THE BOSAVI LANGUAGE FAMILY

R. Daniel Shaw

1. INTRODUCTION

'Discovered' in 1935 by Jack Hides, who described it as the 'Papuan Wonderland', the vast region surrounding Mt Bosavi has changed little in the intervening years. Characterised by swamps and marshy plains rising to undulating ridges, plateaus and foothill ranges, the region is covered with heavy rain forest watered by over 500 cm of rainfall per year. The leached out soil supports a meagre population averaging less than one person per square kilometre.[1] The region was the last portion of Papua New Guinea (PNG) to be derestricted due to the prevalence of cannibalism. Raiding and counterraiding continue in remote parts of the area to the present day. The Government post and airstrip at Nomad River has, since 1963, been the last outpost of civilisation, introducing the peoples of the region to the wonders of the 20th century: health care, education, and of course, governmental control, epitomised by the patrol officer and his entourage of policemen with ever-present guns. Made famous by the notorious Bedamini, well known for their resistance to control, the region today is, nevertheless, an important part of the Western Province and a general awareness of the linguistic situation is of interest to government, missions, and researchers alike.

This paper seeks to make linguistic data from throughout the region available for the first time, and place those data into the context of surrounding languages.[2] The data were made available through surveys conducted by the author in December 1979, and June 1981.[3] The material should be viewed as an attempt to present data, not to provide a detailed or definitive analysis; it is preliminary at best. It is also crucial that it be made available to the linguistic and anthropological community in order to encourage further research and bring the world to a greater understanding of this fascinating area.

The paper discusses these non-Austronesian languages with respect to the phonological data, lexical data, statistical data (which are compared to an earlier, more restricted survey, Shaw 1973) and cultural data which support the linguistic findings and suggest some reasons for them.

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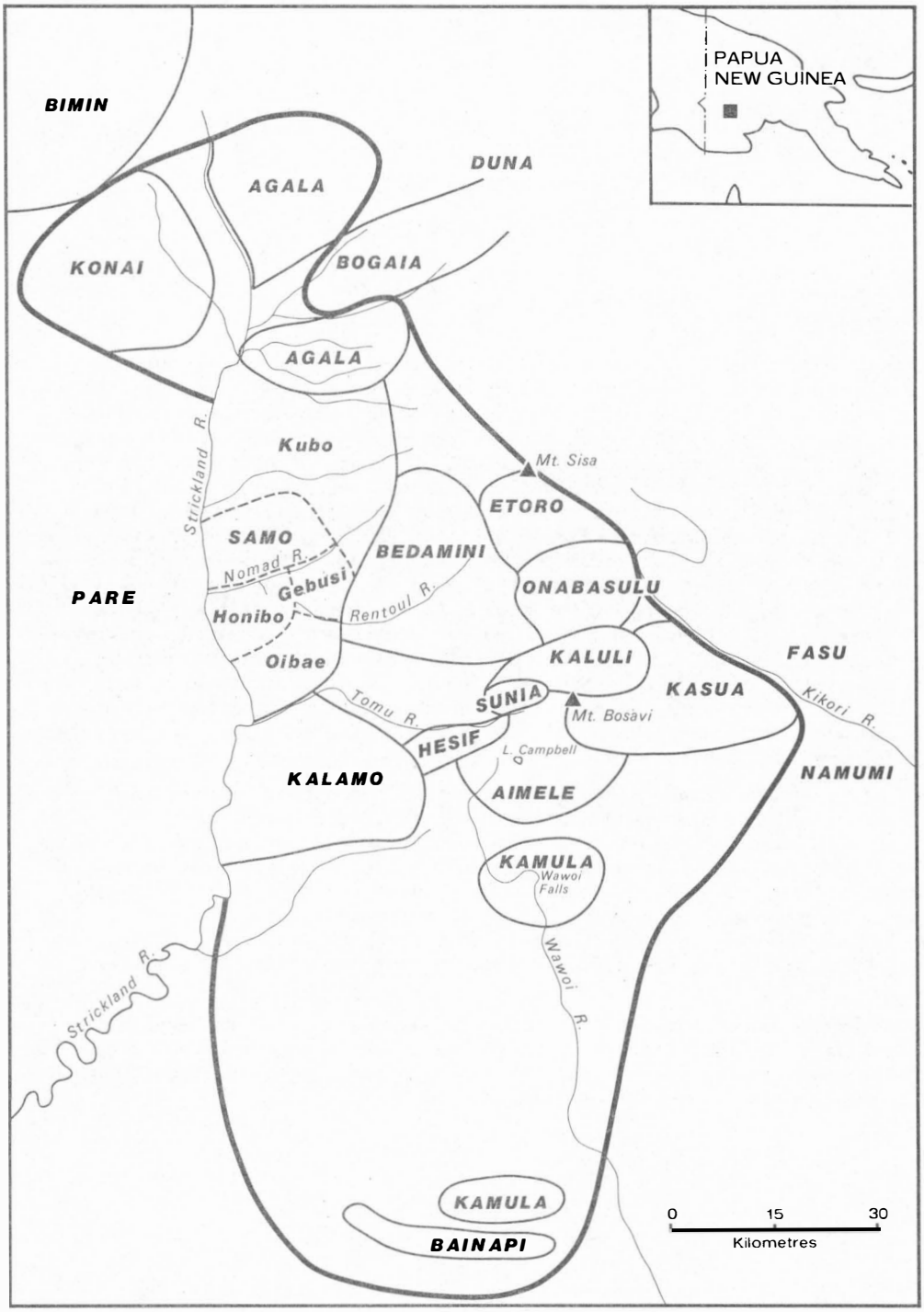


MAP: BOSAVI LANGUAGE FAMILY AND NEIGHBOURING LANGUAGES

A word about methodology is necessary at the outset. For the most part, and often of necessity, the lists (see Appendix) were collected monolingually. Lists from the various locations were compared to determine language/dialect relationships and these discrete groupings were then compared with all other similar lists in order to determine cognate relationships. Cognates were determined by simple inspection discussed by Gudschinsky (1956), elaborated on by McElhanon (1967) and refined for Papua New Guinea by Sanders (1977). An adapted form of the Swadesh 100-word list was used, thereby conforming to the environmental and cultural factors relevant to the region.

Owing to the nature of collecting such material from isolated house sites the idea of boundary comes into question. Geographical boundaries such as rivers, ridges, or mountains are often obvious, and, as in many parts of PNG, act as barriers to linguistic usage. However, in comparing lists, one quickly notices gradations such that each linguistic group (however defined) is closely related to those it borders and is related to each successive group to a lesser degree. Such 'chaining' has been the subject of a considerable literature (e.g. McElhanon 1970, Tryon 1977) and affects the analysis of this paper as will be discussed shortly.

1.1 Phonological data

Recognising the tentative stage of analysis, Table 1 displays a partially phonemicised inventory for the 14 languages of the Bosavi region. The basic phone inventory appears quite consistent throughout the data. This uniformity may, in part, reflect the fact that the data was collected by the same person. It may also be conditioned by personal familiarity with languages spoken on the Strickland Plain and extrapolated to the surrounding areas. The data appear to distribute into three general regions within the larger context: the languages of the Strickland Plain, those of the Papuan Plateau, and those on the watershed of Mt Bosavi (see map for geographical relationships between these groups). The analytical concerns for such a distribution will be discussed, but for ease of presentation the abbreviations Plain, Plateau, and Watershed will be used.

A cursory phonological examination appears to indicate the following. /p/ and /f/ have an interesting distribution, shifting for the various regions. Most of the languages on the Plain lack a /p/ but have an /f/. Languages in the southern portion of the Watershed area (Bainapi and Kamula) have no /f/ but do have /p/, while those in the north of the Watershed have both /p/ and /f/, as do the Plateau languages. Thus we note a progression from the presence of only /p/ in languages to the south, to both /p/ and /f/ in the middle, and only /f/ in the north.

With respect to other consonants, Sunia and Kasua of the Watershed are the only languages to manifest /g/. Similarly, only the Watershed languages use /r/ while on the Plateau this phoneme is manifest as /l/ and it does not exist on the Plain. Kasua is the only language in the region to have a /z/ and then only in the word medial, syllable initial position. The data are too limited to state precise phonological rules and it is strongly suspected that such analysis will prove this cursory description quite inadequate.

The vowels are also evenly distributed with three back vowels /u/, /o/, and /ɔ/ present in all regions except the Plateau where /o/ is conspicuously absent. However, /a/ and /ʌ/ act as full phonemes only on the Plateau.

Table 1: Phonemic inventories for Bosavi Family languages

		p	t	k	b	d	g	f	s	h	m	n	l	ɣ	y	w	i	e	a	u	o	ɔ	supra-segmental
PLAIN	Konai	Ø	x	x	x	x	x	x	x	x	x	x	x	Ø	x	x	x	x	x^	x	x	x	N, LB, OS**
	Agala	Ø	x	x	x	x	x	x	x	x	x	x	x	Ø	x	x	x	x	x^	x	x	x	N, LB, OS
	Samo	Ø	x	x	x	x	x	x	x	x	x	x	x	Ø	x	x	x	x	x	x	x	x	N, LB, OS
	Kalamo	Ø	x	x	x	x	x	x	x	x	x	x	x	Ø	x	x	x	x	x	x	x	x	N, OS
	Hesif	Ø	x	x	x	x	x	x	x	x	x	x	x	Ø	x	x	x	x	x	x	x	x	N, OS
PLATEAU	Bedamini	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	xæ	x	Ø	x	N, LN, CS
	Etoro	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x^	x	Ø	x	N, LN, CS
	Onabasulu	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	^	x	Ø	x	N, LN, CS
WATERSHED	Kaluli	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	N, OS
	Sunia	x	x	x	x	x	xɣ*	x	x	x	x	x	x	ř	x	x	x	x	^	x	x	x	N, LN, CS
	Kasua	x	x	x	x	x	xɣ	Ø	x	x	x	x	x	ř	Ø	x	x	ɛ	^	x	x	x	N, LN, OS
	Aimele	Ø	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	N, LN, CS
	Kamula	x	x	x	x	x	Ø	Ø	x	x	x	x	x	ř	x	x	x	x	^	x	Ø	x	N, OS
	Bainapi	x	x	x	x	x	x	Ø	x	Ø	x	x	x	ř	x	x	x	x	x	x	Ø	x	N, OS

*Where an x and another symbol co-occur, the second is a phonetic manifestation which is included for comparison.

** N = nasalisation
LB = labialisation
OS = open syllable
LN = length
CS = closed syllable

The supra-segmental phonemes of vowel nasalisation and length, and open versus closed syllables, all play a role in the phonemic inventory of the region. Nasalisation of vowels is a prominent feature throughout the data. All the Plateau languages exhibit vowel length and have closed syllables, while none of the Plain languages have either and the Watershed languages are evenly split. Interestingly, length and a closed syllable pattern appear to coincide in this data. The Plain languages are the only ones to manifest labialisation as a feature of their phonologies. In fact, what appears to be labialisation may, however, be a complex sequence of vowels which elide in rapid speech to resemble labialisation as is the case in Samo (Shaw and Shaw 1977). Whether this is true of all the languages on the East Strickland Plain requires further investigation. The Watershed languages exhibit greater diversity among themselves than do the languages of the other two areas. This may be affected by more recent migrations, various types of contact, etc.

The basic sound shifts and phonological features can be applied to determining cognates throughout the region. An example is the word for 'man' which on a north-south axis progresses as follows:

Konai	Agala	Samo	Bainapi
ɔ	o	oso	sau

Cognates are also affected by outside borrowing, or long past relationships with neighbouring languages. For example, languages at the far western and eastern borders of the region (Pare and Namumi, respectively) affect the languages between them. In Pare the lexeme for *name* is hi whereas in Namumi it is iyanu. These apparent non-cognates can be spotted by noting the manifestations of intervening forms: hu or hũti, among the Plain languages while the Plateau and Watershed languages manifest this lexeme as hi or wi. Words within the region contribute to forms in other languages of the area as well. For example the concept of 'tree bark' combines the Plateau word for *tree*, i, and the Plain word for *skin*, kɔlɔ, yielding ikɔlɔf, idɔkɔf, biakɔlɔ, etc. These are more than phonological shifts, however. They relate directly to the lexical data upon which this analysis is based.

1.2 Lexical data

Words take their meaning from the context in which they are used, leaving isolated words taken monolingually and scratched on a note pad somewhat suspect. Thus, it falls to the analyst of such data to demonstrate their validity by noting consistencies such as the above example for 'bark'. Table 2 demonstrates semantic and phonological relationships that follow throughout the region, while Table 3 supports the phonological data demonstrating the diversity between the cluster of subgroups. As with the phonological data, the Watershed tends to be more diverse lexically, and overlap between the subgroups is readily evident. This, however, represents a realistic picture of the data and of the region itself, as real situations are seldom clear-cut and neat. This is not a laboratory experiment in a test tube, but rather an attempt to come to some understanding of the linguistic situation in this complex and heretofore nearly unreported portion of Western Province.[4]

Table 2: Family wide comparison

		Objects					Abstracts		Events	
		nose	*sun*	*water*	*root*	*string bag*	*long*	*green*	*eat*	*give*
PLAIN	Konai	mɔkʷa	ʌsɔ	hʷeĩ	tʌfʌla	yẽ	sɔgɔ	gɨhẽ	nɔɣu	neli
	Agala	migi	ʌsɔ̃	hʷɔẽ	tefe	esɔ	sɔgɔ	may	nɔɣu	nei
	Samo	mĩnĩ̆	ɔ̃sɔ̃	hõ	tofɛ	esɔ	sagɔ	mɔ̃lɔwɔ	nãla	nẽla
	Kalamo	mudu	osigɔ̃	hɔ̃wɔ̃	tu	ɔ	sage	mɔluwɔ	nãye	neye
	Hesif	mɔdu	csugɔ	hɔ̃wɔ̃	kulɔ	ɔ	sage	wenadɛi	nelaabug	nei
PLATEAU	Bedamini	mi	esɔ	halɔ	tiifi	esa	sada	gamurubu	naha	ima
	Etoro	migʌ	esɔ	ɔ̃tã	tifi	esa	sedade	mẽlabai	nahã	imɔ̃
	Onabasulu	mĩ	hɔlɔ	hanɔ	efɔtɔ	alu	sedale	imɔb lu	namana	mema
WATERSHED	Kaluli	migi	ɔf	hõn	tif	as	sãb	imɔlɔ	maya	dimina
	Sunia	miki	of	mɔ̃	tef	is	sʌbʌ	imuɣʌ	mena	dimʌnʌ
	Kasua	mĩ	ɔbɔ	hʌnɔ	waɣ̆ɔfɔ	—	senʌtɔɣɔ	ɪmunʌ	mɛnẽ	nemʌ
	Aimele	migi	ofɔ	hãni	tefe	esi	sada	imɔ̃la	mayã	diminã
	Kamula	mũ	sʌɣi	yu	tɔɣɔsʌʌɣɔ	—	seɣ̆emʌɣeni	tʌlipusukʌlu	tʌɛdɔma	hʌmima
	Bainapi	deimu	male	daia	baba	bitia	memeli	katotopa	na-	mina-

Table 3: Subgroup comparisons

		Objects					Abstracts		Events	
		woman	*louse*	*stone*	*arm*	*fire*	*yellow*	*hot*	*good*	*come*
PLAIN	Konai	sʌsai	ɔ̃u	yo	debuŋõ	dou	diye	dʌfi	bɔnɔfĭ	hugʷa
	Agala	sʌbɔsãi	ɔ̃u	yɔᵘ	debugɔ̃	dɔᵘ	biyẽ	defi	dɛ	huguĭu
	Samo	sɔbɔ	oũ	yɔ	debe	dɔlɔ	biye	dɔfi	de	hugala
	Kalamo	sɔbɔ	oũ	yo	di	dɔᵘ	mesiyã	deduɔ	sɔwadɔ	sibaye
	Hesif	subɔ	ɔu	yɔ	de	dɔᵘ	wãdɛⁱ	debiɔ	tigɛfɔ̃	sibeye
PLATEAU	Bedamini	uda	imu	igi*	nabu	nalu	puae	haᵘ	tefeya	misa
	Etoro	udia	imũ	igi	nʌbɔ	nulu	wʌnɔi	heĭgĭ	hedebi	maasipe
	Onabasulu	idɔ	fẽ	iki	sɔne	ti	wanɔlu	halɔfe	nafulu	mila
WATERSHED	Kaluli	kesali	fẽ	u	tagi	de	wanalɔ	ɔfɔ	nafa	mina
	Sunia	nʌisɔ	fĭ	ka	dʌb	de	wʌn	uful	nɔfedi	menʌ
	Kasua	kesʌle	Pfɛi	etewʌ	tiɛĭe	teⁱ	eĭiʌ	kuli	nʌpɔĭɔ	mine
	Aimele	kaisale	tede	dɔa	debe	di	wenala	ɔfɔla	kẽlẽga	yabe
	Kamula	ɛã	iya	ewʌĭʌ	tɔi	delʌpʌ	wʌleni	ʌlʌmʌleni	tegedĭe	puma
	Bainapi	tawɔi	pe	kɔ	tapi	daĭaᵘ	mɛtəpa	sitaᵘ	tikiĭi	mini-

*(Plain) *stone club* = gigi

1.3 Statistical data

Statistical analysis provides another means for understanding the data presented here. Table 4 presents the percentages of shared basic vocabulary for languages throughout the region. Considerable overlap between the three major groupings of languages is quickly obvious, suggesting that border languages could be placed equally into either region. Following Wurm and Laycock (1961), more than raw cognates must be considered. Several factors have been utilised in order to place a language into one group or the other: mutual intelligibility, multilingual use of languages between speakers at the borders, and cultural interaction such as trading, raiding, and marriage exchanges. What is clear is that there are no sharp cut-off percentages which define dialects, languages, or language groupings in these data. This problem of chaining has been dealt with at some length and recognised as widely affecting languages throughout Melanesia, and Australia (Tryon 1976). What is important for this body of data is the application of the chaining principle to the grouping of languages within the broader region.

In positing figures for the inclusion of language groupings in Vanuatu, Tryon follows Wurm and Laycock in suggesting lower figures than Swadesh (1955). The following percentages seem to more realistically support the data.

Approximately 81% - 100% = dialects of same language.
Approximately 50% - 80% = different language, same subgroup.
Approximately 30% - 49% = different subgroup, same group.
Approximately 20% - 29% = different group, same family.

The key word here is 'approximately', but such a breakdown appears to fit the data for the Bosavi region.

Elsewhere the author has demonstrated the arbitrary nature of determining dialect or language breaks for the groups on the Strickland Plain (Shaw 1973). There, mutual intelligibility combined with an application of Grimes' (1974) optimisation model, resulted in positing a language break between the dialects surrounding the Nomad Patrol Post and Konai and Agala to the north of the Carrington River. Each of the latter were also considered to be separate languages. The present data support those findings and clearly indicate the nature of a dialect/communalect chain, each group along the Strickland River showing a high percentage relationship to the next. Applying mutual intelligibility to all of the groups on the Plain results in the following distributions:

Hesif 47% Konai	Oibae 68% Agala	Oibae 81% Kubo
(no communication)	(little communication; use Samo if necessary)	(mutually intelligible)

In comparing the data collected in 1971 with the present data, a significant lexical shift demonstrates the merging of these dialects (see Table 5). Such rapid change suggests a considerable amount of social interaction enhanced by relative peace established throughout the region by the administration. This stability and the resultant interaction is manifested by increased intermarriage, patrols, contact in school, trading, etc. These will be considered at greater length when discussing the cultural factors affecting linguistic distributions.

Table 4: Percentages of shared basic vocabulary of languages in the Mt Bosavi area

Strickland Plain (five languages)

Papuan Plateau (three languages)

Bosavi Watershed (six languages)

One language five dialects

Duna																					
16	Bimin																				
26	17	Bogaia																			
27	20	17	Pare																		
8	15	16	21	Konai (450)																	
6	11	17	25	67	Agala (350)																
7	14	17	25	63	78	Kubo (600)															
6	15	15	25	59	72	90	Samo (550)														
8	16	13	24	53	71	83	90	Bibo (500)													
8	17	12	25	55	71	86	91	92	Honibo (200)												
7	20	15	24	52	68	81	87	89	94	Oibae (200)											
7	16	13	21	50	58	65	75	73	73	79	Kalamo (300)										
10	10	15	23	47	58	50	65	66	68	68	71	Hesif (200)									
13	12	15	22	26	29	32	36	42	38	37	35	35	Bedamini (3800)								
17	13	15	23	28	28	26	34	37	40	36	37	39	67	Etoro (750)							
21	14	20	21	25	31	27	31	34	37	35	32	41	52	58	Onabasulu (500)						
12	16	16	19	30	32	34	36	37	38	39	37	49	46	48	64	Kaluli (1800)					
15	16	16	21	31	34	28	39	37	38	40	40	49	38	36	52	70	Sunia (300)				
10	11	15	20	25	25	26	30	32	30	31	30	32	38	41	52	64	56	Kasua (450)			
13	17	20	23	33	39	41	44	42	43	44	46	48	41	42	47	61	59	61	Aimele (400)		
11	18	13	22	23	24	23	24	28	28	28	26	34	29	31	32	44	37	55	38	Kamula (600)	
15	13	14	18	26	27	25	28	27	27	27	26	29	32	33	38	43	34	39	38	41	Bainapi (400)
16	7	13	16	21	22	22	24	23	24	23	24	27	36	37	30	29	25	31	26	20	23	Namumi
5	7	12	14	14	16	15	16	15	14	13	11	19	21	15	18	19	16	15	16	13	21	23	Bamu

Population figures in parentheses

Table 5: Comparison of shared cognates on the Strickland Plain

The lexical shift evident in a ten year period	
1971	1981
Kubo 83 Samo 69 79 Gebusi 71 87 80 Honibo 66 79 80 85 Oibae	Kubo 90 Samo 83 90 Gebusi 86 91 92 Honibo 81 87 89 94 Oibae

On the Papuan Plateau and across the Bosavi Watershed, mutual intelligibility appears to be less than on the Plain, suggesting that interaction between languages is based not on mutually intelligible communication, but on multilingual communication. People at the boundaries between languages do not understand each other because their languages are similar, but because they speak each other's languages. Such bilingualism is a valuable asset when interacting with trading parties, and the occasional establishment of various types of partnerships, including alliance through marriage.

An application of Tryon's percentages to these data seems to result in three groupings defined by both the phonological and lexical materials already presented. Statistically, there is overlap between the groups, but percentages of shared cognates help make decisions when the data is by no means clear cut. Thus Hesif is classed with the Plain languages because the shared cognates appear significantly higher in that direction (at the subgroup level) than with the Plateau languages (where it compares in the group range) as indicated in the following percentage averages:

Hesif — Watershed = 40.2%
Plateau = 38.3%
Plain = 61.6%

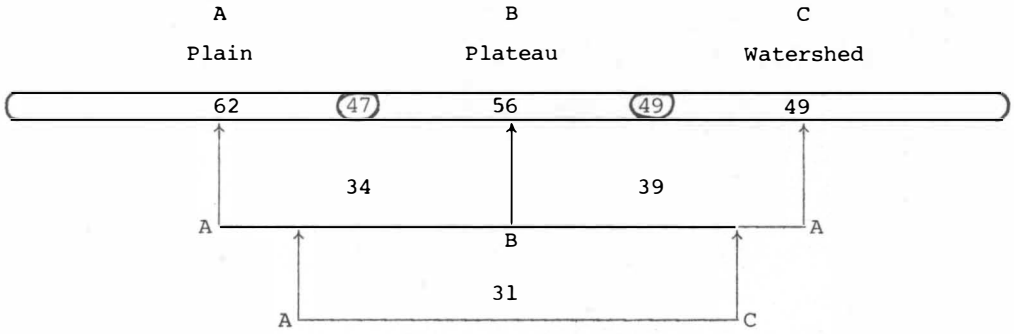
Grouping Kaluli with the Watershed languages rather than with the Plateau is more tentative as the following percentages show:

Kaluli — Watershed = 56.4%
Plateau = 51.8%
Plain = 35.4%

Kaluli seems to group culturally more closely with those they regularly fought against (the Onabasulu and Etoro) to the north rather than with the Watershed languages to which they show greater linguistic affinity to the south. Clearly more than linguistic data needs to be considered. Despite the linguistic data gathered here, the conclusions are problematic and open to interpretation.

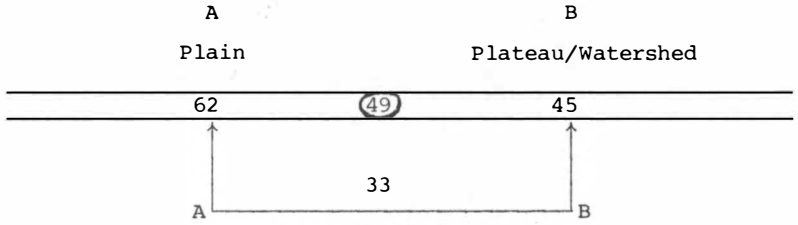
If only shared cognate percentages are considered, the distinction between the Plateau and Watershed languages is quite weak. If three language groupings are posited, the results appear as in Table 6. Classed among themselves and compared with each other there is greatest internal consistency among the Plain languages, less among the Plateau languages and least among the languages of the Watershed. The internal consistency for the Plain and Plateau is much higher than the highest percentage of overlap between these groups. This, however, is not the case between the Plateau and the Watershed.

Table 6: Comparison of average cognate percentages between three subgroups



Non-overlapping numbers indicate averages within the subgroup. Overlapping numbers indicate highest percentages between the respective groups. Boxed-in numbers indicate averages between the subgroups.

Table 7: Comparison of average cognate percentages between two groups



If, however, only two groupings are posited for the Bosavi Region the results would appear as in Table 7. Here there is a lower internal consistency factor, but the averages between the groups are not significantly different than those between the three groupings. It is interesting, however, that the averages between the languages are lower than the highest percentage between the major groupings. Thus Bainapi barely makes it into the grouping, but Kaluli would be the pivotal language that tied the Watershed and the Plateau together. Returning to Tryon's percentages we note that when positing two groupings, the percentages suggest a division at group level. If these data are separated into three groupings, then the percentages pattern out at the subgroup level, suggesting a better distribution with respect to cultural and geographical boundaries. The phonological data seem to support this conclusion while the semantic data are weaker and the statistical percentages are mixed.

Given the complexities of these data as well as their limited nature, it appears reasonable to posit that the languages of this region be considered a language family which divides into three subfamilies:

(1) The Strickland Plain Subfamily composed of five languages, one of which has five dialects which appear to be rapidly merging (though having no common name). Voorhoeve called this language 'Nomad' in 1975, but it is called 'Samo' here, after the central dialect which all dialects are able to use when speaking with each other.

(2) The Papuan Plateau Subfamily composed of three or four languages (depending on whether lexical or cultural data are considered more crucial). These are collectively labelled 'BED' (for Bedamini) in McElhanon and Voorhoeve (1970).

(3) The Bosavi Watershed Subfamily composed of five or six languages.

Following Voorhoeve (1968) the author called this the 'Bosavian region' in 1973 and here suggests that the entire group be called the 'Bosavi Language Family'.

Based solely on lexical data it would be very reasonable to include Pare and Namumi in the Bosavi Family as well. Pare compares with the Plains languages at an average of 23.7%, the Plateau languages at 21.3% and the Watershed at 20.8%. This is remarkably consistent and well within the range for family level genetic relationships. Namumi compares with the Watershed at 25.7%, the Plateau at 32.5% and the Plain at 22.9%. Again, this is well within the family cognate range. Pare and Namumi compare with each other at 16% which, though marginal, is well within reason considering the tentative nature of the data (based on only 100 words) and their mutual relationship to languages between them at much higher percentages. However, geographical boundaries as well as cultural affinities to the west and east respectively, lead me to agree with others in placing them in the Awin-Pare Family and the Kutubuan Family respectively (Voorhoeve 1970, Franklin and Voorhoeve 1973). This then establishes the boundaries of the Bosavi Family and its validity though, in fact, the relationships within the family are tentative and raise a myriad of questions.

1.4 Cultural factors

This region has been studied anthropologically far more than linguistically. The Kaluli (Schieffelin 1976, Feld 1981, 1982 and Feld and B. Schieffelin 1982), Etoro (Kelly 1978), Bedamini (Sorum 1980) and Samo (Shaw 1974, 1976, 1983) are the most widely known, but significant work has also been done for the Onabasulu (Ernst 1973), Kasua (Freund 1977) and most recently the Bibo/Gebusi (Knauft 1985). This allows for some excellent comparative work that could be of real benefit as the region develops.

Throughout the region people live in scattered longhouses which act as self-contained communities. House membership varies from 25 to 50 persons who form an extended family with siblings (usually brothers) acting as the core, recruiting members through marriage and birth. They make decisions about household movement throughout a designated land area where hunting and gathering, processing the sago palm, and basic horticulture provide the bulk of food. Households are related to similar units through marriage alliances established by sister exchange. Such alliances historically provided a ring of protection from encroaching enemies and a military force for launching raiding parties against enemies. Alliance also provides the network for amassing power against spiritual forces in a ceremonial context. Spirit mediums are important people who assist their fellows by using their spiritual power through seances. Seances

are a common cultural feature throughout the region, though the physical manifestations of them vary from group to group.

Raiding and cannibalism were central features throughout the region prior to government contact in the early 1960s. The lack of protein in the diet, combined with an ideology of compensation and reprisal, led to a consistent pattern of cannibal raiding. Isolation appears to have been the best protection against these enemy raids, forcing interaction between communities to be deliberate. Trading was one such activity, and trading routes on both south-north and east-west axes were well established. Coastal materials such as the valued cowrie and melol shell necklaces moved from south to north, while stone axes and possum fur pelts from the northern ridges and forests were exchanged to the south. Earth dyes of white, yellow, and red proliferate under the thin topsoil of the Strickland Plain and these were widely traded throughout the region for tobacco, string bags, and other commodities of value.[5] Trading parties, however, also acted as scouting parties giving the participants excellent opportunity to decipher the best means of gaining access to a house and subduing its members. Thus peaceful exchanges occasionally erupted into violent reprisal. A raid, when properly executed, could be devastating to a community and stories of raids (their preparation, execution, and aftermath, including the cannibalistic feast) abound to the present day. Raiding and its effects, then, appear to have drastically affected the linguistic distribution throughout the Bosavi region.

The diversity of languages especially on the Plateau and Watershed could in part be explained by excessive raiding, especially by the Bedamini who made frequent raids on the less healthy 'lowlanders'. As people sought protection through isolation and alliance with close neighbours, contact was gradually decreased, which in turn increased linguistic diversity. Since administrative contact, raiding has been reduced to an occasional attack on a remote sago camp or garden house, and the diverging languages are now experiencing more peaceful contact with each other. As already indicated, a reversal of linguistic separation is the result.

Another administrative practice affecting the linguistic distribution has been the enforced aggregation of isolated longhouses into more easily administered village sites. Aggregation has taken place, particularly in those areas most accessible from Nomad, e.g. the Plains area south of the Carrington River and the western portions of the Plateau. Thus 24 Samo longhouses aggregated into seven villages between 1964 and 1970. This has had social repercussions on marriage patterns. Prior to contact, marriage alliances were established with individuals from any longhouse other than one's own. Since administration encouraged aggregation alliances are now restricted to members of villages other than one's own. This has had the effect of forcing marriages far beyond traditional lines. Interlanguage marriage has now become a necessity where once it was almost impossible due to the fears and animosities generated by the juxtaposition of enemies.

Administrative patrolling with large carrier lines further effected increased interaction and linguistic convergence. Such patrols brought traditional enemies face to face as they passed through each language group. Patrols now also assist in the trading of goods, people from the more advantaged areas close to contact points with government or mission exchanging trade store goods for increasingly less accessible traditional goods in the more remote areas.

The administration has not been the only agent of change in the area. Increasing contact with missionaries, teachers and traders has also had an effect. Community schools, churches and trade stores as well as the building of airstrips in support of these activities has served to bring people together, making them increasingly aware of their linguistic and cultural dissimilarity as well as areas of commonality.

A key example of this is the migration of most Kalamo, and a high percentage of Aimele and Doso to the airstrip at Kisigi near Wawoi Falls. Attracted by aid post, trade store, church and school, these groups have descended upon the already present Kamula to form a multilingual and culturally complex situation that will have dramatic effects upon the area: deserted homelands, excess pressure upon the land and people at Kisigi, as well as linguistic shifts as people intermarry and relate within the context of the new community (see the Doso wordlist in Appendix A).

The migration of an entire language group prior to contact is not unknown, however. The Bainapi migrated from an area west of the Wawoi River to their present location far to the south on the Aramia River in approximately 1941 (Reesink 1976). This extended the boundaries of the language family, and at the same time affected the diversity between the languages due to the influence of Aramia River peoples on the Bainapi. This may explain the low cognate percentages of Bainapi to the rest of the language family, especially with the languages on the Strickland Plain. The significantly higher cognate relationship with Bamu is a good indication of this language change process. Such rapid documented change limits the use of glottochronology to such a body of data, making any determination of time span since linguistic divergence highly speculative. Of course the nature of the contact situation has affected more rapid change than was extant aboriginally.

In the north of the region, migration of the Bogaia out of the Southern Highlands down the Burnett River Valley is affecting the Agala. Slight divergence between word lists taken from peoples to the north and south of the Burnett River were noted. The little known Konai have also been affected by migration. Feeling pressure from the south, they must have crossed the Strickland River moving into the rugged region of the 'Murray Wedge' not too long ago. Now they are being coaxed down onto the plain north of the Pare speaking people, drawn by mission contact and the promise of a 'better life'.

These change situations have had a broad effect upon the total pattern of language and culture throughout the region. For the most part the fear of an enemy raid is gone. Increased contact between groups, broader alliance structures and, therefore, more broadly dispersed ceremonial, social and economic obligations all affect communication. The documented linguistic shift on the Plain from 1971 to 1981 is a possible pattern that will become increasingly evident throughout the region.

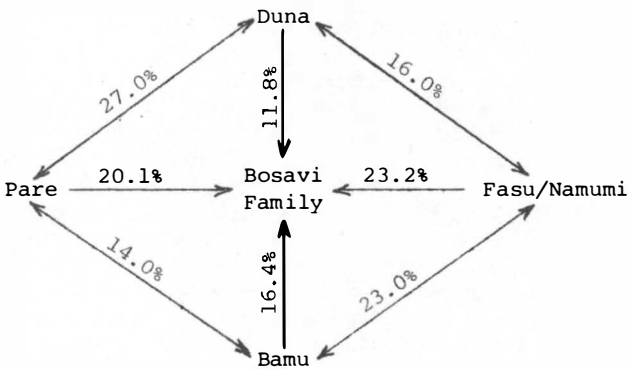
1.5 Broader contributions of the survey

This paper broadens the understanding of the Bosavi region, bringing together previously unavailable or unknown material and categorising it for easy comparison and analysis.

Interestingly, these data may also assist in analysing material for surrounding languages previously considered 'isolates'. Because of relationships evident here for the first time, it can be shown that Duna (McElhanon and

Voorhoeve 1970) should be placed in the Central and South New Guinea Stock of languages. Fasu, also viewed as an isolate, has been shown by Franklin and Voorhoeve (1973) to be related at the stock level to Biami (Bedamini in this data). If this is the case, then a suggestion by the present author (Shaw 1973) that Duna also be included in the Central and South New Guinea Stock is supported by the present data as shown by relationships in Table 8. Though the languages on an east-west axis are of a greater relationship than those on the north-south axis, the comparable relationships of all to the Bosavi Family suggests that they should all be similarly classed at the Stock level. Varied relationships of Duna to the three subfamilies and the higher percentages of the Plateau to both Duna and Fasu suggests possible links to the east in the vicinity of Lake Kutubu as indicated by Franklin and Voorhoeve. The high percentage between Pare and Duna is somewhat questionable, but suggests possible migration routes, and the arrival of the Pare on the western banks of the Strickland River well before the Bedamini began raiding the peoples of the East Strickland Plain. This supports an earlier hypothesis (Shaw 1973), strengthened by the comparable percentages for both Duna and Pare to the Plateau languages. This also strengthens the contention that Pare is not part of the Bosavi Family.

Table 8: Relationship of the Bosavi Family to surrounding languages



1.6 Conclusion

The data broadly sketched here give evidence for the existence of a family of languages which we have chosen to call the Bosavi Family. There appears to be much greater homogeneity among these groups than earlier thought (Voorhoeve 1968, Shaw 1973). Thus the languages within each geographical area are related to each other at the subfamily level and the languages of the entire region combine to form a language family. Many of the languages of what has here been called the Bosavi Watershed were known to exist, but data were insufficient to adequately demonstrate relationships. Reesink's work (1976) supplied sufficient data for him to suggest a possible link of Bainapi and Kamula with languages in the Bosavi region. Following these leads greatly assisted in the survey reported here.

The Bosavi Family is composed of 14 languages which are here divided into three linguistic subfamilies bounded by natural geographical features. Within each subfamily there is a higher genetic relationship with each other language

than to languages outside the grouping. Correspondingly the entire family exhibits greater consistency internally than externally to other groups beyond its borders. Relationships of the family to surrounding languages average 17.8%, putting it well within stock-level relationship to its neighbours. Therefore, previous hypotheses about the placement of languages in this region within the Central and South New Guinea Stock (Voorhoeve 1968, 1970) and the Trans-New Guinea Phylum (McElhanon and Voorhoeve 1970) are confirmed and strengthened.

Implicit in all these data are the countless experiences that go along with collecting the lists: the two men at the headwaters of the Nomad River who stood in the cold stream and gave us a wordlist; jumping into undergrowth when the helicopter could not land; the frustration of seeing people run away and not return (thereby reducing the possible number of lists and affecting the accuracy of the data base); and the acrobatics of collecting wordlists monolingually. All this, and more, is the human interest of such work; it is the people who speak these languages that are important, not the lists they produce for analysis. Without them the data could not exist and our understanding of these linguistic factors would be meaningless.

The Bosavi region, then, is not a hodgepodge of isolated languages spread throughout an environmentally hostile and demanding land. Nor is it a 'Papuan Wonderland' teaming with unlimited game and exotic peoples. Rather, the material presented here indicates an orderly grouping of languages exemplifying the chaining principle which helps determine broad relationships, if not specific boundaries. These languages seem to indicate 'end of the line' migrations as the people have, over a considerable length of time, filtered into the region, probably coming from the east in the vicinity of Lake Kutubu. As they responded to pressures from groups in the Southern Highlands, they were gradually 'pushed' into this backwater in the centre of the Island of New Guinea. The present condition of Agala, Konai and Bainapi all reflect this varied past and they, together with all the other languages of the region, will again be affected by yet another migration of Government officers, missionaries and traders as they enter the region in increasing numbers. Where they go, how they get there, and what they do, will continue to affect the languages and their relationships to each other, demanding ongoing research and a desire to assist the peoples of the region by making information regarding their languages and cultures available. Foreigners sensitised to the implications of their presence and effect on the continued development of the region could make a big difference for the future of the peoples who live there. Out of such concerns this material is presented.

These data warrant far more than the cursory treatment presented here. It is hoped that by making them available to the discipline at large, others can take up the challenge to refine the analysis and collect further data that will assist in understanding the particulars of the language situation in the Bosavi family: its origins, proto-language, reasons for divergence, current convergence patterns, etc. This material is here presented merely to establish the fact of the family's presence, indicate its apparent extent, and note some of the current pressures upon it. Further research can rest upon this foundation.

NOTES

1. An aboriginal pattern of endemic disease and the adjustment of lifestyle to accommodate for it, has given way to a post contact pattern of epidemic disease which has considerably reduced the population. Several communities

have recently been abandoned, and the survivors have either joined allies (an aboriginal pattern following a raid) or consolidated and built on a new site. Thus, in spite of increased health care (Nomad has recently been upgraded to health centre status and mission trained Aid Post orderlies are ever more prevalent), the population is not at this time increasing.

2. Two little known languages are reported here: the Konai in the north-west portion of the region and the Sunia on the north-west slopes of Mt Bosavi (this may be the same as a group reported by Butler on a patrol in the Mt Bosavi area in late 1958 and early 1959 which he called Sonia). Another language, Hesif, was discovered on this survey. Located south of the Tomu River in the foothills of Mt Bosavi at the edge of the Strickland Plain, Hesif is strategic to deciphering the linguistic relationship of this region.

3. The assistance of the Jungle Aviation and Radio Service helicopter and the Papua New Guinea Survey Fund of the Summer Institute of Linguistics is gratefully acknowledged. My appreciation goes also to John Lynch of the University of Papua New Guinea, and Dick Lloyd of the Summer Institute of Linguistics, for their helpful comments on a previous draft of this report.

4. Since this survey was taken, the author has become aware of the Doso, another group inhabiting the western portion of the Watershed area, and gradually migrating southward (Wood 1982). However, no complete wordlists are available to include in this body of data. A partial list is included for comparison in Appendix A.

5. An increasing pattern today is the trading of bird of paradise plumes for kina shell and other commodities with the more distant Southern and Western Highlanders.

APPENDIX A: WORDLISTS

The languages which have been discussed in this paper are displayed in the form of the Swadesh 100-wordlist. The wordlist is given in English and each vernacular list which follows will conform to the order of the English list.

A.1 English master list

1. man 2. woman 3. I 4. you 5. we 6. all 7. head 8. hair 9. eye 10. nose
11. ear 12. tooth 13. tongue 14. neck 15. mouth 16. arm 17. breast
18. belly 19. leg 20. knee 21. skin 22. blood 23. fat 24. bone 25. back
26. shoulder 27. sun 28. moon 29. star 30. cloud 31. rain 32. night
33. water 34. ground 35. stone 36. pig 37. mountain 38. fire 39. smoke
40. ashes 41. path 42. tree 43. root 44. bark 45. dog 46. tail 47. bird
48. feather 49. egg 50. fish 51. big 52. small 53. good 54. long 55. red
56. white 57. black 58. yellow 59. green 60. hot. 61. cold 62. full
63. new 64. eat 65. cassowary 66. stand 67. sit 68. speak 69. walk
70. give 71. sleep 72. lie down 73. see 74. hear 75. swim 76. come
77. flies 78. bite 79. name 80. wing 81. who 82. what 83. burn 84. louse
85. many 86. this 87. that 88. one 89. two 90. knows 91. kills 92. not
93. leaf 94. meat 95. banana 96. claw 97. father 98. seed 99. mother
100. string bag

A.2 The Strickland Plain Subfamily

Konai

1. ɔ	26. biyago	51. heye	76. hugwa
2. sʌsai	27. ʌsɔ	52. fafwi	77. siɔ fuliɔli
3. ã	28. ʌgwɔ	53. bɔnɔfĩ	78. wɔl̃u
4. nã	29. kwidihɔ	54. sɔgɔ	79. hũ
5. ẽgogõ	30. mabi	55. ʌsĩ dʌgi	80. tʌfigai
6. ɔlɔfe	31. hwẽĩ tɔl̃u	56. fõ dʌgi	81. kɔyɔbẽ
7. wudio	32. sa nɔgulu	57. dʌsigõ dʌgi	82. kẽĩ
8. wudio towe	33. hwẽĩ	58. biye dʌgi	83. wɔbɔl̃u
9. dihɔ	34. mʌhĩ	59. gʌhẽ dʌgi	84. ɔ̃ũ
10. mɔkwã	35. yo	60. dʌfi	85. su
11. kʌhẽ	36. wai	61. kulɔ	86. kwʌhẽ
12. mẽ	37. bĩtoŋ	62. ʌmaɔ	87. bukwẽhẽ
13. i	38. dou	63. gehẽ	88. tano
14. gɔbagi	39. dahai	64. nɔlu	89. bʌnɔu
15. mɔgau	40. dʌsigõ	65. kwea	90. tɔwẽ
16. debuŋõ	41. a	66. tʌfʌla	91. wɔlɔyɔ
17. bu	42. hʌbe	67. duɔ	92. miɔ
18. gwɔkɔ	43. hʌbe tʌfʌla	68. tʌbul̃ɔ	93. hʌbe gwɔ
19. ɔbɔgõ	44. hʌbe kɔlɔ	69. ili	94. hwĩ
20. hɔgwɔtɔu	45. sɔ	70. nẽl̃i	95. yɔ
21. kɔlɔ	46. hʌbia	71. tul̃uɔ	96. siɔ kati
22. kafi	47. siɔ	72. tiɔl̃u	97. aye
23. gwʌsige	48. siɔ tɔwe	73. dugul̃u	98. kɔlɔ
24. diɔ	49. siɔ hɔ	74. dul̃u	99. duɔ
25. tabe	50. mĩye	75. hwẽĩ suadi	100. yẽ

Agala

1. o	26. biyago	51. kaudakũ	76. hugul̃u
2. sʌbɔ saĩ	27. ʌsɔ̃	52. fɔfekũ	77. fuluma ali
3. ame	28. ʌgwa	53. dɛ	78. geyau
4. name	29. kwidiahɔ̃	54. sɔgɔ	79. hũ
5. eli	30. mãbi	55. esĩ	80. siyɔ fuɔi
6. gɔ̃gɔ̃dɔ	31. hwɔ̃ẽ tɔlu	56. ɔlɔwɔ	81. kɔ
7. wɔdiɔ	32. gɔsiɔ̃gɔ	57. gɔsigɔ̃	82. keiba
8. wɔdiɔ tɔwɔ	33. hwɔ̃ẽ	58. biyẽ	83. tiyae
9. gihã	34. ʌsɔ	59. mayʌ	84. ɔ̃ũ
10. migiyao	35. yɔu	60. defi	85. gɔgɔ̃
11. du	36. wai	61. deyɔ	86. kʌme
12. meyɔ	37. gɔwule	62. ʌmɔnu	87. kumʌhẽ
13. i	38. dɔu	63. dɔwadɔ	88. sisãfe
14. gɔbaidiɔ	39. dɔu dahaĩ	64. nɔlu	89. sisãma
15. mʌga	40. gesɔgɔ̃	65. diɔwa	90. tɔwe
16. debʌgɔ̃	41. aili	66. tɔfɔlu	91. wiyɔtɔ̃ke
17. bu	42. hebẽ	67. biyɔu	92. mɔi
18. sasime	43. hebẽ tefẽ	68. tɔ̃	93. hebẽ dibi
19. ɔbɔgɔ̃	44. biya kɔlɔ	69. hũgwamɔi	94. hwĩ
20. hɔgɔwa	45. sɔ	70. neida	95. ɛ
21. kɔ̃fɔ̃ya	46. biyɔl̃u	71. tiɔl̃u	96. siyɔ kati
22. ɔyɔ	47. siyɔ	72. tiɔl̃u	97. ai
23. sefu	48. siyɔ dowe	73. diguya	98. kɔɔ
24. diɔ	49. siyɔ hɔ	74. duya	99. ʌmaya
25. tɔdiɔ	50. mʌyẽ	75. hwɔ̃ẽ tɔlɔ ili	100. esɔ

Samo

1. oso
2. sɔbɔ
3. ã
4. nɔ̃
5. ɔye
6. gõgõ
7. ulʌgibi
8. ulʌgibi tɔwɔ
9. hɪ̌ɔwɔ
10. mɪ̌nɪ̌
11. duli
12. mɔ̃yɔ
13. mɛ̃nɛ̃mãnɪ̌
14. gɔbʌgibi
15. mɔ̃galu
16. dɛbɛ
17. bu
18. sasi
19. hɔmɔ̃
20. ibulu
21. kɔlɔfu
22. ayo
23. bɔ̃nɔ̃
24. kibi
25. wagibi
26. ɔdiɔ
27. ɔ̃sɔ̃
28. ogwʌ
29. gɔsɔmɔ̃nɪ̃
30. ɔgabi
31. hõ mũnũ
32. gɔ̃sɪ̃
33. hõ
34. mʌhɔ̃ɪ̃
35. yo
36. bɔyɔ
37. goufɔda
38. dɔlɔ
39. dʌhaɪ̃
40. dɔsɔbu
41. ali
42. hɔmãnẽ
43. tofɛ
44. bisigɔbu
45. sɔfo
46. sɔfo hobe
47. sigɔ
48. sigɔ tɔwɔ
49. sigɔ hɔlɔ
50. diɔ
51. kau
52. fɛ̃afɔ
53. de
54. sagɔ
55. ɔbusɪ̌te
56. ɔlɔwɔte
57. busɪ̌te
58. biyete
59. mɔ̃lɔwɔte
60. dɔfi
61. tɪ̌
62. mɔ̃yɔtɔnɔ̃mãdɔ
63. dwafi
64. nãla
65. kɔyabi
66. tɔfola
67. buɔla
68. tɔ̃ hwãla
69. suda
70. nɛ̃la
71. kiala
72. kela
73. ɔgɔla
74. dula
75. hõ tɔlɔfiyala
76. hugala
77. fulumã ila
78. gada
79. hũti
80. alafagibi
81. kũba
82. kɔbɔba
83. heyasɔgɔla
84. ɔ̃ũ
85. gõgõ
86. ke
87. ka
88. helenũ
89. bɛ̃naũ
90. tɔwadela
91. ola
92. mɔi
93. dibi
94. hwɔ̃ɪ̃
95. ɛbɛ
96. sigɔ kali
97. ade
98. kɔlɔ
99. uyɔ
100. ɛsɔ

Kalamo

1. ɔlɔga
2. sɔbɔ
3. ã
4. nɔ̃
5. daye
6. susugawa
7. wiligi
8. wudu
9. hɔ̃wɔ̃
10. mudu
11. dulu
12. mɛ̃
13. i
14. gɔbɔdã
15. mɔ̃gɔlɔ
16. di
17. to
18. ɔbenie
19. hɔmɔ̃
20. ebi
21. kɔlɔ
22. kegãye
23. bɔ̃
24. ki
25. waki
26. ei
27. osigɔ̃
28. nɔ̃ligɔ
29. giwɔ̃
30. kaigɔ̃
31. hɔ̃wɔ̃ sibɔgu
32. gaisi
33. hɔ̃wɔ̃
34. mĩ
35. yo
36. be
37. isiyã
38. dɔu
39. dei
40. dɔu sɔlu
41. eli
42. hɔmɔ
43. hɔmɔtu
44. hɔmɔ kɔlɔ
45. sɔ
46. ɔbeyɔ
47. sɔʔ
48. sɔʔ wudu
49. sɔʔ hɔ
50. di
51. towagɔ
52. fæbugɔ
53. sɔwadɔ
54. sage
55. ɛmɛ̃ɪ̃
56. hẽniye
57. da:sigẽ
58. ɛmesiyã
59. mɔluwɔ
60. deduɔ
61. dasigẽ
62. --
63. dia
64. nãye
65. kɔu
66. tubiye
67. buwa
68. kɔlai
69. diago
70. nẽye
71. tiæye
72. tiæye
73. ɔgaye
74. dulɔye
75. tabiyaye
76. sibaye
77. fofulɔgɔ
78. bẽwiyagɔ
79. hũ
80. fudugɔ
81. ugumɔ̃
82. ogobɔ
83. dɔu si
84. ɔ̃ũ
85. susugwã
86. hagɔsɔ̃
87. kugɔsɔ̃
88. dihɔ̃
89. hɔma kɔna
90. duɪ̌isɔ̃
91. inɛ̃ye
92. mɛ̃ɪ̃
93. du
94. hwɔ̃ɪ̃
95. i
96. sɔʔ hɔmɔ
97. ma
98. gɔkɔ
99. wi
100. ɔ

Hesif

1. ɔɬu	26. ei	51. daiya	76. sibɛye
2. subɔ	27. ɔsugɔ	52. febugɔ̃	77. sɔʔ fuɔdugɔ
3. na	28. a	53. tigɛfɔ̃	78. sɔʔ anenã
4. nɔ	29. gĭwɔ̃	54. sage	79. hũ
5. iyɔ̃	30. kilibɔ	55. bigẽ	80. sɔʔ adʌ
6. hihãgisɔ	31. hɔ̃wɔ̃ sibɔgɔ	56. hɔdɛi	81. --
7. uɬugi	32. nɔluga	57. dɔsigɔ̃	82. ogoba
8. uɬu tu	33. hɔ̃wɔ̃	58. wãdɛi	83. dɔu si
9. hɔwɔ̃	34. mi	59. wenadɛi	84. ɔu
10. mɔdu	35. yɔ	60. dɛbiɔ	85. gogolu
11. dulu	36. bɛ	61. kisaisɔgɔ	86. hĭ
12. mei	37. mubi	62. --	87. --
13. i	38. dɔu	63. --	88. hɔmakɔna
14. gududã	39. kumẽ	64. nela:bugɔ	89. wɔlugu
15. mɔgɔlɔ	40. mu	65. kɔu	90. gulida
16. de	41. eli	66. tɔbi	91. wi
17. tɔ̃	42. hɔmɔ	67. biẽ	92. --
18. ɔbẽnie	43. hɔmɔ tu	68. --	93. hɔsugudu
19. hɔmɔ	44. homɔ kulɔ	69. dui	94. hɔu
20. ibi	45. sɔ	70. tɔ̃nei	95. i
21. kulɔ	46. sɔtɔ	71. tie	96. sɔʔ kai
22. sãwɔ̃	47. ɔsigɔ	72. tie	97. mai
23. bɔ	48. sɔʔ tɔ	73. ɛgɛ	98. hɔmɔu
24. ki	49. sɔʔ hɔ	74. dualʌ	99. unɔki
25. miligi	50. inɔlubi	75. hɔ̃wɔ̃ tuabeye	100. ɔ

A.3 The Papuan Plateau Subfamily

Bedamini

1. tunu	26. kidagi	51. bɔgade	76. misa
2. uda	27. eṣɔ	52. fɔrɔbɔnadi	77. awabe
3. na	28. aubi	53. tefeya	78. kasuma
4. ti	29. kasumuni	54. sada	79. diɔ
5. nĭnĭ	30. mu:	55. ɔbusi	80. hafugai
6. huruane	31. kibu	56. suæ	81. nãwã
7. tialuna	32. kaṣi	57. nasɔbe	82. adi
8. hinabu	33. hãɬɔ	58. puæ	83. nelo:be
9. si	34. ɔsɔbɔ	59. gamurubu	84. imu
10. mi	35. igi	60. hau	85. ɔsei
11. kẽ	36. gebɔ	61. anegɔ:gi	86. gɔwe
12. pese	37. kaumi	62. naba	87. kwe
13. kɔnɛ̃su	38. nalu	63. gahebe	88. afai
14. kaɬugwa	39. giha	64. naha	89. adunã
15. læ:fi	40. dasubu	65. wida	90. tawa
16. nabu	41. lɔgɔ	66. wama	91. bɔgɔ
17. tɔtɔ	42. ifa	67. fima	92. hame
18. hagɔ̃mɔ̃	43. tĩ:fi	68. saima	93. ɭubi
19. emo	44. kadɔfɔ	69. mɔsʌ	94. hũ
20. muguni	45. wæ:me	70. ima	95. kai
21. kadɔfɔ	46. nagɔ	71. kɔrama	96. ifi
22. hæ:ɬe	47. mæni	72. mita	97. ada
23. sẽfẽ	48. abɔ	73. pᵛbama	98. tuɬu
24. kasa	49. ɔsɔ	74. nabama	99. ame
25. bʌligi	50. ai	75. tasedabe	100. esa

Etoro

1. tɔnɔ
2. udia
3. ne
4. ti:
5. nini
6. susubatɔ
7. bᵛpusʌ
8. bᵛpusʌ heni
9. si
10. migʌni
11. kɛhe
12. pᵛbese
13. eli
14. kalʌbagɔ
15. nafi
16. nʌbɔ
17. tɔtɔ
18. pɔlɛ
19. emɔ
20. emɔgumu
21. kʌdɔfɔ
22. hiʌle
23. sãfẽ
24. kiwi:
25. pagi
26. kitã
27. esɔ
28. aube
29. sikabi
30. kene
31. sege
32. kasigi
33. ɔ̃tã
34. naka
35. igi
36. suguʌ
37. segebi
38. nuɬu
39. hɔ̃bã
40. nisipu
41. idi
42. i
43. tifi
44. kɔfɔtɔ̃
45. ɔgɔnɔ
46. houpe
47. hayʌ
48. heɬĩ
49. isɔ
50. seme
51. edefʌde
52. nɛ̃fʌni
53. hedebi
54. sedade
55. bᵛpɛi
56. fʌlei
57. yʌbui
58. wʌnɔi
59. mẽlabui
60. hẽigĩ
61. kɔgĩ
62. wãlãsube
63. kahẽ
64. nahã:
65. widʌ
66. nɔwemɔ
67. miyẽ
68. sãsibe
69. mɔsɔ̃
70. imɔ̃
71. tiʌhã
72. mitiɛ̃
73. peyaha
74. nabʌba
75. tadisigai
76. ma:sipe
77. hakila
78. mihĩsipɛ̃
79. eĩ
80. augiʌ
81. etɔ
82. etɔ suhã
83. nulukuʌ
84. imũ
85. yʌfiɛ
86. kɔwe
87. i kɔwe
88. age
89. agedu
90. tawa
91. pakɔwi
92. habɔi
93. ipau
94. hu
95. kai
96. ifi
97. nʌtɔ
98. ikʌgʌ
99. nɛme
100. esa

Onabasulu

1. inɔlɔ
2. idɔ
3. na
4. ka
5. nini
6. suniʌ
7. kuni
8. kuni alu
9. si
10. mĩ
11. kɔheni
12. pese
13. ɛane
14. gifɔkɔlɔ
15. mɔfeyɔ̃
16. sɔne
17. bu
18. kubɔ
19. emɔ
20. emɔ hɔgɔnɔmɔ
21. tɔmɔla
22. ibi
23. sãfẽ
24. kiwi
25. faisɔ
26. kilele
27. hɔlɔ
28. aube
29. sigabi
30. kene
31. sugafe
32. nigili
33. hanɔ
34. hele
35. abane
36. tɔfene
37. gali
38. ti
39. tikawa
40. tefene
41. enɔ
42. i
43. efɔtɔ
44. i patɔ
45. kesɔ
46. tɔfanɔ
47. haka
48. alu
49. sɔ
50. hani
51. bule
52. wedinɔ
53. nafulu
54. sedale
55. kenelu
56. hɔlu
57. yabulu
58. wanɔlu
59. imɔlɔlu
60. harɔfe
61. poti
62. wasigãnu
63. hili
64. namana
65. faiulu
66. degemela
67. mesa
68. sãma
69. afẽ
70. mẽma
71. hanema
72. hanema
73. bama
74. tɔma
75. tasafe
76. mila
77. hauba afe
78. mulu
79. wi
80. awi
81. nɔe
82. ene
83. denã basami
84. fẽ
85. bule
86. ewe
87. amɔ
88. agale
89. aida
90. asigibu
91. dawalife
92. tuma
93. iwalu
94. hũ
95. mabu
96. ifini
97. naɔ
98. etɔ
99. nae
100. alu

A.4 The Bosavi Watershed Subfamily

Kaluli

1. kalu
2. kesali
3. ni
4. ki
5. niyɔ̃
6. tabɔ
7. misẽ
8. misẽ fɔ̃
9. si
10. migi
11. kenẽ
12. bis
13. eʌn
14. dagas
15. mikɔf
16. tagi
17. bu
18. kuf
19. gip
20. kulau
21. dɔgɔf
22. hɔbɔ
23. saf
24. ki
25. feis
26. kenĩ
27. ɔf
28. ili
29. tami
30. kɔlɔk
31. hɔ̃n sindap
32. nutap
33. hɔ̃n
34. hin
35. u
36. kabɔ
37. misiɔ
38. di
39. di hɔmɔ̃
40. tufun
41. tɔk
42. i
43. i tif
44. i dɔkɔf
45. kasʌ
46. tufɔn
47. ɔ̃bẽ
48. ɔ̃bẽ fɔn
49. ɔ̃bẽ uš
50. ke
51. ãlã
52. helu
53. nafa
54. sãbɔ
55. kinilɔ
56. hɔlɔ
57. hiyɔ
58. wanalɔ
59. imɔlɔ
60. ɔfɔ
61. hitɔ
62. waidɔ
63. hɔgi
64. maya
65. kusua
66. tʌsilʌp
67. misiya
68. selap
69. hamana
70. dimina
71. alima
72. alima
73. boba
74. dʌdʌp
75. hɔ̃n mululap
76. mina
77. ɔ̃bẽ talɔgisilap
78. mɔbulugap
79. wi
80. fulu
81. kiɔbʌ
82. ɔbʌ
83. tiwaisɔlap
84. fẽ
85. mɔtɔ
86. we
87. ei
88. ãgel
89. ãdip
90. ʌsulap
91. ɔlɔ
92. --
93. i fɔs
94. ho
95. magu
96. kisin
97. tɔ
98. i helu
99. nɔ
100. as

Sunia

1. ʌsenʌ
2. nʌisɔʌ
3. ne
4. ge
5. niǏi
6. tɔgamu
7. eneipi
8. eneipi fɔn
9. si
10. miki
11. ekadem
12. ʌnenʌ
13. tʌbise
14. odogu
15. mekʌf
16. dʌb
17. bɔ
18. kuf
19. eisep
20. gut
21. ʌkʌf
22. hʌbʌ
23. ʌsʌf
24. uku
25. ɔfɔs
26. kutin
27. of
28. weǏe
29. themi
30. kelɩn
31. mɔ̃
32. unudu
33. mɔ̃
34. heni
35. ka
36. kɛ
37. muṣiʌ
38. de
39. dɔfɔ
40. dufun
41. tokɔr
42. yep
43. yɛtef
44. yɛbekʌf
45. wɛi
46. cɩsɔm
47. ʌbɔ
48. ʌbɔ fɔn
49. ʌtʌm
50. dɔuba
51. kekʌda
52. idʌs̱u
53. nɔfedi
54. sʌdʌ
55. giʌ
56. hɔ:lʌ
57. sɔlʌ
58. wʌn
59. imuǏʌ
60. ufulʌ
61. hiʌ
62. ugʌdʌ
63. hi
64. menʌ
65. monʌ
66. tʌsiduʌ
67. misʌ
68. heinʌsedʌ
69. mɛ
70. dimʌnʌ
71. midʌ
72. midʌ
73. bɔpʌ
74. dɔbudʌdʌ
75. mutinʌp
76. menʌ
77. hɔǏimʌp
78. demedʌp
79. imi
80. ɔnɔ
81. inʌ
82. --
83. die menʌ
84. fi
85. keǏikʌ
86. kʌǏi
87. --
88. itidi
89. ani
90. ɔsugʌ
91. senimʌ
92. --
93. yʌfʌṣ
94. ughu
95. wʌdei
96. hɔsin
97. dɔ
98. dɩɔfɔ
99. nʌ
100. is

Kasua

1. senɛ
2. kesʌɣe
3. nɛ
4. kɛ
5. niuwʌ
6. sɔpɔɣɔ
7. bizei
8. bizei fʌnu
9. si
10. mĭ
11. kinɛli
12. apa
13. tepɛ
14. timɔkɔ
15. menbɔ
16. tiɛle
17. bɔ
18. kubu
19. unɛtu
20. kuniyũn
21. kʌ:pɔ
22. bebetʌ
23. sʌpɛ
24. ki:
25. fes
26. kenen
27. ɔbɔ
28. kunɛi
29. yɛpisini
30. ɛkɔpe
31. hʌnɔ̃ mɔni
32. nukruanɔ
33. hʌnɔ̃
34. pɛliʌ
35. etewʌ
36. kɔpɔɣɔ
37. tɔkɔmɔ
38. tei
39. hɔmʌ toʌ
40. tepɔ
41. isu
42. i
43. warɔfɔ
44. i kʌpɔ
45. kʌsoro
46. itiame
47. ɛnim
48. ʌnɛm fʌnu
49. ufu
50. tuŭu
51. sosoɣo
52. kɔrɔtea
53. nʌpɔɣɔ
54. senʌtɔɣɔ
55. kenɛ
56. kuyʌ
57. yapuya
58. eɣiʌ
59. munʌ
60. kuliʌ
61. bɔtiʌ
62. waruya
63. hiɣi
64. mɛnẽ
65. kazuʌ
66. erape
67. heŭeme
68. seŭʌkeye
69. hɔmonʌ
70. nemʌ
71. ɛnimʌ
72. ɛnimʌ
73. bɔbʌ
74. tʌtʌgeye
75. huɣuhʌpʌ
76. minɛ
77. hutiʌhʌpʌ
78. meni
79. unũ
80. phɔu
81. ebʌ ibe
82. enana
83. hinakiye
84. pfɛi
85. hitɛlʌ
86. wei
87. ebʌ
88. semeti
89. ɛɣipi
90. enemʌtʌnʌ
91. kuɣu
92. ɛdɛ
93. i fʌlɔ
94. supu
95. tɔŭɔ
96. sinipi
97. --
98. ithɔ
99. --
100. --

Aimele

1. kɔlu
2. kaisale
3. ne
4. ge
5. ni
6. tɔbɔ
7. mufa
8. mufa fɔnɔ
9. si
10. migi
11. keleni
12. bisi
13. dabisẽ
14. dɔgɔle
15. mɔgafɔ̃
16. debe
17. bu:
18. kufu
19. inebi
20. gulu
21. kãfu
22. omani
23. sabe
24. ki
25. fɔsu
26. kede
27. ofɔ
28. ole
29. bilimu
30. kilini
31. hãni tine
32. sɔlɔdiyabe
33. hãni
34. isa
35. dɔa
36. kẽ
37. dɔma
38. di
39. dɔfu
40. dɔsɔ
41. tɔgɔlɔ
42. yebe
43. yebe tefe
44. ye kafe
45. ãgi
46. tufɔnɔ
47. abɔ
48. abɔ fɔnɔ
49. abɔ uʂu
50. kɔmɔlu
51. hɔ̃gala
52. hɔdɔsu
53. kẽlẽga
54. sada
55. gia
56. hɔla
57. damẽla
58. wenala
59. imɔ̃la
60. ɔfɔla
61. kɔmɔlu
62. --
63. hi
64. mayã
65. kɔsuwa
66. dasidɔmã
67. meseyã
68. tɔyã
69. malã
70. diminã
71. alimã
72. alimã
73. bɔbɔmã
74. debamã
75. hane hemefiyã
76. yabe
77. abɔ tɔgɔdia aneke
78. agi kalia
79. wi
80. ine
81. aiba
82. aiba ?
83. seba
84. tede
85. mɔmeya
86. wekae
87. wẽ
88. ageli
89. ageleweli
90. hɔlɔke
91. sanemã
92. igale nake
93. yefɔ
94. hɔ
95. wade
96. abɔ gɔsene
97. na
98. kɔlu
99. nɔluwelebe
100. esi

Kamula

1. ɔpɔlʌimi
2. ɛ̃yã̄
3. nɛ̃
4. wɛ̃
5. diɛ
6. hʌpɔlɔmʌ
7. tɔkɔbʌlʌ
8. kɔkɔsʌse
9. inʌma
10. mũ
11. mɔlɔ
12. ɛpe
13. tɛ
14. tumuku
15. mʌ:ti
16. tɔ:
17. mɛmɛ
18. kukɔ
19. hetei
20. ʌɬuma
21. kʌpʌlʌ
22. umʌ:li
23. ɔpi
24. ɛɬu
25. kɔ
26. mʌke
27. sʌɬi
28. mʌmʌ
29. tʌmeɬi
30. uʌɬʌ
31. tiɔ
32. utɔɬɛlʌ
33. yu
34. tɛɬʌ
35. ewʌɬʌ
36. ʌɬiʌ
37. tʌmʌɬi
38. deɬʌpʌ
39. nʌmʌɬe
40. tine
41. ʌpi
42. tʌli
43. tɔɬɔsʌ:ɬɔ
44. kʌbʌlʌ
45. esemʌlʌ
46. tilɛ
47. tea
48. teakʌ
49. temɔkɔ
50. ʌmʌlɔ
51. pʌtɔ
52. yimikʌmʌlʌ
53. tegedɬ̌ɛ
54. seɬ̌emʌɬeni
55. omtʌkʌipele
56. kʌmʌle
57. dikɔli
58. wʌleni
59. tʌlipusukʌlu
60. ʌlʌmʌleni
61. thɔmʌli
62. pɔsʌtʌni
63. ʌmɔkɔ
64. tʌɛdɔma
65. wʌtʌlʌ
66. sɛrihotine
67. yɛproma
68. yugama
69. tɔmʌ
70. hʌmima
71. elema
72. elema
73. nʌtima
74. tʌlʌma
75. yudelʌsʌlɛma
76. puma
77. hɔɬ̌ʌmtuma
78. yeɬ̌ɛma
79. hi
80. suku
81. ʌnʌyɛ
82. ʌpʌtɛ
83. uɬuɬuma
84. iyʌ
85. hʌpɔɬɔmʌ
86. ʔi
87. ɛye
88. hʌtɔlɔp
89. depiʌmɛtɛ
90. mʌlʌmʌlʌ
91. yumama
92. hʌwʌ
93. upʌ
94. mɔ
95. tumʌ
96. tukasi
97. ʔʌ
98. mɔkɔ
99. wʌi
100. --

Doso This list was taken from a Kamula man who was married to a Doso woman. It was collected at Kisigi where the man was living at the time (not included in comparative data).

1. haimo
2. dobo
3. anei
4. na
5. aĩ
6. --
7. abaki
8. abuluso
9. usa
10. bulu
11. apu
12. da
13. ithi
14. wagubati
15. dimɪke
16. ɸɛnei
17. toka
18. gomga
19. sʌɬ̌ei
20. swã̄
21. bʌli
22. omani
23. tsæ
24. khi
25. bɪkhi
26. makæ
27. khikha
28. ɪɬ̌i
29. wotʌba
30. waɬ̌a
31. oɬ̌o
32. --
33. umu
34. bili
35. kɔ
36. nɛna
37. pi
38. dɪki
39. dʌɬ̌imi
40. dʌmiʌkopa
41. uzuga
42. gu
43. haha
44. gubʌɬ̌i
45. khasa
46. --
47. sɪkĩ
48. ih
49. wű̃nȭ
50. yah
51. --
52. --
53. --
54. --
55. --
56. --
57. --
58. --
59. --
60. --
61. --
62. --
63. --
64. nane
65. wathwɬ̌a
66. diɛ
67. ipwɛ
68. ȭ wãɬ̌ei
69. uɭɛ
70. manɪne
71. koɬ̌iɛ
72. kuɬ̌iei
73. yãnɛ̃
74. duɬ̌ei
75. --
76. andɛ
77. patudɛ
78. bʌkʌle
79. samu
80. pɛpɛ
81. --
82. --
83. dɪki hede
84. amu
85. --
86. --
87. --
88. --
89. --
90. omtwa
91. okʌmane
92. --
93. gusu
94. uɬ̌u
95. bʌsei
96. sɪɬ̌edmiki
97. --
98. alei
99. --
100. ɛzɛbe

Bainapi

1. sau
2. tawɔi
3. nanɛ
4. gagɛ
5. nini
6. ɔtɔmʌte
7. bisikɔki
8. bisi kaka
9. usa
10. deimu
11. kɔsɔrɔpa
12. beserepa
13. mɛtɛtʌ
14. timɔku
15. kalu
16. tapi
17. bu
18. kupʌ
19. tupa
20. gutu
21. baua
22. balipa
23. sai
24. ki
25. butʌku
26. bɪnapki
27. male
28. iliɛpɛ
29. bepeai:
30. paupai
31. daiagisarɔ
32. dapɔ
33. daia
34. ʔe
35. kɔ
36. apo
37. bati
38. daȟau
39. do
40. dupu
41. iti
42. bosa
43. bosa baba
44. bosa baua
45. sapo
46. koȟokawa
47. mɛta
48. kwasapa
49. kwapa
50. kaipi
51. gutute
52. sia
53. walɛta
54. memeli̇̃
55. balipatʌpa
56. okatʌpa
57. daputʌpa
58. mɛtʌpa
59. katʌtɔpa
60. sitau
61. babit
62. tapau
63. kokalia
64. na-
65. kauli
66. dasi-
67. eso-
68. mado-
69. an-
70. mina-
71. usiati-
72. usiati-
73. boso-
74. apki-
75. --
76. mini-
77. pio
78. makʌli
79. yo
80. auakiki
81. dabȟa
82. yaloa
83. aro-
84. pe
85. gutute
86. aye
87. amo
88. makate
89. aȟapa
90. nauma-
91. toa
92. namo
93. isipa
94. moko
95. mase
96. kapa
97. enate
98. ukuma
99. enauwe
100. bitia

APPENDIX B: LANGUAGES SURROUNDING THE BOSAVI FAMILY

Bogaya

1. ʌmi̇̃
2. i̇̃miʌ
3. nɔ
4. kɔ
5. enu
6. kɔnufʌnma
7. yeɣ̇ʌ
8. yeɣ̇ʌ eɣ̇ika
9. ki:nʌn
10. pfouɣ̇u
11. hɔnʌn
12. yʌkʌi
13. ɪkin
14. tʌfãn
15. minɣa
16. enʌn
17. ʌɣ̇u
18. sʌɣʌn
19. yehʌi
20. ɔmʌmukun
21. hukuʌn
22. yesʌ
23. munguʌn
24. hʌɣʌɣ̇e
25. fʌin
26. peni
27. ɔwa
28. kʌiu
29. yʌɣ̇ʌgʌi̇̃ʌ
30. niguwi
31. pʌiukufɔsi
32. ɔ̃mɔtɔkɔn
33. pʌiuku
34. yũ̃mgũ̃ʌn
35. hʌnʌ
36. ʌpʌn
37. kʌȟi̇ʌ
38. tɔun
39. sukupʌ
40. mi̇̃mu
41. hɔ̃na
42. tɔuʌ
43. tɔuʌ tʌɣ̊ɔ
44. tɔua fuɣ̊u
45. ɔɣɔpi
46. houe
47. pitʌkʌ
48. pitʌkʌ elika
49. pitʌkʌ ɔ̃udi
50. hɛi
51. gɔsin
52. hitipʌ
53. hɔmʌgʌnumun
54. uɣ̇ua
55. gʌȟʌn
56. hwuɣ̇un
57. ɔmusin
58. fʌwun
59. gaȟʌn
60. tɔȟɔ
61. ʌsɔȟɔ
62. pekenŋʌu
63. sʌɣʌn
64. nã̇
65. uguȟuʌ
66. seɣ̇ʌbʌ
67. sɔɣɔbʌ
68. nʌtɔsi
69. mʌɣʌ
70. sifʌ
71. houɣ̇ubʌ
72. houɣ̇ubʌ
73. hʌɣʌbʌ
74. wʌkeisi
75. enou wʌnmʌɣʌ
76. fai
77. pitʌkʌ mɔɣɔsi
78. hiliuɔ
79. ʌmi̇̃n
80. pitʌkʌ fʌɣ̇ʌn
81. kɔpʌ
82. kemenʌ
83. touʌ tʌ
84. fiɣ̇ʌ
85. ka:sinumʌn
86. duhu
87. duhu
88. mɔsʌ kɔmʌ
89. efʌn
90. houn
91. hɔlukenɔ
92. mɛ
93. tɔuʌ iɣ̇ikʌ
94. pi̇̃ni
95. mʌɣʌn
96. pitʌkʌ kipʌ
97. ʌtʌ
98. tɔuʌ ɔndi
99. emʌ
100. --

Duna

1. anɔa
2. ima
3. nɔ
4. kɔ
5. inu
6. pilili
7. kuni
8. hini
9. le
10. kuma
11. kɔhane
12. ne
13. ɔgɔne
14. ma
15. habu
16. ki
17. abu
18. takane
19. tia
20. mɔkɔne
21. pulu
22. kuyila
23. hai
24. kuni
25. kana
26. paia
27. hewa
28. eke
29. yalekayi
30. pɔpɔ
31. yu
32. akurua
33. yu
34. lidi
35. kuna
36. isa
37. kali
38. lɔwa kiliana
39. hawe
40. emɔ
41. hata
42. lɔwa
43. lakɔ
44. lɔwa puru
45. yawi
46. lana
47. heka
48. hini
49. hapa
50. wena
51. puka
52. kete
53. peli
54. ugwa
55. yetaɔ
56. peɔ
57. midu
58. abwaɔ
59. tɔninipurubɔ
60. lɔlɔ
61. lakale
62. din
63. kɔni
64. neyana
65. ukura
66. kei
67. leina
68. luwana
69. gana
70. ugwana
71. wana
72. wana
73. kena
74. wakina
75. lana
76. heana
77. pakana
78. neyana
79. yaka
80. iki
81. ai
82. aki
83. kiliana
84. tete
85. rɔkwa
86. huna
87. hana
88. du
89. yapa
90. kɔnei
91. teikina
92. neya
93. hini
94. pini
95. makapɔ
96. hɔdene
97. ana
98. eke
99. agia
100. nu

Pare

1. kobo
2. wigi
3. nɔ̃
4. gɔ
5. nigi
6. hanɔmu
7. kiba
8. ouse
9. kinemɔ
10. kine
11. mɔgɔ
12. male
13. tɛ
14. tulu
15. padame
16. atɔwe
17. bu
18. napɔ
19. tamakali
20. oumu
21. sia
22. sɔwɔ
23. sa:
24. kɔ
25. malakɔ
26. isene
27. gine
28. abi
29. peteme
30. uwe
31. ume
32. hwiga
33. ume
34. tɔ
35. iebɔ
36. mele
37. gisɔ
38. nɛ
39. ne ɔgwe
40. ɔwekɔmɔ
41. ɔtigi
42. ĩ
43. ĩ debere
44. ĩ sia
45. ti
46. hwetɔ
47. tie
48. tige ouse
49. mɔʔɔ
50. mune
51. hiti
52. kɔbɔkiti
53. ediage
54. sige
55. tauge
56. gɔgene
57. dige
58. kɔsagane
59. mɔmagane
60. te:ga
61. suwiga
62. tɔwate
63. kwane
64. denu
65. ɔba
66. henɔ
67. enenɔ
68. sa ade
69. kɔdu
70. denu
71. kiyɔenɔ
72. enɔ
73. dedɔ
74. wɔdalaɔ
75. ume ʔida
76. hadanɔ
77. kada
78. tena
79. hi
80. akɔ
81. kɔbɔ nɔkɔbu
82. naganewo
83. ne dimenu
84. kiba ʔɔ
85. hitiyum
86. e
87. ɔ
88. ɔtesɔ
89. diyabɔ
90. nɔdalɔyɔ
91. male yenu
92. ãmale
93. ĩ use
94. seyi
95. ɔwe
96. dage
97. de
98. ĩ mu
99. ama
100. dige

Namumi

1. abanɔ
2. hinamu
3. anuni
4. ni
5. su
6. abonakaiya
7. unahaie
8. unahai iti
9. hĩ
10. sapasuma
11. sinæki
12. akai
13. airu
14. kɔrɔpiri
15. akai kiri
16. nɔkanu
17. hɔtu
18. haripa
19. kɔfai
20. kukunai
21. kau
22. kakusa
23. sawi
24. kiki
25. mati
26. kinu
27. maya
28. hɪki
29. iya putini
30. aku
31. iya
32. iya idi
33. hĩ
34. hãuaka
35. ɪki
36. girɔ
37. uri
38. irʌkupi
39. irʌ musu
40. kanaku
41. iyakarapabu
42. ira
43. irʌbikinu
44. irʌ kau
45. kasa
46. kasa kinu
47. minai
48. iti
49. hai
50. pɔka
51. kaia
52. pabu
53. bisai
54. hɔrɔpɔ
55. piti
56. saufia
57. kimusa
58. saririsa
59. saisaisa
60. sisibu
61. inu
62. kɔmurusai
63. kawi
64. nesi
65. sikina
66. tʌhisi
67. asikayæ
68. sumisie
69. pusie
70. makasie
71. wara kabu
72. wari kinabu
73. asiabu
74. kai abu
75. tabusie
76. piæ
77. minaipũ
78. nisie
79. iyanu
80. nɔriapɔ
81. epare
82. yakabare
83. --
84. --
85. kaiya
86. nani
87. wari nani
88. nakasa
89. tita
90. --
91. --
92. fa
93. irʌ gu
94. maia
95. kaputa
96. kipi sikini
97. ata
98. sũ yahai
99. ama
100. ira

Bamu

1. dubu
2. ɔrɔbɔ
3. mɔ
4. ɔrɔ
5. neiɔ
6. imese
7. eputa
8. epusume
9. damari
10. wɔdi
11. gare
12. ibɔmɔrɔ
13. ɔtɔtɔbe
14. dɔpa
15. matagɔrɔ
16. tuʔu
17. amɔ
18. nirɔ
19. sairɔ patɔ
20. kauhwiɔ
21. tama
22. sawi
23. kasawɔ
24. sɔrɔ
25. gimini
26. bena
27. saikiɔ
28. sɔgɔmi
29. sari
30. tɔbɔrɔ bubu
31. wisare
32. duwɔ
33. ɔbɔ
34. sɔpu
35. depani
36. girɔ
37. pɔdɔ
38. mahi
39. gahuwa
40. tuwɔ
41. gabɔ
42. ɔta
43. sipi
44. tama
45. sɔka
46. kukau
47. siwi
48. musuwa
49. iɔpu
50. nakere
51. auwɔna
52. kainaʔi
53. meana
54. tutulu
55. karima
56. kea saɔ
57. gare:
58. aguwagɔ
59. gitigiti
60. kɔrɔ
61. kukamɔ
62. kirɔtɔmuwa
63. ɔriɔ
64. ɔuhɔ
65. diware
66. ɔtɔi
67. ɔmidirɔ
68. ibɔ arɔ
69. ɔuʔu
70. abiɔtɔ
71. uwɔ ɔrɔbu
72. ɔrɔbu
73. iauri
74. irɔwidirɔ
75. ɔbɔ iɔuwa
76. ɔudie
77. ɔdau
78. agigisi
79. masirɔ
80. tamu
81. etura
82. tɔura
83. mahirɔ ɔuhɔ
84. nimɔ
85. siriɔ
86. nɔuʔu
87. iɔʔɔ
88. kaidi
89. netewa taibɔ
90. umɔrɔie
91. rɔ ɔpia
92. puaie
93. puara
94. tumuna ɔuhɔma
95. kɔbira
96. tukupi
97. abera
98. iɔpu
99. mamu
100. --

APPENDIX C: DIALECTS OF SAMO

Samo Included here for comparison

1. oso
2. sɔbɔ
3. ã
4. nɔ̃
5. ɔye
6. gõgõ
7. ulʌgibi
8. ulʌgibi
9. hĩɔwɔ
10. mĩnĩ
11. duli
12. mɔ̃yɔ
13. mẽnɛ̃mãnĩ
14. gɔbʌgibi
15. mɔ̃galu
16. dɛbɛ
17. bu
18. sasi
19. hɔmɔ̃
20. ibulu
21. kɔlɔfu
22. ayo
23. bɔ̃nɔ̃
24. kibi
25. wagibi
26. ɔdiɔ
27. ɔ̃sɔ̃
28. ogwʌ
29. gɔsɔmɔ̃nĩ
30. ɔgabi
31. hõ mũnũ
32. gɔ̃sĩ
33. hõ
34. mʌhɔ̃i
35. yo
36. bɔyɔ
37. goufɔda
38. dɔlɔ
39. dʌhãĩ
40. dɔsɔbu
41. ali
42. hɔmãnẽ
43. tofɛ
44. bisigɔbu
45. sɔfo
46. sɔfo hobe
47. sigɔ
48. sigɔ tɔwɔ
49. sigɔ hɔlɔ
50. diɔ
51. kau
52. fɛ̃afɔ̃
53. de
54. sagɔ
55. ɔbusĩte
56. ɔlɔwɔte
57. busĩte
58. biyete
59. mɔ̃lɔwɔte
60. dɔfi
61. tĩ
62. mɔ̃yɔtɔnɔ̃mãdɔ
63. dwafi
64. nãla
65. kɔyabi
66. tɔfola
67. buɔla
68. tɔ̃ hwãla
69. suda
70. nẽla
71. kiala
72. kela
73. ɔgɔla
74. dula
75. hõ tɔlɔfiyala
76. hugala
77. fulumã ila
78. gada
79. hũti
80. alafagibi
81. kũba
82. kɔbɔba
83. heyasɔgɔla
84. ɔ̃ũ
85. gõgõ
86. ke
87. ka
88. helenũ
89. bẽnãũ
90. tɔwadela
91. ola
92. mɔi
93. dibi
94. hwɔ̃ĩ
95. ebe
96. sigɔ kali
97. ade
98. kɔlɔ
99. uyɔ
100. ɛsɔ

Kubo

1. o
2. sɔbɔ
3. ã
4. nã
5. ɔye
6. gõgõ
7. wodio
8. wodio toi
9. dihõ
10. mi
11. du
12. mɔyɔ
13. i:
14. gɔbaidiu
15. mɔgaʔu
16. dɔbɔgɔ
17. bu
18. gɔsiɔ
19. ɔbɔgɔ
20. yubu
21. kɔlɔ
22. ayo
23. sofe
24. dio
25. sãgi
26. ɔdɔme
27. õsõ
28. ogwʌ
29. gɔsɔmoi
30. ɔgabi
31. hwĩ tɔlɔdɔ
32. gõsĩ
33. hwĩ
34. ɔso
35. yɔ
36. ʔo
37. gɔwufɔda
38. dɔu
39. dʌhãĩ
40. dasʌgɔ
41. ai
42. hɔme
43. tɔfɛ
44. biɔ
45. sɔ
46. sɔ hɔbe
47. siu
48. siu toi
49. siu ho
50. diɔ
51. kau
52. fãfi
53. de
54. sagɔ
55. osikɔ
56. kɔwɔkɔ
57. buwɔkɔ
58. biekɔ
59. mɔekɔ
60. dɔfi
61. tĩ
62. ɔ̃me:dɛ
63. dwau
64. naiɔ
65. diuɔ
66. tɔfãdiɔ
67. diobodiɔ
68. tɔbɔiɔ
69. sudiɔ
70. neiɔ
71. tiaiɔ
72. tiadiɔ
73. duguiɔ
74. duiɔ
75. hwi toiɔ
76. hɔgwaiɔ
77. fuɔyɔ̃iɔ
78. ga:iɔ
79. hũti
80. ɔdafɔdiɔ
81. kɔmaba
82. bɔʔɔba
83. hɔbeɔtɔiɔ
84. ɔ̃ũ
85. gõgõ
86. ke
87. ka
88. tanɔ
89. beaũ
90. tɔwãiɔ
91. toiɔ
92. mɔi
93. dubi
94. huwĩ
95. e:
96. siu kai
97. ade
98. ko
99. dua
100. esɔ

Honibo

1. os
2. uliʌ
3. ã
4. nɔ
5. ɔye
6. susugab
7. uligib
8. utoʌ
9. hiɔ
10. mĭni
11. dulu
12. mɔi
13. ili
14. gɔfʌgib
15. mɔgɔf
16. dub
17. bu
18. sasi
19. hɔm
20. ibili
21. kɔlɔf
22. sahau
23. bɔ̃n
24. kib
25. wakib
26. ɔli
27. õ:s
28. ɔgwʌ
29. gɔsɔmɔi
30. ɔgaib
31. hãũ muwadau
32. gɔis
33. hãũ
34. mɔhɔĭ
35. yo
36. bɔi
37. gok
38. dɔlu
39. dem
40. dɔsɔf
41. ɔli
42. hɔmɔl
43. mɔtɔf
44. kɔlɔf
45. sɔf
46. sɔf milu
47. si
48. si tɔwɔ
49. si hɔl
50. diɔ
51. gau
52. fɛf
53. dɛ
54. sagati
55. ɔbuste
56. ɔlɔte
57. busĭte
58. buɔ̃te
59. mɔlɔte
60. dɔif
61. tiɔ̃dɔ
62. mɔyɔdɔnɔmaimdɔ
63. dwaif
64. nɔwal
65. kɔyib
66. tɔfɔye
67. buɔye
68. tɔhwãye
69. suĭɔye
70. neye
71. kiaye
72. keaye
73. ɔgɔye
74. duye
75. tɔfuaye
76. ɔmaye
77. fudiye
78. ɔuaye
79. hũti
80. alof
81. kũba
82. kaba
83. hɔitugweye
84. om
85. susugab
86. ke
87. ka
88. helehai
89. bĕnabugu
90. tɔwe
91. ɔye
92. mɔi
93. dib
94. hwĭ
95. eb
96. si kai
97. mam
98. kɔl
99. we
100. es

Oibae

1. ɔs
2. uliɔ
3. ʔɔi
4. kea
5. ɔʔi
6. susugap
7. ulugib
8. otɔwɔ
9. hiɔ
10. mi
11. dulu
12. mɔɛ
13. ilI
14. gɔbɔgɔ
15. mɔgɔf
16. dɔp
17. tɔ̃:
18. sais
19. hɔm
20. ibilI
21. kɔrɔp
22. sʌh
23. bɔnɔ̃
24. ki:p
25. wagib
26. ɔidI
27. ɔ̃s
28. ɔgɔ
29. gɔsɔmɔi
30. aip
31. hɔu mual
32. gɔi
33. hɔu
34. mɔ̃hɔĭ
35. yɔ
36. bɔɛ
37. mikɔ
38. dɔlu
39. dɛm
40. dɔsup
41. olɔ
42. hɔmɔlɔ
43. hɔmɔl tɔp
44. kolap
45. sɔf
46. tuf
47. sikI
48. si tɔup
49. si kɔlɔ
50. diɔ
51. gauhi
52. fɔihi
53. due
54. sʌgati
55. ɔbistẽ
56. ɔlɔtẽ
57. dãsɔ̃tẽ
58. buɔ̃tẽ
59. mɔlotẽ
60. dɔfida
61. kɔgɔsida
62. mɔ:tɔmedia
63. duaif
64. nɔwal
65. kɔyɛb
66. tɔfɔwɛi
67. buwɛi
68. tɔhwãɛi
69. suluwɛi
70. nɛi
71. kialawɛi
72. kiama
73. ɔgɔwɛi
74. duwɛi
75. hɔu tɔfɔwɛi
76. sɔm dɔbuga
77. fudugewɛi
78. sɔf gɔlɔwɛi
79. hũ
80. alaf
81. kum
82. kabɔis
83. dɔtɔlgwia
84. ɔm
85. ɔsusugai
86. ɔya
87. gɔuti
88. helɛ
89. bena
90. tɔwɛi
91. ɔwɛi
92. mɔi
93. dip
94. hwɔĭ
95. ebI
96. si kaili
97. mamgu
98. hɔmɔ kɔl
99. wɛ
100. es

Gebusi

1. os
2. uliʌ
3. ãwɔ
4. nɔ
5. ɔyɔ
6. gõgõ
7. ulʌkib
8. o dɔsɔ
9. hiɔ̃
10. mina
11. dulo
12. mɔi
13. ili
14. gɔfʌgib
15. mʌgalu
16. dɔb
17. tɔnu
18. sæs
19. hɔma
20. mũgũ
21. kɔlɔf
22. sõho
23. bɔ̃nɔ̃
24. kib
25. wakib
26. ɔli
27. õs
28. ogɔ
29. gɔsɔmɔli
30. ɔgaib
31. hõ molu
32. gɔsigai
33. hõ
34. osɔb
35. yo
36. bɔi
37. gogo
38. dɔbu
39. deim
40. sasog
41. ɔli
42. hɔmɔ̃n
43. tof
44. bisʌgɔ̃f
45. sɔf
46. sof tulu
47. sigɔ
48. sigɔ tɔwʌ
49. sigɔ hɔlɔ
50. diɔ
51. gau
52. fæ̃p
53. de
54. sag
55. ɔbiš
56. seguwab
57. bũš
58. bebelɔgum
59. mɔlɔ
60. dof
61. tiyɔ
62. mɔidedʌga
63. duaif
64. nɔwalaga
65. kɔyaib
66. tɔfɔla
67. dɔbula
68. tɔhwaiya
69. sula
70. newalu
71. kiawalaga
72. kela
73. ɔgɔla
74. dula
75. hõ tɔlɔfula
76. ɔmɔiya
77. fudula
78. sɔf gala
79. hũni
80. alafagib
81. kumiba
82. kaba
83. haisɔgwiya
84. om
85. gõgõ
86. ke
87. ka
88. hele
89. bihinɔ̃n
90. duwiya
91. gɔlumdaga
92. mɔi
93. dib
94. fɔ̃i
95. ebɔ
96. sigɔ kaliɔ
97. mama
98. kɔlɔf
99. wiyʌ
100. esɔ

BIBLIOGRAPHY

ERNST, Thomas

1973 Aspects of meaning of exchange items among the Onabasalu of the Great Papuan Plateau. In J. Specht and J.P. White, eds *Trade and exchange in Oceania and Australia,* 187-197. *Mankind* 11.

FELD, Steven

1981 Flow like a waterfall: the metaphors of Kaluli musical theory. *Yearbook for Traditional Music* 13:22-47.

1982 *Sound and sentiment: birds, weeping, poetics and song in Kaluli expression.* Philadelphia: University of Pennsylvania Press.

FELD, Steven and Bambi B. SCHIEFFELIN

1982 Hard talk: the functional basis for Kaluli discourse. In D. Tannon, ed. *Text and talk: Proceedings of the Georgetown University Round Table in Linguistics and Languages, 1981,* 351-371. Washington, D.C.: Georgetown University Press.

FRANKLIN, Karl J. and Clemens L. VOORHOEVE

1973 Languages near the intersection of the Gulf, Southern Highlands, and Western Districts. In K. Franklin, ed. *The linguistic situation in the Gulf District and adjacent areas, Papua New Guinea,* 151-186. *PL,* C-26.

FREUND, Paul

1977 Social change among the Kasua, Southern Highlands, Papua New Guinea. Ph.D. dissertation, The University of Iowa.

GUDSCHINSKY, Sarah C.

1956 The ABC's of lexicostatistics (glottochronology). *Word* 14:345-388.

GRIMES, Joseph

1974 Dialects as optimal communication networks. *Language* 50:260-269.

HIDES, Jack

1936 *Papuan wonderland*. Glasgow: Blackie.

KELLY, Raymond

1978 *Etoro social structure: a study in structural contradiction*. Ann Arbor: The University of Michigan Press.

KNAUFT, Bruce

1985 *Good company and violence*. Berkeley: University of California Press.

McELHANON, Kenneth A.

1967 Preliminary observations on Huon Peninsula languages. *Oceanic Linguistics* 6:1-45.

1970 Lexicostatistics and the classification of Huon Peninsula languages. *Oceania* 40:214-231.

McELHANON, K.A. and C.L. VOORHOEVE

1970 *The Trans-New Guinea Phylum*. *PL*, B-16.

REESINK, Ger P.

1976 Languages of the Aramia River area. *PL*, A-45:1-37.

SANDERS, Arden

1977 Guidelines for conducting a lexicostatistic survey in Papua New Guinea. In G. Simons, ed. *Language variation and survey techniques*, 21-43. *Workpapers in PNG Languages* 21.

SCHIEFFELIN, Edward L.

1976 *The sorrow of the lonely and the burning of the dancers*. New York: St. Martin's Press.

SHAW, R. Daniel

1973 A tentative classification of the languages of the Mt. Bosavi region. In K. Franklin, ed. *The linguistic situation in the Gulf District and adjacent areas, Papua New Guinea*, 189-215. *PL*, C-26.

1974 Samo sibling terminology. *Oceania* 44:233-239.

1976 Samo social structure: a socio-linguistic approach to understanding interpersonal relationships. Ph.D. dissertation, University of Papua New Guinea, Port Moresby.

1983 Samo initiation: its context and its meaning. *Journal of the Polynesian Society* 91:417-434.

SHAW, R.D. and K.A. SHAW

1973 Location: a linguistic and cultural focus in Samo. *Kivung* 6:158-172.

1977 Samo phonemes: distribution, interpretation, and resulting orthography. *Workpapers in Papua New Guinea Languages* 19:97-135.

SORUM, Arve

1980 In search of the lost soul: Bedamini spirit seances and curing rites. *Oceania* 50:273-297.

1982 The seeds of power: patterns in Bedamini male initiation. *Social analysis* 10:42-62.

SWADESH, Morris

1955 Toward greater accuracy in lexicostatistic dating. *International Journal of American Linguistics* 21:121-137.

TRYON, D.T.

1976 *New Hebrides languages: an internal classification*. *PL*, C-50.

1977 Non-discreteness and the problem of language subgrouping: language chaining in the New Hebrides. *Talanya* 4:57-63.

VOORHOEVE, C.L.

1968 The Central and South New Guinea Phylum. *PL*, A-16:1-17.

1970 The languages of the Lake Murray area. *PL*, A-25:1-18.

1975 Central and Western Trans-New Guinea Phylum languages. In S.A. Wurm, ed. *New Guinea area languages and language study*, vol.1: *Papuan languages and the New Guinea linguistic scene*, 117-141. *PL*, C-38.

WOOD, Michael

1982 Kamula social structure and ritual. Ph.D. dissertation, Macquarie University, Sydney.

WURM, S.A. and D.C. LAYCOCK

1961 The question of language and dialect in New Guinea. *Oceania* 32:128-143.

Shaw, R.D. "The Bosavi language family". In Laycock, D., Seiler, W., Bruce, L., Chlenov, M., Shaw, R.D., Holzknecht, S., Scott, G., Nekitel, O., Wurm, S.A., Goldman, L. and Fingleton, J. editors, *Papers in New Guinea Linguistics No. 24*.
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