning, Duri kenniq (back-formation from the poss. forms?), SekoP kini. PAN *kɨning.

*kɨppis 'shrink; deflate': Bug. kippiq, Mak. kăppisiq. PAN (Blust) *kɨ(ng)pis.

*kɨ(m)pong 'stomach': Bug. ɨppong, Sad-Mangki, Mamasa (V) kompong, PUS (all from V) kompo, kompa, kompeng, kopong. Cf. also Wo. ompo, Bar. kompo. PAN *kɨmpung. The following may reflect either (1) random assimilation *k > /p/, or (2) reduplication of a root **pung: Mak. palompong, Sad-Mesawa popong.

*kɨssA(C) 'stiff, tough, strong': Bug. ɨssɨq (NB pakɨssɨq), (also assɨq with unexpl. /a/), Mak. kassaq 'strong, firm'; Sad. ma/kassaq, ma/kassak 'stiff, tough, strong'; perhaps Seko ma/kasaq 'good'. Cf. Ml. kĕsat 'rough, dried out'; Jav. kĕsĕd, kĕsĕt (kisat, kĕsat) 'dried out';

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but also Samal kosog, Tausug kusug, Palawan Batak, Mansaka kɨsɨg 'strong' (Reid 1971). Ml. Jav. point to PIN ?*kɨsɨd, perhaps ?*kɨsɨǧ; PI point to *kɨsɨ(gɣ). Perhaps two distinct etyma, with ?*kɨsɨg reflected by Bug. Mak., ?*kɨsɨ(dǧ) by Sad. (Seko?).

*kɨssi(C) 'sand': Bug. kɨssiq, Mak. kassiq, Sad. (I only) kassiq, kasseq (SWB has only gola kassiq 'white sugar', claimed to be a loan); Mass. PUS kassiq. PAN *kɨsik. By their failure to reflect the *-k, the Sad. group forms, at least, are marked as loans.

*kɨssi(ng) 'good': Bug. ma/kɨssing; Mak. pa/kassing 'clever at...'; Sad. Duri Mai. Patt. ma/kassing, End. kaqsiŋ (/ŋ/ irreg.). Note also Mak. ma/gassing 'strong, healthy'; Sad. ma/gassing 'good'. Cf. Mori tekosi 'good', cognate if /te+kosi/.

*kɨ(tc)i(C) 'sour': Bug. kɨtteq 'strong, bitter taste (e.g. of grapefruit)', kɨcci, Mak. kacci 'sour' (irreg. -Ø), Mdr. kacciq 'sour'.

*kɨtto(k) 'to hit': Bug. kɨttoq 'rap with the knuckles', ɨcco-kɨccoq 'k.o. small gong', ɨtto-kɨttoq 'idem, but larger'; Mak. kattoq2 'small bamboo percussion instrument'; DuriK kattok, kottok 'to knock'. Perhaps Sad. kotteq 'rap with the knuckles' but the /-eq/ is irreg. PAN *kɨṭuk 'knock', cf. also *ṭuk 'onomat., knock, hit'.

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*kimburu 'jealousy': Bug. ẹmpuru, Mak. kimburu; Mdr. maq/-imburu/i 'to envy'; Sad. kimburu, kemburu, Duri kemburu. PAN *buru and *buγu; some of Dempwolff's witnesses also attest **kim-.

?*kide 'forehead' (PSad.): Sad. Mass. PUS Mmj. kide. Cf. also Ledo, Bar. kire 'forehead; eyebrow'. PAN (Zorc) *kiḍay 'eyebrow'.

*kidi(C?) 'to blink the eyes': Bug. kede, Mak. kida, kade (/a/ irreg.), Sad. Duri kidiq, SekoP mang/kidi. Probably related to Ml. kějap, Jav. kějěp, Sasak ěñjěp, kějěp, kěrějěp; kiñjěp 'wink'.

*kedo 'to move': Bug. Mak. kedo 'movement', taq/kedo2 'to move/jiggle (e.g. a fishing line) up and down'; Sad. kedo 'move; behavior'; ti/keduq 'surprised, startled' (possibly < Ml.); DuriK mang-/meng/kedo 'to move'; End. ti/keduq, Patt. ti/kedu 'startled'. Cf. Bar. kedo 'peculiarity in motion or behavior; to limp', kejo 'to limp'; Ml/BI tĕr/kějut 'surprised, started', Jav. kějut, kědut 'nervous or muscular twitch/trembling'. Perhaps more than one proto-form is involved, but we believe that SSul /kedo/ represents a borrowing from Tor. while Sad. et al. /keduq/ is borrowed from the Ml.; all forms ult. < PAN (Blust) *kɨ(ng)jut. Cf. PSS *kɨddo(γ) above, and the next two items.

*kendu(C) 'have sexual intercourse': Bug. enruq (-k-, -s-) (note tau caq/kenruq 'woman-chaser'), Mdr. senduq

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(< si/Øendu(C)), Sad. si/kenduq, kendu, DuriK mang/-kenduq; End. mi/kedoŋ 'humorous but off-color'. Cf. Bar. Ledo keju 'copulate', Banggai meng/keduk 'idem'. PIN ?*ki(n)(djZ)u(k)-- but cf. also the preceding and the following item.

*kejo 'to limp': Bug. kejo, Mak-Bant. kejo (std. kea: kea2 'sp. of bird (snipe) with a peculiar limping gait', taq/kea2 'movements of the partners during coitus'); Sad. keqdong 'lame' (/-ng/ unexpl.). Bar. kejo.

*ki(ng)ki(t?) 'to bite': Bug. keke 'nibble, gnaw' (-Ø irreg.); Mak. kiqkiq (MWB only) (< ?*kiqkit), Sad. kekeq, kengke; kikiq 'to pick off little bits of s.t.'; Duri mang/kengke, End. Mai. Patt. kekke (-Ø irreg.), PUS Mmj. SekoP kekeq, SekoL kekiq. Cf. Napu keki, Ledo Parigi kiki; Bar. kiki 'sharp pain; (arch.) bite'; Togian Bajo (Adriani 1900) keked, Mad. keket, Sasak kekeq (/q/ irreg.?), Proto-Chamic (Lee 1966) *keq (*-q < PAN *-t appears regular), all 'bite'; Jav. kèkèt 'to bite into (and not let go)'. PAN ?*ki(ng)kit, ?*kitkit-- variant of Dempwolff's *gigit (?*gitgit), attested for Ml. and Jav. only.

*kiki(k) '...': Bug. kikiq '(I) to giggle' (BWB also 'to whinny (of a horse)', keke 'roar with laughter; cackle (of birds)' (irreg. -Ø); Mdr. kikiq 'scream, cry; whinny'. PAN *kikik 'giggle'.

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*kila(t) 'lightning : Old Bug. ilɨq (mod. bilɨq), Mak. kilaq, Mdr. killaq (/-ll-/ unexpl.), Sad. Duri kilaq. PAN *kilat.

*kilo 'gleam, shine': Bug. m/iloq (redupl. miloq-kiloq) (/-q/ unexpl.), Mak. kilo2, Sad. kilo. PAN *ilaw, *kilaw, *silaw; cf. *silo below.

*kelong 'song; sing': Bug. elong (makkelong), Mak. kelong, Mdr. elong, maq/elong, Sad. kelong '(SWB) a certain ritual song; (I) song', (I) kumelong 'to sing', gelong 'a certain ritual song (for men)'; Duri PUS Mmj. kelong. Cf. NgD. kelong 'rowing-chant'. PIN ?*kilong; cf. Dempwolff's *kidung.

*kima 'to chew' (PSad.?): Mdr. meq/ema, Sad. meng/kema, SekoP kima.

*kepak 'armpit; under the arm(?)', *k-al-epak 'carry under the arm(?)': (1) Forms meaning 'armpit': Bug. alepaq, Mak. epaq (Ø- irreg., < Bug.?), Mdr-Maj.(A&K) kalepaq, Sad. kalepak, End. kalepaʔ. Cf. Loinang (Adriani 1900) lepak. (2) Forms meaning 'carry under the arm/carry on the hip (esp. a child)': Bug. kalepeq (pre-final /e/ unexpl.), Sad. Duri kepak, PUS(V) kaleppeq, kuleppeq, kepå.

*kempang 'crippled': Bug. keppang, Mdr. keppaq (/-q/ irreg.), Sad. keppa, keppang, SekoP kempang. Cf. also Mak. tempang, probably < Ml/BI timpang, tempang. PAN *timpang--morphologically complex? Cf. Sasak dempang.

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*kita$_1$ 'we (usu. inclusive)': Bug. idiq (if < *i+di+kit), (perhaps Mak. ikatte, if < *i+ metathesized **kati?), Mdr. ita, itaq 'you (hon.)', Mdr-Bin.(V) ikiq, iki, Sad. kita, Duri Patt. kitaq, End. Mai. i/kitaq, PUS kita 'you (hon.)', Mmj. kita, ita (< Mdr.?), Mmj(V) ingkita, engkita 'you,(hon.)'; Seko kita. The following forms, though irreg., may be related (all from V): Mmj-Tapalang kaiq, ingkaiq, PUS-Aralle ingke, Mdr-Maj. ingkaiq, Bal. inggaiq, Cend. inggai. Cf. also the PSS affix *kit, discussed in §2.2.3. PAN *kita.

*kita$_2$ 'to see': Bug. m/ita (NB makkita), Mdr. meq/ita, Sad. Duri Mass. kita, PUS mangita, mengita (presence of /k-/ cannot be determined), Mmj. mang/ita, meq/ita. Note also Sad. (baby-talk) ita; Mak-Konjo itte 'look at' perhaps < *ita+i (but /-tt-/ irreg.). PAN *kiṭa.

*kua 'to say, speak': Bug. kua 'thus'(?); Mak.(Tur. Bant. Sal. Konjo-- i.e. all but the std.dial.) kua, Mdr. maq/ua, Sad. Duri kua, PUS(V) oa. Cf. Ttb. (cited in Adriani 1928) kua; Mori mo/kua/hako 'speak to'; Banggai mo/uang 'to call' (/-ng/ unexpl.); Tag. kuan (< kua+an?) Proto-Manobo (Elkins 1974) kuwa 'whatchamacallit'; Jav. kon 'to order'; perhaps OJ rakwa 'it is said' if < *ra- '3d plur.' + *kua; NgD. koa 'say', koan olo 'one says, it is said' (olo 'man'). Dempwolff reconstructed PAN *kuan 'order', but the cognate set is not convincing. (For Jav. kon, however, see ?*kaun below, in the Supplementary List.)

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*kudara 'green': Bug. ma/kudara, Mdr. kurarraq (/-rr-/ and /-q/ unexpl.), End. Mai. Patt. ma/kudara 'green' Cf. also Ledo na/kodara 'idem', probably < Bug.

*kurang 'less': Bug. Mak. Mdr. Sad. Duri SekoP kurang. PAN *kurang.

*kurɨn '(ceramic) pot': Bug. Mak. uring, Mak-Bant., Sal. korong, Sad. Duri kurin, Mmj.(A&K) kohing, SekoP koring; perhaps also SekoP mang/koring 'to cook', though this could reflect borrowed Ml/BI goreng. (Irreg. /i/ < *ɨ in Bug. Mak. is unexpl.) PAN *ku(dḍ)ɨn

?*kodi(C) 'little; few': Mak Konjo si/koqdiq 'a little bit'; Sad. kodiq, kondiq (and bondiq) 'very small'; sakkidoq, sakkodiq 'little bit' (metathesis?); SekoP sang/kidoq, SekoL sak/kidoq 'a little, few'. Cf. Ledo, Parigi kodi; Napu ana ngkoi (irreg. ∅ < *d), Bar. ana nggodi (irreg. /ngg-/) 'grandchild' (ana 'child'); Sasak kode, kodeq 'little'. Cf. *(iɨ)di(C) above.

*kondo(C) 'slack, lax; loose': Bug. kondoq 'to move, bending the knees slightly'; Sad. kondor/an 'let loose', tik/-kondoq 'loose'; Duri kondoq, SekoP ti/kondoq. Cf. Jav. kĕṇḍo, Ml. kĕndur; PAN *kɨnduɣ. Likely borrowed in SSul, in view of the Bug. /-nd-/.

*kundu 'dull (not sharp)': Bug. ma/kunru, Mdr. Sad. Mmj. ma/kundu.

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*kondong 'jump': Mdr. umm/ondong, Sad. mek/kondong; DuriK kondong 'run'.

*kurung 'cage, enclosure': Bug. urung, Mak. kurung; Sad. kurung 'close in, shut in'. In the specialized sense 'bilge, space at the bottom of a boat': Bug. Mak. kurung, no doubt < Ml. PAN *kurung.

*k-an-uku '(finger-, toe-) nail': Bug. Mak. Mdr. kanuku, Sad. kuku, kanuku (note kalungkung 'hoof'), Mass. kanuku. SekoP kini, if cognate, must be (1) borrowed from Rampi/Leb. where *u > *ü > i, with assimilation of pre-tonic *a, then (2) reanalyzed as kini+ku 'my nail'. PAN *kuku (Blust *kuSkuS, Charles *kanuhkuh).

*kula(t) (PSad.) 'hot': Sad. kulaq 'hot, feverish, sick', (intens.) kullaq 'sunshine'; Mass. ma/kulaq 'hot'; SekoP kula 'sun'. Cf. Bar. kuya 'ginger', kula 'flecks on skin due to exposure to the sun'; Mori Napu kula 'hot, warm'; Itbayaten kuɣat, Ivatan kohat (Reid 1971 s.v. 'hot'; apparently regular); Proto-Fiji-Polynesian (Hockett 1974) *kula 'red? bird?' based on: Fi. kula 'red parrot sp.', kula2 red'; To. kula '1. to blush, 2. = kulokula 'red'; kulamūmū 'crimson'; Sam. qula '1. red, crimson 2. fine, good (day)'. PAN ?*kulat 'warm?'-- probably not connectible with Dempwolff's *kulat 'mushroom spp.'.

*(pa-)kuli 'medicine': Bug.(BWB, Luwu dial.) pakuli, Mdr. pauli, Sad. Mmj.(A&K) pakuli. Apparently a loan

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from a Tor. source-- cf. Bar. Parigi, Ledo, Mori Banggai pakuli; NB Loinang (Adriani 1900) pakulit all 'medicine'. Adriani (1928 s.v. "koeli") cites also Napu kuli 'cold'; Bar. kuli (apparently 'cold') appears in a few place names. Pakuli(t) thus means 'that which cools-- sci. a fever'. Connection with PAN *kulit 'skin' seems unlikely.

*kuli(ng) 'repeat': Bug. ma/kulikkuling (i.e. kuling2) 'often'; Mak. maq/kuling 'to repeat', kuling2 'often'; DuriK ma/kuling2 'often'. Cf. PSS *ule, *uli below.

*kulit 'skin': Bug. uliq, Mak. kuliq, Mdr. uliq, Sad. Mass. PUS kuliq, Mmj. koliq, Seko kuliq. PAN *kulit.

*kul(uo)ɣ 'breadfruit, Artocarpus communis': Bug. uloq, Mak-Sal.(Heyne) kuloro (sic, for /kůloroq/?), Sad. kuloq, DuriC kuloh. Bar. kulugi, even though borrowed, attests a reflex of *ɣ; thus Dempwolff's *kulu(r) can be disambiguated to *kuluɣ.

*kolo(N) 'carry on the back': Bug. pa/kolong 'porters' (i.e. who carry the king's impedimenta when he travels); Sad. kolong, Mdr-Bal.(A&K) kolo. SWB notes "W.Tor." kolo, Bar. koyo, Tomini languages kolong; Adriani 1928 cites also Loin. kolon. Assuming that the Loin. form accurately reflects the final, we propose PIN ?*kulun, with Sad. and perhaps Tomini borrowed < Bug.

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*kuni(t) 'turmeric': Bug. uñiq, Bug-Sid. oññī, Mak. kuñiq (showing sporadic palatalization of *n before /i/, or else borrowing < Ml. kuñit with the same irregularity); Mdr. (cited in Heyne, p.496; /-q/ not indicated) Bal. Bin. kuni, Camp. uñi; Sad. Duri, kuniq; Patt. ma/kuniq, SekoP ma/kuni 'yellow'. PAN *kunig̃.

?*koqko(C) 'to bite': Bug. m/okkoq 'bite (of a dog)'; Mak. koqkoq. Cf. Jav. kokop 'snout of an animal'? PAN *kupkup 'grip'.

*kuse 'marsupial animal, Phalanger spp. (Ml. kuskus)': Mdr-Cend.(A&K) use, Sad.kuse. Perhaps (but unlikely) Bug-Sid. koci 'cat' (probably < Ml. kucing). Cf. Leb. kuhe, Bar. Sang. kuse; SWB cites "Minahasa lgs." kusoy. PIN ?*kusay.

*kota 'chew (esp. betel)': Bug. ota, Bug-Sid. oca 'chew', ota 'sirih'; Mak. kota; Sad. (intens.) karottaq 'remmants, pulp, of s.t. chewed'; perhaps also oqtaq 'feed oneself', oqtaq2 'eat greedily' (for this last, cf. also ?*untal below). Note Sumba dials. (Wielenga 1917, no.347) kuta, uta 'sirih'. PIN ?*kuta.

*kutana 'to ask': Bug. utana (maq/k-), Mak. kutanang (< kutana+ang?), Sad. Mass. kutana. Bar. Bis. kutana. Probably relatable to Ml. tañа, but the element *ku- has not been identified. Cf. also ?*tena below.

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*ko(tc)i(C) 'press out, pick out': Bug. kotiq, otiq '(I) pick s.t. out of a largish hole', Bug.(I) kociq 'pick s.t. out of a small hole (e.g. wax from the ear)'; Mak. koccіq (/-cc-/ unexpl.); Mdr. kotiq, kociq (same difference in meaning as Bug.); Sad. kotik, kalotik 'poke around in, dig s.t. out with the finger', kossiq 'game involving picking stones out of a hole', kotteq 'tease s.o. by poking them with one's knuckles', kotting 'small but deep puncture-wound'. Cf. Jav. kucing 'pinch; swell up (due to being pinched)'; perhaps Tag. Bis. kusiq 'to pinch' (but /-q/ < PAN *q); perhaps To. kohi 'to scratch (with a sharp point)? These suggest a possible PAN ?*kuci(C)-- perhaps more than one form; in such a case, the SSul forms with /-t-/ must be due to analogy and are not the base form of the word. Conceivably, SekoL kutik, SekoP kutiki (=/kŭtik(i)/?) 'to ask' are related; in that case, PSS *kutik.

*kutu 'louse': Bug. utu, Mak. kutu, Mdr. utu, Sad. Mass. PUS Seko kutu, Mmj. kutu, utu. PAN *kutu.

*ku(n)tu 'lazy': Bug. ma/kuttu, Mak. kuttu, Mdr. ma/utu, Sad. ma/kutu, ma/guttu (/g-/ unexpl.), End. Mai. Duri Patt. ma/kuttu.

*koyo(ng) 'wound, wounded' (PSad.?): Sad. koyong, DuriK kojong (also 'swollen'), PUS-Tapango (V) köjöng. Perhaps Bug. kojongäng (kojong+ing?) 'handle, grip of a lance'. NB Bar. kojo 'to cut, slash'-- see below (Supplementary List) s.v. *kärrä(t).

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L

*la(b)a(C?) 'to herd, watch over cattle': Bug. lawaq, Mak. kalawaki (< earlier ka/lawak/i?), Mak-Konjo pa/-kalahaki 'cowherd'; Sad. mang/laa, laa/i 'to herd', pang/laa 'herder'; DuriC lawa. Cf. Bar. lamba 'buffalo (ritual lg.); ride on an animal (usu. a buffalo)'. PIN ?*la(m)ba(C?).

*la(b)a 'hinder, come between': Bug. Mak. lawa, Sad. laa. Cf. PAN *laban 'oppose'.

*lamba(C?) 'to go, walk': Mak. lambaq 'to creep (of a plant)'; Mdr. mel/lamba; Sad. ul/lamba 'go on a journey', ka/lamba2 'wander'; End. Patt. l/um/amba 'walk'.

*la(b)a(ɣ) 'dish made of raw meat/fish seasoned with lemon juice, spices etc.': Bug. lawaq, Mak. lâwaraq, Mdr. lawar, Sad. lawaq, laaq (also 'taste, test'), DuriC lawah. PAN *laba(rḍ)-- if Jav. lawar is viewed as a loan < Ml., PAN *labaɣ is also possible.

*lamba(ɣ) 'sheet (counter for thin, flat objects: cloth, paper etc.)': Bug. lampaq, Bug-Sid. lampã, Mak. lâmbaraq (also lâwaraq, of uncertain origin), Sad. sang/-lambaq, DuriC sang/lambah, Mmj. sa/lambaq. PAN *lamba(r) in this case ambiguous for *(-rḍɣ); DuriC /-h/ and Bug. /-aq/ suggest PAN *lambaɣ.

*lambaɣ 'loose, free (of an animal)': Bug. lampaq, Mak. lâmbaraq (informants rejected Matthes 'wild, not tame'),

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Sad. lambaq, DuriC ma/lambah, DuriK ma/lamba. Cf. Bar. lamba, Mad. lombhar (/o/ unexpl.); Tag. labag 'disobedient, rebellious, contrary'; Fi. lamba 'strike, kill treacherously'; To. lapa 'attack without warning'. Perhaps also CJ lambā '1. simple, plain(?), 2. lamba-lamban 'indifferent, uncaring'(?). The Tag. and CC forms undoubtedly go together; their relationship to the SSul, Bar. and Mad. is more tenuous. PAN ?*la(m)bay.

*lAmbAn 'to cross' (PSad.?): Mdr. lambang, Sad. Mass. lamban. Cf. *li(m)bAn below.

*lambiy 'long': Bug. lampeq, Mak. lâmbereq, Sad. Mai. ma/-lambeq, Patt. ma/lampeq (< Bug.), Mmj.(A&K) ma/lambe. Note DuriC ma/lambeh nawa2 'intelligent' (morpheme-for-morpheme = BI panjang akal 'long + wits'). Cf. Sasak (dial.) lambih 'too long'. PIN ?*lambiy.

*lambi(C) 'reach, arrive': Mdr. lambiq, Sad. lambiq; Mmj.(A&K) lambi 'find'. Cf. Napu lambi 'find'.

*lambu(k) 'to pound rice': Bug. lampuq (also nampuq), Sad. lambuk; Mmj.(A&K) pe/lambu 'rice-pounder (large pestle)'.

*laza 'hot (feeling)': Bug. lasa 'sick'; Mak. lara 'sour, bitter (e.g. a grapefruit)'; Sad. ma/lala 'burning sensation (from a wound, or from spicy food)', (intens.) lallaq 'fever'; DuriC ma/lala 'spicy-hot', l/um/allaq 'fever'; SekoP ma/lalang (/-ng/ unexpl.) PAN *laǧa. See also *lada 'pepper' in the list of Loan Words below.

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*larang 'to forbid': Bug. Mak. DuriK Mmj. SekoP larang. PAN *larang (but probably borrowed < Ml.; note the different treatment of the /l..r../ sequence in *laza above, in Duri and Seko).

*lari, ?*lai 'to go, run': Bug. Mak. lari 'run' (possibly < Ml.); Mak.(I) malle2 (< maN+le?), Mdr. ma/lai 'go home'; Sad. mal/lai, End. ma/lai, Patt. pa/lai 'to run'; Sad. male 'go', perhaps maleai 'go, move'; Duri male 'to go, go along'; Patt. ka/lai/an 'to chase'; SekoP ma/lai 'go home'. PAN *laɣiw. If Bug. and Mak. /lari/ can be dismissed as a borrowing, the SSul forms then appear to be borrowings from a Tor. source, cf. Bar. ma/lai, Ledo na/lai, Bad. me/lei, Uma mo/lai 'go away'.

*larik 'to turn, spin': Bug. lariq, alarikɨng, alarisɨng 'lathe'; Mak. lariq 'lathe'; End. lariɣ 'rawhide thongs not yet braided into rope'; Sad. rariq 'rawhide rope'. (The connection is that the thongs are cut from the hide in a spiral.) Cf. Bar. lari 'rawhide thong'; Ml/BI larik 'turn on a lathe'; Bis. lalik 'whittle (wood) to a certain shape', l/in/alik 'shapely; turned on a lathe'; Tag. lalik 'lathe'. PIN ?*larik.

*lan(dj)o 'long' (PSad.): Sad. ka/lando, ma/lando, Mass. ma/lando, PUS ka/lando, Mmj. ka/lando, SekoP ba/lanto (perhaps ba/lando-- the writing is unclear, and there are examples for both /nt/ and /nd/ < *ñj in Seko). Cf. Bad. Bes. ka/ladu, Bar. lañjo; Ml. lañjur 'stretch,

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drag out', lajur 'row, column'(?), lañjut 'advanced, deep; long, detailed'; Jav. lajur 'length'; Mad. loñjhur 'long' (/o/ unexpl.), Sangir nandu 'long'. PIN ?*la(ñ)ju(rḍg̃); if so, the SSul forms with ∅ final must reflect Tor. influence.

*laga 'to fight (esp. of animals)': Bug. Mak. Sad. laga. Cf. OJ, Jav. laga 'oppose, resist'; Sasak laga 'fight, butt with the horns'; Bal. maka/laga glossed 'musuh (enemy)',but from its prefix, more likely to be a verb. PIN ?laga.

*laia (variant *laya) 'ginger, Zingiber officinale': Mak. Mdr. laia, Sad. laia, lia, laya, laa. Note also Mak. laja (< a Bug. original now lost?) 'plant sp., BI lĕngkuas (Alpinia galanga-- a member of the Zingiberaceae).' PAN (Dw) li(y)a, (Charles) *liqia.

*lain 'other': Bug. laing, laeng, Mak. maraeng (< earlier ma/raeng, /r-/ unexpl.), Mdr. laeng, (Lontar) lain, Sad. laen; perhaps also len 'really, as if'; DuriC lain, DuriK laen2; Patt. si/lain/an 'to differ'; Mmj. lain, SekoL lainna (and analogical lainda--apparently monomorphemic, < earlier lain/na). PAN *liyan 'change', but many IN languages reflect the same metathesized form found in Ml. /lain/, no doubt due to borrowing.

*lañja(C?) 'kicking game': Bug.(BWB) lañca, (I) lancaq, Mak.(MWB) lañja. Cf. Bima lañja, Sasak lañjak 'kick'.

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?*langka(ɣ) 'far apart, rare, seldom': Mak. lăngkaraq; Sad. langka 'far, far from'. Cf. Jav. (and BI) langka 'unheard of, impossible; rare, seldom'; Fi. langga 'crack, chink; not tight-fitting (e.g. a door in its frame)'. PAN ?*langkaɣ.

*langka(C) 'high': (Bug.) Mak. langkaq 'level, storey of a building'; Mdr. ma/lakka 'long' (irreg. -ø-- misheard?); Sad. ma/langkaq (also ma/langke) 'high, tall'; Mmj. (A&K) ma/langka, SekoL ma/lakkaq.

*laki 'male': Bug. lai (of humans or animals), Old Bug. wa/lai 'man' (/wa-/ unexpl.); Mak. Sad. laki (of animals only). Note also: Bug. laibini, Mak. kalabini 'pair, married couple' probably < Ml. lakibini (laki 'male, husband', bini 'woman, wife'), as /bini/ does not occur otherwise. PAN *laki.

*lako 'to go': Bug. lao also 'to, towards'; Mdr. lao di... 'to...'; Sad. lako 'to, towards', (I) lawo, lao, loo 'to go', ka/lao, -loo 'to descend', peng/ka/lo/an 'ladder (to the house)'; Duri Patt. lako 'to' (Duri also 'East'); PUS mel/lao 'to walk'; Mmj. me/lao, ma/lao2 'go, walk', Mmj(A&K) ming/ka/laqo 'go away'; Seko l/um/ao 'to go', SekoP mang/mu/lao 'walk', SekoL me/laokking 'to walk' (/-kking/ unexpl.). PAN *laku.

*lalɨt 'housefly': Bug. lalɨq, Mdr. Sad. Duri SekoL laliq, Mmj. daliq, SekoP dali (/d-/ unexpl.); Sad.(I) also lalaq (influence of BI lalat?). PAN *lalɨg.

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*lali(n) 'to move': Bug. Mak. laling. Perhaps Seko eli, if borrowed from Bar. yali 'idem'. Note also Bis. lalin 'move out, emigrate', Tag. lalin 'contagion; to infect'; Gor. mo/lalilo 'move' (*n > l, /-o/ support vowel, both regular). PIN ?*lalin.

*lalo 'pass by': Bug. Mak. lalo; Mak-Konjo taq/lalo 'very, exceedingly (BI terlalu)'; Sad. (intens.?) lallo 'very'. PAN (Dw) *lalu; perhaps ?*lalaw, if we take NgD lalau (halau, tangkalau) and SSul as regular, Ml. lalu and Tag. laloq as irregular-- the reverse of Dempwolff.

?*(la)latu(N?) 'spark': Bug. lalutung, Mak. laletung, Sad. lalatu, lotin, lalotin, lolotin, DuriK alotin. (Mak. and Sad. /-lotin/ unexpl.; < a variant ?*-lutin, ?*litun?-- the final /ung/:/in/ suggests that we may be dealing with *-im.) Cf. Bar. lengatu 'spark'; lelatu 'sp. of stinging red ants' (where Adriani cites unglossed Napu lalatu, Bal. lĕlatu, Jav. Sund silalatu. We find Jav. latu 'flying sparks; kromo fire'; Mad. latu 'flying sparks'; Sund. silalatu 'spark'. Despite the irregularities, we have cited this form in hopes that other investigators will find cognates; at the least, PIN ?*latu is reconstructible.

*lame 'tuber, yam (BI ubi)': Bug. Mak. Mdr. Sad. Duri lame; DuriK lame2, SekoP lame 'potato'; Bug. Mak. also 'sweet potato, Dioscorea spp.'. Cf. Letti nama 'ubi' suggesting ?*lamay (with sporadic *l > /n/ due to following nasal?)-- however, the Letti word may be a borrowing,

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with analogical /-a/ for non-permitted /-e/. Jonker also cites Tag. "namí" 'sp. of wild ubi'; and cf. also Bis. lamiq 'delicious'-- these two suggest **lamiq, also a possible source for the PSS item.

*lamun 'to bury, plant': Bug.(Old Bug.) lamung, (I) 'deep'; Mak. lamung; Sad. Duri lamun 'bury'; Mmj. ma/lammu (irreg. -Ø, if heard correctly), SekoP mal/lamung 'to plant', (in a different hand) l/in/amun 'plant (noun)'. Cf. Fi. lamu 'hole in a pot', lamu/ta 'make a hole in'(?). Ml./BI mĕ/lamun 'to cover; to overwhelm'. PAN ?*lamun.

*langi 'to swim': Bug. nange (*l > /n/ due to the following nasal), Mak. lange, Mai. an/nange (< Bug.?), PUS ma/-lange, Mmj. ma/langi (perhaps mo/langi, writing unclear). PAN *languy.

*langi(ɣ) 'tree sp., Albizzia saponaria Bl. (an extract from the fruits or bark-- informants disagree-- is used to make a shampoo)': Bug. langiq (mallangiq 'to wash one's hair), Mak. lăngiriq, Mdr. langer, Sad. langiq; DuriC langih 'shampoo made from ashes of padi-straw'. Note Ml. Jav. langir, Sasak langer, langeh; perhaps Philippine (Charles, various languages)/langig/ 'slime on fish, eels; fishy smell'. PIN ?*langiɣ.

*langit 'sky, heavens': Bug. Mak. Mdr. Sad. Mass. PUS Mmj. SekoL langiq, SekoP langi. PAN *langit.

*lango 'drunk, sick': Bug. lango(2) 'drunk' (Matthes or his informants equated this with an apparent homonym meaning

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'pink, rose-colored', and glossed e.g. nalángoi tuaq as 'hij ziet rozee van het saguweer drinken'--'he sees pink from drinking palm-wine'); Mak. taq/lange 'to vomit' (/-e/ unexpl.); Mdr. lango 'get sick from eating s.t. that disagrees'; Sad. lango 'intoxicating, stupefying'. Perhaps related to Ml/BI langu 'rotten smell', Jav. langu 'bitter smell, taste'. Adriani 1928 cites Bar. yangu, West Tor. lgs., Napu, Ttb. Mong. langu 'dizzy, drunk'. PIN ?*langu.

*la(m)pa(r) or ?*lə̇(m)pa(r) 'flat, level': Bug. lappaq (also lappə̇q, cited in MWB), Mak. lápparaq; Mdr. lapar 'mat'(?); Sad. lappaq, DuriC ma/lappah. Cf. Ja.. lĕmpar 'flat, broad'; NgD. rampar, lampar 'level'; Tag. lapad 'broad, vast'; Togian Bajo (Adriani 1900) lapar 'surface (Du. vlakte)'; Isneg (Reid 1971) na/lampad 'wide'; Proto-Fiji-Polynesian (Hockett 1974) *nlafa, *nlampa 'flat'-- this last, however, is more likely to reflect Dempwolff's *ḍa(m)paγ. Our Mak. form would regularly reflect only *lə̇ppar; our Bug. form only *lampar. Further, Bug. /-aq/:Duri /-ah/ points to *-aγ, while Jav. and Tag. point to *-a(dḍ); it may be that more than one proto-form is involved. PIN ?*lA(m)pa(rḍγ).

*lapik 'base, foundation': Bug. lapiq (note lapiq añarang 'saddle' (añarang 'horse')); Sad. lapik 'base, support'; End. lapiʎ 'saddle'. PAN *lapik.

*lampo(γ) 'pile, heap': Bug. lappoq, Mak. lámporoq, Sad. lampoq, DuriC lampoh (-r-). Refers especially to the

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piling up of bundles of harvested rice. Matthes cites Ml. lampor, not found in E&S, but cf. Mad. lampor 'spring tides'; Jav. lampor (/-r/ irreg., < Ml. or Mad.?) 'l. an evil spirit who causes swellings on the body and very high spring tides'; NgD. rampo-rampoh, rarampoh 'many, much (all at one time)'; Bis. lapog 'bonfire, pyre'; perhaps Fi.(Hazlewood) lambuya 'rise or bubble up, as water when its course is blocked', (Capell) lambue 'to bubble (of boiling water)'-- this last equated with mbue 'idem'. PAN ?*la(m)puγ.

*laso 'penis': Bug. Mak. Mdr. Sad. laso; Bug. laco 'child's penis'. Cf. Ledo Tawaelia lasu, Mori lahu, Napu laho, Banggai laso, Loinang (Adriani 1900) lasu, Manobo (several dialects, Reid 1971) lasuq, lasoq, Sasak (Jantuk dial., perhaps < Sumbawa) laso, Sumba (Wielenga 1917, Eastern dials., influenced by Sumbawa) lasu,lahu, lazu; probably Tausug lasoh (/-h/ secondary) 'middle finger'. Perhaps Fi. lasu 'lie, liar'-- cf. the same (?) semantic development for PSS *buto above, in Sad. To. laho, loho 'scrotum' more regularly reflects ?*las̈(gγ) q.v. below in the Supplementary List. In SSul note further (with unexpl. initials): 'term of address to young boys' Bug. bacoq (to commoners) basoq (to nobility), Mak. bacoq, basoq (same distinction), Mdr. kacoq, Sad. lasoq, tatoq, asoq, basoq, batoq (Sad. /-t-/ probably < Bug. /-c-/); Bug. lato,(I) latoq (to old men of humble status-- /-t-/ by analogical back-formation from ?*lacoq). PAN *lasuq.

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*(lɨ)latɨng 'stinging nettle, Laportea spp.': Bug. lallatɨng, (also heard laqlatɨng), Mak. laqlatang, Sad. PUS, Mmj. lelating (/e/ unexpl. but cf. the reduplicated forms of *(dr)ua). These forms could also descend < **rɨlatɨng < ?*(djr)ɨlatɨng; reduplication of the initial CVC (though not found elsewhere in SSul) might be possible too, thus ?*(lat)latɨng. Borrowing < Ml. jĕlatang is possible but remote in view of Bug. retention of pre-final *ɨ < Dempwolff's *latɨng, *ja/latɨng. Note Bar. gelata (Tojo dial. jilata), Sang. enggulating, marked as borrowings by (inter alia) their /g-/.

?*lante 'mat': Bug. lante luwuq 'k.o. mat used in Luwuq'; Mdr. latte; Sad. lante (poet.) 'to spread out'; DuriK lande 'dirt floor' (perhaps misheard? or non-cognate); PUS(V) lante, latte, Mmj. lante. Cf. also Bug. Mak. lante 'to touch down, come to earth (modern, to land, of airplanes)'. Bug. (because of the /nt/) and perhaps all the others are likely < Ml. lantai; PAN *lantay.

?*lauro 'rattan': Bug. Mak-Sal. Sad. lauro. Cf. Ledo lauro, Bar. lauro, rauro, Bar-Ampana ruro; Adriani equates the word with PAN (Dy) *ra(h)ut 'split, split rattan' (the source of Jav/BI rot/an 'rattan', Bug. rauq 'split', raukɨng 'rattan'; Sad. rauk, rok 'stab with a lance or other long object'(?)) but neither Bar. /l-/ nor /-r-/ is explicable under such an assumption. SSul is undoubtedly borrowed, however, from the Tor. languages.

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*lau(t) 'sea; toward the sea': Bug. lauq 'sea', a/lauq 'East' (Bone)-- the meaning 'sea' probably due to Ml.;in the remaining languages the word refers only to direction. Mak.(Goa) lauq 'West', (Konjo) ka/lauq 'East'; Sad. (SWB) lauq, laoq, loq, (I) louq, loq, Duri loq 'South'; Mmj. lauq 'west'. PAN *laud.

*lawa(2) 'spider': Mdr. lawa2; Sad. laa2 '1. spider 2. bee'; DuriK lawa2; laba2 'bee'; PUS-Bamban(V) laba2 'spider' (/-b-/ is apparently regular < *w). PAN *lawa. Forms meaning 'bee' may represent normal semantic development, or else are borrowed < Ml/BI lĕbah, PAN *l±baq.

*layang 'suspend, vanish': Bug. lajang, Mak. layang; Mdr. mel/layang 'to fly', laqlayang 'kite'; Sad. laang 'rack to hold a pig over the fire'; Mak-Konjo lajallajang (i.e. lajang2) 'kite'. PAN *layang.

*layA(C) 'fear, tremble': Bug. laj±q ("old" according to one informant; not recognized by the youngest informant); Mak. layaq (also lajaq, dial. or < Bug.); Sad. ma/laaq 'fearful'; Duri ma/lajaq (NB DuriK lajaran 'frighten'). Cf. Tag. Bis. layas 'flee, escape', Bis. layat 'to leap, jump'; better, Jav. layad, layat 'to console'(?); layat 'to go, run'; l/um/ajar (kromo of layu) 'to run away'. PIN ?*laya(dĝt) tentatively.

*layu(C) 'high, tall (esp. of trees)': Bug. lajuq (BWB 'sway, of a tall object' rejected), Mak. layuq; Sad. ma/layuq 'long and thin', ma/layuk 'very tall, high (poet.)',

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kalaunan (/-n-/ unexpl.; SWB equates with kalaukan, ka/-layuk/an) '(poet.) height, nobility, power'; End. lajuŕ 'tall and slender'. Cf. Tag. layog 'tall; height'; Bis. layog 'very tall (of trees)'; Bar. layu (probably not native, as *-y- usu. > Bar. /j/); Jav. lalayu 'lance with a flag on the end'(?); cf. also Mad. lajur 'length', Jav. lajur 'idem', cited above at PSS *lan(dj)o 'long'. PAN (Zorc) *layu(gγ); SSul plus Philippines point to *layug (> PSS *layuk), while Jav. lalayu, Mad. lajur (the source of Jav. lajur?) might reflect *layuγ.

?*lɨbba 'flat, tasteless': Bug. lɨbba ("old" according to my informants), Mak. laqba; perhaps Sad. laqba 'very ashamed'. Cf. Bis. lubâ 'discouraged, disheartened'. PIN ?*lɨba with a basic meaning "lacking in taste, lacking in spirit?"

*l(ɨi)ba(C) 'finished, all gone; past/perfective marker': (Bug.) Mak. leqbaq (Matthes marks the Bug. as borrowed); Mdr. leqbaq 'so...(modifying adjectives)'; Sad. leqbaq (dial.) 'to go', perhaps leba 'abundant, excessive', and leaq 'to pass by'; SekoL lebaq 'already (BI sudah)'. Cf. Jav. lĕbar, lubar (kromo desa libar), Mad. lĕbbhar, lobar 'ended, all gone'; but cf. also Ml/BI, Jav. lewat 'pass by'; Jav. lembat 'move from one place to another, pass s.t. along from one person to another'(?). Sad. leaq, in particular, might be borrowed < Ml. lewat. If the PSS etymon has *i, the geminated /b/ in all witnesses is inexplicable; if the etymon is *lɨbba(C),

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then, with Jav. lĕbar and assuming all forms are non-borrowed, PIN ?*lə̇baG only is indicated, with SSul /e/ unexplained.

*lə̇bbi 'more': Bug. lə̇bbi, Mak. Mdr. Sad. Duri Mmj. laqbi, SekoL labi. PAN *lə̇biq, from which we should expect PSS **lə̇bbe-- no doubt Ml. lĕbih has had an influence.

*lə̇bbi(γ) 'to revere, to honor': Bug. lə̇bbiq (-r-), Mak. lăqbiriq; Mdr. a/laqbir/an 'excess'(?); Sad. ma/laqbiq 'honored', laqbiran 'to prefer, consider as better'; DuriC laqbih (paka-) 'to honor'. The Mdr. may be < Bug.; we could not elicit a base form **laqbir. Perhaps related to the preceding item, but the SSul *-(γ) is unexpl.

*lə̇bbu(γ) 'to smelt, melt; iron': Bug. lə̇bboq (I, 'dissolve, destroy, BI hancur'); Mak. lăqboroq (I, 'petrify, change; ravage'); Sad. laqboq 'sword, BI parang'; DuriC laqboh, DuriK laqbo 'machete'; SekoP pi/lobo 'chisel'(?). Apparently a blending (if the reconstructions in fact reflect distinct etyma) of Dempwolff's PAN *labur 'flow, smelt' (note Tag. labol 'iron') and *lə̇buγ 'flow away' (note Ml. lĕbur 'melt'). Most of the witnesses for *labur could be interpreted as borrowings from Ml. or a similar *γ > /r/ language, with Fi. lambo/r/aka 'pound to a powder with a stick' disallowed.

*lə̇mbus 'straight, honest': Bug. lə̇mpuq, Mak. lămbusuq, Sad. lambuq. Sad. variant lampuq and DuriC ma/lampu apparently borrowed < Bug.

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*lɨjju(r) 'to pour out': Bug. lɨjjuq, Sad. loqdoq. Cf. Bar. lojo,'idem'; Mad. lĕjjhur 'melted, liquid; to pour out, decant' (the gloss gisten 'to ferment' is probably a misprint for gieten 'pour').

*lɨkkɨ(r) 'small frame, support for pots': Bug. lɨkkɨq 'small cushion (of rags) placed under e.g. water-jars being carried on the head'; Sad. laqkaq 'woven rattan frame to support e.g. a round-bottomed pot'. Ml/BI lĕkar, NgD rakar (the /a/s mark a borrowing < Ml.) 'rattan frame (same as Sad.)'; Jav. lĕkĕr '1. round or spiral-shaped, 2. rattan frame to support pots'; Fi. i lokoloko 'a pillow of something soft'. PAN ?*lɨkɨ(rd).

*lɨmma(C?) 'weak, soft': Bug. lɨmmaq (cf. also lɨmma 'bend, twist'), Mak. lamma, Mdr. ma/lamma, Sad. ma/lamma, ma/-lammaq; DuriK ma/lammaq 'soft', ma/lamma 'weak' (misheard one or the other?), End. (intens.?) ma/lammaɲ. PAN *lɨmaq (but note also Jav. lĕmĕs 'soft, weak, slack').

*lɨmmɨs 'to drown': Bug. lɨmmɨq, Mak. lămmasaq; Sad. lammaq 'of water, to soak into the ground', (intens.) lammak 'to sink, penetrate, go under', lammuq 'to drift, sink in the water'; Mdr. mal/lammus 'drown' (Sad. Mdr. /u/ unexpl.); DuriK lammaq 'to sink'. PAN *lɨmɨs.

*lɨ(C)lɨ(m) 'dark': Bug. lɨlliŋ, u/lɨlliŋ (the occasional /u-/ prefix not yet identified), Mak. leqleng 'black'; Sad. DuriK ma/lillin 'dark'. Cf. PAN (Dw) *lɨmlɨm

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'gloomy' (perhaps 'obscure, dim' better)-- *lɨm is possible too, on the strength of Fi. lo 'l. sp. of black ant, 2. secretly', lo/a 'black, soot'; perhaps To. poquli lōlō 'pitch dark' (poquli 'night'), though this is better related to PAN (Blust) *dɨhɨn 'press down'. The unusual Mak. /-ql-/ appears to be due to the anomalous status of this etymon in PSS: the postulated pre-PSS developments require *lɨmlɨm to change its cluster to a NC, but /-nl-/ would be a non-permitted sequence in PSS as it is in all the modern languages. Probably related also (and all borrowed < Mak.?) Mak. Mdr. Sad. laqlang 'parasol'.

*lɨnnAs 'distressed': Bug. lɨnnɨq, Mak. lǎnnasaq 'distressed, somber; amazed at'; Sad. lannaq 'hapless, unfortunate'. If Fi. lona 'to wonder what one is to eat; (as a noun) fasting for the dead' is comparable, PAN ?*lɨnas.

*lɨñ̃ñA(p?) 'disappear': Bug. lɨñ̃ñɨq, Mak. Mdr. lañ̃ñaq; Sad. lannaq (I, lañ̃ñaq) 'lost, sunken'; Mai. pa/lañ̃ña (sic) 'to eradicate'; SekoP lañ̃ña 'disappear' (probably a borrowing due to the /ñ̃/). Cf. Ml. lĕñap. PIN ?*lɨñ̃Ap.

*lɨngnga 'sesame, Sesamum indicum': Bug. lɨngnga, Mak.(MWB) langa, Mdr. Sad. langnga, DuriK langa. The single /ng/ of Mak. and Duri is unexpl. PAN *lɨnga.

?*lɨ(m)pang 'flat': Bug. lɨppang; Mak. lampang 'wide, extensive'; Sad. laqpang '(flat) seam'. Cf. Ml. lĕmpang 'straight'? PIN ?*lɨ(m)pAng.

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*lɨppas 'free': Bug. lɨppɨq, Mak. lɑ́ppasaq; Sad. laqpaq 'the final funeral feast', laqparan 'to set free; to give birth'; DuriC laqpah (NB -r-). PAN *lɨpas.

*lɨppus 'slip loose, drop': Bug.(BWB only) lɨppuq, Mak. lɛ́ppusuq (/e/ unexpl.), Sad. laqpuq, lappuq (ti-) 'to pop out, fall out', laqpuqi 'to shoot (a dart from a blow-gun)'.

?*lɨssu (PSad.) 'hot': Sad. ma/lassu, Duri ma/lussu (note DuriK palussu 'to heat'), PUS ma/lassu, PUS(V) lusu, losu, Mmj. ma/lussu, ma/lusu; perhaps SekoL ma/pusu if < (borrowed?) **pa/lussu analogized to p/al/ussu. Cf. also Mmj. l/um/asu 'to cook'. Note Tidung and Tinggalan Dayak lasu 'heat', lasu/on 'to boil', (dial. lunsuon)-- the reflexes of *ɨ in these languages are not clear. PIN ?*lɨsu; cf. also *nasu 'cook'.

?*lɨssu(C) 'be born; set free': Bug. lɨssuq (-r-), Mak. Mdr. lassuq, Sad. lessuq (/e/ unexpl.), lussuq, PUS(V) ma/lasu/a (showing unexpl. loss of *-n in *-an).

*lɨntik (PSad.) 'ant': Sad. latti, littiq (-ø, /-q/ both irreg.), DuriK lintik, End. allittiɲ, SekoP lintiki (/lɪ́ntik(i)/?). Perhaps related (with an unindentified infix), Sad. lematik 'leech'. Cf. Bob.(Adriani 1900) lumontik 'leech', Ttb. lalaměntic (=/lalaměntik/), Lalaki kolomondi (*nt > nd regular), Ledo lamonti, Tag.(cited with Ttb. and Lalaki in A&K) hantik (borrowed if < *lɨntik), Mori limonti 'ant spp.'. Note PAN (Dw)

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*lima(n)(tṭ)i̇k 'leech'-- the resemblance with our *li̇ntik 'ant' may be purely fortuitous.

*li̇(n)tu(C) 'to arrive': Bug. li̇ttuq, Bug-Sinjai (I) lattuq (suggesting borrowing < Mak., but MWB does not cite such a form); Mdr. pi/latto(w)ang 'to turn up, show up' (base not cited-- could be **lattuq); Sad. lattuq (<Bug., according to SWB), Mai. pa/lattu/i, Patt. pa/-lattukan, Duri(RAP72) pa/lantuk/an 'to convey (lit., cause to arrive, cf. BI sampaikan)'(bases not cited). On the strenth of RAP's Duri, the PSS final may be *-k.

?*lea (PSad.) 'red': Sad. lia, lea, Mass. PUS Mmj. Seko ma/lea. Cf. Bar. lea, Parigi laga 'sp. of stinging red ant' probably < PAN *laga 'burning sensation' (> PSS *laza q.v.); the Parigi form is probably irreg.

?*lia(ɣ) 'wild': Bug. liaq, Mak. li̇araq. The remainder appear to be borrowed < Mak., or else reflect another etymon entirely: Bug. ma/laira 'shy, skittish (of an animal); Dr. ma/laira, Sad. ma/laira, -laera, -rera, -rira, Mmj. ma/laiha. PAN (Dw) *liyaɣ.

*liang 'cave': Bug. liang, leang, Mak. Mdr. leang, Sad. Duri Mmj. liang. PAN (Dy) *lihang.

*limba(ɣ) 'carry on a shoulder-pole, BI memikul': Bug. lempaq, Mak. lėmbaraq, Mdr. lembar, Sad.(SWB) lemba, (I) lembaq, DuriC mang/lembah, DuriC mang/lemba, Mmj.(A&K) ma/limba. Note also Mdr.(A&K) Camp. lempaq (probably < Bug.), Bin. limba, Bal. lemba. Cf. (all forms have the same

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meaning): Bar. Ledo lemba, Uma lema (/m/ reg. < *mb), Limolang (Luwu area) mo/lembar/i, Togian Bajo (Adriani 1900) lembar (Bobongko (ibid.) ota/lembang 'carry on the back'?), Sasak lembar, lembah, Proto-Ambon (Stresemann 1927) *leba (from, or equivalent to, *lembaØ), Eli-Elat (ibid., believed to be the language formerly spoken in the Banda Islands, now in Kei (Kai) Islands; apparently not a member of Stresemann's "Ambonese" group) limbar; Letti le/lepa (irreg. in that Letti ought to reflect the *-r as **lepra or some such). None of these languages, to my knowledge, conclusively proves the nature of the final; thus PIN ?*limba(r̥ɣ).

*li(m)bA(n) 'to cross over': Bug. liwäng, Mak. limbang (Konjo papa/limbang 'a k.o. ferry'; limbangang 'journey'), Mdr.(RAP67)"levang" suggesting /lebang/, Mdr-Maj.(A&K) me/liwang; Sad. lian, limban 'to the other side'; perhaps Mmj.(A&K) ka/limbang/an 'ford' (but cf. the next item). Cf. Bad. limba 'the other side', mo/limba/nga 'move, remove, transfer'.

*limbang 'island; ship; valley, unit of society': Bug. po/lempang '(BWB) title of a royal official in charge of fishing activities' (< *ship); Mdr. ulu lembang 'upriver' (ulu 'head', lembang 'valley'), baqba lembang 'river-mouth'; Sad. lembang (all meanings; 'unit of society' probably derives from the fact that each intermountain valley is (or was) inhabited by a single clan);

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DuriK lembang 'island'; Mmj.(A&K) limbang 'valley' (from which they derive kalimbang/an 'ford'); SekoP lemmang 'boat'. For the semantics, cf. Blust's PAN *balanggay 'communal boat; unit of society'. Ledo lemba 'lowland'; Jav. lĕmbah 'low ground'.

?*lebA(s) 'throw': Mak. lĕbasaq 'push away'; Sad. lebaq, Mmj. me/lebaq. Note Uma libaq, Rampi lŭbaq (the /ŭ/ is usu. < *u, but occasionally corresponds to *i). Cf. also *re(m)bA(C) 'throw' above.

*limbo 'gather around': Bug. (> Mak.) limpo 'surround'; Sad. sang/limbo 'a group of...; a "stool"(clump) of bamboo', limbu 'gather around from all sides; (Merok text) sit in a circle'. Cf. Ledo no/libu, Bar. mo/limbu 'sit in a circle', and the next item.

*lebu 'round': Bug. lebu; (BWB) lebo2, (I) pa/lebo/ng 'to roll (e.g. roll out dough)'; Mdr. ma/lewu; Sad. lebu 'long and round', ka/lebu 'cylindrical, oval-shaped' (also ka/libu). Mmj. ka/lebu. Cf. the preceding item, and also Bar. libu 'ring around the sun or moon', ma/limbu 'wide and round (e.g. a bowl)'; probably borrowed in SSul < Tor., and reflecting PAN *libut 'go around, surround', as in Tag. libot 'take a walk', libutan 'world'; pa/libot 'surroundings'. Cf. also PSS *libu(k?)+an 'island' below, and *lepo(N?) 'round'.

?*-limbua(C?) 'well up, bubble up': Bug. galimpuwaq, Mak. limbuaq (note also rimbuaq 'suddenly appear in

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great quantity-- e.g. a swarm of ants, herd of animals, flames, a crowd of people'); Sad. maq/limbuang, ka/limbuang 'a well, spring'. Cf. Uma kilimue (regular < earlier **kalimbue) 'bubble up, seethe'; Bis. limbawot (=/limbaot/?) 'have goose-flesh; (of the hair) to stand on end from fright'. Cf. also Fi. lambuya (Capell lambue) 'bubble up' cited at *lampo(ɣ) above (the /y/ is irreg. for comparison here).

*libu(k)+an 'island': Bug. libukang, Mak. liukang, Sad. lebukan, SekoP libukang. NB Mmj. (cited in Hoorweg 1911: 108) to liutang 'the inhabitants of the island in Mamuju Bay' (to 'people')-- as an ethnic name, this may not be native Mmj., but does suggest that the *-t of the root could have been retained, and forms with /-k-/ are all borrowed < Bug. Note also Sad. ka/lebuq 'small hill or hummock in the middle of a sawah'. Bar. liwuto 'island' (archaic, in place names referring to forested hills that stand out from otherwise flat surrounding land),, mo/liwu 'to go around from one person/place to another'. Adriani cites (unglossed) Bentenan liwutung, Ponosakan liwuton, Buol liuton, Mong. libuton. PIN (Zorc) *libut 'surround'-- cf. *limbo above; perhaps better ?*li(m)but.

*limbong '(deep) water': Bug. lempong 'pond'; Mdr. ma/limbong 'deep'; Mdr-Camp.(A&K) limpong, Maj.(A&K) lembong, Bal.(A&K) limbong 'gulf, bay'; DuriK ka/limbong, PUS limbong 'deep'; Sad. limbong 'fish-pond'. SWB equates Bug. alibbong, kalibobong, Mak. kalibong, kalibombong

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all meaning 'hole', of which only Mak. kalibong requires no explanation. (Bug. /ǎ/ irreg., and the remaining two show an irreg. reduplication of the final syllable.) All forms here may ultimately be related to **ka+limbu 'round' + an, and in view of the final /ng/ may be borrowed from Bug. or Mak. where the sequence /..u+ang/ occasionally develops into /-ong/. Note also Sad. ka/-limbuang 'well, spring' cited above; and cf. Ledo libo 'puddle'. Perhaps related: Mdr. (RAP67- Majene dial., where /CC/ sometimes occurs for /NC/) lebbong 'waves', Mmj. leqboq (irreg. /-q/) 'sea'.

*leqle(r) 'spread, move from one place to another': Bug. leleq (irreg. /-l-/ for expected /-ll-/), Mak. lĕqlereq '(MWB) go over, cross, (I) spread, e.g. of a fire'; Mdr. leller 'pull, drag along'. Cf. Mad. leler 'in succession; send/take s.t. around from one place/person to another', lirlir 'rotating motion'; Fi. lele 'go a short distance, e.g. over a river; vaka—/da to ferry'; To. lele 'to run, sail, travel along'. PAN ?*li(rḍɣ)-li(rḍɣ)-- in view of the SSul /e/, possibly *-ɣ. Cf. also PSS *lele below.

*lindo 'face, forehead': Bug. linro, alinro, Mdr. lindo, Mdr-Camp.(A&K) linro, Sad. lindo, Mai. lindo, Mass.(V) (Batu Lappaq dial.) linro (< Bug.?), SekoP linno. Cf. Ledo, Bar. Mori lio 'face' (PAN *g̃ > **y > ∅ regular), Mori lio/no '-self' (-no '3d pers. poss.'), Bad. lindo

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'face'; Togian Bajo (Adriani 1900) lendo, Samal (Reid 1971) lendoq 'forehead'. With the Bar. or Mori form, cf. Bug. Mak. lio2 'back part of a gunsight'(?); Sad. si/lio 'to look alike'. PIN ?*li(ñ)ĝuq.

*lendong 'eel': Bug. lenrong, Mak. Sad. lendong (Mak. /-nd-/ probably due to borrowing). Note Ledo lindo, Bar. lendo, Ml. Sasak Bal. lindung; NgD lindong 'an edible water-snake'. Perhaps Fi. lerua (< leru/a?) 'a sp. of shell-fish', To. lelo 'a fish sp. (unspecified)'(?). PIN (PAN?) ?*lin(dḍ)ung.

*li(n)dung'shade, shelter': Bug. Mak. linrung, Mdr. lindung (also lindu, and lindu2ang 'shadows'), Sad. rerung, SekoP lilong 'shade', mal/lilongng/i 'to shelter'. PAN *li(ṇ)ḍung. If we extract a root **ḍung (cf. PSS *tɨddung 'sun-shade, parasol' below), then Mdr. rundung 'shade, shelter' is cognate, and cf. Fi. rūrū 'calm' and/or rurungu 'sheltered, shaded', both < *ḍungḍung.

*lingka 'go, walk': Bug.(BWB only, not checked with informants) lika, lengka (lika may be Matthes' mis-reading of "li.ka" for likka(?)); Mak-Sal., Konjo lingka, Sad. likka, lingka, Mass. l/um/ingka. Cf. Napu lingka; Buton (A&K) ka/lingka2, Bonerate longka 'run' (/o/ unexpl.); Bob.(Adriani 1900) l/um/engkad 'run' (/-d/ unexpl.); Mad. lingka 'step, step over', lengka 'step over; overstep, exceed'. Bob. with /-d/ should be excluded, as this is probably a variant of PAN *langkaq 'step'--thus, PAN ?*lingkaq.

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*liku 'deep': Bug. liu 'deep water, whirlpool, eddy'; Mak. liku 'pit'; Sad. liku 'deep place in a river', ma/liku 'deep'.

*li(ng)ko(C?) 'curving, winding': Bug. lekkoq 'bend in a river'; Mdr. mil/leko 'to turn', pi/lekko/ang 'fork in a road', leko2 'winding'; Sad. lekko2 'bent, twisted', ti/pa/lekkok (intens.) 'twisted/sprained ankle', ba/-lekkoq, ba/lekong 'deformed (arm); (dial.) left-handed'; DuriK mang/lekko 'to turn', lekkong2 'winding'; SekoP lumeko 'to zigzag; (of a boat) to tack'. There are many related items, all showing the roots **ko(k?) or **ko(ng); and cf. PAN (Dw)*li(ng)kung, *li̱(ng)kung 'concave', *bingkuk, *ingkuk, *bungkuk.

*lengko(t?) 'to throw': Bug. mal/lekkoq sompi̱q, Mak. al/-lekkoq sõmbalaq '(of a sailing boat) to come about--wherein the boom of the sail shifts ("is thrown"?) suddenly from one side to the other'(?); Sad. lengkoq, Duri mang/lekkoq (note DuriC pelekkotan 'throw at..'); PUS maq/lengkoq 'to throw'.

*lele 'move, go around': Bug. Mak. Mdr. Sad. Duri PUS Mmj. lele-- all have the basic meaning, plus, variously, 'be common, well-known, spread etc.', for example: Mdr. pa/si/lele 'to spread around', ma/lele 'fade or run (of colors)', Mmj. pa/lele 'to spread'. Note also: Sad. ulele 'tale' ulelle 'sung narration', maq/ulele/an 'tell a story', DuriK mang/ulele 'narrate, speak',

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SekoP mu/ulele/ang 'speak, BI berbicara' (the element /u-/ is occasionally encountered but so far not identified as to function). See the discussion of this etymon (Ex.43) on p.385 above, where we propose PAN ?*laylay as its source; but cf. also *leqle(r) above (esp. the OC cognates), and also the next item. Note also: Ledo nompa/lele/a 'to hawk, peddle', na/lele 'faded, withered'; Mori lele 'news, report', l/um/ele 'go around, spread'; Mad. lele 'wind (e.g. a rope or cord) around', leleng, lengleng 'go around; rotate'.

*lili(C)$_1$ 'wind around, twist': Bug. liliq 'to wring out'; Mak. liliq; Mdr. uleleqi 'to bandage', puleleq 'twist'. PAN *lilit 'wind around'.

*lili(C)$_2$ 'go around': Mak. liliq 'go around (circumnavigate)', (BWB also 'get out of the way, avoid'--for this my informant gave lili); Sad. liliq 'establish a boundary to a field, or land', liling 'move around s.t., avoid'. Bug. has (BWB only, not checked) niniq 'avoid', irreg. if cognate. Note Mad. leleq (/-q/ < *-t regular) 'postpone, look for reasons not to do s.t.'. Possibly related metaphorically to PAN *lilit 'wind around'; but cf. also PAN *kəliling 'go around', *guling, *galing, *giling, *gulung 'roll, turn, twist, etc.'

*lima 'five; hand': Bug. Mak. Mdr. Sad. Mass. PUS Mmj. Seko lima. PAN *lima.

*lemo 'citrus; lemon': Bug. Mak. Sad. lemo. PAN *limaw.

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*lino$_1$ 'calm (usu. of wind or sea)': Bug. Mak. Mdr. Sad. Duri lino. (Mdr. also 'quiet, lonely'; Sad. also 'clear (water)'). PAN *li(n)aw 'clear' and *lingaw 'calm'. SSul, and Banggai, Mori lino 'clear' suggest that Dempwolff's *(n) could be disambiguated to *-n-.

*lino$_2$ 'the physical world, the earth': Bug. Sad. Mass. lino. Note Ledo, Bar. lino 'idem'. Any connection with the preceding item seems remote.

*linuγ 'earthquake': Mdr. linor, ninor, Sad. linoq, DuriC ninoh, DuriK nino (sporadic assimilation of *l > /n/ due to the following nasal). Possibly borrowed, or a doublet with PAN (Dw) *lin̤duγ-- note Bal. linoh (presumed native) and lindu (< Jav.).

*lengo(γ?) 'break; get out of joint': Bug. lengoq 'crick in the neck'; Mak. lĕngoroq '(MWB) out of joint; (I) broken (of bones), BI patah'; Sad. lengoq '1. to hit hard, 2. pain, stiffness in the limbs.' Cf. also *sengo(γ) below.

*lempang 'stop by, visit': Bug.(> Mak.), Mdr. leppang, Sad. lempang (also 'go off to one side'), DuriK leppang. Cf. BI simpang 'go off to the side', sĕlimpang 'deviate from the right path' (PAN *simpang); perhaps PSS derives by analogy < **sa/limpang < **s/al/impang. Cf.also SekoL ke/leppangng/i 'forget', that is, "put aside"?

*-lipan 'centipede': Bug. alipi̤ng, balipi̤ng, Mak. alipang, Mdr. alipang, Sad. lipan, lalipan, Duri PUS alipan,

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Mmj. alipan, alipang, SekoP aripang (/r/ unexpl.). PAN *lipan-- some of Dempwolff's witnesses also have an unexplained initial "prefix".

*lepA(C) 'to lick': Bug. lepɨq, Mak. Mdr. Sad. Duri PUS Mmj. lepaq.

*lipa(C) 'sarong': Bug. Mak. Mdr. Mai. Mmj. lipaq. Sad. lipaq 'sarong of Bug. manufacture' presumed to be a loan. Cf. Banggai lipa, Gor. pa/lipa; Bar. (also presumed borrowed) lipa 'Bug. sarong' Perhaps borrowed < Ml. lipat 'to fold' < PAN *lipɨt.

*li(m)pi(C?) 'shoulder': Bug. Mak. palipiq 'side, edge; the hips; (Adriani 1898a) buttocks'; Mdr. paleppeng, Sad. palempeng, Mmj. paleppe, paleppeng 'shoulder'. All forms are now mono-morphemic, presumed < earlier *pa+ li(m)pi; the final consonants may all be analogically derived from possessed forms. Bar. lempe 'flat' and ma/lepi 'out of joint' may be cognate; cf. also Jav. lèmpèng 'flat and broad', lĕmpèng 'side of the body, the lower ribs'. These last point to PIN ?*lɨ(m)ping, in which case only Bug. Mak. /-q/ is due to analogy.

*lipu 'village, land': Bug. Sad. SekoP lipu. Note Ombi (Bacan Is,, near Halmahera; A&K) lipu, Banggai (A&K) lipu 'village, town' (Banggai-van den Bergh 'interior, mountain area, homeland'); Bar. (and id. in Loin. Gor. Buol, Soboyo (Sula Is.)) lipu 'village'; Adriani 1928 also cites Mong. lipuq, suggesting PIN ?*lipuq.

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If this is correct, PSS reflects the *-uq irregularly, suggesting (as we would suspect in any case) that the word is of local origin and not directly inherited. Cf. also the next item.

*lempo(C?) 'house, village': Bug. (>Mak.) si/lepporing (Mak. /-ang/) 'live together in the same house or kampong'; Sad. lempo 'platform'(?); SekoL leppo 'house'. Perhaps also Bug. Mak. limpo 'surround (with extended meanings village, kampong, people)' if the Bug. is < Mak. (rather than vice-versa, as was assumed at *limbo above). The /-r-/ in Bug. Mak. is unexpl., but could be due to analogy. Cf. *lipu above and further, Bar. limpu 'classifier for pieces of land'. PIN ?*li(m)puq.

*lepu(C?) 'round': Bug. Mak. ka/lepuq 'whole, in one piece, not torn'; Sad. lepong (note ma/lepong bulan 'full moon'), DuriK lepong 'round; perfect'; Seko ma/lepong 'round'. Cf. Tidung Dayak a/limpong 'round'.

*lisa 'restless, nervous': Bug. mang/ulesa 'try to avoid (e.g. danger)'; Mak. rumesa (< r/um/esa?; /r-/ irreg.), galesa (< Ml/BI?), Mdr. Sad. Duri ba/lisa. Cf. Ml. lisah, gĕlisah (and also liñcah 'energetic, lively'); PAN (Blust) *ba/lisaq.

*lisa(C?) 'to tread, step on': Bug.(BWB) lisa, (I) u/lessa; Mak. lísaraq '(Tur. dial.) threshed rice; to thresh rice (by having buffaloes walk on it, or by pounding)'; Bug-Sid. leccaq 'step on'; Sad. lessaq, End. Mai.

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ti/lesaq, Patt. ti/lesa, Duri(RAP72) ti/lese/i, DuriC lese, ti/lese/i, ti/lesa. MWB (s.v. lĭsaraq) also cites Bug. "lisɨq = Mak. oñjoq '(ver)treden'" but BWB does not give that meaning for lisɨq (see the next item).

*lis(iɨ)(r) 'seed; contents': Bug. lisɨq 'contents; classifier for seeds and small seed-like things'; Mak. lĭsereq, Sad. Duri liseq 'seed'; End. lise 'contents' (misheard?). Note also the additional meaning in Mak.-- 'scrotum'-- and cf. ?*lasɨ(C) in the Supplementary List below. If this is a "vowel-variant" of *lasɨ(C), it tends to disambiguate the final to *-γ.

*le(n?)se(r) 'turn, move aside': Bug.(BWB only) lese, (BWB, I) lesseq 'turn aside, avoid; go off the road'; Mak. lĕssereq, Mdr. Sad. Duri lesseq 'go aside, get out of the way'; Note BI, Jav. lengser 'drift away, slide', (Jav. also: 'take leave of, esp., bow oneself out of the presence of s.o. of high position'); BI gĕlingsir 'to slide (usu. down)'; lingsir 'go down (sun or moon)'; liñcir 'smooth'(?); gĕliñcir 'to slip; (of a train) to derail'. Since a final /r/ appears to be indisputable, the Mdr. and perhaps Duri forms above are probably borrowed < Bug. PIN ?*li(n)si(rḍγ).

*le(sc)o(k?) 'to clean, polish': Bug. Mak. lecoq. Note also Bug.(BWB) lecco2 ada '(lit., polished words) elegant speech; euphemism'. Cf. also *iso above and the possibly related items cited there. Note NgD taliso 'polished', talisok 'bird sp. with shiny feathers',

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nalisok 'smooth and soft (e.g. oiled hair)'; and Fi. liso2 'fiery, angry (of the eyes)', liso/ta 'to glare at'; (Capell) liso/liso/a 'glaring, glossy, shiny'. PAN ?*lisu(C?).

*litak 'earth, ground': Mdr. litaq, Sad. Duri PUS litak, Mmj.(A&K) lita, SekoL litak; SekoP litaka (/lĭtak(a)/?) 'sawah (rice paddy)'. Probably also in Bug. tana ma/lita which Matthes glosses as "sticky land, i.e. clay". Note Bar. ma/lita 'sticky'; Ombi, Bacan (A&K) lecak 'earth'; Lampong litaq (perhaps litak) 'mud'. PIN ?*litak.

*lua 'to vomit': Bug. Mak. lua (usu. with /taq-/), Mdr. Sad. Duri PUS ti/lua, Mmj. ti/lua, ti/loa, Seko ti/loa. PAN (Dy) *luaq.

*luaγ 'wide': Bug. luang, loang (/-ng/ unexpl., perhaps not cognate); Mak. lŭaraq, Sad. ma/luaq, ka/luaq, DuriC ma/luah, DuriK ma/lua, PUS ka/luaq, PUS(V) Tubi ma/lŏang, Mayamba ma/lŏĕ (sic, for ma/lŏă ?), Mmj. ka/luaq, SekoP ba/luaq. We accept Matthes' judgment that Mak. lŭasaq is borrowed < Ml. luas; otherwise the SSul forms could also reflect *luas. PAN *luqaγ (or *luas).

*lumba 'to compete': Bug. lompa, lompăng (lompa+ang), (also lumba, < Mak. or Ml.) 'win (a race or other competition)'; Mak. lumba, Sad. lomba. The Bug. and Mak. lumba also mean 'porpoise'; Dempwolff assigned both meaning to a single etymon, *lumba.

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*luran 'to load; carry as freight': Bug. luraŋ, Mak. lurang, Mdr. rurang, DuriC mang/luran. PAN (Charles) *luǧan. Bug. shows irreg. /r/ for expected /s/ < PSS *z < PAN *ǧ; the word may thus be borrowed, probably from a Philippine language, as it is not (presently) found in Ml. or Jav.

*londe 'small canoe; raft': Bug. Mak. lonre, Sad.(dial.) londe. SWB cites Bar. Sang. londe, Minahasa lgs. londey 'idem'; cf. also Aborlan Tagbanwa (Reid 1971) lunday 'outrigger canoe'. PIN ?*lunday.

*londong 'rooster': Bug. Mak. lonrong 'young (Du. jong, perhaps also 'young man'); Mdr-Bal.(A&K), Sad. londong 'rooster; also, male (of animals)'.

*loqlo(ɣ) or *luqlu(ɣ) 'to flow': Mak. lɔ̃qloroq; DuriC lolloh 'to melt'. Cf. PSS *kal(uo)ɣ, *salu(ɣ); PAN *kaluɣ, saluɣ. The present item reflects reduplication of the root **luɣ.

*loñjok 'pile, heap': (Bug.) Mak. lonjoq, Sad. londoq, lonjoq (perhaps both < Bug.); Duri pasi/loñjok 'to pile up'. Note Uma lojuq2 'pile up' (perhaps borrowed, /j/ seems not to be a native phoneme); BI longgok 'pile, heap' (/g/ unexpl., perhaps a borrowing too?).

*loka 'banana': Bug.(mostly dial.) Mdr. Sad. Mass.(V) loka. SWB claims Sad. loka < Bug. Cf.Ledo, Parigi, Leb. Bar. loka; perhaps (metathesized?) Sasak, Bima kalo.

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?*lo(ng)ki(C) 'to split' (PSad.): Sad. longkiq, lokkiq 'chop, cut up (usu. s.t. long)', loki (poet.) 'idem'; Mmj. lokiq 'split'; SekoL (heard) ma/lokkiq 'cut'. If Mak. lokoq 'wound' is cognate here, then PSS ?*lo(ng)k(uo)(C), with all Sad. languages showing the change *u > /i/, which in turn suggests that the final is *-t. Cf. the next item.

?*loko(C) 'wound': Bug. loq (< **loØoq), Mak. lokoq; Mai. ma/loq (perhaps m/aloq), End. ka/aloq 'wounded'--these no doubt < Bug., with epenthetic /a/ to restore disyllabicity. Cf. the preceding item.

*longko(t) 'ashamed': Bug. Mak. longkoq 'dishonor, desecrate' (Bug. /ngk/ irreg.); Sad. longkoq 'ashamed'. Cf. Bar. longko 'ashamed', Tag. lungkot 'sad, troubled; melancholy'. PIN ?*lungkut.

*lolo 'young': Bug. Mak. lolo; Mdr. ma/lolo 'young, pretty'; Sad. ma/lolo 'pretty; young, immature (of bananas)'; DuriK ma/lolo 'young'; Duri(RAP72) ma/lolo 'good'; PUS ma/lolo 'good'. Cf. Ledo lolo 'sprout, bud', Bar. luyo 'young, fresh', perhaps (cf. the Ledo) lolo 'pointed, protruding'. Perhaps related to PAN (Dw) *lawlaw 'weak', but ?*lulu, ?*lulaw, ?*lu(q)luq or (via Tor.) ?*lɨ(C)lɨ(C) are equally good possibilities, though none are attested at present.

*lu(n/q)lu(N) 'follow; take/go along': Bug. lɨllung 'follow', lollong '(BWB) belong together; with; (I) take along';

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Mak. lollong '(MWB) belong together; (I) carry'; Mdr. mal/lolong/ang 'get, obtain'; Sad. lolong 'in one piece, in order, complete (e.g. a broken bone that has healed)'; DuriK mang/lolung/an 'get, obtain'. Cf. Jav. kĕ/lulun 'carry along; with'. Jav. /-n/ contradicts the apparent PSS *-ng, unless Sad. Duri are borrowed < e.g. Bug.

*lomo$_1$ 'easy, gentle': Bug. Mak. Mdr. Sad. lomo (Mak. also lomo2). Cf. Bis. lŭmo 'soft, tender, gentle'; Tag. lumŏ 'tenderness; to sadden, move'(?); Bar. lomo 'to shake, quiver, give way to pressure (as soft things do)'; Jav. lĕmĕs 'soft, weak, slack' (implying PSS borrowing from a regular Tor. **lomoØ); Ml/BI lĕmau 'weak, soft' (borrowing < Tor. still likely, due to the single /m/). Cf. the next item.

*lɨmmu(r) 'soft': Mak. lămmoroq 'mild, easy; cheap'; luqmuq, luqmu (cognate here?) 'soft, gentle'; Sad. lommoq 'soft, slack'; SekoP ma/lumu 'soft, fine'. Cf. Ledo lomu 'fat'; Leb. lumu mpale 'palm of the hand' ("the soft part?); Sumba-Kodi dial.(Wielenga 1917) lumu 'soft'; Jav. lumĕr 'soft, smooth (usu. of skin)'; Perhaps Fi. lumu(-ta) 'to anoint the body with oil/ointment'; To. molū 'soft, tender, flexible, supple, limp'; unlikely but remotely possible To. lomu 'a sp. of sea-slug'. Mak. lămmoroq and Sad. lommoq are regular from the proposed etymon, which can be compared with Jav. lumĕr; one or the other shows metathesis of the vowels. To. molū-- such a good

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fit semantically-- might show consonantal metathesis from **lomū < *lɨmu(r), or syllable-metathesis < **mɨlu < *lumɨ(r)-- note just that development in the POC word for 'citrus fruit', POC *moli < PAN *limaw. (The To. long vowel is unexpl. in any case.) PAN ?*lɨmu(r) or ?*lumɨ(r) might also be the source of our *$lomo_1$ above, and cf. also $lomo_2$ below.

*$lomo_2$ 'grow new skin': Bug. Mak. lomo '(of a snake) to shed its old skin, or, to be growing new skin'. Cf. Jav. lumur 'dry up, begin to heal and grow new skin (of a wound)'. Perhaps related to one of the above.

*lumu(t) 'moss': Bug. Mak. Mdr. Sad. Duri lumuq (note DuriC lumuq/lumut/an 'mossy'), Mmj. lomoq, SekoP lomo2. PAN *lumut.

*lupa 'to forget': Bug. Mak. lupa, Mdr. u/lupe/i (lupe < earlier **lupa i?), Mdr Cend.(A&K) teq/alupe (probably reflecting **ting/kalupe), DuriK kalupa/i. PAN *lupa. Perhaps Sad.(dial.) lupa 'empty'?

*lu(m)pa(t) 'to jump': Bug. luppɨq, Mak. lumpaq; Sad. lumpaq 'to shoot out, rush out', l/um/umpaq 'to rush at, attack'; End. Patt. luppaq, Mai. lupaq 'jump' (the Mai. form is the basis for positing the optional nasal in PSS; if it is misheard, as I suspect, then PSS *lum-pa(t)); Mmj. l/om/umpaq. PAN *lumpat.

*lopi 'canoe': Bug. Mdr. Sad. DuriK lopi. Note Bima lopi (probably borrowed, as *l, p > r,f usually); Letti

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loi (*p > ø regular) (Jonker also cites Moa, Roma loi, Kupang lui-- these are all languages of the Timor area).

*l(oɨ)mpo 'big; fat': Bug. loppo, Mak. lompo, Sad. Duri lompo, End. Duri(RAP72) Patt. loppo, PUS Mmj. Seko ma/lompo (SekoL /-mp-/ borrowed?). Cf. Lcin.(A&K), Bob. (Adriani 1900) lompo 'fat'; Mad. lĕmpo 'fat', lompo '1. weak, 2. = lĕmpo, fat. PIN ?*lɨmpu(qø).

*lo(m?)pos 'trip, step in a hole': Bug. lopoq, Mak. lŏposoq (Matthes 'sink down'); Sad. loqpoq 'make a hole in...' (/-qp-/ due either to an intens. form, or < *mp). Cf. Banggai to/lompos 'step in a hidden hole'; this could reflect **l(uɨ)mp(uɨ)s, and PSS could also reflect *ɨ. Note Fi. luvu 'to sink into the water', luvu/ɗa 'to sink or drown s.t./s.o.'; lovo 'hole in the ground' is possible (if both vowels were *ɨ), but is most likely < PAN *lɨ(m)bɨng, as Dempwolff has it; lovu 'hole filled with water, as on a reef' (a "hidden hole"?) could reflect **lɨ(m)pu(s). PAN ?*l(uɨ)mp(uɨ)s.

*loqlos 'to fade': Bug. lolloq, Mak. lŏqlosoq; Sad. lolloq 'dissolve'; DuriC lolloh, DuriK lollo. Cf. Gor. mo/-luluto (*s > /t/ plus support vowel, regular) 'idem'; perhaps BI lolos 'slip off, get loose', lulus 'slip through'; OJ lus 'open, set free'; mod. Jav. los 'slip away secretly', lolos 'come loose, slip out (e.g. one thing from a bundle)'; Sasak lolos 'go away secretly'; Mad. loslos '1. come untied 2. take away, remove'.

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Tag. luslos 'lengthen; let a rope out/down gradually'. PIN ?*luslus with basic meaning "lose, get away (gradually)".

*luqlu(t) 'rub, wipe, polish': Bug. lulluq, Mak. Mdr. luqluq; Sad. lulluq 'trample, step on; thresh rice by walking the buffaloes over it', lolloq 'to praise, flatter, encourage'(?). Cf. BI lulut 'massage'; Jav. lulur 'rub, wipe; massage the skin'. PIN ?*lu(dǧ)lu(dǧ).

*lotong 'black': Bug. Mdr. Sad. Duri Mai. lotong, End. locong, PUS lotong, PUS(V) lötöng, lötö, Mmj. SekoP ma/lotong. Cf. Sasak lutung '1. black, 2. a sp. of black ape'; Ml. lutung 'black ape'. PIN ?*lutung

*luntu(s) 'to fly': Bug. luttuq, Mdr.(Muthalib 1974) l/um/uttus, End. Mai. Patt. luttuq. Cf. Fi. lutu(-ka) 'fall from a height'; more compelling, OJ mlětuk 'to fly'-- base form not cited, could be either m/l/ětuk or (less likely) m(ě)/lětuk. PIN ?*l(uɨ)(n)tu(C).

M

*-ma 'to chew': Mak. caqma (< earlier **caq- (=taq-) + ma); Mak-Sal. maqma 'sirih' (reduplicated, or with verbal prefix /maq-/)-- both these are apparently monomorphemic now; Sad. tamma 'chew'. PAN (Dw) *mamaq, but these reflect only the root **maq, as does Bal. a/mah 'chew' and, probably, Fi. mamā (< earlier verbal *ma- + maq; the long vowel is unexpl.).

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*ma(zr)a 'dry': Mak. mara 'dried out (by the sun, by cooking)', pallu mara '(lit., cook dry) to cook with little or no liquid' (presumed borrowed in Bug. pallu mara 'idem'); Sad. ma/mara 'dry', mara/i 'to dry s.t. out', (intens.) maqda 'dry (of a sawah or fish-pond)'; perhaps also bara-- but see *(bw)ara in the Supplementary List. PAN *maga.

*mai '(to) here': Bug. mai, Mak. mae, Mdr. mai, Sad. mai. Probably also related: Sad. dio mai, Duri (jio) mai, End. Mai. jo/mai, SekoP nai (/n-/ unexpl.) 'from'. Presumed < PAN *mayi, with irreg. loss of *-y-.

*ma(ng)ka$_1$ 'able to...; is to be...': Bug. Mak. maka; Sad. maka 'particle to express doubt'; SekoP mangka/mo 'can', perhaps maka '1. or, 2. perhaps' Tag. Bis. maka- 'prefix, future tense, expressing capability or ability'. Cf. the next item.

*ma(ng)ka$_2$ 'but, although': Bug. Mak. mangka (also mingka); Sad. mangka 'after'; DuriK mangka/mo 'already'; SekoP maka 'or; perhaps'(?). Cf. Jav. mangka 'and, and so, even so'.

*mana(y?) 'to inherit': Bug. manaq, Mdr. manaq (/-q/ irreg.), Sad. DuriK manaq, DuriC manah. Perhaps borrowed < Ml. manah. PAN *manaq.

*manA(n) 'all': Bug. maning; Mak. manang 'do s.t. together'; Sad. manan, End. Patt. ia/manan, Mai. ia/manang.

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Cf. To. mano 'myriad, ten thousand' (if < *mani(n)), which fits better here than as an irreg. reflex of Dempwolff's *tiyib 'crowd' (i.e. his ma/no).

*manuk 'chicken; bird (in this sense, usu. reduplicated)': Bug. manuq, Mdr. manuq, Sad. Duri PUS manuk, Patt. manun (sic, probably a misprint for manuk), manuq2 'bird' (the difference in finals is unexpl.); PUS(V) mänöq, manö, maneq, Mmj. maneq, SekoL manok, SekoP manoko (/mánok(o)/?). PAN *manuk.

?*mangi(b)A(N) 'shark': Bug. mangiwing, Mak. Mdr. Mmj. mangiwang, Mmj.(A&K) mangihang. Cf. Ledo mangiwa, Bar. mangiba, Bar-Ampana manggíwangi, Gor. monggiango; Sasak (Ampenan dial., marked as Bug.) mangiwang. Perhaps related to Dempwolff's *hi(y)u, *ki(y)u, (Dahl) *qiu-- **maN-...-an, an inexplicable formation-- or, as Adriani 1928 suggests, to Jav. iwak 'fish'.

*mata$_1$ 'eye': Bug. Mak. Mdr. Sad. Mass. PUS Mmj. Seko mata. PAN *mata.

*mata$_2$ 'raw, unripe': Bug. Mak. mata, Mdr. Sad. ma/mata, DuriK ma/mataq, SekoP mata. PAN *(m)a(n)taq (also *mintaq).

*mayang 'blossom (spadix) of the coconut and other palm spp.': Bug. majang; Mak. mayang 'pinang blossom'; Mdr. mañang 'tuak (palm-wine, made from the juice obtained by cutting into the tree or blossom)'; Sad. maang 'blossom of the sugar-palm'; PUS(V) mäñäng, mäña (/ñ/ < *y due to the preceding nasal). PAN *mayang.

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*mɨmmi(s) (?*m/ɨmmi(s)) 'sweet; delicious' (PSad.?): Mdr. mammis, Sad. mammiq, DuriC mammih, Mmj.(A&K) mami; Seko mamiq 'delicious', SekoP also (in a different hand) mammi 'sweet'-- surely the same word. Cf. Bar. momi, Ledo ne/momi; Proto-Manobo (Elkins 1974) *?emis (*qɨmis in our symbols) and many Philippine forms in Reid 1971 pointing to PIN ?*m/ɨmis, no doubt a variant of Dempwolff's *mamis.

*miqmis 'to suck': Bug.(I) mimmiq (BWB "mímí" implies /miqmiq/, not acceptable to my informants), Mak. míq-misiq (also múqmusuq), Sad. mimmiq, DuriC ka/mimmih. Note also Bug. (BWB) karumimiq (/-imi-/ for expected /-immi-/ irreg.?), karumɨmmiq, Mak. kumíqmisiq, karumíqmisiq (i.e. prefix(?) ku- with infix -ar-) '(Matthes) make sucking/smacking noises with the lips, as a sign of sympathy, disapproval, etc.'-- but the only such sound I ever heard in the area was the familiar alveolar click usu. written as "tch-tch" in English. Cf. Bar. pipi 'sound of sucking or spitting', mimi 'chew up food, then transfer it to a baby's mouth'; Perhaps Jav. mimis/ĕn 'have a nose-bleed', Ml/BI pipis 'to urinate'(?). With the Mak. /u/-variant, cf. Tag. musmos 'child; innocent'. PIN ?*mismis, perhaps from, or alternating with, ?*pispis.

?*mi(n)tu, ?*m/an/i(n)tu 'child's spouse': Bug. manitu, Mak. mintu, Mdr. mittu, Sad. manintu, SekoL manittu, SekoP manintu. Cf. also (with unexpl. irregularities)

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Bug. menittu, menetu; Sad. mamintu, mamentu, mimintu, memintu (perhaps by analogy < ma/mintu, me/mintu?). Note Sasak menantu; Ml. mĕnantu, Jav. mantu (< wantu, according to Jansz). Dempwolff pcsited PAN *b/in/antu, derived (not very convincingly, to my view) < *bantu 'to help, assist'. If correct, however, then PSS shows (1) nasal substitution, *m < *b, and (2) metathesis of the *a and *i.

*miña(k) 'fat, grease; oil': Bug. Mak. miñaq (perhaps < Ml. miñak), Mdr.(Sahur) minna (Sahur tends to overlook /-q/); Sad. minnak (also "lamp'), (Merok text) ma/innak 'oil-bearing' (base /innak/ created analogically?, perhaps for metrical purposes?); DuriK miññak, End. miññaŋ, SekoP minna. Perhaps better, PSS *miññak (or *ma- ~ *m-/innak?) with the Bug. Mak. due to borrowing, and Sad. group *i > /i/ due to the following palatal. Note Dempwolff's *miñak, *miñak (the latter attested-- among his eleven test-languages-- only in Ml. and a probable Ml. borrowing in NgD.). Probably morphologically complex even at the PAN level, ?*ma+iñak.

?*mua '(particle)': Bug. mua 'only, just'; Mdr. muaq, PUS moa, Mmj. moaq 'if'. Note Old Bal. (Goris) muwah 'and, further, again'; OJ muwah 'again', mod. Jav. muwah '(ngoko, rare) as well as, moreover'. PIN ?*muaq.

?*muane (perhaps ?*ma+wane) 'man, male': Mdr. Sad. Duri Mai. Patt. PUS Mmj. Seko muane. End. muange is irreg.

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if not a misprint ("muane" for "muane"?); SekoP mone/na 'husband' apparently shows a sporadic crasis of the vowels. PAN (Blust) *waNay (*N > Form. /l/ or /l/, IN, OC /n/), (Charles) *(ma-)waN̈y, either of which would produce a putative PSS ?*wane which would regularly > modern /u(w)ane/; the vowel of the *ma- prefix is frequently dropped before another vowel in SSul, so that /muane/ is a possible outcome of PSS *ma+wane. The base form *wane may be retained in Bug.(Matthes' orthography) "woro/wane" ~ "oro/wane", i.e. /(w)oroane/. Informants do not accept the pronunciation with initial /w/, but its underlying presence may be evidenced by anaq/borane 'son' (but note the irreg. dropping of the second /o/). The element /oro/ is said to be an Old Bug. word meaning 'person' but if so, it is quite unique. Mak. (MWB) buranne, (I) buraqne bears a resemblance and is probably cognate; mutual influences between Bug. and Mak. dialects may ultimately be the source of the irreg. forms in the two languages. At least some forms in other languages suggest a possible PAN/PIN ?*-uqan(aɨ)y: Muna "mughane", Binongko muhane (both in A&K), Balantak (Loin.) moroqone, Old Bal.(Goris) maruhani (the latter two perhaps showing the *maɣ- prefix); such a proto-form would have produced PSS ?*uane.

*muqmu(ɣ) 'rinse the mouth': Bug. kali/mommoq, Mak. kali/-mo̱qmoroq (presumed "prefix" *ki- plus infix *-al-); Sad. ka/mummuq 'close the mouth (or any opening) tightly';

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(intens.) mommok 'make slurping noises (coarse: to eat)'; kemmuq 'close the mouth tightly, compress the lips' (perhaps < Ml/BI kĕmur 'rinse the mouth'). Note also Bug. mommoq, rommoq (back-formed < ?m/ar/ommoq), Mak. mŏqmoroq 'soft, good to eat (of fruits)'. Note also Isneg (Reid 1971) molmol 'suck' (/l/ < *ɣ regular). PIN ?*muɣmuɣ; cf. Dempwolff's PAN *kɨmuɣ 'rinse the mouth'.

?*muqmus 'dirt': Bug.(BWB, Luwu dial.) "mumu" (perhaps misheard or misread, for ?mummuq) '(crusted) dirt on the skin (BI daki)'; Mak. mŭqmusuq (Matthes gives the basic meaning as 'suck, slobber (like a duck eating)' and by a series of not very convincing metaphorical usages derives the meaning we wish to compare: 'fore-skin'. Quite likely, homonyms are involved here.); Sad. muqmuq 'dirt on the skin'; Mdr. kareaq/mus 'dust' (the morpheme cut is hypothetical; the element(s) /kareaq-/ are unexpl.). PIN ?*musmus.

?*musu(C) 'war; enemy': Bug. musuq, Mdr-Maj.(A&K) musuq 'war'; Sad. musu, SekoP musuq 'enemy'. Perhaps all are borrowed < Ml/BI musuh 'enemy'; the /-q/ of Bug. and Mdr. are unexpl. PAN *mu(n)suq.

N

*na 'and': Bug. Mak. na- (perhaps also in Bug. variant nɨnnia 'idem'), Mdr. an/na, Sad. na-, an/na 'and, and so, so that'; DuriK na-, PUS Mmj. an/na, SekoL na. PAN *(n)a. SSul forms tend to establish *n as the initial.

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*nara(N) 'tame; clever': Mak-Sal. narang 'tame'; Mdr. narang 'clever, good at...'; Sad. narang 'clever', naran 'tame', (intens.) ma/naqran 'very tame', DuriK ma/narang 'tame, clever', Mdr-Bal.(A&K, probably a PUS dial.) ma/naran 'clever', SekoL ma/narang 'clever', SekoP mam/pi/narang 'to teach'. Perhaps we have to do here with more than one proto-form-- PIN ?*na(ɣǧ)am 'tame', *na(rɣǧ)a(N) 'clever'-- though only Sad. seems to distinguish the two. (It is possible, too, that Sad. narang is borrowed < Bug., Mak. or Mdr; thus we have only PSS *na(rz)a(m?) < PIN ?*na(ɣǧ)am, reconstructible from: Bar. ma/naya, Balantak (Loin.) ma/naam, Sang. malang, narang, Ttb. naram, Mori mo/nea (all cited in A&K, all 'tame'). The medial consonant remains ambiguous, for borrowing may have obscured the picture, but if Ttb. is native, then Ttb./r/ vs. e.g. Bar. /y/, Mori /e/ < *-ay- point only to *ǧ. A&K also cite "Bat." nalom (Bat. for Batak or Philippine Batanes? we are not told; if Toba Batak, the /l/ does not reflect anything but *l) and "Form." dagam (but Formosan is about as precise as "(U.S.) Indian" and /g/ could reflect either *ɣ or *ǧ depending on the source). We also find Ledo na/nara 'pretty' (borrowed, if cognate), na/naya 'tame'.

*nangka 'the nangka fruit/tree, Artocarpus spp.': Mak-Sal. (Heyne) nangka, Sad. nangkaq, SekoP nangka. Borrowing < Ml. is likely. PAN *nangka 'the breadfruit tree, Artocarpus spp.' According to Heyne, usu. A. integrifolia. See also *nakan in the Supplementary List.

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*nana 'pus': Bug. Mak. Mdr. Sad. Duri nana. PAN *nanaq.

*nasu 'to cook': Bug. Sad. Duri Mmj. nasu. Cf. also Uma Mori Lalaki nahu (Bar. nau probably borrowed from one of these); Letti nasu, Sumba-Kambera (Wielenga 1917) ma/nahu; Roti nasu 'boil'; Proto New Guinea AN (Milke 1965) *nazu (= *nasu, perhaps *na(n)su in our symbols) 'cook'-- Milke inexplicably missed the Bug. and EIN cognates, and posited this as an innovation in PNGA. If we may connect the following-- Mmj. l/um/asu, Tidung, Tinggalan Dayak lasu/on, (dial.) lunsu/on 'cook'-- it is remotely possible that a relationship exists with our *lissu 'hot' or a variant(?) ?*la(n)su; the change of *l- > /n/ after the verbal prefix *ma(N)- is found sporadically in all the IN witnesses.

*niqni(k?) 'fine, powdery': Bug. nennneq, Mak. niqniq, End. nennen 'very fine, powdery (of the by-products of rice-pounding)'; also Mak. neqneq 'thin, worn, easily torn (of old cloth). Only the End. firmly attests *-k, and it may be an intensive form; otherwise cf. Bis. nidnid 'to grate into shreds', nisnis 'scrape to make smooth'; Tag. nisnis 'scratched; frayed, ravelled'.

*nene(C?) 'grandparent(s)': Bug. neneq (for some of my informants, 'grandmother' only; BWB and others, both grandparents), Mdr. kaneq (ka/neq/?), note also ka/nene 'crocodile' (not far-fetched-- many IN groups hold that crocodiles are either their ancestors, or the abode of

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the ancestors' souls), Sad. neneq, DuriK neneq. Note Jav. nini, nenek. PAN *nini-- cf. the final /q/ added to other kin-terms in SSul and elsewhere, believed to reflect a "vocative" form.

*ningo 'to play': Mdr. mangino (metathesis), Sad. maningo, (apparently monomorphemic; SWB comments "het grondwoord is niet bekend"), Duri ma/ningo; DuriC pa/ningo/an 'game'; PUS ma/ningo, Mmj. maningo, mangino (< Mdr.?). Perhaps Bug. (Basa Bissu) ningo 'sleep'; cf. Sumba (Wielenga, no.176) ma/lingo 'commit adultery' which if cognate also suggests that the proto form would be PIN ?*lingo.

*nipa 'palm sp., Nipa fruticans': Bug. Mak. Mdr. Sad. Duri nipa. PAN *nipaq.

*nipis 'thin': Bug. ma/nipiq (-s-, -r-), Mak. nípisiq, Mdr. ma/nipis, Sad. ma/nipiq, DuriC ma/nipih, DuriK ma/nipi, PUS Mmj. ma/nipi; probably Seko ma/nipa (/-a/ unexpl.) 'thin (of objects)' and perhaps ma/tipo 'thin (of the body)'. PAN *tipis, *nipis.

*nunu(k), ?*nuqnuk 'to pull out, draw out': Bug. nənnuq, Mak. nunuq 'wind yarn into skeins/balls'; for the Mak. Matthes gives a second meaning: '(of one who has been stabbed by a lancer) to pull on the lance to bring the attacker near, so that one may stab him with one's kris'; Sad. nonok 'pull, draw out (e.g. a knife from its scabbard)', nuqnuk 'to pull out', nunnuk 'to pull

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(stretch, straighten?) arèn-fibres preparatory to braiding rope'; DuriK mang/nonok, SekoP nonoko (/nɔ̀nok(o)/?). Cf. Bar. mam/pe/nono 'pull s.t. towards one; hold back (s.t. that might get away-- an animal on a rope, e.g.-- or also figuratively)'.

?*nau(C) 'descend': Bug. man/noq; ma/nor/ɨng 'South' is considered to be a derivation, perhaps in that, from Luwu, one descends the peninsula to go South. The vowel coalescence is unexpl. Mak. Mdr. naung (perhaps Mak. only, borrowed by Mdr.; assuming all items are cognate, the /-ng/ must be due to analogy); DuriK men/noq; Mmj. pa/noq 'South' (perhaps both these < Bug.?). Cf. Bis. ma/naog, ka/naog, Tag. panaug 'come down, get down from'; Rampi, Parigi Bar. naqu, Ledo Bad. nau, Buol (NSul, Adriani 1928 s.v. naqu) naugu 'descend'. PIN (Zorc,Charles) *panau(gɣ).

ñ

*ñamAn 'pleasant': Bug. ñamɨng, Mak. ñamang; Mdr. ma/ñaman 'fresh'; Sad.(SWB) naman, (I) ñaman, Duri ma/ñaman 'fresh; tasty'. Note Wo. ma/ñama (< Bug. or Mak.?); Ml. ñaman; Sasak kĕñamĕn 'young coconut'. Perhaps also To. namo 'sea near the land, esp. between the reef and shore, lagoon', namo/a 'k.o. food made with coconut cream and given to young children'. No doubt related to Dempwolff's *(nñ)am(nñ)am 'taste', disambiguated by Blust and changed to *ñaqam2; forms cited here reflect only

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the unreduplicated base *ñam (Blust's *ñaqam should > To. *naqa) plus the PAN affix *-in, thus *ñam+in; PSS could reflect this, or *ñam+an. Note also Bug. Mak. ñame 'to taste' < PSS ?*ñam(ie) < PAN ?*ñam+i.

*ñañi (PSad. or < Ml.) 'to sing': Sad. nani 'certain ritual songs', me/nani 'to sing such songs'; DuriK ma/ñañi, Mmj. me/nani 'to sing'; Seko (J.Kruyt) me/-nani 'a certain ritual song and dance' (note the usual word for 'sing', SekoP mu/honta, (Kruyt) mong/hota). The loss of the word in Bug. Mak. Mdr. could be due to Islamic influence, if it was associated with the pre-Islamic pagan religion. PAN *ñañi.

*ñawa (~ ?*nawa) 'soul, breath; spirit, consciousness': Bug. ñawa, nawa 'soul, breath', maq/ñawa 'to breathe', ininawa 'mind, consciousness', nawa2 'to think over'; Mak. ñawa 'soul', nawa2 'to think over'; Mdr. ñawa (Lontar) ñaba 'soul', nawa 'breath', me/nawa 'to breathe'; Sad. pe/naa 'breath', me/naa 'to breathe' (Mamasa dial., V) me/nawa 'breathe', inaa 'soul, spirit' (dial. inaya); Duri ñawa 'breath', me/ñawa 'breathe' (DuriK me/nawa2 'to gasp'); PUS ñaba, inaha 'soul, breath', meng/inaha 'breathe', PUS(V) inava-nava/i 'to ponder, think over'; Mmj. ñawa 'soul, breath', meninaha 'breathe' (perhaps misheard for meng-?); SekoP inaha 'breath', pinanaha 'soul; life', me/nanaha 'to breathe'. PAN *ñawa 'soul'. Perhaps some of the SSul forms derive from **ñ/in/awa, with subsequent loss of the *ñ. With Bug. ininawa,

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cf. Bis. (marked as old) ginhawa 'life' (mod. 'breathe'), gininhawa 'breath, respiration' (Bis. /gin-/ is a passive prefix). Note also Ml/BI hawa 'breath; air', said to be an Arab. loan, but perhaps not. PAN *ñawa might then be viewed as an irreg. derivative: *h/in/awa > *inawa > metathesis?)*ni/awa >*ñawa. If hawa is < Arab., it may appear in the Bug. Mak. and Mdr. forms (reflecting ?*in/(h)awa), which would thus appear as a false doublet of *ñawa.

*ñoqño(C) 'to slobber': Bug. ñ±ññoq, Mak. ñoqñoq 'slobber, let food or drink run out of the mouth'; End. ñoññoŋ 'to sip (BI hirup)'. The End. form, if not an intensive, points to PSS *ñoqñok, PAN ?*ñukñuk, but cf. Dempwolff's *ñu(r)ñu(r) 'mush'. Cf. Fi.(Hazlewood) nunu, (Capell) nūnu 'to dive', nunu/va 'to sink the teeth into s.t. soft'; nunu sara, nunu ~~dede~~ 'to dive just below the surface' (like a duck? Note my Bug. informant's explanation of ñ±ññoq 'slobber when eating, like a duck'!), perhaps nono 'to skulk about for food'. Sasak ñuñur 'plump, chubby'. Mak. /-q/:Jav. Sasak /-r/, if all forms are native, points only to *ñuǧñuǧ; in that case, Ml. ñuñur 'mush' must be viewed as a Jav. loan, while Dempwolff's Toba Batak begu nurnur 'name of an evil spirit' may not be cognate.

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NG

*nganga 'gaping, wide open (usu. of the mouth)': Bug. Mak. nganga; Mdr. nanga 'mouth' (/n-/ unexpl.), (Muthalib) ngangngaq 'bit of a bridle' (geminate and /-q/ unexpl., perhaps not comparable); Sad. nganga 'open; hole'; End. ngangngaq (intens.?). PAN *nganga.

*ngilu 'ache; (of the teeth) on edge': Bug. ma/ngilu, Mak. ngilu (informant felt this was < BI; cf. MWB tilu), Mdr. ma/ngilu, Sad. mangngilung (geminate /ng/ and /-ng/ unexpl.). PAN *ngilu.

*nginan (?*ng/inan) 'place (in particular, for sleeping?)': Mak.(MWB) enang, maq/m/enang 'to sleep'; Sad. inan 'place (dial., bedroom)', angenan, langenan, nangenan (all dial.) 'bedroom'; DuriK ngenan katindoan 'bed(room), BI tempat tidur', Duri (RAP72) ngenan mammaq 'idem' (tindo, mammaq 'sleep').

*ngisi 'grin, laugh with the mouth open': Bug. ngisi, (I) also Bone dial., ma/ngici 'grin/smile a little, cynically'; Mak.(MWB) ngisi, (I) pulaqngisiq 'grin' (the Informant's form may not be cognate); Sad. me/-langissiq (intens.) 'laugh with the mouth wide open'; Cf. Bar. me/kungisi 'grin, laugh (showing the teeth)', Mori me/ngingisi 'laugh', Tag. Bis. ngisi 'grin'. Undoubtedly a back-formation < *isi 'tooth' q.v.

*ngua(p?) 'to yawn': Bug.(Old Bug.) ti/ngoa (misread for tingoaq?), Mak. ngoaq, Sad. me/languaq, Mmj.(A&K)

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me/langoa. Cf. (cited without glosses in SWB) Loin. ngoap, Mong. nguap, Bar. hoqa, Ml. mĕnguap. Adriani 1928 s.v. hoqa 'onomat. for a yawn', me/hoqa 'to yawn'-- Bar. /h/ appears only in onomat. forms and obvious loans; cited here are the same forms as SWB plus Mentawai (W.coast of Sumatra) oap, Tomini oyab, Gor. uabu, Angkola Batak nguop. Tomini /-y-/ is unexpl., Angkola /o/ suggests PIN ?*nguə̇b, but may be a sporadic assimilation of *a due to the preceding *u. Further, Bal. uab2. Note (Charles) *huyaqab, (Zorc)*quyahab 'yawn' presumably based only on Philippine data. Their *-y- explains the Tomini form above, but is not reflected in any of the other IN forms; thus PIN ?*(qØ)uqab (medial *q on the strength of Bar. /-q-/).

P

*-pa 'still, yet': Bug. Mak. Mdr. Sad. Mass. -pa. (Lack of attestations in PUS Mmj. Seko is surely due to the limited data.) PAN *pa.

*paa 'thigh': Bug.(BWB) pang, (I) poppa, poppang (pong 'basis, main part' + pa, /-ng/ either < /-ang/ or by analogy from the poss. forms); Mdr. upa (dial. upaqa), Duri upa, PUS apan, apaqang, Mmj. paqa, paang (dial. also apang), Seko paqa.

*paa(t) 'chisel': Bug. Mak. paq, Mdr. paeq, Sad.(SWB) paq, (I) paaq, PUS paqaq, Mmj. paaq. PAN (Dw) *paqat, (Zorc) *paqə̇t; our Mdr., in particular, attests *paqat.

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*pañcing 'clean': Bug. Mdr. End. Duri Patt. ma/paccing. Mai(RAP72) ma/paccin is undoubtedly a misprint ("paccin" for "paccin").

*para 'shelf, storage area': Mak. para2; Mak-Bant. para 'ceiling'; Sad. para 'attic', para2 'shelf above the hearth for storing pans, food etc.'; Mmj.(A&K) paha 'loft, attic'. PAN (Dw) *para, (Blust, "a doublet") *paya-- but *paya is probably the only form, as Dempwolff's witnesses for *-r- can all be ascribed to borrowing < Ml.

*pandan 'tree sp., Pandanus': Bug. panriṅg, Mak. pandang (/nd/ must be borrowed; < Ml.?), Mdr. pandeng (/e/ unexpl., < Bug.?), Sad. pandan; panden 'a sp. of fragrant grass'; SekoP ka/pondang (/o/ unexpl.). The leaves of the pandanus are long and supple, usually with thorns along the edge; dried, they have the fragrance of new-mown hay, and are woven into mats, baskets and many other articles of everyday use. The leaves of the pineapple plant resemble the pandanus, in miniature; thus: Bug. panriṅg rianre (ri/anre 'eaten'), Mak. pandang, Mdr.(Lontar) pandeng, Sad. DuriK pondan, Mass.(V) ponrang, SekoL pandang. Note Bar. pŏndani (borrowed), Sang. pondang (probably borrowed), all meaning 'pineapple'. PAN *paṇḍan 'Pandanus'.

*padang 'field, plain': Bug. padang, Mak. parang; Mdr. padang 'sp. of tall grass, BI alang2'; Sad. SekoP padang. Possibly < Ml. PAN *pa(n)dang.

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*paze 'rice-plant': Bug. ase (Ø- unexpl.), Mak. pare (also ase), Mdr. Sad. Duri pare, Mai. ase (< Bug.), PUS pare, pahe, Mmj. pare, pahe. PAN *paǧay, (Dy) *paǧiy. The Bug. form may not be cognate; cf. Mmj. mang/asi 'to plant rice', Sang. asiq 'idem' pointing to PIN ?*asiq; perhaps also Ml. nasi (< ?*in/asi(q)) 'cooked rice'. In that case, only PSS *pa(zr)e would be possible. Mak. marri 'rice-plant' is irreg., and may be < Jav. pari.

*pariama '...': Bug. pariama(ng), Mak. pariama 'period of time, either 8 or 12 years'; Sad. pariama 'name of a constellation'; Mmj.(Hoorweg) pariaman 'the harvest-year'. See Charles (1974:35, n.12) for a variety of forms found within Indonesia (with one exception in the Philippines), which he believes can be ascribed to borrowing from Bug. The most frequent meaning appears to be "the Pleiades, whose appearance marks the beginning of the new planting year."

*paru(t) 'rasp, grater': Bug. paruq, Mak. paroq, Mdr. Sad. DuriK paruq, Mmj. pahuq. PAN *parut.

*pagɨr 'enclosure': Bug. pagɨq (marked Old Bug. in BWB, but I: 'wall, e.g. in a well, to keep the sides from collapsing'); Mak. pa̱garaq, Sad. pagaq. PAN *pagɨr

*pai(t) 'bitter': Bug. Mak. Mdr. Sad. Duri PUS Mmj. paiq, SekoP mi/pai. PAN *paqit.

*pajA(C) 'tray(?)': Bug. pajɨq, Mak. pajaq 'rattan trays used for drying fish, or for eating'; Mdr.(Lontar) pajaq

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'a ritual food offering'. If cognate with Jav. pajĕg 'tax, land-tax', Ml/BI pajak 'idem', PIN ?*paj±g 'tax, tribute'.

*pangka 'hooked/forked (stick)': Bug. pakka, Mak. pangka 'forked stick used to knock down fruits from a tall tree'; Sad. pangka, parangka 'forked stick used to hold a pig down'.

*pa(ng?)kan 'the woof (weaving term)': Bug. pang, pakang (not recognized by informants), Mak. pakang, Mdr. paqan, Sad. pakkan (Mdr. and Sad. appear to reflect *-ngk-, Mdr. irreg.). PAN *pakan$_1$-- probably derived metaphorically < *pakan$_2$ 'to feed' caus. of **kan 'eat'.

*pake 'to use, wear': Bug. Mak. Mdr. Sad. Mass. Mmj. Seko pake. PAN *pakay-- conceivably a false etymon; cf. OJ paka, paka+i 'to use' and cf. further our *ma(ng)ka$_1$ 'be able'.

*paku$_1$ 'nail': Mak. Sad. Duri paku. Possibly < Ml.; PAN *paku$_1$.

*paku$_2$ '(edible) fern sp.': Bug. Mak. Sad. paku, Seko (Kruyt) tam/pau. PAN *paku$_2$.

*pala(t) 'palm (of hand), sole (of foot)': Bug. pal±q, Mak. palaq, Mdr. paleq, Mdr-Camp.(A&K) palak (surely = /palaq/), Sad. Duri PUS Mmj. Seko palaq. PAN *palaĝ.

?*pali 'forbidden, taboo': Bug. pemali, Mak. kassi/palli (/kassi-/ and /-ll-/ unexpl.), Mdr. Sad. Duri pemali,

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SekoP pumali. Perhaps showing *-um- in Seko, *pi(N)- in the others; or borrowed < Ml. pĕmali. PAN *pali.

*palu 'hammer': Bug. Mak. Mdr. Sad. Mmj. SekoP palu. PAN *palu.

*palung 'trough': Bug. palung/i̇ng 'mortar for pounding rice'; Sad. palung/an 'feeding trough (usu. for pigs)'. SWB cites Bal. palungan, Bar. (must be borrowed) palŭ-ngani. PAN (Blust) *palung.

*pana 'weapon': Bug. pana 'bow and arrow', also 'a toy, s.o. of "squirt-gun" made from a bamboo tube'; Mak. Mdr. Sad. pana 'bow and arrow', DuriK pana 'arrow'. Cf. also Sad. pana, (and intens. paqnak) 'to hit hard', Seko pana/i 'to hit', perhaps related. PAN *panaq.

*panas 'hot': Bug. pani̇q, Mak. pănasaq, Mak-Sal.(Heyne) panasan (sic, for panasang) 'plant sp., Amomum acre Val., used medicinally and in cooking; has a hot taste'; Sad. panaq '1. pepper; spicy-hot; 2. ginger'; DuriC panah DuriK panaq (/-q/ irreg.) 'ginger'; PUS ma/panaq 'warm, hot'; Mmj. ma/panaq, ma/panas 'hot'; SekoP ma/panaq 'sick'. PAN *panas.

*pano 'a skin disease': Bug. Mak. Sad. pano 'white flecks on the skin'. PAN *panaw.

*pa(nñ)iki 'bat (animal)': Bug. panning (irreg., perhaps not cognate); Mak.(MWB) pañiki, (I) paqñiki (/-q-/ unexpl.); Sad. Duri Seko paniki. PAN *pa(nñ)iki-- the medial nasal

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remains ambiguous, since Mak. /ñ/ might be due to a sporadic change *n > /ñ/ preceding /i/.

*pani(C) 'wing': Bug. panniq (/-nn-/ unexpl.), Mdr. Sad. Duri PUS SekoL paniq, Mmj. panniq (< Bug.?), SekoP pani. Stresemann 1927 cites a "PAN *panig" but does not state his evidence for *-g. Note Sang. pánideq, Bar. pani. Perhaps Bis. paníd 'page of a book'(?).

*pangi 'tree sp., Pangium edule Reinw.': Bug. (> Mak. according to Matthes), Sad. pangi. The leaves, accordint to Heyne (1950:1135ff), contain a small amount of Prussic acid (cyanide), and have various uses-- to stun fish, preserve meat, medicines etc.; the seeds yield a useful oil. Heyne cites: Batak, Moluccan Ml., Bal. pangi. PIN ?*pangi.

*papa 'split bamboo': Bug. Mak. papa 'laths of split bamboo'; Sad. papa 'roof of split bamboo'; from an infixed form *p/al/apa: Bug. Mak. palapa 'bamboo laths', Sad. palapa 'main rib of palm leaves (used as laths in construction)'. PAN (Dw) *papaq, *palapaq, (Dy) *p/al/aqpaq. Perhaps PSS ?*pahpa.

*papan 'plank': Bug. (Old Bug.) papaṅng, (BWB and I) pepang (both vowels irreg.), Mak. papang, Mdr. Sad. SekoP papan. Perhaps < Ml. PAN *papan.

*pasan 'to order': Bug. pasaṅng, Mak. pasang, Sad. Duri Mai. pasan; perhaps also in Mdr. pasan/ang, Mdr.(V) pasan/an, PUS(V) pasan/ang, panasan (metathesized)

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'parents-in-law'. Perhaps borrowed < Ml. pĕsan, with which it shares the sense 'order'; Dempwolff's other cognates under *pɨsan mean 'carry on the shoulder'.

*paso(C) 'peg, plug': Bug. Mak. Mdr. pasoq; perhaps Sad. paso/an 'the shaft of a lance' (irreg. -ø-). Cf. PAN *pasɨk 'peg, plug' or *pasuk 'to enter'.

*pate 'kill'; *mate 'dead': Bug. Mak. Mdr. Sad. Mass. PUS Mmj. Seko mate 'dead'; Mdr. Sad. PUS Mmj. Seko pate/i 'to kill'. PAN (Dw) *patay, matay (presumably from **p/um/atay, but reflected as a separate form in all AN languages); (Dy) *patɨy, *matɨy.

*pao 'mango': Bug. Mak-Konjo, Sad. Mass. pao. PAN *pahuq.

*pau 'to say, speak': Bug. Mak. Mdr. Sad. Mass. pau. Cf. Bar. Mori pau 'idem'; Jav. pahuk 'to call'. The Jav. points to PIN ?*paqu(k)-- Jav. /-k/ may be of secondary origin-- but Bar. Mori do not reflect the *-q-.

*pɨddang 'sword': Bug. pɨddang, Mak. paqdang (the /d/ points to borrowing), Mdr. Sad. paqdang. PAN *pɨḍang.

*pɨddɨ(m) 'to close the eyes': Bug. pɨddɨng, Sad. pirrin (irreg. /-rr-/ and /i/), Mdr. Mmj.(dial.) mem/piqding, PUS mem/piqdin; SekoP ka/pidong(2) 'to blink'. No doubt related (via borrowing < Tor. languages?): Sad. Duri ka/pidi(2) 'to blink, wink', Sad. mem/pidi2 'to twinkle, flicker (of stars). Note Parigi piri 'close the eyes'. PAN (Dw) *pɨjam, pɨ(n)ḍɨm, (Dy) pɨ(n)Zɨm.

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*pɨrrɨng 'to withstand, endure': Bug. pɨrrɨng, Mak. parrang; Sad. parrang 'strict'. Cf. Bis. pugóng '1. hairpin, clip, 2. restrain, hold back, control'; Tag. (if < Bis., otherwise with irreg. vowels) púgong '1. head covering, 2. fastening, cord to tie up a sack'; Fi. vō 'remnant; to remain, reserve', vaka/vo/ɗa 'leave a remnant'. PAN ?*pɨɣɨng.

*pɨrring 'k.o. bamboo': Bug. pɨrring, Mak. Duri parring, Sad. parrin (/-n/ irreg., borrowed?). Note Jav. pĕring. PIN ?*pɨring.

*pɨ(dz)is 'burning sensation; sick': Bug. pɨsseq (pɨcceq also cited in MWB) 'sharp or sour taste; ginger' (presumed to be the source of Mak. pacce 'smarting (wound)', Sad. ma/passe, Duri ma/passeq 'idem', as well as Bar. pase 'variety of sirih'); Bug. pɨddiq 'sick, sore' (/-dd-/ irreg. if < *z; borrowed < Ml. pedis?), Mak. păqrisiq 'sick, sore'; Mdr. paqdis 'sunshine'; Sad. ma/paqdiq, Duri (intens.?) ma/paqdik, End. paqdiɲ, Mai. paqdi, Patt. paqding (/-ng/ irreg., perhaps a misprint, "n" for "ɲ"?) 'sick, sore'; note End. ka/-padik/an, Mai. ka/padir/an, 'sickness'; PUS(V) pidi, piddi, Mmj. ma/piddiq 'sick'; probably SekoP mu/pidiq 'urine smell'. Note also Bug. pɨrriq, Bug-Sid. pɨrrĭ, Mdr. parriq 'difficult, sad'; SekoP ma/parri 'suffer' < PSS ?*pɨrri(C) or Ml. or Jav. pĕrih. Note also Bug. (BWB) paraq, parraq (also pɨrrɨq in MWB), Mak. parraq 'sharp tasting' (Mak-I 'very bitter; too salty').

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Cf. Dempwolff's *pɨ(dḍ)iq 'pain, smarting' (Ml. pědis not accounted for), *pɨǧɨs 'misery', *pɨḍɨs 'spicy-hot' (Ml. Jav. only, perhaps to be traced *pɨǧɨs > early Ml. pɨdɨs > Jav. pěḍěs (by borrowing), mod. Ml. pědas. Charles has suggested *pɨ(dǧ)iq, pɨ(dǧ)ɨs, *pɨǧis; the problems arise because PAN *d and *ǧ merge in so many languages. Reflecting *ǧ fairly clearly, however, are Bar. poi, Mori poe 'pain, smarting', Ledo na/poi 'sour' (but note Bar. doublet podi 'sour').

*pɨzzu 'gall, bile': Bug.(BWB) ɨssuq, (I) ɨssung (Bug-I ɨssuq 'snot'), Mdr. paqdung, Sad. Duri PUS paqdu, Mmj. paqdu 'liver', Mmj.(dial.) paqde 'gall', SekoP puru (probably borrowed, cf. Napu puru, Limolang o/puru). Note also Bug. mang/ɨssuq 'to snort, blow the nose', mang/ampɨrruq 'idem' (reflecting the same initial syllable seen in e.g. Ml. ěmpědu 'gall'). PAN *pɨǧu-- the reflexes of *ǧ in Dempwolff's cognate set are not as firm as would appear from his judicious choice of forms; he does not explain Ml. pěju, Mad. pějjhu 'sperm', Jav. rěm/pělo 'chicken gizzard'; note too OJ pila/pilu 'gall, mucus, slime (BI ěmpědu, lěndir, ingus)'. Note also Bug. ma/pɨrru, Mak. parru 'urine smell'.

*pɨlla 'warm, tepid': Bug. pɨlla; Mak. pallaq (/-q/ unexpl.) 'indifferent'; Sad. palla.

*pɨllo(C) 'rectum': Bug. pɨlloq, Mak. palloq, Sad. polloq; Mdr-Maj.(A&K) puloko (perhaps = /puloq/?), Bal. Bin. polo 'rear end'. Matthes notes that the Bug. term also refers

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to the medical condition known as prolapsus ani; and in this respect cf. DuriC polloh 'collapse, fall', DuriK pollo 'idem'. Note also Bug. (listed separately, but undoubtedly related) pɨlloriŋ 'coward'. The Duri forms, however, may not be comparable; cf. Bar. polu 'to squat on the heels', and perhaps Jav. pĕluh, pĕloh 'impotent'. PIN ?*pɨluγ.

*pɨnno 'full': Bug. pɨnno, Mak. Mdr. panno; (PSad. *ponno >) Sad. Mass. Mmj. ponno, Mmj. also puno, SekoP puno. PAN *pɨnuq.

*pɨññu 'turtle spp.': Bug. pɨnnu, Mak. Mdr. Duri paññu, PUS(V) pañu. PAN *pɨñu.

*pɨ(q)pɨr 'level': Bug. pɨppɨq, Mak. pápparaq, Sad. pappaq, paqpaq; SekoP mang/papar/i 'to sharpen'. But note also Mak. pappaq 'cut evenly'. Note Jav. pĕpĕd 'cut or break off even with the ground'; papar 'cut or trim evenly'; Bal. papar 'to file the teeth'; To. papa 'flat, smooth and hard'. Possibly PIN ?*pa(rḍ)pa(rḍ) > Jav. Bal. papar Mak. pápparaq; PIN ?*pɨ(dǧ)pɨ(dǧ) > Bug. pɨppɨq, Mak. pappaq, Ml. pĕpat 'flat', Jv. pĕpĕd. Sad. and Seko might reflect either one.

*pɨttang 'dark; night': Bug. pɨttang, Mak. Mdr. Sad. Mmj. pattang. PAN *pɨtang.

*pia 'good': Mak. pia 'cured (of a sickness)'; Mdr. pia, pa/pia 'to make'; Sad. ma/pia 'good, beautiful', pia, pea

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'child', PUS Mmj. ma/pia 'good'. SWB also cites Sang. pia, Buol pio; Bar. pia 'tight, whole' and cf. the large number of cognates cited by Adriani at this entry, all meaning 'good'. PAN (Blust) *pia 'good', claimed by him as distinct from Dempwolff's *pi(y)a 'desire'. Note also Sasak piaq 'to make, do'.

*pe(bw)o 'loincloth': Bug. peo 'twist together, make rope' (?) reflecting, if cognate, *pewo, with *w from either source; Sad. pio, peo, Sad-Rong.(V) pewo, PUS(V) peho, pebo, Mmj.(A&K) peho. Bar. pewo '(ritual lg.) loincloth' possibly borrowed and so not evidence for *b (as Bar. /w/ usu. would be); but Parigi, Kulawi pewo probably do reflect *b. Adriani considered this word cognate with Ml. bebat 'wind around', < PAN *beg̃beg̃ (Charles *bi̇dbi̇d)-- thus showing prefix *pi- plus the single root *bi̇(dg̃).

*pi(zr)a 'how much?': Mak. pirang, Sad. Duri Seko pira. Note also Mak. pila...pila 'the more..., the more...'. Further, Sad. DuriK Seko pira2 'some, several'; DuriK piraq2 'respectively', DuriC piraq 'some, several'. PAN *pig̃a. Cf. also the next item.

*pi(zr)an (?*pi(zr)a+an) 'when': Mdr. Sad. Mass. PUS piran, Mmj. pirang, PUS(V) pichang, SekoL pirang. Note Ledo ipia 'when', Bal. pidan 'idem'. Note PAN (Blust) *ig̃an

*pinda 'to change, move': Bug. Mak. pinra, Sad. pinda. PAN *pi̇n̤daq.

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*pekan 'fish-hook': Mak. pekang, Mdr. peang, Sad. Duri pekan. Perhaps Bug. meng. Cf. Bar. Banggai Mori peka; Ledo meka, peka; nom/ba/meka 'to fish'; Mori mo/meka 'to fish'. Perhaps to be reconstructed as ?*peka+an; cf. the next item.

*pe(ng)ka 'branching off; hook-like': Bug. peka 'anything hook-like in shape'; Mak. pengka (also pangka, see *pangka above) 'idem', agang aq/pengka 'crossroads'; Mdr. pekkaq 'fork in a road' (/-q/ unexpl.). This plus the preceding, if related, point to PSS *pe(ng)ka 'hook, hook-like'. PIN ?*pi(ng)ka(qØ).

?*piku(C?) 'crippled': Bug. pikku (reflecting *-ngk-) 'deformed arm', pengkong 'deformed leg'; Sad. SekoL (metathesized?) kupiq 'crippled', DuriK pikuq 'idem' (/-q/ unexpl.). Cf. Jav. pekoh 'deformed legs-- bow-legged'.

*pile 'to choose': Bug. m/ile (< **p/um/ile?), Mak. Mdr. Sad. Duri SekoL pile. PAN *piliq.

*pilis 'side of the face': Bug. piliq, Mdr. pilis 'cheeks'; Mak. pĭlisiq, Sad. piliq, DuriC pilih 'temples'. Cf. Jav. pilis 'temples' (marked as Kawi in Jansz), also 'rub salve on the forehead or temples to ward off a headache'; Mad. papeles 'temples', peles 'rub salve etc.'; Bar. pidi (/d/ irreg.), Bad. Bes. peli. PIN ?*pilis.

*piqpi(C) 'to beat': Bug. pi̱ppeq, Mak. peqpeq; Sad. piqpiq 'sift flour', perhaps peqpek '(coarse) to die'.

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*pisA(C) 'touch, feel (gently)': Bug. pesɨq, Mak. pesaq; note also Mak. picaq 'pinch, squeeze'; Sad. pisaq, pesseq (pre-final /e/ unexpl.) 'pinch, squeeze (e.g. a fruit to test for ripeness)'. Perhaps also Bug. Mdr. pecaq 'mush, porridge'; perhaps Mak. petaq 'divide'.

*piso 'knife': Bug. Sad. Duri SekoP piso. PAN *pisaw.

*pintal 'twist together (make thread)': Bug. pittɨq, Mak. pɨntalaq, Sad. pintaq, DuriC pintaq. PAN *pin(tṭ)al.

*piqpi(t) 'small sparrow-like bird sp.': Bug. pɨppiq, Mak. piqpiq. Cf. Ml/BI pipit, Jav. prit (p/r/it?), Sasak ke/prit. Perhaps containing the same root **piǧ seen in Dempwolff's *ampiǧ 'rice-bird'; PIN ?*piǧpiǧ.

*pitu 'seven': Bug. Mdr. Sad. Mass. PUS Mmj. Seko pitu. PAN *pitu.

*pu- 'title of respect; ancestor': Mak.(MWB) pu, (I) puq 'father of... (in teknonyms, e.g. puq bassoq 'father of Bassoq' used instead of the man's own name); pupu 'race, lineage' (not recognized by informants); from *pu+an: Bug. puang 'title of respect to members of the nobility' (nowadays, to any superior); Mak.(MWB) puang 'uncle' (I) 'king' (I, puaq 'uncle'); Mdr. puang maraqdia 'nobility; king', Mdr-Bin.(A&K) puan; Sad. puang 'lord, master', puang matua 'the chief god of the Sad. pantheon; also, the Christian God', pong 'lord, god (in names of deities)'; DuriK puang 'king'; End. puang 'friend'; Mmj. puang 'king, prince'.

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The Sad. and Duri forms with /-ng/ must be borrowed from Bug.; other informants too felt that puang was a Bug. word. Note further Sad. ka/pua 'great, large'.

From *pu+na 'its master': Bug. maq/punna, maq/punna/i Mak. puna, DuriK punna/i 'to have, possess'; perhaps SekoP puna 'to cause'. Cf. Ml. puña 'to have, possess, own'. Note also PSS *ɨmpu above. PAN *pu.

*pucuk 'sprout; budding leaves': Bug. Mak. pucuq, Sad. pusuk. PAN *pucuk.

?*pure 'kin term': Bug. ure as in ana(q)ure 'nephew', ina-ure 'aunt', amaure 'uncle'; Mak. pur(V?)- in purina 'aunt'; Mdr. anaqna ure 'nephew'; Sad. mure, ure in ambeq——, indoq——, anak—— 'uncle, aunt, nephew' resp.; End. Duri ambeq ure 'uncle'; Mmj.(A&K) anakuhe, anaqure 'adopted child'. The forms reflecting ∅ initial could be due to Bug. influence or (as Sad. mure suggests) via *-um- infixation, *pure > **p/um/ure > m/ure. Cf. PAN (Blust) puriq 'family characteristic'. To his cognates we can add: Banggai puli 'family, kinship'. Jav. puri, puṇḍi 'revere, carry high (an offering)' and Mori ana ue 'grandchild'-- if cognate-- reflect not PAN *r but *ḡ (Jav. /ṇḍ/ irreg.).

*pondok 'seat; rear end': Mdr. pondoq, Sad. pondok; DuriK pondoq 'back'. Bug. and Mak. pondoq 'temporary hut near the rice-fields', because of the divergent meaning and /nd/, must be borrowed < Ml. pondok or Jav. poṇḍok. Note also (with irreg. loss of the *-k)

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Bug. m/onro 'to live, dwell; remain', Mdr. mi/oro 'to sit' < PSS ?*o(n)do, perhaps ?*po(n)do. PAN *pu(n)duk, related to *duk, *dukduk 'sit'.

*puru 'sore, pockmark': Bug. Mak. Sad. puru. PAN *pu(r)u.

*purus '...': Bug. puruq '(BWB) to gather (cloth, as in sewing)', '(I) to tie'; papuruq 'draw-string; sap/puruq, Mak. pũrusuq 'run the hand along; strip off (e.g. leaves from a branch)' (the Mak. word also means 'gather material' like Bug. puruq), purusang 'draw-string'; Mdr. (calana) purrus (Sahur) 'undershorts' (calana 'pants' < Ml.; /-rr-/ unexpl.); Sad. purruq 'to pick ripe and unripe fruits indiscriminately' (i.e. to "strip" the branches?), purrusan 'drawstring', ti/purruq 'pulled tight (of a rope, noose etc.)'; End. pap/puruɲ 'draw-string' (/ɲ/ unexpl.). Cf. Fi. mburu/ka 'to nip between the finger and thumb'; To. mulu 'to strip, grasp and run the hand along with a stripping motion-- to roll up the sleeves, strip a branch of its leaves'. PAN ?*pu(dr)us.

*pu(ñ)ju(C) 'short': Bug. ma/poñcoq, (> Mdr. ma/pocciq, Mmj. ma/pucciq); Sad. pondik 'insufficiently or unclearly explained'; DuriK ca/ponden (/-n/ unexpl.), PUS ka/pondiq Mmj. ka/podeq, SekoP kam/podi. Cf. Bar. kam/pode2 '(of clothing) too high off the ground' (i.e. too short)-- possibly borrowed, since Bar. usu. has /j/ for *j. Perhaps related: Sad. kondiq 'short', Duri bondiq 'idem'; All forms except Bug. show the PUS/Mdr. area change of *-u(C) > -i(C); the final consonant may be *-t.

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*po(ng?)ka 'split, break apart': Bug. pokka, Mak. poka2 'divide up (an animal); carve, dissect'; Mdr. poa2 'break'; Sad. poka 'broken; a piece of...'; DuriK poka 'split bamboo', mang/poka 'to split'. Cf. Bar. poka 'idem'; Bima foka 'cut off'; Jav. pokah 'snap, crack, break off (e.g. a flower)'; Mad. poka (and pĕkka) 'split in two'. PIN ?*p(uɨ)ka(qØ).

*poqpok 'an evil spirit': Bug. pɨppoq, Mak. popoq, popok/ang 'a female spirit; cries "popoq"'; Sad. poqpok 'werewolf'; End. "poopoɣ" (sic, for /poqpoɣ/?) 'ghost'. Cf. Bar. popo 'word which evil spirits cry as they fly around'; SWB also cites Tombulu pokpok, Bal. pokpokan, unglossed. PIN ?*pukpuk.

*pulo 'ten(s)': Bug. Mak. Mdr. Sad. Mass. PUS Mmj. Seko pulo. PAN *puluq.

*polo 'to cut off': Bug. polo, Mak. polong, Mdr. polong; Sad. polo 'broken', polo/i 'cut off'; Mai. Patt. tap/polo 'wounded; broken (of limbs)'; PUS Mmj. mam/polo. Note also Sad. sim/polong 'k.o. short sword'. The occasional /-ng/ is unexpl.

*pulu(t) 'sticky': Bug. ase puluq 'glutinous rice, BI kĕtan'; Mdr. Sad. Duri PUS puluq (note the assimilation in Sad. pare puruq 'glutinous rice'), Mmj. puliq 'thick, viscous'. PAN *pulut.

*pune 'bird sp., dove': Bug. Mak. Mdr. pune. PAN *punay.

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*pusi̱(t) 'navel': Bug. posiq, Bug-Sid. posĭ, Mak. poccíq, Mak-Sal. posoq, Mdr. Sad. Duri SekoL posiq (DuriK also palisuq with *-al- infix and vowel metathesis (?), pusaq perhaps < Ml.), Mmj.(A&K) posi, SekoP pĭsiki (/pĭsik(i)/?-- initial-syllable /i/ by assimilation, /-k/ unexpl.). All except Mak-Sal. show the change of *i̱ > /i/ before *-t most typical of the Mdr. area. PAN *pusi̱g.

*puqpus 'consume, use up': Bug. pupuq (single /p/ unexpl.), Bug-Sid. puppū, Mak. pŭqpusuq, Sad. puqpuq, perhaps puppuq 'to pluck', DuriC puqpuh. PAN (Blust) *puspus, to whose cognates we can add: Banggai pupus 'over, finished'; Bis. pupos 'worn out, consumed, spent'; Jav. pupus 'give in, give up, make an end to' (Bis. in particular reflecting simple CV reduplication, i.e. **pu/pus, the others ambiguous); Tontoli (NSul, A&K) nopus (< na/upus < *m/in/a-upus) 'is ended' showing the simple root **pus.

*puso 'heart': Bug. uso 'blossom of the banana tree (red and heart-shaped)' (cf. BI jantung pisang 'heart + banana'); Sad. puso 'idem'; End. Mai. puso 'heart', Patt. uso (< Bug.?) 'banana blossom'; SekoP pusoq 'heart' (/-q/ unexpl.). PAN *pusuq.

*puti̱(r) 'rotate; turn around': Bug. uti̱q, m/uti̱q 'twist (fibres, in making rope)'; (Bug.) Mak. pŭtaraq, Mdr. putar, Sad. putaq, DuriC putah (/-h/ irreg.), DuriK putaq (/-q/ irreg.?), PUS putaq, Mmj. putar 'turn, turn around'.

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Note also Sad. puntaq, DuriK mang/putaq 'twist fibres into rope'. Perhaps PSS *pu(n)tɨ(r). Note PAN *putɨ(r)-- but here ambiguous for *-r or *-ḍ, while SSul is ambiguous for *-r or *-γ. Perhaps related to the following:

*put(uɨ)(C) 'to wrap up, to bundle up': Bug. putɨq 'to tie', potoq 'knotted, tangled'; Mak. potoq, pŏtosoq 'knotted, tangled', perhaps pŭtusuq 'turn around, rotate'; Mdr. putiq, Sad. DuriK putuq, SekoP potoq. Note Uma, Rampi putuq 'wrap, pack', Bad. potoq 'idem', Bar. putu (mom/putu/si) 'to wrap s.t. up'. Perhaps more than one etymon is involved, as we would expect Mdr. /-iq/ only from *-ɨt or *-ut, not from the *-(uɨ)s suggested by Mak.

*punti 'banana': Bug.(BWB) uti, (I) utti, Mak. unti (< Bug.? *p- > ∅ irreg. otherwise), Sad. punti, putti, Duri punti, End. putti, Mai. utti. PAN *pun(tṭ)i. Cf. also Bug. uci2, Mak. unti2 'tree sp. with an inedible banana-like fruit (Heyne p.56, Aegiceras majus Gaertn., the "river mangrove", Ml. gigi gajah)'.

*pute 'white': Bug. Mdr. Sad. Mai. Patt. ma/pute. PAN *putiq.

*ponto 'bracelet, armband': Bug. potto (Old Bug. 'gold'), Mak. Sad. ponto. Cf. Ledo ponto, Ml. pontoh. PAN ?*puntuq.

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*(paN-)puntu (> *pamuntu) 'frying-pan (wok)': Bug.(BWB) pamutu, (I) pamuttu, Mdr. pamuttu, Sad. pamuntu (also poet., 'iron, steel'), DuriK pamuttu, SekoP pammuntu. Perhaps < PAN *puṭu 'cook'. Bug. putu 'k.o. cake' probably < Jav. puṭu 'idem'.

S

*sa(b)e 'to arrive': Bug.(Old Bug.) sawe, Sad. End. sae. Cf. Mori, Napu hawe; Tidung Dayak sabei (/sabey/?) 'arrive', ke/saboy 'to come' (dial. variants?). PIN ?*sabay.

*sa(m)buγ 'to sow, scatter': Sad. samboq/i, SekoP sahu/i, s/in/ahu 'seed-rice'. PAN *sa(m)buγ; cf. also PSS *ambuγ, *tabuγ.

*sa(b)ung 'cock-fight': Bug. Mak. saung, Mdr. sawung, Sad. saung, (I) si/song. PAN *sabung.

*sambu(k) 'sarong': Bug. sampuq '(arch.) large, body-length, sarong, blanket'; Mdr. Sad. sambuq. Perhaps SekoP sabuk if not merely a repeat of the BI gloss 'sabuk - loin-cloth'. PAN *sabuk 'loincloth'(?)-- none of Dempwolff's cognates means 'sarong'.

*sarak 'to separate': Bug.(BWB) sara, sarâng, (I) saraq; Mak. saraq 'go in between'; Mdr. saraq, pa/si/saraq 'to divorce'; Sad. sarak 'to separate, to wean'; DuriK sarak 'to separate', si/sarrak (intens.?) 'move s.t. away'; SekoP pa/si/saraka (/sârak(a)/?). PAN *sarak.

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*sara(t?) 'load down, overload': Bug. Mak. saraq 'overloaded (of a ship)'; Sad. saraq 'duties, obligations', pa/saras/an 'much work'. PAN (Dw) *sarat, (Blust) *saγ(aɨ)(dǧ).

*sanda 'enough': Bug. sanra 'whole; spread out'; Mdr. Sad. sanda 'enough'. Perhaps also Sad. sandaq 'insufficient', Mak. sanraq 'hold back, restrain oneself'. Cf. Bar. sondo 'much, many, numerous'; Adriani cites unglossed Buol tanda, Nap. Bes. handa. PIN ?*san(dḍ)a.

*sandak 'to test, try': Bug. sadaq 'to sound, test the depth of'; Mdr. sandaq 'taste, try, sample food'; Sad. sandak 'taste, test; to sound'. SWB cites Mak. sandaq, not listed by Matthes. Cf. Jav. jajag 'to test, sound'. PSS < ?*sañjag?

*sadang 'chin': Bug. sadang; Mak. sadang (/d/ borrowed?) 'soft underside of the jaw'; Mdr. sadang, Sad. PUS sadang 'mouth'; Mmj.(A&K) sadang, SekoP sadang 'chin'.

*sarang 'bird's nest': Bug. sarang, Mdr. Duri serang (/e/ unexpl.), Mmj.(A&K) sarang. Cf. Napu hara, Bar. sea. PAN (Dw) *sa(r)ang-- the Bar. form suggests ?*sa(γǧ)ang.

*sa(n)de(γ) 'lean on': Bug. sanreq, Mak. sånrereq, såndereq (also sånraraq), Mdr. sender, sandar, Sad. sandeq, sis/sare, sis/sarreq 'sit beside'; DuriK sis/sare 'lean on', DuriC sus/sare 'lean on'; End. pa/sanreq 'helper'

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(< Bug.?); SekoL sis/sare, SekoP mi/sasare 'lean on'. Cf. also Sad. sare 'support, prop up'. PAN (Dw) *sanḍar, *sa(n)dɨɣ, (Zorc) *sanḍiɣ.

*saro 'profit; wages': Bug. Mak. Mdr-Maj.(A&K), Sad. saro, Mmj.(A&K) saho. Cf. Bar. Ledo saro.

*sai 'long time; old' (PSad.?): Mdr. ma/sae, Sad. Duri SekoP ma/sai. Cf. Tidung nan/sail, Tinggalan sail/an 'past, gone by'; Bar. sae.

*sae 'to ride on': Bug. sae (also sai); Mdr. sae/ang 'horse'; Sad. sake/i 'to straddle', darang sake/an 'riding horse'. PAN *sakay.

*s(aɨ)ngka(r) 'expand; broad': Bug. sakkaq, Mak. sǎngkaraq 'broad'; Sad. saqkaq 'swell up, enlarge', sangkaq 'broad'; DuriC sangkaq 'open up, bloom'; SekoP s/um/angkaq 'bloom'. Note also (both forms cited in MWB only) Bug. sakkɨq, Mak. sakkaq 'a large boil'. Cf. Bis. sangkad 'wide, extensive, all-embracing'; Jav. sĕkar '(kromo) flower, bloom'. The Jav. points to PIN ?*sɨ(ng)kaḍ, but since the vowels in kromo words are sometimes changed in arbitrary ways, perhaps ?*sa(ng)kaḍ. In this case, the /-aq/ of Bug. sakkaq or Mak. sakkaq must be irreg. Cf. also Bug. saq (< **saØar?) 'to enlarge an opening; (I) make a hole (e.g. in planting corn)'; To. haka 'hole made in the base of a coconut palm to catch and hold water'.

*sangkA(t) 'perfect, very good': Bug. sakkɨq, Mak. sangkaq, Sad. sakkaq; sangkaq 'model, example', also sangka

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'extraordinary; a great deal of...'. Cf. Tag. sakit 'interest, effort, to matter; great, greatly'; perhaps Jav.(kromo) sangĕt, BI sangat 'very', if, like Blust, we allow nasal substitutes to correspond in medial as well as initial position. These point to PIN ?*sa(ng)-kit; Fi. saka 'sir, term of respect' however, points to ?*sa(ng)kat.

*saki 'sick': Bug. Mak. Mdr. Sad. Duri Mai. saki. PAN *sakit-- PSS shows unexpl. loss of the final.

?*sa(k)i(t) 'sickness, misery': Bug. saiq 'plague, pestilence'; Mak. saiq '(MWB) sorrow'; probably also Bug. caiq, Bug-Sid. caĭ, Mdr. caiq 'angry'. PAN *sakit?

*sangki(C) 'to tie': Bug. sakkiq, Mdr. PUS Mmj. sangkeq, perhaps SekoP mas/seaq (loss of *-k-, metathesis of the vowels?). Possibly a variant of PAN *sangkut 'attach'.

*sala 'wrong; lack, fault': Bug. Mak. Mdr. Sad. Mass. PUS Mmj. Seko sala. Note Sad. (intens.) salaq; perhaps also SekoL ma/salang 'broken'. PAN *salaq.

*salaga 'harrow (tool)': Bug. Mak. Sad. Mdr. salaga. Cf. Ledo salaga, Mad. salagha. PIN ?*salaga.

*salangga (?*s/al/angga) 'shoulder(?)': Bug. salangka, Mak. salangga; Sad.(SWB) salangga, sarangga 'breast-bone of an animal', (I) 'part of an ox's harness, goes on the neck (but not a yoke)'; apparently borrowed from

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Bug.: Duri salangka 'joint (elbow, knee e.g.)', Mdr. salakka 'lower back (kidney area)'. SWB cites Ml. sĕlangka, not in E&S; cf. also TB salaga 'kruishout waaraan de nek van een buffel aan het ploegjuk is vastgehecht' (left untranslated to avoid any error or ambiguity from creeping in due to my ignorance of agricultural terminology-- but this is essentially the meaning given by my Sad. informant); perhaps To. alanga 'thigh, shoulder; upper part of the leg' (irreg. ø- and /ng/ for ?*-ngg-); perhaps also Mad. lang/salang 'collar-bone, clavicle' (final-syllable redup. is a regular Mad. process, but loss of *-ga is unexpl.). PAN ?*sala(ng)ga.

*sala(n?)sa(r?) 'enclosure': Bug.(BWB) salasaq; Bud-Sid. salassā 'palace'; Mak. salasaq 'palisade'; Sad. salas-sa, salassaq 'enclosure, fence (usu. of bamboo)'; sa-lassaq also 'the palace of the Datu (king) of Luwu'. Cf. Ml/BI sĕlasar 'open verandah', perhaps Jav. slasar, sĕlasar, tlasar 'mat to set things on; packing material'.

*salɨppa (?*s/al/ɨppa) 'small case for betel-chew ingredi-ents (betel, lime, leaves, sometimes a pounder)': Bug. salɨppa, Mak. Sad. salappa (Mak. also sulappa, Sad. also salappe). Cf. Ml. sĕlĕpa, Jav. slĕpa, slĕpi; NgD. tepa (irreg. /t-/) 'idem, of rattan', salupa 'idem, of copper'; perhaps also To. hofa ngahau (ngahau 'arrow') 'quiver for arrows'; Fi. somba 'banana blossom'. PAN ?*s/al/ɨ(m)pa 'container'.

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?*sali 'floor' (PSad.?): Sad. Duri Mmj.(A&K), SekoP sali. Perhaps Bug. salima, but the /-ma/ is unexpl. Cf. PAN *salɨɣ.

?*sali(b)u(C) 'fog, cloud': Bug. saliwuq, Mak. saliuq, Sad. salebuq, saliuq, Duri saleuq, Mmj. salehuq. Perhaps also Mak. salĭqburuq (/-qb-/ unexpl.) 'hinder'. Cf. Jav. sliwĕr 'shimmer, come and go'. Cf. also *salipu(C)/*salimu(C) in the Supplementary List.

*saliwAn (?*sa/liwAn) 'outside': Bug. saliwɨng, Mdr. saliwang, Sad. salian, DuriK salean/an, PUS salihan, Mmj. salihan, sulihan. Cf. *li(m)bAn 'cross over' above. Note Sasak sĕlewan 'get out of the way, pull aside; to pass', with /w/ possible < *b or *w; perhaps Tag. saliwaq 'sinister, left-handed, unfortunate'(?), or Fi. liwa 'a place far from town, uninhabited; usu., at sea, far from land'. Tag. Fi. /w/ only < *w, thus weakening the possible relationship with *li(m)ban.

*salu(C?) 'river': Bug.(BWB) saloq, (I) salo, Mak. salu, Mdr. saloq, Sad. Duri, PUS salu, Mmj. salu, saloq, SekoL salu. PAN *saluɣ-- the apparent loss of the final in most of SSul is unexpl. Cf. the next item.

*salu(ɣ?) 'gutter; bamboo water-pipe': Bug. (> Mak.?) saluq, Bug.(I) calo/caloq 'ditch'; Sad. salur/an (I also saruran), Duri sarur/an. Possibly < Ml. salur, saluran. PAN *saluɣ.

*sama(r) 'common, usual': Bug. samaq, Mak. sâmaraq; Mdr. samar 'common, popular'; Bug. to samaq, Mak. tu sâmaraq,

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Mdr. to samar, Sad. to samaq 'the common people (as opposed to the nobility)'. Perhaps related to Ml. Jav. samar 'dim, obscure, indistinct', Sasak samar 'idem'; TB samak 'not distinctive'. Perhaps also NgD samar 'ritually unclean'; To. hama '(rare) lacking in skill, inexpert, maladroit' (Churchward considers this a fig. use of hama 'outrigger'(?).). TB /-k/ in particular points to PIN ?*samaɠ, but Ml. /-r/, Mak. /-r-/ and Bug. pre-final /a/ fail to correspond in that case; we could posit *samaɠ > Jav. samar as a source of the Ml. and SSul. forms.

*sanga 'name' (PSad.): Mdr. Sad. Mass. PUS Mmj. sanga. Cf. Uma Bad. hangaq, Ledo sanga. PIN ?*sanga(qCØ).

*sangi(ɣ) 'to sharpen (on a whetstone)': Bug. sangiq, Mak. sa̱ngiriq, Sad. sangeq, DuriC sangeh, DuriK sange. Cf. OJ sangir, Ttb. (cited in SWB, unglossed) sangir. If PIN ?*sangiɣ, both Jav. and Ttb. show an irreg. final.

*sampe 'to hang up': Bug. sappe, Mak. Sad. sampe. From a presumed derivative *s/al/ampe: Bug.(BWB only) salappe, Mak. salampe, Sad. salampe 'scarf (usu. worn over one shoulder only, BI sĕlendang)'. PAN *sampay$_2$ 'hang', (Blust) *s(aɨ)langpay 'scarf'-- the derivational relationship not noted by Blust, but note Dempwolff's *sampay > To. hafe 'carry (e.g. a knapsack) on a strap on the shoulder'. From a semantic point of view, the following also appear related, though with irreg. vowels:

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Bug. salipi, Mak. sulepe, Sal. salipiq, salopiq 'belt'; cf. Ledo sulepe 'belt (Du. gordel)', Bima salepe 'loincloth'. (Perhaps < ?*salipi.)

*sapi 'cow, cattle': Bug. sapi, capi, Mak. capi, Mdr. saping, Sad. Duri Seko sapi, End. Mai. saping. The animal is not native to Sulawesi, and the name may be borrowed from Ml. Cf. Ml. Jav. sapi, Bal. sampi, Bar. Ledo japi (< Parigi according to Adriani, thus < **ñjapi < **nsapi), Bad. dampi, Bes. gapi also borrowed, either from Bar., Ledo or Parigi. PIN ?*sa(m)pi.

*sa(m?)po 'house': Bug.(BWB only) sappo 'bamboo structure around e.g. a well, so that one may bathe unobserved' sao 'house' (Ø < *-p- unexpl.); Bug.(dial., Kustini) sapo 'fence'; Mak-Konjo, Sal. sapo 'house'; Mdr.(Pamboang dial, Muthalib) sapo 'house'. Undoubtedly of Tor. origin, cf. Parigi (A&K) sapo.

*sapu 'rub, wipe': Bug. Mak. Mdr. Sad. Duri Mai. Mmj. sapu. PAN *sapu.

*sampu 'cousin': Bug. sappo, Mak. sampu, Mdr. sappo, Sad. sampu, Mmj.(A&K) sampo. Cf. our *ɨmpu < PAN *ɨmpu above.

*sapu(t) 'to cover over': Bug. Mak. sapuq (Mak-I, e.g. the batter on deep-fried foods), Sad. sapuq; DuriC sapuq 'to bandage'. Cf. BI saput 'cover, veil', sĕlaput 'membrane'; Jav. saput 'cover; put bedak (powder) on the face; twilight'. PAN *saput. Cf. our *kapu(t)

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above, perhaps wrongly compared with *tutup etc.; Dempwolff's Samoan cognate under *saput-- qafu/ti 'to cover' with irreg. /q/ < *s-- is regular if viewed as a cognate of *kaput.

*sau 'steam; sound of air escaping': Bug. Mak. Mdr. sau; Sad. sau 'to blow on', sau/an 'bellows' (in the smithy); SekoP pa/saui 'wind' (/-i/ unexpl.), Seko(A.Kruyt 1920) "saoe'ang" (/sauq+ang/?) 'bellows (in the smithy)' (the apparent /q/ unexpl.). Cf. also Lalaki (A&K) soso/a 'bellows' (i.e. < *sau-sau). Kern (Fidjitaal) cites Fi. đau 'land-wind', Maori hau, and compares also Bug. Mak. sau 'fresh, pleasant'. Possibly more than one proto-form involved here; cf. Dempwolff's *sɨbu 'steam, seethe' (> Seko saho 'to boil'?)-- but a PSS ?*sa(b)u < *sɨbu would be irregular.

*sau(r) 'conquered, powerless': Bug. sauq, cauq, Mak. sa̱uruq, Mdr. saur, Sad. sauq, Duri cauq. Perhaps also Bug. Duri cauq 'to heal (of a wound)'. Cf. Jav. sor 'defeated; inferior; underneath' and Proto-Fiji-Polynesian (Hockett 1974) *sau, *nsau (e.g. Fi. đau 'make offerings to a high authority', sau 'high chief'; To. hau 'champion, victor'. PAN ?*sa(hØ)u(rḍ). Cf. also the next item.

*sau(C) 'descend; downstream': Mdr. sau 'toward the sea, South' (-Ø unexpl. unless mis-heard); Sad. Duri sauq 'downstream, South'. Cf. Uma ñcaqu 'downstream', which points to PIN ?*saqu(C). Cf. the preceding item, and

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also our *nau(C) 'descend, downstream, South' (inadvertantly out of order, p.788) which could be related to this by nasal substitution; Philippine /-naog/ cited there appear to reflect *-γ, but Jav. sor cannot reflect either *-aqu- or *-γ.

*sau(C) 'the warp (weaving term)': Bug. Mdr. sauq; Sad. sauq 'go back and forth; set up the warp threads on a loom'. Probably ult. < $*sau(C)_1$, the connection being that the warp threads are viewed as descending from the (fixed) top of the loom down toward the weaver, seated.

*saung 'shelter, shade': Bug.(BWB only) saung, sinaung, (BWB,I) cinaung, cinaong; Bug. Mak. saraung, Sad. sarong 'sun-hat; parasol'. Cf. also (PSad) *aung 'shade' in the Supplementary List; forms listed there with /n-/ might be related to *saung by nasal substitution. PAN (Dw) *sa(hØ)ɨng-- but his *ɨ depends on the incorrect assumption that TB /o/ in saong can only reflect *ɨ. Thus, PAN *sa(hØ)ung > TB saong, Jav. song '(Dw) Schirm (screen, umbrella?)' but Jav.(Jansz) 'cave, niche, recess, hollow'; add Ml/BI saung 'cave, grotto', and PSS.

*sawa 'snake sp., python': Bug. Mak. Mdr. sawa, Sad. sawa, saa, Seko(J.Kruyt) saha. PAN *sawa.

*sayang 'disappear': Bug. sajang, Mak. sayang; Sad. saang 'jump far (so that one appears to be suspended in air)'. Note Mak. sayan/rannu ('disappear - hope') 'disappointed'; perhaps a comparable expression (now lost) produced the

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Ml. (and others) usage, sayang 'what a pity! too bad!' on which Dempwolff based his *sayang 'pity'. Cf. also PAN *layang, *bayang variously 'fly; fluctuate; suspend; shadow'.

*sayo 'to move, dance': Bug. sajo, Sad. s/um/ayo, Seko s/um/ayo. PAN (Zorc) *sayaw. (Bar. also sajo 'move'.)

*sayu(C) 'fail; lack': Bug. sajuq 'disappointed; give up hope'; Mak. sayuq 'to fail; in vain'; Sad. sayuq 'not get one's just share'; derivatives also mean 'lose, lose out'. Cf. Ml/BI sayu 'sad, downcast', sayup2 'indistinct, vague; scarcely, hardly'; Jav. sayub 'go bad (of food kept too long)'; Bis. sayop 'mistake, error, fault', sayot 'to fatigue'; Tag. sayod 'used up, consumed'. Bar. saju 'destitute, deprived of; lose (a right or privilege)'; Adriani cites Jav. sayut '1. unite, agree 2. tie up, bundle (both unlikely); 3. resist. "Resist" is the only meaning cited for OJ sayut.

*sə̇bbu 'thousand': Bug. sə̇bbu, Mak. Sad. Mass. PUS saqbu, Mmj.(A&K) sabu, Seko sabu. Perhaps originally polymorphemic-- e.g. **sə̇(N?)-bu-- cf. PAN *ribu.

*sə̇bbol 'hole': Bug. sə̇bboq, Mak. sŏqboloq, Sad. soqbo (-Ø irreg.). Cf. Bar. sobo 'posts that hold up the wall (set into holes in the floor-beams)'(?), Napu hobo 'bore, drill through'. Note (< metathesized **pə̇su?) To. fohu 'hole or perforation in a rock used for tethering a canoe.'

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*sɨrrɨ(m) 'ant': Bug. sumɨrrɨng, Mdr. sumarrang (A&K, all Mdr. dials. sumaran or sumarang), Sad. sirrin, SekoP sirring. Sad. /i/ < *ɨ, apparently due to the surrounding dental consonants; the /-um-/ of Bug. and Mdr. is unexpl. PSS *-rr- irreg. for expected *-zz- < Dempwolff's (1925) *sɨǧɨm. Note Ttb. Tombulu (NSul) sĕrĕm, Ponosakan soyom, Parigi soyo, Bar. sojo (< Parigi?), Sunda sirŏm (all cited in SWB); Sasak sidĕm (Sund. and Sas. /i/ irreg.).

*sɨrre '(fragrant) grass sp., Andropogon nardus Linn.': Bug. sɨrre, Mak. Mdr.(Sahur) Sad. sarre. Cf. Ml. sĕrai, Jav. sĕre, Sund. sĕreh, Lampong sorai, Ogan sĕxai, Bal. see, Tidung Dayak salay (all from Heyne (1950:184) s.v.). PIN ?*sɨray

*sɨddi 'side': Bug. sɨdde 'waist'; Mak. saqri 'side (of anything)'; Mdr. seqde 'waist', di/seqde 'beside'; Sad. Duri saqde 'side'. Cf. Bar. sori, Mori hori. PIN ?*sɨdi.

*sɨrri(mn) 'to wipe': Bug. sɨrring, Sad. PUS mas/sarrin.

*sɨdding 'to feel, experience; to hear': Bug. sɨdding, Mak. saqring, Mdr. saqding, pe/naqding/i 'feel, experience'; Sad. saqding 'feel, suffer'; Duri pa/saqding, End. pe/saqding, Patt. pi/saqding 'to hear'. Further, although given separate listings by Matthes: Bug. sɨdding Mak. ñaqring (note passive ni/saqring), Sad. pa/naqding 'to wake up, become conscious'. Cf. Napu Bad. Bes. hadi,

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Leb. hĕri, Tambe'e (A&K, near Matano Lake, probably a dial. of Mori) h/um/ori/ng/o, Mori mo/hori 'to hear'. Perhaps also Mad. sĕddhing 'to touch'; Ml/BI sĕdih 'sad'. PIN ?*sɨding.

*sɨqsɨl 'to regret': Bug. sɨssɨq (-r-, -k-), Mak. sassalaq, Mdr. sossoq (ma/nossoq), Sad. Duri me/nassan (for the base sassan, SWB gives 'admit that one is wrong; correct improper behavior'); Mmj. sosoq, ma/nosoq, SekoP mi/-nassang. The /o/ of Mdr. and Mmj. is unexpl.; it is unclear whether /n/ is regular for *-l in the Sad. group, or reflects borrowing.

*sɨlang 'interval': Bug. sumɨllang, Mak. Sad. sumallang 'raise and lower alternate threads of the warp, in weaving'; Cf. also Mak. sallang 'future time marker'. PAN *sɨlang.

?*sɨlli(C) '...': Mak. saqliq 'insert, put between' (/-ql-/ unexpected, perhaps < *-/r/l-?); Sad. salliq 'bolt, bar the door (refers esp. to the door of a tomb-- the bolt is on the inside, but can be worked from the outside)'; End. salliq 'door', ti/salliq, Patt. ti/sɨlliq 'opened'. Perhaps Bug. sɨlliq (marked Old Bug.) 'show, exhibit'? Cf. Jav.(Jansz) sĕlab '= sĕlap', sĕlap in sĕlap-sĕlip 'in between; sit between; insert or mix into', Ml/BI sĕlip(-kan) 'to insert'. PIN ?*sɨlip, perhaps from a root **sip-- cf. Dempwolff's *sisip 'insert, penetrate', perhaps **sipsip.

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*sɨnnɨng 'happy': Bug. sɨnnɨng, Mak. Mdr. Sad. Duri Mai. Mmj. Seko sannang. Cf. PAN *sɨn(aɨ)ng; Bug. tends to confirm final-syllable *ɨ, provided it is not borrowed from Jav. sĕnĕng.

*sɨngngo 'nasal; talk through the nose': Bug. sɨngngo, (also sengo), Mak. Sad. sangngo. From a variant ?*singo or borrowing < Ml. sengau: Bug. sengo (above), Sad. mas/sengo 'to sing', DuriK mas/sengo 'tell a story', no doubt refering to the nasalized voice quality used by singers and story-tellers. Cf. Blust's PAN *sɨngaw 'exude vapor'-- including Ml. sĕngau 'talk through the nose' which seems rather remote, though possible.

*sɨppa 'slap; make a slapping/snapping sound': Bug. sɨppa, lɨppa (presumed < sa/lɨppa, back-formed < **s/al/ɨppa) 'to slap'; salɨppa 'the breadth of the hand (unit of measure)'; cɨppa 'close together with a snap (e.g. a clasp/snap on clothing); snap at (of animals)'; Mak. sappa 'to snap at'; Sad. sappa, saqpa, salaqpa 'to slap', saqpak 'snap at (e.g. a dog chasing flies)'. Perhaps Tag. sipaq 'to kick' pointing to PIN ?*sɨpaq (but the Tag. is much more likely < Ml. sepak 'kick', with /-k/ pronounced as /q/).

*sɨppe 'break, separate': Bug. sɨppe 'part the hair; separate a bunch of bananas'; perhaps rɨppe 'break off (e.g. a branch)' if < *sa/rɨppe < **s/ar/ɨppe; Mak. sappe 'break off a branch; cut up an animal';

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Sad. (intens.?) saqpek 'break off (e.g. a branch)'. Cf. Ml/BI sĕpih 'splintered'; Fi. ɗovi 'pluck or break off branches/leaves', perhaps sove 'to break the heads of yams into pieces (when digging them up)'. PAN ?*sɨpiq (could account for all forms, Fi./-e/ a minor irregularity). Zorc's list has also (Charles) *sɨpiq 'bunch of bananas', conceivably derived from something like the Bug. meaning; perhaps too, (Zorc) *sipiq 'section, part, strip off'.

*sɨ(m)pi(t) 'narrow; tight': Bug. sɨppiq, Mak. sappiq 'to surround; to stick in, insert'; Sad. saqpiq 'edge, frame'(?). (PSad.) **simpi(t): Mdr. sippiq, Sad. PUS sippiq, Mmj. siqpiq 'tight'; Sad. also sipiq 'tongs'. The two groups of words,however, may not be directly related, as it is possible to reconstruct not only PAN *sɨ(m)pit, but also *sipit and *supit (note Seko supiq 'little'), the latter two usually meaning 'pinch, squeeze; tongs' (but note Tausug sigpit 'tight' < ?*si-γ-pit; the Sad. forms could also reflect this).

*sɨppu(γ) 'purify or temper metal': Bug. sɨppuq, Mak. sa̱ppuruq, DuriC saqpoh. But note also: ?*sɨppo 'harden, temper iron': Bug. sɨppo, Mak. Sad. sappo, presumably reflecting PAN *sɨpuq (or borrowed Ml. sepuh 'idem'). One wonders if Dempwolff's etymon, based only on TB, Ml. and Jav., reflects a borrowing from some language/dialect where *-γ > /h/.

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*sɨppu(t) 'blow-gun; to blow': Bug. sɨppuq, Mak. sappuq; Sad. saqpuq 'to blow the nose'; cf. also Bug-Sid. sɨppū 'to blow (BI tiup)'. Cf. Bis. supot (also sumpit), Loin.(A&K) soput, Ledo sopu 'idem'; perhaps Fi. ɗovu/ laɗa 'water-spout' (laɗa 'sail'; ɗovu seems not to be related to the main entry, ɗovu 'cut small, peck at', nor do the other idiomatic expressions cited at the same entry). PIN ?*sɨput, cf. Dempwolff's *su(m)pit. (NB My youngest Bug. informant gave 'bamboo flute' for sɨppuq.)

*sɨssa(C?) 'wet; wash clothes': Bug. sɨssa 'wet (BWB 'of clothing')', sɨssaq 'to wash clothes', Mak. sassaq 'wash clothes'; Mdr. sassaq 'wash clothes', Mdr.(Sahur, who usu. omits /-q/) pas/sassa 'soap'; Sad. Duri Mmj. sassaq, Mmj. sassa 'wash clothes'. The /-q/ may be a local development; cf. Ml/BI sĕsah 'wash clothes' suggesting PIN ?*sɨsaq. Not likely related to Dempwolff's *sɨsɨḍ 'plunge, dive'.

*sɨttul 'tree sp., Sandoricum Indicum L.': Bug. sɨttuq (cited in MWB), sɨttung (cited in BWB), Mak. sa̍ttuluq. Bal. Sund. sĕntul, Mad. sĕtul; PAN *sɨ(n)tul. One of the few instances of Bug. /-ng/ < *-l.

?*sia (PSad.) 'salt': Mdr. Sad. PUS Mmj. Seko sia. Cf. Mori ohia, which Esser derives < **asi+a < *asin + -an.

*siar 'strew, disperse, scatter': Bug. tas/seaq, Mak. taq/-sa̍raq, Sad. siaq, sear (also saeq, and dial. sewaq,

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probably a hypercorrection, as no other form reflects *b or *w); note sear/an 'strew, scatter seeds', s/um/iaq-miaq 'wander around'; perhaps DuriK ma/siaq 'wild'. Cf. Ml/BI siar 'scatter; wander', NgD. siar 'idem'; perhaps Fi. sē 'run away, flee', sēsē/vaka '(of fish) swim in zig-zags', or (unrelated?) sese 'astray, in error, foolish'; if cognate, the Fi. forms show an irreg. merger of the vowel sequence.

*siang 'daylight': Bug. Mak. siang; Sad. siang 'midday', ma/siang, DuriK ma/siang 'tomorrow'. PAN *si(y)ang.

*sembo 'cheap': Bug. ma/sempo, Sad. ma/sembo, End. Duri Patt. ma/sembo. SWB cites Mak. sembong '(MWB) careless, easy-going'. The following are all apparently borrowed < Bug.: Mak-Sal. sempo, Mdr. ma/seppo, Sad.(doublet), DuriC, Mai. ma/sempo; as well as Ledo, Mori sempo.

*simbolong 'bun, braid of hair': Bug. simpolong, Mak. simboleng (/e/ unexpl.), Sad. simbolong. Cf. Sang. simbulung/an, Togian Bajo (Adriani 1900) sambolong 'coil of hair'. Presumably < **sim- 'one' + bolong (does not occur).

*sira(t) 'to tie, make nets': Bug. sirəq (-k-), Mak. siraq, Mdr. mas/siraq. Ledo no/sira 'to tie nets'. PAN *si(r)at.

*ka+sera 'nine': Bug. aserá (= /aseraa/?), Sad. Duri PUS kasera. Cf. *ka+misa 'nine', p.713 above; presumably this form reflects an old ordinal, i.e. "the first (from ten)", with **sera an otherwise unattested word for 'one'.

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?*sizi 'to winnow': Bug. siseq (/-q/ unexpl.), Sad. siri. PAN *siĝi.

*siri(t?) 'ashamed': Bug. Mak. Mdr. Sad. Duri siriq; cf. Duri ka/sirit/an 'be shy towards s.o.'.

*si(n)de(C) 'to tear': Bug. Mak. sinreq, Sad. serek. If Sad. is an intensive, the /k/ is not original; cf. Jav. sèdèt 'cut or saw off at an angle'. Note To. hele 'cut with a knife', heletā 'sword'.

*si(n)duk 'spoon': Bug. sinruq, Mak. siqruq (/-qr-/ unexpl.), Mdr. seruq, Sad. siruk; sendok 'to scoop up from the bottom'; Duri siruk, End. siruɲ, pi/seruɲ 'large flat spoon for serving rice (BI saji)'-- except as noted, these refer to the spoon (the size of our soup-spoon) with which Indonesians eat. Note also (with irreg. loss of the medial consonant(s)): Sad. siuk 'wooden eating-spoon', siok 'scoop up a little water with the hand'; Duri siok 'dipper'. From a doublet *s(aɨ)nduk (or < Ml.) Bug. Mak. sanruq 'saji, serving spoon', Sad. sanduk 'to serve up rice', End. sanduɲ 'large serving spoon or saji'. Also related, though more likely < Ml. cedok 'scoop/bail out a little bit': Bug. seqroq, Mak. ceqroq (both 'to ship a little water' and 'bail out'), Bug. (Old Bug.) tenro, Bug. Mak. seqroq 'scoop, dipper'; Sad. tindok, tedok 'scoop up (a little bit of s.t.)'-- the various irregularities here can only be due to borrowing. Cf. Dempwolff's *sɨn̤duk and *cin̤duk-- the PSS form may be a blend of the two. Cf.also the next item.

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?*si(dr)ung 'spoon': Mak. siqrung (/-qr- unexpl.), Sad. serong, Mmj. sehung, Seko serung.

?*si(ng)kə̇(p?) 'narrow': Bug. sekə̇q (I also cikkə̇q), Mak. sekeq, Sad. singkiq, sikkuq (also singkiq 'claw of a crab', singkuq 'tweezers'), SekoP ma/siki. Perhaps related: Sad. sukkuq, SekoL ma/sukuq 'narrow'. PAN *sikə̇p. Perhaps also Bug. sekkeq 'stingy'.

*si(ng)ku(C?) 'elbow': Bug. sikuq (note siku 'corner'), Mak. sĭngkuluq, Mdr. siqung, Sad. Duri siku, Mmj. sikung, SekoP siu. Note Wo. siu. Cf. Ml., and PAN *siku, but Jav. sikut 'elbow' (Jav. siku 'a certain right-angled tool'), Sasak siku 'elbow', sikut 'unit of measure (cubit?)'. Note also Tag. Bis. singkol 'twisted, deformed (of the arms)' and (PSS ?*se(ng)kong) Bug. sengkong, Mak. cengkong, Sad. sekong 'deformed (of the arms)'.

*silo 'light, shine': Mak. silo 'a bright light', Sad. pa/silo 'to sparkle', Duri (intens.) sillo 'to glitter', SekoP silo 'light', ma/silo 'shiny'. Cf. also Bug. ilo, wilo, Mdr. m/illo, End. m/illoʔ 'idem'. PAN *silaw, *ilaw.

*silə̇(m) 'to dive': Mak. selang, s/um/elang, Sad. sillan; SekoP summiling 'to drown'. Cf. Bal. silem, Sasak selem, celem, Ml. selam, Jav. silem, Bis. salom, Bar. sili, Bad. sili(-nga) all meaning 'to dive'. Jav. Bal. and PSS permit PIN ?*silə̇m; Ml. Sasak suggest ?*sə̇lə̇m

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(with which cf. perhaps To. holo 'fall, sink, collapse'); Bar. and Bad. (and Seko?) point to ?*silim, though the final-syllable /i/ could be < *ɨ by assimilation-- still cf. Pi. sili 'bathe (esp. in the sea)', sili/ma 'to dive for s.t.'.

*singA(r) 'to dun': Bug. singɨq, Mak. sĩngaraq, Mdr. singar, Sad. singaq, DuriC mas/singah; if regular, these point to PSS, PAN ?*singɨɣ. Clearly borrowed (< Mak.) Ledo singara, moñ/jingara; probably borrowed (< Bug.?) Loin. (A&K) mon/singa, Banggai ba/singa. Cf. PAN (Dw) *singir.

*sengo(r?) '...': Bug. taq/sengoq, Sad. sengoq, DuriC sengoh 'have a bloody nose; nosebleed' (Sad. also 'to hit hard, esp. on the nose'); Mak. (< Bug.?) taq/cengoq 'to twist the neck'. Cf. Jav. sengot 'look aside, not look directly at (from shame or fear)'; SWB cites Ttb., Tombulu (unglossed) sengut. Cf. *lengo(ɣ?) above, perhaps both relatable via **s/al/engo(ɣ?).

*si(m)pi(t) 'narrow': Bug. sipiq, Mak. sipiq, Mdr. Sad. sippiq, Duri Mmj. siqpiq, PUS sippiq. Note also Sad. sipiq 'tongs'. Cf. *sɨ(m)pi(t) above.

*siqsi(C) 'cut into, make an incision': Bug. sɨsseq, Mak. sesseq (cited only in BWB); Sad. sasse, sesse, DuriK caqce 'to rip' (irreg. -Ø, if cognate); DuriC sesseq 'to slice', End. sesseɲ 'skin or split a fish'. Cf. also (irreg. -Ø, irreg. /-s-/): Bug. Mak. Sad. sese 'divide, make room for'; and Bug. Mak. Sad. sisi 'insert (e.g. a

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knife into a coconut, to gouge out the meat)'. Cf. Tag. sigsig 'divide, split (e.g. an animal)', suggesting PIN ?*si(gɣ)si(gɣ)-- PSS *siqsik < *sigsig if all SSul forms are native; but cf. also Jav. seset 'to shave; to skin', (?*sitsit), or NgD. siri (sir+i < **siɣ?). Ambiguous as to final consonant, but clearly related: Fi ɗiɗi 'remove pulp from a coconut with a knife, remove the flesh of a fish', and To. hihi 'scoop or gouge out; open clams with a knife'.

*si(q)sik$_1$ 'scales (of a fish, snake, on a cock's leg)': Bug. sissiq, sɨssiq, Mak. Mdr. sissiq, Sad. sissik, DuriK sisik (the only evidence against a RM), SekoP sisiki (/sʃsik(i)/?). PAN (Dw) *sisik$_1$, perhaps to be revised to ?*siksik.

*si(q)sik$_2$ 'to search for lice': Bug. Mak. sissiq, Sad. sisik. PAN (Dw) *sisik$_2$, (Zorc) *siksik.

*si(q)sil 'insect': Bug. sissiq 'k.o. gnat', Mak. MWB) sʃs-siliq, (I) kusʃssiliq 'gnat' (/ku-/ unexpl.); Mdr-Cend. (A&K) asisi, Sad. DuriK kasisiq 'mosquito'. Cf. Bar. kasisi 'k.o. stinging gnat', sarese 'sp. of very small wasp'. Perhaps Bis. silsil 'embed, engrave' < PIN ?*silsil 'sting; poke with a sharp point'(?).

*sintak 'rapid, sudden movement': Bug. sittaq 'jerk', sit-takɨng 'convulsions (usu. in children; perhaps epilepsy)', ma/sittaq 'fast, dexterous'; Mak. sintaq 'idem (according to Matthes)'; Sad. sintak 'pull, jerk', ma/sittaq 'fast',

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DuriK sintak 'jerk', Mai. ma/sitta, ma/sittaq 'fast, right away' (both forms given, the one with ø final probably a misprint), SekoP sintaka (/sĭntak(a)/?) 'to jerk'. PAN *sintak 'jerk'.

*su(bwø)a 'mouth; speak' (PSad.): Sad. sua 'order, command', sumua 'to order, say'; DuriK mas/sua 'to order'; Mmj. SekoL sua 'mouth'; SekoL mu/sua, SekoP mo/sua 'to say'. Note Ledo sumba 'mouth'; PIN ?*su(m)ba.

*somba 'pay respect, revere': Bug. sompa, Mak. Sad. somba. Cf. Bar. somba, regular < PAN *s̈mbaq

?*subi̇ng 'ear-ring, ornament': Bug. subi̇ng, Mak. DuriK subang. Cf. Ml. subang, Jav. suwĕng, Batak (cited by Matthes) sibong (irreg. /i/). PIN ?*subi̇ng

*sumbai(C) 'to sneeze': Mak. taq/sumai-mai, taq/simai-mai 'gasp for breath'; Mdr. sambaiq, Sad. sumbaen, Seko sumaing (sic, for summaing?). Cf. Ledo no/sumbai, Bad. Bes. (S&K) humbaqi, the latter pointing to PIN ?*sumbaqi(C). There is no explanation for the SSul irregularities.

*so(m)bAl 'sail': Bug. sompi̇q, Mak. sŏmbalaq, Mdr. so^{m}bal (half-nasalized b, a loanword?), Sad. sombaq, PUS s/um/ombal (/-l/ borrowed?), Mmj. s/um/obal 'to sail'. Cf. Parigi somba (likely < Bug. or Mak.), Stresemann's Proto-Ambon *soba (*somba in our terms), Bonfia (southern Ceram) sobal, soban, Seran-Laut sobal, Kissar (related to Letti, according to Stresemann) hopolo, Letti sopla.

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Proto-Ambon *-a reflects PIN *-a (provided the word is not a borrowing); Letti /-a/ could reflect either *a or *ɨ, while the phonological history of the other languages in not certain. PIN ?*su(m)bAl.

*su(m)be(n) '(of pigs) to root in the ground': Bug.(BWB) umbeng, (I) sumbeng, Mak. sumbeng, Sad. suen, sumben; note also Sad. ka/sube 'snout'. Cf. Fi. suvi ni nggele, suvi/suvi/na 'clods of earth'. PAN ?*su(m)bi(mn). To. hua 'root in the ground, like a pig' cannot be related to this, despite the good semantic fit.

*sumbing 'jagged, torn': Bug. sumping, cumping (BWB '= cɨppi' note cɨppi-timu/na 'hare-lip' (timu 'mouth, lip')); Mak. cuqbeng (/-qb-/ unexpl, perhaps < Bug.?), Mdr. Sad. sumbing (the Mdr. also means 'hare-lip'). Cf. Ml. sumbing, Jav. suwing; PAN *su(m)bing. (Note also Fi. ɗovi 'pluck or break off branches' with slightly irreg. /o/ if < *su(m)bing, a perfect fit with Bug. cɨppi, PAN ?*cɨpi.)

*su-r?-bi(C) 'to gouge, pry out': Bug. suqbiq '(BWB) carve wood; (I) carve, tattoo'; Mak. suqbiq 'carve'; Sad. suqbeq. Cf. not only *su(m)bing above, but also Ml. cubit 'pinch', sumbi 'fill a tooth'; Jav. suwir 'ripped', sumbit 'knock down fruits with a stick', cuwik 'scratch/pick off with the nails, cuwil 'break off with the thumb and forefinger', sruwil, cruwil,(> nruwil) 'pinch off a piece of s.t.'; Fi. suvi(-a) 'cut food into pieces'. No doubt, reflecting several proto-forms.

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?*su(b)un (?*su(b)ul) 'to come out, emerge': Mdr. and PSad. reflect only *-n: Mdr. sung, Mdr-Cend.(A&K) suu, Sad. sun, Sad-Rong.(V) suwun, PUS(V) suwun, SekoL (heard) soho; SekoP sohong 'be born', ming/sohong 'go out', ka/sohong/ang kula 'East' (kula 'sun'). Banggai suung 'give birth' (if not borrowed) can reflect only *-ng, and thus may not be cognate. PSS *-l can be reconstructed on the assumption that PSad. changes it to **-n, by including Bug. mas/suq (base suq), Bug-Sid. mas/sū, Mak. suluq (I: as/suluq) < **suwul with reg. loss of **w before /u/. For the possible root **bul cf. Ml. timbul 'rise into view', perhaps even PAN *bulan (**bul/an?). Evidence for *-b-: Bar. Parigi suwu 'appear'; Ledo sam/pe/suwu 'brother, nephew (i.e. of the same birth)'.

*su(zr)a 'sharpened bamboo stake, man-trap': Bug.(borrowed), Mak. Mdr. Sad. Duri SekoP sura. SekoP and "Old Bug." also 'thorn'. PAN ?*suǧa. Note (also irreg.) Bal. NgD. sungga 'man-trap'.

*sura(t) 'to write': Bug. surə̀q, Mak. Mdr. Sad. suraq, Mmj. suhaq. Possibly < Ml. PAN *surat.

?*suqsu(r) 'to rub': Bug. sussuq, Mak. sŏssoroq, Mdr. sosɔ̀or, Sad. Duri sussu (Sad. DuriC -Ø irreg.); Sad. (intens.) sossok 'rub hard, scour'; note also Bug. sussurə̀ng, cuccurə̀ng 'bannister, railing'. Note Jav. susur 'substance with which to coat/polish thread'. Cf. the next item, and also PSS *susu(r) below.

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*soqso(r) 'to slide, come down': Mak. cõqcoroq (and cf. the Bug. words for 'bannister' in the preceding). From a probable derivative *soqsor/an 'that which comes down (from one generation to another), i.e. inheritance': Mak. Mdr. sossorang; Mdr-Bal.(A&K) sosoran 'heirloom'; Mmj. sosohan. Cf. Bad. Bes. sosora 'inheritance', probably borrowed. Perhaps this, and the preceding, are derived < PAN *suʏsuʏ 'slide'. See alsc *susu(r).

*suro 'to order': Bug. Mak. suro. Perhaps with irreg. loss of the *-r- (evidence for PAN *-ʏ-?): Mdr. Mmj. mas/sio, SekoP mu/suo, perhaps Sad. sua. Note also Mdr. surung 'to cause, force s.o. to...'. PAN *suʏuq.

*su(zr)u(t) 'comb': Mdr. Sad. Duri suruq. PAN (Dempwolff 1924/5) su(ñ)ĝud.

*soro(t) 'retreat, withdraw': Bug. soroq, Bug-Sid. sorõ, Mak. soroq; Sad. soroq 'to rest, stop', moroq 'to withdraw, recede' (< ?*s/um/oroq); SekoL soroq 'recede'. PAN *surud.

*sorong 'to push': Bug. Mak. Mdr. Sad. Duri Mmj. sorong. PAN *surung.

*soe 'to swing the arms': Bug. Mak. soe, Sad. soen; Sad. also soyan (< ?*soe(y)an?) 'idem', soe (and loe < s/al/oe?) 'to hang down (of the arm)'. Note Bar. soe, mõñcoe 'to swing s.t.', kañ/coe2 'swing the arms'; Mori soe 'to rock (e.g. a baby) in the arms'-- note Mori minimal pair with sowe 'swim'. PIN ?*su(hØ)i(qØ) or ?*su(hØ)ay.

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*sugi(ɣ?) 'rich': Bug. sigiq, Mak-Konjo sŭgiriq (std. Mak. sugi probably < Ml.), Mdr. sugiq (irreg. /-q/), Sad. sugiq, DuriC sugih, DuriK sugi, SekoP sukiq. Note Ml. Jav. sugih, perhaps from a language where PAN *-ɣ can be reflected as /-h/? PIN ?*sugiɣ.

*suka(t) 'to measure': Bug. sukiq, Mdr. Sad. Mass. Seko sukaq. (Note also SekoP mas/sukaq 'to taste, try food'.) PAN *sukat.

*sungki(t) 'to poke, pry': Bug. sukkeq 'press or cut out (e.g. a thorn from the skin)'; Mak. suqkiq 'poke at, knock down fruits with a pole'; Sad. Duri sungkeq, SekoP songka (/-a/ irreg., but cf. the Seko reflex of *nipis 'thin'). Mdr. cukkil 'idem' no doubt borrowed < Ml. cungkil. Note Uma hukeq 'hole in a tree'. Cf. also (PSS ?*s/al/ungke(r)) Bug. salukkeq, Mak. salŭngkereq 'poke around in (e.g. someone's possessions), ransack'. Cf. Fi. ḍuki/ta 'root in the ground, dig up', ḍuki/raka '(fig.) force information from a person', which if entirely regular, provide evidence for two proto-forms: PAN (Dw) *sungkit and ?*su(ng)ki(rḍ). (Finally, Bug. Mak. songkeq 'silk with interwoven gold threads', Sad. pio sungkiq 'loincloth (pio) with designs woven into it', also reflecting *sungkit-- the Bug. and Mak. no doubt via Jav. songket 'idem'; cf. here Fi.(dial., cited only in Hazlewood) suki/ta 'paint or daub designs on the body'.

*songkol 'steamed rice': Bug. sokkoq (asokkoriṅg 'woven basket used for this purpose'), Mak. sŏngkoloq (songkolang

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'the basket'), Mdr. sokkolang 'the basket'; Sad. sokkoq (pasokkoran 'the basket'); DuriC sokkoq, pasokkotan; DuriC sarokɔ̈i 'to steam rice' (/-k-/ perhaps mis-heard, but not the ø for expected /-q-/). Note also: Bug. salɨkkoq 'basket-like device with which one tries to catch fish (in shallow water, by plunging it down on the fish)'; sɨkkoq 'to stretch forth, extend over', sɨkkoring 'woven basket used to cover a fighting cock'; for this last Mak. has songkok/ang; Sad. sokkoq 'covered', salokkoq 'woven basket to cover a fighting cock, or newborn chicks'. Note OJ skul (/sĕkul/) 'steamed rice'; Tag. sukol 'closed in, captive, surrounded'; perhaps Fi. ɗoko '...2. tie, fasten; be caught (in a tight place), 3. put leaves into a basket to put food on'. PAN ?*sɨ(ng)kul.

*su(ng)ku(C) 'complete, perfect': Bug.(BWB) sukkuq, (BWB,I) sokkuq 'perfect, the best'; Mak. sukkuq (irreg. /-kk-/, < Bug.?), Sad. sukkuq; Mai. pa/sukku/i 'to complete s.t. (no base form cited). DuriK cukuq probably < Ml. cukup 'complete, enough', with which the others may also be related. Cf. too Jav. sungku 'directed towards a goal; to put one's whole heart into something'.

*sola(k) 'skin disease; leprosy': Bug. colaq, Mak. solaq, Sad. solak (note ma/solak 'burning, itching, from eczema'), Mass.(V) ma/solak 'leprous'. Cf. perhaps Tag. sulak 'to boil'?

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*solang 'damaged': Bug. Mdr. Sad. ma/solang. Perhaps also SekoP ma/salang 'broken' if not < *sala (but both a's are clear in the informant's writing). Cf. Bar. ma/sola 'unlucky' (marked "<Bug." by Adriani); Ml/BI solang 'to contradict', sulang 'lampblack, soot'.

*sule(ng)ka'sit with crossed legs': Bug.(BWB) mas/suleka, (I) mas/sulekka, Mak. sulengka, Mdr. mis/sulekka, Sad. mas/sulengka, DuriK s/um/alekka. Note also Sad. sulea, sulengka 'wear the sarong across the body (i.e. rolled up and slung like a bandolier from one shoulder to the opposing hip-- one does this to cool off, to have the legs unencumbered etc.)'. Note Mad. lengkaq, a/sa/lengkaq 'crossed over, tangled (of hair, rope), which (like Sad. sulengka) probably comes closer to the basic meaning 'cross-wise'.

*suling 'flute': Bug. Mak. Sad. suling. PAN *suling.

*sulipa(t) 'rub along, graze': Bug. (cited only in MWB sulipiq, the expected form), (I) sulipaq, Mak. sulipaq (not recognized by my Mak. informant). Cf. Jav. slepat, slempat 'skip a flat stone across the water', Ml/BI sĕlimpat 'stay clear of, avoid s.t.'; Bis. sulipad 'to look obliquely', Tag. sulipat 'twisted, crossed, sidewise; to look obliquely. PIN ?*suli(m)pad-- Tag. Jav. /-t/ irreg. if so. Cf. also Jav. simpar 'go to one side, push on the side with the foot, push away'; an infix *-ul-, however, has not yet been identified. Cf. also the next item.

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*sulimpang 'hit a glancing blow': Bug.(BWB) sulipang, (I) sulippang, Mak. sulimpang. Cf. Ml. Jav. simpang 'go off to the side, deviate'; Ml/BI sĕlimpang 'deviate from the right path', Jav. slimpang '= simpang'. We assume the Ml. Jav. infixes reflect *-al-, though Ml. /ĕ/ in pre-tonic position could reflect any vowel, perhaps *u. See *se(m)pang in the Supplementary List for other cognates of PAN *simpang (Dempwolff's proposed basic meaning 'side-road' is rather too specific; 'deviate' would be better).

*suli(t) 'difficult; expensive': Bug.(BWB) ma/suli, (I) ma/suliq; Mak. ma/suliq 'rare'; Mdr. Sad. Duri End. Mai. ma/suliq, Mmj.(A&K) ma/suli, SekoL ma/sulliq (/-ll-/ unexpl.); SekoP ma/suliq 'expensive', ma/suli 'difficult' (in the same hand!). Note also Bug-Sid. ma/solī. Cf. Ledo Mori suli 'expensive', Isneg (Reid 1971) na/sulit 'difficult, expensive'; also Jav. sulid 'stiff, difficult (of motion); difficult, troubled'. Cf. PAN (Blust) *suli(tC), where he cites Jav. sulit (not listed in Jansz, and perhaps a Ml. loan, as are perhaps the Philippine forms with /-t/); PIN ?*sulid.

*sulo 'torch': Bug. Mak. Mdr. Sad. Duri sulo. PAN *suluq.

*sulA(C) 'weave; reweave': Bug. sulɨq 'weave (apparently more like needlepoint or tapestry-- one uses a quill (or pen, Du. pen) to insert the material); interweave threads of another color into a cloth; repair a basket by inserting new pieces of rattan'. Mak. Sad. sulaq

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comparable to the Bug. meanings. Cf. Bar. sula '1. to poke, stick (e.g. with the quill in weaving); to weave in threads (or bamboo) of another color'-- these could be cognate with PAN *sulam 'embroider'; Bar. solâbi 'get splinters in the skin from a piece of wood' (< **solab, if we can interpret this as a reinterpretation of borrowed *sɔ̂lab(i) > **solab+i = /solâbi/). Note also Uma sulaq 'to exchange'. The SSul forms cannot regularly reflect PAN *sulam; perhaps ?*sulab 'alternate' (> 'alternate colors or materials in weaving'?).

*solo(C) 'stream, current': Bug. soloq; Mak-Konjo coloq 'to flow'; Sad. solo 'flow; flush away'; Mai. mac/colo, End. mas/solo/ 'to flow'. (The End. form suggests *-k, but may be an intens.) Cf. *salu(C) and *salu(γ) above, and the next item below. Note also Mak. taq/sɔ̂loroq 'drift, glide'.

*solo(C) 'to descend': Bug. Mak. soloq, Sad. soloq (Poet., songloq), DuriC soloh. (The Bug. also means 'possessed by a demon'-- i.e., in Matthes' words, one upon whom a demon has descended.) We might unite both this and the preceding under PSS *solo(γ). Note Bar. solo 'descend'.

*sulu(r) 'exchange, pay': Bug. suluq, Mak. sûluruq; Sad. suluq 'lend money at short term, without interest'. Perhaps also: Bug. soloq 'give a feast', pa/soloq 'contribution (food etc.) to a feast'; DuriC soloq 'gifts given on certain ritual occasions (weddings, cicumcisions etc.)'. PAN *sulur 'shoot of a plant;substitute'.

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*sulu(r) 'to close, bolt': Bug. suluq, Mak. sŏloroq, Sad. suluq 'close a gate/door with a bar'. Cf. Fi. sulu 'loincloth; clothing', sulu/nga 'wrap in a cloth', sulu/ta 'take s.t. out of a basket without opening it'; To. hulu 'fix one's loincloth by tucking one end in at the waist', hulu/hulu/maki 'stick in, insert'.

*solo(N) 'to flow': Mak. solong; from a derivative *solo(N) +an 'ditch': Bug.(I only) selongang, solongang, Mak.-Konjo solongang, Mdr. sɑlongan. Cf. Proto-Chamic (Lee 1966) *sălung 'pit, trench'(?) and Fi. ɗalo/va 'to hollow out; cut, gouge', To. halu 'to slit, shred; to scarify or tear up the soil'.

*sumangɨt 'soul, spirit': Bug. sumangɨq, Mak. Mdr. Sad. Duri sumangaq, SekoP semanga. PAN *sumangɨt.

*sumi(C) 'mustache': Bug. Mak. Sad. sumiq. Cf. also Ledo cumi (apparently borrowed; Esser notes that /c/ occurs only in "foreign" words), Bad. Bes.(A&K) hume, Uma sumiq. Very likely a metathesized form of PAN *kumis.

*sunsun 'to pay back, give in return : Bug. sɨssung, Mak. sussung 'pay back, give change; also, a tax or fee, e.g. the rental of a market stall'; Mdr. sussun 'give change', PUS sussun 'give change'. Cf. To. huhuqi 'to ransom or redeem' (apparently a redup. of huqi 'detach, take off'). Perhaps related to the next:

*susun 'pile up, heap up': Bug. Mak. susung; Sad. sussun 'heap up; push, crowd in on', (I) susun 'arrange';

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DuriK mang/susun 'pile up'; PUS sussun 'to push'; SekoP mam/pa/si/susung 'pile up'. Both this and the preceding appear to reflect PIN ?*sunsun (note Dempwolff's *susun 'pile up'), but the semantic connection is difficult to see; perhaps two homonymous etyma?

*su(m)pa(k) 'to overlay': Bug. supaq (not recognized by informants), Mak. sumpaq 'metal overlay on a kris-sheath'; Sad. sumpak 'join one piece to another by pegs, lashing, etc.' Cf. Bad. humpaq, Bar. sumpa. Perhaps Fi. suva '(Hazlewood) mound-- sometimes thrown up as a monument, or to entrench behind, (Capell) mound, serving as a landmark'.

*sompo 'carry on the shoulder': Bug. soppo, Mak. Sad. sompo. Cf. Ml. sompoh (Klinkert) 'carry s.o. on the shoulder (astraddle)'. PIN ?*sumpuq.

*susa 'difficult, sad': Mak. Mdr. susa, Sad. sussa (/-ss-/ unexpl.); DuriK susa 'suffer', ma/sussa 'difficult, sad'; SekoL ma/susa. Cf. Ledo susaq (other Tor. languages susa) 'funeral feast'; Hockett's Proto-Fiji-Polynesian *nsonsaqa (> Fi. sosa 'uncomfortable') > PPN *sosaqa 'weary of, troubled, sick'. PAN (Dw) *susaq (PFP apparently < *susaq/an).

*susu 'breast; milk; to suck, suckle': Bug. Mak. Mdr. Sad. susu, DuriK cucu, SekoP susu 'breast, milk'; Mdr. Duri PUS Mmj. s/um/usu 'to suck', Sad. pa/susu

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DuriK mang/cucu/i, mang/susu/i, SekoP mas/susu 'to suck, suckle'. PAN *susu. (Note also Ml. cucu 'grandchild'--related?)

*soso 'to peel': Bug. Mak. soso, Mdr. soso/i, Sad. soso, soso/i, (note salusu 'to strip branches from a tree-trunk'), Duri soso, SekoL mas/soso/i. Cf. also Sad. (intens.?) sosoq, sossoq 'reduce, decrease'. Bar. soso, moñcoso 'to peel'; perhaps Ledo soso 'edge'. Possible sources: ?*susuq, suqsuq, sawsaw, susu(C), susu, susaw.

*susu(r) 'edge': Bug. susuq (manusuq), Mak. sůsuruq 'sail along the shore'. Cf. Ml. susur 'edge, fringe', měñusur 'sail along the shore'; perhaps Bis. sudsod 'catch fish by pushing a trap along the foreshore' or Tag. sugsog (Laktaw: seguimiento, rastreo, most likely 'pursuit, track down' (and so < Dempwolff's *suɣsuɣ), but rastreo might also refer to dragging (a harrow, dragnet etc.). Ledo soso 'edge' better here than with *soso 'peel'.

*susu(k) 'to pierce, skewer': Bug. susuq 'fasten a sail along the edge (with a rope laced through small holes)' (could be related to *susu(r) 'edge'; Mak. sůsuruq also refers to this); pa/susuq 'the rope for this'; Mdr. susuq 'to stick, stab', pa/susuq 'skewer (e.g. for grilling food)'; Sad. susuk 'stake to mark a boundary'. Uma suhuq 'to stab'. PAN *susuk 'stab'; cf. also *tusu(k) below.

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T

?*taan 'withstand, endure': Bug. tang (mat/tăng), Mak. tanang (*taan/an) 'maintain balance, not waver'; Sad. taan 'to watch over' (esp. rice when it is ready for harvest-- to defend it from the birds?), tanan 'hold out, endure, defend one's place'; note also Sad. tang, taang marked "< Bug.", and tasang marked "corruption of Ml. tahan". Perhaps also reduplicated in Bug. tăttăng, Mak. tantang 'hold on to, hold fast, (fig.) maintain (e.g. opinions)'. Obviously borrowed < Ml. are Mdr. DuriK tahan, SekoP man/tahang. PAN (Dy) *(tṭ)ahan.

*ta(b)a 'divide (into portions)': Bug. Mak. tawa, Sad. taa, tawa, DuriK mang/tawa. Cf. Nias (A&K) sinaba 'cut-off piece of...' (< /taba/, with apparently reg. t > s before /i/), Leb. nihi mpo/tawo 'incisor' (nihi 'tooth'); Fi. tava 'cut with a knife', ndamba/na 'do up in parcels or small quantities', perhaps tamba 'branch; one side of, one half of' (Dempwolff has this < *tambang 'side'); To. tafa 'carve, cut into portions with a knife'. PAN ?*ta(m)ba(qØ).

*tamba 'add to, increase': (Bug.) Mak. Sad. Duri tamba; perhaps SekoP tamma 'red pepper' (added to food?); possibly reflecting an early **tamba/i > **tambay: Bug. tawe 'add/splice a new strand into a rope'; Bar. tabe 'set one thing on top of another'. PAN *tambaq.

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*ta(m)ba(ɣ)$_1$ 'medicine': Bug. tawiq (irreg. /i/, perhaps < an early borrowed *tawar), Mak. tåwaraq (also tawaq probably < Bug.), Sad. taaq, tambaq; cf. also Bug. tampaq, Mak. tåmbaraq 'antidote'. PAN *ta(m)baɣ$_2$.

*ta(m)ba(ɣ)$_2$ 'gift': Bug.(BWB) tampaq, (I) tawaq, Mak. tåmbaraq 'gift given at the time marriage is proposed'. PAN *ta(m)baɣ$_3$; cf. also *tawa(r) below.

*ta(m)ba(C?) 'to call, summon': Bug. tampa, Mak. tambaq (obsolete, MWB; irreg. /-q/?); Sad. Duri End. tamba, Mmj.(A&K) di/tawa. Cf. Elkins (1974) Proto-Manobo *tabak 'answer'.

*tamba(k) 'to hit, pound': Bug. tampaq, Mak. tambaq; Sad. tambak 'clean s.t. by pounding it'.

*tambing 'addition to a house': Bug. tamping 'outhouse, privy'; Mak. tambing 'small house behind the main house, for rental'; Sad. tambing '(SWB) one of the rooms in a house', '(Rong., Kruyt) slaves' quarters', '(I) addition, (BI tambahan)'; Sad-Mamasa (Bikker) tombing 'house'; SekoP tamming 'house'. Cf. NgD tambing 'add to, broaden'; Rampi, Bad. Leb. tambi, Uma tomi, Tawaelia (A&K) tombi all 'house', Ledo tombi 'room'; Bar. tambi 'addition to a house', tombi 'addition (to anything)'. The Tor. forms with /o/ point to PIN ?*tambing; if so PSS *-a- is irreg.

*tambuk 'belly': Bug. tampuq 'pregnant'; Sad. Duri PUS tambuk, End. tambuʔ. Note Mad. tabuq 'belly', perhaps

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also (Reid 1971) Tagbanwa ma/tambɨk, Tausug ma/tambuk (Tsg. /u/ < either *ɨ or *u; Tbw. reflexes unknown) 'fat'; Sang. tĕmbuq 'stomach'. SSul and Mad., at least, point to PIN ?*tambuk.

*tabu(γ) 'to sow, scatter': (Bug.) Mak. tăboroq, Mak-Konjo tăhuruq; Sad. tabu2 'scatter; careless'; SekoP tahu/i 'to spray, rinse'. PAN *tabuγ; cf. also *sa(m)buγ and ambuγ above.

*tambun 'heap, pile': Bug. tampung '(BWB) heap, pile up; grave', (I) 'grave'; Mak. tambung, Mdr. tambung; Sad. tambun 'to bury (a corpse)' (also tumbun). Cf. *bumbun, p.653 above.

*ta(dr)ɨ(m) 'sharp': Bug. ma/tarɨng, Mak. tarang, Mdr. ma/tadang, Mdr-Bal.(A&K) ma/taran, Sad. Duri PUS ma/-taran, Seko tarung. Note also Sad. tinaran, PUS(V) tinarun 'dart for a blow-gun', PUS(V) ma/tarang. Note Leb.(A&K) ma/tari (perhaps for tarü?), Napu, Bes. taru, Bad. tumaru; Bar. Wo. ma/taja. PAN (Dw) *tajɨm.

*tari(k) 'to trim, cut': Bug. tariq 'trim, even up the dykes in the sawah'; Mak. tariq 'to slice'; Sad. tarek 'cut' (also poet., tariq).

*tarima (?*t/ar/ima) 'to receive': Bug. Mak. Mdr. Sad. Duri SekoP tarima (Mdr. informant in particular felt this was a loan < BI terima); cf. also Sad. timang (/-ng/ unexpl.) and Bar. tima. PAN *tarima.

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*taipa 'mango': Mak. Luwu(V), Seko taipa. Cf. Bar. taripa, Uma taqipa, Banggai, Mori Ledo taipa, Leb. teipe, Bad. taipe, Sasak (deClercq) taipah, Tomini (Heyne) taripa. Though probably a loan word, the treatment of the /r/ suggests that it descends from ?*taɣipa(q,ɣ).

*taro 'to put, place': Bug. Mak. Sad. taro; Mdr-Camp.(A&K) a/taro/an 'hiding place'. Cf. also Bug.(BWB) tarungäng (I) atarõng (< a/taro/ang), Mak. tarungang 'sheath, holster'; probably also Bug. Mdr. toro 'to bet (on a cock-fight)', this last likely < Ml. taruh 'to bet' (among other meanings). PAN *taɣuq.

*taru 'loud noise; deafen': Bug. taru(2) 'deaf'; Sad. taru 'deaf', pa/taru 'to deafen with a loud noise', me/taru/an 'unable to hear due to surrounding noise'; DuriK ma/tarru 'loud noise; deaf'; SekoL taru 'noisy; deaf'; SekoP mi/taru 'noise, commotion, BI ribut (possibly 'storm')'.

*tanduk 'horn': Bug. Mak. tanruq, Mdr. tanduq, Sad. Duri tanduk, End. tanduɲ, Mai. tanduq, PUS Mmj. tanduq, SekoP tannuku (/tânnuk(u)/?). PAN *tanduk.

?*tanggung 'to carry, be responsible for': Mak. tanggong, Sad. Duri tanggung, SekoP tangkung. Possibly < Ml., but shows regular developments. PAN *tanggung.

*tai 'excrement': Bug. Mak. Mdr. Sad. Duri Mmj. tai; also in Mmj. taihini (/-hini/ unexpl.), SekoL tai/nna, te/nna 'guts'; perhaps SekoP takeq. PAN *taqi.

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*taji '(steel) spur for a fighting cock': Bug. Mak. Mdr. taji, Sad. tadi, taji. PAN *taji.

*tangke 'branch': Bug. takke, Mak. tangke, Mdr. taqe (/-q-/ irreg.), Sad. Duri Mmj. tangke. PAN *tangkay.

?*takia(γ) 'arm': Bug.(BWB only) taia, Mak-Sal. takera (< earlier **takɬaraq?), Sad. takiaq, DuriC takeah, DuriK takea. Cf. Sang. takiahe, Bad. tee, Napu taie, Bar. takie, Wo. taeyo; Ledo takio 'upper arm'.

?*tangkul 'tree sp.': Bug. takkuq (cited only in MWB, where it is not further specified; my informant stated that it is thorny, and has medicinal uses), Mak. tăngkuluq; perhaps Sad. takkun 'a thorny plant; an extract of it used to stun fish'. According to de Clercq, the Bug. and Mak. names apply to Aegle Marmelos Correa; it is also called Bug. Mak. (and elsewhere) bila-- this is the only name cited in Heyne (p.862). Perhaps Fi. ndakua 'tree sp., Agathis vitiensis; supplies timber and resin'.

*tali 'rope': Bug. Mak. Sad. SekoP tali. PAN *tali.

*talinga 'ear': Mdr. Sad. Mass. PUS Mmj. Seko talinga. Perhaps a root **linga in Bug. marr/eng/kalinga, m/eng/kalinga 'to hear' (< earlier **meN+ka+linga?). PAN *talinga.

*talo 'defeated': Bug.(Old Bug.) talo(2) 'overcome by' (this meaning can be hypothesized on the basis of the

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apparently figurative usages in Matthes' examples); Mdr. calo 'disappointed'; Sad. Duri Seko talo. Cf. Bar. talo (and cited there without gloss Minahasa talo, Mong. talow, Sumba-Kambera talu, Mad. talok), Sasak talo 'defeated'. I find no Mad. talok, but cf. Mad. talo 'sick from chewing betel'(?) or tĕllok 'become subject to, surrender'. PAN *talu.

*tama 'enter': Bug. u/tama, Mak. an/tama (the initial syllables are unexpl.), Mdr. Sad. Duri SekoP tama. (Duri tama also 'West'.) PAN *tama.

*tamanang 'barren (of a woman)': Bug.(BWB only) tamanang, (BWB,I) tomanang (probably folk-etymology < to 'person' + "manang"), Mak. Mdr. Sad. Duri SekoL tamanang. Matthes (MWB) posits a derivation < **ta(N)- 'not' + maq- 'have' + ana(k) 'child' + -ang (*-an) 'benefactive(?)'; this does in fact seem a logical derivation, but at the PAN, not PSS, level. PAN *tamanang.

*tana 'land': Bug. Mak. Sad. Duri tana. Probably < Ml., since there are other, more common words for 'land'. PAN *tanaq.

*tanak 'to cook, boil': Mak. tanaq, Mdr. tanaq, Sad. tanak; also Sad. tinanak 'porridge made from rice and milk'. PAN *tanḭk.

*tanḭm 'to plant': Bug. tanḭng, Mak. Mdr. tanang, Mdr-Bal. (A&K) tanan (tanan/an 'seed'), Sad. Duri End. tanan, Mmj. man/tanang, Mmj.(A&K) man/tanam. PAN *tanḭm.

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*tane(n?)te 'mountain, hill': Bug. Mak. tanette (Mak. < Bug. according to Matthes), Sad. PUS Mmj. SekoL tanete. Cf. Stresemann's Proto-Ambon *tẽnita 'mountain' (*t̪ẽnita in our terms); there is no explanation for the variation in vowels, assuming cognacy.

*tanga(γ) 'to stare; ponder': Bug. tangaq, Bug Sid. tangngã Mak. tãngaraq; Mdr. tangar (Lontar tangngar), tangar2 'to ponder, think over'; Sad.(SWB) tangngaq (I) tangaq, DuriC tangngah. There is no ready explanation for the forms with /ngng/, as outside cognates clearly attest *a, not *ẽ: Ml. tangar (cited in BWB, SWB, but not found in E&S or Klinkert); Sasak tangar 'look around anxiously', Bal. tangar 'be careful'. Probably borrowed are Ledo (< Mak.) no/tangara 'to deliberate, consider', Banggai tanggak/on 'stare into the distance'. Cf. also Fi. ndanga 'throw the head back; stare up' and To. tãngaki '(of royalty) look, look up'. PAN ?*tanga(rḍγ).

*tampak 'point, tip': Bug. cappaq, Mak. appaq (probably borrowed, on the basis of irreg. Ø- and /-pp-/), Mdr. tappaq, Sad. tampak (also tarampak 'edge of the roof'), SekoP tampaka/na. Cf. Bar. (ritual lg.) tampa 'tip, peak (ordinary lg., tompo)', Napu tampa 'tip', tarampa 'edge', Ledo tampa 'tip', NgD. tampak/an, tapak/an 'tip, end'. Perhaps Fi. tamba '1. horizontal reeds at the top of a reed wall, 2. upper arm, foreleg of an animal, wing, storey of a house' (basic meaning "extremity"?), note also vei/tamba/ni 'reply, have the last word'.

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We propose PAN ?*tampak 'furthest point, tip' probably distinct from Dempwolff's *ta(m)pak 'blunt(ed)'.

*tamparan (?*tampar/an) 'sea, lake': Bug. tapparaŋ (in particular the large Tempe Lake in the middle of the peninsula), Mak. tamparang, Sad. Duri tapparan (both informants felt this to be a Bug. loan, but it has the etymologically correct /-n/); perhaps Mmj. tampang if via **tampahang. Cf. Sasak (Agerbeek) tamparan 'shore', (Goris, more accurate) tĕ/ampor/an 'idem'. Goris' form (if not a misprint) seems not to be cognate. Cf. also To. $tafa_2$ 'boundary, edge, periphery (of s.t. extensive, not small)', tapa 'edge, boundary, rim, circumference'; Churchward also cites Rotuman tafa 'wide, roomy, spacious'. PAN ?*ta(m)pa(rḍɣ), a morphologically complex form < (Dw) *ha(m)pa(r) 'spread out'?

*ta(m)pi 'to winnow': Bug. Mak. tapi, Mdr. tappi, Sad. DuriK taqpi, DuriC tapi. PAN *ta(m)pi.

*tapis 'to filter': Bug. tapiq, Mak. tăpisiq, Mdr. tapis, Mmj. SekoP tapiq. PAN *tapis.

*ta(m)pu(C) 'finished, all gone': Bug. tappuq, cappuq, Mak. cappuq (probably < Bug.), Mdr. capuq, Sad. tappu, tappuq, sappuq, Duri End. cappuq, Mai. cappuk/i (base probably ?/cappuq/). On the basis of Ml/BI, NgD hapus 'to erase, wipe out' we should expect Mak. Mdr. /-s/ or Duri /-h/. Perhaps a borrowing from Bug. in every case.

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*tasak 'ripe': Bug. tasaq (BWB also tasiq, rejected), Mak. tasaq, Sad. Duri tasak. Bug. Sad. can also mean 'refined, pure (of gold, blood etc.)' hence End. ma/-tasaʃ 'high-born' is comparable.

*tasik 'ocean': Bug. tasiq, Mdr. sasiq (sporadic assimilation of the initial), Sad. Duri SekoL tasik, SekoP tasiki (/tasik(i)/?). SekoL also for 'lake'. Cf. Sad. (intensive forms) ma/tassiq 'bitter', bu/tassik 'smell of faeces'(?); End. bu/tassiʃ 'cheesy smell'. PAN *tasik.

*tau 'person': Bug. Mak. Mdr. Sad. Mass. PUS Mmj. Seko tau. Unstressed variant (in ethnic names), Bug. Sad. to, Mak. Seko tu, Mass. tu, to; RAP72 also shows Mass. to used as a relative pronoun, but this might be a variant of tu, to 'that'. PAN (Dw) (tṭ)awu, (Dy) (tṭ)au.

*taun 'year': Bug. Mak. taung, Mdr. Sad. Duri PUS Mmj. taun. PAN *taqun.

*tawa 'to laugh': Bug. m/ecawa (< earlier **me/cawa), Bug-Sinjai mecaha, Mdr. me/cawa, Sad. me/taa, Duri End. me/tawa, Patt. Mai. me/cawa, PUS me/taha, Mmj. me/cawa, me/taha, SekoL me/taha, SekoP ma/taha. Also Sad-Rong., Mangki(V) me/tawa. PAN *tawa.

*tawa(r) 'to bargain': Bug. tawaq, Mak. tawaraq, Mdr. tawar, tawarr/i, Sad. taaq, taaq/i, DuriC tawah,

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DuriK tawa, SekoP tawar/i. Very likely borrowed < Ml. tawar 'idem'. PAN (Dw) ta(m)bay$_3$ 'offer'-- cf. our *ta(m)ba(y)$_2$ above, but on the basis of Tag. tawad (overlooked or ignored by Dempwolff) Blust has reconstructed PAN *tawaḍ.

*tɨbbang 'to chop, cut down': Mak. Mdr. Sad. Mmj. taqbang. Cf. also Sad. taqbaq 'piece of cleared land', tumaqbaq 'to clear land'. PAN *tɨbang, also *tɨ(m)bak, *tɨbas; and cf. PSS *t(iɨ)bak below.

*tɨbbu 'sugar-cane': Bug. tɨbbu, Mak. Sad. Duri taqbu, Seko tuhu. For the Seko cf. Napu, Rampi, Bad. tuwu. PAN *tɨbu.

*tɨndA(C) 'to suspect, accuse': Bug. tɨnrɨq, Mak. pi/tanraq, Sad. tandaq. Bug. Mak. also 'to press down'; Matthes took 'suspect' to be derived figuratively. If we view Mak. as borrowed < Bug., and add Mak. tánrasaq 'think of/consider s.o. as...' the word may be comparable with PAN (Blust) *(Ctṭ)a(ng)(dḍǧ)ɨs 'state explicitly'; all his cognates, however, have clear connotations of <u>certainty</u>, never of suspicion.

*tɨddung 'shelter; shade(d)': Bug. tɨddung 'umbrella'; Sad. Duri taqdung, Mmj. tuqdung. Perhaps Mdr. tullung (irreg. /-ll-/). Cf. Sasak tĕdong 'shelter oneself from the sun or rain', Bal. tĕdung 'k.o. umbrella'; Ledo toru 'sun-hat'. PIN ?*tɨḍung as a doublet of (or the ult. source of) PAN (Dw) tuḍung.

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*tɨrrung 'eggplant': Bug. tɨrrung, i/tɨrrung, Sad. tarrung, ka/tarrung, DuriK katarung (single /r/ suggests borrowing), SekoL katarrung, SekoP katarung. PAN *tɨrung.

*tɨrrus 'straight, direct': Bug. tɨrruq, Mak. tårrusuq, Mdr. tarrus, Sad. tarruq, DuriC tarruh, DuriK tarru; probably also Bug-Sid. ma/tɨrrū 'brave', si/tɨrrus/ɨng 'as brave as...', Mai. ka/ma/tarru/k/an/na 'his bravery'. PAN *tɨrus.

*tɨgguk 'to swallow': Bug. tɨggoq, Mak. taqgoq. Cf. also Bug. gɨgguq '(with the mouth closed) make a sound with the tongue, as a sign of disapproval'; Sad. goqgoq 'pour out in a great quantity; (coarse) gulp down (food, drink)'. PAN (Blust) *(CtT)ɨguk 'gulp' (the doublets cited clearly point to an onomatopoetic root **guk); cf. also Mori me/goo 'make a noise in the throat', te/goo 'hiccough'; Banggai tong/gook 'hiccough; vomit'.

*tɨkkɨn 'stick, staff': Bug. tɨkkɨng, Mak. takkang, Mdr. teqeng (irreg. /-q-/ and /e/), Sad. Duri PUS tekken, SekoL teken/na ('his...', base not given). The /e/ of the Sad. group is unexpl.; the Mdr. form is probably due to borrowing from some local Sad./PUS dialect. Cf. also Bug. tulɨkkɨng 'to lean on s.t.', Mak. tulekeng 'lean to one side', Sad. tulekken 'a prop, support, strut'; the "infix" /-ul-/ is of uncertain origin. Note Ml/BI bĕr/-tĕlĕkan 'to lean on s.t.'. Further Bug. Mak. Sad. tokong 'to pole a boat/raft; the pole so used', probably borrowed from a Tor. original, e.g. Bar. toko 'pole'. PAN *tɨkɨn.

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*tɨkko 'strong, robust': Bug. tɨkko, Mak. Sad. takko. Cf. MinK. takaw 'idem'. PIN ?*tɨkaw.

*tɨqt(aɨ)k 'to hack, chop': Bug. tɨttaq (irreg. /a/ if < presumed *tɨqtɨk, Ml. influence?), Mak. tattaq; Mdr. tatta (perhaps mis-heard) 'to flatten bamboo'; Sad. tatak 'chop/mince meat', taqtak 'chop, hack (e.g. meat with the bone in)'; SekoP tataka (/tătak(a)/?) 'chop/mince meat'. Possibly < Ml. tĕtak. PAN *tɨktɨk.

*tɨllɨn 'to sink': Bug. tɨllɨng, Mak. Mdr. tallang, Sad. Duri tallan (Duri also 'dive; drown'). Perhaps PAN *tɨlɨn 'swallow'.

*tɨllAng 'bamboo or rattan spp.': Bug. tɨllang, Mak. tallang Mdr. tallang, Sad. Mmj. tallang, SekoP talang. According to Heyne, the Bug. and Mak. refer to spp. of rattan; Mdr. Sad. and Seko in our lists clearly refer to bamboo. Perhaps related to Ml. bunga tĕlang, Sund. Jav. kĕmbang tĕlĕng 'plant sp., Clitoria ternatea Linn., the leaves are used medicinally and as a source of blue/green dye' (Heyne p.812) or (Heyne p.382) 'Caryota mitis Lour., a palm sp., called bulung talang, bulung tĕlang in Central Borneo; in times of famine, the pith is eaten.' Perhaps both PAN *tɨlɨng, *tɨlang.

*tɨllu 'three': Bug. tɨllu, Mak. Mdr. Sad. Mass. tallu, Mmj. tallo, Seko italu (written, but I heard <u>itallu</u> from both informants). Sad.(SWB) also taqtallu. Note Wo. talu. PIN *tɨlu.

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*tɨlluɣ 'egg': Bug. tɨlloq, itɨlloq, Bug-Sid. tɨllō, Mdr. talloq (/-q/ irreg.), Sad. tallu (poet., talluq), Mai. talloq, Patt. taloq (misprint?), DuriC talloh, DuriK, End. tallo, PUS tallu, Mmj. tuluq, SekoL teloq (/e/ irreg., < Ml.?), SekoP tulu. PUS(V) also tullu. Note Napu, Limolang tulu. PAN *tɨluɣ.

*tɨllong 'to lean out': Bug. tɨllong (note tɨllong/ɨng 'window'); Sad. tollong 'to appear, arrive (?); Mai. tallong/an 'window' (< Bug.?); Cf. also Bug. cɨllong 'protrude (a little bit)', Bug.(I) collong 'turn up, come into view (e.g. of s.t. coming up from underwater)'; Mak. callong, collong; Mdr. collong 'protrude (a little bit). Cf. Jav. tĕlung 'hang or lean over'; perhaps Sasak jĕlong 'look out (through s.t.)'-- /j/ for /c/ occurs in other examples, but appears to be an irregularity. PIN ?*tɨlung.

*tɨmmu$_1$ 'surround, go around; meet': Bug. tɨmmu, note also (I) 'go round in a circle, returning to the starting point'; Mak. tammu; Sad. Duri si/tammu 'to meet', End. Patt. tammu 'meet'. PAN *tɨmu$_1$ 'meet'.

*tɨmmu$_2$ 'plant sp. (spice)': Bug. tɨmmu, Mak. Sad. tammu. PAN *tɨmu$_2$.

*tɨnnun 'to weave': Bug. tɨnnung, Mak. tannung; Mdr-Cend. (A&K) t/um/anun, pa/tanun/an 'loom'; Sad. Duri tannun; Mmj. tannung 'to make nets'; SekoP tannung. PAN *tɨnun.

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*tɨngnga 'half, middle': Bug. tɨngnga, Mak.(MWB) tanga, (I) tangnga, Mdr. Sad. tangnga, Mmj. tanga. The forms with single /ng/ may show the influence of Ml. PAN *tɨngaq.

*tɨntɨng 'firm, certain': Bug. tɨttɨng 'correct, proper'; Mak. tantang 'firm' (also 'stretch out'-- probably Matthes has unwittingly combined two separate items); Sad. tattang. Cf. Jav. ṭĕngṭĕng, ṭĕṇṭĕng, Ml. tĕntang 'oppose, resist'; cf. also Jav. ma/ṭĕṇṭĕng 'firm, hard (e.g. a pillow); (fig.) look firm, serious; urgent (of a request); firm, certain (or a rumor, report). PIN ?*ṭɨngṭɨng.

*tɨ(m)pa 'form, shape': Bug. (< Mak.?) tappa, Mak. tappa (a blend? the /-pp-/ < Bug., the /a/ < Mak.?); Sad. tampa 'create, form, do metalwork', Mdr-Bal.(A&K) pa/-tampa/an 'smithy', Seko (A.Kruyt) pon/tampa 'blacksmith'. Perhaps < Ml. tĕmpa 'forge'; PAN *tɨmpa.

*tA(m)pas 'to hit, strike': Mak. tăppasaq; Mdr. tappas 'wash clothes' (Matthes lists this for Mak. too); Sad. tampaq, Duri tappah 'hit, touch (by accident)'; Mmj. ma/nappa (perhaps ma/nappaq) 'wash clothes'. Cf. Ledo tapasi 'wash clothes'; Ml. ĕmpas 'to lash, strike; dash, fling down'. Note PAN (Dw) *tɨpas 'press flat'; if related, the Ml. form suggests that this may be a morphologically complex form; perhaps PAN ?*ɨ(m)pas, or a root **pas(?), 'strike'.

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*tɨppA(t) 'trust, believe': Bug. tɨppɨq, Mak. Mdr. tappaq; Sad. taqpaq 'true, trustworthy'. Perhaps < PAN *tɨpat 'correct, definite'. Perhaps also Bug. tɨppɨq, Mak. tappaq 'simple, without ornaments' (Matthes only, not recognized by informants).

*tɨppung 'flour, meal': Bug. tɨppung (BWB)'spice mixture', (I)'flour', Mak-Sal. tappung 'flour'; Sad. taqpung 'pound into a powder, make rice-flour'. PAN *tɨpung.

*tɨppu 'to call, name': Bug. tɨppu (also (I) 'to vote'), Mak. Mdr. tappu; Sad. tappo 'to bet'(?).

*tɨntu 'certain': Bug. tɨntu (/nt/ irreg., < Ml.?), Mak. tantu, Sad. tattu, tantu, DuriK SekoP tantu. Very likely < Ml.; PAN *tɨntu.

*tɨ(n)ta(ng) 'drop, leave behind': Bug. tɨttang, Mak-Bant. tantang (my I: fall, go limp), Sad. tantang 'abandon, divorce'.

?*t(iɨ)bak (?*ti-r-bak) 'to chop, cut': Bug. Mak. teqbaq; Mak. also toqbaq 'clip off' (/o/ unexpl. but cf. Bug. tuqbang 'chop'); Sad. teqbak 'chop, clear a path', tebak 'chop underbrush to make a garden'. Cf. *tɨbbang above; PAN *tɨ(m)bak, also *tɨbas, *tɨbang; (Blust) *(Ctṭ)ibAg also. Perhaps SSul < *tɨmbak via Ml. or Jav., otherwise we must posit the *-r- ('frequentative'--logical in view of the meaning) to account for the SSul cluster after *i.

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*tembak 'to shoot': (Bug.) Mak. Mdr. tembaq, Sad. Duri SekoP tembak. Perhaps < Ml. tembak; Dempwolff has *ṫimbak, with Ml. tembak and irreg. TB tembak. PIN *timbak also?

*timba 'bucket': Bug. timpa, Mak. Sad. Duri timba. Perhaps also Bug. tiba, Sad. pe/tibak 'shovel'. PAN *timba.

*timbak 'to open': Bug. timpaq, Mak. timbaq, Sad. Duri timbak, End. timbaŋ, Patt. timbang (perhaps a misprint, but /-ng/ is also possible).

*timbang 'to weigh': (Bug.) Mak. Mdr. Sad. Duri SekoP timbang. Possibly < Ml.; PAN *timbang.

*timbo 'bamboo tube (for collecting tuak)': Bug. timpo, Mak. timbo2, Sad. timbo. Cf. Bar.(dial.), Mori timbo 'idem', Bar. also 'drinking cup made from a coconut shell'. Mori often, Bar. occasionally, shows /o/ for *-a; thus the word may be related to *timba 'bucket' above, and a Tor. loan in SSul.

*timbus 'well; to well up': Bug.(Old Bug.) timpuq, Mak. tĩmbusuq, Sad. timbu (irreg. -Ø), DuriC timboh, PUS(V) timbu. Cf. also *tumbu(r) in the Supplementary List.

*t(iṫ)(n)dis 'to squeeze (esp. lice, between the nails)': Bug. ṫiddiq, Mak.(MWB) tĩrisiq, (I) tĩnrisiq, Mdr. tiqdis, Sad. tiqdeq, DuriC tiqdeh, DuriK tiqde, SekoP tidi. Cf. PAN synonyms *tiṇḍiṫs, ṫidiṫs; PSS appears to be a blend of the two, or else <*tiṇḍiṫs via vocalic metathesis.

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*ti(dr)o 'look, look out': Bug. Mak. tiro 'stare, look into the distance'; Mdr. tiro2 'to predict'; Sad. un/tiro 'to see', tiro 'look at, stare', pentiroan 'window'; Duri men/tiro 'to see'; End. Patt. Mai. pit/tiro/an 'window'. PAN (Dw) *tin(dḍ)aw, *tiñjaw.

*tindo 'to sleep': Bug. Mak. tinro, Mdr. tindo, Mdr-Camp. (A&K) tinro; Sad. me/tindo 'to lie down; to dream'; Mass. tindo, PUS Mmj. tindo. Note Sasak tindoq (/q/ < either ∅ or *-q). Perhaps related to PAN *tiḍuγ.

*tedo(N) 'water-buffalo': Bug. Mak. Mdr. Sad. Mass. tedong. Perhaps cf. Bis. tirong 'giant, ogre.' PIN ?*tidung.

*tindo(r) 'to follow, pursue': Bug. tinroq, Mak. tĩnroroq, tĩndoroq; Mdr. tindor 'follow', tindorri 'follow, pay homage to' (Mdr. tinroq 'to hunt' must be < Bug.), Sad. tindoq 'follow in regular order, in a line', si/tindo 'follow, go along with' (marked "< Bug."). PAN ?*tin(dḍ)u(rḍγ).

*tikat 'vigilant, alert': Bug. tikăq, Mak. tikaq; Sad. tikaq 'quick; speed'; End. ka/ma/tikaqt/an (sic /-qt-/), Duri ka/ma/tikat/an, Mai. ka/ma/tikar/an 'vigilance'. Cf. Jav. tekad 'undertake, decide on, persevere'; Ml/BI tekad, tekat 'determined, strong-willed'. PIN ?*tika(dg̃).

*ti(ng)ke(r) 'spindle (part of the spinning-wheel)': Bug. tikeq (~ anaq——), Mak. tĩngkereq (anaq——), Sad. tingkeq. PIN ?*ti(ng)ki(rḍγ).

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*te(ng)ki(C) 'climb, go up; raise up': Bug. Mak. tekeq 'to carry a load (of an animal)'; Mdr. mat/tekeq 'to climb'; Sad.(SWB) tekeq 'to load s.t. onto...; to climb'; Duri tekeq, Duri(RAP), Patt. teke/i (base not cited) 'to climb'; SekoL mat/teiq (loss of *-k-?), SekoP man/tengke 'to pick up'. Perhaps PIN ?*ti(ng)kit, with root **kit, vowel variant of the root(?) seen in e.g. Ml. angkat 'pick up', angit 'idem', angkut 'carry'.

*tengko 'plow': Bug. tekko 'part of the plow' (basic meaning of tekko is 'bent'); Sad. Duri tengko, End. tekko.

*ti(ng)kudu (?*tiN/kudu) 'to spit' (PSad.): Mdr. tiudu, Mdr-Bal.(A&K) tikudu, Sad. met/tudu, tikkudu, tittudu (/tudu/ apparently a secondary formation), Duri cikkudu, PUS men/tikkudu, Mmj. men/tikudu, SekoL mat/tikudu, SekoP ming/tangkudu.

*teme ~ *tene 'urine, urinate': Bug. teme, Mdr. teme, Sad. tene, DuriK cene (note pat/tene/an 'place to urinate'), PUS SekoP teme. Perhaps Mak. mea (taq/mea 'to urinate') with /-a/ 'def. art.' plus /me/ < some reanalysis of teme. Cf. Mori eme 'urine', teq/eme 'to urinate', Banggai teme 'to defecate'; perhaps Bar. eme 'sauce, cooking liquid'. Basic meaning 'liquid'?

*timu 'mouth': Bug. timu; Mak. timung 'opening', Mak-Sal. timu 'mouth'; Duri timu 'lips', Patt. timu 'mouth'. Note also Bug. cimu2 'tip of a chicken's beak'.

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*tinga(dr)a 'to look up': Bug. Mak. Sad. Duri tingara. Note also Mak. tumingara 'lie on the back' listed separately by Matthes. PAN *(tṭ)ingaḍaq. And cf. also Sad. Duri tungara 'lie on the back'.

*tete 'small bridge, foot-bridge': Bug. lete, letĕng (< lete/ang), Mdr. leteang (< Bug.; both apparently back-formations from t/al/ete); Mak. Sad. tete. PAN (Dw) *taytay, (Dy) tɨytɨy.

*tik 'to drool, "water at the mouth"': Bug. m/itiq (< mi/-tik?), m/ɨttiq 'to drip', m/ɨcciq 'water at the mouth'; Mak. attiq (verbal forms mattiq, aqmattiq, maqmattiq), Sad. maqtik (base aqtik), 'water at the mouth'; also Sad. iqtiq 'drip', End. mitiɲ 'to drip'. Cf. the next item also. PAN *ṭik 'onomat. for dripping sounds'.

*ti(q)tik 'to drip': Bug. tɨttiq, Mak.(MWB only) teqteq, (I) tiqtiq, End. titiɲ, DuriK ma/nete (-Ø irreg.), SekoP tumiti. PAN *ṭikṭik. Cf. also the next item.

*te(q)tek 'to tick, make a clicking noise': Bug. tɨtteq, Mak. teqteq; Sad. teqteq, teqtek 'to tick, strike (of a clock)', teqtek 'hit with a small object', ma/ka/netek (base kanetek) 'make a soft ringing sound (like wood when struck), crackle'; End. tetɛɲ 'to knock, BI ketuk'; Seko (A.Kruyt) pa/netek 'flint and steel (Du. vuurslag)'. On the basis of MWB teqteq also 'the sound of the bĕlira (batten) striking while weaving', Mdr. ma/netteq 'weave'. PAN *ṭikṭik.

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*tua$_1$ 'old': Bug. ma/coa, Mak. toa, Mdr. ma/toa, Sad. Mass. PUS Mmj. Seko ma/tua. PAN (Dw) *tuqa. Perhaps also Bug. batoa 'large, great', Duri, Patt. Sad-Rong. batoa 'idem' (probably < Bug.). Further: Bug.(BWB) matua, macua, (I) matoang, Mak. matoang, Sad.(SWB) maqtua, matusa (a corruption of Ml. tuha?), (I) maqtuan 'parents-in-law'; PAN (Blust) *ma{Y ng}(tt)uqa 'in-laws'. Cf. also the next item.

*tua$_2$ 'good fortune, happiness': Mak. tua, Sad. tuaq (/-q/ unexpl., perhaps < Ml. tuah); perhaps Mdr. PUS(V) ma/-coa 'good'. PAN *tuaq.

*tuak 'palm-wine, BI tuak': Bug. tuaq, Sad. Duri tuak; End. tuaʔ 'bitter tuak (tuak pahit)'; SekoP tuaka (tūak(a)/?). PAN *tuak.

*tu(b)a 'fish-poison, extract of Derris elliptica': Bug. Mak. Sad. tua, SekoP tuha. PAN *tuba.

*tumba(k) 'spear, lance': (Bug.) Mak. tumbaq; Sad. tumbaq 'bundle of 4 pieces of bamboo and a spear, used in certain rituals', tumbak 'to open upwards, e.g. open up a hole in the roofing'. PAN *tumbak.

*tuban (?*tub/an) 'cage, trap': Bug. tobing, Mak. tobang 'basket for carrying a fighting-cock; also, pot for cooking rice'; Sad. toban. Cf. Ml/BI tuban2 'amnion'. PIN ?*tub 'close' + *-an 'nominalizer'; cf. also *tu(q)tu(p?) below.

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*tu(bw)e (PSad.) 'to blow (esp. on a fire)': Mdr. mat/tuwe 'to blow', pa/tuwe 'blow on a fire', tuwe 'flame'; Sad. pe/tue 'bamboo tube used to blow on a fire', PUS men/-tuhe, Mmj. man/tuhe 'blow on a fire'.

*tu(b)o 'grow, live': Bug. tuo, Mak. timbo (/i/ and /mb/ unexpl,, probably Ml. influence), Mak-Konjo tuho, Mdr. tuo, Sad. Duri tuo, PUS tuho, PUS(V) dial. tuvo, Mmj. tuo, tuho, Seko tuho. PAN *tu(m)buq.

*tobok 'to stab': Bug. toboq, coboq, Mak. toboq; coboq2 'a k.o. machete'; Sad. tobok (note also tibok 'stab with a kris'); Mass.(V) coboq 'dagger'; SekoP toboko 'kris' mu/toboko 'to stab' (/tɔ́bok(o)/?). Cf. also Sad. tobo 'tattoo (usu. on the face)'; Bar. Leb. tobo 'pointed', Napu tubu 'to stick out' (also Bar. man/tobo 'stab'). Banggai tobok 'stab'. Perhaps < PAN *tə̀bə̀k 'bore, pierce', though ?*tubuk is also a possibility.

*tumbuk 'to push, to butt against': Bug. tumpuq, Mak. tumbuq; Sad. tumbuk 'push hard', tumbu 'push gently' (in this case, since the PAN etymon is known, we can see that Sad. has formed a "non-intensive" by analogy.) Cf. also Uma tumu(-laka) 'give a push to..'. PAN *tumbuk.

*tumbun 'heap, pile up': Bug. Mak. tombong 'increase, add to'; Sad. tumbun, tombon. Root **bun; cf. *tambun above.

*tu(n)da(C?) 'to fight': Bug. tanro, tanro/i (also tunra, marked as < Mak.), Mak. tunra 'to curse'; Mak. tudaq

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(aq/tudaq) 'push with the horns, butt', si/tudaq 'to fight'; perhaps tunrang 'have no more to do with s.o. or s.t.'; Sad. tuqdang 'irritate, arouse someone's anger', perhaps tundan 'to awaken'; SekoL si/tuda, SekoP mu/tuda 'to fight'. Cf. Bar. tuda (ritual), tunda 'to curse' (Adriani cites Napu, Karo and Toba Batak tunda without glosses); Rampi, Uma tudaq 'fight', Banggai tuda 'stamp, pound (rice)', tudang, tudak 'to kick'; perhaps Wolio tuda 'to throw'. Some-- perhaps all-- of these may be related to the next item.

*tunda 'to pull, drag': Bug. tonra, Mak. tonra; Sad. tonda '1. lead a buffalo...4.(dial.) rope tied around an animal's neck'. PAN *tu(n)(dḍ)a.

*tuda(ng) 'to sit': Bug. Mak. tudang, Sad. tudang (poet. toqdang); DuriK todang 'to kneel'. Cf. Banggai tudang 'to perch (of birds)' (this is evidence for *-ng, if not a borrowing); Mori (dial.) me/tunda, Bar. mo/tunda 'sit', Ledo non/turo 'sit', pon/turo/na 'dwelling place'; perhaps Fi. turanga 'a chief'. PAN ?*tu(dḍ)ang; there appears to be a doublet ?*su(dḍ)ang reflected by Leb. Uma hura, Wolio uñ/cura; Tawaelia(A&K) sudanga 'bench'.

*tu(dr)o (PSad.) 'to point': Sad. PUS turo, Mmj. men/tuho; Mmj.(A&K) pe/tiho 'index finger' (/i/ unexpl.); Seko turo (SekoP also pa/turo 'to teach'). Possibly related but more likely borrowed < Ml.: Bug. tuñcuq 'span, from thumb to index finger'; DuriK talunjuq 'index finger'. (Ml. tunjuk; tĕlunjuk). PAN (Dw) *tu(n)duq.

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*t(uɨ)ro 'to stay, dwell' (PSad.): Mdr.Bin.(A&K) toro 'to stay', patoro 'to leave behind'; Sad. torro 'to stop, stand still', torro/i 'to inhabit', pe/torro/an 'to leave s.t. behind for s.o.'; DuriK torro 'stay, dwell (BI tinggal)'; DuriC pa/torro 'to put, place'; probably Mmj. toang 'stay, live in' (< earlier **toho+an). There is no good explanation for the /-rr-/; cognates from Tor. languages could reflect either *ɨ or *u: Ledo non/turo 'live, dwell; sit' (cf. *tudang above); Uma me/toro 'stay', Bar. Mori todo, also Bar. toro 'be at rest; congeal', Mori toro 'sit'. Perhaps related to Mak-Sal. tondo 'enclosure', but cf. the next item.

*tondok 'enclosure, village': Bug.(Old Bug.) tonroq, Mak-Sal. tondo (-Ø unexpl., perhaps from a written form, mis-read), Sad. tondok. SWB cites Mong. Tomini tondok, unglossed; Saluan, Banggai tondok 'fence', Bar. tondo 'enclosure'. No doubt related to PAN (Dw) *ḍuk, ḍukḍuk 'sit', *puṇḍuk 'dwelling'

*tunduk 'bend, bow; submit': Bug. Mak. tunruq; Sad. tunduk 'lean over, bend', pa/tunduk 'to convince'. PAN *(tṭ)u(n)ḍuk.

*tundu(n) 'back (flat edge) of a knife-blade': Bug. tonrong, Mak. tunrung, Sad. tondon (Sad. also 'edge of a precipice') With verbal affixes, 'to hit with the back of a knife', hence also Duri tundun 'to hit'. Cf. Ledo ka/tundu 'hit (with the knuckles)'. PIN ?*tundu(mn).

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*turun 'to descend': Bug. Mak. turung, Sad. turun, Mmj. tuhung. PAN *tuɣun; note Ledo ne/tuu.

*turu(t) 'to follow': Bug. Mak. Mdr. Sad. turuq, Mmj. tuhuq. Perhaps also Mdr. curuq 'to imitate'. PAN *tuɣut.

*tunggal 'each, single': Bug. tungkiq (-r-), Mak. tunggalaq, Mdr. tunggaq (/-q/ irreg., but note si/tunggal/an 'one by one, one against one'), Sad. tunggaq (si/tunggar/an 'one against one'). PAN *tunggal.

*toi(C) 'to follow, go along with': Bug. si/toeq, Mak. coeq (Matthes considered this a Bug. word), Sad. men/-toe (-Ø irreg.), Mdr. coeq, End. coeq, Mai.(metathesis) cioq. Possibly related ult. to PAN *tuɣut.

*tojo 'stiff, unyielding': Bug. tojo, Sad. toro, (intens.) toqdoq (cf. also todok 'hymen', toqdok 'have an erection'); Mai. tojo 'to stand'. Bar. tojo 'stiff'.

*tuju 'aim, intention': Bug. Mak. tuju, Sad. tudu; End. mat/tuju 'go towards'; Mmj.(A&K) tuju 'need (Du. nut)'. Cf. also *uju. PAN *tuju.

*tongka 'bamboo tube, container': Bug. tokka, Mak. tongka, Mdr. tokka; Sad. pa/tongkan (= pa/tongka/an) 'dipper, scoop', tongka 'to pour out'. PAN *tu(ng)kiq, but possibly < Ml. tongkah.

*tu(ng)ka(r) 'to exchange, barter': Mak. tukaraq, Sad. tukaq, Duri tongka (-Ø irreg.), End. tokka,

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SekoP tuka. Cf. Ml. Jav. tukar, Sasak tukah, tukĕr. Jav., and Sas. tukah should be viewed as borrowed < Ml.; Ml. tukar, TB tuhor and Sas. tukĕr then reflect PAN *tukɨ(rḍɣ) rather than Dempwolff's *tuka(r). If **tukɨɣ, this would develop > OJ tukŏ (not attested) > mod. Jav. tuku 'to buy, hire (land)', tuku-tinuku 'engage in business with...'.

*tukat 'to climb': Bug. tukaq 'climb a mountain'; Mak. tukaq 'ladder'; Mdr. t/um/oeq 'climb a mountain'; Sad. Duri tukaq 'climb, rise', Sad. tukaran 'ladder', DuriC tukat/an 'act of climbing'; SekoP t/um/ukaq 'climb a mountain'. SWB cites Mong. tukad, Sang. tukade; note also Banggai tukal, Tidung, Tinggalan Dayak tukad 'ladder'. Dempwolff's *tukat should be revised to *tukad.

*toke(C) 'to hang': Bug. toeq, toeng; Mak. tokeng 'necklace'; Mdr. toe (-Ø irreg. if heard correctly), Sad. tokeq. Perhaps *toi(C) 'follow' above is related here.

*tu(ng)kus 'to wrap': Bug. tukuq (I: to repair a leak in the roof'?), Mak. tŭngkusuq; perhaps Sad. tungkuq 'done, finished; paid off (of debts)'. PAN (Blust) *(Ctṭ)ungkus.

*tulak 'prop up, support': Bug. Mak. tulaq, Sad. tulak. PAN *tulak.

*tuli(ng?) 'ear': Bug. culing (tuling 'the handles of the wok'), Mak. toli, Sad. ka/tuling, kat/toleng 'ear-wax'

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Mai. tuling 'ear'. Note Sund. cŏli 'ear'; PAN *tuli 'ear-wax, deaf'.

*t(uɨ)lo(s?) 'to pour': Bug. tollo 'pour, spill'; Mak. tŏqlosoq 'pour (s.t.) over...'; Mdr. tollo, Sad. (I) tollo; (SWB) tolloq 'to cook in water'; DuriK tolloq 'porridge, BI bubur'. There is no explanation for Bug. Mdr. -ø.

*toqtol 'bamboo device': Bug. tottoq, Mak. tŏttoloq 'bamboo device for restraining a buffalo, or a criminal (a sort of pillory)'; Sad. toqton 'bamboo tube with a rope through it-- to lead a refractory buffalo or dog'. Cf. also Mak. tolang (**tol/an?) 'wooden halter (Du. halster) used for wild buffaloes'. Note also Jav. tol, totol 'to lever, pry up'; the basic meaning would appear to be 'stick to provide leverage'. PIN ?*tul, ?*tultul. (Is this possibly Engl. tool, thus borrowed during the brief English occupation of Indonesia during ca. 1811-15?)

*tulu(γ) 'string, skewer': Bug. toloq, Mak. tŏloroq (also 'to string beads, skewer bits of meat'), Mdr. tuluq 'string' (/-q/ irreg., < Bug.?), Sad. toloq 'to stick (s.t. small) in, insert'; DuriC toloh 'pegs inserted in the floorboards'; Cf. Bar. tuyo (ritual) 'to string (e.g. beads)'; Tag. Bis. tuhog 'to string together, to skewer meat' (/h/ < *l irreg., but occasionally seen); perhaps Fi. ndulu/ndulu/mata 'a large bunch of taro tied by the leaves'; To. tolo 'to push partly burnt

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logs or sticks into the fire, so as to renew it'; NgD. tulu/tulur, ta/tulur 'to hang down (of the penis, of a snake from its hole, of rattan from branches)'. PAN ?*tuluɣ; cf. (in Zorc's list) *tuhiɣ, apparently based only on Philippine evidence.

*tulung 'to help': Bug. Mak. Sad. Mai. Patt. tulung, Duri tolong. PAN *tulung, or possibly < Ml.

*tuma 'louse': Bug. tuma, Mak. gantuma (/gan-/ unexpl.), Mdr. Sad. Duri Seko tuma. PAN *tuma.

*tunu 'to burn': Bug. Mak. Mdr. Sad. Mass. PUS Mmj. Seko tunu. PAN *tunu.

*tonga(C) 'to look up': Bug. tongaq, congaq, Mak. conga (-Ø unexpl.); Sad. tonga (-Ø unexpl.) 'look down on from above'; DuriC t/um/ongaq; DuriK men/tongaq 'to order'(?); SekoP man/tonga/i. Cf. also Sasak tongaq (origin of /-q/ uncertain), Lampung cungaq (/-q/ < *-t or *-k, but possibly a borrowing from Bug.); perhaps Fi. ndoka 'ridgepole, top of a house', ndokā (ndoka/a) 'to reverence, respect, honor'; To. tokaqi (toka/qi?) 'show respect for, look up to'; tokanga 'take notice of, pay attention'. If the OC forms are cognate, we have an instance of nasal substitution in the IN area-- PAN ?*tuka(C), or simply PIN ?*tunga(C).

*tongAn 'true': Bug. tongiŋ, Mdr. Sad. Duri End. Patt. tongan, Mai. tongang, PUS Mmj. tongan, Seko tongang.

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Cf. Togian Bajo (Adriani 1900) ka/tonang/ku (metathesis of /..ng..n/?) 'I know'. Possibly < PAN *tiŋiŋ 'true, correct' with irreg. PSS *-o-; but cf. also Bajaw (northern Borneo/Sulu Sea area, Sather 1968) toqorgan 'truly' perhaps < PAN *tuqu?

*tuntu(ng) 'to stand': Bug. tittong, Patt. End. Mai. tottong; probably also Sad. ma/tottong 'upright, trustworthy'. PIN ?*tungtung.

*tumpa '...': Bug. tuppa 'to pour out'; Mak. tumpa 'squirt out, ejaculate (semen)'; perhaps SekoP man/tumpa 'throw', tumpa/na 'to rise, of the sun'. PAN *(tṭ)umpaq 'pour'.

*tu(m)pa(C) 'lean against, prop up': (Bug.) Mak. tumpaq, Mdr. tupaq. Cf. Bis. tupad 'beside'; mag/tupad 'sit or stand side by side'; Fi. tuva 'to place in regular order, sit or stand in close array'. PAN ?*tu(m)pa(dǥ) hence > PSS ?*tu(m)pa(t).

*tumpang 'frog': Bug. tuppang, Mak. Sad. tumpang. Cf. Bar. Parigi Ledo tumpa, Bad. Napu tumpe, Banggai tumpak, all 'frog'; perhaps To. tupa 'land-crab'? Perhaps related to NgD. tumpang 'spotted, patched, stained'.

*tumpu 'to push (with the feet)": Bug.(BWB) tupu, (I) and Mak. tuppu, Sad. tumpu, Mdr. (Lontar) tuppu. Cf. Ml/BI tumpu 'footing, support'; perhaps Bis. tupoq 'promote (a quarrel), to match (in love)'? PIN ?*tu(m)pu(qØ).

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*tusuk 'stick, stab' (PSad.): Sad. tosok (note tossok 'pierce with s.t. small'), Duri tosok, End. tosson, PUS man/tosok, Mmj. man/toseq; SekoL (heard) ma/tosu 'stab', SekoP pan/tosu 'peg', pi/tosu 'skewer'. PAN *tusuk

*toto (?*tohto) 'trim, prune branches': Bug. Mak. Mdr. toto, Sad. toto, taroto, DuriK (intens.?) tuqtuk. Cf. Ml. Jav. tutuh, Bar. taroto, NgD. totoh; PAN (Blust) *tu(q)tuq. Perhaps also Fi. tutu 'edge, border; to lie on the side'.

*tuqtuk 'to beat, pound': Bug. ṭ̆ttuq 'to pound (e.g. rice)', Mak. toqtoq 'beak', an/noqtoq 'to peck'; Sad. tuqtuk 'to pound fine (e.g. food)'; Mdr. tuttuq 'to hit, knock'; probably also Bug. cc̆coq, Sad. toqtok 'to make a hole in s.t.'; Sad. totok, titok 'beak'. Showing the simple root: *pan/tuk > Bug. pattoq 'stake', Mak. pantuq 'club', pattoq (< Bug.?) 'stake, planted for target practice', Sad. pantok 'stake, to tie an animal to'. Note also Bug. Mak. pittoq 'to peck'. Cf. PAN (Dw) *ṭuk 'onomat. for sharp blows', *ṭukṭuk 'to hit'; cf. also Jav. paṭok 'pole to tie an animal to', pĕtok 'k.o. hammer'; NgD. patok 'to peck', pantok 'device for tattooing'; PAN (Blust) *pa(Ctṭ)uk 'strike'-- in view of the already established *ṭ, there is no reason for the ambiguous medial in Blust's form. No doubt related also: Sad. paqtong 'hit with a hammer', tuqtung 'push against, butt with the head', tuqtun 'push against with s.t. long'

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(/-n/ unexpl.), DuriK paqtong 'to hit', pe/paqtong 'hammer'; cf. Jav. ṭung 'onomat. for the sound (low) of hitting e.g. hollow wood', ṭong 'idem, but less low and dull', PAN *ṭung, *ṭungṭung.

*tutu(p?) 'to close': Bug.(BWB) tuttuq, (I) tutuq, Mak. tutuq, Mdr. Sad. Duri PUS tutuq, Mai. Patt. tutu (misprint?). PAN (Dw) tutup, which perhaps ought to be revised to *tutub on the strength of Mori tutuwi (< **tutub/i), Letti tutwu (< **tutub or **tŭtub(u)?), Jav. tub, tup (e/——, a/——) 'press in on, surround; '(of a tree) covered with fruits'; cf. also *tuban above. A PAN root **tub?

*toyang 'float, drift': Bug. tojang 'k.o. cradle or swing'; Mak. toeng 'swing back and forth; cradle'; Mdr. toyang 'float', Sad. toyang '1. far 2. float, drift'.

U and O

*umba 'which, where; interrogative particle' (PSad.): Sad. umba 'where', umba/na 'which', umba/na/kua 'how'; Duri umbo/ra/ni 'where' (/o/ unexpl.), DuriK umba/i 'perhaps', DuriC matumba/ri 'how'; PUS umba/susi 'how', Mmj. la/umba/i/panua 'how' (the elements other than umba are not analyzable from our data), SekoP umma/na 'which'; perhaps Bug. upa, upa/nna 'when (future)' if < a de-nasalized **umpa. Cf. Uma ri/uma, Napu i/umba, Rampi, Leb. umbe, Ledo, Bad. Bes. Bar. umba 'where',

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Kaili, Napu (cited in SWB) umba. Cf. also Lio (Flores) omba 'which', lĕka/ĕmba 'where' (lĕka 'to'). PIN *umba.

*u(b)an 'grey hair': Bug. (BWB) ungaang (perhaps = ung+aang < *uwaang + an), ubaang (both these rejected by informants in favor of ubang, apparently < Ml. uban), Mak. u(w)ang, Mdr. u(w)ang, Sad. SekoP uban. PAN *uban.

*u(bw)i 'tuber; yam': Mak-Sal. uhi, Mdr-Cend.(A&K) ui, Mdr-Bal.(A&K) uhi, Sad. ui. Perhaps < Ml., since the more common word is lame. PAN (Dw) *ubi, (Dy) *qu(m)bi.

*umb(ua)(C) 'to rise, come into view': Bug. m/ompoq, Mak. m/umba (-Ø unexpl.); Sad. omboq 'rise', umbaq 'encounter suddenly'; sombo 'become visible'. Cf. Tag. umbok 'convex, swell, inflate'; To. ofo 'to wake, come to', hopo 'to rise (of the sun, moon)'.

*u(dr)a (?*ngu(dr)a) 'young' (PSad.?): Mdr. Sad. Duri PUS Mmj. SekoP mangura, also PUS (V) mangucha. PAN *uda.

*u(dr)an 'rain': Bug. uraang (in compounds only), Mak. orang (in compounds only), Mdr. urang, Sad. Duri uran, PUS uran, uhang, Mmj. uran, (A&K) uhan, Seko urang. Note Wo. uda, Bar. uja. PAN (Dw) *hujan, *uḍan, (Dy) *quZan.

*undA(ng) 'to lie, stretch out': (Bug) Mak. onrang (Bug. cited only in MWB, not recognized by informants); Sad. ondang 'to lie around (be lazy, sick)'; DuriK n/orong. Cf. perhaps Ml/BI undan 'protracted, drawn out', Bar. undo.

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*u(dr)ang 'shrimp, crayfish': Bug. urang, Mdr. Sad. Duri urang, PUS(V) uchang. Perhaps Mak. doang (metathesis?). PAN (Dy) *quḍang.

*oras 'plant sp., Flemingia strobilifera (Heyne p.833)': Bug. oraqkoraq (irreg. /a/, the /-k-/ is secondary), Mak. oraq-ðrasaq, Sad. oraq2. SWB cites Ttb. ĕras.

*urat 'vein, tendon; root': Bug. urɨq 'root'; Mak. Mdr. Sad. Mass. SekoP uraq 'vein, tendon'; Mdr-Cend.(A&K) ue (= /ueq/?), Mmj.(A&K) ura, uha, PUS (V) ucha; probably SekoL oaq 'root', SekoP (written) oă. Cf. Uma uaq 'root'. PAN *uɣat.

*undi 'behind (in time or place)': Bug. m/unri, Mdr. Sad. undi; DuriC undi 'to follow'. Cf. NgD. m/undi 'turn around'; Bar. mo/undi 'to withdraw, go live alone'. Dempwolff reconstructed *huḍi in the belief that no IN language reflected the pre-nasalized form; this should now be revised to *hu(ṇ)ḍi. Cf. also Bug. uri 'buttocks', either from this, or else cognate with Jav. buri 'behind, afterwards', thus < *buri-- even so, probably a morphologically complex form of *hu(ṇ)ḍi.

*uzing (?*buzing) 'charcoal': Bug. using, Mdr. boring; Sad. DuriK boring 'dirt on the skin, BI daki'; Mmj. ohing, SekoP oring. Presumed borrowed < Bug.: Sad. PUS, End. SekoL osing 'charcoal'. PAN *uǧing; however, the following Philippine forms (Reid 1971) cannot

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reflect *g̃ regularly: Itneg qosing, Guinaang Kalinga, Tagabili qusing, perhaps Manobo (dials.) musing. Borrowing between these languages and SSul is not impossible, but rather remote; more likely they are evidence for a doublet, ?*using.

*u(n)dur 'lower; recede': Bug.(I) unruq, Mak. (and BWB) ũnduruq, Mdr. unduq (/-q/ irreg.) 'lower the wick on a lamp'; Sad. moroq 'recede, withdraw'. PAN *u(n)du(r).

*oro(ng) 'to swim' (PSad.?): Mdr. umm/orong, (A&K) um/ohong, Sad. unn/orong, Duri n/orong, End. Patt. m/orong, Mmj.(A&K) m/ohong, SekoL m/orong. If the equation with Togian umogong 'drift, float' is correct (A&K p.147n), then PIN ?*uγung.

*uru(t?) 'to rub': Mak. uruq, Mdr. uriq, Sad. Duri uruq, SekoP mang/uru. PAN *urut. Note also Sad. (intens.?) unduq, unduk 'to stroke, pet'; if the /nd/ has not arisen analogically, this may reflect Dempwolff's *ug̃us (?*u(ñ)g̃us).

*udu(k) 'smell; to smell' (PSad.): Mdr. ma/uduq, Sad. uduk, Mmj. mang/udiq/i 'to smell s.t.', SekoP uduk/ang 'smell', mangng/uduk 'to kiss'. Note also (< **pa/uduk?) Sad. puduk 'mouth', PUS puduk 'nose', End. Patt. puduɲ 'nose'. Cf. also the next item.

*u(dr)ung 'to smell, to kiss': Bug.Sid. si/orong 'to kiss'; Mdr. kudung, mang/udung 'kiss'; Sad. udung 'kiss',

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undung 'to smell s.t.'; Duri udung 'kiss'. Cf. also (< **pa/udung?) Mdr. pudung, Mdr-Cend.(A&K) purung, PJS Mmj. pudung 'nose'. No doubt related to PAN *uǧung 'nose', but with unexpected /d/ in most forms.

*ue (?*we) 'rattan': Bug.(Old Bug.) "uwe", Mak-Bant. "uwe" Konjo uhe, Mdr. Sad. ue, Mmj.(A&K), SekoP uhe. PAN *quay; Seko and Konjo may reflect borrowing, since these languages do not ordinarily reflect the automatic w-glide after /u/ as /h/.

*uju 'aim, intention; head for': Bug. uju, Sad. mang/udu 'head for', pang/udu 'intend, to have decided'; DuriK maq/pang/uju 'to depart', pang/uju 'rudder', End. pang/-uju/i 'to head for'; perhaps Mak. uru 'beginning, origin; reason'. Cf. *tuju above.

*ujung 'cape, point (of land)': Bug. Mak. Duri ujung--most likely < Ml., but cf. also the shortened form **jung in Bug. jup/pandang, Mak. jum/pandang, Sad. rup/pandang 'Makassar (Ujung Pandang 'Cape Pandanus')' and Mmj. area dung/kait 'place name: a point of land S. of Mamuju' (kait may be Ml., 'hook'). PAN *hujung.

*oñjong 'add to, increase': Bug. oñcong (usu. oñcop/pi) 'all the more...(BI sĕmakin)'; Mak. oñjong2, oñjong/a 'all the more...; moreover'; Sad. ondong 'more, exceed, surpass'. Cf. OJ uṇḍung 'pile, heap', mod. Jav. m/uñjung 'pile up, fill to overflowing'.

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*ukir 'to engrave; to write': Bug. ukiq, Mak. ûkiriq, Mdr. mang/ukir, Sad. ukiq, okiq, DuriK mang/ukiq 'to write', pang/okiq '(blackboard) chalk'; Mmj. ukiq. PAN *uki(r). Perhaps also Bug. (Mak.) okeq 'to bore through; dig s.t. out' (Bug. informants did not recognize).

*ola 'go, travel along; follow': Bug. ola, Mdr.(A&K) ola, Sad. Duri ola. Cf.also (< *si/ola 'follow each other' with frequent contraction of the /i-o/ sequence): Mdr. siola 'with; friend'; Bug. sola 'with, together with'; Sad. sola 'with, friend'; Duri Patt. sola 'friend', End. Duri sola 'with, DuriK si/sola 'with'; Mmj. siola, si/sola, SekoL si/sola, SekoP sola 'with; friend'; note also Mak. olla, si/olla 'be with...'. Cf. also Sasak sola 'while, at the same time'; Napu hi/ola 'stand next to e.o.', Bar. me/ola 'have consequences'; Adriani cites Bad. olaq, unglossed. PIN ?*ula(qØ).

*ulaγ 'snake': Bug. ulaq, Mak. ûlaraq, Mdr. ular, Sad. End. PUS ulaq, DuriC ulah, DuriK ula, Seko ulaq, olaq, Mmj. and also SekoL, PUS(V) ile; for this last cf. Napu ile. PAN *ulaγ.

*ula(ng) 'rope': Bug. ulang (BWB notes this as a Mak. loan, but the word is not found in MWB), Mdr. gulang (/g-/ unexpl.), Sad. Duri SekoL ulang, PUS(V) uqla (perhaps a misprint for ?ulaq, otherwise unexpl.). Cf. Mori ula, Tawaelia(A&K) ule, Sang.(Reid 1971) ulang. PIN ?*ula(N).

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*ula(C) 'to chase, hunt' (PSad.): Sad. Duri Mai. ulaq, Patt. mang/ula. Cf. NgD m/uhah 'hunt' (the medial /h/ in unexpl; a misprint?), Bal. ulah 'chase' (Bal. /-h/ may reflect PAN *q or any final r-sound.

*uli̱(t) 'worm': Bug. uli̱q, Mak. oloq, Mdr. Sad. Duri ulliq, PUS olliq, PUS(V) illiq; Mmj. ile (apparently < a Tor. source, where the words for 'snake' and 'worm' have fallen together due to the shift of *-ɣ and *-g̱ > **-y, and **-ay, **-i̱y > /e/; cf. *ulaɣ above). There is no explanation for the geminated /ll/ in the Sad. languages. PAN *uli̱g̱. Informants (and the three dictionaries) consider the following to be borrowed < Mak.: Bug. oloq/koloq, Mak. Mdr. Sad. Mmj.PUS SekoL oloq2, Duri clok2, SekoP oloqolo 'animal'.

*oli (?*ongli) 'to call': Bug. m/olliq, Sad. me/ongliq (arch.) 'to call, summon', me/oli 'to cry out'; Duri mi/oli 'to shout'; Mai. oli 'to call'; Mmj.(A&K) me/oli 'to shout,scream'; perhaps SekoP hang/oli 'to call' (the writing is unclear; note SekoL hango 'idem'). Probably (metathesized) Mdr. meq/ilong, (Sahur) illong 'to call'; Perhaps Mass.(V) Mai. Batulappa dials. me/odi unglossed in V but compared with Sad. oli; Bug. sang/odi 'to shout agreement' (if the otherwise unattested /ngl/ cluster developed > *n(d)l > *nd > /d/). Cf. Ledo nang/uli 'to say', Mori bo/oli 'to shout'; Bar. me/ode 'to weep, wail' (Adriani derives this from two exclamations,/oo/ and /dee/), meq/ui (reg. < **uyi) 'call out'. PIN ?*uli.

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*ole (?*ule) 'again, return' (only in prefixed forms): (**p/ole, **pa/ole) Bug. Mak. Mdr. pole,'come; from'; Sad. Duri pole 'return, come back'; Mmj. pole 'come'; SekoP pole 'again'. (**m/ole, **ma/ole) Bug. Mak. mole 'return to former condition (thus either relapse or get well, from a sickness); lose flavor, go flat'; Mdr. mole 'get well'. (A&K) a/mole/an 'scar'; Sad. mole 'to heal (of a wound)'; note also Mak. mole2 'repeat', SekoP mangng/ule/ing 'turn around; restore'; (**p/uliq, apparently a borrowing) Bug. Mak. Sad. puliq 'be equally matched'. (PAN *suliq > PSS *sule) Bug. Mak. sule, Bug.(I) sulle, 'to substitute'; Mdr. salle (/a/ unexpl.), Sad. sule 'return, go home; remarry one's former (divorced) spouse', sulle (and siliq) 'to replace', DuriK sulli 'substitute'; PUS Mmj. sule 'to come'; (PSad. ?*tule) Sad. tole 'to repeat', SekoP pa/tule/i 'to return s.t.'. Cf. also *kuli(ng) above. PAN *$uliq_1$.

*ule (?*ka/ule) 'be able': Bug. ulle, Mak. kulle, Mdr. ulle, Sad. kulle 'may, can'; DuriK pa/kulle 'strong', kulle 'be capable, ready for'. The /ll/ in all languages in unexplained. PAN *$uliq_2$.

*ulu 'head': Bug. Mak. Mdr. Sad. Mass. PUS Mmj. ulu. PAN *qulu. Cf. also Bug. ulua, olua (BWB only), Mak. ulua, Mdr. lulua, PUS(V) lua, uiua, ulu/ulua (always with *anak——) 'first-born, oldest, child' perhaps < **(ulu-)ulu/an, with irreg. loss of the *-n. Cf. also the next item.

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*olo 'in front; before; earlier': Bug. ri/olo, Mak. olo, Mdr. di/olo (perhaps also Mdr. si/oloq/i 'to like, love'), Sad. d/olo (< **di/ulu) 'earlier, before', m/olo 'in front of'; DuriK si/olo/an 'to face s.o.', jioq/olo 'in front of'; PUS Mmj. mang/oloq 'to face'; SekoP dolung 'earlier, BI dulu'. PAN *qulu.

*ulu(γ) 'to lower, let down': Bug.(BWB) uloq, (I) loroq (< Mak.), Mak. ůloroq, Sad. uloq, DuriC mang/uloh, DuriK mang/ulo, SekoP mingng/uluq 'to descend', uluq (kose) 'let down (a rope)'. PAN *huluγ. Note also Bug. uluq, Mak. ůluruq 'pull along; seduce, involve s.o. in s.t.' probably < Ml.

*uma 'field': Bug. laonruma (< ?lao 'go' ri 'to' uma) 'to work a field'; Mdr. uma 'garden, dry rice field, ladang'; Sad. uma 'rice paddy, sawah'; End. Duri Patt. uma 'field, garden'; Mmj.(A&K) pang/uma/qang 'settlement'. Note also Old Bug. uma 'field', Bug.(BWB) aruma-umăng 'to harvest' (< ?mar-uma-ang).

*uni 'sound, noise': Bug. uni; Mak-Sal. oni/ng 'voice'; Sad. oni, DuriK uni, oni, SekoP moni. PAN *huni (less likely < PAN *buñi, which appears to be morphologically complex, and spurious).

*unu(sr) 'to spin (yarn)': Bug. unuq; (BWB) unusăng, (Sid.) nusăng 'device for spinning'; Sad. unuq, unuran; DuriC unuh, unuran.

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*upA(C) 'profit': Bug. upiq, Mak. Mdr. Sad. Duri upaq. Cf. PAN *upaq. Assuming that Ml. upah is the source, it is hard to see how Bug. developed /iq/.

*u(m)pa(N) 'lie prone': Bug. opang 'lie on the stomach', m/opang 'to crawl'; Mak. opang 'lie on the stomach', tompang 'turn s.t. over'; Mdr. opang, ti/par/opang 'to fall on one's stomach', uppang 'lie on the stomach'; Mdr-Bal.(A&K) me/upan 'lie on the stomach'; Sad. opan, oppang 'to sit down, "flop down", suddenly'. Note Mori opo 'prone'.

*u(n)ta(C?) '...': Bug.(Old Bug.) uta 'shield'; Sad. untaq 'k.o. sun-hat'; SWB cites Mak. Mdr-Bal. Seko unta (the Mak. form is not in MWB); PUS(V) untaq, utte, uttaq 'shield'. Bar.(ritual lg.) unta 'shield'; Adriani also cites Banahu, Tobaku unta.

*utik 'brains': Bug. otaq, Mak. otoq, Mdr. utaq, Sad. otak, utak, Duri otak, End. utaʔ, SekoP otak (and also etiki, of uncertain origin). The Bug. form with /a/ is assumed to be due to Ml. influence. PAN *u(n)tik (also *utak, probably spurious).

*oti(ng) 'the tang of a knife blade': Bug. Mak. Sad. oting (Bug. Mak. also (fig.) 'penis'). Cf. Ml/BI puting 'handle, hilt'; Tidung Dayak putin, utin, Tinggalan Dayak utin, putiq 'tang'. PAN *u(tṭ)i,(based on NgD. and Fi. only) 'penis'.

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*o(n)to(ɣ?) 'stand up, get up': Bug. m/otoq; Mak. ðntcroq 'erect (penis)'; Sad. (intens.?) motok, End. motoɣ 'get up' (SWB marks motok as < Bug., but does not explain). Cf. Tag. utog 'zeal, ardor, envy, heat (Sp. celo)', Bis. utog 'perk up, become erect (penis)'. Charles has reconstructed *utu(gɣ); if cognate, Mak. ðntoroq disambiguates the final: PIN ?*u(n)tuɣ.

*u(n)tu(ng) 'lean on, press against': Bug. m/ottong, Mak. utung, Sad. oqtong.

*-u(n)tu(t?) 'knee': Bug.(BWB) utuq, (I) uttuq, Mak. kulantuq (presumed < **kaluntuq by metathesis), Mdr. uttiq; (PSad. *guntu(t?) >) Sad. Duri guntuq, End. guttuq, Mai. gutuq, SekoP kuntuq. The same root is visible in derived forms meaning 'to kneel': Bug. mak/kalutuq, Mak. kulantuq, Mdr. mepalinguttiq, Sad. malinguntuq, malimuntuq, SekoL mo/ka/kuttuq, SekoP mu/kalimuntuq; the various prefixes are not analyzable. Probably contains Dempwolff's PAN *tu'ud, (Dy) *(tṭ)uhu(dǧ). Note Ledo taputu, Bar. wukotu (< *buku 'bone' + *tuhuØ) 'knee'; Banggai papantuul, Una wilingkudu 'kneel'.

W

*wai 'water': Bug. wae, uwae, Mdr. u(w)ai, Sad. wai, uai (also di 1. bui?), Duri Mai. wai, uwai, End. uwaiq (/-q/ unexpl.), PUS uhai, Mmj. wai, wae, Seko uhai. Probably present also in the word for 'rainbow': Bug. (BWB) tarau, (I) tarawu (/-e/ lost because it was

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wrongly analyzed as /-e/ 'def. article'?), Mdr.(A&K) taraue, Sad.(poet.) taraue, Mass. taraue, Mmj.(A&K) tarauhe (cf. also the list of Tor. forms cited in A&K p.151, and Adriani's analysis of the word there). PAN (Dw) *wayɨɣ, (Dy) *wahiɣ; loss of the *-ɣ in PSS is assumed to be due to Tor. influence. Non-std. Mak. (Konjo, Sal. Turateya, Bant.) ere 'water' is probably a borrowing < Ml. ayĕr, Ml/BI air; if not, it shows loss of *w- (possibly a regular development in Mak.), and irreg. coalescence of the vowels; if the sources are correct, the expected /-q/ is missing too.

*waka(t) 'root': Mak. akaq, Mdr. wakeq, uakeq, Sad. akaq, wakaq, uakaq, buakaq, Duri wakaq, uakaq, End. wakaq, PUS uhakaq, Mmj. uhakaq, uwakeq (< Mdr.?), Seko (A.Kruyt) uaka. SekoL oaq (and SekoP "oă" of unclear meaning) might be derived if *wa- > /o/, k > ∅, -at > /aq/-- all but the first are possible Seko developments; but the word is much more likely cognate with *uɣat above. PAN *waka(r), also *aka(r); the Mdr. form especially suggests that the final must have been *d or *ǧ, thus perhaps *waka(dǧ).

*wani 'bee': Bug.(BWB) uwani, owani, (I) awani, Mak. bani (/b-/ probably irreg.), Mdr. wani, u(w)ani, Sad. wani, uani (also anian, aneon, enoan, probably from another etymon), Duri uani. Cf. Ledo, Nias wani, Bar. uani, Savu oni, Togian Bajo (Adriani 1900) buani; for the Sad. variants cf.(cited in SWB) Lampung ñiwan, Bal. ñawan; note also Sasak lani 'wild bee', Proto-Chamic *hunĩ

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(Lee 1966, apparently a regular development-- cf. his *hurəi 'sun, day' < PAN *wayi.) PIN ?*wani.

*wase 'axe': Bug. uwase, Mdr. wase, u(w)ase, Sad. wase, uase (dial. buase), Duri Mai. wase, End. uwase, Mmj.(A&K) uhase. PAN (Blust) *wasay, to whose cognates we can add: Ttb.(A&K)"uwasei", Leb. uahi, Bar. uase, Parigi wase, Napu ahe, Bar.(Ampana dial.) wase. Note also Fi. wase 'to divide, separate'.

SUPPLEMENTARY LIST

(Consisting of forms without wide distribution in SSul, or questionable in other ways. One or two cognate sets are included here which were inadvertantly omitted from the main list.)

?*añu(t) 'drift': Mak. añuq; Sad. anur/an 'carried away by the current'. PAN *qañud.

?*añu 'to mock': Bug. Mak. añu2 'mock, tease'; perhaps Mdr. beññuq 'idem'. Cf. Wolio anu 'tease'; Fi. manu2 in vaka——ya 'to bother, be worried'; To. qaqanu 'to spit', qanu/hi 'to spit on; spit out'. PAN ?*qañu(C?).

?*aung (?*naung) 'shade, shelter': Bug. naung, Sad. ong/an; i/ong, di/ong 'underneath', mang/aung 'to lie in wait for, pounce on s.o./s.t. from a hiding place'; DuriK menn/ongan, menaung 'to shelter', jiong 'under'; Mdr. di/ong 'under'. Cf. Ml/BI naung, Bar. ou; and PSS *saung above.

?*bara (PSad.) 'hungry, thirsty': Sad. bara, Seko hara 'thirsty'; perhaps Duri bara 'sated'?. Perhaps also (nasal subst.) Mdr. ma/marang, Sad. (loss of secondary **w, or nasal subst.) marang, maqrang 'thirsty'. Cf. Ledo na/q/ara 'hungry' (Ledo lacks /w/). Perhaps related to PSS *ma(zr)a, PAN *maga 'dry'.

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?*baro 'frenzy; mad': Mdr.(RAP) sivaro (i.e. si/baro) 'to quarrel'; Sad. maro 'crazy, idiot; also, a certain feast at which people go into a frenzy or trance'; PUS to/maro 'evil person'. SWB cites Bar. maro 'watch out!', Mal. maru 'tormenting, bothersome, evil spirit'.

?*(b)ayan (?*ayan) 'visible': Bug. pajan/ing 'clear', Mak. pa/bayang 'visible', Sad. payan/an, paan, k/aan/an 'visible', Duri pajan 'come into view'.

?*billa 'to cook (in water)': Bug. billa, Sad. balla 'rice-water'; Mak.(Kusuma, not in MWB) balla 'to burn'. Cf. Leb.(A&K) kina/bala 'rice porridge', Samal (Reid 1971) billa 'to cook', Bajaw (Sather 1968) billah 'cook'.

*bitok 'intestinal worms': Bug. bitoq, Sad. bitok, End. bitoʔ. Cf. PIN (Charles) *bituk, *bitik.

?*bone 'sand': Old Bug., Mak-Sal. bone. Bar. bone,Leb. woni, Ledo Banggai bone. Cf. (Charles) *iniy; but cf. also the next item.

?*bonde 'field, garden': Mdr. Sad-Mamasa bonde. Cf. Bad. Bes. Bar. Napu Mori bonde; Adriani 1928 cites Loin. bondoy, Tonsw. bondoy, presumably < **binday. The connection with the preceding is through Uma: bone 'field' (*nd > n is reg.); perhaps all forms reflect the single etymon ?*bin(dɖ)(ai)y.

?*(b)o(n)di(k?) 'short' (PSad.): Sad. bondiq 'very short, small', k/ondiq, Duri bondiq, SekoL ka/hodik. Cf. Bar. boe 'short (of a buffalo's horns, or legs)' which if cognate dictates ?*b(ui)(ñ)ĝi(k).

?*(b)urotok 'insect': SekoL hurotok, SekoP hurotoko. Cf. Bar. buroto, wuroto, kuroto 'mosquito' (idem in Seko), Ttb. wurotok 'flea'.

*bulu(t) 'mountain': Bug. buluq, Bug-Sid. bulū. Cf. Uma, Napu, Ledo bulu, Bar. buyu; Dempwolff (1924) *bulud.

?*bosa 'much': Sad. bosaq 'continuous (of rain)', bossa 'have enough of, be sated/bored with'; Seko boso 'much, many'. Cf. Limolang (V) bongsa 'much'; Bar. bosa/i 'give more (e.g. food) than is necessary'; Parigi bose 'much'. Cf. Jav. bosĕn 'bored with', Ml. bosan.

?*-butu(t?) 'lower leg': Bug. amputu 'heel' (SWB cites amputuq, not in BWB), Mdr. kambuteq 'calf of the leg', Sad. kambutuq 'heel; kick with the heel'; Duri kambutuq 'calf'. (SWB also cites Mak. bucuq, not related.)

?*boya 'look for': Mak. boya, Mak-Konjo hoja. Cf. Sasak boyaq. PIN ?*buya(q?).

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?*capa(C) 'mistreat; bad': Bug. Mak. capaq 'mistreat, take lightly'; SekoP pa/capaq 'bad'. Cf. Ledo na/capa 'thoughtless, negligent' (both Seko and Ledo probably < Bug. or Mak., the /c/ is not native to either language); Note Jav. campah 'to scoff, revile', Ml/BI capak 'underestimate, take lightly', campah 'flat, insipid'. Perhaps Fi. ɗamba 'to feign inability' or ɗamba/ɗambā 'rough, unkempt (of hair)'.

*rabuk 'decay': Bug. rabuq 'decay, go to pieces'; Sad. rabuk 'phosphorescent mould on decaying wood', batan-rabuk 'skeleton'. PAN (Dw) *ɣabuk or *ḍabuk.

*(d)andan (PSad.) 'edge; line': Sad. randan 'edge', maq/-dandan 'in a line'; Duri End. randan 'edge, shore'. Cf. Jav. dandan 'bring into order, arrange'; NgD. dan-dan 'to build'. PIN ?*dandan.

*(dr)ano 'morass': Sad. rano '(of a sawah) too wet, swampy; also, a sp. of tuber planted in such a sawah'. PAN *ḍanaw 'lake'.

?*(dr)au (or ?*(djr)a(m)bo(C?)) 'far': Mdr. ka/rao, Mmj. ka/hau, Seko ka/rao. But cf. also Mdr. ka/rambo, Luwu(V) ma/jambong 'idem'. Mdr. and Luwu may reflect a single form, but karao, kahau probably reflect PAN (Dy) *Zauq.

?*rɨmmɨs 'dirty': Mak. rãqmassaq (also rũmusuq) 'mossy, dirty; bad'; Sad. romoq2 'rubbish, waste, dirt'. Cf. Fi. ndromo/ndromo/a 'yellow; dirty'. PAN ?*(dḍ)ɨmɨs

?*(d)o(d)ɨ(N) 'hungry': SekoP bu/rorang, SekoL ka/raroang (< ka/ra-rorang by haplology?). Cf. Bar. ti/rodo, si/rodo, sin/dodo 'hungry', ma/oro 'idem'; Adriani cites "Minahasa" arem. Note also Rampi bilora, Bad. rora.

?*(d)u(ng)ku(C) 'near': Mmj. ka/dungku, PUS ma/rukuq, Seko dukuq. Cf. Bar. dungku 'arrive, reach the end of..', Rampi, Leb. do/dungku 'nearby'.

?*roma(ng) 'woods, forest': Mak. romang. Cf. Sumba omang, pointing to PIN ?*ɣumang.

?*g/ar/aga 'to build': Sad. Duri garaga. Cf. Bar. garaga/i, 'to execute s.t., carry out s.t.' which Adriani derives from gaga 'very' and equates with Ml. gagah 'strong, brave' < PAN *gagaq. Note also Fi. nggānggā 'hard, strong, bold' perhaps reflecting reduplication of the root **gaq?

*e(dr)an (PSad.) 'ladder': Sad. Duri eran (note Sad.poet. endaq), PUS(V) erang, eheng, Mmj. era, (A&K) ehe, SekoL erang, SekoP ereng. Mdr-Cend.(A&K) oran

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(/o/ unexpl.) may be borrowed from a different source than the Sad. Note Bar. eja reflecting PAN *(aɨ)-ɣ-jan.

*irus 'long and narrow, tapering': Bug. iruq, Mak. ɪrusuq. PAN (Blust) *(Ctṭ)irus 'tapering'; cf. Bal. tirus.

?*ila 'wild': Sad. ma/ila 'upset, disturbed', ma/ilaq 'rash, foolhardy'; SekoP ma/ila 'wild (animal)'. Cf. Bar. ma/ila, Leb. mo/ile; Adriani equates with Ml. gila 'idem'.

?*ingɨ(C) 'nose': Bug. ingɨq, Mai. ingeq. Cf. Bar. engo, Napu, Ledo (metathesis?) onge. The Tor. forms could be < PAN *ingus 'snout', but not the SSul.

?*kambu 'heart, pith; gist': Bug. ampung (/-ng/ probably by analogy < possessed forms), Mak. kambu.

?*karɨkka(C?) 'chest': Mak-Sal. karakka; Sad.(I only) karakkak 'gills of a fish'(?). Cf. Togian Bajo (Adriani 1900) karĕka; Ledo karaka 'ribs'.

?*keke 'to dig': Mak. pa/keke, SekoL mak/keke. Perhaps also Bug. kaeq.

*kamɨ(n)si 'breadfruit sp., Artocarpus communis': Sad. kamassi, Mak. gamasi (/g/ and single /s/ unexpl.), probably Old Bug. lamɨñci 'a tree (unspecified)'. Cf. Bar. komoñci, Ledo kamoñji, Leb. komontɪ, Tidung, Tinggalan Dayak kĕmansi; SWB also cites Tag. Bis. kamansi, Ttb. kamesi. PAN (Blust) *kama(ng)(cs)i; the Sul. forms would suggest ?*kamɨ(n)(cs)i, though the *ɨ could be secondary.

?*kaun 'to order': Sad. Seko to kaun/an 'slaves'. Cf. Bar. Bima kau 'to order'; perhaps Jav. kon 'idem'.

*kɨbbi(t?) 'touch lightly, pull with the finger': Bug. kɨbbiq Mak. koqbiq, Sad. koqbiq; Duri kobiq 'to hold', also 'to pinch'. Bug. Mak. Sad. also 'pull the trigger of a gun' hence: Bug. Mak. pakoqbiq 'trigger', Sad. koqbir/an, Mmj.(A&K) kobiq/ang 'idem'. Perhaps also Mdr.(RAP) koviq (i.e. /kobiq/) 'knife', ko(w)iq (I) 'pull s.t. towards oneself with the finger'. The /o/ is difficult to explain; perhaps a doublet **ko-C?-bi(C) existed, or perhaps the Bug. /ɨ/ is of secondary origin. Note (Zorc's list) *kabit, kɨbit, ka-l-bit, bitbit.

*kɨrrɨ(t) 'to slice': Bug. kɨrrɨq, Sad. karraq. PAN *kɨɣɨt. From the same etymon, from a Tor. source: Mdr. ma/qoyo, Mmj. mang/koyo 'to slice', Mmj. ti/koyo 'slashed'. Note Parigi koyo, Bar. kojo, Napu koo. Perhaps PSS *koyong 'wound(ed)' derives from the same source.

*kɨlle(C?) 'gums': Bug. kɨlleq, Mdr. alle, Sad. kalleq. Perhaps Mak. kalleq 'round, curving'.

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*kəllə(m?) 'dark': Bug. kəllə̆ng (BWB kəllang rejected); Sad. kallan (also kallang) 'dark-brown'. PAN *kələ̆m

?*kəttu 'break off': Sad. kaqtu, SekoP ma/katu; perhaps also Mdr. bottu (/bo-/ unexpl.) Cf. Bar. kotu 'cracked, bent (but not yet broken)', Mori linggotu 'cracked', Wolio ma/katu 'break'; Bar. ketu 'sprained' may reflect **kə-γ-tu.

?*kebo(C) 'back' (PPUS?): Sad-Mangki, PUS(V) keboq, PUS-Bulo2(V) ceboq, Mmj. Seko keboq.

*kilala 'remember': Sad. kilala/i 'remember', pa/kilala 'inform'; PUS(V) kaleha 'remember' (/-h-/ unexpl.) Seko kaleha/i 'idem'. Seko clearly borrowed < PUS; it appears the PUS has reanalyzed the word as containing a /l..r../ sequence. PAN (Zorc)*kilala, (Dw) *lala.

?*kiqkis 'scrape, scrath off': Mak. kĭkkisiq (Matthes notes "only used in Makassar"). Cf. Ml/BI kikis, Toba Batak (van der Tuuk's Dictionary) "hishis" 'idem'; also cited there: Bis. kiskis. Mak. seems to have borrowed the word from some language which retained the cluster, thus not < Ml.

*ku(zr)a 'interrogative part.': Mak-Turatea kura 'what', sikura 'when, if'; Konjo si/ngura 'how much'. Cf. Bal. kuda 'how much'; Bar. kuja, Ledo, Parigi -kuya, Uma -kua, Tawaelia (A&K) kia (< **kuya), Ttb. kura. PAN *kuǧa.

*kundai 'sarong'(?): Bug. unrai 'k.o. sarong', mak/kunrai 'woman (i.e. one who has a sarong)'; Sad. kundai 'sarong (also, 'thread, yarn'-- related?). Cf. Ml/BI kundai, konde 'hair bun', Jav. kọnde 'idem' (Jav. could be < *ka-unde); cf. thus Bis. ụlay 'virgin, chaste, maiden', uray 'form of address for older female relatives'. PIN ?*u(n)day 'female'.

?*komo 'sarong': SekoP komo. Cf. Bad. komo, Uma kumuq, Bar. kumu; Jav. kĕmul 'clothing, cloth, to cover the whole body'. PIN ?*kəmul (or borrowed < Jav.?). Cf. also Reid 1971 s.v. "blanket": Palawan Batak kumut, Aborlan Tagbanwa kumut 'covering', Subanun kumut 'idem, with the ends connected' (like a sarong).

?*lamba(t) 'tree sp., Ficus spp.': Mdr. lambeq, Sad. lambaq.

*landAs 'to strike': Bug. lanrəq, Mak. lănrasaq; Sad. landaq 'strong support/base under s.t.', (intens.) landak 'to hit hard'. PAN *landas (with Jav. landĕs unexpl.). See also the next item.

*landAs/an 'anvil': Bug. lanrəssəng, Mak. lanrasang, tanrasang. The remaining lgs. (and Tor.) show a variant with /t-/: Sad. tandasan, Mdr-Camp.(A&K) tanrasang;

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Seko (J.Kruyt) tandasang 'human sacrifice at the mabuaq feast (he was beaten to death)'. Bar. tondosa, Bungku tondoha, Lalake (SE Sul) tonaha.

?*langkai 'husband': Bug. lakkai. Cf. Bar. Banggai langkai, Ledo langgai 'man, male'; Ivatan (Reid 1971, 2 dials.) hakay, ɣakay; other PI lgs. (van Overbergh) have langkay 'old man'; perhaps Mori langkai 'great, honorable'.

?*langka(n) 'k.o. hawk' (PSad.): Sad. langkan, Mai. langkang, Duri langkan, End. lakkan. On the basis of Bar. kongka, SWB suggests **k/al/(aɨ)ngka(n); cross refs. in Adriani 1928 suggest relationship with PAN *kɨmkɨm 'grasp'.

?*lamak 'grass; greenery': Bug.(BWB only) lama 'branches, tendrils of the sirih plant; (Old Bug.) 'leaf'; SekoP lamaka 'grass'. Cf. Leb.(A&K) lema 'grass', Bar. yama 'taboo-subst. for leaf'.

*lasɨ(C) 'scrotum': Bug. lasɨq. Cf. Bar. lase 'tame male' pig', mo/lase '(of animals) to mate'; Roti lase 'scrotum', Stresemann's Proto-Ambon *lase 'scrotum, testicles'; To. laho (and loho) 'scrotum'; PAN (Zorc) *lasɨ(gɣ). If PSS *lis(iɨ)r (note Mak. lisereq 'seed; scrotum') is related, the final can be resolved to *-ɣ.

*lɨbbang 'spread out, spread all over': Bug. lɨbbang, Mak. laqbang. Cf. Mad. kebbang 'broad'; To. ma/lofa 'spread out (of cloth, mats, etc.). PAN ?*lɨbang.

?*lA(m)bu(C?) 'big': SekoP lammuq; perhaps Mak. laqbu 'long'; cf. also *lɨmbus 'straight' above. Perhaps also Jav. lemu 'big, fat'.

?*l(V)lio(C) 'padi-flute': Bug. lelioq, Mak. lal/lalioq. Cf. Ledo ngololio (< **kololio), Bar. leleqo, (dial. kololio; also deledeqo-- another kind). Consists of a split padi-stalk (the reed) around which a pandanus leaf (the air-chamber and bell) is wrapped. The Bar. forms suggest **lɨliqu(qØ), probably onomat. in origin. SSul presumed borrowed < Tor.

?*lɨnto 'to float': PUS lanto, SekoP lonto. Cf. Wolio, Ledo lanto; Bar. mo/lanto, Mori lonto; Tag. litaw, Bis. lutaw, Manobo lɨtɨw; perhaps Sam. loto 'pool, stretch of deep water (usu. within the reef of an atoll', Maori roto 'pool, lake'. PAN (Zorc) *lɨtaw, better *lɨ(n)taw.

?*limbi 'float, drift': SekoP mu/limmi 'to drift'. Cf. Bar. mo/limbi 'to drown'. **limbi(C?).

?*lenggu(C) 'to move': Mak. lenggoq 'a sort of dance (usu. done by one person)'; Mdr. mel/lengguq 'to move'. ?*linggu(ptk).

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?*-likAn 'hearth-stones': Sad. la/likan. Cf. Bar. dali, dalika (Sad. and Bar. could both reflect **dalikan > pre-Sad. **ralikan; or /da-/ could be a pluralizing or perhaps honorific prefix, while Sad. may show simple CV reduplication). Note Bima riha, Letti lĭna (< earlier **likna); Jonker cites Kupang klikan, Gayo kĕlikŏn 'fireplace, hearth'.

?*lopo 'tree; forest': SekoP lopo 'tree', SekoL lopo 'grass'. Cf. Tawaelia, Leb. lopo, Bar. yopo 'forest'.

?*mando (?*m/ando) 'old, worn-out': Mdr. Sad. mando. Cf. Bar. maru. PIN ?*ma(n)(dḍ)u(qØ)

?*mañа 'careful, slow': Bug. Mak. Mdr. mañа.

?*meke(C?) 'cough': Bug. mekeq 'fever'; Mdr. Sad.(Palopo, Adriani 1898a) meke, SekoP meik (?). Cf. Wo. me/mẽ (/me+mee/?), Uma, Ledo, Napu, Bar. Wolio meke.

?*mua 'face': Mak. mua. Cf. Mad. mua, To. muqa 'idem'; PAN ?*muqa.

*-nakan 'sp. of nangka, Artocarpus spp.': Sad. na/nakan, Mdr. naq/nakan. Cf. Bar. nanaka 'according to some, the "zuurzak", Anona muricata, a recent import probably via Parigi; according to others, the nangka cĕmpĕdak.' PAN (Blust) *(nñ)akan.

?*nampa 'just, just now': Bug. Mdr. mappa, Mak. nampa.

?*nɨssa 'true, evident': Bug. ma/nɨssa, Mak. Sad. nassa.

*(nñ)amu(k) 'gnat, mosquito': Bug. namoq, Mak. ñamoq Mdr. namoq. PAN *ñamuk. Note also Mak. lamuq 'idem', PAN *lamuk. Clearly related: Sad. katamuk, katamok 'gnat'.

?*ngarɨ(C) 'palate': Mak. ngarraq; Mdr.(A&K) ngaro, Mmj. (A&K) la/ngaho, 'throat'. Cf. Bar. ngara, langara 'palate', langira 'gums', Laiyolo ngara2, Bob. ngarar; Sumba (Eastern dials.) ngaru,ngandu 'mouth'; Fi. nganro 'palate'. PAN ?*nga(n)(dḍ)ɨ(C?).

?*pare(k) 'to make, do': Mak. pareq 'to make, build'; Sad. parek 'do s.t. carefully, regularly'. Perhaps Ml.Jav. parik 'in a line; queue'. PIN ?*pə(dḍrg̃ɣ)ik.

*paladan (?*pa/alad/an) 'courtyard, front of the house': Bug. paladɨng, Mak. paladang 'sort of "front stoop" of a native house'; Mak. alaq 'yard (usu. enclosed with a hedge)'; Sad. paladan '1. yard, 2. room at the front of the house, for eating, 3. raised earth platform on which a house is built'. PAN (Blust) *(q)ala(dḍg̃) 'fence'; Mak. would tend to indicate only *-d or *-g̃, but the word may be a borrowing.

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*pau(C) 'to bend, twist': Bug. pauq (-k-). Cf. Bar. pau 'bamboo lath on which thatch is laid/folded'; Adriani cites Mong. paud, Sang. paudĕ, unglossed. Mori pae 'pull'; perhaps Fi. vau/ɗi 'bind together; hold or bind a person or dog', To. faqu 'bind (the head); headband, turban'. Cf. also Banggai paul 'lath to which thatch is tied'. PAN (Blust) *paqu(dg̃) 'pull toward oneself'--Mori /-e/ and to some extent Fi. /ɗ/ is evidence for *-g̃.

*pɨrru(t) 'intestines': Bug. pɨrruq, Mak. parruq. Perhaps < Ml. pĕrut 'belly'. Cf. also Fi voro 'sated', voro/voro 'pot-belly'.

*pɨllu 'cook; hearthstones': Bug. pɨllu2, Mak. pallu2 'arrangement of stones atop a grave, so called from its resemblance to the native fireplace'; Mak. pallu 'to cook'. Bar. polu 'the 3 hearth-stones, (dial.); Bar. Mori polu 'bamboo tripod to hold a pot'; Saluwan (Loin.) poluq 'kitchen' (/q/ < *-Ø regular in the data); Maronene, Lalaki (SE Sul) polu 'fireplace'. PIN ?*pɨlu.

?*pɨjj(a?) 'salt, salty': Bug. ma/pɨjje (perhaps < pɨjja/i?), Sad. ma/piqda, (I) piqdak. Probably borrowed, cf. NgD. peja 'lightly salted fish or meat', OJ pĕja 'salted fish'.

?*piang 'look for, long for': Mdr. pa/meang, Sad. piang, peang, PUS peang. All cited in SWB. Cf. Bar. pea, Bob. mopea 'wait for'.

?*pepe(C) 'fire': Mak. pepeq; Sad. lum/pepeq, pepeq, lap/-pepeq 'firefly'. Perhaps related to *pi(q)pi(k) 'to hit' ("strike a fire"?).

*piqpis 'edible fungus': Bug. pippiq, Mak. pĭqpisiq. The black fungus used in Chinese cookery, called 'tree-ears' here, kuping tikus ('mouse-ears') in Indonesia.

?*-pu 'term of respect(?)': Mdr.(A&K) karapuan (perhaps for /karappuan/?) 'moon'. Perhaps < **ra/pu (ra 'honorific prefix'), cf. Ledo Sigi karampua 'spirits (Du. luchtgeesten); Bar. karampua '(ritual lg.) lord, lady'; Sumba marapu 'spirits'. Cf. also Ml. pĕrĕmpuan 'woman'.

?*pu(k)i 'female genitals': Mdr. pui. PAN *puki.

?*pong, ?*pompong 'dull, not sharp': Mdr. tippong (tiN+pong), Sad. pompong, poppong, Duri pompong.

?*pus 'sweat': Bug. pusɨq (mis-read for **pusɨng?), Sad. aqpuq, maqpuq 'to sweat', pusang 'very hot (of the body)'.

*sa(b)e 'have time for': Bug. Mak. sawe; Cf. Tag. sabay 'simultaneous; do s.t. together'; Jav. sambi 'together with, work together'. PIN ?*sa(m)bay (Jav. /-i/ would be evidence for Dyen's *-ɨy).

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*sa(d)e 'to give': Mak. sare, Sad. (poet.) sadi. Sasak sade, sadeq. Perhaps Togian Bajo (Adriani 1900) tede (if borrowed from a language like Gorontalo, where *s > /t/).

*sa(ng)gu(p?) 'take on, accept responsibility; be prepared': Bug. sangguq, perhaps Old Bug. "sakuta" (mis-read for /sangkutang/?), Mak. sanggoq, SekoP sangkuq. Likely < Ml. sanggup.

*sangkal 'to deny': Bug. sakkaq (prefinal /a/ irreg., Ml. influence?), Mak. sangkalaq (rare, according to I), Mdr. Sad-Rong. sakkaq. DuriK ma/ñangkalaq obviously < Mak. Note Ml/BI sangkal.

*salipu(t?) 'blanket': Bug. salipuq. PAN (Blust) *salipu(dg) 'conceal', where he includes Ml. selimut 'cover, hide' also 'blanket'. In this sense no doubt borrowed in Mdr. Sad. Mmj. salimuq, Duri salemuq. Cf. also NgD salimput 'cloth, k.o. sarong'; Mori solimbu 'blanket' (could be a dial. form with reg. *mp > /mb/); Mad. salemur 'blanket'; Jav. slimur, selimur 'deceive, disguise'-- the Jav. form indicates *-g.

?*sau(k?) 'dip, scoop(?)': Mdr. pe/sauq 'bucket', pesauang 'well'. Cf. Bl/BI sauk 'bucket', NgD. sauk 'basket used for catching fish in shallow water'; Jav. sog, sok 'to pour'. PIN ?*sahug.

*sə(dz)ə(p?) 'to set (of the sun)': Mak. saqraq; ka/saqrak/kang 'West'. Cf. Bar. soyo 'sink'; Adriani also cites Sang. sedaq, Mong. soyop, Jav. serep; Reid 1971 also lists several cognates s.v. "West". PAN (Blust) *sə(dg)əp. Bar. /-y-/ usu. reflects *g or *ɣ, thus *səgəp is most likely.

*s(uə)ru(C) 'to sip, suck': Sad. (intens.?) sorrok, Mdr. serruq, Duri surruq, SekoP suruq. Related to Ml. sirup?

?*sono '...': SekoP sono 'to exchange, substitute'. Cf. Bar. me/sono, Ledo ne/sana, Napu me/hana, Leb. heni all 'to answer' < PTor. *sənə < PIN ?*sənə(C).

*sənni(C) 'to cut, rip': Bug. sənniq (Old Bug. sonneq), perhaps Sad. saniq 'cut into little pieces' (single /n/ unexpl.); SekoP sinni 'circumcized' (this could also be a corruption of Ml/Arab. sunat). Cf. Bar. sone 'to cut (e.g. cloth)', sini 'pull hard (the hair of a victim's head); Napu hini 'pull up'; Fi. soni(-ta) 'make a small incision', To. honiqi 'idem'. PAN ?*səni(C).

*sembA(C) 'to kick': Bug. sempəq (>Mak. sempaq?), Sad. Duri sembaq, Seko semba. Cf. Bar. semba. Perhaps related to (a doublet of?) PAN *sipak 'kick' (note Mdr. sepaq 'kick', perhaps Sad. sepak 'cut off an animal's foot'(?).

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?*s(iɨ)de(n) 'to cough': Mdr-Cend.(A&K) seden, Maj.(A&K) sedeng, Sad. seqden 'to wheeze', sede 'cough' seqdek/an 'cough (from laughing)'; cf. also Bar. sede 'to joke, make fun of'. SWB equates Bug. sere 'to dance'.

?*seqse(p?) 'swerve, skid': Bug. sesseq. PAN *sibsib.

?*singga 'to land, come ashore; visit': Mak. s/um/engka, SekoP ming/singka. We posit Mak. as a borrowing from Bug. *singka, no longer attested. Cf. Ml. singgah. Perhaps Fi. sika '1. to appear (as a ghost); be born, see the light of day, 2. to come upon suddenly, surprise (attack)'. PAN ?*si(ng)gaq.

?*siki(t?) 'to pick up': Bug. Mak. sikiq. Cf. To. hiki 'to lift, raise, move s.t. from one place to another', hikitaki (if hiki+(t)aki) 'throw/fling at (from a short distance)'. PAN ?*sikit-- cf. the root **kit (~**kat ~**kut) seen in Ml. angkat, angkit, angkut.

?*sio(C) 'to tie': Bug. sioq (-r-), seoq, Sad. sioq, Duri siot/an 'tie for...', Patt. seoq/i 'tie up'. If Mak. sikoq (Konjo sikkoq) is cognate, the etymon should be ?*siko(C), with Sad. and Mass. forms probably < Bug. Perhaps related to PAN *ikɨt 'tie' or *sikɨp 'tight'.

?*se(m)pang 'deviate, go off to one side': Bug. cempang (/mp/ irreg.) 'uneven (of ground)'; Sad. sepang; SekoP sempang 'odd (number)'. Cf. also (*s/al/e(m)pang) Bug. salepang 'sling of a gun', calepang 'shoulder strap (e.g. of a woman's slip)', Sad. salempang 'wear the sarong over one shoulder'; Duri salempang 'scarf BI sĕlendang. Cf. NgD. salepang 'k.o. bag, purse'; Ml/BI sĕlempang 'shoulder belt; wear over the shoulder'; Mad. lempang, salempang 'bandolier'. PAN *si(m)pang.

?*sinampe(r) 'moment' (?*si/nampe(r)): Bug. cinampeq, Mak. sinampĕreq (presumed < earlier sinămpereq), Mdr. (Sahur) cinappa (/-a/ irreg., /-q/ probably omitted).

*su(bw)e 'to burn' (PSad.): Sad. sue 'to blow on a fire', pe/sue 'bamboo tube for that purpose' (I also soe). Sad-Rong., Luwu(V), Mass.(V) sowe, SekoP mas/sohe. Cf. Bar. sumbe, suwe 'to set on fire', sowe 'to blow', Napu huwe 'burn'. PIN ?*su(m)bi(qØ) or ?*su(m)bay.

?*sola 'indifferent': Bug. Mak. sola2. Cf. Bis. sulă 'to look at blankly'.

?*sola(ɣ) 'bare, naked': Mak. sŏlaraq; solar/i 'to "rob blind"'. Cf. Ml. sulah 'bald, hairless'. PIN ?*sulaɣ.

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*sunu(ɣ?) 'to burn (usu., burn off weeds in a field)': Bug. sunuq. PAN *(sc)u(nñ)uɣ. Bug., and Jav. (marked Kawi) sunu 'light' suggest ?*sunuɣ.

*supi(C) 'little': Seko supiq. Cf. Kalinga (Reid 1971) man/supit 'narrow', Jav. supit 'pinch; tongs', perhaps cupet 'too short'. Further Sad. supi, sumpi, suppi, sippi 'tweezers' (-Ø unexpl.), and perhaps Mdr. suppiq Sad. sumpiq 'blow-gun'-- these last two, at least, reflecting Dempwolff's *su(m)pit 'blow-gun; narrow'.

?*suso 'snail; shellfish': Mak. siso 'k.o. shellfish' (/i/ irreg.), Sad. suso 'k.o. snail'. Cf. Bar. suso, Sang. suso (cited in Adriani 1928), Mori uho 'periwinkle', Bad. huhoq; Banggai suse 'mollusc'; Bob. susu Gor. hutu; Tag. susuq. PIN ?*susuq.

?*ta(bw)a(ɣ?) 'fresh water; tasteless': Mdr. ma/tawar, SekoP ma/tahaq. Possibly < Ml. tawar. PAN *ta(m)baɣ$_1$.

?*tara, *tata (< root **ta?) 'to chop, cut': Bug. tara '(BWB) chop, hew; (I) ——manuq 'spur on a chicken's leg'; Sad. tara 'cut off; cut, smooth wood (e.g. with chisel)'. PAN *taɣaq. Also (*tata) Bug. Mak. tata 'to chisel, inlay (wood), Sad. tata 'chop wood, split with a wedge'; cf. Ml. Jav. tatah 'chisel, cut out', Tag. tataq 'mark where s.t. is to be cut'. Fi.(Hazlewood) ta, tata, (Capell) tā 'chop, cut with a knife', tātā 'chop up; wood chips'; To. tata, tata/qi '1. scoop or shovel up, scrape up; comb with a fine-toothed comb, 2. dabber for making designs on tapa cloth'. Note Dempwolff's *taɣaq; but *ta(q)taq is also possible, and both may reflect a root **taq.

?*tandayan (?*tanday/an) 'loom part': Bug. tanrajang, Sad. tandaan, tandayan. The upper bar of a portable loom, fixed to the wall or a post. Note also Sad. tande, tandi 'support, base', and cf. the next.

?*tande 'high': Bug. ma/tanre, Mass. ma/tande. PIN ?*tanday.

?*tado 'noose, snare': Bug. Mak. tadoq, Mdr. tado. Cf. Bar. tado, Banggai talong. If SSul is borrowed from Tor., perhaps PIN ?*ta(dd)ung.

?*tangkasi '...': SekoP tangkasi 'to tell a lie'. Note Uma tangkasi, asi 'sp.of monkey (Du. spookaap)'. The connection must be that in the folktales of Sulawesi, the monkey is usually the "trickster", comparable to Si Kancil 'mouse-deer' in Ml. (Kañcil and -kasi are probably cognate.)

?*-nau (*nakau) 'to steal': Bug. mennau; par/ennau 'thief'; SekoP mu/manau. Presumably a nasal-substitute of PAN *ta(ng)kaw, though we should expect */-nao/.

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*taku(t) 'fear': Bug. tauq, Bug-Sid. taū; pi/taū 'to frighten'; Sad. ma/takuq (-r-). PAN *takut.

*taliku(t) (?*ta/liku(t)) 'back': Bug. taliuq 'abandon, leave behind'; Sad. lekoq 'turn around'; talikuq 'backstrap or yoke of a loom'. Cf. Wo. taliu (note also Old Bug. taliu 'back'), Napu taleu, Bar. taliku 'back'. PAN *likud.

?*tanA(C) 'heavy': Bug. ma/tanəq, Sad. Duri ma/tanaq.

?*tangA(C) 'door': Bug. tangəq. Cf. To. tanga '(coarse) mouth', tangaki 'to open a vault or cellar; (of a door) forced open by the wind'.

?*tangis 'weep': Mdr. sangiq, s/um/angiq (metathesis?), Sad. t/um/angiq. Note that Isneg and Dumagat (Redi 1971) show the same metathesis as Mdr. PAN *tangis.

*tampo (PSad.) 'earth, land': Sad. tampo, tanampo 'the dykes in a sawah'; Mmj. tampo, SekoP tampo 'earth; sawah'. Cf. Bar. Napu tampo, Bad. tampoq; Ledo na/-tampo 'muddy'. PIN ?*tampuq.

*ta(m)pus 'disappear; all gone': Sad. matampuq 'West'; Mdr-Bin.(A&K) ka/tapus/an 'West', perhaps Mdr-Cend. (A&K) a/tambus/an 'West' < tambus 'go down' (/mb/ inexplicable unless a misprint); Mmj. tampu (A&K) 'disappear'. Cf. Bad. Bes. ka/tampu/a 'place where the sun goes down'. To be added to our *ta(m)pu(C) above, and the PSS revised to *ta(m)pus (with Mak. showing irreg. /-q/.)

?*ti(m)be 'to throw': Mdr. mat/timbe (note also Mdr. (Sahur) simbeang 'throw away' with sporadic (?) *t > s before /i/); Sad. tibe Seko tibe 'throw away', SekoP pan/tibe/ang 'garbage heap; toilet (BI jamban)'. Cf. Bar. Bes. tibe; Uma time 'stab'; (Reid 1971) Mamanwa, Manobo timbag. If PIN ?*timbay, marked as a Tor. borrowing (via **ti(m)bay) in SSul.

*ti(bw)i(C) 'carry': Bug. tiwiq; Mdr. mat/teweq 'carry in the hand'. Cf. Bima tiwi 'carry in the hand' (possibly < Bug., *t usu. > Bima /d/. Note Fi. ndivi 'keepsake, remembrance'(Hazlewood only). PAN ?*tibi(C).

?*(tc)era(k) 'blood': Mak. Mdr. ceraq, Mdr-Cend.(A&K) tera; Sad. terak '(poet.) blood, gore'.

?*tingko(r) 'frog sp.': Mak. tingkoroq, Mdr. tikkor. Perhaps Sad. tingkor/an 'thigh, thigh-bone', if the connection lies in the eating of frog's legs, usu. referred to as the "thigh of the frog" (e.g. BI pukang kodok).

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*tumbu(r) 'well up; spring': Bug. tompoq, Mdr. tumbur. Note Wolio tumbu 'spurt up'. Cf. also *timbus and *buqbur$_1$ above.

?*tuding '...': Mak. tureng, an/tureng 'there'; Sad. toding 'distinguishing mark (usu. a drop of blood on the forehead at certain feasts)'. Cf. PAN *tuding 'point to'.

?*tu(dr)u 'sleep': Sad. turu '(of a buffalo) to go lie down'; Seko turu 'sleep'. Perhaps also Bug. Mak. Sad. ka/tulu2 'to dream' (/l/ irreg.). PAN *tuḍuγ.

*tulali 'flute': Sad. tulali (usu. a double flute). Note Bar. tuyali, Bar-Ampana dial. Parigi, Kulawi Gor. tulali 'flute'; Fi. ndulali 'nose-flute'. PAN *tulali(qØ).

*tumi(t?) 'heel': Bug.(Kustini)"cumikaje" (cumiq+aje?). Cf. PAN *tumid.

?*wati 'worm sp., "sago-worm": Sad. wati, uati, yati. Cf. Bar. wati, awati, Uma wati, tati, Mori uate, Esser 1927:37 also cites Bis. uati, Tbl.(Tombulu?) watĕr. PIN ?*watɨ(ĝγ).

LOAN WORDS

Since so little is known about the history of SSul in pre-Contact times, it is impossible to say whether any of the following non-AN loanwords were borrowed directly from the source-languages, or-- as is the usual assumption-- via Malay or Javanese. It is true that in no case (so far) have we found a non-AN loan in SSul that is not also found in Ml. or Jav.

Sanskrit loans are particularly easy to identify, thanks to Gonda's (1952) extensive study; they must have reached SSul either during the Srivijaya era (ca. 5th - 9th Centuries C.E.)-- thus via a South Sumatran/Malay medium-- or somewhat later during the hegemony of the Javanese Majapahit or Mataram empires. Dravidian and other "Indic" loans, and

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perhaps some Arabic words, could have come in during this same period. The bulk of the Arabic loans, however, probably came in with Arabic and Moslem Indian traders in the period just before and after European contact, when Islam was being introduced (according to Bug. and Mak. traditions) by missionaries from South Sumatra (i.e. perhaps Malacca)--in particular Minang Kabaus.

Portuguese and Dutch words can only have been introduced post-1511 and 1603 C.E. respectively. The absence of Port. loans peculiar to SSul is somewhat striking, in view of their presence (as the only Europeans) in the area for almost a century. BWB does list several Port.-derived card-playing terms, but the absence of these terms in modern Ml/BI does not mean that they were never known outside SSul.

The list also includes some obvious (to our view) loans from Ml. and Jav. Where, in particular, a Bug. form is borrowed from Mak., and the word is not attested outside those two languages, there seems to be firm evidence for viewing it as a loan. Further evidence lies in the fact that many such words, culled from Matthes, were not recognized by my informants, or, when recognized, specifically characterized as loans.

Loans from eastern Indonesia can be assumed, but in the absence of data from languages of the area cannot be identified. The lack of information on the non-AN languages of Ternate and Tidore is particularly frustrating, since those two Sultanates were not only early converts to Islam (late 1400's) and perhaps introduced some Arabic words, but

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also controlled the spice-trade (or at least, the first leg of it, from the Moluccas to Makassar) in pre-Contact times.

In view of the difficulties, and the secondary nature of many of the attributions, the following list offers only a representative-- not an exhaustive-- sampling of loanwords. Since my field work did not concentrate on this aspect of the languages, the predominance of Bug., Mak. and Sad. citations (from the dictionaries) should not be viewed as typical.

1. Sanskrit.

anyāya (Ml. aniaya) 'injustice, unlawful act': Bug. inaja, enaja, Sad. innaja (marked "< Bug", SWB) 'misfortune, pity'. If cognate, from a corruption, **ainaya.

āyoga (Toba ayuga, Karo iyoga, Sasak ayuga) 'yoke, pair of oxen': Bug. ajoa, Mak. ayoka, Mdr. ayoa, Sad. ayoka, ayoa, Duri sang/joka, End. Mai. ajoka. The Bug. and Mdr forms without /k/ are striking; perhaps a very old loan.

vac- 'speak' (and derivs. meaning 'word; text; recite; read'), PAN (Dw) ˣbaca (a marked loan): Bug. Mak. Mdr. Duri baca, Sad. basa 'to read'. (Note Ml. baca 'idem'.)

valañja (Pali) 'spend' (Ml. bĕlañja 'go shopping; spend; spending money'): Bug. balañca, Mak. balañja, Sad. balanta. Note Bug. /ñc/-- this and other loans show that the voiced NC were devoiced relatively recently in Bug. history. Sad. is probably < Bug.

bharāla (Prakrit), (Ml. bĕrhala, Jav. brahala) 'idol': Bug. Mak. barahala. Evidently < Ml. with /a/ inserted epenthetically between the /r/ and /h/; the Ml. word appears to have been reanalyzed as if it were /ber+hala/.

varṇa (Ml. warna) 'color': Sad. maq/baqna2 'florid, eloquent'. Note Ml. ber-warna2 in the same sense. The absence of the word in Bug. Mak. is striking; the /b-/ may be due to the /-q/ of the prefix. Perhaps a recent borrowing direct < Ml.

bhaṭṭāra (Ml. Jav. batara) 'lord (title of gods etc.)': Bug. Mak. batara 'title of the (mythic) kings', Sad. batara 'the heavens', patala 'a title' (= batara).

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abhyāsa 'study, familiarity' (Ml. biasa 'accustomed'): Bug. Mak. Mdr. Sad. SekoP biasa 'accustomed'.

vicāra 'consideration, discussion' (Ml. bicara 'speak'): Bug. Mak. Mass. bicara, Sad. bisara 'speech; to speak'.

bīja 'seed, origin' (Ml. biji 'seed', Jav. wija): Bug. Mak. wija (Mak.I bija) Sad. bida 'descendants, offspring'.

candana 'sandalwood tree' (Ml. cĕndana): Bug. cenrana, Mak. candana, cinrana, Mdr.(place-name) cendana, Sad. sendana 'sandalwood tree'.

?chalaka 'delusive' (Ml. cĕlaka 'accident, misfortune'): Bug. Mak. cilaka, Sad. silaka, tilaka 'accident, misfortune'. From Ml., if not < the Skt.

citta 'heart, thought, desire, mind' (Ml. Jav. cita 'desire', Ml. cinta 'love'): Bug. Mak. cita2 'long for'; also Bug. Mak. cinna, Sad. sinna 'long for, covet'.

cukra (Hindi cūka, Ml. cuka) 'vinegar': Bug. cuka, Sad. sukka, DuriK cukka, SekoP suka 'vinegar'. Dempwolff also, PAN *cuka.

devatā 'god' (Ml. dewata) Bug. dewata, Mak. rewata 'spirits', Sad. dewata, deata, Seko(J.Kruyt) dehata 'spirits'.

doṣa 'fault, sin' (Ml. dosa): Bug. dosa, rosa (note also panrosang 'fine, punishment'), Mak. dosa; Sad. dosa ("< Bug.") 'fine, punishment'.

?krakaca 'saw (tool)' (Ml. gĕrgaji, Jav. graji 'idem'): Bug. garegeq, Mak. Mdr. Duri garagaji, Sad. garagadi. PAN (Dy) *gaji (?); the SSul is < Ml. if not the Skt.

guḍa, gula 'molasses' (Ml. gula 'sugar'): Bug. Mak. Sad. Mdr. golla 'sugar'. The /-ll-/ is unexpl.

guru (Ml. Jav. guru) 'teacher': Bug. Mak. Mdr. Sad. Mass. guru 'teacher'; as a verb (usu. with /maq-/) 'to study', (caus., /pa-/) 'to teach'.

jāla (Ml. Jav., PAN *jala) 'fish-net': Bug. Mak. Mdr. jala, Sad. dallaq, (I) also jallaq, Duri, Mmj. (SekoP) jala.

jambū (Ml. jambu) 'the jambu-fruit': Bug. jampu, Mak. jambu, Sad. dambu. Note Bad. gambu.

alābu 'bottle-gourd' (Ml., PAN *labu): Bug. lawo, Mak. lau Sad. lau, (i) also lawu; Mass.(V) lawu 'squash', DuriK lau 'container made from a gourd'; Seko lahu.

lakṣa 'hundred-thousand' (Ml. Jav. laksa 'ten-thousand'): Bug. Mak. lassa 'ten-thousand'.

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maharddhika 'great prosperity, very powerful' (Ml. mardaheka (cited in BWB), Jav. mardika; BI mĕrdeka 'freedom'): Bug. Mak. maradeka 'freedom'; Mdr. maraqdia 'king'; Sad. maqdika 'aristocracy, nobility'; End. meradeka, Mai. maradeka 'freedom'. The sense 'freedom' perhaps a recent development; cf. Ledo madika, maradika, Uma maradika 'nobleman, king'.

makuṭa (~ mukuṭa) 'crest, crown' (Ml. Jav. makota): Bug. Mak. Mmj. makota 'crown'. According to Gonda (p.41) ult. < Tamil.

maṇi 'gem' (Ml. manik): Bug. Mak. maniq, Sad. manik, End. mani/2 'jewels, jewellery'.

mūla 'beginning, origin' (Ml. mula): Bug. Mak. Mdr. Sad. Mass. (pa-)mula 'to begin'; Mdr. pa/mula/nna, Duri pa/mula/na, SekoL pa/mulana 'first'; Mmj.(A&K) mula 'to plant'. The sense 'to plant' may reflect a homophonous pula, mula, though the connection "begin" - "plant" seems clear enough. Note Bar. muya 'to plant', where Adriani also cites: OJ, Atjeh pula, Ponosokan mopumbula (/b/ unexp.), Bungku, Maronene (SE Sul) mom/-bula (/mb/ < *mp reg.), Wotu mem/bula, Mong. momula, Gor. mo/mulo, Tomini mo/mula.

mutyahara 'string of pearls' (note mutya 'pearl'), (Ml. mutiara 'pearl'; Gonda cites a variant muntiara): Bug. Mak. mutiara, Sad. mattiara. The origin of the Sad. form is difficult to assess, perhaps muntiara.

paṇḍia 'learned man' (Pkt., Hindi pāṇḍe; OJ panḍay, paṇḍe, Ml. pandai): Bug. Mak. panre, Sad. pande 'master (of a craft, e.g.).

palyaṅka, paryaṅka (Oriya palaṅka 'bed'; Jav. plangki, plangkèn, BI pĕlangki 'palanquin, sedan-chair', note also Jav. plangkan 's.t. to set s.t. on, support, base'): Bug.(>Mak.) palakka 'k.o. bed' (Mak. also 'platform'), Sad. palangka 'raised part of the floor, in a house'.

panasa 'breadfruit (Artocarpus) spp.)': Bug. Sad. Duri panasa. The absence of the word in Mak. as in Ml. Jav. is odd; Heyne (p.560) cites equivalents only in western Indonesia: Atj. pana, panah, panas, TB pinasa, probably Simalur anasah, anaha. Atjinese traders could have been the intermediaries.

pūjā 'worship, praise' (Ml. puji 'to praise'-- the /i/ is unexpl.): Bug. Mak. Mdr. Duri puji 'to praise, to like', Sad. pudi, Seko puji 'like'.

upavāsa 'fast (abstain from food)' (Ml. Jav. puasa): Bug. Mak. (BWB) pũasaq, (I) puãsa.

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rasa (Ml. Jav. rasa) 'feeling': Bug. Mak. Sad. Duri SekoP rasa.

rūpa (Ml. Jav. rupa 'face, form'): Bug.Mak. Mdr. Sad. Mass. rupa 'form, kind, appearance'.

śabda 'sound; word' (OJ sabda 'speech, words'): Bug. sadda, Mak. saqra, perhaps Mdr-Cend.(A&K) saran 'voice'; Sad. saqda 'clear the throat, make a loud noise'.

sama (Ml. sama) 'same': Bug. Mak. Sad. sama.

samaya 'agreement, contract' (Jav. samaya): Bug. samaja, Mak. samaya 'promise to sacrifice s.t. in return for a favor from the gods' (not recognized by my youngest Bug. informant); Sad. samaa 'blessings' (Ranteballa dial. samaña 'promises made to the gods').

sara 'pith, core, essence' (Ml. Jav. sari 'essence, the best part of s.t.'): Bug. Mak. Sad. sari 'best part of s.t.'.

saindhava (Pkt. sendava; Ml. Jav. sĕndawa) 'salt-petre': Bug. sunrawa, Mak. sundawa.

?sīghra 'quick' (Ml. sĕgĕra 'right away'): Bug. Mak. Mdr. Mass. siga, Sad. sigaq 'fast; rash, hasty'. Note. Atj. sigra, Jav. sigra 'fast'; Tiaung Dayak siga 'zealous', Banggai sia 'to hurry'; note also Bug. (Samsuri 1965) ma/sija2 'in a hurry'.

sevā 'employment' (Ml. Jav. sewa 'to rent'): Bug. Mak. Mdr. Duri SekoP sewa 'to rent'.

śṛṅkala (Pkt. saṅk(h)ala 'chains' (Ml. sangkala 'fetters'): Bug. sakkala, Mak. sangkala 'fetters, device to restrain a criminal or madman'.

svapna 'sleep' (OJ swapana): Mak. soqna 'to dream', perhaps Mdr. soqna 'let, allow'. (The OJ form may be incorrectly transliterated, or a variant form.)

svarga 'heaven' (Ml. sorga, soroga): Bug. Mak. Sad. suruga.

?tāmra, tamba 'copper; lead' (Ml. Jav. tĕmbaga 'copper', OJ also tamra- 'copper'): Bug. tumărra, Mak. tumbera, Sad. tumarra 'lead'-- but note Stresemann's Proto-Ambon *tumĕra 'tin'; this could well be an IN loan into Skt. Bug. tămpaga, Mak. SekoP tambaga 'copper'.

kṣantavya (< ksam-) 'be forgiven, pardoned' (OJ santawya, santabya, sangtabe, TB santabi; Ml. Jav. tabik 'excuse me; with your permission'): Bug. tabe, Sad. tabeq; (Bug.) Mak. tabe(y)a 'a greeting'. Mak. may have borrowed < Jav. before the merger of *-ya > /e/, but more likely, the Mak. /-a/ represents the definite article.

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tāla 'palm sp.' (Jav. tal 'lontar-palm, Borassus flabelliformis L.'): Bug. taq, Mak. Mdr. talaq 'lontar-palm'.

tatkāla (< kāla 'time') 'then' (OJ tatkala 'then'): Sad. taqkala, pakala 'then'. SWB marks "< Bug.", but no such form is listed in BWB.

onta (Mid.Indic; Pkt. uṭṭa, Hindi uṅṭ; Ml. Jav. unta) 'camel': Bug. Mak. unta. Not likely original Skt., but Gonda (p.73) does not trace it further.

2. Persian.

?bāzū 'upper arm; cloth wrapped around the middle while bathing' (Ml.Jav. baju 'blouse, jacket', PAN ^{x}baju): Bug. waju, Mak. Mdr. baju, Mdr.(variant), Sad. bayu, 'blouse'; note also Bad. badu.

nakhudā (~ nākhuzā, nākhuẓāt) 'master of a ship' (Ml. nakhoda, Jav. nakoda, nangkoda 'ship's captain/owner'): Bug. Mak. anakoda. The initial /a-/ by analogy with anaq lopi (Ml. anak prahu) 'the crew' (lit., children of the ship).

palīta 'wick of a candle or lamp' (Ml. pĕlita 'lamp'): Bug. Mak. Sad. Duri palita 'lamp'.

frangī (~ farang, firing, firingī) 'European' (ult. < Frank), (Ml. pĕranggi, pĕrĕnggi, Jav. prĕnggi 'idem'): Bug. Bug. paringki, Mak. paranggi 'Portuguese; any European'.

shalwar (~ shulwar) 'trousers' (Ml. sĕluar, sĕrual and other variants, Jav. sarual): (Bug.) Mak. salŭaraq, Sad. saluaraq, saruaraq, sararaq.

3. Dravidian.

(These ascriptions are second-hand; it has not been possible to check them against a dictionary.)

(Ml. apam, Jav. apĕm 'k.o. rice-cake, cookie; marked < Tamil in Klinkert): Bug. Mak. apang.

(PAN ^{x}bidil 'weapon; gun'): Bug.(< Mak.) balĭliq, Mak. bă̆qdiliq; Mdr. baqdil, baqjil 'toy pop-gun or squirt-gun made from a bamboo tube'; Sad. DuriK baliliq (< Bug.), DuriK mang/biqdiq 'to shoot' (native development?), Seko balili 'to shoot'. Cf. Ml. bĕdil, Jav. bĕdil; the presumed Tamil original has not been identified, despite Kern 1902.

(Ml. kapal 'ship' marked < Tamil): (Bug.) Mak. kă̆ppalaq, Mdr. kappal, Sad. kappalaq; SekoP mu/kapala 'to sail'.

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(Ml. Jav. kĕtumbar 'coriander', < Tamil): Bug. Mak. katumbaraq.

(PAN *kuṭa 'fortress'): Bug. Mak. kota; note also Old Bug. kuta 'house'. Gonda cites Skt. kuṭa 'house' ult. < Dravidian; cf. Tamil kuṭi, Tulu koṭṭa.

(PAN *pɨti 'case, coffin', Ml. pĕti, Jav. pĕṭi): Bug. pɨtti Mak. Sad. patti, Sad. also paqti 'bamboo eel-trap; basket'. (Gonda: Tam. peṭṭi, Skt. peṭa, piṭaka 'basket', the ultimate origin is obscure.)

(Ml. Jav. suasa 'copper-gold alloy, pinchbeck'): Bug. Mak. Sad. suasa. (Gonda states: an Indic word, of obscure origin; cf. Tamil šogušā 'pinchbeck'.)

(Jav. tĕlasih, also Ml. Jav. sĕlasih 'basil, Ocimum basilicum L.'): Bug. Mak. tolasi. Gonda cites Skt. tulasī 'idem,' but considers the word ult. of Drav. origin, cf. Kanada toḷaci, Tam. turāy.

4. Mon-Khmer?

(Ml. Jav. Sund. mĕrak 'peacock'): Bug. mɨrraq, Mak. marraq. Cf. also OJ mrāk; NgD. marak 'pheasant'; in "Het woord voor pauw in Santali, Mon en Indonesisch" (Bijdragen 60: 173; 1908) H. Kern cites Santali marak, Mon mrāk; in "Danaw, a dying Austroasiatic language" (IPLS I:98-129; 1965) G.H.Luce cites "Old Mon" mrek, mreng, Palaung bra? Riang prak, Biat brak, Bahnar (h)amra, Munda mara?, also Cham (AN) amrak. Not conclusive, since the word seems onomat. in any case, but it is of interest that it seems not to occur in Skt.

5. Arabic.

(These are also second-hand ascriptions. We have ignored a large number of words cited in Matthes' dictionaries which (unlike the Skt. words) have not been conformed to Bug./Mak. phonological patterns. The majority are religious terms, and may perhaps have been introduced by Matthes himself in the course of his Bible translation.)

(Ml adat, Ar. ʿadat 'customs, law'): Bug. adɨq, Mak. Sad. adaq.

(Ml./BI darurat, Ar. ḍarurat 'need, necessity', BI 'emergency'): Bug. Mak. laluraq 'obstacle, hindrance'. Note also Atj. lalurat, lalorat, larurat.

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(Ml. pĕrlu, Ar. fadlu 'need, have to'): Bug. parȧllu, Mak. Sad. Mass. parallu; cf. SekoP hang kuparallui 'penis' (lit., "I don't need it"?).

(Ml. pikir ~ fikir, Ar. fikr 'to think'): Bug. Mak. pĭkiriq, Mdr. map/pikir, Duri pikiriq, PUS map/pikiq, Mmj. ma/-mikiq, SekoP mang/pikiri.

(Ml. Jav. sĕbab, Ar. sabab 'because'): Bug. Mak. Mdr. Sad. Mass. PUS Seko sabaq.

(Ml. zakat, jakat. Ar. zakat 'alms, tithe'): Bug. sȧkkȧq Mak. sakkaq. Perhaps borrowed directly, in view of the /s/ for expected /j/ < Ml.

(Ml. sifat, sipat, Ar. sifat 'nature, quality'): Bug. Mak. Sad. sipaq.

(Ml. sunat, Ar. sunnat 'circumcised'): Bug. Mak. Mdr. Sad. sunnaq, Sad. also sunaq. Perhaps SekoP sinni if not < PSS ?*sȧnni(C) above.

(Ml. tamat, Ar. tammat 'finish' (BI 'graduate')): Bug. tȧmmȧq, Mak. tammaq 'become a Moslem'; Sad. tammaq 'graduate'.

(Ml. waktu, Jav. wĕttu, Ar. waqtu(?) 'time'): Bug. wȧttu, Mak. wattu, Konjo hattu, Sad. attu, uattu, Duri wattu.

6. Dutch.

(It is impossible to say when any of these words was introduced, nor whether directly or via Malay; but no Du. word found so far in SSul is absent from Ml/BI or Jav.)

(Ml. Bĕtawi, Du. Batavia 'Batavia, the colonial capital, now called Jakarta'): Sad. battawe, battaeq, battageq, Mass.(V) battaweq 'the cassava plant'. Probably the shortening of something like "ubi bĕtawi" 'the ubi (tuber) from Batavia', hence, an imported plant.

(Ml. duit, Jav. duit, Du. duit 'money, coin'): Bug. duiq, Mak. doeq, Mdr. doiq.

(Ml. ember, Du. emmer 'bucket'): DuriK SekoP ember-- probably a recent loan in both languages; note the retention of /-r/.

(Du. reken 'to count'): Bug. Mak. rekeng, Sad. Duri reken. Not found in E&S (but note rekĕning 'bill'), though it occurs in the Ml. spoken in Menado (NSul.) and Sangir.

(Ml. sĕnapan, sĕnapang 'gun, rifle', Du. snaphaan 'musket'): Bug. Mak. sinapang, Mdr. sinapang.

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7. Portuguese.

ganho 'win': Bug. Mak. gañu, Sad. ("< Bug.") gandu 'to win, esp. at dice'.

jugar 'to play': Mak. jůgaraq 'to play, make a play (in cards)'. Cf. Ml. jogar 'a certain game'. Possibly a direct borrowing in view of the phonological and semantic fit. The currency of the word is doubtful, as it was not checked with an informant.

copas 'suit (in the Spanish/Port. deck of cards)': Mak. kŏpasaq 'one of the suits in the card-deck used in the omi game'. A number of other terms of Port. origin associated with this game are cited in MWB; it is not known if the game is still current.

cămara (or Du. kammer) 'room': Duri kamaraq, SekoP kamara. These suggest a Mak. original */kămaraq/, but such a word is not listed in MWB. Cf. Ml. kamar.

?sabe (or < Span. idem, or Pidgin Engl. savvy?) 'know': Bug. Mak. sabiq, Sad. Mdr. saqbi 'to witness' (Mdr. pasaqbi 'to inform'). Note also Uma sabiq, Bar. sabi 'witness'; Adriani 1928 cites Tag. Bis, Bikol sabiq, unglossed.

espadilha (or Du./Fr. spadille?) 'suit (in a deck of cards, Spades)': Mak. sapadila.

solapa (or Span. idem, 'lapel'): Bug. Mak. Sad. sulapaq 'side, edge'. Note Bar. Ledo sulapa; Tag. sulapa 'edge, lapel'.

8. Malay, Javanese, or other IN languages.

(Sources are assumed to be Ml. unless otherwise noted.)

ajar (belajar) 'learn, study': Mak. ăjaraq, Sad. adaq, meladaq, Duri melajaq. The /-l-/ (an irregularity in Ml. too) points to borrowing; descent from PAN *ajar is possible, however.

*ajaran 'horse' (derived by Dempwolff < *ajar+an 'the trained one'). Bug. añarang, Bug-Sid. ñarăng, Mak. jarang, Sad. darang, ñarang, narang, Duri ñarang, PUS ajaran, Mmj. jarang, adahang, ajahang, Seko jarang. The SSul forms (except PUS) are probably < Bug. or Mak.; the ult. source is obscure-- Dempwolff lists only Jav. jaran, NgD. hajaran.

aji (meng/aji) 'to chant the Koran': Bug. mangaji, Mak. aji, Mdr. Duri mang/aji, Seko mengaji. PAN (Dw) *aji 'magic formula'.

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halus 'fine, elegant': Bug. Mak. álusuq, Mdr. alus. PAN *halus.

atur 'to arrange': Bug.(Basa Bissu) atuq; akaturiṅg 'stand in rows'; modern átoroq, Mak. átoroq, Sad. atoq (marked "< Ml."), Duri átoroq, SekoP mang/atoro. PAN (Dy) *(qh)atur.

mĕrcun 'fireworks': Bug. baṙiccung, Mak. baraccung. The /b-/ is unexpl.

baja 'steel': Bug. Mak. bajaq; Sad. bayaq 'cast iron', baak, bayak 'sharp edge of a blade (whiter than the rest of the blade)'. Note Jav. waja.

bayan 'bird sp., parakeet, parrot': Bug. Mak. bayang, Sad. bayan, baan.

bebas 'free' (Jav. idem): Bug. Mak. bĕbasaq; Duri ka/bebas/an 'freedom'.

?(Sasak) birĕng, bedĕng, berĕng (Jav. irĕng) 'black, dark-colored': perhaps in place-name (S. of Paloppo) jene/berang < Mak. jeqne 'water' + berang (not in MWB in this sense).

bintang 'star': DuriK, Mmj. bintang.

bocor 'to leak': Bug. Mak. bŏ̃ncoroq, Mdr. boccor, DuriK bŏcoroq. Cf. also Jav. buncur 'to bleed'; NgD bucor, busor 'leak', of which the second may be native. PAN *bucu(r).

bukit 'hill': Bug. buki, Mak. bukeq. (Mak. not recognized; Bug. in BWB only in: to buki 'mountain people, hill-billies', basa buki 'the language/dial. of these people.' PAN *bukid.

bulat 'round': Bug. Mak. bulaq. (Matthes marked the Bug. as "< Mak.". PAN *bulat.

cambang '(BI) side-whiskers': Bug. Mak. cambang, Mdr. cambang, Sad. sambang, tambang 'beard'. Note also Uma sampa, Minahasa Bajo (Adriani 1900) jambeang.

cĕrmin 'mirror': Bug. ciṁming, Mak. carammeng, Mdr. jarammeng, Sad.("< Bug.") samming. PAN *carimin.

cangkir 'cup': Bug. Mak. cãngkiriq, Mdr. caker (Native?), Sad. sankiriq, End.canggirin, SekoP cangkiri.

campur 'to mix': Bug. cãmpuruq, Mdr. cappur. The presumed Mak. original is not in MWB.

canting 'mug': Mdr. canting (note /-nt-/), Duri canteng. PAN *canting.

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cĕngkam 'to grab, grip': Bug. tikɨng 'catch, grab'; Sad. tingkan 'catch by the legs or feet; to harvest rice'. Conceivably a native development, /ti(N)-/ + root **kɨm, cf. *kɨngkɨ(m) 'catch, hold in the hand'.

cĕpat 'quick, fast': Mak. tipaq, sepaq, Sad. tiqpaq.

coba 'to try': Bug. Mak. coba, Sad. soba, toba. PAN *cuba.

rañcung 'sharpen (to a point)': Bug. dañcong (cited in MWB, not in BWB), Mak. rañcung.

dagang 'trade, commerce': Bug. dangkang, Mak. danggang; Bug. apparently < Mak., and a very early loan in view of the voiceless NC. PAN *dagang.

daging 'meat': Mak. dageng (rejected by Informants), Duri daging. PAN *daging.

rĕmpah2 'spices': Bug. Mak. Duri Seko rampa2.

(Moluccan) dego2 'bench': Bug. lego2 (Sinjai dego2, probably < Mak.), Mak. dego2 'small, built-in bench at the front of a house'; Sad-Mamasa(V) degu2 'vloertje op de rijst-schuur'-- it is not clear whether this refers to the platform under the structure, or the small protruding plank in front of the opening. Adriani (1900) has identified the word as Moluccan Malay, but does not cite a source; note also his Togian Bajo dedego 'bench'.

ubah (bĕr/ubah > a new base rubah by analogy) 'change, different': Bug. Mak. ruba2 'changeable, light-hearted'. PAN *ubah.

rugi '(financial) loss': Bug. Mak. Sad. Duri Seko rugi. PAN *rugi. Perhaps native, but more likely a borrowing due to trade.

gading 'ivory': Bug. Mak. gading; Sad. aoq gading 'a sp. of yellow bamboo'. PAN *gading.

gudang 'warehouse' (ult. < Pidgin Engl. go-down): Mdr. gudang.

gurinda 'grindstone': Bug. gulinra (also gurinda cited in MWB), Mak. gurinda, Sad. burinda. Note OJ gurinda, mod. Ml. gerinda, mod. Jav. grinda, NgD. grinda, garinda.

jĕmbatan 'bridge': Bug. Mak. jambatang, Duri jambatan, SekoP jambata. Note also Bad.(A&K) gambata.

(Jav.) jĕnĕng 'control, have (royal) power': Bug. jɨnnɨng, Mak. jannang.

jumpa 'to meet': Bug. duppa, Mak. ruppa, Mdr. si/ruppaq, Sad. duppa, rupang, Mai. duppai. Possibly native forms; but Mak-Konjo si/guppa must be borrowed.

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kacang goreng '(lit.) roasted peanuts': Bug.(BWB) canggoreng, End. janggoreng, Mai. canggoreng. Also cited in Heyne (1950:784) Mak. Mdr-Majene, canggoreng, Mdr-Bal. sanggoreng. Note also Ledo cangkore, canggore. The word is not listed in MWB; was this an oversight on Matthes' part? Or is it possible that the peanut was introduced into Sulawesi between the publication of MWB (1859) and BWB (1874)?

karang 'make, compose': Bug. Mak. Sad. karang, DuriK mengarang, SekoP mang/karang. Possibly native, < PAN *karang.

kapur '(quick-)lime, chalk': Bug. Mak. kăporoq; Mdr. kapur 'chalk'; Sad. kapuq, DuriK kapu, DuriC kapuh, Mmj. kapuru; perhaps SekoP apung '(blackboard) chalk'. All except Bug. and Mmj. could be native developments, < PAN *kapuy.

kampung 'village': Bug. Sad. Mmj. kampung, Duri kampong. Possibly native < PAN *kampung, but other words for 'village' are more common.

kĕñcang 'strong, "stiff" (of wind or breeze)': Bug. kiñcang (also kiññang 'taut, of a rope'); Mdr. kaccang; perhaps End. kaccang 'big'. Note Ledo na/kañca 'stiff (breeze)'; Bal. keñang 'strong' suggests more than one proto-form. PAN *kiñciŋ.

kĕtam 'carpenter's plane': Bug. Mak. Mdr. kattang, Sad. gattang. PAN *kiṭim.

*kulambu 'curtain, mosquito net': Bug. ulampu, Mak. kulambu, Sad. SekoP kulambu. Possibly native; if < Ml., then borrowed before pre-tonic V > Ml. /ĕ/. DuriK kalambu clearly < Ml./BI. Note Ml. Jav. kĕlambu, PAN *kulambu.

labuh 'to drop anchor': Bug. Mak. labu, Mdr. lawu; Sad. labu/i 'to sink s.t., cause to vanish'. PAN *labuq.

lada 'pepper': Bug. ladang, Mak. Mdr. Sad. Duri SekoP lada; DuriK laqdang 'another kind of pepper'. PAN *laga. (For the native forms, cf. *laza above).

larat 'drift (at anchor)': Bug. Mak. laraq; probably Mdr. raraq 'run aground'.

langgar 'village mosque, chapel': Bug. lăngkaraq, Mak. langgaraq. The Bug. suggests that the devoicing of voiced NC can be dated to some period after the introduction of Islam, though that date itself remains open. The 10th King of Goa, according to the chronicles, built a mosque (masijiq) for the Islamic foreigners (post 1546-48); presumably they had built langgar's for their own use prior to that.

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(Jav., kromo) lampah 'go, walk': Mak. lampa. Note also Mad. lampa 'go'; NgD. lampah 'go away, withdraw for religious reasons'.

langsat 'a fruit, Lansium domesticum': Bug. lisseq, Mak. lasaq, Sad. langsaq (poet., langseq). Note also Ledo loñja (< **linsaØ). Not necessarily < Ml. (the Bug. form especially); but cf. Jav. langseb, langsep.

layar 'sail': Bug.(Old Bug.) lajaq, Mak. layaraq, Duri layaraq, PUS, Mmj. lajaq. Except for Duri, perhaps native < PAN *layay. Probably present also in the place-name Bug. silajaq, Mak. silayaraq 'the island Selayar'-- all forms appear to mean "a sail"; would it be because, from a distance, the island might appear to be a ship?

lunas 'keel': Bug. lulasaq, Mak. lunasaq. Note also Tag. lunas.

mangkok 'bowl; cup': Bug. Mak. mangkoq, Mdr. makkoq, Duri mangkoq, SekoP mangko. PAN *mangkuk.

(Jav.) mataram 'a Jav. kingdom': Bug. matariŋ. The word is of interest in that it might provide dating for the Bug. "schwa-dental rule"; one Mataram flourished ca. 900 C.E. in central and eastern Java, but need not be the first to bear the name. Later kingdoms also adopted it, one as late as the 18th Century, and a 19th-20th Century principality on Lombok also use the name. Cf. the next item.

(Jav.) prapat (earlier ?*parapat) 'fourth (part)': Bug. si/parapiq, Mak. Mdr. si/parapaq 'one-fourth'. The word can be specifically identified as a Jav. loan; Ml. pĕrĕmpat 'idem' would not be borrowed in this shape; the native words for 'four' all have /-pp-/, and in any case, the prefix /par-/ is not used elsewhere in SSul to form fractional numbers. Apparently a rather early borrowing, as the Bug. form has undergone the "schwa-dental rule".

(Old Ml.) parlak 'garden, park': Bug. pallaq, Sad. paqlak 'garden'. Probably also Mak. parallakkeng 'courtyard', despite Matthes' (folk-)etymology as parang 'plain' + "lakkeng" (occurs only in this compound). See Coedès 1930 for the OMl.; Old Bal.(Goris) parlak, Angkola-Batak (Eggink) porlak.

panjaja(bp) 'k.o. boat': Bug. pañcaqjaq, Mak. panjaqjaq. Matthes cites Ml. pañjajab; Jav. has pañjajap 'small boat (Du. schuit, sloep)'. On the other hand, SSul, reflecting an apparent RM **pañ/ja(bp)ja(bp) may be the source language.

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pangkat 'post, rank': Bug. Mak. pangkaq; Sad. pangkaq, SekoP pangka 'to praise'. Perhaps native, < PAN *pangkat, though Bug. at least must be borrowed. Note also Sad. (variant) pangkeq. Ult. a morphologically complex form of *angkat 'raise up'.

payung 'umbrella': Bug. pajung, Mak. Sad. payung. Possibly < PAN *payung. Cf. OJ jong. Believed to be a loan < Chinese, but the source has not been identified.

(Jav.) pĕtung 'a bamboo sp., large and thick': Bug. pittung, Mak. pattung, Sad. patung, pattung, Duri patung. Perhaps native, PIN ?*pitung; but cf. Ml. bĕtung.

piring 'plate': Bug. Mak. Sad. Duri SekoP piring.

pijar (and/or Jav. pijĕr) 'to solder': Bug. pijiq, Mak. pijaq (< Bug.?), pijaraq; Sad. piqdaq 'to fasten with glue'. Perhaps < PAN *pijir. Cf. Bar. pija 'idem'--the native development there would be > */pijo/.

(Mak.) saqbe 'silk': Bug. Mak. Sad. saqbe, End. saqbeng. Cf. Ledo sabe. Undoubtedly a borrowing, but the source has not been identified. **sibbi(q) or **sibbay.

(Jav.) sangkuh 'bayonet': Bug. Mak. sangkung; cf. also Mak-Konjo sangko, Bug.(I) sangko 'cut with a sickle'. Blust has reconstructed PIN *sangkuq; Ml. (doublet) sangkur is unexpl. Note (with vocalic metathesis?) To. hoka 'to ram, jab, stab, harpoon', hoka (2) 'play billiards, have bayonet practice'.

(Sund.) salapan 'nine': Mak. salapang. Ult. < sa- 'one' + alap 'take away' + -an; perhaps the form existed in early Ml. (note dĕlapan 'eight' < **dua + alapan), and has been replaced by sĕmbilan in relatively recent times.

santan 'coconut milk (for use in cooking)': Bug. Mak. santang, Mdr. sattang, Sad. Duri SekoP santang, Mmj. santan. PAN *sant(ai)n; possibly (except for Bug.) native, but most informants felt it to be a loan.

sĕmbahyang 'to pray' (< *simbaq 'revere' + *hiang 'holy; god'): Bug. simpajing (I also simpajang), Mak. Mdr. Sad. sambayang.

sĕlatan 'South' (< *silat 'interval; straits' + -an): Bug. Mak. sallatang 'south wind (from inland)', Mdr. Mmj. salatang 'South'; probably SekoP silatan 'mist, fog'. Cf. also Ledo salata 'wind (from inland, i.e. South)'.

sia2 'in vain, fruitless': Bug. Mak. sia2.

sumbu 'wick of a lamp/candle': Bug. sombu (note I: sunggu), Mak. Duri Seko sumbu. PAN *sumbu.

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sulam 'to embroider': Mak. sulang, Sad. sulan. PAN *sulam.

tarum 'indigo': Mak. tarung, Sad. tarun. Note Sang. tahung, Bar. tãomi-- SSul perhaps native, though unlikely; PAN *tayum.

tĕropong 'tube, telescope' (Note Jav. tropong 'spool, in weaving'): Bug. Mak. taropong 'weaver's shuttle' (this according to my informants; Matthes also listed 'telescope, tube', both rejected.)

tañjak 'slanting; also, name of a certain sail': Bug. Mak. tanjaq 'a certain sail'. PAN (Blust) *(Ctṭ)a(ñ)(jZ)ɨk, (Dw) *ta(ñ)jak.

timur, timor 'East': Bug. timoq, Mak. tĭmoroq, Mdr. timur, Mmj. tĭmoroq 'East; the East monsoon'. Note also Mak. tĭmboroq '(std.) South, (Bant.) East'. All the languages have other (usu. geographical) terms for 'East'. PAN *timuy.

timun, ketimun 'cucumber': Bug. antimu (not necessarily < Ml., but felt as a loan by informants), Mdr. timung, Sad. Duri katimun (SWB "< Ml."), SekoP temun. PAN *timun.

ubat, obat 'gunpowder': Bug. Mak. ubaq. PAN *ubat.

uji 'to test': Bug. uji (ugi also cited in MWB, rejected), Mak. uji, ugi, Sad. udi ("< Ml."), cf. also sudi 'to test, assay, gold.' PAN *uji.

(h)utang 'debt': Bug. utang, Duri pe/utang. PAN *qutang.

untung 'profit': Bug. Mak. Sad. ontong, Duri Seko untung. PAN *u(n)tung.

9. Toraja languages.

**batutu 'bag': Mdr. batutu 'bag for carrying betel-chew ingredients etc.'. Uma batutu, Bar. watutu 'idem'. Adriani 1928 cites Gor. bututu, unglossed.

**dɨsɨn 'strong': Sad. roqson 'well-developed, healthy (of a child)'. Bar. Ledo Mori roso, Loin. ma/hoson, Mong. roton. Cf. Proto-Manobo (Elkins 1974) *dɨsɨn 'hard'.

?*sale(y)ɨm 'insect, wall-louse': Mak. saleyang, PUS, Sad-Mamasa saleong, PUS Bamban(V) saneom. Note also Bug. Sad. samelang, Sad. variants timayong, taimañong. Perhaps also Mak. sareyong 'certain k.o. mat'-- from the habitat of these pests? Perhaps related to PAN *sɨǧɨm 'ant', with *-al- 'frequentative, plural' and regular Tor. /y/ < *ǧ.

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?*kalia(bw)u(C?) 'shield': Bug. kaliawo, Mmj.(A&K) kaliaho. Ledo, Parigi kaliawo, Balantak (Loin.) kaliau, Sang. kaliauq, Ttb. kaleaw; Stresemann's "Sub-Seran" *galiauq. The direction of borrowing is unclear.

**tena 'to ask, ask for': Bug. Mak. Sad. tena 'to request the services of a native curer; to pay such a person for services rendered.' Mori tena 'to ask, request' apparently cognate with Ml. taña, PAN *tañ̃a 'ask' (cf. Mori ena 'to weave bamboo', PAN *añam).

**tabaro 'sago-palm, Metroxylon sp.': Bug. Mak. tawaro, Sad. Duri SekoP tabaro. Note also Ledo tabaro, Lalaki Toli2 tawaro, Gor. towahu; perhaps Ml. teberau, NgD. taberau 'a reed sp.', Bar. tambaro 'sort of lily, grows from a bulb'.

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Abbreviations:

Bijd.	Bijdragen tot de Taal-, Land- en Volkenkunde (van Nederlandsch Indië)
FICCAL	First International Conference on Comparative Austronesian Linguistics, Honolulu, Jan. 1974.
IPLS	see: Milner and Henderson 1965.
TBG	Tijdschrift voor Indische Taal-, Land- en Volkenkunde (Tijd. van het Bataviaasch Genootschap van Kunsten en Wetenschappen)
VBG	Verhandelingen van het Bataviaasch Genootschap van Kunsten en Wetenschappen.
VKI	Verhandelingen van het Koninklijke Instituut voor Taal-, Land- en Volkenkunde.
ZES	Zeitschrift für Eingeborenen-Sprachen.

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