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# SOME LANGUAGE RELATIONSHIPS IN THE UPPER SEPIK REGION OF PAPUA NEW GUINEA

ROBERT CONRAD AND WAYNE DYE

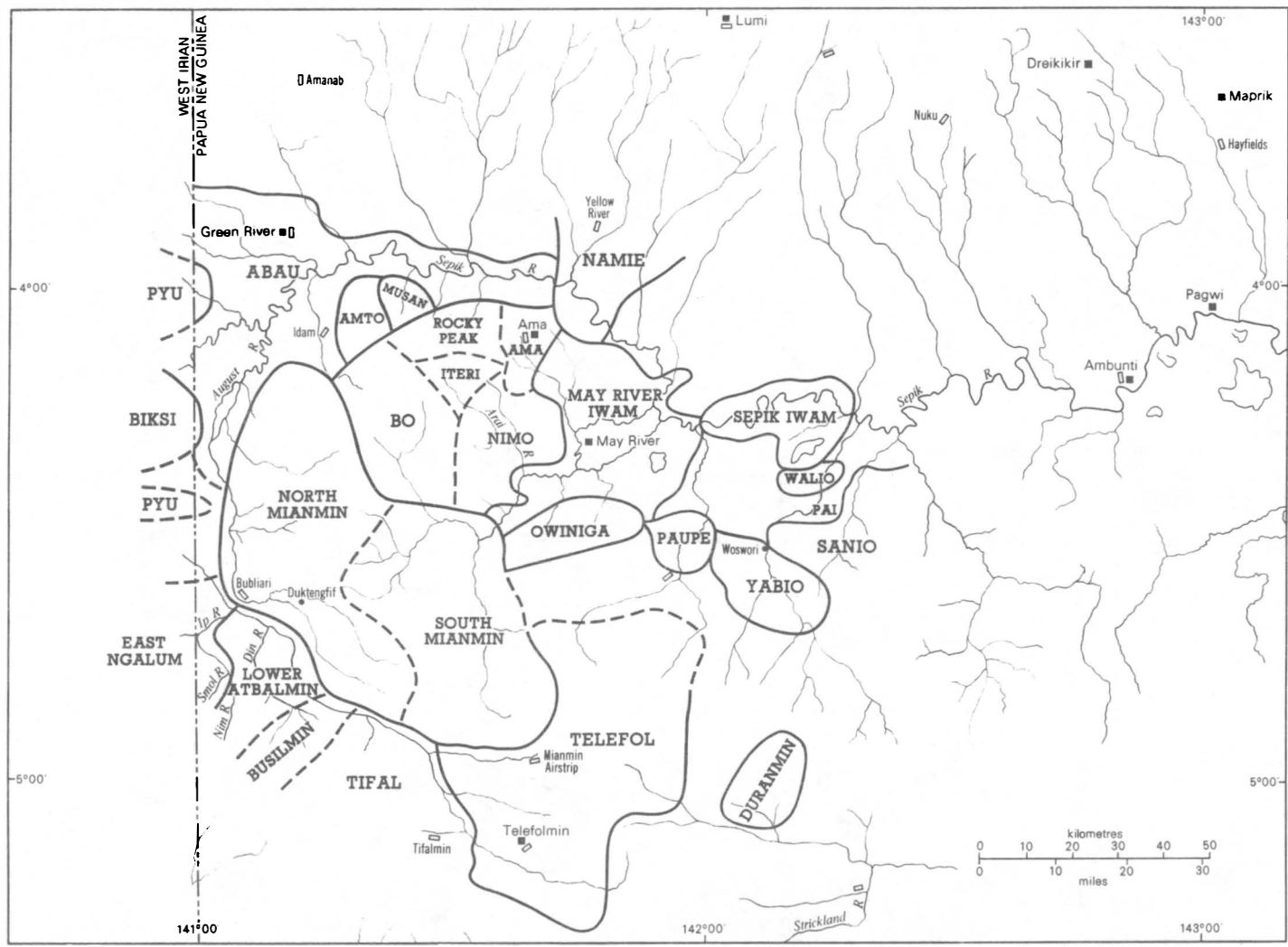
## 0. INTRODUCTION

Most of the languages in the upper Sepik have now been identified. Published surveys have covered the Amanab Sub-district, the "Sepik Hill" region between the Karawari and Leonard Schultze Rivers, the Telefomin area, and the region of the Upper Sepik River from the mouth of the Wogamus River to the West Irian border.<sup>1</sup> Recently the authors conducted a field survey to fill the gap between the areas previously surveyed and the West Irian border, and in particular to investigate linguistic relationships in the Upper Sepik (see map 1).<sup>2</sup>

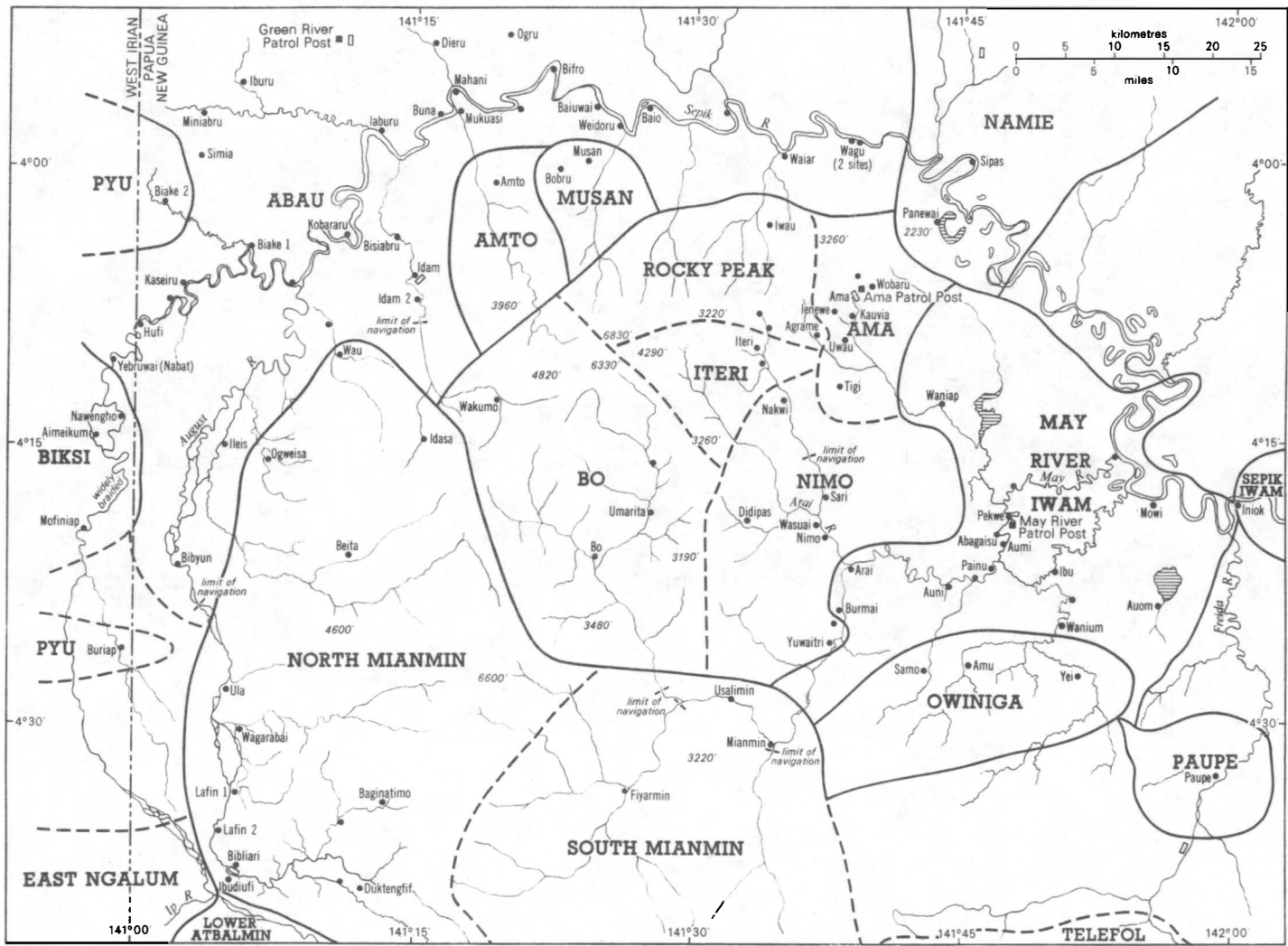
## 1. PROCEDURES

The usual procedures for gathering and analyzing the data were modified somewhat due to the field conditions in this remote part of Papua New Guinea. The wordlist used was a modification of the Summer Institute of Linguistics standard 190 word survey list, plus the 36 word Lowland Supplement. Items which Laycock and others have shown to be subject to rapid change were eliminated from this list.<sup>3</sup> It was further shortened to 102 words to eliminate items which were found to be difficult to elicit reliably where informants' command of the lingua franca, Melanesian Pidgin, was poor. Unfortunately, most verbs had to be eliminated for this latter reason, even though they might well be the most conservative lexical items of all.

During the actual survey, most of the villages were visited by the authors. Wordlists were gathered or checked, and cultural and geographic data recorded.



MAP 1: LANGUAGES OF THE UPPER SEPIK



MAP 2: ARAI FAMILY LANGUAGES

Principles for cognate decisions have been adapted to be commensurate with the reliability of the data. Only about one third of the lists are the product of extensive fieldwork.<sup>4</sup> Thus, it is not possible in all instances to insist on strict correspondences for each phoneme in a pair of words before considering the pair cognate. The sound correspondences in Tables 4 and 7 are therefore tentative. Two words with the same meaning are considered cognate if their phonemes are matched as follows:<sup>5</sup>

(a) The majority of the phonemes being compared involve the same or regularly corresponding sounds. Regularly corresponding sets of sounds are defined for this study as those sound correspondences involving a minimum of two examples for the pair of languages involved.

(b) The remaining phonemes being compared follow principles consistent with what is known about comparative linguistics in general. In some cases, information from other languages of the same family aided in establishing correspondences. In addition, we have assumed that the recorders sometimes made errors of various kinds, including imprecise phonetics, and have taken this into account in our comparisons.

## 2. INTERPRETATION

The list of 102 words obtained for the relatively little known languages of this survey are shown in Table 2. The approximate probable cognate percentages for these basic vocabulary items are shown in Tables 1 and 5. The interpretation of these results, however, brings special problems.

Lexicostatistics has been extensively discussed and it is not the intent of this study to add another lengthy critique.<sup>6</sup> However, we do wish to discuss one problem. The traditional model of discrete language-sized communities assumes no social contact following socio-geographic splitting. This is not very satisfactory for the Upper Sepik and many other areas of Papua New Guinea, where many speech communities contain 500 people or less. Although each community maintains its own dialect, it is also aware of and often significantly influenced by the differing dialects or languages spoken in surrounding villages.

Several types of interaction can occur between these small speech communities. If relations are friendly, visits for trade, dance festivals, purchase of wives, and adoption of children may lead to frequent attempts to cross the linguistic boundary and result in considerable influence of each small community on its neighbors. In a very short time new words can replace old ones, since the communities are small and have no written literature.



Unfriendly villages have less linguistic influence on each other, due to less contact. In case of a village completely overrun and captured, however, wives are taken and the remaining males move into neighboring villages, resulting in some villages speaking two languages for a period of time.<sup>7</sup>

In summary, it is the authors' opinion that there is a significant degree of linguistic interaction between speech communities, whether or not they speak dialects of the same language. The traditional model accepts borrowing only from dialects of a single language, but borrowings between languages must also somehow be discovered and eliminated from cognate counts.

We acknowledge that the rate of differentiation between daughter languages is a variable. This rate depends on a number of factors, including the extent of social interaction and the size of speech communities.<sup>8</sup> Two languages may even become more alike. The degree of similarity observed at a given time depends not only on how recently the parent dialects separated, but on the intensity and duration of interaction since separation. In contrast, the traditional model assumes a fixed rate of differentiation for all the languages in a phylum.

We believe that for small speech communities which have interacted extensively the question of genetic relationship versus borrowing cannot be answered from a comparison of the present languages. For this reason, a neat statement of relationships, especially distant ones, is impossible. Instead, the investigator must seek to answer other questions which are also relevant to historical reconstruction: "Relatively how old and how intensive was the interaction between these communities? How does this interaction compare with present socio-geographic relationships?"

It is the authors' opinion that because of very extensive borrowing between isolects, many of the language relationships observed in Papua New Guinea are more the result of borrowing than of genetic relationships. Though the traditional model might seem to yield much information, this is often illusive, because rapid linguistic change and extensive borrowing have invalidated the results.

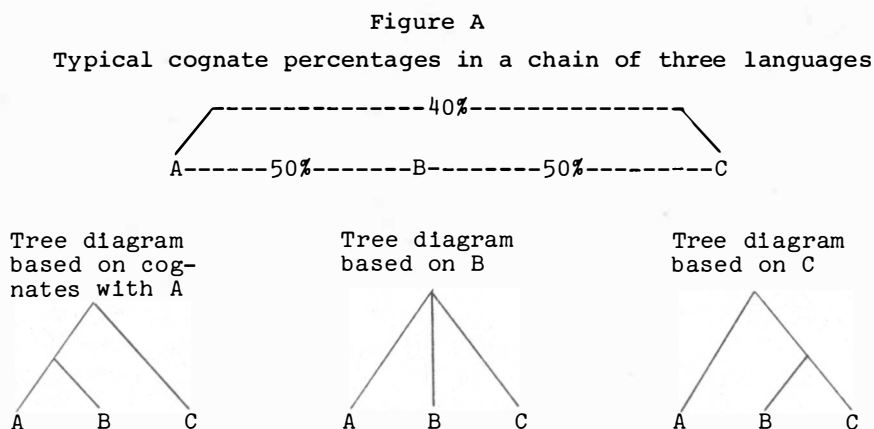
Though proof of this hypothesis is beyond the scope of this paper, cultural and linguistic observations by the authors and a number of colleagues support this view of sociolinguistic behavior.

One kind of evidence is the high rate of language change observed in certain areas of Papua New Guinea. For example, Lithgow found that the Muyuw language, as spoken in one centrally located village, changed 16% in two generations.<sup>9</sup> That is, a standard S.I.L. wordlist taken from old

people was only 84% cognate with a similar list taken from their grandchildren. The "young people's" words were 8% more cognate with the dominant language of the sub-family, Kilivila, than were the old people's words.

This viewpoint is also corroborated by the common phenomenon of language and dialect chains, in which cognate percentages decrease with socio-geographic distance. The difficulty of interpreting such data with a traditional tree model can be seen by the analysis of a simple three language chain A-B-C.

Assume that B is 50% cognate with A and C, but A is only 40% cognate with C. Then three mutually contradictory patterns of divergence are implied by the traditional model. If one's conclusions are based on cognates with A, then C must have split off first. If based on cognates with B, all three diverged at once. Based on C, A must have split off first (see Figure A).



This phenomenon was explained by Johannes Schmidt in 1872 as resulting from "waves" of linguistic change spreading through a group of languages or dialects. However, Bloomfield<sup>10</sup> implied that such waves occur only through dialects of a single language.

We believe that because there is linguistic influence across language boundaries, waves of change also cross them. Those groups which interact the most will eventually become least dissimilar. Dialect chains are therefore to be expected.

McElhanon's application of the traditional model to refined data from 40 related dialects in the Huon peninsula of Papua New Guinea shows its inability to handle complex chaining.<sup>11</sup> In order to show a pattern of discrete languages grouped into families McElhanon had to eliminate all lists from "border" villages, set language boundaries by sociolinguistic

(not lexical) methods, posit mixed "linking" languages, juggle the percentages to allow for assumed borrowing, and finally resort to typological features. Even then, he considered the classification to be inconclusive and questioned the ability of lexicostatistics to handle New Guinea data.<sup>12</sup>

In the Sepik area the Ndu language family and the Sepik Hill and Arafundi families also exhibit chaining.<sup>13</sup> Several years ago R. Conrad attempted to make a sub-grouping of the Ndu family based on shared innovations, but no consistent tree diagram could be constructed.<sup>14</sup> In this present survey the Arai family shows this pattern.

Wurm argues for resolving the ambiguities by the extensive use of typological features.<sup>15</sup> However, in our opinion typology will show almost as complex a picture in Papua New Guinea as lexicostatistics does at present, because the present linguistic pattern is largely the result of extensive and repeated borrowing of words and even of grammatical and phonological features. Genetic relationship accounts for only a part of the observed similarities.

More study by other scholars would be most welcome, to confirm or deny this hypothesis. Meanwhile, the data from this survey has been interpreted according to it. The same cognate percentage is considered more significant if it occurs between geographically distant languages than adjacent ones, because it indicates that "interaction" occurred before the present geographical distribution of dialect groups came about.<sup>16</sup> The term "cognate" as used here implies similarity of meaning and phonological form. It is not limited to reflexes of proto forms. The terms "family, stock, phylum" are still used, but the implication of them is that the language relationships involved were old and long continuing and/or were genetic. No differentiation between genetic and ancient "interaction" relationships is intended.

### 3. UPPER SEPIK LANGUAGES

Language names used in this study are based on administration usage and/or published reports. In a few cases we are suggesting new names to conform to present social groupings or to the names used by some of the speakers.

#### 3.1 ARAI LANGUAGE FAMILY

The six languages of the Arai (Left May) family were first partially surveyed by R. Conrad in 1963 and reported by Healey and Laycock.<sup>17</sup> This family was named after the Left May River which runs through the middle

of the region. As this river is now called the Arai, the family is here called the Arai family (see Map 2). The suggested names for these languages are given in Figure B along with other names sometimes applied to the same group.

Figure B  
Arai Family Language Names and Population<sup>18</sup>

Suggested Name	Population	Other Names
Rocky Peak	275+	Laro, Iyo (L), Yinibu (L)
Iteri	90+	Asowi, Sorimin
Bo	175±	Po (L)
Ama	381	Apaka, Abi, Aboa, Boropa, Kauvia, Nasiap, Waniabu (L)
Nimo	413	Nimo dialect: Nimo-Wasuai (L) Nakwi dialect: Nakwi (L), Augot, Mumupra
Owiniga	222	Samo, Bero (L), Taina

The Arai peoples share a distinctive culture. They subsist on sago pudding, supplemented with game and wild greens but horticulture is unimportant.

In the swamp forest of Ama and Nimo, each village is situated on a different small hill, and utilizes the swamp around that hill. In the mountainous areas, hamlets are often on river banks, nearer to pockets of sago swamp.

Villages are small, usually from one to four houses. Traditional houses are rectangular with many supporting poles and with walls of bark, sago leaf stems, or occasionally sago thatch. Roofs are flat in pitch and of sewn sago thatch, with gable ends sometimes protected by supplementary "veranda" roofs. Floors are palm bark, raised three to eight feet. The larger houses are usually partitioned into rooms, one per family. No spears, shields, or defensive house features were observed.

Men wear penis sheaths made from straight or curved gourds. Women's skirts are of twisted fibre, different in style from Iwam-Abau and Mianmin skirts. This difference suggests that the Arai people have had a separate tradition with little contact with others. Palm sheath bowls, and woven baskets for smoking food are used.

No evidence of men's cults was reported or observed. The most important ceremonial event is all-night dancing by men and women in a specially constructed house. Two types of houses are used. One is rectangular,

about 30 x 40 feet, with a raised sleeping platform of smooth sago stems eight feet in width around the outside. The other is even larger, conical in shape, and on the ground.

Villages in many of these languages except Owiniga have some degree of contact. Families travel two or three villages away for dances. Inter-marriage occurs between many of the villages, regardless of language boundaries.

Contacts with villagers speaking languages not in the family are quite different. Dance visits are only exchanged with Amto and Musan. Relationships with May River Iwam speakers involved both raid and trade until administration patrols in the 1960's ended raiding. Contacts with Mianmin speakers have been particularly aggressive; a no-man's-land several miles wide is still maintained. The first purchase of Left May brides by Mianmin speakers from Usalimin was reported in 1970.

Individual Arai language groups listed from northwest to southeast are as follows:

Rocky Peak comprises Iwau, Agrame, Uwau and at least two other villages (Benato?) in the Rocky Peak mountains. Acculturation is slight.

Iteri comprises one named group located geographically and linguistically between Rocky Peak and Bo. This area is seldom contacted by outsiders.

Bo comprises Bo, Kobaru, Kaumifi, Nigyama and Umarita in the heart of the West Range. This area is also seldom contacted by outsiders.

Ama comprises the villages of Ama (Wobaru, Blesiki, Yowiye site), Boropa, Ienewe (Hou), Kauvia (Lehei, Kabia), and Tigi, all on hills rising from the swamp. Some Ama speakers now reside at the new Ama airstrip and patrol post. There is evidence that dialect differences are being eclipsed for the sake of their new unity.

Nimo includes at least two dialects. Villages identified with the Nimo dialect, described here, are Nimo (Boyemo), Wasuai, Didipas (including Uburu site), Unani, and Yuwaitri (which has now moved from Aimi site to Wanawo site).

The Nakwi dialect contains 71% probable cognates with Nimo. Villages identified with this dialect are Nakwi-Amasu and Augot (Mumupra, Sari). Village locations change frequently in both dialects in apparent attempts to find sites which are accessible to Europeans but environmentally adequate. Acculturation is slight.

Owiniga comprises the villages of Yei, Amu, Inagri, and Samo. Acculturation is slight.

Relationships between Arai languages are confirmed by cognate percentages from 13 to 59, by sound correspondences, and by similar phonologies. (See Tables 3 and 4, and Figure C.)

Figure C  
Summary of Arai Phonology

Consonants:

p	t	k
b	d (Rocky Peak only)	g (Owiniga only)
p/f	s	h (Rocky Peak, Nimo, Iteri)
m	n	
	l/ʎ/r/ʃ	
w	y	

Vowels:

i		u
e	ʌ	o
a		ɔ

An example of seven contrasting vowels in Nimo is evidenced by the following: *ti sago*, *te liver*, *imʌ nose*, *na arrow*, *nɔ breast*, *no meat*, *nu banana*.

Contrastive word stress was noted in Ama, and possibly in Rocky Peak, Bo, and Owiniga. Examples from Ama are:

i'wa <i>water</i>	a'mu <i>moon</i>	mʌ'ʎa <i>path</i>
'iwa <i>leaf</i>	'amu <i>nose</i>	'mʌʎa <i>vine</i>

Syllable types CV, V and VV were found, with closed syllables only in Bo and consonant clusters only in Nimo and Owiniga.

Cognate percentages decrease with geographic and social distance suggesting support for our view that borrowing is important. Owiniga, which has fewest cognates with the others, is almost completely isolated from them at present. Iteri shares more cognates with both Bo and Rocky Peak than they do with each other. Heavy borrowing by Iteri from Bo and Rocky Peak is also evidenced by the fact that of thirteen cognates which it shares with only one other Arai language, twelve are with Rocky Peak or Bo.

Sound correspondences show very little difference in pronunciation between languages. In comparison the Sepik Hill family, with a similar range of cognate percentages, includes a much greater variety of phones.

Further investigation of a larger corpus is needed to determine the extent of the influence of borrowing.

This linguistic data confirms that these languages form a single family and that contact with Owiniga was once important. However, in our opinion it is impossible from this data to suggest how long ago these languages separated.

No relationships between the Arai group and other languages in this survey can be firmly established from this data. Although the cognate percentages with May River Iwam vary from 3% to 8% these are probably a result of borrowing. The speakers of the Arai languages were traditional enemies and trading partners with those who speak May River Iwam. On the other hand, there is one language not in this report, Samo-Kubo,<sup>19</sup> west of Nomad River, which is 8% cognate with Rocky Peak, and an average of 5% cognate with the others. A very old relationship may be indicated, because at present the entire Ok family, averaging 1% cognate with the Arai family, lies between the two regions.

### 3.2 AMTO-MUSAN FAMILY

Northwest of the Arai River area, Musan and Amto constitute a separate language family. Amto is spoken by 208 people in the villages of Amto and Habiyan (Sernion) on the Samaia River. Acculturation is proceeding rapidly.

Musan (Musian (L)) is spoken by approximately 150 people in an uncensused village east of Amto. In an attempt to encourage mission or government contacts they recently completed a 1500 foot airstrip at the new village. Interaction with Amto is frequent.

Amto and Musan have 29% probable cognates. Sound correspondences include several identities. In addition, Amto u, o/a, k, p, n/r, and h correspond with Musan u/o, o, k/kl, b, l, and h/s, respectively.

Culturally both groups appear similar to the Arai group except for their houses. Though these are constructed like Arai houses, they are very long and are partitioned into six or more rooms for as many families.

Linguistically, Amto and Musan are only 4% and 3% cognate with Busan (Busa (L)), eighteen miles to the north. From this data a Busa phylum<sup>20</sup> seems unlikely.

The only significant cognate percentages between Amto and Musan and other languages are an average of 7% with the Arai languages. Since Amto intermarries and shares dance festivals with Bo, and Musan with Rocky Peak, this percentage of cognates probably reflects borrowing.

### 3.3 UPPER SEPIK STOCK

The phonologies of three languages of the Upper Sepik stock, Wogamusin, Sepik Iwam, and Abau, were outlined by Laycock.<sup>21</sup> Our data adds two more: Namie<sup>22</sup> (Yellow River) with approximately 2800 speakers and May River Iwam with about 2000 speakers. The Namie wordlist used here is from Panewai village, but checked against other Namie lists. Cognate percentages are low - 13% with Abau and 12% with May River Iwam - but seem significant to the authors because the language groups concerned average more than 2500 speakers and because recent borrowing seems unlikely. Namie and May River Iwam are traditional enemies and a wide no-man's-land is still maintained between them. The linguistic relationship is therefore assumed to be very old.

In material culture, all but Namie are similar to other groups all along the Sepik River. On the other hand, May River Iwam houses are easily distinguished from Arai houses by their oval roof shape and the use of heavy house posts.

These languages average but 3% cognate with Arai languages. This is interpreted as borrowing and is based on observed contact. The position of this stock in the Upper Sepik phylum is described below.

### 3.4 OK FAMILY

All of the region west and south of the Arai family to the West Irian border is now occupied by Mianmin speakers. Three Mianmin lists were compared, from Duktengfif in the Upper August River area, from Usage, the northernmost Mianmin village on the upper May River, and from Mianmin airstrip at the southeast end of the language area. The August River and Mianmin airstrip lists were 75% cognate. The Usage list was 81% and 83% cognate with the other two. This indicates a single language with two dialects. The August River dialect, here called North Mianmin, has also been called Suganga, Blimo, and Wagarabai.<sup>23</sup>

Mianmin speakers are organized in clan-villages which are continuing to expand northward, though expansion is now hindered by the cessation of warfare. Though Mianmins also visit between villages for dances, apparently these visits are only with the two or three nearest clans. Upper May River Mianmins seemed unaware of August River clans, and these in turn were unaware of upper Idam River clans, though all spoke the same language. Culturally, Mianmins are like other groups speaking languages of the Ok family, living in very small houses and subsisting primarily on taro. Gardening and pigs are important. In contrast with Arai speakers, neither sago nor areca palm are used.



Therefore, the large Mianmin area is interpreted as the result of recent rapid northward expansion from the southern half of their present range. The virtual lack of cognates with languages to the north implies expansion by vigorous warfare, without extensive intermarriage.

South and west of Mianmin further information can now be added to the description by Healey. A chain of three closely related languages, Tifalmin, Busilmin, and Lower Atbalmin, stretches northwest from Tifalmin. (see Table 5.) Interaction between them is implied by higher cognate percentages with the middle language of the three. Just across the West Irian border there is another Ok family language, the eastern dialect of Ngalum. Ok family languages were 0-4% cognate with all other languages in this survey.

### 3.5 WEST IRIAN BORDER

Two languages are spoken at the village of Biake No.2, on the October River just east of the West Irian border. The men of this village speak Pyu, but many of the women are Biksi speakers from West Irian.<sup>24</sup> (Some Abau speakers live there also.) Both languages are 0-3% cognate with all languages shown on the chart. They are 1% mutually cognate, an indication that obtaining wives from Biksi villages may be a recent innovation. Pyu is also spoken at Buriap village on the Sepik in West Irian. The Biksi language area is said to extend for six days walk west of the border.

### 3.6 LEONARD SCHULTZE AND FRIEDA RIVERS

Paupe,<sup>25</sup> the language spoken by 70 people at one village on the Frieda River, is 29% cognate with Duranmin, a language spoken in a few hamlets on the Kenu River, a tributary of the Om River, 35 miles to the south. The only other language more than 3% cognate with Paupe is Yabio, about ten miles to the east. The Woswori village isolect of Yabio was 7% cognate with Paupe. However, only one of these cognates was also shared with Duranmin. The most likely sequence of events is that Paupe had a genetic and/or extensive interaction relationship with Duranmin in the distant past, followed by more recent interaction with Yabio.

Walio is 12% cognate with the Woswari village isolect of Yabio,<sup>26</sup> suggesting that the languages in the Leonard Schultze River area are related at the phylum or stock level rather than belonging to a single family.

A complete lack of cognates with May River Iwam confirms our informants' reports that the present intensive interaction began since mining exploration started on the upper Frieda River in 1968.

#### 4. WIDER RELATIONSHIPS

In order to place these languages with respect to other Sepik languages, seven other languages were also compared. Some previously undocumented relationships emerged. (See Table 6.)

Washkuk (Kwoma and Nukuma) and Yessan-Mayo (Mayo) are 38% cognate by this data, so are interpreted as a single family. Verb stems in the two languages, few of which were used in this cognate count, appear to be even more closely related. The two language groups occupy contiguous lands north of the Sepik and west of Ambunti, and exhibit many cultural similarities. However, the Yessan-Mayos believe that they came from Burui, some 50 miles down the Sepik, and wrested their present land from the Washkuks. North of the Sepik, Laycock has also tentatively placed the languages Pasi, Pahi, Mehek, and Kalou in this family, which he calls the Tama family.<sup>27</sup>

By this data, Washkuk and Yessan-Mayo share 21% and 26% cognates, respectively, with Abelam, a geographically distant Ndu language. They are also 14% and 20% cognate with Bahinemo, a Sepik Hill language. Since the Sepik Hill languages tend to share 10% to 15% cognates with Ndu languages,<sup>28</sup> a Middle Sepik Stock comprising these three families is here confirmed.<sup>29</sup> This stock includes at least 36 languages,<sup>30</sup> spreading from Maprik to the central ranges and from Yangoru to the Leonard Schultze River.

The Middle Sepik Stock shares 7% to 15% cognates with Chenapian and from 3% to 10% with Namie, Abau, and May River Iwam. The large size of some of the languages and the distances between them indicate that at least some of these words must have been shared before the languages reached their present locations. Sound correspondences provide additional evidence that the relationship is ancient. (See Table 7.) Therefore a Middle Sepik Phylum comprising these languages is tentatively identified.

By our data, Yerakai<sup>31</sup> is an average of 6% cognate with these languages, but it is tentatively left out of the phylum. Partly due to continuing extensive intermarriage with Iatmul speakers of Chambri Lake, Yerakai and Iatmul are 22% cognate. After removing from the count those words which, because of phonological similarity, seem to be recent loan words with Iatmul, the resulting percentages for Yerakai were 10% with Abelam and 1% to 4% with the other languages of the phylum. This data does not support an ancient relationship, though it does not rule it out.

## 5. CONCLUSIONS

This paper has linguistically mapped the Upper Sepik area and clarified the relationships of languages as much as is possible by present lexicostatistical methods. It has suggested a view of linguistic change for small interrelated villages which may result in a more realistic perspective of Upper Sepik prehistory. New lexicostatistical techniques must be developed before these and many other Papua New Guinea languages can be adequately compared on a lexical basis. Such comparisons, aided by grammatical comparisons and detailed application of the comparative method, are also needed to confirm or deny the relationships postulated here.

## N O T E S

1. For the Amanab Sub-district, see Loving and Bass, 1964; for the "Sepik Hill" region see Dye, Townsend and Townsend, 1968; for the Telefolmin area, see Healey, 1964 or the summary given in Wurm 1965:378-82; for the Upper Sepik River area where the Upper Sepik Stock languages are spoken, see Laycock, 1965b and 1973. Dr Laycock also assisted in identifying a number of wordlists taken by others in this region.
2. Transportation for this survey was by helicopter and was supported by the Research Fund of the Papua New Guinea Branch of the Summer Institute of Linguistics. The authors wish to thank all those mission and administration personnel who cooperated in the project. Specifically we would mention patrol officers Charles Ari, Barry Fisher and Dennis Mahr, and CMLL missionaries David and Muriel Bailey and Bruce Macleay. Lexico-statistical calculations were made on a computer by the Mathematics Department of the University of Papua New Guinea, headed by Professor Max McKay. Special thanks are due to Mr Roger Dodson of S.I.L. whose helicopter piloting skill made the survey possible. The survey took place from March 4 to 20, 1972. Karl Franklin and Alan Healey of S.I.L. made helpful comments on earlier drafts of this paper.
3. Bee and Pence, 1962; Laycock, 1970; Oswaldt 1971.
4. Abelam, Bahinemo, May River Iwam, South Mianmin, Tifalmin, Washkuk, and Yessan-Mayo. In each of these the lists were recorded by S.I.L. personnel after more than a year of fieldwork.
5. Basically the principle followed is the same as in Healey, 1964:77; see also Gudschinsky 1956.
6. See, for example, Hymes 1960.

7. The Sanio language, spoken in the foothills of the Wogamus River drainage basin, took its name from such an event. Men from Sanio village captured Yarino village and settled there. The children of this union were frequently told by their mothers, "We are not speaking our language. We are speaking Sanio talk." A generation later William and Patricia Townsend were told, "We speak Sanio." (personal communication). The dialect in this village not surprisingly includes more "loan" words from Yabio, the mother's language, than does other Sanio dialects.
8. Pawley 1970:354 demonstrates for Polynesia that grammatical features change more rapidly in small speech communities than in large ones, but he is uncertain as to whether the same is true of basic vocabulary.
9. Lithgow, forthcoming.
10. Bloomfield 1933:317, in a discussion of Schmidt's work; Swadesh, 1959.
11. McElhanon, 1970.
12. McElhanon, 1971:121.
13. For Ndu see Laycock, 1965a:185-90; for the Sepik Hills see Dye, Townsend and Townsend, 1968.
14. 1967. The data was taken from Laycock 1965a.
15. 1972:30-3.
16. A similar hypothesis is explored in Franklin's introduction (forthcoming), with particular attention to assumed cultural words which are examined in more detail in Dutton, forthcoming.
17. Healey 1964:108; Laycock 1973:44-5.
18. Population figures are from 1971 census data obtained at May River and Green River Patrol Posts. The Namie population estimate is from Mr Cecil Parrish, CMML, Yellow River Patrol Post. See Laycock 1973:44-5. An (L) following a language name indicates the name used in the classification of Laycock 1973, where the Arai Family is referred to as the LEFT MAY PHYLUM/Left May Stock/Left May Family.

19. See Shaw, R.D., forthcoming.
20. As proposed by Loving and Bass, 1964:3.
21. Laycock, 1965b:113-7. A closer comparison of May River Iwam and Sepik Iwam indicates approximately 60% probable cognates in noun and verb stems but significantly different verb morphology. See Conrad, Laszlo, and Rehburg, 1970.
22. Laycock 1973:75, however, reports that Namie belongs to a Yellow River Stock/Family including Ak and Awun. He places this stock/family in the Middle Sepik Super Stock rather than in the Upper Sepik Stock, on the basis of shared typological features with certain languages in the Middle Sepik Super Stock.
23. Loving and Bass, 1964:3; Healey, 1964:42; Laycock, personal communication January 1972.
24. Laycock 1972:76-7 gives lists of 48 words for each of these two languages.
25. The Paupe language is also called Papi in Laycock 1973:33, where it is suggested that Paupe belongs to the Leonhard Schultze Sub-Phylum along with Walia, Pai, and Yabio.
26. Although Walio and Yabio were reported as 27% cognate in Dye, Townsend and Townsend, 1968:154, their Walio list was inaccurate.
27. Laycock, 1973:22-3.
28. Dye, Townsend and Townsend, 1968:153.
29. Laycock, 1968, based on preliminary data, showed lower percentages.
30. A partial survey of Hewa by L. Bruce and M. Lawrence of S.I.L. shows that it comprises a sub-family of at least eight languages. This brings the total of Sepik Hill languages to 22. Chenapien, seven Ndu languages, and six Tama languages bring the present total of Middle Sepik Stock languages to 36.
31. Described in Dye, Townsend and Townsend, 1968:154.

TABLE 1: PROBABLE COGNATE PERCENTAGES, UPPER SEPIK

Language	Yerakai	Chenapian	Bahinemo	Washkuk	Yessan-Mayo	Abelam	Namie	Abau	Iwam (May R.)	Musan	Amto	Rocky Peak	Ama	Nimo	Bo	Iteri	Owiniga	Woswari	Walio	Paupe	South Mianmin	Nagatman	Busan	Pyu
Yerakai	4																							
Chenapian		13																						
Bahinemo			8																					
Washkuk				6																				
Yessan-Mayo					6																			
Abelam						18																		
Namie							3																	
Abau								5																
Iwam (May R.)									1															
Musan										2														
Amto											2													
Rocky Peak												1												
Ama													2											
Nimo														2										
Bo															2									
Iteri																1								
Owiniga																	2							
Woswari																		1						
Walio																			0					
Paupe																				2				
South Mianmin																					0			
Nagatman																						1		
Busan																							6	
Pyu																								1
Biksi																								1

The number of words compared varied from 85 to 101, with the exception of comparisons involving three languages: Woswari - 79 to 87; Iteri - 70 to 77; Chenapian - 45 to 55

— indicates family or stock

- - - indicates phylum

TABLE 2: WORD LISTS

English	Musan	Amto	Rocky Peak	Ama	Nimo	Bo	Iteri	Owiniga
<i>arrow</i>	ʔamu	namu	lo	ʔamʌʔ	na	lo	lou	tamo
<i>ashes</i>	sɪsʌmo	taʔau	tausu	tanʌpamu	tanɪsouk pʌʎʌsɪ	taka	tawʌ	sakoni
<i>back</i>	bayame	foiyæ	bo <sup>u</sup> ti	namʔi	ateyami	nʌniman(e)	nʌmʌ	abumʌʔi
<i>bad</i>	piowaʔe	supuwaʔe	mudu	kaya <sup>u</sup>	ʔesʌku	bʔomu	mʊtu	bai
<i>bamboo</i>	hebeɛme	tafʔu	taʔo	kuki	kʌwiɪ	taʔʔu	-	-
<i>banana</i>	hapo	hapu	be	akoʔ	ʔnu	waki	wei	nu
<i>belly</i>	haʔie	nowiye	nimeɪlo	nʌmʌʔiʔ	panʌ	nipan	neminau	nibamu
<i>betel nut</i>	ʔase	fati	hʌʔi	hʌʔi	ʔo	paʔo	-	fʌʔi
<i>big</i>	ʔai	ifiya	seli	seʔiakiʔ	huauh	wʌnimaʔ	syʌʔi	pinawe
<i>bird</i>	ʔai	ai	wo	o	wʌ	wɔ	wʌʔi	be
<i>black</i>	tɛwane	towan	seʔo	sʌlinamuʔ	pʔi	sʌkakiye	-	to kakame
<i>blood</i>	haʔeʔ	nʌkei	wo	nakʌʔ	iwʌ	kwo	woʔ	ke
<i>bone</i>	haʔeʔ	hae	moto	mi:	mi	mutuk	ʔumoto	miʔi
<i>breast</i>	ne	ne	nʊ	nanʌ	nɔ	nɔ	no <sup>u</sup>	nano
<i>cassowary</i>	kepiɔ	kʌpiya	wʌpiya	ʔaipie	awani	aiyu	sakyu	egu
<i>chin</i>	itaʔe	ɛmyatiye	ʔoso	kɔ	ami	kɔmi	oso <sup>u</sup>	ɛʔimeʔi
<i>cloud</i>	nebe	ukako	ma	kumaki	kakʔi	maka	maʔ	bau
<i>come</i>	po	ahumune	wamu	natuma	nɔ momowamo	samoʔ	sapuum	tasum <sup>wi</sup>
<i>crocodile</i>	lobu	nɔpu	hʌʔʌka <sup>i</sup>	ʔʌʔʌka <sup>i</sup>	siʔapiɪ	dobu	-	sinapi
<i>dog</i>	so:	hɔ	so	aʔuo <sup>u</sup>	ʔau	naʔi	soʔ	beʔi
<i>ear</i>	eʔ	ye	ʔo	ʔia	ɔ	kɔ	ʔe <sup>u</sup>	iso
<i>earth</i>	ya	hæpe	ʔʌsi	asiʔ	isiɪ	kisi	asi	ya
<i>eat</i>	pe	me:ne	wɛno	napʌna	pano	sanoʔ	tʌposɪnæ	epepeki
<i>eel</i>	awaʔi	(w)uʔu	ʔinda	ʔæʌni	uʔapu	(w)uʔu	-	tameʔi



Table 2 (cont'd)

English	Musan	Amto	Rocky Peak	Ama	Nimo	Bo	Iteri	Owiniga
<i>egg</i>	iʔo	ai:	ʔabotino bio	ʔui	i	wɔi	woi	bene
<i>elbow</i>	katumu	netomwæ	naʔi	natoku	nɔtu	natoku	natu	nɔmukwabu
<i>eye</i>	mene	mo	ɸogwa	mɔʔa	mɔ	mɔʔo	-	moʔo
<i>father</i>	ayoʔ	aiya	iba	ʔapo <sup>u</sup> ʔ	apɔuk	epa	ipa	baba
<i>fire</i>	maʔi	maʔi	yeyu	tah	ta	ta	-	sa
<i>fish</i>	bɔʔi	ʔapai	kwaʔi	ʔa	le ʔe	lie	ʔwaʔi	ta
<i>fish spear</i>	ʔaʔuwo	kave	ʔo	takɔni	sɔnɔnɔ	itei	-	baka
<i>flying fox</i>	bakɔʔu	bukou	-	bɔsɔʔa	kouwɔ	syou	syu	fonai
<i>foot, lower leg</i>	gɔʔaʔi	hae ikei	ɸesali	fɔto	ɸɔʔi	ɸesɔʔi	ɸwisɛʔi	feʔæ
<i>forehead</i>	ɸekaʔe	fokai	nɔmi	nɛnami	nɔmi	nɛmi	nɛmi	kɔmwame
<i>four</i>	katukwiɔʔo	kiyɔɸei	nɛneso	tɪtɪti	eyɪ	aisɔ	nɪnaisæ	sunekame
<i>frog</i>	sɛke	huno	na <sup>u</sup>	sɛliɔ <sup>u</sup>	yo:meik	nau nɔmei	nau	nekwa
<i>garden</i>	kaneno	naʔɔne	ano	ʔisiʔ	anɔ	kano	-	foko
<i>good</i>	yaʔtiɔʔo	suwɔkʔina	onɛni	tonimɔʔ	wɔresɪɪ	pa	uʔai	tɔgɔmɛ
<i>grass skirt</i>	kaʔowai	hɔmɔ	ya	yanɔ	ɸaʔei	ya	-	ena
<i>hair</i>	nanigi	(twæ) iwo	ʔemisɔ	kamusowa	ʔamiso	kɔmsɪya	ami	kɛmo
<i>hand, arm</i>	ka	næ	nai	nainɔ	inɔ	nai	nai	nɔmutibu
<i>head</i>	nani	twæ	ʔemi	kamu	ʔami	kɔmi	-	kɛmɛ
<i>heart</i>	wɸʔ	bukai	maʔimo	muʔu	mɔʔi	mɔʔi	ɔɸei	muʔini
<i>house</i>	ʔi	ya	nu	nu:	nuna	nuku	nu	nuku
<i>knee</i>	ʔawɔʔa <sup>u</sup>	tumwɔʔe	ɸami	æʔikamu	imɔbuwo	ɸɔsa	ɸaemi	fɔgabu
<i>laugh</i>	wɸʔ	owine	sɪliɛmo	ʔɛtesɔʔani	-	sɪʔuwa	-	i

Table 2 (cont'd)

English	Musan	Amto	Rocky Peak	Ama	Nimo	Bo	Iteri	Owiniga
<i>leaf</i>	sɛʔ	he	ʔasi	ʔiwa	asɔ	kasia	au	iba
<i>lime</i>	sɛ	hae	sama	sali	aiyɔ	ma	-	ɛʔe
<i>liver</i>	teʔ	te:	biyatlwano	aɥuma	te	masi	imesi	swakane
<i>louse</i>	nani	nanu	ʔɔ	ʔani	amiɔ	ka	æ	eni
<i>man</i>	yɛnokono	kyu	no	naka	nɔ:	naka	na <sup>u</sup>	naga nagaina
<i>meat</i>	hɔ	me	nosu	kaʔanisimu	no	nusu	lasu	nolo
<i>mosquito</i>	metani	meitan	ba	wamla	wɔ	kwa	-	bame
<i>mother</i>	inaʔ	ena	ina	ʔana <sup>i</sup>	anɔuk	ina	inla	aiya
<i>mountain</i>	ʔɛɥiyɔ	kai	yo <sup>u</sup> pa	yu	you	ɔɔ	pwɪsæ	tema
<i>mouth</i>	isemiako	nobʔone	ʔomi	ko	itabo	kom	omi	imeʔi
<i>neck (nape)</i>	tibiaɥe	tipiyaʔi	tibusu	tɛna	nɔɔɥɥaba	nakami	tyapusu	neglamɥi
<i>net bag</i>	ikei	ye	ʔi	ʔi	i	itabo	itapo	i
<i>new</i>	tutuʔ	ten	ɥuaita	tɔnɔpoa	tamla	takoma	tɔgɔmɔ	tɔgɔmɛ
<i>night</i>	ʔanɪŋkɔʔ	bumyæ	bimɔ	ʔamɔɥakiʔ	pimi	sɔfɔtiaka	samla	uʔatoumi
<i>no</i>	nabio	hɔmyɔk	mɛ	wɔpaʔ	pa	sɔmɛ	muyɛʔ	nabuʔu
<i>nose</i>	ɥimɔ	ni	ʔimodɔ	amu	ʔimɔ	ki	imuʔ	tɛmɛʔi
<i>old (house)</i>	tutuʔ hɔmbo	tomau	o	tɔkumi	waiI	tɔɔɔkɔwo	emyaiyi	ɛmɛ
<i>older brother</i>	aboʔ	apɔ	wayo	ʔauwaʔ	auwa	mɔɥɥaka	waiyou	apalea:ʔo
<i>older sister</i>	laton	tɥɥa	wɔɥiɥa	ʔina <sup>i</sup>	nawajI wɔɥɥi	owa	wai	aie
<i>one</i>	sɔmɔ	ohu	sɔsɔ	siasɔ	sɪlesɔ	sɔsɔ	susæsæ	ɔɥɥu
<i>pig</i>	kinɔdiʔ	ma	ɔu	ɔu	ɔu	ɔu	hwusu	kebaʔe
<i>rain</i>	ʔuri	wi	sa	sa:	sɔ	sa	saʔ	a
<i>road/path</i>	mono	mo	ʔæliwi	mɔɥa	aʔiI	kɔɥi keʔi	ɔɥi	meʔebi

Table 2 (cont'd)

English	Musan	Amto	Rocky Peak	Ama	Nimo	Bo	Iteri	Owiniga
<i>root</i>	nekʰi	amnaki	ʔate	ʔatati	atiti	katiʔa	ʔtʃ	meʔaiya
<i>sago</i>	tawe	tɔ	ta <sup>u</sup>	tuʔ	ti	tau	-	neve
<i>sago thatch</i>	iʔonu	eiye	nɬɔ	iʔanaʔ	wei	nɬɔ	-	nugumuʔi
<i>sand</i>	nebei	hɬbwan	kʷi	upe <sup>i</sup>	upweiI	ukei	-	yakoʔpane
<i>shoulder</i>	kɬiti	neyæ nɬʰiaʔe	nɬma	nɬma	nɬmami	nɬmami	nɬma <sup>u</sup>	baʔu
<i>sit</i>	mltikəɬm	nɬte	wosonawo	teosa:kanaʔ	sɬsiau pɬsiau	wɬsiyako	-	kepeinɬ
<i>skin</i>	ʔaoko	ka	dɛbo	au	abu	tɬɔ	na <sup>e</sup>	sepe
<i>small</i>	nokowanɬ	kakon	ɬɔboli	ka <sup>u</sup> pa	tɬpontai	kepikiye	-	pɬʔena
<i>smoke</i>	təpu	təpu tafu	neniʔ	tauku	monita tawouk	tanini	ʔinabi	saipi
<i>snake</i>	wiyemi	wisɬɔ	nama <sup>ɬ</sup> iso	noaʔ	nɔu	nonaʔi	ubeʔi	nɔ
<i>stand</i>	hegetaemi	fi te	ʔeto <sup>u</sup> natu	tɬtɬɬau	pɬtɬɬatu	wɔtʔisi	satiʔi	takas <sup>ɬ</sup> i
<i>star</i>	imosuwa	mɔ	tɬmomo	ʔama <sup>ɬ</sup> akuʔ	amɔ	mota	tamomo	bouwe
<i>stone</i>	tɬɛki	tipeki	tɬbe	tɛmakiʔ	tɬpei	tɬpaki	masɬ	sia sya
<i>sugar cane</i>	naʔe	pai	ɣɔ	ʔikɔ	kouʔɔ	yako <sup>u</sup>	yau	pounu
<i>tail</i>	-	fai	nedu	apo	nikou	nitiku	-	sukuti
<i>taro</i>	na:bo	napu	nu	waitoʔ	unakia	no	noʔ	nou
<i>three</i>	ʰuwe <sup>ɬ</sup> o	kʰi:ya	to <sup>u</sup> so	ta <sup>u</sup> we	tɔ:tɔ	tousɬ	tausæʔ	sogumɬbi
<i>thumb</i>	kamni	nemoʔ	namu <sup>ɬ</sup> u	nainɬtu	inɬmɔ	nainat	namu <sup>ʔ</sup> u	nomuma <sup>ʔ</sup> u
<i>tongue</i>	hane	hɬne hæne	ʰtɛ	isauna	isa:pe	leɛe	le te	ise
<i>tooth</i>	ʔi	i	ʔe	ʔi:	i	ki	ɬ	imeʔi
<i>tree</i>	ameʔ	amɬ	ʔa	ʔə	a	ka	ʔʔ	a

Table 2 (cont'd)

English	Musan	Amto	Rocky Peak	Ama	Nimo	Bo	Iteri	Owiniga
<i>turtle</i>	lowiaʔe	kwapu	nalbo <sup>u</sup>	nalbo <sup>u</sup>	nalbouk	kwabo	-	nouū
<i>two</i>	himolo	kiyaA	tiso	tiwe	ti:	tisA	lisæ?	simlbi
<i>vine</i>	wenA	ken peʔe	malʔo	malʔa	mɔ	malʔa	mutu	meʔa
<i>walk</i>	palʔeme	hɬene	pa <sup>u</sup>	yasai	sanA	wona?	wɬpei	-
<i>wallaby</i>	besi	nalʔau	buguna <sup>u</sup>	ʔasinima	paki	pai	pæti	abaiga
<i>water</i>	wi	wi:	ʔu	ʔiwa	wi	ʔu	u	bi
<i>white</i>	ʔpʔowɔ	wɔ	o <sup>u</sup> ye	pam <sup>u</sup>	pomuwɔ	koune	-	-
<i>wind</i>	ʔemisi	iwami	pʔi	imɬnu?	umɬni	wati	piʔei pɬiʔei	byei
<i>wing</i>	kalititi:	pɜ:mɬne	dɬpionɔ	nataki	nounA	sofiyatu	nal	maʔei
<i>woman</i>	ʔeʔo	hama	ba	nalɬiʔaʔa mwi	niʔ	kwa	<sup>u</sup> wa ʔwa	nini
<i>yam</i>	yaʔe	lʔe eʔe	wo	wiwo?	ubeise	kwo	wo?	moko
<i>yesterday</i>	wɬi	meʔa	hwe	pai	powe	pwe	hwe	amɛ

Table 2 (cont'd)

English	Woswari	Walio	Paupe	Nagatiman	Busan	Pyu	Biksi
<i>arrow</i>	sane	mitɽo	aʃameo	sɽpa	paʃe	ɽwi:ɛ?	siaA
<i>ashes</i>	tiyami sapu	inaʃali	ʃi sabu	sumaliɽa	tuʃao	kame sɽmɽlo?	yota:
<i>back</i>	tainaso	ibo	abaio	amaʃebu	wibɽ	misɽiʃi?	nɽpan
<i>bad</i>	yaiye	miakɽsaiwata	paui saboge	tebu	buʃiæbu	mogaguliæ?	dwaʃ
<i>bamboo</i>	-	kɽyo	titobugu	aʃakʊ?	-	sɽbwe?	sia
<i>banana</i>	yane	owo?	abepa	nu	biɽ	kia?	ma <sup>u</sup> ɽ
<i>belly</i>	tifɽlawe	la <sup>u</sup> sɽriawo	pumuʃisa	aʃʒɽ	ɽɽɽɽ	ɽɽʃiʃi?	nan
<i>betel nut</i>	-	amuwe	eʃo enei	kuʃuʒɽ	-	ɽati ɽadi	ɽiɽ
<i>big</i>	fɽʃi	ɽuaʃi	yabi	taku	tɽmɽɽɽ kɽri	ole	ʃɽbutɽgɽɽ
<i>bird</i>	auma	-	ɽ:sani ɽbo	ɽɽɽɽ?	wɽnɽ	maʃuʃi?	ʃo <sup>u</sup>
<i>black</i>	tɽsiʃɽʃe	teɽɽɽuago	auyomɽnake	nɽɽtɽlogu	bɽɽo	ʃeʃi?	?is
<i>blood</i>	teyuowa	li?	taneke	wi:nu?	ɽɽ	emi?	ndweʃ
<i>bone</i>	ihuwa	ipalibo	naikɽmio	ɽɽɽ:bu	ɽɽwibɽ	biʃi?	biʃi?
<i>breast</i>	mama	matɽɽulo	abiyaiɽ	ma:ba	nɽ	ibi?	num
<i>cassowary</i>	aumɽsi	apokwasɽ	u:sibo	buʃame?	wɽuwɽ	ɽegi?	kɽɽal
<i>chin</i>	tanoʃi	taʃobibo	maʃukome	iɽɽɽu?	ɽkɽibɽ	?uʃumagu?	nɽʃɽpan
<i>cloud</i>	sɽʃi hewa	wuʃulasupe	wabɽsɽʃine	matɽpa	bari bari	sɽgɽʃe?	kos
<i>come</i>	aiya	nga?	namo	esi	ariæ	motie? mɽdie?	ti:
<i>crocodile</i>	-	sebakwei	sinapi	mamɽʃi?	-	ʃobu?	gɽdubuneɽ
<i>dog</i>	i fau i va	kauwɽpo	agabu	kali?	inɽri	nagu?	sai
<i>ear</i>	afe	ɽoɽo	mɽgɽnaba	ɽhuʃu?	dinɽ	kwee	kɽɽɽ
<i>earth</i>	susaʃe	sipo	mɽkaiyo	tibe	to	ɽugi?	bɽʃɽmai

Table 2 (cont'd)

English	Woswari	Walio	Paupe	Nagatiman	Busan	Pyu	Biksi
<i>eat</i>	afa?unaʃu	kanabo	opo akepo	hiεʃε	muniʌren	wanɣe?	nteʃpɪ
<i>eel</i>	-	ʃapuaʃε	pʃi apuk	tita:zɯ?	-	umasi?	soʃam
<i>egg</i>	aumufu	naʃu	usouyo	kah	mʌiyʌ	ʃio ta? ta?	ʃonʃa
<i>elbow</i>	yanipa?aʃu	nʌnpakuʃu	nubogoi o	tʌʌskʌpʊ?	εtiʌ	kʌbimiogu?	pʌʃsu pʌʃsu
<i>eye</i>	nimau	nogubʌnε	sunweyo	na:ba	dena	pεmε?ε	?i?
<i>father</i>	aʃe abe	taita?	auwase	?aʃʌ?	aiya	?apε	?awaA
<i>fire</i>	tiyami tanuwa	linati	ʃiku	ahuʃi?	eʌ	kʌmε	ya <sup>u</sup>
<i>fish</i>	afitano	awe	auwabo	mu?	rabe	tubu	ndam
<i>fish spear</i>	-	iʃa <sup>u</sup> pʌʃʌ	su:ke	mʌʃaki	-	budia?	ʃεʃop
<i>flying fox</i>	aumwifiya	abokopiya	wiʃiʃo	na:nʒu?	rʌʌ	?oliʌmo?	bʌʃʌnaA
<i>foot, lower leg</i>	eʃiaʃiyai	takup o	naipumuai	εʃεʌ	tiri mi	huli duhene	(yop) pʌʃε
<i>forehead</i>	ti?au	nʌkikwaʃawo tipo	aukomi ne	εʃi?	enibʌ	mabʌʃi?	niʃʃan
<i>four</i>	ʃi?iyawa	sagobabo	buyapʌi	niʃʃinʌ?	aite	asubwi?	undai undai
<i>frog</i>	ʌʃoma emene	sosikaʃʌ	siyaubo	gi?	ʌi	pʌʃʌsu?	bidu
<i>garden</i>	-	wʌsisi	aʃuʃeai	niʒɯ?	-	abaʃi?	yoʃiɪ
<i>good</i>	ai?ʌre hewa	miakʌʌ <sup>u</sup>	pesage	taʃε?	wuræro	ninapʌʃae?	pʌpʌʃo <sup>u</sup>
<i>grass skirt</i>	-	pε <sup>i</sup> hasi	kʌseke	yah	-	bεʃi	waʃ
<i>hair</i>	yei	tiʃε?	aʃupisi	ʌʌʃahupʌ	etete	ʃʌsi?	pʌʃama <sup>i</sup>
<i>hand, arm</i>	yanineʃu	nʌnʌp o	nʌʌme	tuba	nʃ	kʌbi duhʌnε?	pʌlam
<i>head</i>	tipafu	tip o	auwiyu	ʌsu	owuna	uʃi?	pʃʃan
<i>heart</i>	nʌmau	?e <sup>i</sup> ʃʌʌina	sosai o	yaku?	dati	sεmεʃi?	kʃʃʃan

Table 2 (cont'd)

English	Woswari	Walio	Paupe	Nagatiman	Busan	Pyu	Biksi
<i>house</i>	osapu	osapo	noumi	toh	te	mæ?	nam
<i>knee</i>	eʔepaʔaʔu	ελεpakuseʔε	na:pukupi	skλpu	domanλ	humabiʔ	yopso
<i>laugh</i>	ʔisuya	tiagiʔ	sumomokλʔibo	susuʔ	totoe	ʔoneʔ	maAputito
<i>leaf</i>	nwai	nowaʔo	sλnipa	ta:baʔ	iri	ʔangiʔ	yeme
<i>lime</i>	-	osλgei	mununu	patingʔ	-	dimeʔ	teʔ
<i>liver</i>	umλne	tebo	mumæ	manibu	munλ	seʔieʔ	nunwa
<i>louse</i>	dibafuyei	natλpi	aʔupisi	mibaʔ	amo	niʔ	yim
<i>man</i>	to i:wa to	εlegobuwo	sanopɔ	hoH	nutu	taliʔ	nam
<i>meat</i>	amiyamiʔ	awai	tλmabumuwæ	apaubu	muni	weʔ	mbadnim
<i>mosquito</i>	-	wa <sup>i</sup>	aibo	kaʔipaʔ	-	ʔajʔ	bidumsu
<i>mother</i>	ama	papaʔA	auwame	beʔ	mε	miʔ	ndaA
<i>mountain</i>	Wwaʔu	nλpɔnapu	mλkaiyam bɔka	patiniʔ	abɔ	aweʔ	leε
<i>mouth</i>	tano tano inau	taʔowei	maʔukome	ipaʔupu	λtλigλ	pλʔλmaguʔ	nλnapan
<i>neck (nape)</i>	isiʔi	nabwiɔu	isλkλmiyok	uguʔʒɔ	onlibλ	tλboguʔ	ʔeʔeʔan
<i>net bag</i>	tasuya	ʔigu	meimi	musuʔ	eta	iʔnɔʔ	ʔam
<i>new</i>	usane	miakλʔa <sup>u</sup>	usanimi usaniyæ	tihɔʔ	titiyλu	amiʔ	ʔaʔam
<i>night</i>	tatufiya	tλʔλpɔwaʔ	wabeo γλʔiaso	kuʔapi	de	moisiεeʔ	teʔ
<i>no</i>	yasλ safiye	kλkλʔa	wariyage	we:ε	noko	mamλniʔ	tona
<i>nose</i>	tumasi	tλpseʔoʔ	tλnipoku	yelu	wati	teʔpλʔi	ndor
<i>old (house)</i>	woʔiyai	tλsia	uʔiyaimi uʔiyaiyai	he:nu	tem	nuwa(inuʔ)	anosam
<i>older brother</i>	manefa	awanabo	waiyabo	apaʔ	aba	waeʔ	wan
<i>older sister</i>	auwa	anatλnabλse	auwa	mi:senbaʔ	dowλe	kwawaʔiʔ	ni:maʔ

Table 2 (cont'd)

English	Woswari	Walio	Paupe	Nagatiman	Busan	Pyu	Biksi
<i>one</i>	aʃʌsʌbau	aʃia gʌʃaʃila <sup>u</sup>	sunuboku	ʒuwa?	otutu	tɛpɛ?	kesa
<i>pig</i>	ami ami	taʃibo	tʌmaubo	gʃɛʃi?	waru	wɛ?	mbaʃ
<i>rain</i>	omo hewa omo	bogwaibu	aʃu:yo	tu	bani	ogʌʃi?	keʃ
<i>road, path</i>	ɛfʌmowa	ʔɛpobu	pʌbʃiyaio	aʃʌgɛ?	ti	ʔonɛ ʔonɛ	mʌa
<i>root</i>	yanuso:	binapɔ	na:sumunu	tilkʌpɔ?	duwʌndʌ	kanagʌʃi?	ʔɔnan
<i>sago</i>	-	po <sup>u</sup>	siai	na:gɛ?	-	mʌ?	yaA
<i>sago thatch</i>	-	pɪ	kʃusiapa	ʌnʃʌʃbaʃi	-	gi?	yamai
<i>sand</i>	uʔau	pʌsinʌsi	susu	ʔɛnɛmba?	obariɛ	sigʌʃi gʌʃiyaɛ	kʌsaʃian
<i>shoulder</i>	yaniso	nʌpasi	ʃipumu same	pɛʒu?	bumʌnʌ	abaʃi?	wap
<i>sit</i>	anu sita	sɪta?	akauwiyaɛ	tʌpɔ	mimʌbɛ	huʃi	ʔamʌʃoO
<i>skin</i>	toefahewa	aʔayo	pʌsiyaɛ	ʒibu?	tati	kʌkʌʃɛ?	toʃ
<i>small</i>	ʌsi ʌsi	pʌkɛʃɛbɛ	sauyu	tokwɛpɔ?	nʌbʌrɛyaɛ	sʌgʌmi	nanʌmatʌgɔp
<i>smoke</i>	tiyam nise	luwɔpulo	ʃiku yu	ahiyaʃipa?	titibi	kʌmɛsiya moliya?	yagos
<i>snake</i>	ɛfaʃea	napɪnʌpɛ	nasumobɔ	ta:ʒu?	nibʌro	sɪhmɛɛ?	sipʌʃ
<i>stand</i>	twafita	tiyaʃito	asʌpai	ɛʃibɛ?	amuram	gʌdam	tawe aʃ
<i>star</i>	sʌʃi faʃiya	paseto	nuweiku	sɪkʌtuba?	tetibi	gi:bi	ʃɛʃa
<i>stone</i>	tabiya	pʌbo?	tabiyaio	anʌzi?	bito	sɪli?	tɪkɔp
<i>sugar cane</i>	au	uʃaugu	opuku	ʒikʌpɔ?	ɛmiyo	ʔamu?	ʒgaA
<i>tail</i>	-	-	tʌmʌlauʃio	ke:bu?	ʌgʌitʌ	-	-
<i>taro</i>	pʌfɛ	pʌpʌpɔ	me:nawa	toʔɛ?	mawa	ʃi?	mʌA
<i>three</i>	wanapu	guʃabuʃo?	amukʌnobɛ	ʔa <sup>u</sup> nʌ?	onʌnʌ	naga gasi tɛpɛ?	ʌndaisaʃ



Table 2 (cont'd)

English	Woswari	Walio	Paupe	Nagatiman	Busan	Pyu	Biksi
<i>thumb</i>	tyami	ɳanti tawopu	numesio	tɒbagodʒu?	iyubɳɳ	kɳbiɳɳɳmo?	paɳnaA
<i>tongue</i>	tanotai	ɳɳɳɳɳ	sakeyo	aɳiʒi?	dɳɳɳɳ	asagu?	moɳ
<i>tooth</i>	ɳɳfe	ɳɳɳɳɳɳ	sumunu	ɳɳɳɳ?	wuɳi	ɳɳɳɳ?	ɔʒa
<i>tree</i>	yanu	biɳo?	na:ɳɳɳ	ti:	nda	ga ka	yo ɳɳ
<i>turtle</i>	-	ɳɳɳɳɳ	oweimene	ka:ɳɳ?	-	kyɳsu?	gɳɳ
<i>two</i>	aɳɳɳi	ɳɳɳɳɳ?	suwɳbiyaio	teɳɳ?	tiɳɳɳ	kasi	tesɳɳɳɳɳ
<i>vine</i>	ɳɳɳi ɳɳɳi	oɳi:	mukuyo	ta:ɳa?	ei	bɳɳ?	la
<i>walk</i>	anosita	ɳainau	ubunabu	ɳɳɳɳ?	ɳɳɳi	humuɳia?	seɳɳɳ
<i>wallaby</i>	awaɳuso	seɳakusili	tumusinaɳo	wɳɳɳɳ?	boe	?i suwɳ?	naɳ naɳ
<i>water</i>	utlauwe	ɳwe <sup>i</sup>	aɳukowa	tu?	ani	?i?	keɳ
<i>white</i>	wabu?oʒe	wapuɳa <sup>u</sup>	sawaʒe	tatiwa?	tibiɳte	ɳa:	ɳoɳ
<i>wind</i>	ɳɳɳɳɳi	ɳɳɳuɳo	tiɳimweo	ɳɳɳɳ?	ɳɳɳɳ	?iɳɳɳ?	ɳɳɳɳɳ
<i>wing</i>	tautanaɳu tei	kape	opeisa	hɳɳɳɳ?	tunuiɳɳ	?ɳɳɳɳ?	paɳ
<i>woman</i>	sauto	tɳkɳtɳbisia	su:bu	miɳɳ?	tɳ	ɳɳɳ?	namiyaA
<i>yan</i>	-	kɳɳɳɳɳ	upuɳu	tɳɳɳɳ	bɳi	wɳɳi	ngai
<i>yesterday</i>	auwa	au	amo	ya:mɳ?	diɳɳɳ	?aɳu?	mede

TABLE 3  
COGNATE PERCENTAGES, MAY RIVER REGION

	Musan	Amto	Rocky Peak	Iteri	Bo	Ama	Nimo	Owiniga
Amto	29							
Rocky Peak	8	8						
Iteri	5	4	57					
Bo	6	8	47	59				
Ama	9	8	37	29	33			
Nimo	7	10	32	35	36	41		
Owiniga	4	4	14	13	16	18	21	
South Mianmin	1	1	1	1	2	3	4	3

└ indicates family

TABLE 4  
ARAI FAMILY SOUND CORRESPONDENCES

Rocky Peak	∅	b/p	s	m/b	n	ɿ	i	e/a	ʌ/o	o/ou	u
Iteri	∅		s/t	m/p	n	ʃ	i/e	a	a/ʌ/au	o/ou	u
Bo	k	p	s	m/p	n	ʃ	i/e	e/a/ʌ	ʌ/ɔ	o	u
Ama	∅/k	p	s	m	n	ɿ	i	a	ʌ/o	ou/ɔ	u
Nimo	∅	b/p	s	m/p	n	ʃ	i	e/a/ʌ	ʌ	a/o/ɔ	u
Owiniga	k	b/p	s	m	n	ʃ	i	e/a	ʌ	a/ou/ɔ	u

TABLE 5  
OK FAMILY COGNATE PERCENTAGES

	South Mianmin	North Mianmin	Tifalmin	Busilmin	Lower Atbalmin
North Mianmin	78				
Tifalmin	26	33			
Busilmin	24	28	68		
Lower Atbalmin	18	23	57	67	
East Ngalum	10	11	16	19	32

TABLE 6  
MIDDLE SEPIK COGNATE PERCENTAGES

	Yerakai	Chenapian	Bahinemo	Washkuk	Yessan-Mayo	Abelam	Iwam (May R.)	Abau	Namie	Nimo
Chenapian	4									
Bahinemo	8	13								
Washkuk	6	7	14							
Yessan-Mayo	6	15	20	38						
Abelam	18	8	15	21	26					
Iwam (May R.)	1	6	6	6	8	6				
Abau	5	5	7	6	6	7	24			
Namie	3	2	3	4	7	10	12	13		
Nimo	2	0	3	2	2	5	5	4	2	
South Mianmin	0	4	0	1	1	1	2	3	2	4

indicates Stock

indicates Phylum

Yerakai, Nimo and South Mianmin included for comparison.

TABLE 7  
MIDDLE SEPIK PHYLUM SOUND CORRESPONDENCES

Bahinemo	e	u	i	i	ʌ	a/ʌ	b/f	g	m	n	y	
Washkuk	+ o/u	u	o	i	e	a	a/o	p	b	t	k	m ñ/n y w
Yessan-Mayo	ʌ	∅	+/ʌ	+/∅	ʌ/+	ʌ	a	f	b	t	k/g	m n y w
Abelam	u	u	ʌ/a	i		ʌ	a	p/b	b	t	k/g	m n y w
Iwam (May R.)	∅	u		i		a	p					m n n
Abau				i/e		a						n y n
Namie				e/i/e <sup>i</sup>		a	b					m n w l/r

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# THE DIALECTS OF MAGI

N.P. THOMSON

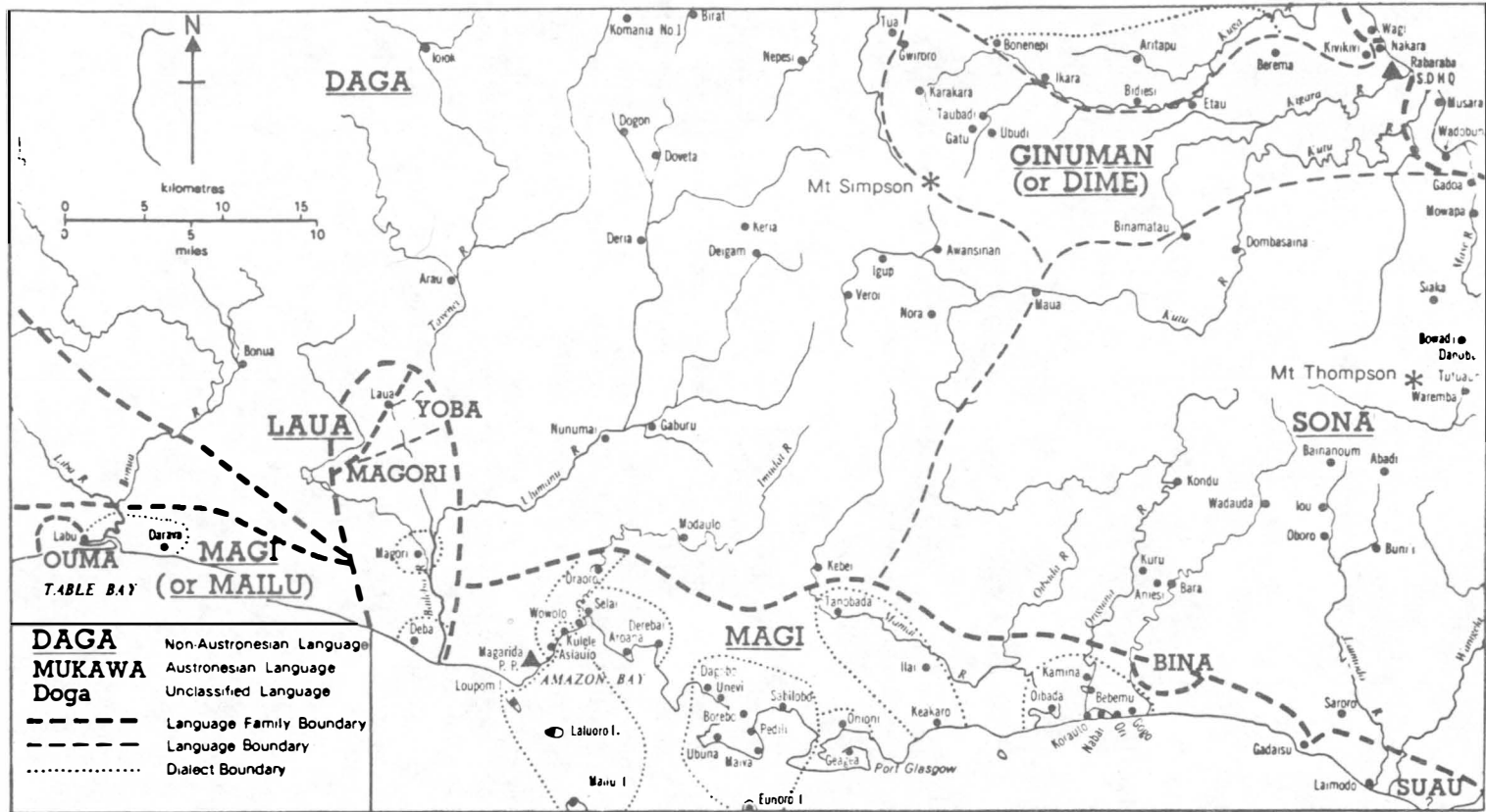
## 1. INTRODUCTION

### 1.1 AIM

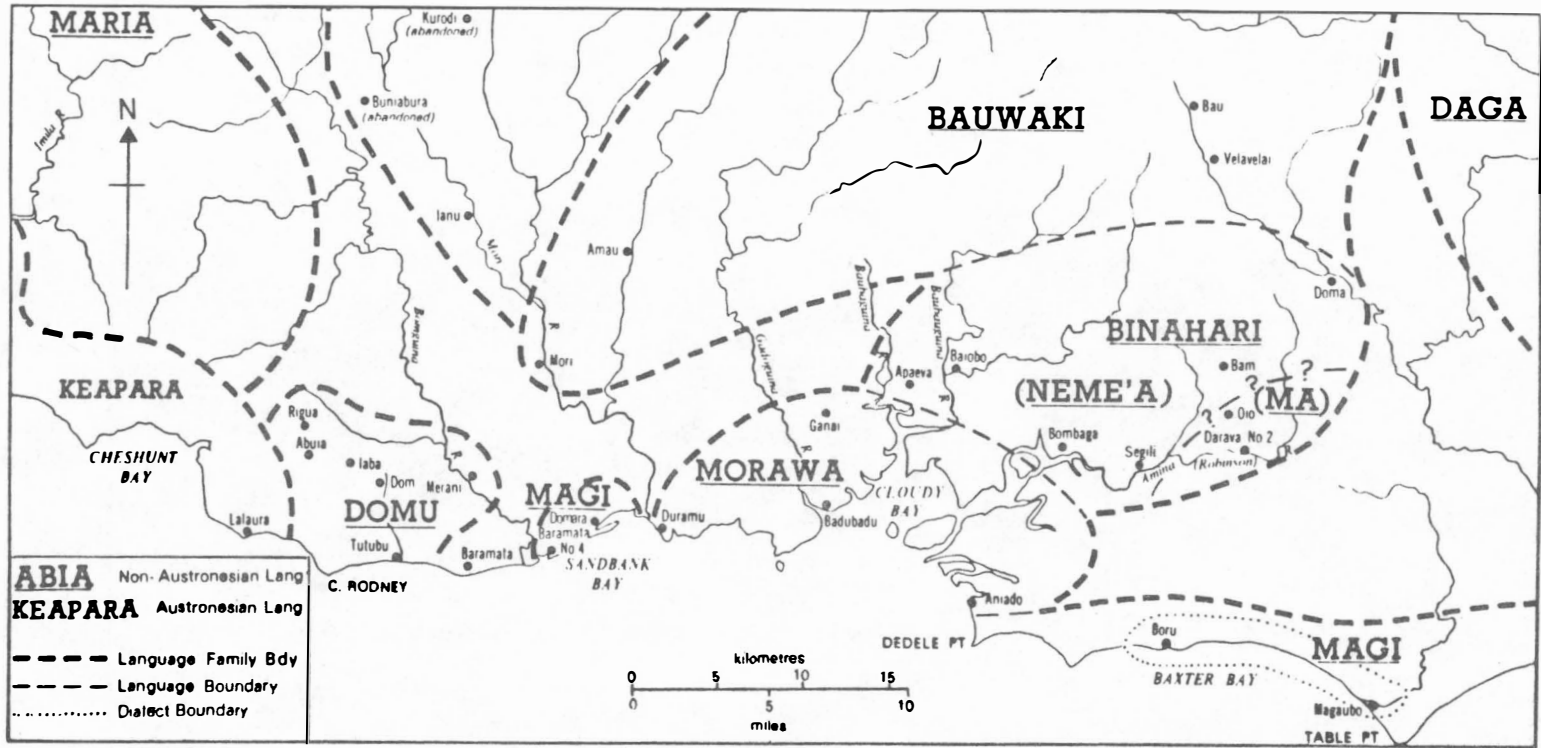
This paper describes the dialects of Magi and discusses their relationship to one another with a view to determining something of the prehistory of the Magi-speaking area. In the process the distribution of other languages in the area and their relationship to Magi is also considered together with such other non-linguistic evidence as is available.

### 1.2 BACKGROUND

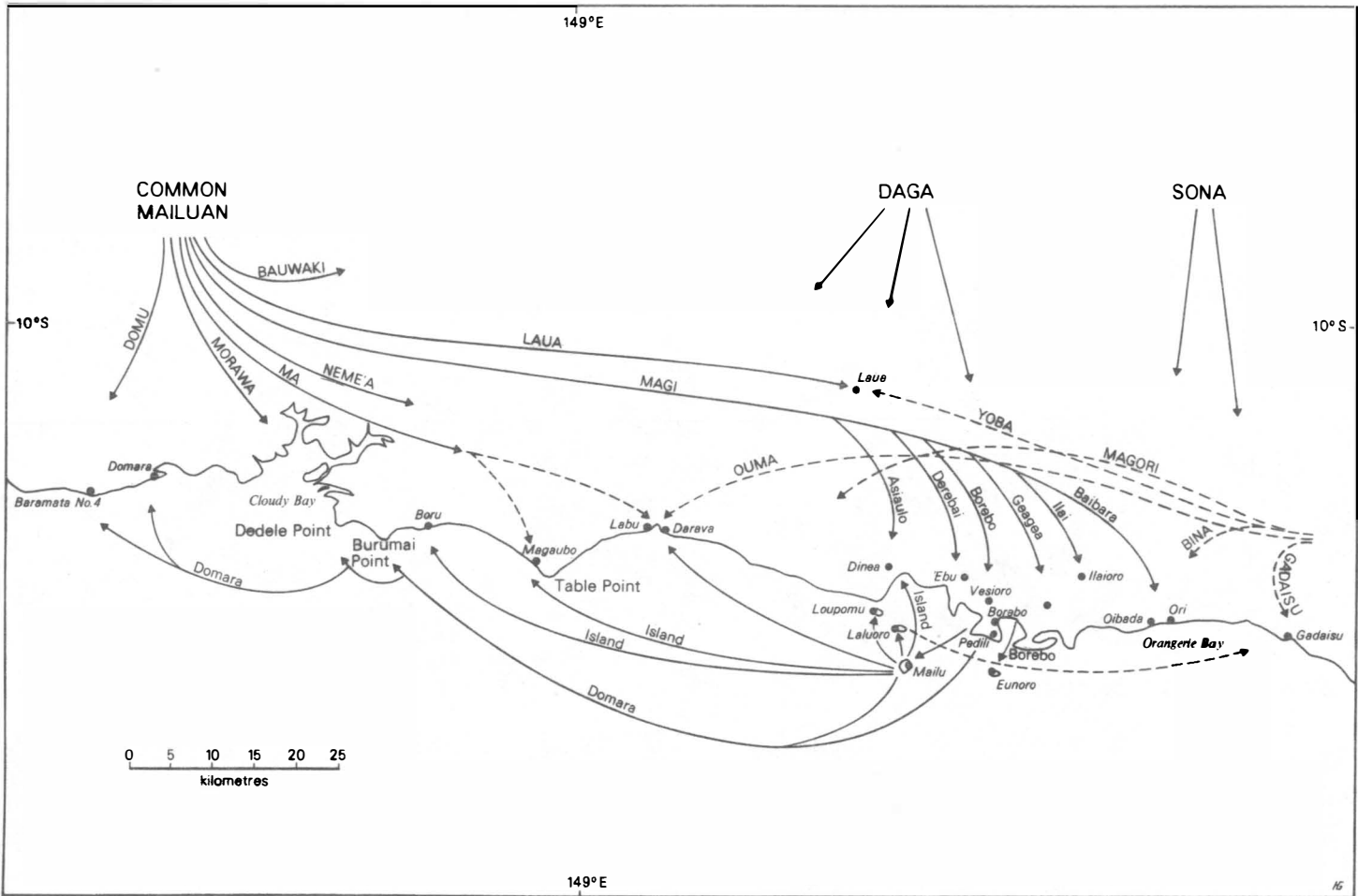
Magi<sup>1</sup> is a Non-Austronesian language spoken by approximately 5,500 people<sup>2</sup> living between Cape Rodney and mid-Orangerie Bay on the south coast of the Central District of Papua - see Map 1. It is the largest and most prestigious member of the Mailuan Family which has tentatively been described by Dutton (1971a) as consisting of five languages - Magi (or Mailu) (4662?), Domu (482), Morawa (755), Binahari (770), and Bauwaki (378). These languages are to be found along the coast and inland of the region of Cloudy Bay as far as the Keveri Valley in the Owen Stanley Range between Mounts Clarence and Suckling.<sup>3</sup> None of these languages, except Magi, has ever been described and their current classification depends entirely on vocabulary evidence. Magi, on the other hand, has been well known for a long time - since 1912 in fact, when W.J.V. Saville, a missionary of the London Missionary Society in that area from 1901-1935, published an account of the grammar of the language in the *Journal of the Royal Anthropological Institute of Great Britain and Ireland* of that year.<sup>4</sup> Since then nothing further has been published on it although Saville did leave two unpublished papers



MAP 1 (Part 1): THE MAGI LANGUAGE AREA (Eastern End)



MAP 1 (Part 2) : THE MAGI LANGUAGE AREA (Western End)



MAP 2: PROBABLE AND DOCUMENTED LANGUAGE MOVEMENTS IN THE MAGI AREA

containing long vocabulary lists as well as other useful grammatical and dialectal notes. Ethnographic studies have been made by Malinowski (1915) and Abbi (1964).

### 1.3 MATERIALS AND METHOD

In this study, languages and dialects are distinguished according to the similarities and differences they exhibit in their basic vocabularies, grammars and sound systems.

Basic vocabulary lists were obtained from some twenty five villages in and around the Magi-speaking area.<sup>5</sup> These villages are set out in Table I. The lists were obtained using Wurm's modified TRIPP list "Lexicostatistical Comparisons, Highlands District Languages, T.P.N.G. - A.N.U." and Hiri (or Police) Motu as the eliciting language. They were then compared and decisions as to closeness of relationship made on the following basis: (i) lists which shared 80% or more of basic vocabulary were regarded as representing different dialects of the same language; (ii) lists which shared less than 80% were regarded as representing different languages. Wherever possible too, but especially in the case of the dialects study, grammatical and phonological evidence was also considered. This evidence was derived from observations of the correspondences between the wordlists just referred to as well as from whatever grammatical information was collected at the same time as the wordlists. For the dialect study decisions about grammatical and phonological difference were made on the author's speaking knowledge of Magi but relateable to the published sketch of Magi phonology and grammar - see Thomson (forthcoming).

The results obtained using the above procedures are set out in the following section. In the interpretation of these results the following points about the background and method of collecting the material were taken into account:

a) There is now only one living native Laua speaker, and he was not available when the list was taken from a man, Aruga, for whom Laua is his fourth or fifth language, and his mother, Bo'odi, for whom it is her second or third language.

b) The same informants were used to give the Yoba list, with the help of two others, who constitute the entire Yoba speaking community.

c) The only surviving Bina speakers are an old man, Tobi, married into and living at Nabai village, and his sister living at Gogosiba.

d) The list from Ouma was collected by a pastor, Dauoi Bo'odi, who used Magi to obtain the list from the four Labu people who can still

TABLE I  
VILLAGES AND LANGUAGES FROM WHICH WORDLISTS OBTAINED

Village	Language
Paua*	Daga
Maua*	Ginuman
Niesa*	Sona
Dom	Domu
Bam	Neme'a
Darava No.2	Ma
Badubadu	Morawa
Laua	Laua
Domara	
Boru	
Darava	
Loupomu	
Asiaoro* (or Asiaulo)	
Derebai	Magi
Borebo	
Geagea*	
Ilai	
Ori*	
Labu	Ouma
Laua	Yoba
Nabai	Bina
Gadaisu	Gadaisu
Savaia	Suau
Magori	Magori
Amau (Keveri)	Bauwaki

\*Not listed in *Village Directory* (1968). For locations see Map 1.

remember their own language. All the younger people speak only Magi which they have adopted from nearby Darava village.

e) My informant from Gadaisu was a Magi speaker who has married into Gadaisu, and for whom it is her second or third language. Most Gadaisu people do speak Magi as their second or third language, and there are many Gadaisu-Laluoro marriages.

f) All of the above informants are of necessity multi-lingual, and some of them seldom use the languages they claim to remember. Thus it would not be surprising if, in a number of cases, a very recent loan-word is incorporated, but these can often be readily picked out. As such cases were not found to be very frequent, the impossibility of checking the lists was considered of no great consequence.

g) Whereas in most languages true synonyms are very seldom found, there is a very real reason for them to be found in languages of this area, due to the custom of name avoidance. Hence a woman whose father-in-law is called Guba must never pronounce the word guba for *rain*. Instead she must use the dialectal variant, bailo, whenever she speaks of rain, whether that word is usually used in her village or not. The relationships where such name avoidance operates are varied and numerous, so it may be that bailo is also a proscribed word, in which case another word is found. So there is often a No.1 word, a No.2 word, etc. as in the case of *stone*, where gomana is the No.1 word in all dialects, except in Domara where korau shares the No.1 position with gomana. No.2 word is goibo, No.3 is бага, No.4 ve'u, at least in the Island Dialect. Dialectal words such as korau (Domara) and udau (Ilai) occur to cloud the issue. Near synonyms such as mila (*rock*), etc. further confuse the issue.

Thus it is impossible when taking wordlists in these situations to be sure that items elicited are No.1 words only, unless there is a group of informants. Different collectors and different informants will thus often get quite a lot of different results, and this should be kept in mind when comparing results.

## 2. RESULTS

These will be treated in two sections. In the first the general linguistic situation of the Magi area is reviewed and in the second the Magi dialects are considered in detail.

## 2.1 THE GENERAL LINGUISTIC PICTURE

Percentages of shared cognates for all the vocabulary lists obtained from the villages listed in Table I above are set out in Table II and displayed pictographically in Diagrams I and II. Note, however, that in calculating these percentages the list used for Magi was the one from Loupomu, which may be taken as representative of the most widely spoken and prestigious dialect, notably the Island Dialect (see Section 2.2).

### 2.11 Austronesian Languages

#### 2.11.1 *Ouma*<sup>6</sup>

From the wordlist given this was found to show features of both AN and NAN languages. But the pronoun system and the more basic words are distinctively AN, so the language has been placed in the Magori Group of languages, the other members of which also show a large (although somewhat less) correspondence with members of the Mailuan (NAN) Family.

The following chart shows the number of items out of a total of 208 that have relatives in other languages of the immediate area:

Number shared with AN languages.. . . . .	50 (= 24%)
"      "      " M.F. languages (excl. Magi).. . . . .	11 (= 5%)
"      "      " M.F. languages (incl. Magi).. . . . .	24 (= 12%)
"      "      " M.F. languages + Magori Group .. . . .	40 (= 20%)
"      "      " Magi + Magori Group. . . . .	9 (= 4%)
"      "      " Magi only.. . . . .	7 (= 3%)
"      "      " Magori only .. . . . .	21 (= 10%)
Number not shared with any other language. . . . .	46 (= 22%)

From this chart it is apparent that *Ouma* basic vocabulary has a lot in common with both Magi and Magori nearby. Excluding the 22% of words for which no relatives have yet been found 24% of the words are obviously AN (many of which are also shared with Magi and Magori), 39% mostly not AN, but shared with Magi, and 34% of words shared with the Magori Group, many of which are also shared with members of the Mailuan Family. That is, it is clear that there has been a lot of borrowing amongst these groups. It is also to be noted that the most important Mailuan language from this point of view is Magi, although there are a fair number of words which *Ouma* shares with other members of the Mailuan Family, but not with Magi.

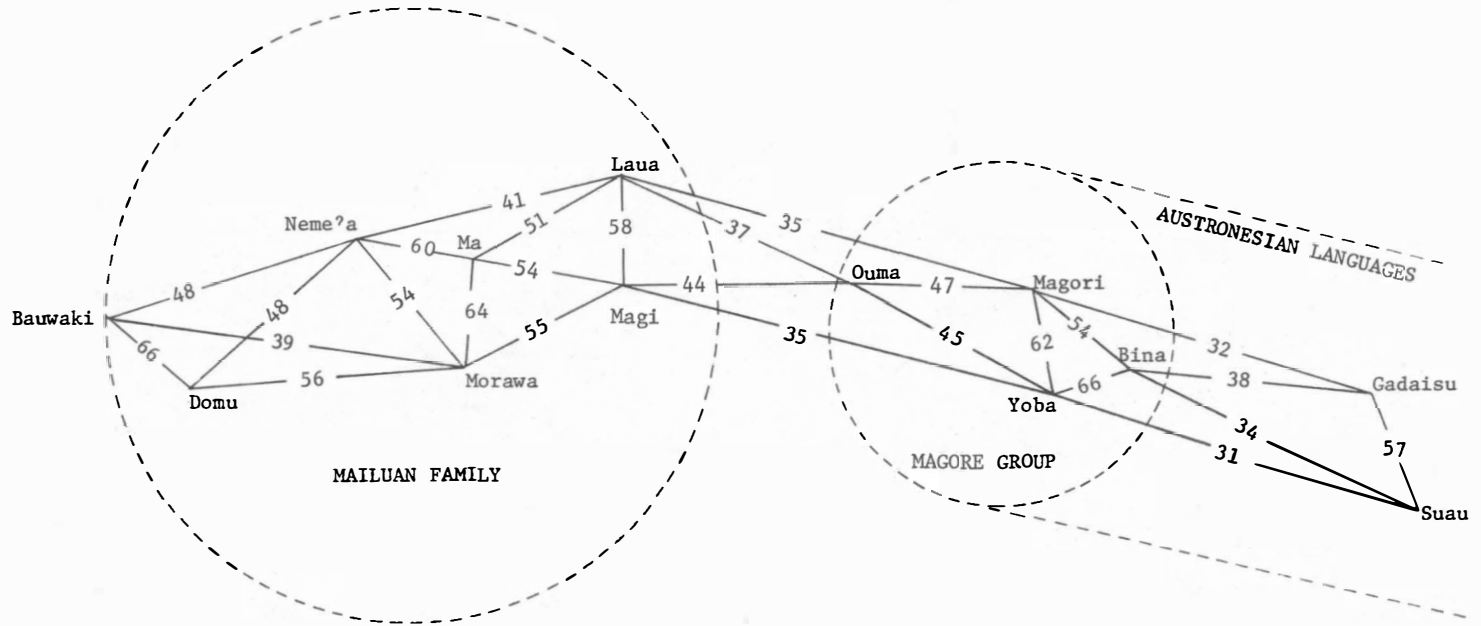
Thus although this analysis should be viewed with some caution, and checked against work at present in progress by Dutton, the evidence does



TABLE II: APPROXIMATE BASIC VOCABULARY COGNATE PERCENTAGES FOR MAGI DIALECTS, AND ASSOCIATED AUSTRONESIAN AND MAILUAN LANGUAGES

		Number of Words Compared																						
		Bauwaki	Domu	Neme'a	Ma	Morawa	Laua	Magi										Ouma	Magori	Yoba	Bina	Gadaisu	Suu(=Savaia)	
							Domara	Darava	Island (=Loupomu)	Asilaoro	Derebai	Borebo	Geagea	Ilai	Baibara (=Ori)									
	Bauwaki	-	100	100	100	100	100	-	100	-	-	100	-	-	-	-	-	-	-	-	-	-	-	
	Domu	66	-	220	223	225	193	226	-	226	-	-	-	-	226	-	213	215	191	-	-	-	-	
	Neme'a	48	48	-	220	220	192	220	-	220	-	-	-	220	-	215	212	191	-	-	-	-	-	
	Ma	46	55	60	-	225	196	226	-	226	-	-	-	226	-	213	215	192	-	-	-	-	-	
	Morawa	39	56	54	64	-	195	226	-	226	-	-	-	226	-	214	214	192	-	-	-	-	-	
	Laua	-	46	41	51	48	-	193	-	193	-	-	-	193	193	187	192	190	192	189	-	-	-	
Percentage of Words the Same	Magi																							
		Domara	34	42	41	55	55	56	-	248	248	248	248	248	248	248	211	219	193	226	235	-	-	
		Darava	-	-	-	-	-	-	90	-	248	248	248	248	248	248	-	-	-	-	-	-	-	
		Island (=Loupomu)	33	42	41	54	55	58	90	98	-	248	248	248	248	248	211	219	193	226	235	222	-	
		Asilaoro	-	-	-	-	-	-	89	92	93	-	248	248	248	248	-	-	-	-	-	-	-	
		Derebai	-	-	-	-	-	-	89	94	93	92	-	248	248	248	-	-	-	-	-	-	-	
		Borebo	36	-	-	-	-	-	88	96	96	92	92	-	248	248	248	248	248	248	248	248	248	248
		Geagea	-	-	-	-	-	-	89	96	96	92	92	98	-	248	248	248	248	248	248	248	248	248
		Ilai	-	37	40	51	52	57	85	88	88	89	88	91	90	-	248	211	219	193	226	235	-	
		Baibara (=Ori)	-	-	-	-	-	57	85	91	91	90	89	91	90	89	-	211	219	193	226	235	-	
	Ouma	-	29	28	33	34	37	44	-	44	-	-	44	-	43	43	-	208	186	213	209	221		
	Magori	-	23	20	26	29	35	42	-	42	-	-	45	-	42	42	47	-	190	218	214	221		
	Yoba	-	17	15	20	20	30	35	-	35	-	-	35	-	36	37	45	62	-	193	194	197		
	Bina	-	-	-	-	-	27	28	-	29	-	-	29	-	31	31	34	54	66	-	219	226		
	Gadaisu	-	-	-	-	-	10	12	-	12	-	-	12	-	15	13	23	32	37	38	-	221		
	Suu(=Savaia)	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	19	30	31	34	57	-		

DIAGRAM I: SCHEMATIC REPRESENTATION OF THE RELATIONSHIP BETWEEN LANGUAGES OF THE SOUTH COAST OF SOUTH-EAST PAPUA



seem to indicate that Common Mailuan (the language from which all the Mailuan languages were derived, including at that time even a number of AN items), Ouma, and the other members of the Magori Group have at some stage(s) in the past had a very close relationship.

#### 2.11.2 *Yoba and Bina*

On the tentative vocabulary lists and pronouns these appear to be very close (66%) and also to Magori (62% and 54% respectively). Thus in this study these three have been grouped with Ouma and called the Magori Group.

#### 2.11.3 *Magori*

Refer Dutton, 1971b.

#### 2.11.4 *Gadaisu and Suau*

The lists taken from Gadaisu and Savaia villages are put in to elicit the degree of relationship between them and the Austronesian languages of the Magori Group. These are seen in Table II and Diagram I. These figures indicate that these languages form a chain from the Suau area to Ouma in Table Bay. Further study is proceeding (Dutton).

#### 2.11.5 *Kwaiioa and Borowai*

These villages are thought to be AN languages related to Igora and Suau respectively. See Dutton (1971a).

### 2.12 Non-Austronesian Languages

#### 2.12.1 *Dagan Family*

The three tested as being closest geographically to the Mailuan Family area, viz. Daga, Ginuman, Sona, showed almost no correspondence at all with any of the members of the Mailuan Family, or the Magori Group, so they were excluded from further consideration in this study.

#### 2.12.2 *Mailuan Family - Bauwaki, Domu, Morawa*

Refer Dutton, 1971a.

#### 2.12.3 *Binahari*

This term covers what have tentatively been called the dialects of Ma and Neme (or Neme?a) by Dutton (1971a). In this study these were found

to correspond in only 60% of terms, whereas Ma and Morawa correspond in 64%. Because of the long-used term Binahari, Dutton suggested (personal communication) that there may be a spectrum of dialects of which the ones represented in this paper are at the ends of the spectrum. To settle the question a comparison of the lists obtained by Dutton (Oi'o and Doma) and the ones collected for this paper (Darava No.2 and Bamu) would be conclusive, but I doubt whether such a spectrum exists since a study of the map will show that there are no present-day villages to act as likely stepping stones in such a chain between the proposed Ma and Neme'a dialects. Thus the name Binahari now becomes a blanket term to cover these two separate languages of the Mailuan Family.

#### 2.12.4 *Laua*

A short wordlist was previously recorded by Saville (1935a) and others, notably Ray (1938) and Strong (1910-11). Dutton (1971b:25) was wary of classifying it on the basis of the vocabulary evidence then available. In this study it is regarded as a Mailuan language most closely related to Magi since it shares 56-58% of basic vocabulary with Magi, and has a similar pronoun system. Thus, although the informant was not reliable enough at this time to give a dependable list of pronouns sufficient data were obtained to indicate that there are differences in first, second and third persons, singular, dual and plural without difference in inclusive and exclusive first persons plural. In this way it is the same as Magi, and in fact the forms of the pronouns themselves are also very similar to the forms in Magi.

## 2.2 THE DIALECTS OF MAGI

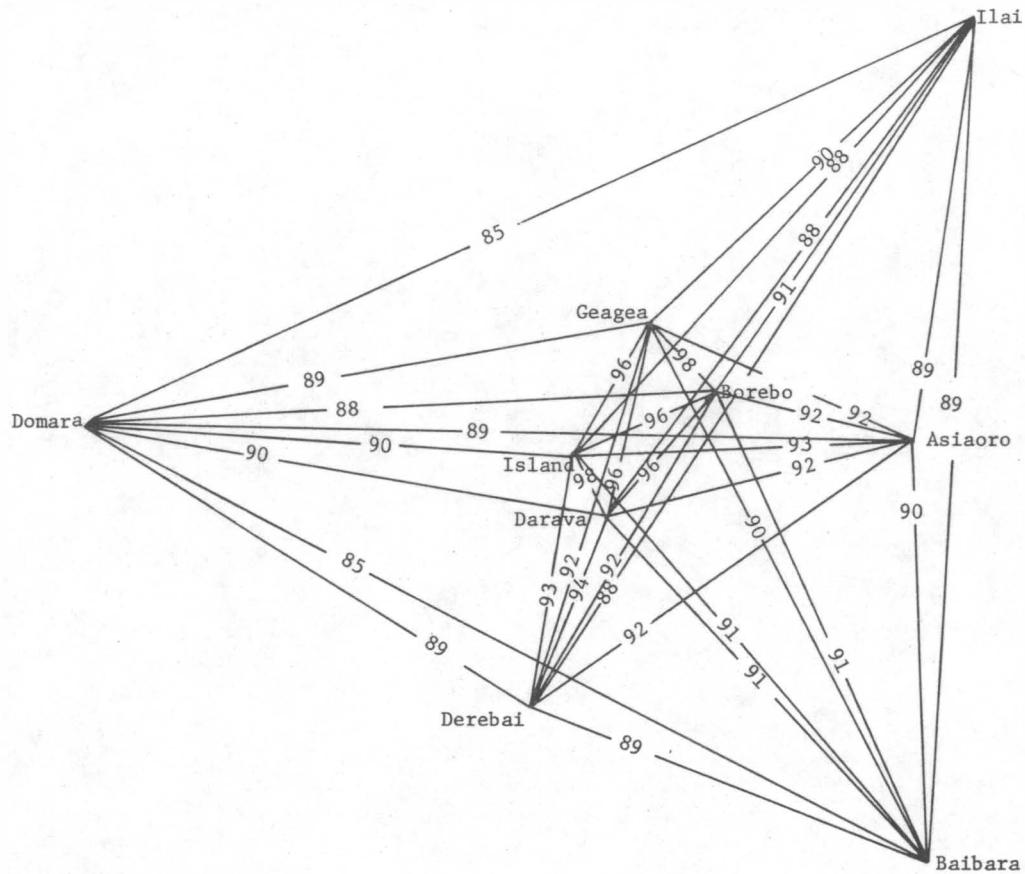
### 2.21 The Linguistic Facts

#### 2.21.1 *Vocabulary*

In this study 248 items of vocabulary were compared (see Appendix 4.1). This number excludes those items of the list which were difficult to obtain or overlapped with information contained in the sketch grammar in Thomson (forthcoming), the so-called cultural items (e.g. 82, 83, 99-105 etc.), and the numbers 5-20, which are basically repetitive.<sup>7</sup>

The results of the comparison of the 248 items are set out in Table II and Diagram II where it will be noted that correspondences vary between 85% and 98%, the most divergent being Domara, Ilai and Baibara, with the remainder being much closer. Note that Boru is not included in these calculations because it was found to be identical with the Loupomu list and so was omitted from further consideration.

DIAGRAM II: SCHEMATIC REPRESENTATION OF THE  
RELATIONSHIPS BETWEEN MAGI DIALECTS



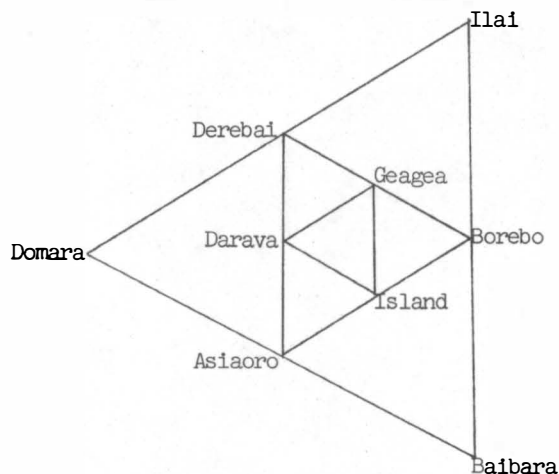
Note also that these results are much closer together than those obtained by Dutton (1971a:21), especially as regards Borebo-Mailu (Island), assuming Mailu to be the same as Loupomu - see interpretation section (3.).

Compare, for example, the following:

	Dutton (1971a)			Present		
	Island	Borebo	Domara	Island	Borebo	Domara
Island	-	100	100	-	248	248
Borebo	92%	-	100	96%	-	248
Domara	81%	79%	-	90%	88%	-

The reason for this discrepancy lies partly in the fact that Dutton's percentages were based on the first 100 words only, and partly on the fact that they do not take into account the existence of a large number of synonyms that are present in all dialects of Magi. Furthermore, examination of Dutton's Borebo list reveals that there are a number of terms which are not in the present list, but which are characteristic of the Varo dialects as a whole. It would seem likely therefore that the informant in the present series gave a number of terms that rightly belonged to the dominant Island Dialect, which because of prestige is rapidly gaining general acceptance. This would be in keeping with experience gained with the informant used to elicit the Geagea list. This man emphatically denied the use in his village of some of the characteristic Varo words and grammar, although the observer has subsequently noted that some of these have been unconsciously used by Geagea people in normal conversation, thus leading him to assume that there is a strong desire for many people to minimise differences, and so try to hide their "more lowly" background.

Therefore although the lists gathered for this study would put Borebo and Geagea along with the central Island and Darava Dialects, it seems likely that the true position of Borebo would be further out, and probably Geagea, with its closer ethnic associations with Mailu would come somewhere between. This could thus be represented pictographically as in the diagram below. However, none of these considerations has any bearing on the Historical Interpretation section of this paper.



But to return again to the general results it will be noticed that of the 248 words compared 193 (or 78%) were found to be the same in all dialects. It seemed apparent to the observer that of the remaining 22%, many of the so-called differences were really only use of a synonym (cf. Section 1.3, note (g) above). No attempt was made to harmonise these.

The 248 words were then analyzed in an attempt to find out by what route individual words entered Magi. Possibilities were Common Mailuan (a term coined to represent the mother language of all members of the Mailuan Family, irrespective of whether the word itself was basically Proto-Mailuan, AN, or some other), AN other than those which had already crept into Common Mailuan (an attempt was made to see if there were any differences attributable to entry via AN II or AN III languages, but this was unproductive), and words which were shared with members of the Magori Group, but seemingly restricted to the Magori Group and Magi. No attempt was made to find out with which language these may have originated, this being a much deeper study in which Dutton is presently engaged.

The above detailed analysis is appended as Appendix 4.2. A summary of the results is to be found in Table III.

TABLE III: AN ANALYSIS OF MAGI VOCABULARY

Dialect	Probable Source of Items			
	Common-Mailuan	AN	Magori Group	Unknown
Common vocab.	133 (69%)	13 (7%)	12 (6%)	35 (18%)
Island	29 (55%)	11 (20%)	4 (7%)	11 (20%)
Domara	30 (55%)	11 (20%)	3 (6%)	11 (20%)
Darava	28 (51%)	11 (20%)	5 (9%)	11 (20%)
Asiaoro	26 (47%)	13 (24%)	5 (9%)	11 (20%)
Derebai	27 (49%)	13 (24%)	4 (8%)	11 (20%)
Borebo	27 (49%)	10 (18%)	5 (9%)	13 (24%)
Geagea	27 (49%)	10 (18%)	4 (8%)	14 (25%)
Ilai	26 (47%)	10 (18%)	4 (8%)	15 (27%)
Baibara	21 (38%)	13 (24%)	8 (14%)	13 (24%)

### 2.21.2 Phonology

There are a number of phonological variations which tend to be idiolectal rather than dialectal, or even communalectal, and even a single informant is often inconsistent, unless he is very familiar with English, and transfers English phoneme structure to Magi. In other words, what are normally several phonemes in English are all allophones of a single phoneme in Magi, but due to familiarity with English phonemic structure, the coming generation is tending to recognise the different allophones of what were the old phonemes, and is separating them out as in English. However at this stage the different forms still have the force of allophones. Thus:

- (i) *ts*, *t*, *s* are as yet fully interchangeable;
- (ii) *l*, *r*, and flapped intermediates are also interchangeable;
- (iii) *v*, and *w* (see Thomson (forthcoming)) are interchanged by some people, and no contrasts are available, but generally *v* does not precede *o* or *u*, and *w* does not precede *e* or *i*.
- (iv) the tense-person indicators (see Thomson (forthcoming)) -*lauta*, -*lasa*, and -*o'o* are often pronounced *lauka*, *laka*, and -*a'o* respectively.

From the lists elicited, the following dialectal phonological changes were noted, differences being from Island Dialect unless otherwise stated:



39. igusu	ʔeʔuto in Delebai gegeto in Domara
46. igege (Varo)	gagado in Asiaoro
54. limu	limuʔu in Darava, Derebai, Baibara liʔimu in Asiaoro, Geagea
91. gabana	gubara in Ilai
92. dana	daga in Ilai, Domara
119. namaga	nagama in Ilai
127. baroa	barowo in Domara, Derebai, Ilai
128. ʔiata	ʔiʔata in Ilai
153. isiisi	ʔiʔa in Domara
125. oraora (Asiaoro)	oro in Domara
155. idara	laida in Ilai
180. gagari (Domara)	gagogagoro in Asiaoro, Derebai, Ilai, Baibara
211. kiokio	ʔioʔio in Domara
233. diada (from dia ada)	dida in Domara, Borebo, Geagea

Many of these are also acceptable synonyms in other dialects.

### 2.21.3 Grammar

The only appreciable difference noted in the grammar of the various dialects was in the formation of the present imperfect indicative of verbs, in which the Varo dialects retain (or introduce) an extra syllable, containing a "v". As is discussed in later parts of this paper, this is even in these dialects becoming obsolete, especially in the Geagea dialect.

It is open to discussion whether this syllable really belongs to the mood marker, the imperfect marker or the present tense marker of the tense-person indicator, as in other imperfect tenses and other present aspects the Varo speakers use the same forms as the Island and other western dialects. It is probably reasonable to assume that this is merely the last remains of the normal Proto-Magi forms, probably an indicative mood marker, see Thomson (forthcoming). For example:

	Magi - west	Magi - Varo		Magi - west	Magi - Varo
	Intransitive			Transitive <sup>8</sup>	
Subject:			Object:		
sing.1	oni laʔa	oni lavaʔa	sing.1	mini laesela	mini levesela
2/3	oni laesa	oni levesa	2	mini laga	mini lavaga
dual.1	oni lauta	oni lavauta	dual.1	mini lagua	mini lavagua
2/3	oni laeseava	oni laeseava	plur.1	mini lagia	mini lavagia
plur.1	oni lasa	oni lasa	d/pl.2/3	mini laesea	mini levesea
2/3	oni loʔo	oni lovoʔo	Subj. 1.p.s., Object:		
			sing.2	mini lauta	mini lavauta
			d/pl.2/3	mini laeseaʔa	mini leveseaʔa

Further work on this aspect may resolve the issue.

## 2.22 Discussion of the Linguistic Facts

From the above results it appears that there are nine dialects of Magi. From known history and recent prehistory of the area it can be assumed that any further differences are likely to be so slight that they will be found to be within dialectal bounds. Apart from Domara, Baramata No.4, Boru, Darava, Loupomu, Lалуoro, and Mailu and the hamlets which now make up the Baibara dialect, all the villages were situated on hill-tops, until, under *Pax Australiana*, the villagers were able at last to defy the Mailu Islanders, and descend to the shore, except Ilaï which went down to the valley on the inland side of the hill. In their descent they split up so that the resultant number of villages was greatly increased, but this was so recent that very little further dialectal differentiation could have occurred. In fact with greater communications, and common schooling the reverse is occurring - the dominant Island dialect is more and more replacing the peripheral ones, while it too is changing slightly towards simplification of grammar and modification of vocabulary to cope with cultural changes.

To review the dialects, their origins, and the present situation, see Table IV and Map 2.

For a comparison of the words used in all dialects and those showing dialectal difference as regards the route of entry into the various dialects of Magi, see Table III. In those words common to all, almost 70% have come through Common Mailuan, and only 7% from an Austronesian (symbolized AN) source directly, whereas those showing dialectal variation contain from 18-24% of words directly incorporated from AN sources, and only 38-55% from Common Mailuan, suggesting that it is an AN influence in more recent times that has contributed greatly to the dialect changes, possibly AN III and Magori Group in the case of the

TABLE IV: MAGI VILLAGES AND DIALECTS

	Villages of late pre-European era	Present villages (1969 census figures)	Population	Dialect	Population
Western(?) Villages	Domara	Domara	700*	Domara	950*
		Baramata No.4	250*		
	Darava	Darava	222	Darava	276
		Ouma**	Labu		
	Dinea	Asiaoro	186*	Asiaoro	382
		Wowolo(incl.Oraoro)	196		
	'Ebu	Derebai	128	Derebai	379
		Aroana	83		
		Selae	168		
	Mailu	Mailu	542	Island	1985
		Kurere	220*		
		Loupomu	320		
		Boru	400*		
Laluoro	Magaubo	180*			
	Laluoro	323			
Banaoro	Geagea	93	Geagea	173	
	'One'one	80			
Varo or Maisi villages	Vesioro	Dagobo	97 <sup>+</sup>	Borebo	758
		Unevi	90		
	Borebo	Borebo	199		
		M eva	38		
	Pediri	Sabiribo	114		
		Eunuoro	91		
		Pediri	76		
	Ilaioro	Ubuna	48	Ilai	185
		Ilai	79		
	Gobua**	Keakaro	42		
		Tanobada	64		
	Oibada	Oibada	39*	Baibara	233
		Korauto	38*		
Various hamlets	Nabai	42*			
	Ori	49*			
	Gogosiba	65*			
					<u>5316</u>

\* = Supplied as approximate by memory, A.D.C., Kupiano.

\* = Iruna Hospital reports.

\*\* = Not at this time Magi speaking.

+ = At variance with Iruna Hospital (160).

Note: Gadaisu is not included in this listing as it is not primarily Magi-speaking.

eastern dialects, and AN II languages in the case of the Island and Domara dialects. It is noted that there are still a number of words classified as unknown origin - there is a possibility that these could modify the results slightly, if they could be investigated further.

The Island, and the more divergent dialects were compared with other members of the Mailuan Family, as well as with the Magori Group, and AN III languages. Geographical similarities were noted, but were minimal.

In summary then, there are nine clear dialects of Magi, although four of these are very closely related to each other. Grammatically the language is broken into two groups, the Varo or Maisi Group to the east, and the main group to the west, with Geagea dialect wedged in between. Although geographically in the Varo area, the younger members of the community emphatically use the grammar of the Island Dialect. There are some items which show phonological variations according to dialects, but the greatest factor in establishing these nine dialects is vocabulary variation, mostly as the result of a greater degree of borrowing from AN languages in the formative periods of the different dialects.

The language stands out as a unit in contrast to the other languages of the area, while forming part of the chain of languages extending from the Mailuan Family as a whole to Magi, to the Magori Group, to the AN III languages. The dialects play no significant part in this chain formation.

### 3. HISTORICAL INTERPRETATION

Having considered all these matters one may speculate as to how this situation may have come about.

It would seem likely that having emerged from Common Mailuan as a separate language, Magi was centred on Mayri Bay where Borebo now stands, well to the east of its linguistic relations. It probably had contact with Ouma, perhaps the original language of the area. At about this stage it would seem that there must have been a large number of AN II immigrants over a period of time, causing some linguistic changes although they were absorbed by the NAN Magi speakers. Hence the greatest evidence of their absorption, is the genetic semblance of the Magi to the AN II peoples (Seligman (1910)). This is in contrast to most of the peoples of the Mailuan Family.

At this time too it would appear that there was a good deal of influence exerted on Magi from the Magori Group and the AN III languages to the east, especially on the eastern dialect. There was also probably an appreciable genetic influence on the Magi speakers, as well as cultural features.<sup>9</sup>

From their original location in Mayri Bay, groups separated off to form what has now become the Asiaoro, Derebai, Geagea, Ilai, Baibara and Island dialects. Tradition has it that Domara was formed partly from the Island and partly from the mainland, the people went first to Burumai Point, then Dedele, and lastly to their present site. It would seem that Domara, Ilai, and Baibara peoples kept rather separate, and thus developed greater dialectal variations. This fits in well with the fact noted by Verma (1964) that despite a common language, the Magi villages did not present a united political front, but warred amongst themselves. There were some intervillage ties, but these tended to run parallel to dialect affiliations.

The influence of the AN III languages continued to be exerted on the dialects to the east, and the AN II languages on the Island dialect, which started to become the dominant one. With intermarriage of Mailu people<sup>10</sup> with Ma people Darava was formed, and then at a much later date, Magaubo in the same way. Boru and Kurere were pure Mailu colonies. This colonization is in accord with local tradition, and would explain the difference in size of the village on Mailu (?3,000)<sup>11</sup> and when first counted by Saville (<600).<sup>12</sup>

Whoever the original inhabitants of Loupomu and Lалуoro Islands were, raiding, and subsequent resettlement by the Mailu Islanders established their dialect there. For example, the seven clans now at Loupomu all came directly or indirectly (Gobu had left Mailu before the annihilation of Loupomu, c.1870 and were living with Laua people) from Mailu, but by 1914 only two were settled, Gobu and Bara'i.<sup>13</sup> The other five were people from Mailu, who, along with a few individuals from Derebai, settled on Loupomu after 1914. This colonization, along with the trade of pots made only on Mailu Island, for vegetables and betel nut, would have been stabilizing factors and would have helped prevent radical change of the dialects within Amazon Bay.

This has been portrayed graphically in Map 2, where it has also been suggested that the Magori Group of languages originated in the AN III group, a hypothesis far from proven.<sup>14</sup> It could also be argued that there was a line of AN languages right along the coast; the Magi language coming in to break up the chain.

The Dagan language family (NAN) has exerted no influence on the coastal and semi-coastal languages. They were probably much later in coming over the Owen Stanley Range, and culturally have kept apart.

## N O T E S

1. This is often incorrectly called Mailu after the name of the most powerful Magi-speaking village in the area and the island of the same name on which it is situated. This same term was also sometimes used to differentiate the "dialect" spoken on Mailu Island from other "dialects" of the area. Dutton (1971a) also uses a derived form - Mailuan - to refer to the language family to which Magi belongs. In this paper the term Mailu will be reserved for the people of Mailu Island and their speech and the term of Magi for the total language.
2. Cf. Table IV. It should perhaps be noted that populations are dynamic - on present indications it would seem that the Magi-speaking population by 2,000 A.D. will be approximately 8,000. It may also be noted that there are some discrepancies in this table compared with a similar one published by Dutton (1971a) where Asiaoro was included in the Kurere census, not Wowolo as presumed, and Domara was noted as 127, which was due to misinformation.
3. See Dutton (1971a), Map 3.
4. See the Bibliography at the end of this paper for further details.
5. Except for wordlists kindly supplied by Dr T.E. Dutton of the Australian National University for Bauwaki and Magori, all the data used in this paper was collected by me between 1969 and 1972 at a stage when I had, through previous medical work in the area, obtained some degree of fluency in Magi. During this time I was generally assisted by many informants and friends, but especially by my long-standing informant Lioro Lapila of Loupomu village. To all of these I should like to extend my sincerest thanks for the time and patience they so willingly gave.

I should also like to extend my thanks to Dr Dutton already mentioned and to Dr A.J. Taylor, The Bible Society, Lae, for their advice and encouragement in completing this work although they cannot be held responsible for any omissions or errors that may occur in this version of the results.

6. For earlier speculations about the status of this and other villages in this area see Dutton (1971b:3-5).

7. The general rule for languages of the Mailuan Family is to count with a base of two up to five, after which everything is *many*. But in Magi and Domu a different system operates, based on five (here an Austronesian term *ima hand*, *five* is used in Magi) and extending more or less indefinitely.

8. In transitive verbs the terminal part agrees with the object (unless it is 3rd person singular when an intransitive ending is used). However this is further modified if the subject is 1st person singular, when, e.g. *mini laga* (i.e. object is 2nd person singular) becomes *mini lauta*, etc. d/pl.2/3 = object is dual or plural, and either 2nd or 3rd person. E.g. *You/he/she/it/we/they give them/you* = *mini laesea*

*I give them/you* = *mini laesea?a*

9. Cf. Malinowski (1915) who considered these people to be intermediate between Seligmann's Papuo-Melanesian groups.

10. Malinowski claims Lалуoro people. Although this is contrary to my information, because of somewhat closer present ties between Darava and Lалуoro, this would seem more likely.

11. Cf. Don Diego (1607).

12. Cf. Saville (1926).

13. Cf. Malinowski (1915).

14. Cf. Dutton (1971b).

#### 4. APPENDICES

##### 4.1 COMPARATIVE BASIC VOCABULARY LISTS ACROSS MAGI DIALECTS

For the purposes of this listing, the Island dialect is taken as a frame of reference against which forms occurring in other dialects are compared in an array which shows only differences. Thus wherever forms in any non-Island dialect are the same as those given for the Island dialect no entry is made; wherever they are different they are entered. In this way it is easy to see at a glance the range of differences that occur.

The order of presentation follows that given in Wurm's lexicostatistical list referred to in Section 1.3 above. The following key explains the symbolization used for the English glosses in the list:

..... unreliable  
 [(        )] hard to obtain  
 CAPITALS     cultural items

The listing follows.



English	Island	Domara	Darava	Asiaoro	Delebai	Borebo	Geagea	Ilai	Baibara
1. <i>man</i>	egi								
2. <i>woman</i>	avesa								
3. <i>old man</i>	baeau egi								
4. <i>old woman</i>	baeau avesa								
5. <i>child</i>	?oeva	ara?a							
6. <i>young boy</i>	tamaru								
7. <i>husband</i>	eme								
8. <i>wife</i>	avesa								
9. <i>father</i>	abai								
10. <i>mother</i>	adei								
11. <i>older brother</i>	wuini egi								
12. <i>younger brother</i>	nabu								
13. <i>older sister</i>	wuini avesa								
14. <i>younger sister</i>	nabu								
15. <i>I</i>	ia								
16. <i>you(s)</i>	ga								
17. <i>he</i>	noa								
18. <i>we two</i>	guadai								
19. <i>you two</i>	aeadai								
20. <i>they two</i>	omadai								



English	Island	Domara	Darava	Asiaoro	Delebai	Borebo	Geagea	Ilai	Baibara
41. <i>finger</i>	ima du?uri								
42. <i>finger nail</i>	tovele								
43. <i>chest</i>	sagasaga								
44. <i>breast</i>	ama								
45. <i>belly</i>	beni								
46. <i>navel</i>	inibo			gagado		igege	igege	igege	igege
47. <i>back</i>	doe								
48. <i>buttocks</i>	boto								
49. <i>leg</i>	?au								
50. <i>thigh</i>	?obe								
51. <i>knee</i>	turuna								
52. <i>sole of foot</i>	?au saga								
53. <i>skin</i>	?opi								
54. <i>body hair</i>	limu	idi	limu?u	li?imu	limu?u		li?imu		limu?u
55. <i>blood</i>	lala								
56. <i>fat</i>	mona								
57. <i>bone</i>	kisa	iriga		tara					
58. <i>heart</i>	goigoibo								
59. <i>liver</i>	arame								
60. <i>sore</i>	amai								



English	Island	Domara	Darava	Asiaoro	Delebai	Borebo	Geagea	Ilai	Baibara
81. <i>bush</i>	lalaus								
82. <i>GARDEN</i>	madava					iapa	iapa	ibaga	
83. <i>FENCE</i>	gana					orabo	orabo	orabo	orabo
84. <i>wind</i>	ani								
85. <i>wind blows</i>	--								
86. <i>fire</i>	eu	badau							
87. <i>smoke</i>	baus								
88. <i>ashes</i>	konunu								
89. <i>path</i>	laea								
90. <i>tree</i>	ana								
91. <i>trunk</i>	gabana							gubara	
92. <i>branch</i>	dana	daga						daga	
93. <i>stump</i>	bo			tutu	tutu			gabana	
94. <i>root</i>	tai								
95. <i>bark</i>	?opi								
96. <i>tree top</i>	?u?una								
97. <i>fruit</i>	lora								
98. [( <i>kunai</i> )]	--								
99. <i>SWEET POTATO</i>	kanua								
100. <i>TARO</i>	tebele								



English	Island	Domara	Darava	Asiaoro	Delebai	Borebo	Geagea	Ilai	Baibara
121. <i>butterfly</i>	bebe								
122. <i>HOUSE</i>	uru								
123. <i>BOW</i>	kaupisiri				peva			taraki	
124. <i>ARROW</i>	keboro	peva		gara				gara	gara
125. <i>string, rope</i>	maina	oro		oraora	konau				
126. <i>NETBAG</i>	?oisa			toba	toba			toba	
127. [( <i>woman's clothes</i> )]	baroa	barowo			barowo			barowo	
128. <i>SINGSING (= song)</i> .....	madi								
129. <i>big</i>	ogoda								
130. <i>small</i>	kiwonai								
131. <i>good</i>	eboebo								
132. <i>bad</i>	oreore								
133. <i>long</i>	lauroro	taeva			aeata			aeata	
134. <i>short</i>	tupa								
135. <i>sick</i>	marai								
136. [( <i>hungry</i> )]	onu								
137. <i>red</i>	lalalala								
138. <i>white</i>	?eme?eme					kakakaka			
139. <i>black</i>	dubaduba								
140. <i>yellow</i>	kedike di			gobugobura	gobugobura				gobugobura





English	Island	Domara	Darava	Asiaoro	Delebai	Borebo	Geagea	Ilai	Baibara
161. <i>take</i>	?eva?eva								
162. <i>give me</i>	mini bilai								
163. <i>give you</i>	mini baga								
164. <i>give him</i>	mini ba								
165. <i>hit (with hand)</i>	keakea								
166. <i>break</i>	au lobo								
167. <i>fall (from standing)</i>	lopa gudu	?oi gudu	?ui gudu	?oi gudu					biugudu
168. <i>fall (from height)</i>	?oi gudu								biu gudu
169. <i>sleep</i>	?ui?ui								
170. <i>lie (on ground)</i>	?ui?ui								
171. <i>see</i>	erieri								
172. <i>hear</i>	naninani	sagunai							
173. <i>cry</i>	ini ei								
174. <i>singsing (v.)</i>	madi ei								
175. <i>cook</i>	daridari								
176. <i>blow fire</i>	eu wuwuri								
177. <i>jump</i>	peruperu							pakapaka	pakapaka
178. <i>laugh</i>	torutoru								
179. <i>be afraid</i>	taguru	dobi			dobi		dobi		
180. <i>scratch skin</i>	akoko	gagari		gagogagaro	gagogagaro			gagogagoro	gagogagoro



English	Island	Domara	Darava	Asiaoro	Delebai	Borebo	Geagea	Ilai	Baibara
201. <i>cough</i>	oko seisei								
202. <i>chop wood</i>	eu le?ale?a							eu pelepele	
203. <i>break wood</i>	ana au lobolobo								
204. [( <i>name</i> )]	omu								
205. <i>pain</i>	iaia								
206. <i>thick</i>	iduna								
207. <i>thin</i>	ariari								
208. <i>narrow</i>	?avu?avuvu	otepa		ororo				ororo	ororo
209. <i>wide</i>	bamubamu	badada							
210. <i>straight</i>	?oro?oroni								
211. <i>crooked</i>	kiokio	?io?io			gebigebi				
212. <i>ripe banana</i> .....	magari							nanau	nanau
213. <i>cooked</i> .....	daridari								
214. <i>wet</i>	nuda								
215. <i>dry</i>	wurawura								
216. <i>different</i>	enere								
217. <i>heavy</i>	urumu								
218. <i>stop</i>	aupaea								
219. <i>joke</i> ....	--								
220. <i>swell</i>	boboga								

English	Island	Domara	Darava	Asiaoro	Delebai	Borebo	Geagea	Ilai	Baibara
221. <i>enter</i>	danidani								
222. <i>go outside</i>	uleule								
223. <i>bury</i>	guri								
224. <i>make hole in ground</i> .....	--								
225. <i>sweat</i>	luma sinisini								
226. <i>swallow</i>	nodonodo								
227. <i>sew</i>	surisuri								
228. <i>pour out</i>	bobobobo	bu?ebu?e		bu?ebu?e	bu?ebu?e			sorisorori	
229. <i>cut (rope)</i>	pomupomu	?oi lobo		?oi lobo				?oi lobo	
230. <i>tie (rope)</i>	badibadi								
231. <i>draw water</i>	sorisorori								
232. <i>who</i>	auno								
233. <i>what</i>	diada	dida				dida	dida	aboua	
234. <i>where</i>	abode								
235. <i>when</i>	abo samu/dia uana de								
236. <i>later</i>	lo?oai								
237. <i>how much</i>	liva								
238. <i>on top of</i>	--								
239. <i>underneath</i>	--								
240. <i>beside</i>	--								

} stationary

English	Island	Domara	Darava	Asiaoro	Delebai	Borebo	Geagea	Ilai	Baibara
241. <i>on top of</i>	--								
242. <i>underneath</i>	--								
243. <i>beside</i>	--								
244. <i>stand up (TR)</i>	va idara								
245. <i>dig</i>	lavilavi								
246. <i>hit (stick)</i>	keakea								
247. <i>stick</i>	ana								
248. <i>burn</i>	gabugabu								
249. <i>louse</i>	tuma								
250. <i>distant</i>	adabau								
251. <i>near</i>	tebina								
252. <i>many</i>	seriada								
253. <i>this (close)</i>	eva								
254. <i>this (further)</i>	ne								
255. <i>that (distant)</i>	ada								
256. <i>here</i>	evade								
257. <i>there</i> .....	nede								
258. <i>there (distant)</i>	adade								
259. 1	?omu								
260. 2	?ava								



English	Island	Domara	Darava	Asiaoro	Delebai	Borebo	Geagea	Ilai	Baibara
281. <i>fight</i>	verua								epara
282. <i>sharp</i>	?ani								
283. <i>blunt</i>	uba								
284. <i>understand (language)</i>	vegarai				naninani			saguna i	sagunai
285. <i>kill</i>	maibau								
286. <i>tell me</i>	oseri bilai								
287. <i>tell you</i>	oseri baga								
288. <i>tell him</i>	oseri ba								
289. <i>piece of wood</i>	ana								
290. <i>float (v.)</i>	?aruai								
291. <i>water carries wood</i>	?aruai								
292. <i>not</i>	da								

## 4.2 AN ANALYSIS OF ROUTE OF ENTRY OF BASIC VOCABULARY INTO MAGI DIALECTS

In this listing the following conventions are used:

## (i) For Classification of Source Languages:

M	Mailuan Family (?from Common-Mailuan)
AN	Austronesian, unspecified
AN II	Motu, Sinaugoro, Keapara
AN III	Suau, Buhutu, Tubetube
O	Shared with Ouma only
Mag	Shared with Magori Group only

## (ii) For Magi and Neighbouring Languages:

MMo	Morawa
MMa	Mada'a
MN	Neme'a
ML	Laua
MD	Domu
MagM	Magori
MagY	Yoba
MagB	Bina
O	Ouma
G	Gadaisu
S	Savaia-Suau D

## (iii) For Previous Studies:

Dutton Dutton (1971b)

## (iv) For Other Purposes:

/ separates Island Dialect forms from other dialect forms

The listing follows:



No.	English	Forms Island/Other	Classifi- cation	Evidence
1.	<i>man</i>	egi	M	M <sub>Mo</sub> egi, M <sub>Ma</sub> , M <sub>D</sub> emegi, M <sub>N</sub> emek, M <sub>L</sub> hemeta
2.	<i>woman</i>	avesa	M	M <sub>Mo</sub> , M <sub>Ma</sub> , M <sub>N</sub> aveha, M <sub>D</sub> have, M <sub>L</sub> havet, O aveha
3.	<i>old (man)</i>	baeau (egi)	M	M <sub>Mo</sub> , M <sub>L</sub> , M <sub>agM</sub> , Y, B baeau, M <sub>Ma</sub> baea?u O bahau
4.	<i>old (woman)</i>	baeau (avesa)	M	
5.	<i>child</i>	?oeva/ara?a	?M	(in other dialects ara?a for animals) M <sub>Ma</sub> ara?a, M <sub>N</sub> era?a, M <sub>Mo</sub> mana?a
6.	<i>boy</i>	tamaru	?ANIII	S heviri, G eviri, O tau mehi
7.	<i>husband</i>	eme	M	See 1 above
8.	<i>wife</i>	avesa	M	See 2 above
9.	<i>father</i>	abai	M	M <sub>Mo</sub> aba?ai, M <sub>Ma</sub> bo?i, M <sub>N</sub> babo, M <sub>D</sub> baba, O baba, M <sub>agM</sub> abai, cf. Dutton
10.	<i>mother</i>	adei	M <sub>ag</sub>	M <sub>agM</sub> ade?i, cf. Dutton
11.	<i>elder (bro.)</i>	wuini (egi)	?	
12.	<i>younger (bro.)</i>	nabu	?	
13.	<i>elder (sis.)</i>	wuini (avesa)	?	
14.	<i>younger (sis.)</i>	nabu	?	
15.	<i>I</i>	ia	M	M <sub>Ma</sub> , N, D ia, M <sub>Mo</sub> ina, M <sub>L</sub> ya?a
16.	<i>you (s.)</i>	ga	M	M <sub>Ma</sub> , N, D ga, M <sub>L</sub> ga?a
17.	<i>he</i>	noa	M	M <sub>Ma</sub> no?a, M <sub>D</sub> noa
18.	<i>we (2)</i>	guadai	M	M <sub>Mo</sub> guahauna, M <sub>Ma</sub> guahaura, M <sub>N</sub> gua, M <sub>D</sub> gua?auna, M <sub>L</sub> nuyahae
19.	<i>you (2)</i>	aedai	M	M <sub>Mo</sub> yahauna, M <sub>Ma</sub> , N yahaura, M <sub>D</sub> ia?auna, M <sub>L</sub> nuyahae
20.	<i>they (2)</i>	omadai	M	M <sub>Ma</sub> eme?e haura, M <sub>N</sub> emo?o haura, M <sub>D</sub> emua
21.	<i>we</i>	gea	M	M <sub>Mo</sub> , M <sub>L</sub> gea, M <sub>Ma</sub> , D ge, M <sub>N</sub> gewa
22.	<i>you (pl.)</i>	aea	M	M <sub>Mo</sub> ya emegi, M <sub>Ma</sub> , D ya, M <sub>L</sub> ga?a
23.	<i>they</i>	omoa	M	M <sub>Ma</sub> eme?e, M <sub>N</sub> , D emena
24.	<i>all</i>	wuwuru	?M	M <sub>L</sub> huhuru, M <sub>D</sub> behuo?o, M <sub>agY</sub> wuwuru
25.	<i>head</i>	moru	?ANIII	S ?uru, G kuru, M <sub>agB</sub> kulumi, M <sub>agY</sub> , M uru, cf. Dutton
	N.B. M <sub>agi</sub> ?uru = <i>hair</i> - see 26.			O moru
		/ioro, ilolo	M	M <sub>Mo</sub> ton, M <sub>Ma</sub> sol, M <sub>N</sub> hal
26.	<i>hair</i>	?uru	ANIII	See 25 above. O moru, S ?uru, G kuru, M <sub>agB</sub> kulumi, M <sub>agY</sub> , M uru, cf. Dutton
		/limu?u, li?imu	AN	M <sub>agM</sub> rimu, M <sub>agY</sub> lamuna, M <sub>agB</sub> laona cf. Dutton
27.	<i>forehead</i>	?owara	?	
28.	<i>eye</i>	ini	M	M <sub>L</sub> ini, M <sub>Mo</sub> , D nigiba, M <sub>Ma</sub> in, M <sub>N</sub> ni, M <sub>agM</sub> ini, cf. Dutton

No.	English	Forms Island/Other	Classifi- cation	Evidence
29.	<i>nose</i>	durumu	M	MMo,MD dunum, MMA durum, MN dirim
30.	<i>ear</i>	ʔope	M	MMo,Ma,N,D,L ʔope, MagM epe, cf. Dutton
31.	<i>tooth</i>	maʔa	ʔM	MMo,Ma,N,D,L maʔa. N.B. ANIII, Mag, O (see Dutton)
32.	<i>tongue</i>	goba	M	MMo,N,L goba, MagY,M (Dutton)
33.	<i>jaw</i>	arena	M	ML arena, MMo dabena, MMA are
34.	<i>throat</i>	unari	M	MMo,Ma,N oran
35.	<i>nape</i>	geduna/ outa	ʔAN ?	ML geduna, S, MagY,M gedu (Dutton) N.B. in MagI dialects outa geduna are almost synonymous - outa = <i>occiput</i>
36.	<i>mouth</i>	noga	ʔM	ML noha, MD nogafoi (Dutton)
37.	<i>shoulder</i>	gabi	M	MMo,Ma,D,L gabi, MN gap
38.	<i>arm</i>	ima	AN	MMA,O, MagY,M,G ima, S nima, MagB niman (Dutton)
39.	<i>elbow</i>	igusu/ʔeʔuta, gegeto	M	MMA iguhu, MD giboʔa, MagB igutum, MagY igu, MagM igusu (Dutton)
40.	<i>palm</i>	(ima) saga	ʔM	MMo,Ma,L,O, MagB,Y,M saga, MN,D haga (Dutton)
41.	<i>finger</i>	(ima) duʔuri	?	
42.	<i>nail</i>	(ima) tovele	M	MagI moon - dovele, see 64.
43.	<i>chest</i>	sagasaga/ lari	ʔM ?	MMo,L, MagY,B,M saga (Dutton)
44.	<i>breast</i>	ama	M	MMo,Ma,D ama, MN yama, ML hama
45.	<i>belly</i>	beni	?	MagY,M beni, MMo beneʔe (Dutton)
46.	<i>navel</i>	inibo/ igege, gagado	M ?	MMo,Ma,D,L,O, MagM iribu, MN irip (Dutton)
47.	<i>back</i>	doe	ʔM	MagB,Y dere, MagM daga, O dage N.B. MMo,N du, MMA dadu, ML degera (Dutton)
48.	<i>buttocks</i>	boto	AN	MagM,ML boto (Dutton)
49.	<i>leg</i>	ʔau	M	MMo,Ma,N ʔau, ML ʔamo
50.	<i>thigh</i>	ʔobe	M	MMo,Ma,L obe or ʔobe, MD wabe, MagM,O gobe (Dutton)
51.	<i>knee</i>	turuna	AN	S turi, ML turuna, MagB,Y turu (Dutton)
52.	<i>sole</i>	(ʔau) saga	ʔM	See 40.
53.	<i>skin</i>	ʔopi	ʔM	MMA,N,D, MagM,O,S ʔopi (Dutton)
54.	<i>body hair</i>	limu/liʔimu, limuʔu idi	ʔAN M	See 26.
55.	<i>blood</i>	lala	ʔM	MMA,L,O, MagM lala, MMo nana, MN yana, MD yara (Dutton)

No.	English	Forms Island/Other	Classifi- cation	Evidence
56.	<i>fat</i>	mona	?M	M <sup>Ma</sup> ,D,L,O,Mag <sup>M</sup> mona, etc. (Dutton)
57.	<i>bone</i>	kisa/ tara iriga	M ?O ANII	M <sup>Mo</sup> kisa, M <sup>Ma</sup> ,N,L gisa, MD giha O tuana?a Mag <sup>M</sup> tiria (Dutton)
58.	<i>heart</i>	goigoibo	Mag	G,Mag <sup>Y</sup> ,ML goigoibo, ?Mag <sup>M</sup> (Dutton)
59.	<i>liver</i>	arame	Mag	O,Mag <sup>M</sup> areme (Dutton)
60.	<i>sore</i>	amai	M	MD amai, M <sup>Ma</sup> ama?i, M <sup>Mo</sup> marai, ML omata
61.	<i>dream</i>	nivi	?M	M <sup>Mo</sup> ,M <sup>a</sup> ,N,Mag <sup>M</sup> ,B nivi, ML nihi (Dutton)
62.	-	-	-	
63.	<i>sun</i>	nina	?M	Mag <sup>M</sup> nina, M <sup>Mo</sup> ,M <sup>a</sup> ,D lina (Dutton)
64.	<i>moon</i>	dovele	M	M <sup>Ma</sup> ,L,Mag <sup>B</sup> ,Y,M,O dovele, M <sup>Mo</sup> devene (Dutton)
65.	<i>star</i>	visiu/ ligoni	ANII M	M <sup>Mo</sup> hisiu, Mag <sup>M</sup> vitiriu (Dutton) MD ligon, ML nigoru, M <sup>Ma</sup> nigol, O ligoru
66.	<i>sky</i>	nogara	M	Mag <sup>B</sup> ,Y,ML nogora, MN ( <i>cloud</i> ) goura, Mag <sup>M</sup> ( <i>cloud</i> ) nogara (Dutton)
67.	<i>cloud</i>	au	?	
68.	<i>fog</i>	goai/ au	?AN ?	Mag <sup>M</sup> ,O goai (Dutton) See 67.
69.	<i>rain</i>	guba/ bai lo	?M Mag	M <sup>Mo</sup> ,D guba (Ref. 66 Dutton) Mag <sup>B</sup> ,Y,M bailo (Dutton)
70.	<i>night</i>	garu	M	M <sup>Ma</sup> gal, MN gan, MD ganu, ML garuru, Mag <sup>M</sup> garu (Dutton)
71.	<i>day</i>	samu	?M	M <sup>Ma</sup> ,N ham, Mag <sup>Y</sup> ,O,G toma, M <sup>Ma</sup> , Mo N ( <i>morning</i> ) touma, see 72, ML ( <i>morning</i> ) houma
72.	<i>morning</i>	biga	?	Mag <sup>B</sup> biga (also <i>day</i> 71) MD buga ( <i>day</i> )
73.	<i>evening</i>	lavi	?M	M <sup>Mo</sup> navinana, MD naine, O lailai, Mag <sup>B</sup> ,Y,M lalavi, S maimailahi
74.	<i>water</i>	?a?ama	M	M <sup>Ma</sup> ,O ?a?ama, M <sup>Mo</sup> la?ama, M,N,D ya?a, ML ne?ama
75.	<i>river</i>	bomu/ guina ?a?ama oria	? M M ?	Mag <sup>B</sup> bomu M <sup>Mo</sup> ,D guina M <sup>Ma</sup> ?a?ama, MN ya?a, ML ne?ama, see 74. In most Magi dialects this means <i>small stream</i>
77.	<i>ground</i>	?arima/ gidagida	?AN Mag	Mag <sup>M</sup> arima (Dutton) In most Magi dialects this means <i>mud</i> . Mag <sup>B</sup> ,Y gidagida

No.	English	Forms Island/Other	Classifi- cation	Evidence
78.	<i>stone</i>	gomana/ korau	?M ?M	MD goma, MMA,N,L,O бага MMo korau
79.	<i>sand</i>	?one/ sarina	?M ?M	MMo,D ?one, MagY kone (Dutton) In most Magi dialects this means <i>beach</i> . See 107.
		?ane?a	?	ML ane?a
80.	<i>mountain</i>	oro	?M	MagM oro, O orohu, ML horo MMo ono, MD ?ono, MMA,N ?ora?ara, S oiatupi, G wuroi, MagB oloi, MagY worei (Dutton)
81.	<i>bush</i>	lalaus	?	
82.	<i>GARDEN</i>	madava/ iapa	? ?	MagM mado (Dutton) In other Magi dialects - <i>poison</i> , <i>?medicine</i>
		ibaga	?	MD digaba, MagY eba?a
83.	<i>FENCE</i>	gana/ orabo	ANIII M	S ganagana, G, MagM, O gana MMo, N varaba, MMA oraba
84.	<i>wind</i>	ani	?	difficulty in getting a general word for <i>wind</i> - each direction a different name
85.	-	-	-	
86.	<i>fire</i>	eu/	?M	MMo eu?ai, MMA ?eu, MN geu, MD you, ML heu, MagM evi (Dutton)
		badau	?AN	? [from bausu <i>smoke</i> , 87.]
87.	<i>smoke</i>	baus	?AN	ML bausu, MagM bautu (Dutton)
88.	<i>ashes</i>	konunu	?	Difficulty in distinguishing <i>ashes</i> , <i>embers</i> , <i>charcoal</i> , etc. (veve, kau, guruma, etc.)
89.	<i>path</i>	laea	?M	MMo lala, MMA lae, MN lega, MD laea, MagY, O lodi, ML vagorodi, MagM rae, MagB lau'o (Dutton)
90.	<i>tree</i>	ana	M	MMo, Ma, N, D ana, ML hana
91.	<i>trunk</i>	gabana/ gubara	} ?M	MMo, Ma, N, D gabana, O gagarana, MagB pakana, G gabagabani, S pa?ana
92.	<i>branch</i>	dana/ daga	} ?AN	ML daga, O dagana, MagY dadana, MagB da?a, G lagani, S lagana (Dutton), MagM iregarega
93.	<i>stump</i>	bo/ tutu gabana	? ?AN ?M	Word also means <i>basis</i> , <i>reason</i> , <i>start</i> , etc. MagM, G tutuna (Dutton) See 91.
94.	<i>root</i>	tai	?M	ML tai, MMo nagasae, MN nagahae, O tetena, MagB, Y taetaena, G tuituina
95.	<i>bark</i>	?opi	?M	see 53.

No.	English	Forms Island/Other	Classifi- cation	Evidence
96.	<i>tree top</i>	ʔuʔuna	M	MMo duna, MMA duʔuna
97.	<i>fruit</i>	lora	?	
98.	-	-	-	
99.	<i>SWEET POTATO</i>	kanua	?	S,G,MagY,M,O,ML kanua
100.	<i>TARO</i>	tebele	?	
101.	<i>YAM</i>	obili	M	ML obiri, MMo,D wabin, MMA,N wabil, O wabiri
102.	<i>BANANA</i>	lavasa/ kiaʔi	M ?ANIII	MMo navaha, MMA lavaha MagY kiae, MagB piaʔi, G kisai, S asai
103.	<i>SUGARCANE</i>	ʔou	M	MMo,Ma,D,L ʔou, MN wou
104.	-	-	-	
105.	<i>BETEL NUT</i>	ueni	M	MMA,N,D,Mo waʔe
106.	-	-	-	
107.	<i>salt</i>	sari/ ʔiʔiga	?M ?	MMo,D,MagM sari, G karita, S arita
108.	<i>dog</i>	waʔai	?M	MMo,N waʔai, MD waʔi, MagM oʔoi, MagY okoi, MagB koivo, G oewa (Dutton)
109.	<i>PIG</i>	[dari]	?M	MMA daʔal, ML,O dahari
		boraʔa/	?M	MMA boraʔa, MMo,D bono, MN boro, O bura (Dutton)
		talae natu	ANIII ?	S,G talae This is a child's word for <i>pig</i> in Island dialect - but is dignified in Domara
110.	<i>tail (dog)</i>	batuna/ doru	M AN	MMo,Ma bahuna, MD baruma, O bauhuna MagM,G doru (Dutton)
111.	<i>fur</i>	limu/limuʔu idi	AN M }	See 26 and 54
				[ N.B. In Island dialect limuʔu is <i>one hair of head</i> limu is <i>one body hair</i> liʔimu is not used ]
112.	<i>bird</i>	manu	AN	ML,MagB,Y,G,S manu
				[ N.B. Mailuan word is adau, used by all M.F. except Laua and MagI, also used by Magori. Manu all dialects of Magi. ]
113.	<i>feather</i>	papa/	?AN	O papena, MagB ( <i>for wing</i> ) pupana, MD ( <i>for wing</i> ) pepe
		limuʔu	AN	See 26,54 and 111.
		aena	?M	usually means <i>wing</i> , see 115.
114.	<i>egg</i>	mururuʔu	?M	MMo unimi, MMA urimu, MD urim, O muʔuna
115.	<i>wing</i>	aena/	?M	MMo nevonaʔa
		papa	?AN	MagB pupana, MD pepe (Dutton), O ( <i>for feather</i> , see 113.) pepena

No.	English	Forms Island/Other	Classifi- cation	Evidence
116.	CASSOWARY	guia/ kokokoko	M ANII	M <sub>Mo</sub> ,N,D guiae, M <sub>Ma</sub> guia?e, ML, Mag <sub>Y</sub> guiaha, O guiahu, Mag <sub>M</sub> guiaga from Motu Mag <sub>B</sub> kokoko
117.	snake	mio	M	ML,O mlo, M <sub>Mo</sub> mio?o, M <sub>Ma</sub> ,N me?ei
118.	fish	?orebe	M	M <sub>Mo</sub> ,Ma ?orebe, MN warebe, ML ?orabe, MD ?oneba, O orabe, Mag <sub>M</sub> orebe, Mag <sub>B</sub> onebe, Mag <sub>Y</sub> korobe
119.	fly	namaga/nagama	AN	Mag <sub>M</sub> ,ML nagama, S nabugara, G nawanawa, Mag <sub>B</sub> kogama, Mag <sub>Y</sub> gogoma
120.	mosquito	nemo	?M	M <sub>Mo</sub> ,D,L,Mag <sub>B</sub> ,Y,M,O,G nemo
121.	butterfly	bebe	?M	ML,Mag <sub>Y</sub> ,M,O,G,S bebe, Mag <sub>B</sub> ,M <sub>Mo</sub> orapepe
122.	HOUSE	uru	?M	M <sub>Mo</sub> ,Mag <sub>B</sub> wun, M <sub>Ma</sub> ul, ML uru, O, S,Mag <sub>M</sub> numa, Mag <sub>Y</sub> ,G ruma
123.	BOW	kaupisiri/ peva	?O ANII	O kaupisiri from Motu. M <sub>Mo</sub> ,Ma,N,D,L,Mag <sub>B</sub> ,Y peva
		taraki	?	
124.	ARROW	keboro/ gara peva	Mag ?M ANII	Mag <sub>Y</sub> ,G,ML kebolo <i>spear</i> in most dialects see 123.
125.	string, rope	maina/ konau oro oraora	?M ? ? ?	M <sub>Ma</sub> ,O tai, MN hai, M <sub>Mo</sub> ,D,Mag <sub>B</sub> naga, S,G,Mag <sub>Y</sub> maina  In most dialects <i>rope</i> v <i>maina</i> ( <i>string</i> )
126.	NETBAG	?oisa/ toba	M ?M	MD, L,O,Mag <sub>Y</sub> ,G oisa, M <sub>Mo</sub> ,Ma,Mag <sub>B</sub> bo?ea, MN waesa  Mag <sub>M</sub> toba. In most Mag <sub>1</sub> dialects is <i>pandanus shoulder bag</i> , v ?oisa ( <i>netbag</i> )
127.	grass skirt	baroa/borowo	M	ML,O baroa, Mag <sub>M</sub> barowo, M <sub>Ma</sub> baro?o, M <sub>Mo</sub> ,Mag <sub>B</sub> bora
128.	song	madi	M	MD madi, M <sub>Ma</sub> madava
129.	big	ogoda	M	M <sub>Ma</sub> ,N,D,L wago, M <sub>Mo</sub> wageda
130.	small	kiwonai	?	
131.	good	eboebo	?	
132.	bad	oreore	M	M <sub>Ma</sub> ,N ware, M <sub>Mo</sub> wane, Mag <sub>B</sub> oreore
133.	long	lauroro/ taeva aeata	M ?M ?M	M <sub>Mo</sub> lau, M <sub>Ma</sub> laku MN aea, O mae usually means <i>tall</i>
134.	short	tupa	M	M <sub>Mo</sub> lapu, M <sub>Ma</sub> sopa?a, MN sip
135.	sick	marai	?O	O marahi, ML marahae, Mag <sub>B</sub> marai, M <sub>Mo</sub> (for <i>sore</i> ) marai

No.	English	Forms Island/Other	Classifi- cation	Evidence
136.	<i>hungry</i>	onu	?O	O honi (Dutton)
137.	<i>red</i>	lalalala	ANII	Motu kakakaka, etc. See <i>blood</i> 55.
138.	<i>white</i>	?eme?eme/ kakakaka	? ?AN	from Motu. See 137.
139.	<i>black</i>	dubaduba	M	M <sup>Mo</sup> duba, M <sup>Ma</sup> , D, M <sup>ag</sup> B, Y, M, G, S dubaduba (Dutton)
140.	<i>yellow</i>	kedikedi/ gobugobura	? M	M <sup>Ma</sup> , L, O, M <sup>ag</sup> Y, M gobugoburu, M <sup>Mo</sup> , D gobugobuna
141.	<i>green</i>	gabagabani/ korakorara dubaduba	M ? M	MD gabagabani, M <sup>Mo</sup> gabagaban See 139.
142.	<i>hot</i>	odaoda/ vavana	Mag M	ML hodahoda, M <sup>ag</sup> B, Y, M wodawoda M <sup>Mo</sup> , M <sup>a</sup> , N wawana, O vovona
143.	<i>cold</i>	nagura/ meme?a	M ?	M <sup>Ma</sup> , L, M <sup>ag</sup> Y nagura M <sup>ag</sup> M memea
144.	<i>blind</i>	(ini) garugaru/ (ini) bubu	?O ?M	O (mahama) garu [garugaru = <i>dark</i> ] ML ini bubu, M <sup>ag</sup> Y mataibubu
145.	<i>deaf</i>	?ope kuku	M	M <sup>Mo</sup> ?ope ?u?u, MN ?ope kuku, MD koko
146.	<i>full</i>	goubu?ebu?e ?apu	? M	M <sup>Mo</sup> apunawona, M <sup>Ma</sup> epurona, MN epu, MD afuian, ML ma?apulahan [?apu = goubu?ebu?e in most dialects of M <sup>ag</sup> 1 although ?apu has wider use = <i>completion</i> ]
147.	<i>(come) quickly</i>	(ai) ineinea	?	[N.B. ai veuveula, used about equally with ai ineinea in most dialects M <sup>ag</sup> . M, Y, B, O]
148.	<i>old (house)</i>	boae (uru)	?O	O boae (numa), ML bohae (huru)
149.	<i>new (house)</i>	gadara (uru)	Mag	M <sup>ag</sup> Y, M, O, ML gadara
150.	<i>rotten (house)</i>	oreore (uru)	M	See oreore 132.
151.	<i>right (hand)</i>	?iata (ima)/ ?i?ata	?	
152.	<i>left (hand)</i>	?ebe (ima)	M	M <sup>Ma</sup> , N, D eban, ML hebe, O ebe, M <sup>ag</sup> M ebeu, M <sup>ag</sup> B, Y kebe
153.	<i>eat</i>	isiisi/?i?a	M	M <sup>Mo</sup> isi, M <sup>Ma</sup> ?isi?isi, MD hihi, ML hihilma?a
154.	<i>drink</i>	isiisi/ dorodoro	M ?	see 153. [in most dialects means <i>sip</i> ]
155.	<i>stand up</i>	idara/laida	M	M <sup>Mo</sup> idana?i, M <sup>Ma</sup> idara?a, MN he?edai, O laveila
156.	<i>sit down</i>	auri gudu	M	M <sup>Mo</sup> LauM gaduhu, M <sup>Ma</sup> au gudu, MN yaul, MD yauni, ML auri guduriba?a

No.	English	Forms Island/Other	Classifi- cation	Evidence
157.	<i>speak</i>	osiosi	?	
158.	<i>call out</i>	kotukotu	?	
159.	<i>run</i>	iouiou	?	
160.	<i>walk</i>	baebae	?M	MD bae
161.	<i>take</i>	?eva?eva	M	MMo evahion, MMA evahi, ML ?ealbau, O ovoovo, MagM eve (Dutton)
162.	<i>give me</i>	mini bilai	?M	MMA minlau, MN minen, MD minena, MagM minegu (Dutton)
163.	<i>give you</i>	mini baga	?M	See 162.
164.	<i>give him</i>	mini ba	?M	See 162.
165.	<i>hit</i>	keakea	?	
166.	<i>break</i>	au lobo	M	MMo nobuhi, MMA lobohi, MN rabohi, O lobolobo, MagY kaurobo, MagM daerobo (Dutton)
167.	<i>fall</i>	lopa (gudu)/ ?oi biu ?ui	? ? Mag M	MagM (Dutton) ?O hui (huru) See 169. ?O hui (huru)
168.	<i>fall</i>	?oi (gudu)/ biu	? Mag	See 167.
169.	<i>sleep</i>	?ui?ui	M	MMo, Ma uhi, MN ?u?i, O buibui, MagM (Dutton)
170.	<i>lie</i>	?ui?ui	M	See 169.
171.	<i>see</i>	erieri	M	MMA elana, MN gel, MD eni, ML helbau
172.	<i>hear</i>	naninani/ sagunai	M ?O	MMo, Ma, N nan, MD nani, ML nanba?a O tagani [sagunai is synonymous for naninani in most dialects]
173.	<i>cry</i>	ini ei	M	MMo in nenu, MMA in, MD ini, ML ini heigotan
174.	<i>sing</i>	madi ei	M	See 128.
175.	<i>cook</i>	daridari	?M	MMo dan, MMA, N darihi, O dani, MagY, M dari (Dutton)
176.	<i>blow (fire)</i>	(eu) wuwuri	?M	MMo hururu, MMA ful, MN pul, MD fune, ML puhodbau, MagB ?u?ugulia, MagY karo noguribae, MagM vuvuri, O puseri, G tuguri, S uiuhi (Dutton)
177.	<i>jump</i>	peruperu/ pakapaka	M ?	M, D, L, MagM, O peru, MagY moperugebae (Dutton)
178.	<i>laugh</i>	torutoru	?	
179.	<i>be afraid</i>	taguru/ dobi	?O M	O taguru MMA, D dobi, MMo debi, MN dep



No.	English	Forms Island/Other	Classifi- cation	Evidence
180.	<i>scratch (skin)</i>	akoko/ gaguri, gagogagoro	?M AN	MMa korihi, MN kwarihi MagB,Y gamuli, MagM gagora, S gaheri (Dutton)
181.	<i>throw</i>	odaoda/ oviovi	?M ?	MMo deon, MN budil, MD ho, O dogo, MagM dogoi [In most dialects odaoda is to <i>throw overarm</i> , oviovi to <i>toss under- arm</i> ]
182.	<i>swim</i>	lolololo	M	from sea lo. MMo oronohi, MD lo'ono'i, ML lololiba'a, O lolololo, MagB,Y,M lolo (Dutton)
183.	<i>wash</i>	(?a'ama) opuopu	Mag	MagB u'epu, MagY mo'epubae, MagM kebu, O opu [N.B. Darava word sometimes used for <i>water</i> , <i>pond</i> ?o'opu]
184.	<i>look for</i>	baeai/ eri avini, eri goni	?M M	from baebae + ai = <i>walk for a purpose</i> , see 160. from erieri to <i>see</i> . See 171. avini = <i>all about</i> , goni = <i>direction away</i>
185.	<i>smell</i>	mudumudu naninani	?M M	MD modo In most dialects = <i>to hear</i> , see 172.
186.	-	-	-	-
187.	<i>go</i>	onioni	M	MMa on, MN oan, MD wani, ML honiba'a
188.	<i>come</i>	aiai	?M	MMo maion, MMA,N,D ai, ML hai gelulbau, O hamu, MagM eama, etc. (Dutton)
189.	<i>go up</i>	mudamuda	?M	MMo morae, MMA,N,D modae
190.	<i>go down</i>	gudugudu	M	ML gudurigena'a [MMA for <i>sit down</i> au gudu, see 156, MMA for <i>fall down</i> isal gudu, see 167-8.]
191.	<i>turn</i>	girigiriai/ ebelesi	?AN ?M	MN ugere, O veilagiriai, MagY baegiriai, Motu giroa MMA ubele, ML soveleleba'a, MagM ebe'ebere (Dutton)
192.	<i>put (down)</i>	odiodi	M	MMo, Ma, D odi, MN ot
193.	<i>hold</i>	ausari/ ?eva?eva	M M	MMo asamai, MMA haumai, MN hauma'ai, MD masa'ani, O sariau, MagM abitari (Dutton) See 161.
194.	<i>carry on shoulder</i>	gabigabi	?M	MMo, Ma, N gabihii, ML, O, MagM gabi (Dutton)
195.	<i>push</i>	bibibibi	M	MMa bibi, MD bibi, ML bibilba'a, O bibibae, MagM bibi, MagY ubibi, MagB bibidaba (Dutton)
196.	<i>pull</i>	deudeu	M	MMa, Mo deuhi, MagB, Y, M, O deu
197.	<i>flies (bird)</i>	levolevo	?M	MMo nenevo, MMA lewohi, MagM irevo, G lepolepo, S loi (Dutton)

No.	English	Forms Island/Other	Classifi- cation	Evidence
198.	<i>shoot</i>	pisipisi/  luta	?  ANIII	M <sub>Mo</sub> pidihion, M <sub>L</sub> pidia, O sapisi, M <sub>agM</sub> piti, M <sub>agY</sub> pidin, M <sub>agB</sub> yaparia (Dutton)  G luta, S lusai
199.	<i>bite</i>	?apu?apu	?M	M <sub>Mo</sub> apuoana, M <sub>Ma</sub> ,N apuhi, M <sub>D</sub> afu, M <sub>L</sub> ,O,M <sub>agM</sub> apu (Dutton)
200.	<i>vomit</i>	gobi (ariari)	M	M <sub>Mo</sub> ,M <sub>a</sub> ,D,L,O,M <sub>agM</sub> gobi, M <sub>N</sub> gop, (Dutton), M <sub>agY</sub> ugobi
201.	<i>cough</i>	oko (seisei)	M	M <sub>Ma</sub> ,D,O oro, M <sub>N</sub> ero, M <sub>L</sub> horo, M <sub>agB</sub> ,M oko, M <sub>agY</sub> ko?o, G koto, S oso (Dutton)
202.	<i>chop (wood)</i>	(eu) le?ale?a/ pelepele	?O ?M	O lea [In MagI dialects many words almost synonymous for <i>cut</i> , <i>split</i> , <i>chop</i> , <i>saw</i> , etc. - ?oi?oi, le?ale?a, ta?ata?a, lololobo, pelepele depending on instrument, object, result]
203.	<i>break (wood)</i>	(ana) va lololobo (ana) au lololobo	M	See 202, 166.
204.	<i>name</i>	omu	M	M <sub>Mo</sub> yin, M <sub>Ma</sub> ,N im, M <sub>D</sub> imu, M <sub>L</sub> nim
205.	<i>pain</i>	iaia	?	
206.	<i>thick</i>	iduna	?O	O iduna
207.	<i>thin</i>	ariari	?	
208.	<i>narrow</i>	?avu?avuvu/ ororo, otepa	? ??	
209.	<i>wide</i>	bamubamu/ badada	?M M	M <sub>Ma</sub> bam, O bamubamu M <sub>Mo</sub> ,D badada [In island (+? other) dialects <i>babada</i> = bamubamu]
210.	<i>straight</i>	?oro?oroni	?M	M <sub>Ma</sub> ?ora?oran, O ?oro?oroni, M <sub>agM</sub> vonini (Dutton)
211.	<i>crooked</i>	kiokio/?io?io  gebigebi	?M  ?	M <sub>Mo</sub> ?io?io, M <sub>agB</sub> kewokewo, M <sub>agY</sub> kiokio, O kiokioai  ?M <sub>agM</sub> benebenene, M <sub>L</sub> benibenene, M <sub>Ma</sub> benenebanene, M <sub>D</sub> enoeno, ?S,G gevageva
212.	<i>ripe</i>	magari/  nanau	?M  ANIII	M <sub>Ma</sub> ,O,M <sub>agM</sub> magari, M <sub>Mo</sub> mogan, M <sub>N</sub> magal, M <sub>D</sub> magari (Dutton)  S nana, G nana?u, M <sub>agB</sub> auou
213.	<i>cooked</i>	daridari	?M	See 175.
214.	<i>wet</i>	nuda	?ANIII	M <sub>L</sub> nudal, O,M <sub>agY</sub> nuda, M <sub>agM</sub> inuda, G,S buta (Dutton)
215.	<i>dry</i>	wurawura	?O	O,M <sub>agB</sub> ,M wurawura (Dutton)
216.	<i>different</i>	enere	?M	M <sub>Mo</sub> ena?ari, M <sub>Ma</sub> ?ene?ele
217.	<i>heavy</i>	urumu	?M	M <sub>Mo</sub> unun, M <sub>Ma</sub> urum, M <sub>D</sub> unumu, M <sub>L</sub> hurum

No.	English	Forms Island/Other	Classifi- cation	Evidence
218.	<i>stop</i>	aupaea	?	
219.	-	-	-	
220.	<i>swell</i>	boboga	Mag	ML, MagY, M boboga
221.	<i>enter</i>	danidani	M	MMo, Ma dan, MN garihi, O dani
222.	<i>go outside</i>	uleule	?M	MMA urehi
223.	<i>bury</i>	guriguri	M	MMo dagun, MMA, N dagul, MD guni, O guriguri, MagM oguri (Dutton)
224.	-	-	-	
225.	<i>sweat</i>	luma	?M	MMo, MagB ruma, ML hurum, O hara
226.	<i>swallow</i>	nodonodo	?M	MMA dono?odi, ML donoriba?a, ?MagM unu, MagY nodo, MagB unodowa, G unodo (Dutton)
227.	<i>sew</i>	surisuri	?ANII	MagM turi, MagY uturi, MagB turia, Motu turi, (Dutton), MMo sunhin, ML turilba?a
228.	<i>pour</i>	bobobobo/ bu?ebu?e sorisori	M ?M ?M	MMa, D bobohi, ML gebolba?a, MagY ginibobo, MagM bobo ?from goubu?ebu?e - <i>full</i> , see 146. See 231.
229.	<i>cut (rope)</i>	pomupomu/ ?oi lobo	?ANIII M	MD pomu, MagM pomu, C utomo, S utom (Dutton) See 202, 203.
230.	<i>tie (rope)</i>	badibadi	M	MMo badin, MMA, N badihi, MagY, G upani, MagB bania
231.	<i>draw water</i>	sorisori	M	MN hol, ML tolba?a
232.	<i>who</i>	au	M	MMo ga?ou, MMA, N ?a?o, MD ?abu?a
233.	<i>what</i>	diada dida, aboua	M ?M	MMo meda, MMA mada?a, MD nemed
234.	<i>where</i>	abode	M	MMo, Ma, N abode, MD abona, ML abon
235.	<i>when</i>	dia unade, abo samude	M	MMo, Ma, N, L aboham, MD abaham, O aboho
236.	<i>later</i>	lo?oai	?	
237.	<i>how much</i>	liva	AN	MMo liva, MMA, O livaha, MagM uika, S hisa, G uriba
238-43.	-	-	-	
244.	<i>stand up</i>	va ida	M	MMo idai, MMA va idae, MN va edai, MD idai
245.	<i>dig</i>	lavilavi	M	MMA lavihi, ML lavilba?a
246.	<i>hit (stick)</i>	keakea	?	See 165.
247.	<i>stick</i>	ana	M	See 90.
248.	<i>burn</i>	gabugabu	?AN	MagM gabu, MagB gabua, G ugabu, Motu gabu (Dutton, 1971)
249.	<i>louse</i>	tuma	?M	MMo, Ma, N, D, L, O, G, S, MagB, Y, M tuma
250.	<i>distant</i>	adabau	?M	ada = <i>thing</i> ; bau = <i>very</i> (MagI)

No.	English	Forms Island/Other	Classifi- cation	Evidence
251.	<i>near</i>	tebina	?M	S dede?ana, Mag <sup>M</sup> tebinana, O tebina, M <sup>Mo</sup> sebina, MN hepde, MD hebide
252.	<i>many</i>	seriada	Mag	Mag <sup>Y</sup> , M, O seriada
253.	<i>this (close)</i>	eva	M	M <sup>Mo</sup> evanoa, M <sup>Ma</sup> evana?a, MN evade, MD eva, ML ealbau
254.	<i>this (further)</i>	ne	M	M <sup>Ma</sup> nona?a, ML non
255.	<i>that (distant)</i>	ada	M	M <sup>Mo</sup> alavemi, M <sup>Ma</sup> adana?a, MN adade, MD ada, ML adan
256.	<i>here (close)</i>	evano	M	M <sup>Mo</sup> evanoa, M <sup>Ma</sup> evana?a, MN evade, MD eva, ML evade
257.	<i>there (close)</i>	nen	M	M <sup>Ma</sup> wafanena, ML nede
258.	<i>there (distant)</i>	adano	M	M <sup>Ma</sup> ada?aurade, MN, D, L adade
259.	<i>one</i>	?omu	M	M <sup>Mo</sup> obomia, M <sup>Ma</sup> mi, MN mik, MD miau
260.	<i>two</i>	?ava	?	
261.	<i>three</i>	aiseri	M	M <sup>Mo</sup> , D aisen, Mag <sup>B</sup> , Y, M aiseri
262.	<i>four</i>	tourai	?	
263.	<i>five</i>	ima(?omu)	AN	Mag <sup>B</sup> , Y, M, Motu, etc. ima
264-78.	-	-	-	
279.	<i>and</i>	ele	M	M <sup>Ma</sup> ele, MN noeraau
280.	<i>together with</i>	eo	?	
281.	<i>fight</i>	verua/ epara	M ?	M <sup>Mo</sup> , M <sup>a</sup> , N, D ve?a
282.	<i>sharp</i>	?ani	M	M <sup>Ma</sup> , N, O ?ani
283.	<i>blunt</i>	uba	M	MD kubokuwo, O uba
284.	<i>understand</i>	vegarai/ naninani sagunai	? M ?O	 See 172. See 172.
285.	<i>kill</i>	maibau	M	M <sup>Mo</sup> maia, M <sup>Ma</sup> , D maiau
286-88.	-	-	-	
289.	<i>piece of wood</i>	ana	M	See 90, 247.
290.	<i>float</i>	?aruai	?	
291.	<i>water carries wood</i>	?aruai	?	
292.	<i>not</i>	da	M	M <sup>Mo</sup> , N da, ML dau, O dauna

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## ALAMBLAK ALVEOPALATALS - DEAD PORTMANTEAUS

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### 0. INTRODUCTION

Alamblak<sup>1</sup> alveopalatals are neither clearly contrasting with nor in clear complementation with their corresponding alveolar stops or nasals. Because of this the alveopalatals are a special feature to consider in Alamblak phonology. Historical change related to alveopalatals is evident by comparing the phonologies of the Sepik Hill languages.<sup>2</sup> While some comparative data is included in this study, a thorough comparative study of the Sepik Hill Family would no doubt facilitate a clearer historical perspective of Alamblak alveopalatals. The analysis supporting the conclusion that Alamblak alveopalatals<sup>3</sup> contrast with their alveolar counterparts is presented in this study.

Initial examination of Alamblak phonology suggests that contiguous to alveopalatals the high front close vowel /i/ has an allophonic variant [ɨ]. On the one hand this concise allophonic statement appears to adequately describe the data. There are, however, several serious objections to such a statement and these will be discussed in the conclusion of this paper.

The premise of this paper is that historically a phonemically distinct \*ɨ fused with alveolars resulting in a phonemic alveopalatal series coupled with a neutralization of the close-open contrast of the high front vowels. Thus [i] and [ɨ] are allophones of a single phoneme and alveopalatals are full phonemes. Describing the alveopalatals as originating from the fusion of alveolars with a high front open vocoid explains irregularities with less difficulty than appears possible with other descriptive statements.

## 1. ALVEOLAR /t/ AND ALVEOPALATAL /s/

The following pairs of words illustrate contrast between /t/ and /s/ in minimal and analogous environments.

/tuim/	['tuim]	<i>eyebrows</i>
/suim/	['šuim]	<i>grass skirt</i>
/töhkföt/	['tëḡkbët]	<i>to stand</i>
/suhkföt/	['šugkbët]	<i>to fall</i>
/nakutr/	[na'kut <sup>^</sup> ḡ]	<i>he yelled</i>
/kusr/	['kuš <sup>^</sup> ḡ]	<i>blackbird</i>
/mitat/	['mitat]	<i>variety of snake</i>
/masat/	['mašat]	<i>much</i>
/yöfhat/	['yëḃḡat]	<i>betelnut</i>
/höfhas/	['xëḃḡaš]	<i>black cockatoo</i>
/mart/	['maḡt]	<i>sun</i>
/bars/	['baḡš]	<i>hornbill</i>

Some cases of apparent contrast may be explained in terms of a fused sequence of [ɪt] manifested as /s/. Noun class S roots<sup>4</sup> take /-s/ as a third order person-number-gender suffix. When roots of this class are affixed with the second order derivational copulative suffix /-e/<sup>5</sup> the fused components of the /s/, the high front vowel of the stem, /i/, plus the third order person-number-gender suffix, alveolar /t/, can be observed separated by the copulative suffix.

/yaus/	['i <sup>u</sup> au-š]	dog -3.s.fem	+ /-e/ →	['i <sup>u</sup> a <sup>u</sup> i-ε -t]	dog -is-3.s.fem	<i>it is a dog</i>
/höfhas/	['xëḃḡa -š]	<i>bl. cockatoo</i> -3.s.fem	+ /-e/ →	['xëḃḡa <sup>l</sup> -ε -t]	<i>bl. cockatoo-is</i> -3.s.fem	<i>it is a black cockatoo</i>
/bars/	['baḡ -š]	<i>hornbill</i> -3.s.fem	+ /-e/ →	['baḡi -ε -t]	<i>hornbill-is</i> -3.s.fem	<i>it is a hornbill</i>
/döbs/	['dëḃ -š]	<i>falcon</i> -3.s.fem	+ /-e/ →	['dëḃi -ε -t]	<i>falcon-is</i> -3.s.fem	<i>it is a falcon</i>

The preceding examples indicate that word-final /s/ may be considered a fusion of the sequence /it/. The sequence /it/ does, however, occasionally occur word-finally. Following /r/, /s/ contrasts with the sequence /it/. Compare:



/barit/	['bařit]	<i>lake</i>
/bars/	['bařš]	<i>hornbill</i>
/bubuwrit/	[bu'bu <sup>u</sup> řit]	<i>red grass</i>
/buburs/	[bu'buřš]	<i>swamp bog</i>

A plausible solution to the problem is suggested after comparing the data with the smaller Kuvemas dialect. A preliminary comparison of the dialects indicates that the Kuvemas sequences [is] and [is] correspond to the Karawari sequences [it] and [š] respectively (see footnote 2, examples 4 and 5). Thus it may be postulated that Karawari /s/ [š] is a portmanteau phone representing the sequence [it].

The choice of [it] rather than [it] nicely explains the otherwise arbitrarily-established noun classes based on the two allomorphs, -t ~ -s, of the third person singular feminine suffix. In this case noun class S results from the phonological process of fusion of [i] with the suffix /-t/.

In addition, there is also support for the conclusion that [š] is a fusion of [it] rather than [it] from within the phonological system of the Karawari dialect. The following examples suggest the presence of [i] root-finally. The noun cited is the only noun observed in which the [i] is manifested root-finally in the dual and plural forms of the noun. Furthermore the manifestation of [i] is optional. Although the examples are at best residual, nevertheless they are indicative of a vestigial root-final high front open vowel.

[bu'buřš]	<i>swamp bog</i>
[bu'buřš] ~ [bu'buřitš]	<i>swamp bogs (dual)</i>
[bu'buřm] ~ [bu'buřim]	<i>swamp bogs (plural)</i>

Even though *swamp bog* is usually reacted to as a consonant-final root, the derived copulative form reveals the root-final vowel, e.g., [bu'buřm] + /-e/ → [bu'buřiem] *they are swamp bogs*. Although the vowel is usually lost by the processes of fusion and deletion, the derived copulative form suggests that it is covertly a part of the root.

Interpreting /s/ as a portmanteau phoneme of the posited sequence [it] does not, however, solve all of the problems. If /s/ is to be considered as a portmanteau phoneme, one would expect /s/ to be the fused sequence of two phonemes (/it/) either in complementary distribution with the sequence or actually functioning as a sequence of the two phonemes (Pike, 1967:318). The vocoid [i], however, does not command phonemic status in the phonology; only in the two variant forms of *swamp bogs* does [i] occur in environments resulting in contrast with [i], e.g., [bu'bu<sup>u</sup>řim] *red grasses*, [bu'buřim] *swamp bogs*. In all other third person dual and plural

forms of nouns in which [ɪ] would be expected to be manifested, [i] occurs instead. For example *lake* and *hornbill* are homophonous in all forms except third person singular feminine. Compare:

	/barit/ <i>lake</i>	/bars/ <i>hornbill</i>
masculine	['bařɪʔ]	['bařɪʔ]
feminine	['bařit]	['bařɪʔ]
dual	['bařip]	['bařip]
plural	['bařim]	['bařim]

Therefore, since [ɪ] is essentially non-contrastive with [i], to postulate /s/ as a portmanteau fused sequence which is phonemically written /ɪt/ is unwarranted.

It may be argued that syllable patterning favors interpreting /s/ as functioning as a sequence. Such an interpretation would retain the same syllable pattern in all forms of a word such as *hornbill*. However, if it seems best to sacrifice symmetry at this point, there are many examples of the CVCC syllable pattern which would support the interpretation: /bars/ *hornbill*, e.g., /gurt/ *she beat (the drum)*, /kaht/ *fire*.

So within the phonological system of the Karawari dialect of Alambak, alveopalatal /s/ is phonemic. It is plausible that historically [i] and [ɪ] did in fact contrast as they apparently still do in the Kuvemas dialect, but that this contrast has been virtually neutralized in non-alveopalatal environments. Only one exception has been observed (*swamp bogs*). This solution allows noun classes which are defined according to two allomorphs of the third person singular feminine suffix. The origin of the smaller noun class S may be explained by the fusion of the sequence of two phones, one of which is non-phonemic.

## 2. /d/ AND /j/

The following pairs of words illustrate contrast between /d/ and /j/ in analogous environments:

/dugo/	['dugo]	<i>nearly</i>
/jubt/	['jubt]	<i>child's bow</i>
/dift/	['dift]	<i>white soil</i>
/jingt/	['jingt]	<i>insect basket</i>
/nandömr/	[nan'dëm <sup>^</sup> ʔ]	<i>snake</i>
/najömr/	[na'jëm <sup>^</sup> ʔ]	<i>older brother</i>
/kadikö/	[ka'dikë]	<i>you (pl) be quiet</i>
/gajem/	['gajëm]	<i>they are chairs</i>

There are cases of apparent contrast that may be explained in terms of a fused sequence [ɪd] manifested as /j/. Compare the following pairs of two-word clauses:

/bari dohretet/	['bari doḡ'ʔetɛt]	<i>it is without a lake</i>
/bar johretet/	['bar joḡ'ʔetɛt]	<i>it is without a hornbill</i>
/fawi dohretet/	['pa <sup>u</sup> i doḡ'ʔetɛt]	<i>it is without an outlet</i>
/yau johretet/	['i <sup>u</sup> au joḡ'ʔetɛt]	<i>it is without a dog</i>

While the roots of *lake* and *hornbill* are homophonous (['bari]), the above examples of clauses indicate that there is an underlying difference. The root-final vowel of *lake* does not fuse with /d/ of /dohretet/ *it is without*, whereas the root-final vowel of *hornbill* does fuse with the /d/ to produce an alveopalatal. The conclusion of Section 1 is paralleled here. The stem-final [ɪ] of *hornbill* fuses with alveolars and is neutralized with [i] elsewhere (cf. comparison of *lake* with *hornbill* p.93).

The case of *outlet* vs. *dog* is similar. The two root-final vowels ([i]) appear to be identical. Compare:

['pa <sup>u</sup> i -ɛ -t]	['i <sup>u</sup> a <sup>u</sup> i -ɛ -t]
<i>outlet-is-3.s.fem</i>	<i>dog -is-3.s.fem</i>
<i>it is an outlet</i>	<i>it is a dog</i>

In other forms, however, the [i] of *outlet* remains unchanged whereas the [i] of *dog* fuses with alveolars and is lost in other environments.

Compare:

['pa <sup>u</sup> im]	<i>outlets</i>
['i <sup>u</sup> aum]	<i>dogs</i>

Evidence of morpheme-medial fusion of [ɪd] or [dɪ] → [j] occurs in /najömr/ [na'yëm<sup>h</sup>ʔ] *older brother* and /gajr/ ['gaʔʔ] *chair*. The following ordered rules are relevant to understanding this fusion.

- 1a) [aɪ] + [ʔ] → [aʔɪ]  
 e.g. ['xaɪ] + [ʔ] → ['xaʔɪ] *ironwood tree (masc)*
- 1b) [aʔɪ] + C<sub>alveolar stop or nasal</sub> → [aʔ] + C<sub>alveopalatal</sub>  
 e.g. [a'gaʔɪ] + [nëm] → [a'gaʔnëm] *let him give (something) to us*
- 2) [aɪ] + C<sub>alveolar</sub> → [a] + C<sub>alveopalatal</sub>  
 e.g. ['xaɪ] + [t] → ['xaʔ] *ironwood tree (fem)*
- 3) [aɪ] + C<sub>non-alveopalatal</sub> → [ɛ] + C<sub>non-alveopalatal</sub>  
 e.g. ['xaɪ] + [p] → ['xɛp] *ironwood trees (dual)*

Rule 2 suggests that /a/ + /j/ as in *older brother* and *chair* may represent /a/ plus a fusion of the sequence [ɪd]. There is, however, nothing within the system to verify that such a fusion has taken place in these cases. Only by comparing these words with the Kuvemas dialect can a plausible conclusion be drawn. This procedure brings us to differing conclusions for *older brother* /najömr/ and *chair* /gajr/.

It is assumed that rule 2 does not apply in the Kuvemas dialect because there are no alveopalatal contoids in that dialect. Consequently the following two forms are a result of the last two rules applied to the hypothetical form \*[naɪ'dɛ̃m^ʌʃ] *older brother*.

$$*[\text{na}\text{ɪ}'\text{d}\text{ɛ̃}\text{m}^{\text{ʌ}}\text{ʃ}] \begin{array}{l} \text{older.brother-3.s.masc} \end{array} \rightarrow \left\{ \begin{array}{l} [\text{na}'\text{j}\text{ɛ̃}\text{m}^{\text{ʌ}}\text{ʃ}] \text{ (Karawari) (rule 2)} \\ [\text{ne}'\text{d}\text{ɛ̃}\text{m}^{\text{ʌ}}\text{ʃ}] \text{ (Kuvemas) (rule 3)} \end{array} \right.$$

Other similar parallels exist between the two dialects.

Regarding /gajr/ *chair*, comparison with the Kuvemas dialect ['gadɪʃ] indicates that /j/, rather than being a fusion of [ɪd], is possibly a fusion of [dɪ].

While neither a contrastive nor a portmanteau analysis of /j/ proves to be conclusive, the conclusions arrived at in Section 1 seem to follow here. The sequences [ɪd] and [dɪ] (which were possibly phonemic sequences historically) have fused into the alveopalatal phoneme /j/.

### 3. /n/ AND /ñ/

The following pairs of words illustrate contrast between /n/ and /ñ/ in analogous environments.

/nugr/	['nuŋg^ʃ]	<i>sand</i>
/ñungramt/	[ñuŋg'ramt]	<i>throat</i>
/nungwar/	['nuŋgwaʃ]	<i>bird</i>
/ñungwor/	['ñuŋgwoʃ]	<i>he sounds</i>
/wania/	['wania]	<i>come</i>
/wawañña/	[wa'wañña]	<i>listen to me</i>

There are cases of apparent contrast that may be explained in terms of a fused sequence [ɪn] manifested as /ñ/.

/nandömr/	[nan'dɛ̃m^ʃ]	<i>snake</i>
/nañjört/	[nañ'jɛ̃ʃt]	<i>May fly</i>

/htirnöm/	[x <sup>^</sup> ti <sup>^</sup> rñēm]	/harñöm/	['xəřñēm]		
(/hti-Ø	-r	-nöm/)	(/ha -Ø	-r	-ñöm/)
see-near.past-3s.masc-1.pl		give-near.past-3s.masc-1.pl			
he saw us		he gave us (something)			

A comparison of /nandömr/ *snake* and /nañjört/ *May fly* with the Kuvemas dialect ([nan'dēm<sup>^</sup>ř] *snake* add [nən'děřt] *May fly*) indicates that the alveopalatal nasal in /nañjört/ may be the result of a fusion of a high front vocoid plus alveolar nasal. *Snake* is identical in both dialects. The difference between *May fly* in both dialects is best described in terms of the operation of rules 2 and 3 (see Section 2) upon the hypothetical form \*[naınděřt]. Thus \*[aɪn] becomes [ɛn] in Kuvemas [nən'děřt] *May fly* and [añ] in Karawari [nañ'jěřt] *May fly*.

In the case of ['xəřñēm] *he gave us* the vowel component of the fused sequence phoneme /ñ/ is manifested in other forms of the verb, e.g., ['xəřim] *he gave them*. As is the case with the other alveolars /n/ sometimes appears to fuse with /i/ and sometimes it remains in sequence, e.g., as in [x<sup>^</sup>ti<sup>^</sup>nēm<sup>^</sup>m] *we put them*. The historical contrast between the high front vowels in /htinömm/ *we saw them* and \*/harim/ *he gave (to) them* has been neutralized; the present manifestations of the high front vowel is identical in both words, e.g., [x<sup>^</sup>ti<sup>^</sup>nēm<sup>^</sup>m] *we saw them*, ['xəřim] *he gave (to) them*.

There are no data in the Karawari system which suggest a fusion underlying the alveopalatals in ['ññm] *centipedes*. A comparison of the Kuvemas dialect, however, suggests the possibility of the fusion of [nɪ] (cf. footnote 2 example 10).

#### 4. CONCLUSION

The following process may be abstracted from conclusions reached in each preceding section.

$$C_{\text{alveolar}} + [ɪ] \rightarrow C_{\text{alveopalatal}}$$

The high front open vocoid [ɪ] is not considered phonemic in the Karawari dialect. Nevertheless, the underlying effect of the [ɪ] is observable in the above process. This conclusion describes the alveopalatals as fused sequences of two phones. At the same time it avoids postulating two phonemes /i/ and /ɪ/ which contrast only residually due to phonemic overlap and fusion. If this conclusion is in fact true, then Alambak alveopalatals have resulted from a portmanteau fusion of two phonemes. Now, however, they are described simply as segmental phonemes.

This solution requires the following postulate to explain the irregularities in the system: the Karawari dialect exhibits a systemic pressure

to neutralize the close-open contrast between high front vowels. Thus [ɨ] fuses with alveolars, is lost in the environments V\_C and uC\_C word-finally, and shifts to the /i/ norm elsewhere. Thus:

['buɨ]	→	{ ['buš] ['bum]	<i>rain</i> <i>rains</i>
['bařɨ]	→	['bařim]	<i>hornbills</i>
[bu'buřɨ]	→	[bu'burm] ~ [bu'buřim]	<i>swamp bogs</i>

The alternative solution mentioned in the introduction (/i/ → [ɨ] juxtaposed with alveopalatals) would likewise require certain postulates to explain the irregularities of loss, fusion, limited distribution, and residual contrast within the resulting system.

1) The loss of the root-final high front vowel in some words and not in others, and the fusion of the final vowel of those same words with alveolars producing alveopalatals are grammatically defined processes operating on class S nouns. Compare:

['pa <sup>u</sup> ɨet]	<i>it is an outlet</i>	→	['pa <sup>u</sup> im]	<i>outlets</i>
but ['i <sup>u</sup> ɨet]	<i>it is a dog</i>	→	['i <sup>u</sup> aum]	<i>dogs</i>
[bu'bu <sup>u</sup> řɨet]	<i>it is an edible grass</i>	→	[bu'bu <sup>u</sup> řim]	<i>edible grasses</i>
but [bu'buřɨet]	<i>it is a swamp bog</i>	→	[bu'buřm]	<i>swamp bogs</i>
['bařim]	<i>lakes</i>	→	['baři dog'řetɨt]	<i>it is without lakes</i>
but ['bařim]	<i>hornbills</i>	→	['bař jog'řetɨt]	<i>it is without hornbills</i>

2) Alveopalatals are extremely limited in distribution. For example, compare the distribution of /s/ and /t/ word-finally. The phoneme /t/ follows every phoneme except semi-vowels, alveopalatals and /d/. Alveopalatal /s/ follows /i/ and alveopalatals, and other vowels (/a, u/) and consonants (/b, r/) only when the high front vowel has been lost or fused. The distribution of alveopalatal /s/ word-finally, more than in other positions, adds to the evidence that alveopalatal /s/ occurs as a result of phonetic conditioning.

3) There is a residual contrast between /i/ and /ɨ/, e.g., [bu'bu<sup>u</sup>řim] *edible grasses* vs. [bu'buřm] ~ [bu'buřim] *swamp bogs*.

The two solutions briefly discussed here differ on the point of the origin of alveopalatals. Both, however, affirm the phonemic status of alveopalatals and the non-phonemic status of the high front open vocoid [ɨ] in the Karawari dialect.

## N O T E S

1. The Alamlak language is spoken by 1128 people living in the East Sepik District of Papua New Guinea, according to the 1973 Amboin patrol report. It is the easternmost language of the Sepik Hill Family (Dye, et al., 1968). The Karawari dialect with three-fourths of the population is located along the Karawari and Wagupmeri Rivers. The Kuvenmas dialect is located along the shores of Kuvenmas Lake and eastward. The larger Karawari dialect is described in this paper.

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2. From a brief comparison of seven of the eastern languages of the Sepik Hill Family, correspondences between alveopalatals and alveolars from one language to another is detectable.

The data used for comparing the two Alamlak dialects were collected by the author in 1970-74 while based at Amongabi village periodically during that time. Wordlists obtained by Dye, Townsend, and Townsend were used for comparing the remaining languages. The sequency ny as written in their transcription is regarded as [ñ].

Though the data are too scant to provide conclusive evidence in all cases, a tentative listing of the correspondences of alveopalatals to alveolars is given in Table 1. The data show no example of the Sumariup /d/ corresponding to alveopalatals; since /j/ does not appear in the Sumariup data, Sumariup has been placed in the alveolar list. The data are likewise inconclusive regarding the status of alveopalatals and alveolar nasals of Sumariup, Kapriman, and Mari. Both nasals occur in Sumariup and Kapriman, only the alveolar occurs in Mari. (See Dye, et al., 1968 for the geographical distribution of these languages.)

TABLE 1

Alveopalatals	Alveolars
[ʃ]	[s]
Alamblak (Karawari)	All of the others
[j]	[d]
Alamblak (Karawari)	Alamblak (Kuwenmas)
Kapriman	Sumariup
Watakataui	Kaningara
	Bisis
	Mari
[ñ]	[n]
All of the others	Alamblak (Kuwenmas)
	Mari

A selective list of relevant words from the Karawari and Kuvenmas dialects of Alamblak is given in Table 2.

TABLE 2

English	Karawari	Kuwenmas
1. <i>I fall</i>	[ʃuɣwa]	[tʰuɣwa]
2. <i>guardian spirits</i>	[naʃuŋ'gwaɾm]	[nɛsuŋ'gwaɾm]
3. <i>forehead</i>	[ñɫm'bikt]	[nɫm'bigʃ]
4. <i>hand drum</i>	['watit]	['watis]
5. <i>falcon</i>	['dɛbʃ]	['dɛbɫs]
6. <i>chair</i>	['gaʃʃ]	['gadɫs]
7. <i>child's bow</i>	['jʊbt]	['dʰubs]
8. <i>older brother</i>	[na'jɛm^ʃ]	[nɛ'dɛm^ʃ]
9. <i>snake</i>	[nan'dɛm^ʃ]	[nan'dɛm^ʃ]
10. <i>centipedes</i>	['ñɫm]	['nɫm]
11. <i>let's go</i>	['añɛm]	['aʰnɛm]
12. <i>May fly soup</i>	[nañ'jɛɾpam]	[nɛn'dɛɾbam]

3. The segmental phonemes of the Karawari dialect of Alamblak are given in Table 3.



TABLE 3

## Consonants:

	Bilabial	Alveolar	Alveopalatal	Velar
Stops				
voiceless	p	t		k
voiced	b	d		g
Fricatives				
voiceless	f		s	h
voiced			j	
Nasals				
	m	n	ɲ	
Vibrant				
		r		
Semi-vowels				
	w		y	

## Vowels:

	Front	Back
High	i	u
Mid	e	o
Low	a	ö

Non-phonemic stress ['] is indicated immediately preceding the stressed syllable. Raised vowel symbols, e.g. [<sup>i</sup>], indicate non-syllabicity. (See Bruce, 1974.)

4. There are two noun classes in Alamblak morphology based on the allomorphs -t ~ -s of the third person singular feminine person-number-gender marker {-t}.

5. In the data used in this paper the suffix /-e/ occurs only with /i/-final roots. The following forms illustrate /-e/ affixed to a variety of roots.

[<sup>i</sup>ɛ̃bga -ε -t]  
*betel.nut-is-3.s.fem*  
*it is a betel nut*

[<sup>i</sup>o<sup>u</sup> -ε -t]  
*mosquito-is-3.s.fem*  
*it is a mosquito*

[<sup>i</sup>maʔ-ε -ʔ]  
*sun -is-3.s.masc*  
*it is the sun*

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