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PAPERS IN NEW GUINEA LINGUISTICS No. 14

by

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PACIFIC LINGUISTICS

The Australian National University



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The Australian National University,  
Box 4, P.O.,  
Canberra, A.C.T. 2600.  
Australia.

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First published 1971.

The editors are indebted to the Australian National University for help in the production of this series.

This publication was made possible by an initial grant from the Hunter Douglas Fund.

National Library of Australia Card number and ISBN 0 85883 030 2



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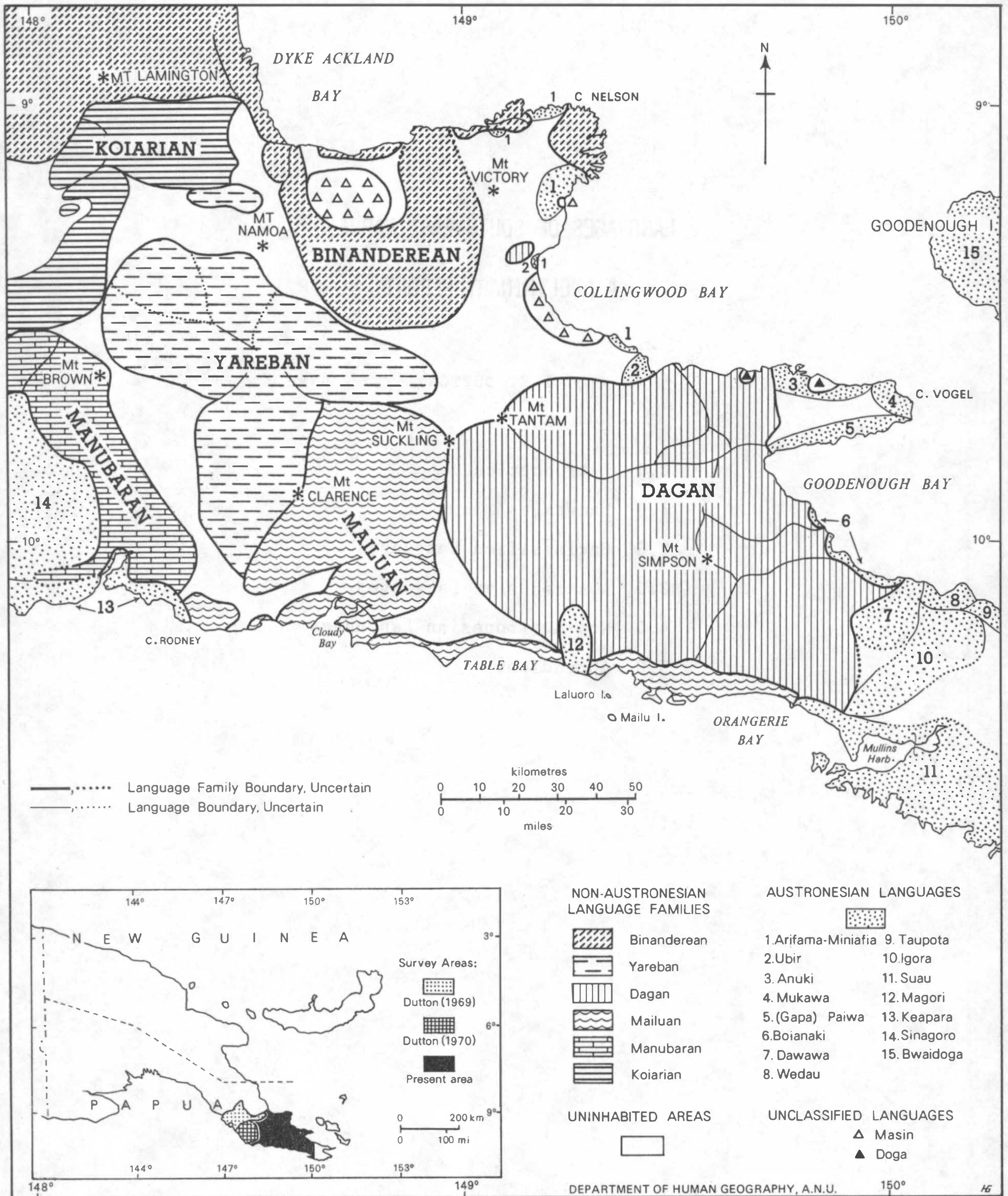
LANGUAGES OF SOUTH-EAST PAPUA:

A PRELIMINARY REPORT

T.E. DUTTON

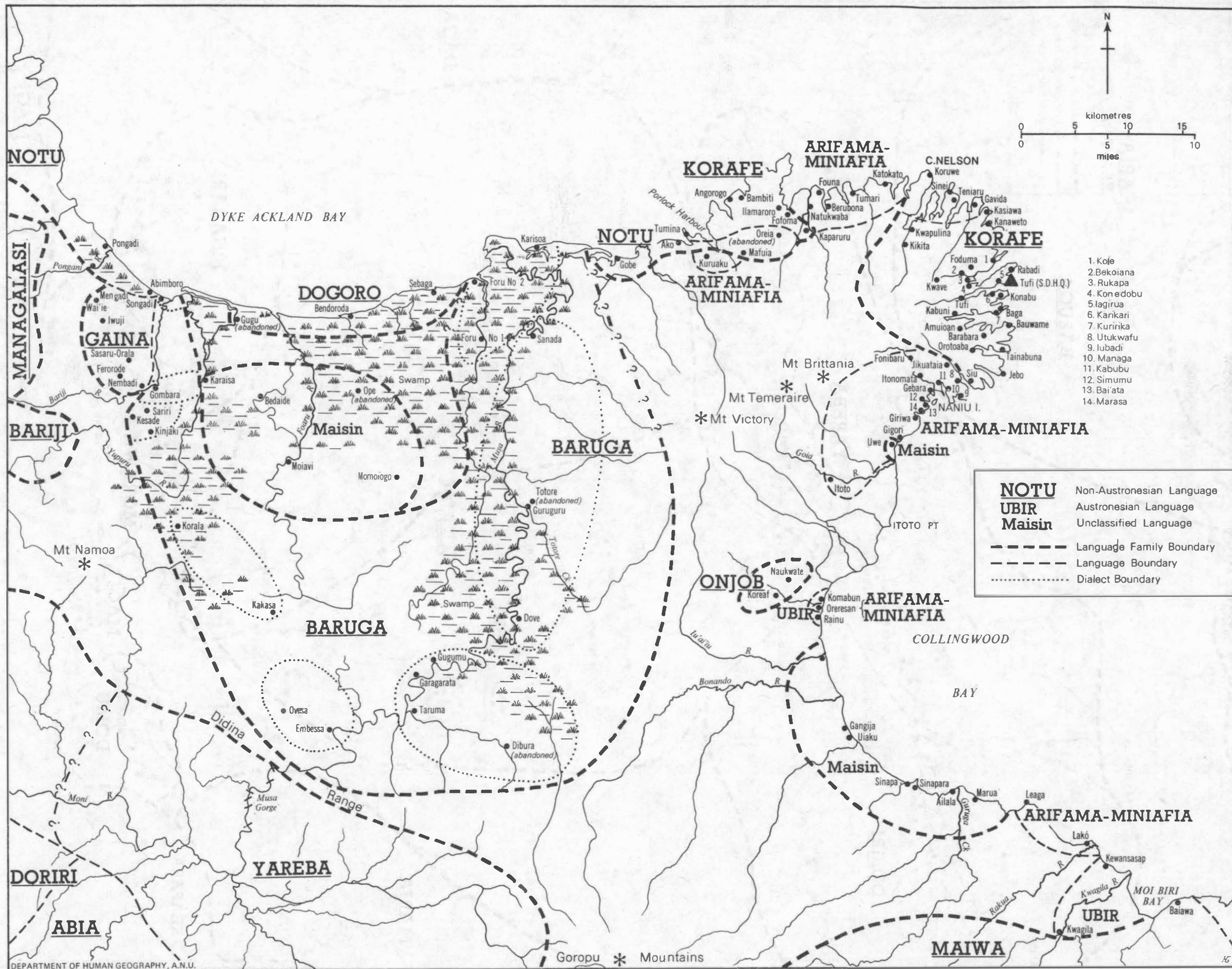
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- 2.0 Unclassified Languages
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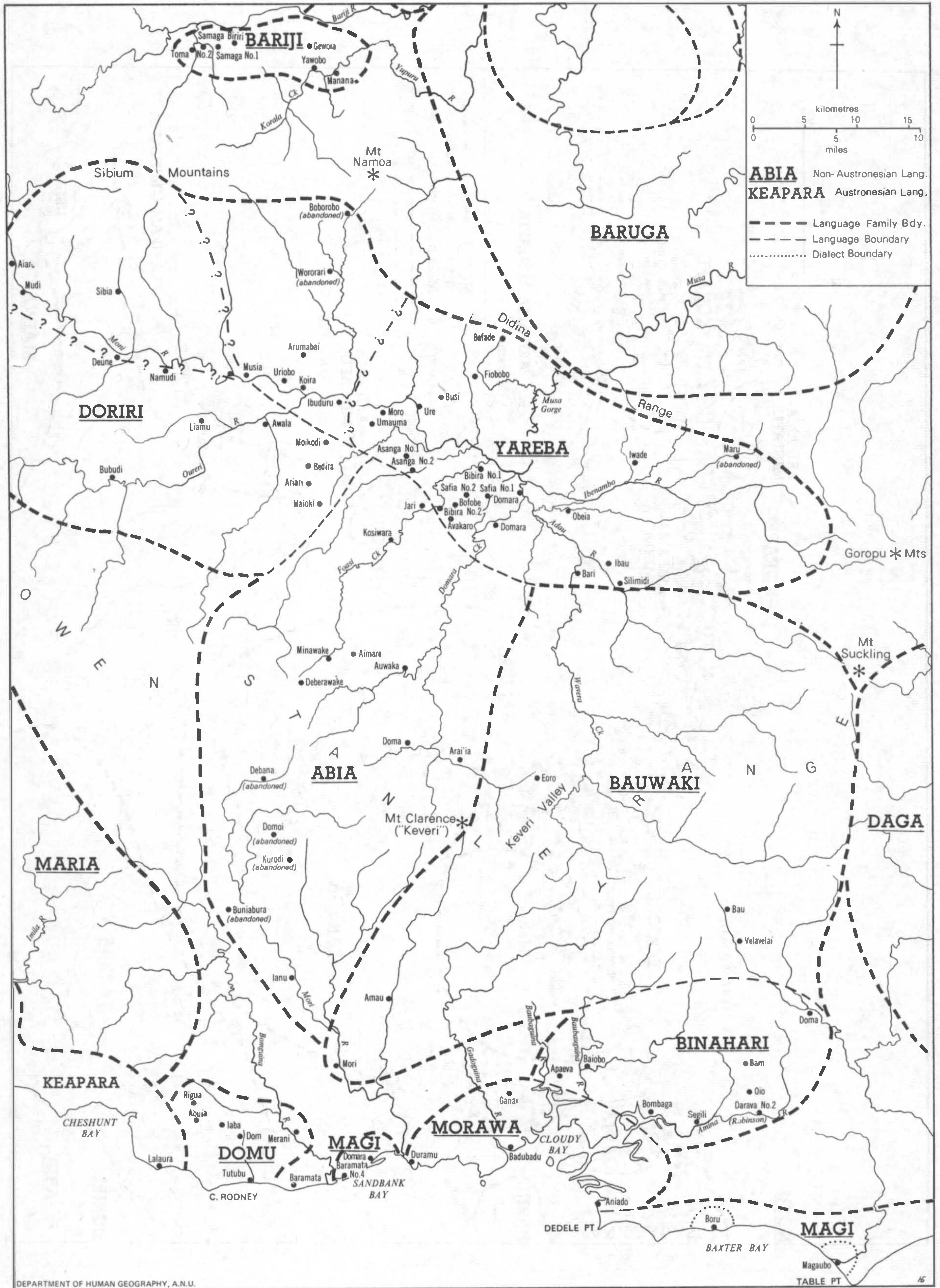
MAP 1: LANGUAGES AND LANGUAGE FAMILIES OF SOUTH-EAST PAPUA





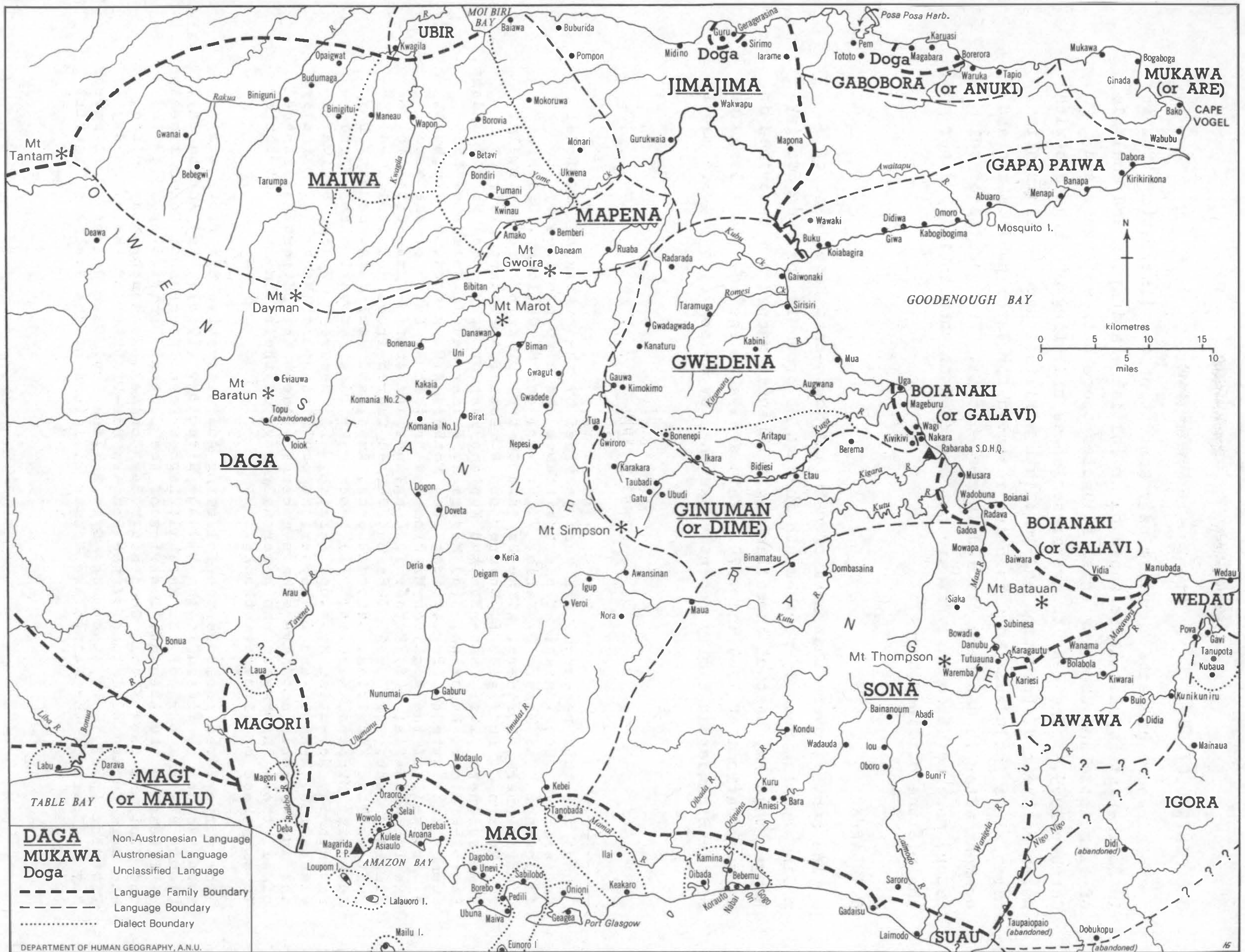
MAP 2: LANGUAGES OF THE CAPE NELSON (TUFU) AREA





MAP 3: LANGUAGES OF THE MUSA AND CLOUDY BAY AREAS





MAP 4: LANGUAGES BETWEEN CAPE VOGEL AND TABLE BAY



## 0.0 INTRODUCTION

This report presents a preliminary account of the linguistic situation in South-East Papua. It is based on an initial examination and analysis of linguistic and other material collected there between August and October 1969.<sup>1</sup> The results are presented as a listing of languages with notes on their distribution and immediate affiliations. No linguistic material is included: this is being reserved for later publication and comment after it has been studied in more detail. The results of this later, more detailed analysis are not expected to substantially alter the picture outlined here.

## 0.1 AREA

The survey covers that area of mainland South-East Papua east of a line running roughly north-south through Mt Brown in the Owen Stanley Range, that is, east of those languages recently mapped and described in my publications of 1969 and 1970. This area also includes some languages of the Binanderean Family recently sketched by Wilson (1969).<sup>2</sup> See map 1.

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<sup>1</sup>Funds for this research work were provided by the Australian National University. Considerable field assistance was also provided by the following: (a) Messrs D. Marsh, W. Driver, and R. Galloway, District Commissioners, Northern, Milne Bay and Central Districts respectively; (b) Messrs J. Duffield, I. Spencer and N. Lucas, Assistant District Commissioners, Tufi, Rabaraba and Kupiano respectively; (c) Mr J.J. Adams, Patrol Officer, Magarida; (d) Messrs H. Weimer and J. Murane of the Summer Institute of Linguistics; (e) Fathers A.C. Ashton, N. Thulborn, N. Crutwell of the Anglican Mission and Brother H. Baker of the same mission at Safia; (f) Father I. Langlands and staff, Roman Catholic Mission, Ianu; (g) Dr N. Thomson, United Church Iruna Hospital; (h) Pastors Tiso Kakaisina, United Church, Amau, and Paul Jama, Seventh Day Adventist Mission, Karaisa; (i) teacher Mr Tana Patowaki also of the Seventh Day Adventist Mission, Karaisa; (j) Messrs D. Wolfe, Bakiwa Plantation, Menapi, and D. Taylor, Magubu Plantation, Magarida. Finally, the survey could not have been a success without the patient assistance of all those informants who generously gave of their time to contribute. To all these my sincerest thanks.

<sup>2</sup>The survey area includes the following Administrative districts and subdivisions as listed in the Village Directory (1968): (a) Amazon Bay, Cloudy Bay and part of the Marshall Lagoon Local Government Council census divisions in the Abau Sub-District of the Central District (p.15); (b) the Biniguni-Cape Vogel, Goodenough Bay Coastal, Goodenough Bay Inland, and Daga Census Divisions of the Baniara Sub-District of the Milne Bay District (p.22); (c) the Musa, Dyke Ackland Bay, Cape Nelson, Collingwood Bay and part of the Managalase Census Divisions of the Northern District (p.29).



## 0.2 AIM

The purpose of the survey was to provide a more up-to-date account of the linguistic situation in South-East Papua than has hitherto been available, notwithstanding Sidney H. Ray's fine account of 1938 based on early materials. The focus of the survey was on Non-Austronesian languages with lesser attention given to Austronesian ones, and then only as required to determine the Non-Austronesian picture. This was particularly necessary in the coastal areas, but especially around Cape Nelson and Collingwood Bay where the linguistic situation is very tangled as a result of extensive recent pre-European-contact movements of populations. In general the results of the survey are very much akin to those of Ray's except for one notable example, viz. Magori. This language has long been regarded as Non-Austronesian but was found on this survey to be Austronesian with extensive lexical borrowing from Magi (or Mailu), its closest Non-Austronesian neighbour. See section 3.0.

## 0.3 METHODS AND MATERIALS

Similar methods and materials were used in this survey to those employed on previous surveys and as outlined in my recent publications already referred to, except that the percentages presented here in Charts 1 to 4 have been calculated on only the first one hundred items in the word lists collected. These percentages are therefore to be regarded as approximate only, until more thoroughgoing calculations have been made. A listing of linguistic materials collected in South-East Papua is given in Appendix 5.1. Population figures were the latest available at the time of the survey.

## 1.0 LANGUAGES

Most of South-East Papua is occupied by speakers of Non-Austronesian languages except for small coastal sites and the narrow extremities of the mainland in the east. These are occupied by speakers of either Austronesian languages or those which are referred to here as unclassified. See map 1.

## 2.0 UNCLASSIFIED LANGUAGES

These are languages which have either undergone such extensive change through contact with other languages that it has not yet (and may not be) possible to determine their original status (in terms of the Non-Austronesian-Austronesian dichotomy used here), or which, for some other reason, have not been classified in this report. Two such languages are described herein: Maisin and Doga.



## 2.1 MAISIN

This is spoken in many villages along the coast of Collingwood Bay and in several villages in the swamps of the Kosirava (pronounced *kosirava*) district between the lower Musa and Bariji Rivers. See Map 2. It consists of two dialects - Uiaku and Kosirava - corresponding to these two geographical divisions. Village lists and population figures are given in Appendix 5.2.

Maisin has not been studied since W.M. Strong and S.H. Ray wrote complementary articles about it in 1911. In these the authors came to completely opposing conclusions as to the status of Maisin. Strong argued that it was originally Austronesian strongly influenced by some Non-Austronesian language or languages probably located west of the Kosirava district (Strong (1911:383)). Ray's opinion, based on the same linguistic material, was that the language was originally Non-Austronesian with heavy Austronesian influence. My hunch (based entirely on the external evidence of the distribution of Austronesian languages in Central and South-East Papua and particularly the new Magori evidence) is that Strong is probably correct. But until more detailed evidence is collected it is simply not possible to decide the issue. Historically, all the Maisin seem to agree that they all once lived in the Kosirava district but that those now living on the coast emigrated there only relatively recently.<sup>1</sup>

## 2.2. DOGA

This is said to be a small language spoken along the north coast of Cape Vogel peninsula in the villages of Guru, Geragerasina, Magabara, Karuasi and Borerora. See Map 4. It was first reported by Strong in the Annual Report for Papua 1910-11 (pp. 203-17) who published a short vocabulary to which Capell (1943:215) later refers very briefly in discussing the pronominal system of Austronesian languages of South-East Papua.

On this survey a short word list (approximately 162 items) was collected from a Karuasi informant who claimed to be a Doga speaker. The material is clearly Austronesian but as no comparable material was collected in the neighbouring Austronesian languages, Gababora and Mukawa, it has not yet been possible to determine the status of Doga relative to these and other similar languages in the area.

---

<sup>1</sup>Based on informant testimony and Strong (1911:381).



### 3.0 AUSTRONESIAN LANGUAGES

These are closely related to one another and to similar languages found in other parts of New Guinea and the Pacific.<sup>1</sup> They are the better known languages of South-East Papua though they have never been completely mapped. In this report only village lists and population figures for those Austronesian languages neighbouring Non-Austronesian ones are given in Appendix 5.3. Excluded from this list is Magori, which has, as already noted, long been regarded as Non-Austronesian. It is a small language spoken in Magori (124), Deba (39) and perhaps Laua (31), small villages along the lower reaches of the Bailebo River which runs into the eastern end of Table Bay on the south coast. See Map 4. It is surrounded by Non-Austronesian languages by which it has been heavily influenced, but particularly by Magi (or Mailu), the dominant language in the area. More details on the language with historical interpretations will be presented later.

### 4.0 NON-AUSTRONESIAN LANGUAGES

Excluding two small settlements of immigrant plantation labourers which were not included in the survey,<sup>2</sup> the Non-Austronesian languages of South-East Papua belong to four families whose immediate connections have not yet been established. These are (with population figures shown in brackets) the Binanderean (4194?). Yareban (2820?), Dagan (12197?), and Mailuan (7047?) Language Families. See Map 1.

#### 4.1 BINANDEREAN LANGUAGES

Stretching east from the region of the Pongani River in Dyke Ackland Bay to the fiorded coast around Cape Nelson and inland into the basin formed by the lower Bariji and Musa Rivers are to be found a number of languages belonging to the Binanderean Family. The exact number of these languages is not yet known (Wilson (1969:65)) though the boundary of the family and some of the languages is now much clearer. Map 2 shows that there are probably only five languages spoken in the area surveyed. They are (from west to east): Notu,<sup>3</sup> Gaina, Baruga, Dogoro (pronounced with

<sup>1</sup>See Capell (1943; 1962).

<sup>2</sup>Baiobo is a settlement of approximately fifty-five "Goilala" tribesmen just north of Baubanguina Plantation. The other, Baramata, is a small settlement of an unknown number of mainly "Kerema" labourers near Baramata, east of Tutubu. See Map 3.

<sup>3</sup>Notu is taken to include Leiba and surrounding villages even though the lexical evidence presented here (see Chart 1) would seem to suggest that Leiba belongs to a different language from Dombada, the only other Notu village for which I have lexical material. Informants says that Leiba together with Borou, Waiwa and Kamboruru speak a slightly different "tune" from other Notu villages, particularly those around Emo.



a fricative *g*) and Korafe. These languages seem to share about 50-60% of basic vocabulary, as Chart 1 indicates.

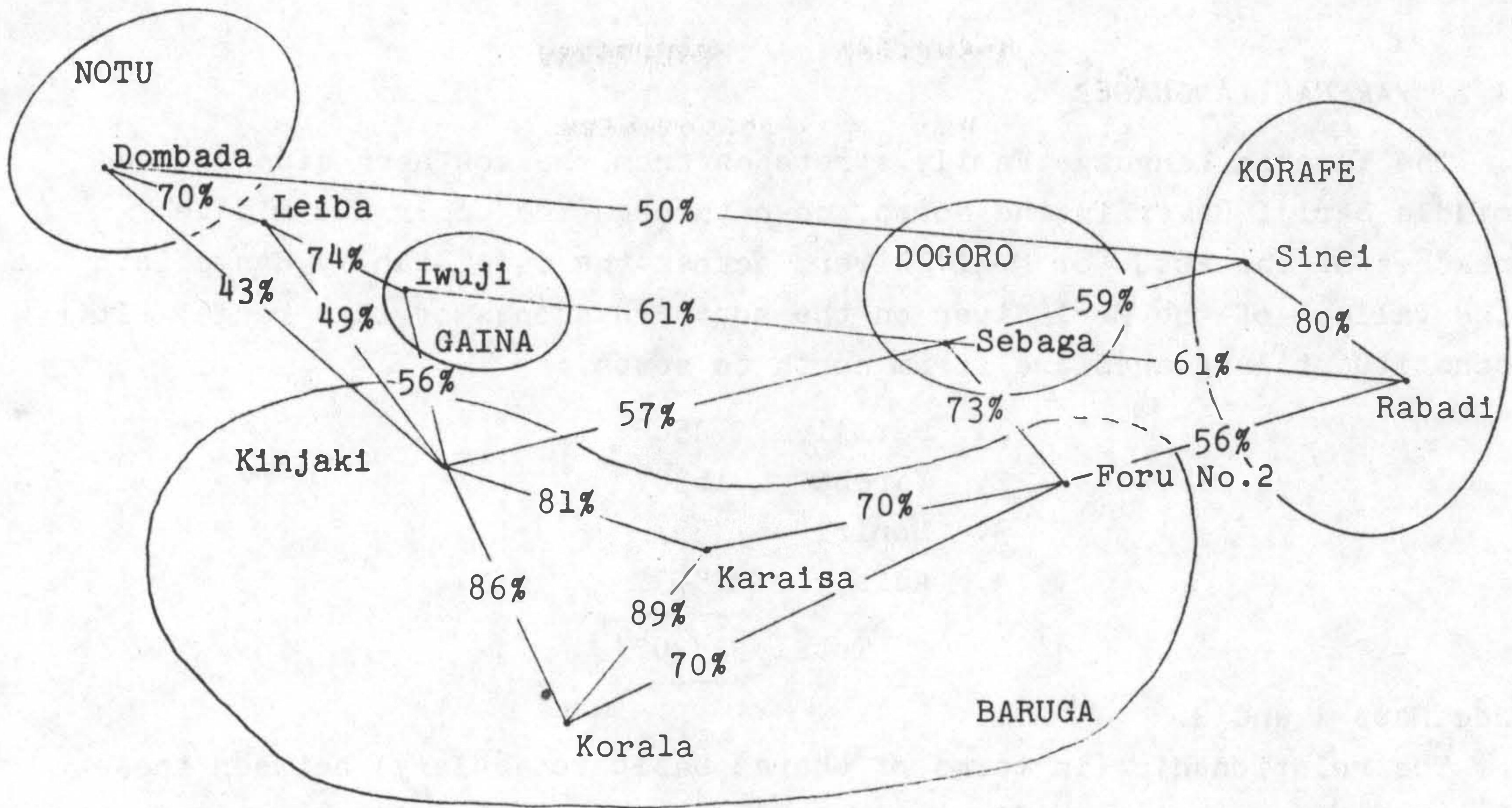
Two of the languages, viz. Gaina and Dogoro are very small judging by the evidence to hand and Notu has been spread across Dyke Ackland Bay by emigrants from Oro Bay (west of the Pongani River) settling around Porlock Harbour. Two of these areas are indicated on the map - one around Gobe and the other in several villages around Ako. These latter are often referred to as the Okena or Okeina.

The Korafe language around the rugged coast of Cape Nelson is broken up by an intervening dialect (Arifama) of the Austronesian language, Arifama-Miniafia. Korafe and Korafe proper.

Finally, the Baruga language. The extent of this is still uncertain but for present purposes it is taken to include all villages along the lower Musa River right down to its mouth. Linguistic material was collected from only four villages - three on the western rim (viz. Kinjaki, Karaisa and Korala) and one, Foru No.2, on the eastern. The first three share high percentages (between 80 and 90) of basic vocabulary and about 70 with Foru No.2, which is well separated from them by intervening groups of Baruga and by the Kosirava dialect of Maisin. A check of basic vocabulary listed in Ray (1938:191-97) shows that Totore is most akin to Foru No.2 and Karaisa and hence that Foru No.2 is probably linked to the western dialects via a dialect chain following the river.

Village lists and population figures for Binanderean languages in South-East Papua are presented in Appendix 5.4. In this listing some information about the relationship between, and movements of, various groups of Binanderean speakers in South-East Papua is included. Part of this information is my own; the rest is taken from Medaris (1969), abbreviated therein as GM. Dialects and languages are named after local groups or are given names customarily used in the literature. Note, however, that Wilson's Bareji (1969:68) is included in my Gaina language and should not be confused with my Bariji, a member of the Yareban Family described in section 4.2 below.





Language (Village)	Dombada		Iwuji	BARUGA				Sebaga	KORAFE	
	Dombada	Leiba		Kinjaki	Karaisa	Korala	Foru No.2		Sinei	Rabadi
Notu (Dombada)	-	70%	60%	43%	45%	37%	43%	52%	50%	55%
(Leiba)	70%	-	74%	49%	50%	45%	52%	55%	60%	61%
Gaina (Iwuji)	60%	74%	-	56%	58%	52%	58%	61%	57%	63%
Baruga (Kinjaki)	43%	49%	56%	-	81%	86%	63%	57%	48%	56%
(Karaisa)	45%	50%	58%	81%	-	89%	70%	65%	54%	54%
(Korala)	37%	45%	52%	86%	89%	-	70%	61%	47%	53%
(Foru No.2)	43%	52%	58%	63%	70%	70%	-	73%	52%	56%
Dogoro (Sebaga)	52%	55%	61%	57%	65%	61%	73%	-	59%	61%
Korafe (Sinei)	50%	60%	57%	48%	54%	47%	52%	59%	-	80%
(Rabadi)	55%	61%	63%	56%	54%	53%	56%	61%	80%	-
	Notu			Baruga					Korafe	
			Gaina					Dogoro		

Chart 1: Some Approximate Basic Vocabulary Cognate Percentages for Binanderean Languages



## 4.2 YAREBAN LANGUAGES

The Yareban Language Family stretches from the southern side of the middle Bariji River in the North, down through the upper and middle reaches of the Musa (or Moni) River, across the Owen Stanley Range into the valleys of the Mori River on the southern slopes of that range. Its constituent languages are (from north to south):

1. Bariji	256
2. Yareba	1630?
3. Doriri	355
4. Abia	579?
	<hr/>
Total	2820?
	<hr/>

See Maps 1 and 3.

The relationship (in terms of shared basic vocabulary) between these languages and various village communalects within them is shown in Chart 2. The family includes Ray's (1938: 155-56) Abia and Upper Musa Groups except for his Saroa subsection (p.157) which is partly Baruga (see Appendix 5.43, Dialect 1) and partly Dogoro (See Appendix 5.44). Village lists and population figures for Yareban languages are given in Appendix 5.5.

### 4.21 Bariji

This is spoken in small villages along the southern bank of the river of the same name. See Map 3. It was earlier reported on and classified in my monograph of 1969 (p.63, fn. 2) and, as already pointed out (p.7) above, should not be confused with Wilson's (1969:66, 68) Bareji language of the Binanderean Family. The language corresponds to Ray's (1938:156) Kororo subsection of his Upper Musa Group.

### 4.22 Yareba

This is spoken around the upper and middle sections of the Musa (or as it is known in this region, the Moni) River down as far as the gorge (through which it passes) in the Didina (or Didana) Range. See Map 3. It consists of a number of fairly distinct dialects (and possibly another language and/or part of Doriri) which it is hoped Mr H. Weimer of the Summer Institute of Linguistics will be describing in some detail later.<sup>1</sup> Chart 2 shows part of the picture. As at present drawn Yareba

<sup>1</sup>Mr and Mrs H. Weimer have been studying the dialect around Bibira No.1 for several years. A listing of materials prepared by them on Yareba is to be found on p.25 of *Bibliography of the Summer Institute of Linguistics, New Guinea Branch* (Ukarumpa, 1969).



covers Ray's (1938:156) Dibogi and Bori subsections of his Upper Musa Group, but excludes his Kororo subsection as just noted in section 4.21 above.

#### 4.23 Doriri

Present evidence indicates that there is a language of unknown extent on the northern slopes of the Owen Stanleys around Mt Brown down to the Moni west of Foasi Creek. See Map 3. This language may conveniently be called Doriri after the common south-east Papuan Binanderean term *doriri mountain* which is now widely used by others for *inland*, especially when referring to inhabitants of the Moni valley.

This language probably extends into the headwaters of the Moni around Namudi and Aiare (which are at present tentatively included in the Yareba language) but no information was obtained on this area during the survey. Lexical information was collected from only two villages - Bubudi and Maioki - in Doriri. This shows dialectal level (around 80%) basic vocabulary cognation between these two villages. The language is very closely related to Abia to the east and south as can be seen from Chart 2. It covers Ray's (1938:156) Moikoidi (Doriri) subsection of his Abia Group.

#### 4.24 Abia

This small language (pronounced *abie*) is spoken on both sides of the Owen Stanleys - on the northern side in small villages on ridges and in valleys of the Foasi and Domara Creeks running down to the Moni; on the southern side most speakers are to be found in the village of Ianu on the middle Mori where a Roman Catholic mission station was established four years ago. See Map 3. Previously (until about fifteen years ago they say) most were living further east at Amau as a section of the Kwato Extension Mission station.<sup>1</sup> There they occupied a site on the western bank of the Amau, a tributary of the Mori, which runs through the station, until several of their number died suddenly. The remainder fled fearing foul play. Some are still living in scattered houses, or return regularly for short periods to former villages (e.g., Debana, Domo, Lalai etc.) in the headwaters of the Mori.

Abia consists of at least three dialects, and probably as many as five. Two are spoken at Ianu - one by those from the former villages in the headwaters of the Mori; the other (showing closer contact with Domu

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<sup>1</sup>See section 4.45 (Bauwaki) below for more details.



and Bauwaki languages of the Mailuan Family south and east) by those from the old village of Buniabura to the north-west of Amau. A third is represented by the material collected on the northern side of the range from Auwaka. Others are probably to be found at Jari and related villages where informants say the Buari and Oiwa groups are now mainly living and at Doma and Arai'ia in the headwaters of Domara Creek.

Abia corresponds to Ray's (1938:156) Buari, Okaudi, Doriviata (Doriaidi), and Oiwa subsections of his Abia Group.

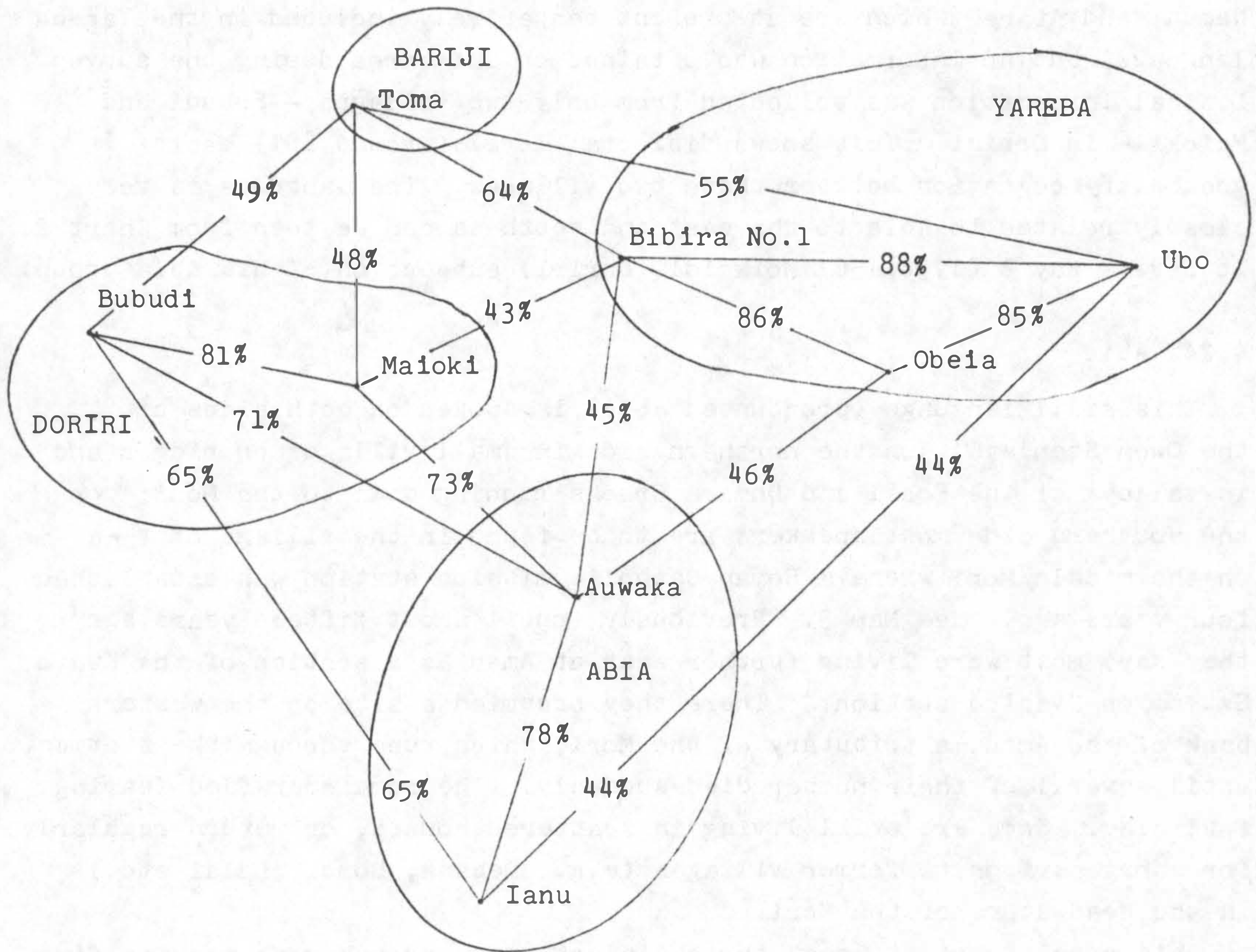


Chart 2 - Continued Overleaf



Language (Village)	Toma	Bibira No.1			Bubudi	Maioki	Auwaka	Ianu
		Obeia	Bibira No.1	Ubo				
Bariji (Toma)	-	48%	64%	55%	49%	48%	52%	48%
Yareba (Obeia)	48%	-	86%	85%	40%	43%	46%	41%
(Bibira No.1)	64%	86%	-	88%	46%	43%	45%	44%
(Ubo)	55%	85%	88%	-	47%	43%	48%	44%
Doriri (Bubudi)	49%	40%	46%	47%	-	81%	71%	65%
(Maioki)	48%	43%	43%	43%	81%	-	73%	68%
Abia (Auwaka)	52%	46%	45%	48%	71%	73%	-	78%
(Ianu)	48%	41%	44%	44%	65%	68%	78%	-
	Bariji				Doriri	Abia		
		Yareba						

Chart 2: Some Approximate Basic Vocabulary Percentages for Yareban Languages

#### 4.3 DAGAN LANGUAGES

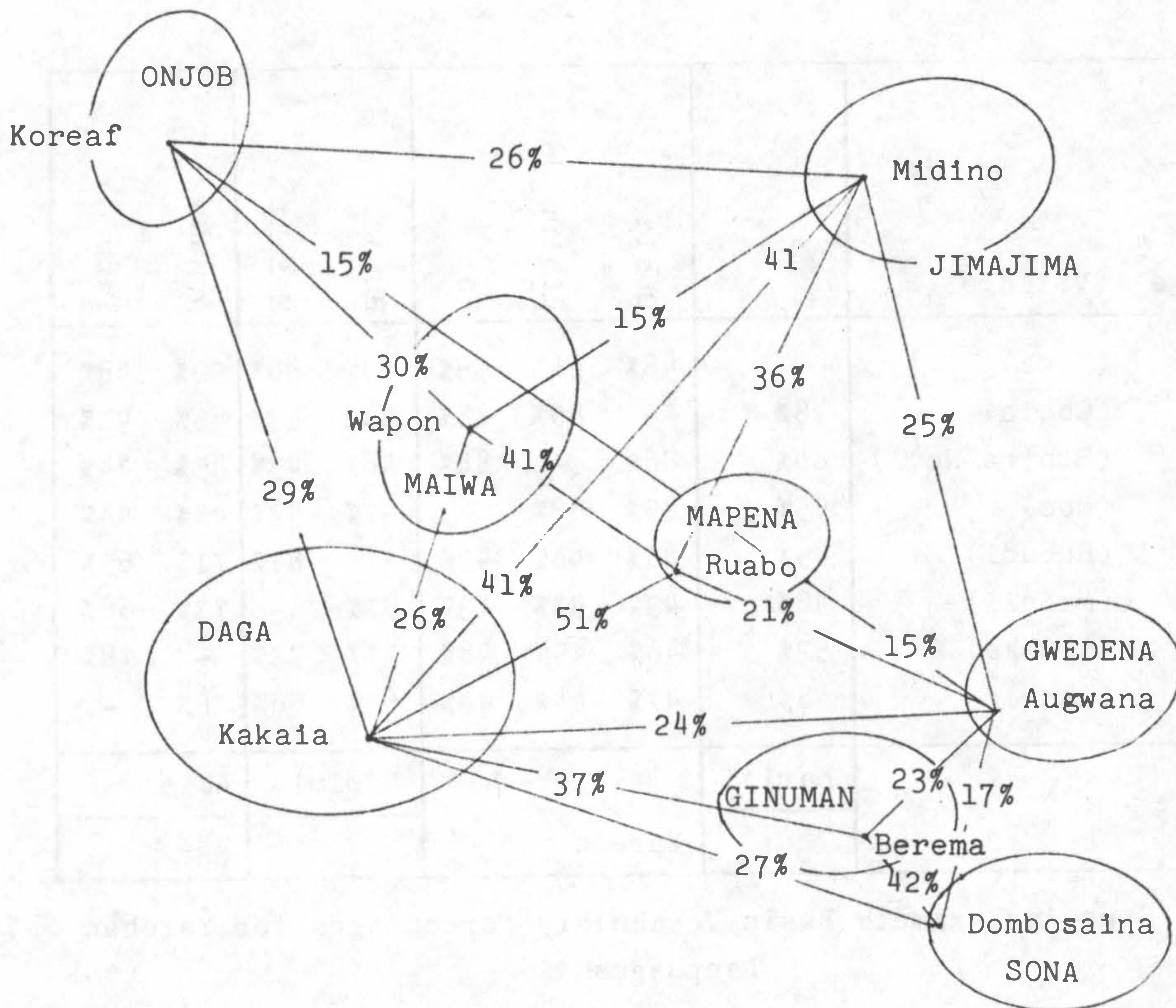
There are eight Dagan languages which constitute a large family stretching across the very mountainous south-east corner of lower mainland Papua. From north to south these languages are:

1.	Onjob	160
2.	Maiwa	1298?
3.	Jimajima	542?
4.	Daga (or Dimuga)	5326?
5.	Mapena	274
6.	Gwedena (or Gwede)	2161?
7.	Ginuman (or Dime)	775?
8.	Sona	1661?
	Total	<u>12,197?</u>

See Maps 1, 2 and 4.

Lexically this family is quite diverse - See Chart 3 - more diverse in fact than the languages appear to be grammatically. The family embraces Ray's (1938:160-62) Dimuga, Gwoira, and Maneao Groups. Village lists and population figures for Dagan languages are given in Appendix 5.6.





Language (Village)	Koreaf	Wapon	Midino	Kakaia	Ruabo	Augwana	Berema	Dombosaina
Onjob (Koreaf)	-	30%	26%	29%	14%	15%	22%	19%
Maiwa (Wapon)	30%	-	15%	26%	41%	18%	24%	20%
Jimajima (Midino)	26%	15%	-	41%	36%	25%	36%	29%
Daga (Kakaia)	29%	26%	41%	-	51%	24%	37%	27%
Mapena (Ruabo)	14%	41%	36%	51%	-	21%	23%	17%
Gwedena (Augwana)	15%	18%	25%	24%	21%	-	24%	14%
Ginuman (Berema)	22%	24%	36%	37%	23%	24%	-	42%
Sona (Dombosaina)	19%	20%	29%	27%	17%	14%	42%	-
	Onjob		Jimajima		Mapena		Ginuman	
		Maiwa		Daga		Gwedena		Sona

Chart 3: Some Approximate Basic Vocabulary Percentages for Dagan Languages



#### 4.31 Onjob

Onjob is the smallest of the languages of the Dagan Family and is well separated from the rest of them. See Map 1 and 2. It is spoken in only two small villages, Koreaf and Naukwate, a few miles inland of Wanigela Anglican Mission station in Collingwood Bay. According to Medaris (1969) these two villages belong to two social groups, Onjob and Aiso respectively. The latter is said to have originated from near Karisoa, migrated to Kereroa, thence to Waijug and Naukwate. They are said to have spoken a "language" called Aisoro, different from that spoken by the Onjob group who came from the Kwin River area and were given land by the Wanigela. If there once was a language (as distinct from dialect) difference between these two groups it is no longer extant though there are nevertheless slight phonological differences between the two communalects which may or may not be related to a previous language difference.

#### 4.32 Maiwa

Parts of this language have previously been referred to as Maneao, Pumani, Kwateva and Pue.<sup>1</sup> It covers the northern slopes and foothills of the Maneao Range eastwards from Mt Tantam around to the valley of the Ruaba River and reaches the coast at Baiawa in Moi Biri Bay. See Map 4. Maiwa consists of at least four dialects (from west to east): (a) one around Biniguni including villages in the upper reaches of the Rakua and the western tributaries of the Kwagila. Daga speakers are also known to be living in the Biniguni area. The village of Budumaga is said to speak slightly differently from other Biniguni but was not surveyed; (b) a second around Wapon including villages at the foot of the Maneao Range and in the eastern tributaries of the Kwagila River; (c) a third one around Pumani which includes villages in the valleys of Yome Creek around Kwinau Mission and Pumani airstrip marked on some maps; and (d) a fourth one which stretches from the coast at Baiawa inland in a thin strip to the Ruaba River.

#### 4.33 Jimajima

This small language extends along the coast from just east of Moi Biri Bay almost to Posa Posa Harbour on the Cape Vogel Peninsula and inland across the butt of the peninsula down the lower reaches of the Ruaba River. See Map 4. It does not include the two would-be Doga language speaking villages of Guru and Geragerasina (see section 2.2 above).

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<sup>1</sup>See Ray (1938:161).



The western Jimajima villages are often mixed with Maiwa speakers nearby. This probably accounts for the fact that informants recognize two varieties of Jimajima speech - one in the coastal western section; the other elsewhere. Insufficient material was collected to verify this felt distinction.

#### 4.34 Daga (or Dimuga)<sup>1</sup>

This is the largest Non-Austronesian language in South-East Papua. It is spoken by villages living on both sides of the Main Range south of a line joining Mounts Tantam, Dayman, Gwoira and Simpson. See Map 4. This area is drained by three main streams - the Bonua (which rises near Mt Tantam and drains into Table Bay on the south coast); the Bailebu (whose two main tributaries the Tavenei and Ulumanu rise under Mt Baratun and also drain south into Table Bay); and the Ruaba (which drains the northern slopes of a basin formed by Mounts Dayman, Baratun and Simpson and eventually reaches the sea in the heel of Goodenough Bay). Most of the Daga population is to be found concentrated in the latter basin especially in the valley of the Agaun, one of the principal tributaries of the Ruaba. Lesser populations live in the upper reaches of the Tavenei, Ulumanu and Bonua Rivers. A few villages are also to be found in the headwaters of the Kutu River which rises under Mt Simpson and flows eastwards into Goodenough Bay near the Government station at Rabaraba.

Villages in the Tavenei valley are often referred to as the Nunu villages, and those in the Ulumanu as the Kenei. The former are most closely related to those in the Agaun valley across the range.

The Daga language apparently consists of several dialects whose boundaries are not yet clear but which it is hoped Mr J. Murane of the Summer Institute of Linguistics will be describing in some detail later.<sup>2</sup>

#### 4.35 Mapena Language

This is another small linguistic group around Mt Gwoira. See Map 4. On present evidence it is most closely related to Daga lexically although informants seem to regard it as belonging to Maiwa. It shows borrowing from the surrounding languages of Daga, Maiwa, Jimajima and Gwedena.

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<sup>1</sup>"Dimuga" is said to be a perjorative Mailu term for the Daga. It means something like *bushy, dim witted or dumb*.

<sup>2</sup>Mr and Mrs J. Murane have been studying the Agaun valley variety around Kakaia for several years. A listing of materials prepared by them on Daga is given on P.17 of the *Bibliography of the Summer Institute of Linguistics, New Guinea Branch* (Ukarumpa, 1969).



Incomplete linguistic material was collected from only one informant from Ruabo village. The following villages are said to belong to the Mapena or Gwoira group: Bemberi, Kwabu, Amako, Girim, Daneam and Ruabo. Cf. Ray (1938:160). These are censused at Bemberi. The population is given as 274.

#### 4.36 Gwedena (or Gwede)

This language is spoken in villages located along the coast in the heel of Goodenough Bay and inland amongst the impressively broken, steep, knife-edged eastern slopes of the high country between Mounts Gwoira and Simpson. This area is drained by several short swift rivers and creeks, notably the Kubu, Romesi, Kiromara and Ugu. See Map 4.

There are two dialects of Gwedena - one in the upper reaches of the Ugu and the other spoken over the remainder of the area. No material has been published in the Gwedena language. The area is served by the Anglican Mission but the language of the church is Wedau. Gwedena appears to be the language referred to as Umanakaina in Capell (1962: 164 and Map XIII).

#### 4.37 Ginuman (or Dime)

This small language stretches in a narrow strip from Mt Simpson to the coast at Naraka and occupies the valley of the river of the same name. See Map 4. The language has not previously been identified.

#### 4.38 Sona

This language is spoken on both sides of the Main Range in river valleys radiating from Mt Thomson. See Map 4. No material was collected from villages on the south side of the range. Information on them was obtained from informants on the north side and from Dr N. Thomson.<sup>1</sup> Parts of Sona have previously been referred to as Puduwana and Wadewinda by earlier writers.

### 4.4 MAILUAN LANGUAGES

These form a family which is located wholly on the southern side of the Owen Stanley Range except for the small section of the Bauwaki language in the north-west corner around Mt Clarence. There are five member languages:

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<sup>1</sup>I am indebted to Dr Thomson for this and other information on some of the languages of the south coast.



1. Magi (or Mailu)	4662?
2. Domu	482
3. Morawa	755
4. Binahari	770
5. Bauwaki	378
	<hr/>
Total	7047?
	<hr/>

See Maps 1, 3 and 4.

They include Ray's (1938:157-59) Domu, Magi, Binahari and Bauwaki Groups but not his Magori Group (p.160) as already noted (see section 3.0 above).

Mailuan languages share around 50% basic vocabulary with each other, as Chart 4 indicates, though they have also borrowed from neighbouring Yareban and Austronesian languages. Grammatically they appear to be very close, except Bauwaki which again seems to have mixed Mailuan and Yareban features.

Village lists and population figures for Mailuan languages are given in Appendix 5.7.

#### 4.41 Magi (or Mailu)

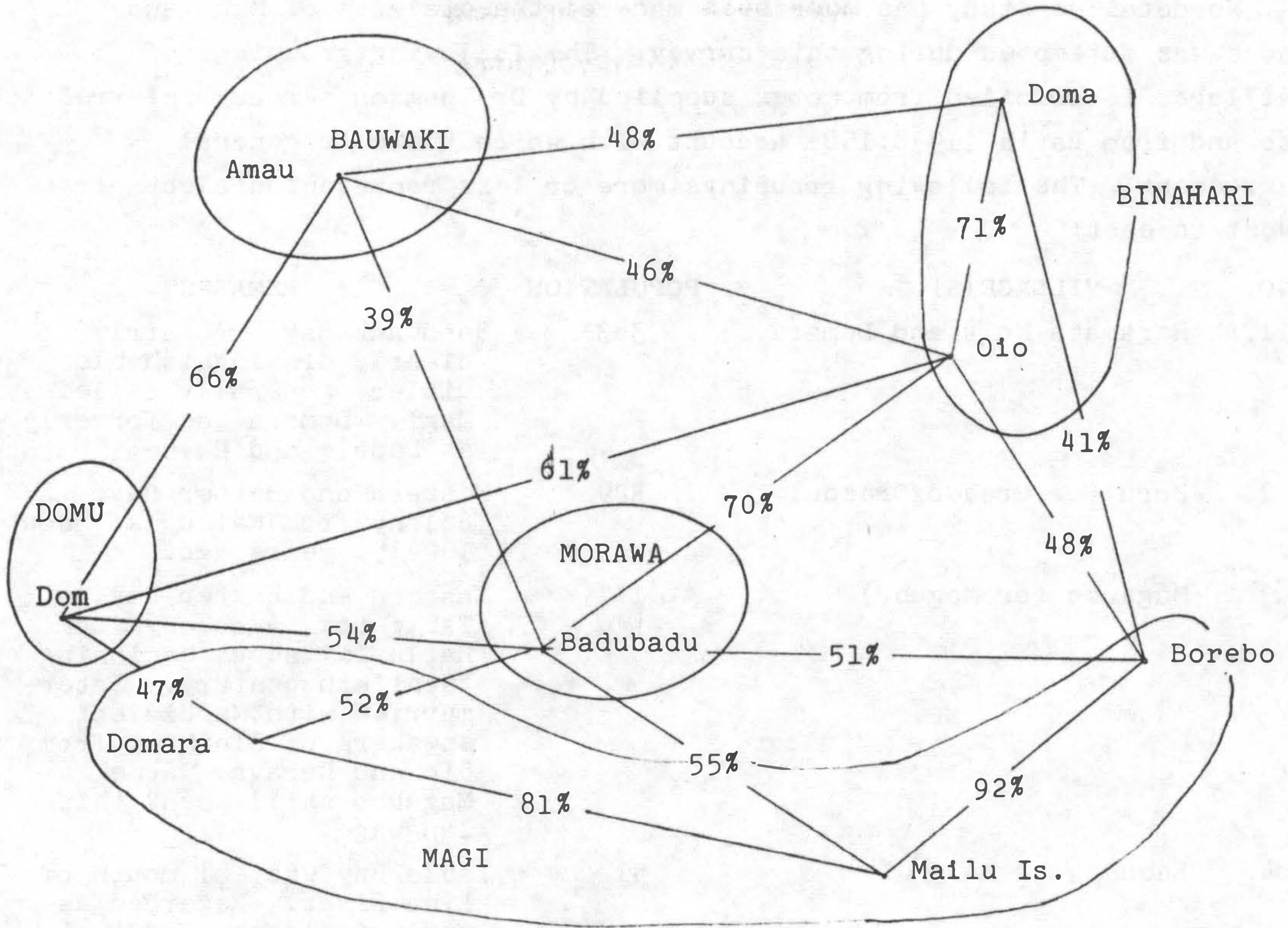
This is the second-largest but best known Non-Austronesian language of Papua.<sup>1</sup> It is spoken in villages along the coast from Baramata No.4 in Sandbank Bay in the west to Gadaisu in mid Orangerie Bay in the east, except where interrupted by the Morawa and Magori languages. See Maps 3 and 4. Today the language is variously referred to as Magi or Mailu. Originally Magi was the more inclusive term which referred to the people as a group with Mailu limited to the island of the same name. Today, however, the term Mailu is being extended in meaning to cover the whole area especially amongst the United Church villages.<sup>2</sup>

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<sup>1</sup>See Ray (1938:158) for an account of earlier studies on this language. Other, relevant studies have been made by Abbi (1964), Firth (1952), Hogbin and Wedgewood (1953-54), and Malinowski (1967).

<sup>2</sup>I am again indebted to Dr Thomson for this information.





Language (Village)	Mailu Is.	Borebo	Domara	Dom	Badubadu	Binahari		Amau
						Oio	Doma	
Magi (Mailu Is.)	-	92%	81%	44%	55%	49%	37%	33%
(Borebo)	92%	-	79%	48%	51%	48%	41%	36%
(Domara)	81%	79%	-	47%	52%	53%	43%	34%
Domu (Dom)	44%	48%	47%	-	54%	61%	54%	66%
Morawa (Badubadu)	55%	51%	52%	54%	-	70%	55%	39%
Binahari (Oio)	49%	48%	53%	61%	70%	-	71%	46%
(Doma)	37%	41%	43%	54%	55%	71%	-	48%
Bauwaki (Amau)	33%	36%	34%	66%	39%	46%	48%	-
		Magi		Domu		Binahari		Bauwaki
					Morawa			

Chart 4: Some Approximate Basic Vocabulary Cognate Percentages for Mailuan Languages



No detailed study has ever been made of the dialects of Magi and none was attempted during this survey. The following groupings of villages is compiled from notes supplied by Dr Thomson already referred to and from Ray's (1938:158) account with which there is general agreement. The following groupings more or less represent dialects from west to east:

NO.	VILLAGE(S)	POPULATION	REMARKS
1.	Baramata No.4 and Domara	383?	Sandbank Bay. A fairly clearly distinguishable dialect generally called Magi. Domara was formerly at Dedele and Burumai Points.
2.	Boru (or Oraedo/Oraedu)	329	Western end Baxter Bay. A colony from Mailu Is. about 100-150 years ago.
3.	Magaubo (or Magubu)	177	Eastern end Baxter Bay at Table Pt. A colony from Mailu Is. about beginning twentieth century. Inter-married with Ma dialect speakers of Binahari from Oio and Darava. Some Magaubo still speak this language.
4.	Labu	51	Table Bay west of mouth of Liba River. Regarded as unsophisticated and <i>bushy</i> by the Darava, their neighbours to the east.
5.	Darava (or Daroa)	209	Table Bay. A colony from Lалуoro with whom they still have strong ties. The village was supposedly formed by the marriage of some Lалуoro and some "bush" people, probably Binahari or Daga.
6.	Loupom (or Lopom/Loupomu)	312	Coral island off Amazon Bay.
7.	Laluoro	302	Coral Island off Amazon Bay.
8.	Mailu	536	Volcanic island off Amazon Bay.
9.	Kulele	236?	West coast of Amazon Bay. A Mailu colony about 100-150 years ago.
10.	Asiaulo, Wowolo, Oraora	337?	West coast Amazon Bay with Oraora inland up Imudala River, a mixed Daga and Magi village. Ray groups Asiaulo and Kulele and has Wowolo and Oraora each separate.



- |     |   |      |  |
|-----|---|------|--|
| 11. | Selai, Aorana, Derebai  | 351  | On shore eastern coast Amazon Bay.   |
| 12. | Dagobo, Unevi   | 172  | Mayri Bay.   |
| 13. | Borebo, Ubuna, Maiva  | 257  | Mayri Bay. Ray includes Borebo with (12) and remainder with (14).  |
| 14. | Sabilobo, Pedili, Eunoro Is.                                    | 273  | On shore Millport Haven. Eunoro Is. settled within last sixty years from Sabilobo.   |
| 15. | Onioni, Geagea  | 162  | On shore Port Glasgow.   |
| 16. | Tanobada, Ilai, Keakaro   | 164  | Inland along middle reaches of Mamai River (west bank tributary of the Oibada River) and on shore west end Orangerie Bay.  |
| 17. | Oibada, Korauto, Nabai, Ori Gogosiba, Kamina (or Dauro, Gamila) | 307  | On shore and inland from Orangerie Bay around lower reaches of Origuina River. These villages are unusual in that they are all independent and will not unite into one large village. It is not known whether they represent one or more varieties of Magi. Gogosiba includes one or two families of Sona (ex-Kuru village) and Orokaiva speaking peoples mixed in. Possibly others as well. Nabai also includes a few Sona speaking people living at Bebemu village (behind Baibara plantation) who moved down from Aniesi village. Also one Bina speaker claiming linguistic relationship with Magori. |
| 18. | Gadaisu   | 200? | On shore mid Orangerie Bay. Mixed Austronesian (Bonabona) and Magi. Lалуoro Island people have also married into Gadaisu and Laimodo villages to the east because of an early feud with the Mailu Islanders. Lалуoro's Islanders have also established gardens near Deba at the mouth of the Bailebo River and some have learned the Magori language.  |



#### 4.42 Domu

This small language is spoken in the census villages of Dom, Merani and Tutubu on the south coast between Cape Rodney and Baramata (excluding Otomata) and inland in the foothills drained by the Auro and lower reaches of the Bomguina Rivers. See Map 3. Dom includes the lesser villages of Rigua, Unau, Gonubu and Abuia. Rigua is said to be originally from the hills north-west of its present location but south of Kaniaba and said to have spoken Lamagu, of dialect of Maria.<sup>1</sup> Merani includes the old villages of Kaura and Iaba (or Eaba).

Domu is most closely related to Bauwaki to the north-east but also shows connections with Abia (of the Yareban Family) immediately to the north. This language covers Ray's (1938:157) Domu and Merani subdivisions of his Domu Group.

#### 4.43 Morawa

This language occupies the coastal territory east from Sandbank Bay around Cloudy Bay almost to Dedele Point. See Map 3. It is spoken in the four present-day villages of Badubadu, Duramu, Manaua (= new Ganai), and Si'ini (= new Aniado). It covers Ray's (1938:157) Morawa and Lauuna subdivisions of his Domu Group.

#### 4.44 Binahari

This language is to be found on both sides of a range of hills running inland from Cloudy Bay in a north-eastly direction towards the mountainous country between Mounts Suckling and Dayman in the main range as far as the headwaters of the Liba River. This range separates the Baubauguina (guina = *river*) River basin on the west from that of the Amina (or Robinson) River on the east. See Map 3. Binahari consists of two dialects: Neme (from *nemeda'a neme speech* but usually spelled Nemea) and Ma (from *mada'a Ma speech*). The latter is only spoken by 172 villagers in the two villages of Oio (or Oi'o) and Darava No.2 immediately inland of Robinson River plantation and some have married into Magaibu village on the coast (see section 4.41 Dialect 3). The former is more extensive (population 598) and covers the following present-day villages: (a) Apaeva (in the Baubauguina River plantation area); (b) Bam and Segili on the east side of the range; and (c) Doma (which includes earlier villages of Orumani, Mada, Uihaiia (or Wahea) and Basiabaga) in the Liba valley at the northern

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<sup>1</sup>See my publication of 1970, sections 1.44 and 2.26.



end of the range. The name for this language follows Ray's (1938:159) Binahari Group although informants were puzzled by it and could not identify it as being either a group or dialect name.

#### 4.45 Bauwaki

Formerly this language was spoken in small hamlets scattered across an area extending from the Mori River through the headwaters of the Gadoguina (or Eau) and Liba Rivers into the Keveri Valley (see Williams (1944)) along the Adau River on the northern side of Mt Clarence as far as the gorge and imposing northern wall of the main range eastwards along the Owen Stanleys to the vicinity of Mt Suckling. Now, however, the population is concentrated at Amau on a tributary of the Mori on the southern side of the main range, where, according to Williams (1944:92) they had a village "when Kwato Extension first established itself there."<sup>1</sup> A minority still live in the Keveri Valley at Paiwi and at Bau and Velavelai in the headwaters of the Liba River. A few have also moved to Mori from Amau. See Map 3.

Bauwaki is a kind of bridge language between the Mailuan and Yareban Families. It shows just slightly greater basic vocabulary agreements with Domu (66%), of the former, than with Abia (54-59%), of the latter. Grammatically it appears to be a mixture of both Mailuan and Yareban elements. This was true also of their pre-European-contract culture generally which seems to have been a combination of elements from cultures on both sides of the range.<sup>2</sup> According to informants at Amau the language is pronounced *bavake* meaning *true (ba) speech (vake)*.

<sup>1</sup>This was in the early thirties. According to Dr Thomson (pers. com.) Tiso Kakaisina founded the station under the superintendence of the Abels of Kwato after moving there from the Domara area about 1934. The station has since been taken over by the United Church. Williams (1935:20) refers to the success of the mission work there among "the near neighbours of the Nemea."

<sup>2</sup>See Williams (1944:92-95).



## Appendix 5.1: LISTING OF LINGUISTIC MATERIALS COLLECTED

In this listing the following abbreviations are used: L = S.A. Wurm's "Lexicostatistical List for New Guinea Highlands Languages"; G = Some Grammatical Information; T = Text. In cases where a complete lexicostatistical list L was not obtained the number of items actually elicited is expressed either as a fraction of L (e.g., L = (approximately) half of L) or as a sequence of numbers referring to the numbered items on the list. A '+' following a number means that several other items were taken but are not listed individually here. The following listing also includes some material that was collected on previous occasions.

DATE	VILLAGE	LANGUAGE	MATERIAL	TAPE NO.
<b>UNCLASSIFIED LANGUAGES</b>				
14.8.69	Jariri	MAISIN	L	P102
1.9.69	Ailala	" " "	L	P103
23.9.69	Karuasi	DOGA	L(1-162)	P108
<b>AUSTRONESIAN LANGUAGES</b>				
27.8.69	Tumari	ARIFAMA-MINIAFIA	L	P103
27.8.69	Gebara	" " " " " " " " "	L	P103
2.9.69	Kewansasap	UBIR	L(1-127)	P103
9.9.69	Komabun	" "	L	P104
18.9.69	Bolabola	DAWAWA	L	P106
18.9.69	Uga	BOIANAKI	L(1-162)	P107
19.9.69	Musara	" " " "	L	P107
26.9.69	Magori	MAGORI	L,G,T,	P108 & P109
30.9.69	Deba	" " "	G	P109
27.9.69	Laimodo	SUAU?	L(1-183)	P110
<b>NON-AUSTRONESIAN LANGUAGES</b>				
<b>(i) Binanderean</b>				
Mar '66	Dombada	NOTU	L	P1
12.8.69	Leiba	" "	L(1-127)	P101 - but only part recorded
12.8.69	Iwuji	GAINA	L(1-218)	Unrecorded
Mar '67	Kinjaki	BARUGA	L	P40
13.8.69	Foru No.2	" " "	L(1-162+)	P101
14.8.69	Karaisa (ex-Jiripude)	" " "	L,G	P101
18.8.69	Korala	" " "	L	Unrecorded
13.8.69	Sebaga	DOGORO	L(1-153)	P101
28.8.69	Rabadi	KORAFE	L(1-140)	Unrecorded
28.8.69	Sinei	" " "	L(1-127)	Unrecorded



**(ii) Yareban**

Mar '67	Toma	BARIJI	L	P39
8.8.69	Bibira No.1. <sup>1</sup>	YAREBA	L	Unrecorded
25.8.69	Ubo	" " "	L(1-163)	Unrecorded
28.10.69	Obeia <sup>2</sup>	" " "	L	P113
22.8.69	Maioki	ABIA	L,G,	P101
22.8.69	Bubudi	" "	L(1-163)	P101
22.8.69	Auwaka	" "	L(1-163)	P101
6.10.69	Ianu (Oka'udi)	" "	L,G	P111
6.10.69	Buniabura	" "	L	P111

**(iii) Dagan**

3.9.69	Koreaf	ONJOB	L	P103
4.9.69	Naukwate	" " "	L ,G	P103
27.8.69	Wapon	MAIWA	L	P103
6.9.69	Pumani	" " "	L(1-183),T	P104
12.9.69	Biniguni	" " "	L(1-163+)	P106
23.9.69	Wanona	" " "	L(1-136),G	P108
13.9.69	Midino	JIMAJIMA	L,G	P106
23.9.69	Wapoko	" " " "	L(1-136+)	P108
5.9.69	Kakaia	DAGA	L	P104
5.9.69	Gwedede	" "	L(1-183)	P104
29.9.69	Nunumai	" "	L	P110
13.9.69	Ruabo	MAPENA	L	P106
9.9.69	Augwana	GWEDENA	L	P104
10.9.69	Taubadi	" " " "	L(1-163)	P104 & P105
10.9.69	Bonenepi	" " " "	L(1-140)	P105
10.9.69	Sirisiri	" " " "	L(1-163)	P105
10.9.69	Kivikivi	" " " "	G,T	P105
25.9.69	Ikara	" " " "	L,G	P108
12.9.69	Berema	GINUMAN	L,G	P106
11.9.69	Dombosaina	SONA	L	P105
11.9.69	Gadoa	" "	L	P105
11.9.69	Warawadidi	" "	L(but only sufficient to check affiliation with either Dombosaina or Gadoa)	P105
17.9.69	Mawapa	" "	L,G	P106 & P107

<sup>1</sup>This list was kindly supplied by Mr H. Weimer of the Summer Institute of Linguistics.

<sup>2</sup>This list was supplied by Mr B. Egloff, Department of Prehistory, The Australian National University, who recorded it at Wanigela.



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**(iv) Mailuan**

Feb '67	Domara	MAGI	L,G	P37
30.9.69	Borebo	" "	L	P110
30.9.69	Mailu Is.	" "	L(compiled from Saville (1935a))	
9.10.69	Dom	DOMU	L,G	P112
1.10.69	Badubadu	MORAWA	L(1-152+)	Unrecorded
2.10.69	Oio	BINAHARI	L,G	P109
3.10.69	Doma	" " " "	L,G	P109
7.10.69	Amau (Keveri)	BAUWAKI	L,G	P111

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Appendix 5.2: VILLAGE LISTS AND POPULATION FIGURES FOR MAISIN  
(UNCLASSIFIED)

1. Uiaku Dialect

Ailala	108	
Gangiija	209	
Iu'ai'iu	112	
Lilioa	90	
Marua	112	
Sinapa	92	
Sinapara	173	
Uiaku	481	Estimated out of 185. Part Arifama-
Uwe	145	Miniafia. (AN)
	<u>1552</u>	

2. Kosirava Dialect

Bedaide	51	Includes Jariri.
Karaisa	30?	Estimated out of 150. Most are Baruga speakers.
Moiavi	86	
Momoiogo	84	
	<u>251?</u>	
<u>TOTAL</u>	<u>1773?</u>	



Appendix 5.3: VILLAGE LISTS AND POPULATION FIGURES FOR SOME AUSTRONESIAN LANGUAGES OF SOUTH-EAST PAPUA

These languages are presented from north to south. Notes on villages in the Arifama-Miniafia and Ubir languages are taken from Medaris (1969), hereafter symbolized GM.

5.31 Arifama-Miniafia (Austronesian)

DIALECT	VILLAGE	POPULATION	REMARKS	
1. Arifama	Berubona No.1	104	GM says: "These people (= Arifama Group) have been at and around Berubona for as far back as they can recall. A mission station was started at NATUKWABA around 1913 and was closed about 1930 and moved to SEFOA. Berubona Mission was established in 1937".	
	Berubona No.2			
	Founa	85		
	?Katokato	59		GM has this as Korafe.
	Natukwaba	20		
	Tumari	100		
		<u>404</u>		
2. Miniafia	Bai'ata	34	GM says: "These people (= Miniafia Group) tell of their forefathers coming from PENARI on the slopes of Mt Victory and that as a result of a fight between BARAMA and WAGUA clans, WAGUA clan moved to the coast looking for a settling place, finally settling where they are today. The people from Lako and Leaga (EWARAGA AWANABIRIA Group) were at the time occupying the land and were driven away."	
	Fonibaru	97		
	Gebara	62		
	Gigori	98		
	Giriwa	15		
	Itonomata	47		
	Itoto	60		
	Iubadi	30		
	Jikuataia	90		
	Kabubu	102		
		Kuruaku	46	Bausa group. GM says: "These people claim they are on their original land and that during the days of tribal fighting they moved to PENARI (south-east slopes of Mt Victory) and MARASA and that when the fighting stopped they moved back to Kuruaku."
	Managa	95		
	Marasa	189		
	Simumu	22		
	Utukwafu	117		



	Uwe	40?	Estimated out of 185. Part Maisin.
		<u>1144?</u>	
3. Oyan	Oreresan	257	
4. Lakwa	Lako	148	GM says: "Originally from WONARI, moved because of tribal fighting to Kepel Point and later to present location".
	Leaga	93	
		<u>242</u>	
	<u>TOTAL</u>	<u>2047?</u>	

### 5.32 Ubir (Austronesian)

1. Ubir	Komabun	297	GM says: "These people claim to have originated from either C. Vogel or Goodenough Island. They came by sea and settled near Fofo village."
	Rainu	306	
		<u>306</u>	
2. Kubiri	Kewansasap	233	GM says: "Originally from WONARI. Fought with Miniafia group and so moved away, to settle at present location".
	Kwagila	75	
		<u>308</u>	
	<u>TOTAL</u>	<u>912</u>	

### 5.33 Gabobora (or Anuki) (Austronesian)

	Pem	335	Includes Tototo.
	Tapio	188	Said to contain migrants from Ruabo River mouth area who travelled over via Menapi. Includes Waruka.
	<u>TOTAL</u>	<u>532</u>	

### 5.34 Mukawa (or Are) (Austronesian)

	Bako	174	Said to have close social connections with Diodio village on Goodenough Island.
	Bogaboga	392	
		<u>118</u>	
	Ginada	118	
	Mukawa	383	
	Wabubu	164	
	<u>TOTAL</u>	<u>1231</u>	

### 5.35 (Gapa) Paiwa (Austronesian)

	Abuaro	111	Supposed to be migrants from Boianaki in Dogura Bay.
	Banapa	186	



Dabara	155
Giwa	291
Koiabagira	281
Menapi	297
<u>TOTAL</u>	<u>1321</u>

Other villages marked on some maps: Wawaki, Didiwa, Kabogibogima, Buku, Omoro, Awara, and Kirikirikona.

### 5.36 Boianaki (or Galavi) (Austronesian)

Baiwara	-	Part Sona. Censused at Vidia.
Radava	560	
Uga	68?	Estimated out of 118 which includes figures for Mua, a Gwedena village. Uga originally spoke the Yewudu dialect of Boianaki but is now almost extinct.
Vidia	209?	
Wadobuna	338	
<u>TOTAL</u>	<u>1175</u>	

Other villages marked on some maps: Boianai, Mageburu, Wagi and Musara.

### 5.37 Dawawa (Austronesian)

Didia	297	
Gadovisu	315	
Kiwarai	273	Includes Bolabola, Buio and Garugaru.
Manubada	304	
Pova	53?	Estimated out of 223 which includes figures for Igora villages of Gavi, Tanupota and Kubaua.
Wanama	385	
<u>TOTAL</u>	<u>1627?</u>	

Also includes Kariesi marked on some maps.

### 5.38 Wedau (Austronesian)

Divari	227
Wamira	604
Wedau	397
<u>TOTAL</u>	<u>1228</u>



This figure does not include speakers of Wedau as a secondary (Church) language in other villages in the Anglican Mission area of South-East Papua.

### 5.39 Igora (Austronesian)

Kwabunaki	120	
Mainaua	159	
Gavi )		Estimated out of 223 which includes figures for Pova, a Dawawa village.
Tanupota )		
Kubaua )	170	
<u>TOTAL</u>	<u>449?</u>	

Said to include Didi, Taupaiopaio and Dobukopu marked on some maps.

### Appendix 5.4: VILLAGE LISTS AND POPULATION FIGURES FOR BINANDEREAN LANGUAGES IN SOUTH-EAST PAPUA

#### 5.41 Notu (Binanderean)

The following listing excludes Notu villages west of the mouth of the Bariji River as marked on Map 2. Note that Songadi at the mouth of this river is taken to be a Baruga village related to Foru No.1. See Dialect 7 of subsection 5.43 below.

1. Goroto	Gobe	203	GM says: "These people originated from GARURO, near ORO BAY. They joined with the OKENA (PONGANI) to fight with people from around Cape Nelson."
2. Okena	Ako	116	GM says: "These people are originally from the GONA area, fought with the MOKORUA and ARIPAMA people to get their present land."
	Mafuia	103	Includes old village of Oreia.
	<u>TOTAL</u>	<u>422</u>	

#### 5.42 Gaina (Binanderean)

Wai'ie	43	
Ferorode	-	Included in other census figures from this area. Not listed in Village Directory (1968).
Iwuji	65	
Nembadi	20	
Sasarū/Orala	?	No figures available.
<u>TOTAL</u>	<u>128?</u>	



## 5.43 Baruga (Binanderean)

1. Saroa	Kesade	-	Censused with Kinjaki.
	Kinjaki	85	
	Sariri	66	
		<u>151</u>	
2. Agaundi	Gombara	34	
	Karaisa	120?	Estimated out of 150. Part Maisin (ex-Jiripude and Kwaifade).
		<u>154?</u>	
3. Baiambo	Kakasa	67	Includes Boborobo and Wororari marked on some maps.
	Korala	34	
		<u>101</u>	
4. Dugare	Embessa	81	Mixed with Yareba speakers from middle Musa River.
	Ovesa	57	
		<u>138</u>	
5. Gewoduru	Gugumu	62	New Garagarata.
	Taruma	27	
		<u>89</u>	
6. Totore	Dove	62	Dove may not belong to this group.
	Guruguru	61	
	Sanada	18	
		<u>141</u>	
7. Foru	Foru No.1	47	Said to be ex-Songadi.
	Foru No.2	85	
	Karisoa	91	Near mouth of Bariji River to the west.
	Songadi	54	
		<u>277</u>	
	<u>TOTAL</u>	<u>1051?</u>	



## 5.44 Dogoro (Binanderean)

Bendoroda	37
Sebaga	82
<u>TOTAL</u>	<u>119</u>

## 5.45 Korafe (Binanderean)

## 1. Mokorua or Yega

GM says: "The YEGA or MOKORUA people claim to be from SASEMBATA/ISOGE area around Mt Lamington from where they moved to MAFUIA and then onto their present locations."

Angorogo	79
Bambiti	60
Fofoma	55
Gavida	76
Ilamaroro	26
Kaparuru	36
Kanaweto	35
Koruwe	88
Sinei	77
Siu	18?
Teniaru	70
Tumina	46
	<u>666</u>

Estimated out of 35. Part Korafe dialect.

GM says: "Originally from KANAWETO. Moved to present location as a result of a fight with KOJE people. Allowed to settle on OKENA land because of an interclan friendship."

## 2. Korafe

Amuioan	22
Baga	53
Barabara	103
Bauwame	91
Bekoiana	86
Foduma	186
Iagirua	49
Jebo	86
Kabuni	131
Karikari	57
Kasiawa	54
Kikiṭa	46
Koje	174
Konabu	40

GM says: "(the Korafe) say they were originally from a hole in the ground near Bedaide, from here they move to GOBE but because of tribal fighting again moved to UWE and later to BERIA (near UIAKU). They stayed as neighbours with the Maisin people until an argument necessitated they again move, this time to MacLaren Harbour to where they stayed and spread."

GM says: "these speak the Aiu language." Needs checking.



Konedobu	72	
Kuririka	28	
Kwapulina	101	GM says: "Originally from Goodenough Island."
Kwave	75	
Orotoaba	98	
Rabadi	55	
Rukapa	15	
Siu	17?	Estimated out of 35. Part Mokorua (or Yega).
Tainabuna	125	
Tufi	44	
	<u>1808?</u>	
<u>TOTAL</u>	<u>2474?</u>	
<u>FAMILY TOTAL</u>	<u>4194?</u>	

#### Appendix 5.5: VILLAGE LISTS AND POPULATION FIGURES FOR THE YAREBAN FAMILY

##### 5.51 Bariji (Yareban)

Biriri	46
Gewoia	53
Manana	37
Samaga 1 & 2	43
Toma	57
Yawobo	20
<u>TOTAL</u>	<u>256</u>

##### 5.52 Yareba (Yareban)

Recent census figures are not generally available for individual villages, but are given for groups of villages associated with the following census points (working downstream):

Aiare	86	Includes Mudi.
Sibia	106	Includes Deune.
Namudi	263	Includes some Maria speakers from Imuruwake (Dutton (1970: Map 5)).
Moro	458	Includes Arumabai, Asanga No.1 & 2, Busi, Fiobobo, Ibuduru, Koira, Musia, Umauma, Ure, Uriobo.
Bibira No.2	100?	Estimated out of 225. Includes Bofobe.
Avakaro	116	
Safia No.2	100?	Estimated out of 192. Includes Safia No.1.



Bibira No.1	101	
Gobera	29	Dibogi group.
Domara	105	Includes Bari. Dibogi group.
Obeia	166	Bori group. Includes Ibau and Silimidi (which may be more closely related to Bauwaki through the Keveri Valley), and Ubo.
<u>TOTAL</u>	<u>1630?</u>	

## 5.53 Doriri (Yareban)

Ariari	355	No individual population figures were available for these villages.
Awala		
Bedira		
Bubudi		
Liamu		
Maioki		
Moikodi		
<u>TOTAL</u>	<u>355</u>	

## 5.54 Abia (Yareban)

Deberawake	125?	Estimated out of 225. Censused at Bibira No.2.
Jari		
Minawake		
Aimare		Boru Group
Kosiwara		
Arai'ia	92?	Estimated out of 192. Censused at Safia No.2. Wami Group.
Doma		
Auwaka		
Ianu	362	Includes old villages of Debana, Domo, Kurodi, Lalai, Uka'udi, and Buniabura.
<u>TOTAL</u>	<u>579?</u>	

FAMILY TOTAL 2820?

Appendix 5.6: VILLAGE LISTS AND POPULATION FIGURES FOR THE DAGAN LANGUAGE FAMILY

## 5.61 Onjob (Dagan)

Koreaf	91	Onjob Group.
Naukwate	69	Aiso Group.
<u>TOTAL</u>	<u>160</u>	



## 5.62 Maiwa (Dagan)

Biniguni	276	Includes Opaigwat, Gwanai, Tarumpa, Gwariu, Bunigitui, Goiantagnum, Bebegwi, Budumaga.
Wapon	174	Includes Aru, Gagaro, and Maneau. Covers Minium and Maneao Groups.
Borovia	94	
Pumani	454	Includes Bibab, Wanona, Aiopun, Betavi, Umpi, Bondiri, Kwinau, marked on some maps.
Baiawa	70	Seems to include Kwateva and Pue groups mentioned in early reports.
Monari	230	Includes Ukwena, Mokuwuwa and Aioma marked on some maps. Gairena or Gwarenta group.
<u>TOTAL</u>	<u>1298?</u>	

## 5.63 Jimajima (Dagan)

Iarame	107	Includes Tanugado & Sirimo marked on some maps.
Mapona	151	Includes Maparosopura and Gurukwaia. Mapona Village also contains (Gapa) Paiwa speakers.
Midino	185	Includes Iapobi, Bavabora, Erapopi, Asaro, Buburida, Bimba, Pompon and Orotobara marked on some maps.
Wakwapu	99	
<u>TOTAL</u>	<u>542?</u>	

Total figure does not include Pompon, Buburida and Bimba villages censused at Borovia in the Maiwa language area.

## 5.64 Daga (Dagan)

Arau	120	
Awansinan (=Gwansinan or Nogateri)	100?	Estimated. Censused with Maua (part Daga) at Taubadi.
Bibitan	208	
Biman	204	Includes a group known as TARAKA who live in Navip hamlet on the slopes of Mt Marot. Said to speak differently from all neighbours. Needs checking further.
Birat	226	
Bonenau	437	
Bonua	197	
Danawan	382	



Deigam	133	
Deria (or Bomua)	85	
Dogon	52	Dogon and Doveta villages are moving to a new village of Paua about three-quarters of an hour's walk to the north-west of Deria.
Doveta	59	
Eviauwa	205	Includes Topu.
Gaburu	85	
Gwadede	249	
Gwagut	187	
Gwiroro	100?	Estimated out of 287. Said to be mainly a Ginuman speaking village but with some Daga also mixed in.
Ioiok	55	
Kamina	96?	= Gamila or Dauro
Kakaia	521	
Kebei	32	
Keria	122	
Komanaia No.1	331	Also known as Paiawa.
Komanaia No.2	272	Also known as Gaunani.
Modaulo	48	Includes Udama and Poi.
Nepesi	143	
Nora	81	
Nunumai-Bilaga	192	
Tua	-	Censused at Gwiroro.
Uni	323	
Veroi	99	= New Igup.
<u>TOTAL</u>	<u>5326?</u>	

#### 5.65 Mapena (Dagan)

Bemberi	274	All villages censused at Bemberi.
Kwabu		
Amako		
Girim		
Daneam		
Ruabo		
<u>TOTAL</u>	<u>274</u>	



## 5.66 Gwedena (or Gwede) (Dagan)

Dialect 1	Aritapu	113	
	Bidiesi	188	
	Bonenepi	139	
	Ikara	361	
	Taubadi	423?	Estimated out of 623. Part Ginuman.
		<hr/>	
		1224	
Dialect 2	Augwana	116	
	Gaiwonaki	54	
	Kanaturu	183	
	Kivikivi	- ?	Censused with Nakara.
	Mua	50?	Estimated. Censused at Uga. Includes Gauwa (or Gwadagwada) and Kimokimo marked on some maps.
	Radarada	78	
	Sirisiri	299	Includes Awatun, Kabini, Taisea, Torerepo, Taupoto, Dabora, Nububu, and Nagagapi marked on some maps.
	Taramugu	157	
		<hr/>	
		937?	
		<hr/>	
	<u>TOTAL</u>	<u>2161?</u>	

## 5.67 Ginuman (or Dime) (Dagan)

	Etau	233	
	Gwiroro	187?	Estimated out of 287. Part Daga.
	Nakara	155	
	Taubadi	200?	Estimated out of 623. Mainly a Gwedena speaking village.
	<u>TOTAL</u>	<u>775?</u>	

This language also includes Karakara, Gatu, Udubi and Berema (ex-Etau) marked on some maps.

## 5.68 Sona (Dagan)

The following listing will be divided into two groups without implication as to their dialectal status.

## 1. Villages on the North Side of the Main Range

Baiwara	?	A few speakers now living in this Boianaki village. Censused at Vidia.
---------	---	--



Bowadi	292	Includes Siaka.
Dombosaina	232	Principal village in Puduwana area. Includes Binamatau.
Gadoa	188	Includes Mowapa.
Karagautu	297	
Tutuauna	116	Includes Danubu (which is to become the new principal village), Waremba, and Subinesa.
Vidia	100?	Estimated out of 309. Mainly a Boianaki speaking village.
Warawadidi	236	
	<hr/>	
	1461	
	<hr/>	

## 2. Villages on the South Side of the Main Range

No population figures were available for these villages. Dr Thomson (pers. com.) estimates them to number about 200. The south side villages are often referred to as the Kanasi and Sunandima villages. The Kanasi villages are located in the upper valleys of the Origuma and Lagatuna Rivers. They are/were:

Aniesi		Abandoned.
Bainanoum		Abandoned.
Bara )		
Kondu)	70?	
Kuru		Abandoned.
Wadauda	70?	

Some of these are moving, or have moved to Bebemu (or Losiba) just inland of Baibara Plantation in Orangerie Bay.

The Sunandima villages are located in the valleys of the Laimodo River. They are/were:

Abadi		Abandoned.
Buni-i		Abandoned.
Iou )		
Oboro)	40?	
Saroro	?	Inland of Gadaisu village in Orangerie Bay.

TOTAL 1661?

FAMILY TOTAL 12,197?



Appendix 5.7: VILLAGE LISTS AND POPULATION FIGURES FOR THE MAILUAN  
LANGUAGE FAMILY

5.71 Magi (or Mailu) (Mailuan)

Aroana	77	
Baramata No.4	256	
Borebo	174	
Boru	329	
Dagobo	93	
Darava (or Daroa)	209	
Derebai	119	
Domara	127	
Eunoro Is.	87	
Gadaisu	200?	Estimated. No figures available. In Milne Bay District.
Geagea	80	
Gogo (siba)	56	
Ilai	69	
Kamina (or Gamila or Dauro)	?	Mainly Daga.
Keakaro	39	
Korauto	21	
Kulele	386	
Labu	51	
Laluoro	302	
Loupom	312	
Magaubo	177	
Mailu	536	
Maiva	35	
Nabai	49	
Oibada	34	
Onioni	82	
Oraora	-	Censused at Wowolo.
Ori	51	
Pedili	79	
Sabilobo	107	
Selai	155	
Tanobada	56	
Ubuna	48	
Unevi	79	
Wowolo	187	Presumed to include Asiaulo.
<u>TOTAL</u>	<u>4662?</u>	



## 5.72 Domu (Mailuan)

Dom	257	Includes Rigua, Abuia and Iaba.
Merani	100	
Tutubu	125	
<u>TOTAL</u>	<u>482</u>	

## 5.73 Morawa (Mailuan)

Badubadu	196	Listed as Ganai in Village Directory (1968). Precise location unknown.
Duramu	171	
Manaua	254	
Si'ini	134	New village of Aniado.
<u>TOTAL</u>	<u>755</u>	

## 5.74 Binahari (Mailuan)

## 1. Neme Dialect

Apaeva	229	Includes some Bauwaki (ex-Keveri) speakers.
Bam	72	
Doma	138	Includes Bombaga.
Segili	159	
	<u>598</u>	

## 2. Ma Dialect

Darava No.2	97
Oio	75
	<u>172</u>
<u>TOTAL</u>	<u>770</u>

## 5.75 Bauwaki (Dagan)

Mori	68	Includes Keveri Valley villages, e.g. Eoro.
Amau	241	
Bau	37	Not listed in Village Directory (1968)
Velavelai	32	Not listed in Village Directory (1968) Censused with Bau at Doma.
<u>TOTAL</u>	<u>378</u>	

FAMILY TOTAL 7047?



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JRAI    *Journal of the Royal Anthropological Institute*

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## MISCELLANEOUS NOTES

### ON LANGUAGES IN WEST IRIAN, NEW GUINEA

C.L. VOORHOEVE

#### SUMMARY

In these short notes new information is presented concerning a number of languages in north-east and south West Irian. In the north-eastern corner the so-called Tami languages form a stock consisting of two families. This stock is part of the North Papuan Phylum which further includes the languages of the Tor River Stock, further to the west. The intervening Sentani and Nimboran languages do not seem to belong to this phylum but rather to the Trans New Guinea Phylum. South of the Tami Stock are found the languages of the Senagi Family, the Pauwasi Phylum, and several unclassifiable languages. The Sko Language on the north coast links up with the Vanimo language on the Australian side of the border. The language is tonal and seems to have three tones. The notes on Sko supplement the first notes on that language by Cowan.

In south West Irian the Kajagar Family is found in the hinterland of the Casuarina coast, wedged in between languages of the Asmat-Kamoro, Awju, and Jakaj Families. It has been provisionally classified as a family-isolate within the Trans New Guinea Phylum. The neighbouring Sawuj language appears to be a fringe member of the Awju Family. Inside Asmat territory, the two villages of Warkai and Bipim speak a Marind-type language most closely related to Jakaj.



## 1. PREFACE

These notes are for a large part based on information collected by me during a field trip to West Irian from early March to mid June 1970. The opportunity to make the trip arose when the National Geographic Society asked me to join a team of photographers which was to visit the Asmat people on the south coast of New Guinea. Besides acting as an advisor and interpreter I would be free to conduct my own research. The importance of the proposal was obvious: I would be able to collect new data in a number of lesser known languages in an area to which a routine field trip because of the practical difficulties and the costs involved, would be out of question. The Australian National University generously gave its consent and I left Australia in early March in company of the two other members of the team, the photographers Malcolm Kirk and his wife. After a week in Djakarta and a week in Djajapura we flew to the Asmat area. There we spent two months travelling up and down the rivers of the central Asmat area and the Casuarina Coast and its hinterland. I used this time to collect data in several Asmat dialects, the language of the villages Warkai and Bipim, the Sawuj language and the languages of the Kajagar Family, Kaugat, Kajgir, and Tamagario.

Early in June I left the party and returned to Djajapura where I stayed for two weeks at the Roman Catholic Mission in Abepura. There I collected further data in Jakari, Sko, Awji, Manem, Waris, Dera, and Morwap, all in north-east West Irian, and in Nalum, the westernmost of the Mountain Ok languages. In mid June I returned from West Irian to Australia via Australian New Guinea.

I wish to express my gratitude to the Australian National University and the National Geographic Society for providing the funds for this field trip; to the Indonesian Embassy in Canberra for their assistance in completing the necessary formalities; to the Lembaga Ilmu Pengetahuan Indonesia in Djakarta for granting me permission to do linguistic research, and to the Indonesian Authorities in Djakarta, Biak, Djajapura and the Asmat District whose friendly cooperation has been of great help. I also feel greatly indebted for the valuable assistance I received from the missionaries of the Roman Catholic Mission in Djajapura, Abepura, Sentani and the Asmat, and also of the Evangelical Alliance Mission in Pirimapun, whose hospitality I enjoyed. To all those, and to all others who were my companions, helpers and informants go my sincerest thanks.

The collection of notes presented in this paper falls into two main parts: those concerning the languages in the north-east corner of



West Irian, and those on the languages in the south-western plains.<sup>1</sup> The north-eastern languages have in the past already been the subject of surveys made by Dutch linguists. The data collected by these has been combined with my own data in order to arrive at the fullest possible picture of the linguistic situation in the area. No such earlier published accounts were available for the southern languages I dealt with. However, a manuscript containing grammatical sketches of the Tamagario and Kajgir languages, by the missionaries Drabbe and Lommertsen, was available to me during my stay in Pirimapun, Casuarina Coast.

## 2. LANGUAGES OF NORTH-EAST IRIAN

### 2.1. INTRODUCTION

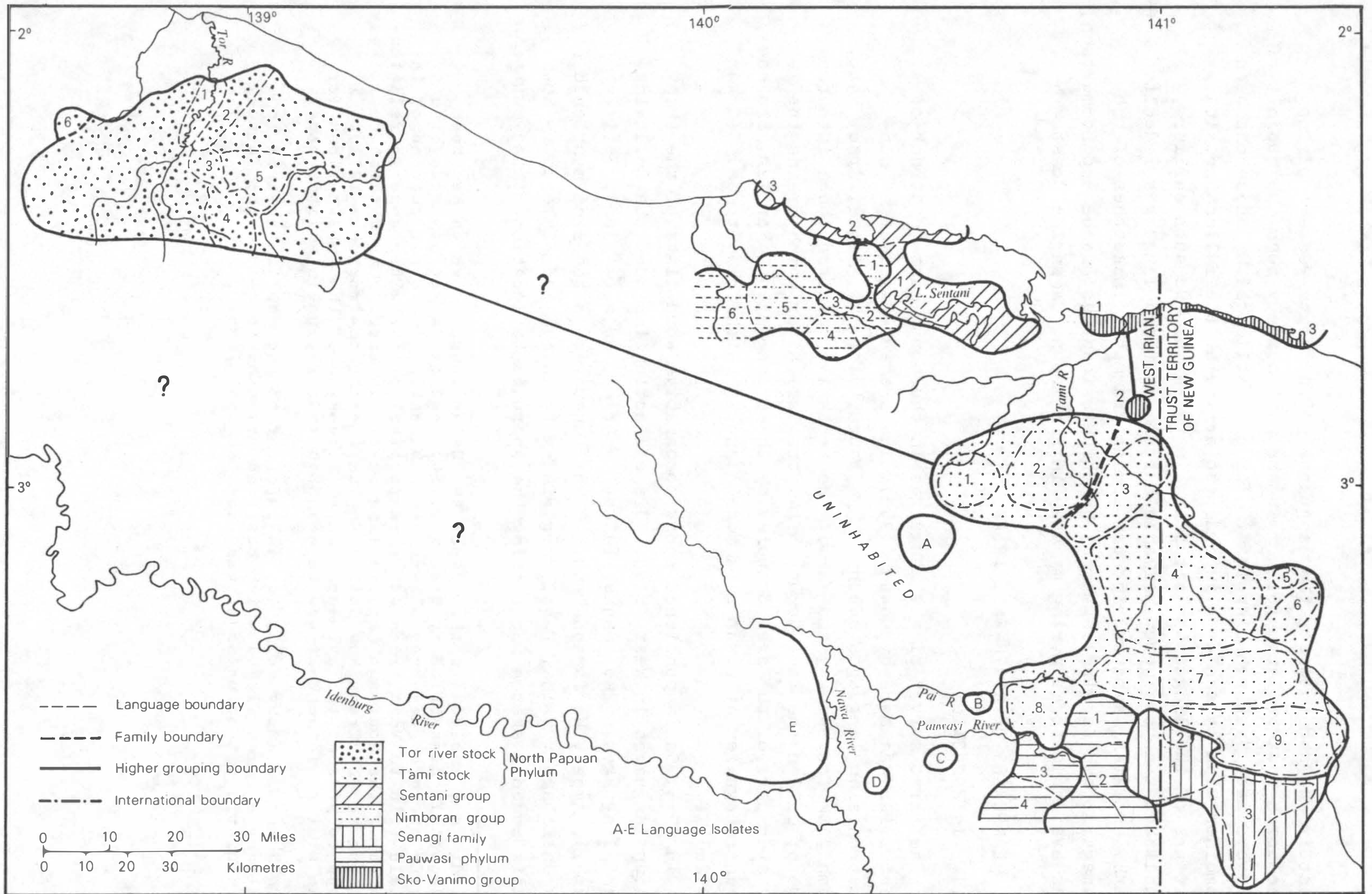
The first survey of the languages in the north-eastern corner of West Irian was made by Cowan (1953). He presented a list of non-Austronesian languages south of Djajapura, viz. Sko, Saŋke, Arso, Njao, Wembi, Skofro, Ampas, and Waris. He tentatively united these into one group, called the Tami Group, after the Tami River which drains the greater part of the area occupied by these languages. Earlier, Sko had been recognized by Cowan as a tonal language with three tones. (Cowan 1952a).

In 1955, Galis published short comparative word lists of the then known languages in West Irian. His collection included the following Tami languages: Sko, Saŋke, Taikat (= Arso), Awje (= Njao), Jeti (= Wembi), Ampas, Waris and Tabu. Other languages in the area mentioned by Galis are : Waina, Dera, Wargarindem (= Jafi), and Kiamerop (= Emumu). Galis added a sketch map showing the approximate location of the languages.<sup>2</sup>

<sup>1</sup>I did not include in this paper the Nalum language which has been adequately classified by Healey (1964), and the Asmat dialects, the study of which deserves a separate publication. Another outcome of the field trip to West Irian was a reappraisal of the wider genetic relationships of the Moni and Kapauku languages. It appears that these definitely belong to the Trans New Guinea Phylum (McElhanon-Voorhoeve 1971). I hope to present the evidence and a discussion of the implications for the status of the West New Guinea Highlands Phylum in a later paper.

<sup>2</sup>This map, sketchy as it is, is superior to the map of the area in Salzner's Atlas (1960) which bears no relation to all to the factual linguistic situation as it was known at that time.





MAP 1: NON-AUSTRONESIAN LANGUAGES OF NORTH-EAST WEST IRIAN



## NON-AUSTRONESIAN LANGUAGES OF NORTH-EAST WEST IRIAN

- Sko-Vanimo Group:**
1. Sko
  2. Sanke
  3. Vanimo
- Tami Stock:**
1. Awji
  2. Taikat
  3. Manem
  4. Waris
  5. Daonda
  6. Simog
  7. Waina (Sowanda)
  8. Sengi
  9. Amanab
- Tor River Stock:**
1. Berrick
  2. Dabe
  3. Bonerif
  4. Mander
  5. Ittik, Ittik-Tor
  6. Najdjbedj
- Sentani Group:**
1. Sentani
  2. Tanah Merah
  3. Denta
- Nimboran Group:**
1. Mekwei
  2. Kantuk
  3. Kwansu
  4. Gresi
  5. Nimboran
  6. Uria
- Senagi Family:**
1. Dera
  2. Duka-Ekor
  3. Senagi
- Pauwasi Phylum:**
1. Jafi
  2. Emumu
  3. Dubu
  4. Towe i
- Unclassified languages:**
- A. Morwap
  - B. Molof
  - C. Usku
  - D. Tofamna
  - E. Kaure



The same author made a surveying patrol through the region south of the Tami languages in 1956. The results of this (ethnographic) survey appeared in two reports. The first (Galis 1956a) contains a word list of the Sengi language, spoken south of the Pai River. The second report (Galis 1956b) contains comparative word lists in eleven languages south of the Pai River, viz: Jafi, Emumu, Dera, Mongowar, Waina, Dubu, Toweï, Molof, Usku, Tofamna, and Kauri. The map added to this report shows the tribal (= language) boundaries in some detail.

In 1957 Cowan presented more data to back up his claim that the Tami languages were interrelated. He separated Sko and Sanke from the Tami group on grammatical and lexical grounds and united them into one group with the Wutuŋ and Vanimo languages on the north coast of Australian New Guinea. The genetic relationship between Sko and Vanimo had already been pointed out by Capell (1954). Within the Tami group Cowan now recognized three sub-groups: Arso-Njao, Skofro-Wembi, and Ampas-Waris.

Cowan then showed that on the basis of lexicostatistical evidence the Tami group could be united into a much larger grouping with three other groups of languages, viz. the Sentani, Nimboran, and Upper Tor languages. This large grouping he called the North Papuan Phylum.

In 1969 the present writer showed that the Sentani languages and possibly also the Nimboran languages have closer relationships with languages of the Trans New Guinea Phylum (then called the Central and South New Guinea Phylum) than with the Tami and Tor languages. He proposed to restrict the use of the name North Papuan Phylum to the Tami and Tor groups.

During his visit to West Irian the writer worked with informants from seven villages near the Indonesian-Australian border: Sko, Sawa, Wor, Wembi, Njao, Waris and Amgotro, collecting the word lists, grammatical notes and other relevant information which have been worked into the notes presented below.

The languages will be dealt with in the following order:

1. The Sko language
2. The Tami Stock
3. The Morwap language
4. The Senagi Family
5. The Pauwasi Phylum
6. Unclassified languages.



It should be noted that the latest census figures available for the region date from 1961. All the population figures given below therefore depict the situation of 10 or more years ago. In recent years many inhabitants of the border area have migrated to the eastern side of the border leaving their villages deserted. Therefore no villages have been listed other than those mentioned by the informants as actually existing.

## 2.2. THE SKO LANGUAGE

Sko is spoken in three small villages on the seashore about 12 miles east of Djajapura. The Sko informant referred to his people as the Tumawo people and to his language as the Tumawo language. However the current name Sko will be retained here. Cowan (1952a) published some grammatical notes on Sko and a short word list (1952b). The writer's own data consists of a recorded word list and some grammatical notes.<sup>1</sup>

Sko is related to the languages of Wutung and Vanimo in Australian New Guinea. The wider relationships of the group are presently being studied by D. Laycock.

### 2.2.1. Phonology

There seem to be 9 vowel phonemes and at least 13 consonant phonemes in the Sko language. The vowel phonemes and their main allophones are:

i	[i,ɪ]	ü	[ü,ʊ]	u	[u]
e	[e]	ö	[ö,ø]	o	[o]
ɛ	[ɛ̃,ɛ]			ɔ	[ɔ]
		a	[a,ɑ]		

/ü/ and /ö/ are high-rounded and mid-rounded vowels respectively, each with front and centralized allophones.

All vowels also appear nasalized but it is not certain whether the distinction is phonemic. At least in a number of cases nasal vowels are the result of the dropping of a nasal consonant in the immediate environment, e.g. *tana* ~ *tãã* *bird*, *ne pãnete* *we are cutting wood*, *te paẽte* *they are cutting wood*.

Vowel length seems predictable and therefore non-phonemic. Phonetically long vowels were found only as final vowels in the citation<sup>2</sup> forms of monosyllabic words.

<sup>1</sup>The informant was a well educated elderly man, unfortunately the time he could spend with the author was limited to less than one hour.

<sup>2</sup>i.e. context-free forms as elicited from the informant.



The consonant phonemes and their main allophones are:

p	[p, p <sup>w</sup> ]	t	[t]	k	[k]
b	[b]				
	f	[f, pf]		h	[h]
m	[m, m <sup>w</sup> ]	n	[n]	ŋ	[ŋ]
		l	[l]		
		r	[r̥, r̥̄]		
w	[w]	j	[j, j̥]		

Noteworthy is the absence of voiced alveodental and velar stops and the corresponding fricatives. These do not show up in Cowan's data either except *s* which occurs only in the name *Sko*, and this name could be of foreign origin and is therefore suspect. The allophonic distribution is as follows:

[p] alternates freely with [p<sup>w</sup>], and [m] with [m<sup>w</sup>] when preceding an unrounded vowel; in word-initial position [f] alternates freely with [pf], [j] with [j̥]; [r̥] and [r̥̄] alternate freely and often are slightly aspirated when in word-initial position.

There seem to be three tones in *Sko*. Cowan defined the tones as high, mid, and low. The writer's informant volunteered examples of three different tones, using monosyllabic words consisting of a consonant plus vowel. In citation forms the tones are realized as two falling and one rising tone, one falling tone having a slightly higher pitch than the other. In musical notation:



Thus: 1. *pa water, river*; 2. *pa bundle, tuft*; 3. *pa house*;  
1. *ta bow*; *ta similar*; 3. *ta hair*.

In a frame, the tones are realized as low, high, and low-high:

1. *pa maki a big river*; 2. *pa maki a big bundle*; 3. *pa maki a big house*.

In the monosyllabic words recorded, falling and rising tones are easily distinguished but further study would be needed to determine which falling tones are to be interpreted as low and which as high. The other examples of rising tone noted are: *kö tooth*, *ha star*, *ti sea*,



mö fish, lū fly, tō ashes, pi language.<sup>1</sup>

The majority of the recorded words end in a vowel; the only consonants found word-finally are /l/ and /ŋ/. In Cowan's examples final /n/ occurs. Sequences of two vowels occur initially, medially and finally. Consonant sequences occur only word-medially. They all consist of a stop preceded by the homorganic nasal.

### 2.2.2. Grammar

In this section the writer's observations are presented against the background of Cowan's notes in order to obtain the fullest possible picture of Sko grammar. Most of Cowan's examples have been included; his spelling does not differentiate between /e/ and /ɛ/, /o/ and /ɔ/, and lacks /ü/. Cowan's *ë* probably represents the same sound as /ö/. His tone markers follow the vowel; : indicated mid, + high, and - low tone. Cowan's examples will be preceded by the Capital C, the writer's examples by the capital V.

#### 2.2.2.1. The Verb

The two main features of the verb are the near-absence of verb morphology and the formal changes in the verb root which are dependent on the gender of the subject when this is a noun, and on person, number and gender of the subject when it is a pronoun. This formal interdependence or concord stretches across the verb: several particles exhibit formal changes similar to those occurring in the verb root, depending on the same factors. See the examples below under subject pronouns and tense and aspect.

**Subject pronouns:** According to Cowan these are prefixed to the verb root. However, his own examples show that they can be separated from the root by intervening words and particles:

C:	ni ha bame le	I'm coming from the village
	kä ka bame to	he is coming from the village
	[bame village; nile I am coming; (ha,ka..) from; kēte	
	he is coming]	

<sup>1</sup>In the following section on the grammar and in the word list (appendix I), tone will not be indicated. Instead, the relative pitch of stressed syllables will be marked by ' if it is higher, by ` if it is lower than the pitch of the preceding and/or following syllable. However, where Cowan's examples are quoted the indication of tone as made by Cowan will be retained.



The subject pronoun is not necessarily always present, compare:

V:	pí ni léile	I am talking
	ai pí leilè	father is talking
	[pi language; ni I; ai father]	
	ja mö ma na	have you eaten?
	ani ja ma na	mother, have you eaten?
	[ani mother; mö you; ja perfective aspect marker; na question marker].	

It seems better therefore to regard the subject pronouns as separate words and not as verb prefixes.

**Object markers:** The markers of the direct object are the only morphemes which seem to be true verb prefixes. They vary for gender. Examples:

C:		a.	b.	c.
	I	nile	nike	niwë
	you s.	mere	meke	mewë
	he	kële	këke	këwë
	she	përe	pëwë	pëwë
	we	nere	neke	newë
	you pl.	ële	ëke	ëwë
	they	tëre	tëkë	tëwë
	nake in këkelen niã		dog (male) that he-it-gives to-me	
	nake in këwëlen kea		dog (female) that he-it-gives to-him	
	naa in këwëlen pea		basket (fem.) that he-it-gives to-her	

Not all verbs take object prefixes:

C:	pa nikun	I am drinking water
	pa pëwun	she is drinking water
	pa ëhun	they are drinking water
V:	ri ni léile	I am cutting a tree
	ri ke léile	he is cutting a tree
	ri ne ténete	we are cutting a tree
	pi ni léile	I am talking
	pi te téete	they are talking.

**Tense, aspect:** In the data on hand, verb forms occur in three tenses: present, past and future, and with perfective aspect. The only formal difference between present and past tense forms is a difference in tone; an exception is the root with the 1st person sg. subject which shows no change of tone (Cowan).



C: <i>to go</i>	present (high tone)	past (low tone)
I	ni:rë+	ni:rë+
you s.	me:mee+	me:mee-
he	kë:ti+	kë:ti-
she	pë:te+	pë:te-
we	ne:nee+	ne:nee-
you p.	ë:rë+	ë:rë-
they	të:tee+	të:tee-

The future tense forms are characterized by duplication of the verb root; they are obligatorily followed by a particle (le/pë/te....) showing concord with the changes in the verb root:

C: *to go, future tense*

I	ni:rë+rë:le:	we	ne:nee+nee:të:
you s.	me:mee+mee:pë:	you	ë:rë+rë:lë:
he	kë:ti+ti:lë:	they	të:tee+tee:të:
she	pë:te+te:të:		

pëtete bame të she will go to the village

V: *to eat*

[*fe tomorrow; hö sago*]

fe hö ni kākā tè	tomorrow I shall eat sago
fe hö né nana tè	tomorrow we shall eat sago
fe hö ké kākā tè	tomorrow he will eat sago
fe hö pö panpan tò	tomorrow she will eat sago
fe hö té tantan tè	tomorrow they will eat sago

Perfective aspect is indicated by a particle *ja* preceding the subject pronoun and the past tense form of the verb:

V: *to eat*

ja ni kākā	I have eaten
ja ke kākā	he has eaten
ja te tã / ja te tãŋ	they have eaten
ja mö ma nà	have you eaten?
ja é aŋa nà	have you all eaten?
ja pö pã nà	has she eaten?



Some more present tense paradigms are:

C:	<i>to do</i>	<i>to speak</i>	V:	<i>to hear</i>	<i>to see</i>	<i>to sit</i>
I	ni <sup>l</sup> ë	ni <sup>l</sup> en		ni lö	ni f <sup>ü</sup>	ni mölek <sup>õ</sup>
you s.	mep <sup>ë</sup>	mep <sup>ën</sup>		mε p <sup>ö</sup>	-	-
he	k <sup>ë</sup> l <sup>ë</sup>	k <sup>ë</sup> l <sup>en</sup>		ke lö	ke fo	ke mölek <sup>õ</sup>
she	p <sup>ë</sup> t <sup>ë</sup>	p <sup>ë</sup> nu		pe ru	pe fo	pe mötek <sup>õ</sup>
we	net <sup>ë</sup>	net <sup>en</sup>		ne r <sup>ö</sup>	nε fo	ne mötek <sup>õ</sup>
you pl.	ë <sup>l</sup> ë	ë <sup>l</sup> en		e lö	-	-
they	t <sup>ë</sup> t <sup>ë</sup>	teni		-	te fo	-

At this stage it is impossible to formulate any rules underlying the formal changes of the verb root. That they are to a certain extent systematic appears from the following chart which shows the consonant changes in the verb roots mentioned in the text.

	<i>do</i>	<i>sit</i>	<i>talk</i>	<i>cut</i>	<i>speak</i>	<i>take</i>	<i>hear</i>	<i>go</i>	<i>eat</i>	<i>drink</i>
1 p.s.	l	l	l	l	l	l	l	r	k	k
3 p.s.m.	l	l	l	l	l	l	l	t	k	h
2 p.p.	l	-	-	-	l	l	l	r	∅	∅
2 p.s.	p	-	-	-	p	r	p	m	m	m
1 p.p.	t	t	-	t	t	r	r	n	n	-
3 p.s.f.	t	t	-	-	n	r	r	t	p	-
3 p.p.	t	-	t	-	n	r	-	t	t	j

#### 2.2.2.2. Nouns

There are two gender classes (masculine, feminine) which are not formally marked but which govern the choice of object marker, the 3rd person singular subject pronoun, and the corresponding changes in the verb root:

C:	o-tan in këkelen meä	lime container (masc.) that he-gives -it to-you
	naa in këwëlen pea	basket (fem.) that he-gives-it to-her
	oto pëte tēba pērere tē	car (fem.) it-goes (and) people it-will -pick-up

According to Cowan there is no object marker with the last verb because the plural form tēba *people* [as against keba *man* and peba *woman*] is neither masculine nor feminine. This would suggest a third class of nouns with neutral gender.



2.2.2.3. *Pronouns*

The personal pronouns have a full and a short form: the full form is an emphatic form and also occurs as indirect object (Cowan). The short form occurs as subject.

Full forms:			Short forms:		
C:	I	nia	C:	ni	V: ni
	you	mea		me	me,mö
	he	kea		kë	ke,kö
	she	pea		pë	pe,pö
	we	nea		ne	ne,nε
	you	ea		ë	e
	they	tea		të	te

The possessive pronouns are formed by suffixing a possession marker to the short forms of the personal pronouns. The possession marker has the general form (C)ε; the initial consonant harmonizes with the preceding consonant of the personal pronoun. V: pa níne, mémε, kéke, pépe, néne, éε, tëtë *my house*, etc.

The possessive markers of the third person are also suffixed to the last noun in the possessive construction involving two nouns:

V:	Tumáwo píte	<i>Tumawo their-language, the language of the Tumawo people.</i>
C:	tuan pa-ke	<i>the house of Mr</i>
	njonja pa-pe	<i>the house of Mrs</i>
	[tuan and njonja are loans from Indonesian].	

2.2.2.4. *Syntax*

In the preceding sections several examples of possessive phrases and of transitive and intransitive clauses have already been given. A few other examples can be added here. Predicative clause: bame hábã the village is far away; noun-modifier phrases: pa tótó an old house, pa hápo a small house, ba ǐto two men, ba áli one man. Note that the order subject - object - verb is found when the subject is a noun, but the order is object-subject-verb when the subject is a personal pronoun: ai pi leile, but ri ni leile (2.2.2.1.).



## 2.3. THE TAMI STOCK

### 2.3.1. Introduction

The Tami languages occupy in West Irian a crescent shaped area stretching from the Sekanto River south-east towards the Australian border and back to the south-west along the Pai River (see map I, page 50). They also stretch a considerable distance across the border into the Western Sepik District of the Territory of New Guinea. On that side, the languages of Daonda, Simog, Sowanda, Amanab, and Waris have been united into one family by Bass and Loving (1964). The present notes will deal only with the languages on the West Irian side of the border.

Within West Irian the following six languages belong to the Tami group: Awji, Taikat, Manem, Sengi, Waris, and Waina. The last two languages saddle the Indonesian-Australian border. Waina, or Waina-Sowanda, is the language called Sowanda by Bass and Loving.

AWJI, formerly called NJAO, is spoken in four villages: Njao, Josko, Sowjo, and Bukisom. The people living in these villages call themselves Awji. In 1961 the Awji counted 211 people. Some lexical data in Awji were published by Galis (1955) and Cowan (1957). The writer collected a basic word list and some grammatical notes from a boy of Njao who had been away from his village for three years.

TAIKAT, called ARSO by Cowan, is spoken in 10 villages: Arso, Wor, Bagia, Sagware, Gwimi, Bate, Girere, Girwago, Sawiatami, and Wambes. In 1961 the number of speakers was approximately 800. Taikat is the name of the people living in Arso.

Some lexical data in Taikat were published by Galis (1955) and Cowan (1957). The present writer collected a short word list from a man of Wor village who was on a short visit to Djajapura.

MANEM, formerly called WEMBI, is spoken in 7 villages: Wembi, Uskwar, Kibae, Jeti, Skofro, Skotiaho, and Kriku. The informant also mentioned Major, Ampas, and Komieti. These are bilingual Waris villages near the Manem-Waris language border. The number of Manem speakers is estimated at 400.

Some lexical data in Manem were published by Galis (1955) and Cowan (1957). The present writer collected a word list and grammatical notes from a young man of Wembi village. The informant was studying in Djajapura and had been away from home for several years. Occasionally he had difficulty remembering his mother tongue.



SENGI was, in 1956, spoken in three villages: Sengi, Tomfor, and Umbekwai. At that time the number of speakers was 120. The only data on hand is the word list collected by Galis (1956a).

WARIS was, in 1961, spoken by approximately 3,000 people, most of whom lived on the Australian side of the border. On the western side there are the villages of Ampas, Komieti, Major, Waris, and perhaps a few more, but no full information is at present available.

Galis (1955) and Cowan (1957) published some lexical data in Waris, collected in Ampas and Waris villages. The present writer collected a word list from a school girl of Waris village.

WAINA was, in 1959, spoken by 130 people living in 5 settlements two of which, Ibela and Jabanda, were in West Irian. The remaining three, Jabae, Makrabo, and Arombawai were situated in Australian New Guinea. At present there seem to be no Waina villages on the Western side of the border.

The only data on hand is the word list collected by Galis (1959b).

### 2.3.2. Lexicostatistical Relationships

The lexicostatistical relationships between the Tami languages had to be assessed on the basis of a limited number of basic words because of large gaps in the lexical data. The cognation percentages presented below were calculated for the basic word lists added in appendix I. They show that the Tami languages fall into two sub-groups; 1. Awji-Taikat 2. Manem-Sengi-Waris-Waina.

	AWJ	TAI	MAN	WAR	SEN	WAI	
AWJ		66	30	30	30	25	
TAI	50		47	33	32	33	
MAN	77	47		50	50	38	cognation
WAR	82	54	71		50	53	percentage
SEN	71	49	62	71		36	
WAI	75	48	65	76	77		

Number of Items Counted



The high percentage shared by Taikat and its neighbour Manem may have been caused by mutual borrowing and has been disregarded for classificatory purposes. The high percentage shared between Waris and Waina is equally suspect in view of the low percentage shared between Waina and Sengi and Manem. Waina will be regarded here as a fringe member of the group.

Provisionally the Tami languages have been classified as a stock (the Tami Stock), and the sub-groups as the Taikat and Waris families.

### 2.3.3. Phonology

An analysis of the recorded data in Awji, Taikat, Manem and Waris yielded the following tentative results:

All four languages show a three-way position contrast in the stops and nasal consonants: bilabial, alveolar, and velar. All have voiced and unvoiced stops. All have at least two voiceless spirants, one flapped or lateral phoneme, and two semivowels. Each of the languages has at least 6 vowel phonemes: /i/, /e/, /a/, /o/, /u/, and /ə/, the last one having rounded, unrounded and backed allophones [ə, ə̄, ɛ̄]. Awji, Taikat and Waris seem to have an additional /ɛ/ phoneme but this phoneme cannot yet be regarded as well established. The same holds for the two rounded front vowels [ü] and [ö] in Manem which have been set up provisionally as separate phonemes.

In Awji the voiceless stops are lightly aspirated. Voiced stops tend to be prenasalized word-initially. /l/ has freely alternating flapped and retroflexed-lateral allophones. The spirants are labiodental /f/ and alveolar /s/. Semivowels are /w/ and /j/. Awji is the only language of the four which has nasal vowels. Nasality seems to be a distinctive feature although non-distinctive nasalization also occurs under the influence of a preceding or following nasal consonant.

In Taikat, voiceless stops are lightly aspirated as in Awji. No prenasalization of voiced stops was noted. /b/ has a fricative allophone [ɸ] alternating with [b] intervocally. /r/ is flapped; /f/ is labiodental; /s/ is alveolar. An uvular fricative [ħ] was noted only once and more proof is needed to establish [ħ] as a phoneme.



In Manem, the voiced stops are prenasalized. /ŋ/ has two allophones: a nasally released voiced velar fricative [g<sup>ŋ</sup>] which occurs word-finally, and a velar nasal [ŋ] occurring elsewhere. In present day Manem [ŋ] is often replaced by a flapped [ɾ] in word-final position and when /n/ follows a consonant: kiŋ / kir, fŋe / fre. According to the informant the change was initiated by missionaries and government officials who had difficulty pronouncing final [g<sup>ŋ</sup>] and clusters like [fŋ]. Older people still frown upon the new pronunciation and think it slightly ridiculous.

In view of these facts [ɾ] might perhaps be interpreted as a newly introduced allophone of /ŋ/. However, it is possible that the phoneme inventory of Manem already included a phoneme /r/. In several words containing [ɾ], the informant did not mention possible alternation with /ŋ/. /r/ has therefore been tentatively included as a separate phoneme.

In Waris, voiced stops tend to be prenasalized word initially. /b/ has two freely alternating allophones [b] and [b̥] intervocalically. /x/ is a soft voiceless uvular fricative [h] word-initially; elsewhere /x/ is a soft voiceless velar fricative. Lateral /l/ is retroflex following low and back vowels.

The following chart gives a survey of the consonant and vowel phonemes in Awji, Taikat, Manem, and Waris:

AWJI			TAIKAT			MANEM			WARIS		
p	t	k	p	t	k	p	t	k	p	t	k
b	d	g	b	d	g	b	d	g	b	d	g
m	n	ŋ	m	n	ŋ	m	n	ŋ	m	n	ŋ
f	s		f	s	(h)	f	s		f	s	x
	r			r			r			l	
w	j		w	j		w	j		w	j	
-----											
i		u	i		u	i	(ü)	u	i		u
e	ə	o	e	ə	o	e(ö)	ə	o	e	ə	o
(ɛ)	a		(ɛ)	a			a		(ɛ)	a	



All four languages allow consonant clusters word-initially and medially (CC in all four languages, but in Manem medially also CCC). Word-finally, Awji and Taikat only allow single consonants, but Manem and Waris also allow clusters (Manem: -CC, Waris: -CC, -CCC). Final consonant clusters are also found in the other members of the Waris family, Sengi and Waina.

#### 2.3.4. Grammar

The general grammatical information that could be gleaned from the few notes collected is summarized in the chart on page 65. A hyphen indicates that no information was obtained. The functions of the various verbal affixes are at this stage by no means clear. Except for the pronouns collected in Awji, Manem, and Waris which may be of interest for comparative purposes, it is not the intention of the writer to present specific data.

Awji:	Personal pronouns		Possessive pronouns
<i>I</i>		ku	kajap
<i>we</i>		-	jɛbap
<i>you s,pl.</i>		kebe	kebap
<i>he, they</i>		jɛ	jap

Manem:	Personal pronouns		Possessive pronouns
	subject	object	
<i>I</i>	ga	gaem	gaf
<i>you s.</i>	sa	sam	sef
<i>he</i>	aŋk	-	tef
<i>we</i>	kiŋ ta	kiŋ jam	kiŋ tanan
<i>you pl.</i>	kiŋ sa	-	kiŋ sanan
<i>they</i>	kiŋ aŋk	-	kiŋ aŋkan

Waris:	Personal pronouns		Possessive pronouns
	subject	object	
<i>I</i>	ka	kam	kanan
<i>you s.</i>	diɛ	jɛm	diɛnan
<i>he</i>	iɛ		iɛnan
<i>we</i>	pi		pinan
<i>you p.</i>	diɛta		kiɛnan



	verb structure				noun suffixes	pronominal suffixes	noun phrases	clause structure
	..... prefixes	..... suffixes	..... duplicated roots	..... suppletive roots				
AWJI	aspect person ? object ?	tense mode	in future tense	with plural object	-	marking posses- sive pronouns	N + PP N + Adj. N + Num.	± T ± S ± O + V
TAIKAT	-	-	-	-	-	marking posses- sive pronouns	N + PP	± S ± O + V
MANEM	aspect object ?	person tense	-	with plural object	instrumental locative directional	marking: pr. as object pr. as indirect object PP	N + PP but also: PP + N, if the PP is plural. N + Adj. N + Num.	± S ± O + V
WARIS	-	tense person	-	-	directional subject marker object marker	marking PP subject marker object marker	N + Adj. PP + N	± S ± O + V O ± Ind. O + V

Abbreviations: Adj. = Adjective; N = noun; Num. = numeral; O = object; PP = possessive pronoun; S = subject; T = time adverb; V = verb; Ind. O = indirect object.



### 2.3.5. Wider Relationships

The position of the Tami Stock within the overall picture of genetically related languages in New Guinea is still far from clear but the newly collected data make it possible to assess more exactly the relationship between the languages of the Tami Stock and those of the Sentani and Upper Tor groups to the west.<sup>1</sup> They also offer interesting prospects for the still wider relationships of the Tami Stock.

#### 2.3.5.1.

The Tami languages have their closest relationships with the languages of the Upper Tor River area. These also form a stock, which henceforth will be named the Tor Stock.<sup>2</sup> Using 70 items of the comparative word lists in 8 Tor languages published by Oosterwal (1961), and Galis' and his own materials in the Tami languages, the writer arrived at the following highest percentages between any of the Tami and the Tor languages:

Manem - Ittik 19%	Taikat - Berik 14%
Waris - Ittik 17%	Sengi - Ittik 13%
Awji - Ittik 17%	Waina - Ittik 8%

These figures are sufficient to establish a phylum level relationship between the two stocks.<sup>3</sup> The name 'North Papuan Phylum' proposed by Cowan for this wider group will be retained. To illustrate the lexical relationships between the Tami and Tor Stocks the list of probable cognates shared by Manem and Ittik is presented below, together with the supporting evidence. Language names will be abbreviated as follows: Awji - AW; Taikat - TK; Waris - WR; Sengi - SG; Waina - WN; Manem - MN; Berik - BE; Bonerif - BO; Ittik - I; Ittik-Tor - IT; Mander - MA; Kwesten - KE; Dabe - DA; Naidjbedj - NA.

<sup>1</sup>The Nimboran group could not be included because of lack of lexical data.

<sup>2</sup>Oosterwal (1961) presented comparative word lists in 8 languages of the Upper Tor River area: Berik, Bonerif, Ittik, Ittik-Tor, Mander, Kwesten, Dabe, and Naidjbedj. All of these except Naidjbedj, form a family. Naidjbedj shows stock-level relationships with the other languages. The whole group will therefore be classified as a stock.

<sup>3</sup>The term 'phylum' now indicating that languages of the two stocks will share between 5% and 12% cognates within the 200-item basic word list of Swadesh. The North Papuan Phylum now stands on the same classificatory level as other lexicostatistically established phyla in New Guinea. Cowan's 'phylum' was based only on more-than-chance lexical correspondences between the two language groups.



Oosterwal's spelling will be retained except for the following changes:  
oe > u; ie > i; u > ü.

## Supporting evidence:

1. <i>bird</i>	MN jon, jor I düü	WR noj, TK nor BE djoh, MA dzu, KE dun
2. <i>bone</i>	MN kaŋ, kar I erre	WR kəl, WN kək, AW sa-kər BO errene, MA kerane, NA kaka

Note: In many words MA retains an initial k which has been lost in other Tor languages. NA intervocalic k or g correspond to r in other Tor languages. The BO and MA forms contain an element -ne or -n which is found with several names of body parts. It occurs in all Tor languages listed and perhaps indicates, or indicated, inalienable possession.

3. <i>egg</i>	MN suiŋ, suir I süje	WR suwul, TK sur BE suju; MA, IT suwe; KE, DA sui
4. <i>eye</i>	MN nof I nauwe	WR nop, SG now, AW najo, WN rugok BE nuwe, BO nuna, MA nuenne, DA nuoh, NA nukwe
5. <i>hair,</i> <i>feather,</i> <i>leaf</i>	MN fŋe, fre tafre I saffe	TK tofei, WR sewre, welie! BE safna, BO, MA saffena, DA saffene, KE safen

Note: The Tami words all have the meaning *leaf*; the Tor words mean *hair, feather*. *Leaf* is not included in the Tor word lists.

6. <i>head</i>	MN bagar I nabbarror	TK nagər, SG repek BO nabbareh, IT napar, MA nebbar DA debaar, NA tsju-wagga
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Note: Tami bagar, bagər, -pek correspond with Tor -barror, -bareh, -par, -baar, -wagga; SG re- corresponds with na-, ne-, de- in the Tor languages.

7. <i>hot</i>	MN pabaŋ I mef	AW pabə, WR pəb, SG pap KE maf
8. <i>meat</i>	MN nigin, nigir	MA ganin, DA matannin, NA okkardnin

Note: The Tor words are probably compounds; the relevant part is -nin. Compare also Kwansu (Nimboran group): niŋ.



		Supporting evidence:	
9.	<i>sand</i>	MN pefjis I dewes	MN (Skofro) puwis BE, BO, DA dui; KE dujis
10.	<i>skin</i>	MN tofno, tofro I tifen	WR towol MA tife, DA tifene
11.	<i>stone</i>	MN suk I tokwen	AW ser, TK sər, WR hon, WN kun, SG kwondr BE ton, BO, KE toon, DA ter, NA tonne
12.	<i>sun</i>	MN usam I busjan	MA busjan
13.	<i>tree</i>	MN ti I ti	TK di, AW, WR, SG, WN ti BE, IT ti, DA ti-bur
14.	<i>water</i>	MN pu I foh	WR, SG po, WN poa BE, BO, IT, MA, DA foh, KE fon

Further lexical correspondences between the two stocks are:

Item	Tor Stock	Tami Stock
<i>ear</i>	BO jerrena, IT jeere I jurre, DA jərre, Na njar, MA keerre	AW keato, TK keat
<i>eat</i>	NA nan	AW, TK, MN, SG na, WR ne
<i>hand</i>	BE, BO taffa, IT, MA taffah, I taffer, DA teffah	AW t̄aba- in: t̄aba-iki <i>nai</i> l
<i>nose</i>	BE, I, IT, MA maseh, DA mase, KE masen, BO massene	WR lomus, mos; mosoj (Ampas dialect).
<i>star</i>	BE match, I, IT mohte, MA monte, DA maton	AW, TK mase

### 2.3.5.2.

The closest relationships of the languages of the Sentani Group (i.e. Sentani, Tanah Merah, and Demta) appear to be with the languages of the Trans New Guinea Phylum (Voorhoeve 1969). A comparison of Sentani and Tahan Merah lists<sup>1</sup> with the Tor lists yielded the following cognation percentages:

<sup>1</sup>The Sentani list was compiled from the vocabulary added to Cowan's Sentani Grammar (Cowan 1965); The Tanah Merah list was collected by the writer and represents the Jakari dialect as spoken in Demoi village. No Demta data was available to the writer.



	BE	BO	I	MA	DA	NA	
Sentani	4	6	6	3	7	10	total number counted: 70
Tanah Merah	4	6	6	4	4	10	

The language-isolate Naidjbedj, which is the westernmost of the Tor languages, appears to have the highest cognation percentage with Sentani and Tanah Merah.

A comparison of Sentani and Tanah Merah with Awji and Waris yielded percentages not exceeding 10%:

	Awji	Waris	
Sentani	10	6	total number counted: 85
Tanah Merah	10	9	

These percentages show that the Sentani group is less closely related to the Tami and Tor Stocks than the two stocks are to each other. They nevertheless point to the possibility of a distant genetic relationship. Evidence supporting this possibility can be found if the Tami languages are compared with other languages of the Trans New Guinea Phylum. A systematic study of these relationships has not yet been made and to attempt it here would fall outside the scope of these notes. A few examples will have to suffice:

	Tami Stock	Trans New Guinea Phylum
<i>ashes</i>	AW ku	Fasu ku; Gogodala uku-ru; Ok Family
	TK ko	ku-tep, ku-tib, ku-tub, ku-tab Goliath Family: uk <i>fire</i> ; Awju Family: ko-sep, ko-tep; Moni hu.
	WR smu	Moni zimu; Beami Family da-subu,
	MN wusmuf	da-suf; Kiwai Family tuwo; and also the second constituent in the Awju and Ok forms above (see MV 1971, p.72 <sup>1</sup> ).
<i>belly, excreta</i>	AW al <i>belly</i>	Ok Family: al, ar, ool, wool, oor, ot <i>belly, intestines, excreta</i>
	MN asa <i>excreta</i>	Awju Family: or, oi, o <i>excreta</i> Asmat-Kamoro Family: as, ata, asa <i>excreta</i> Kajagar Family <sup>2</sup> : ana, ane <i>excreta</i>

<sup>1</sup>For: McElhanon-Voorhoeve 1971.

<sup>2</sup>See section 3.1 below.



	Tami Stock	Trans New Guinea Phylum
<i>breast</i>	WR tet	Awin-Pare Family: tute
	WN toto	Beami Family: tor, toto Boazi Family: toto Moni: dudu <i>nipple</i> , <i>top</i> . (See MV 1971, p.24).
<i>cassowary</i>	AW kuji	Beami Family: kojɛbi, kojaib
	TK kuije	Marind Family: kei
	MN egue	Jakaj Family: kuju
	WN kwai	Kajagar Family: kue, kujo
	SG kui	Awju Family: kujɛ, woküe Mombum: kai
<i>ear</i>	AW keato	OK Family: kene-, kee-
	TK keat (Tor languages: keere, etc. see above).	Awju Family: kere-, ke- Kiwai Family: gare (See MV 1971, p.26).
<i>eat</i>	general: na, ne	Asmat-Kamoro Family: na, ne Beami Family: na Gogodala: na (Cognates in most of the TNGP languages, see MV 1971, p.95.)

There seem to be lexical grounds, therefore, to unite the North Papuan Phylum and the Trans New Guinea Phylum into one super-group, or macro-Phylum. The existence of such a group was already posited on structural grounds by S.A. Wurm (1971), who gave it the name Central New Guinea Macro-Phylum.

#### 2.4. MORWAP

Morwap is spoken by a few hundred people living in the villages Jamas, Sawa, Kasso, Penemon, and Samsai at some distance south-west of the Awji speaking villages. The language was called Tabu by Galis, who noted that Tabu is virtually identical with Sengi (1956a)<sup>1</sup>. The 'Tabu'

<sup>1</sup>According to Galis, the Tabu people are remnants of the original population south of Lake Sentani; they have been decimated by constant attacks of the Waris and Kauri tribes.



words listed in his earlier survey list (1955) are indeed identical to Sengi words except in a few cases in which a second form is presented. It appears that the additional forms are true Morwap; the other 'Tabu' words in Galis' list are pure Sengi. In fact, the Morwap language shows very little lexical relationship to the Tami languages and no relationship at all to most of the languages south of the Tami Stock, as is shown by the charts below. These charts are based on the comparative lists added in appendix I.

CHART I:

	Awji	Manem	Waris	Sengi	
Morwap	13	12	13	12	Cognation %
	80	71	80	70	number of words counted

CHART II:

	Amgotro	Jafi	Dubu	Molof	Usku	Tofamna	Kaure	
Morwap	5	0	1	0	2	0	0	Cognation %
	80	70	67	66	66	66	66	number of words counted

The cognation percentages shared between the Morwap language and the Tami languages may perhaps point to genetic relationship. However, it is probable that to a large extent they reflect the frequent contacts of Morwap speakers and speakers of neighbouring Tami languages. Galis (1955) mentioned that Tabu people were living in Njiao, and several other Tami villages. Intermarriage occurs at least with Awji speakers: the author's Awji informant was bilingual Awji-Morwap, having a Morwap mother.

A tentative analysis of the Morwap sound system yields 8 vowel and 13 consonant phonemes. The vowels and their main allophones are:

i	[i,ɪ]		u	[u]	
e	[e,ě]	ə	[ə,ě]	o	[o]
ɛ	[ɛ]	a	[a,α]	ɔ	[ɔ]

Nasal vowels do occur and there is some evidence that nasal and non-nasal vowels contrast, e.g. bǎǎ grub, baɔ elder sister; sũ speak, so urine, so you.



The consonants and their main allophones are:

p	[p]	t	[t,ʈ]	k	[k]
b	[b,ɓ]			g	[g]
m	[m]	n	[n]	ŋ	[ŋ]
f	[p <sup>f</sup> ,f]	s	[ts,s]		
w	[w]	j	[j]		
		l	[l,ɭ,ʎ,d]		

Bi-syllabic words generally have stress on the last syllable, tri-syllabic words have secondary stress on the first and primary stress on the third syllable.

Single vowels and sequences of two vowels occur word initially, medially, and finally; single consonants occur word initially, medially and finally, but consonant clusters occur medially only. These are mostly sequences of two consonants; the only three-consonant sequence noted is ŋgl.

Only a very few grammatical notes were collected. The sentence structure shows subject - object - verb in this order. The verb takes suffixes, e.g.

tele si fa-san	father is working the garden
tele bas to-san	father is eating
wəŋan-na	give it to me

## 2.5. THE SENAGI FAMILY

### 2.5.1. Introduction

Saddling the border south of Waina are two closely related languages, Dəra and Duka-ekor. Duka-ekor counted an estimated 230 speakers in 1956, Dəra an estimated 1300 speakers, 900 of whom were living on the Western side of the border. Dəra is called Kamberataro by Bass and Loving (1964), after the main Dəra village on the Australian side of the border. Bass and Loving give 687 as the number of Dəra speakers on the eastern side of the border.

Duka-ekor is not mentioned by Bass and Loving, but they mention that the northern village of Mengau possibly has a distinct dialect. It is probable that Mengau is the same village as Mongowar, the Duka-ekor village mentioned by Galis (1956b).

Dəra (Kamberataro) has been united by Bass and Loving into the Senagi family with its south-eastern neighbour the Senagi language. Provisionally Duka-ekor will here be added as third member of the family. The following percentages of cognates between the member languages illustrate their interrelationships:



Senagi - Dəra (Kamberataro): 33% [Bass and Loving; 180-item list]

Dəra (Amgotro) - Duka-ekor: 75% [70-item list, see Appendix I]

The Senagi Family seems to occupy an isolated position. Nowhere in its environments are languages found with which it can be united into one stock or even one phylum. The cognation percentages shared by Dəra, Senagi and the languages surrounding them east of the border do not exceed 4% (Bass and Loving). On the western side of the border the situation is not much better as is shown by the following chart. The figures are based on the word lists added in Appendix I.

	Waris	Manem	Awji	Jafi	Dubu	Molof	Usku	Tofamna	Kaure	
Dəra	10	5	7	6	9	2	5	2	1	% cognate
	82	76	84	82	77	75	75	75	75	number counted
	Tami Stock			Pauwasi Phylum		Unclassified languages				

2.5.2. Duka-Ekor. The only data on hand is a short wordlist collected in Mongowar village by Galis. The basic items in this list have been included in the comparative lists in Appendix I. Galis' list is too short to draw phonological or grammatical inferences from it.

2.5.3. Dəra. The data on hand consists of a word list collected by Galis and a recorded list and some grammatical notes by the writer. The informant was a schoolgirl of Amgotro village. Galis does not mention from which village his informant came. His list is slightly different from the Amgotro list and probably represents another dialect. The following notes are based solely on the writer's own data.

#### 2.5.3.1. Phonology

In Amgotro-Dəra there are 6 vowel phonemes and 11 consonant phonemes. The vowel phonemes and their main allophones are:

i	[i,ɪ]	u	[u,ʊ,ü]
e	[e,ɛ]	ə	[ə,ɐ]
		a	[æ,a,ɑ]



The back vowels are often unrounded and slightly fronted when they occur word-finally.

The consonant phonemes and their main allophones are:

p	[p, p <sup>f</sup> , f]	t	[t]	k	[k, k <sup>x</sup> , x]
b	[b, <sup>m</sup> b, b, v]	d	[d, <sup>n</sup> d, ʎ, ʎ]	g	[g, <sup>ŋ</sup> g, ɣ]
m	[m]	n	[n]	ŋ	[ŋ]
w	[w]	j	[j]		

voiceless stops: affricate-stop, and fricative allophones occur word-initially only.

voiced stops: prenasalized stops alternate freely with non-prenasalized stops word-initially. Intervocally there is free alternation between stop and fricative allophones. The flapped allophone of /d/ is in complementary distribution with the voiced stop allophone. [ʎ] occurs intervocally and in clusters, as first consonant, and when the preceding consonant is a stop. Elsewhere [d] is found. [ʎ and ʎ] seem to alternate freely, with a preference for the retroflex flap.

All words end in a vowel. Single consonants and consonant clusters occur word-initially and medially. The following clusters have been noted: /kd/, /gd/, /kw/, /mb/, /md/, /nd/, /ŋg/, /mbd/, /pd/, /dnd/.

Sequences of two vowels can occur word medially and finally. The following have been noted: /ia, ea, oa, ua, ue, ua, ae/.

All polysyllabic words contain at least one stressed syllable. The place of the accent is not fixed, and stress may therefore be phonemic, although no actual cases of contrast have been observed.

#### 2.5.3.2. Grammar

The following pronouns have been noted:

	as subject	as (indirect) object	possessive
<i>I</i>	ewo	wambo	wanda
<i>you</i>	te	tagambo	tagaba
<i>he</i>	ea	-	aganda
<i>we</i>	igoa	-	igoaba
<i>ye</i>	te	-	tagae
<i>they</i>	namada	-	namadanda



The object marker -mbo and the possessive marker -nda also occur with nouns:

aja-nda warə	<i>father's pig</i>
ewo aja-mbo mangambi	<i>I call father</i>
ewo aja-mbo tatendaga	<i>I want to give it to father</i>

-mbo seems to occur only with nouns denoting living beings. Also with nouns occur a number of locative, directional, and instrumental markers. The data is too limited to establish whether these are separate particles or affixes:

instrument:	nombo;	peto nombo	<i>with a knife</i>
direction :	gwe	aru gwe (takowa)	<i>(put it) into the bag</i>
	na	kwe na	<i>to the river</i>
location :	gi	apobenda gi	<i>on the bed</i>

Verb inflection is by means of suffixes. Tense, aspect, mood, subject and object all seem to have separate markers, but the data is too limited to allow a reliable analysis of the suffix complexes following the verb root, many of which are semantically unclear. A few examples will have to suffice:

Imperative: -abo, -bo 2 p.s.; -i 2 p.pl.  
 tata-bo *eat!*; pe-abo *walk!* (sg) pe-i *walk!* (pl);  
 pabe-abo *speak!*

Some verbs do not take -bo, -abo but -a, -wa: tata-wa *give!* mando-a *roast it!* If there is an indirect object, the verb takes an object marker which is -ndi for the 1 p.s., zero for the 3 p.s.

mi, aja-mbo ban mando-a	<i>mother, roast sago for father</i>
mi, wambo ban mando-a-ndi	<i>mother, roast sago for me</i>

Prohibitive: -we; the verb is preceded by the negative nenda:  
 nenda pabe-we *do not speak*; nenda kwade-we *do not cry!*

Stative: -mbdu, -embdu  
 agot-emdu *he is sick*; namar-embdu *he is sitting*; gwaru du dəgomda pdega-mbdu *one egg is broken*; mawa du dəgomda pdega-mbdu *all the eggs are broken.*

In these examples there is no number marking in the verb. However, number seems to be marked in the verb of the following clause:

aja mi gabed-ebembdu *father and mother are on their way here*  
 if compared with: aja gabed-embdu *father is on his way here.*



## Present tense:

Some examples with suffixes which seem to be subject and object markers:

aja mi-mbo manga-da	<i>father calls mother</i>
aja wa-mbo manga-da-ndi	<i>father calls me</i>
ewo aja-mbo manga-mbi	<i>I call father</i>

## Past tense:

-ge/-gi, and -giwa for 3 p.s. Although a semantic difference between forms with gi and those with -giwa is likely, this is not clear in the data.

kamani aja Amgotro dane pi-giwa	<i>yesterday father A-there he went</i> <i>- yesterday father went to Amgotro.</i>
---------------------------------	---

## Sentence - medial forms: -mba

odo gwe gati-mba tato-ge	<i>house into having-gone he-ate</i>
tato gudi-mba apo-ge	<i>eating having-finished he-slept.</i>

## Phrase structure: noun phrases.

Some adjectives were found to precede the noun, some to follow it. It is not clear whether they represent two distributional classes or can be shifted from one position to another, possibly with an accompanying shift of emphasis as is the case with demonstratives. Demonstratives can precede or follow the noun, the preposed demonstrative apparently being slightly emphasized. Numerals always precede the noun.

kətam gagadə *long rope*; kabodo kətamo *short rope*; odo takenawe *a small house*; edeba odo *an old house*; odo danu *this house*; odo kaena *that house*; danu odo egandu nu, gaena odo takenawe nu *this house is large, that house is small*; mano wadə *one pig*; imbu wadə *two pigs*.

Possessive pronouns precede the noun; in the possessive phrase Noun + Noun, the first Noun denotes the possessor and has the possessive suffix -nda:

## Non-verbal sentences:

These consist of a subject + complement:

odo dane egandu nu	<i>this house is large</i>
danu korekapi <sup>1</sup> nu	<i>these are matches</i>
ewo Teresia	<i>I am T.</i>
wadə gdane wa	<i>where is the pig</i>
wadə gaeno na	<i>the pig is over there.</i>

<sup>1</sup>Loan from Indonesian.



The function of the particles *nu* and *na* is not clear.

Verbal sentences:

The structural pattern of the collected sentences is:

± time adverb ± subject ± indirect object ± object + verb: *anugo jabodo ajambo kdedo-ge recently a dog bit father*. In questions, however, the subject-object order is reversed: *tagambo jabodo kded-niwana did a dog bite you?* Examples involving an indirect object have already been given above.

## 2.6. THE PAUWASI PHYLUM

West of the Senagi Family a group of at least four languages seems to constitute a language phylum. The languages are Jafi (170 speakers), Emumu (1100 speakers), Dubu (130 speakers) and Toweï (115 speakers). Possibly also the Nambela language south of Toweï belongs to the group, but there is no data available in this language. The phylum will be named Pauwasi Phylum after the Pauwasi river which drains the greater part of the area covered by the phylum.

The only data on hand is the word lists collected by Galis (1956b). These are sufficient for purposes of provisional classification, but do not allow conclusions about phonological and grammatical structure.

There are two sub-groups: 1. Jafi and Emumu, sharing 75% cognates (100-item list), and 2. Dubu and Toweï sharing 56% cognates (100-item list). The sub-groups will be named Emumu and Dubu Family respectively. Between each other the two families share only phylum-level cognation percentages. Dubu and Jafi share 20% cognates (80-item list, see Appendix I), Dubu and Emumu share 14% cognates (100-item list).

## 2.7. UNCLASSIFIED LANGUAGES

West of the Pauwasi Phylum only small isolated languages are found till one reaches the Nawa River. They are Molof (200 speakers), Usku (20 speakers) and Tofamna (number of speakers unknown). West of the Nawa River the Kaure language is spoken by the Kaure tribe which seems to be of substantial size. The only data available is the word lists collected by Galis (1956b). Part of these have been included in Appendix I. The languages share very low cognation percentages with each other as well as with the languages of the Pauwasi Phylum, as is shown by the chart below:



	Dubu	Molof	Usku	Tofamna	Kaure	
Jafi	20	7	7	9	4	
	Dubu	10	12	7	2	
		Molof	10	5	4	cognation percentage
			Usku	7	6	
				Tofamna	6	

Number of items counted: 79-80

List used: see Appendix I.

Usku and Molof might perhaps be reckoned to the Pauwasi Phylum on the basis of the figures presented above, but other counts make it unlikely, e.g. Usku - Jafi 4% (100 items), Molof - Towei 7% (100 items). For the time being all these languages remain unclassifiable.

### 3. LANGUAGES IN SOUTH WEST-IRIAN

#### 3.1. INTRODUCTION

The main source of information on the languages in the southern plains of West Irian is the work of the Dutch missionary P. Drabbe M.S.C.. During the more than 20 years that he worked in the area he studied most of the local languages, publishing grammatical sketches, grammars, word lists, dictionaries and texts<sup>1</sup>. The last language the study of which he began was Tamagário, spoken on the Gondu (Queen Juliana) river. He found this language totally different in structure from the languages he had previously studied, and thought it was unrelated to any of the already known languages (Drabbe 1963, p.2 and personal communication).

For reasons of health Drabbe was not able to finish his study of Tamagário and his notes remained unpublished.

Apart from Tamagário there were at least two more unknown languages in the same general area east of the Casuarina Coast Asmat: the languages of the Sawuj, Kajaghar and Ujaghar tribes. This made the hinterland of the Casuarina Coast the last linguistic terra incognita on the south coast.

The present writer collected data in four languages of the Casuarina Coast hinterland: Sawuj, Kaugat, Kajgir, and Tamagário. These made it possible to classify Sawuj as a member of the Awju language Family, and unite the other three into the Kajagar Family. New data were also collected in the villages of Warkai and Bipim, two enclaves in Asmat territory in which a language of the Marind Stock is spoken. The notes on these languages will be presented in the following order:

<sup>1</sup>A complete list of P. Drabbe's publications on New Guinea languages can be found in 'An Ethnographic Bibliography of New Guinea' Australian National University Press, Canberra 1968, Vol. I, p. 70-1.



1. The Kajagar Family
2. Sawuj
3. Warkaj-Bipim

### 3.2. THE KAJAGAR FAMILY

#### 3.2.1. Introduction

The languages of the Kajagar Family are spoken in the basins of the Gondu and Cook rivers except for a narrow coastal belt in which the Casuarina Coast dialect of Asmat is spoken. Starting from the north-west the family border roughly follows the Kronkel river eastwards to its source, then dips to the south-east till it reaches the Gondu river. The border then follows the Gondu river upstream past the connection between the Peru and Gondu Rivers, where it turns north till it reaches its former latitude. Then it turns east again, crossing the branches of the upper Purumi river, after which it sweeps south and west in a wide curve, crossing the northern tributaries of the Bapai river, till it reaches the coastline.

The westernmost language of the family is Kaugat, spoken in 5 villages four of which lie on the Cook river, the fifth being on the Kronkel river.<sup>1</sup> The estimated number of speakers is 700.<sup>2</sup>

East of Kaugat, on the upper Cook, upper Peru, and lower Gondu rivers, Kajgir is spoken. There are 20 Kajgir villages. The number of speakers is approximately 3,000.

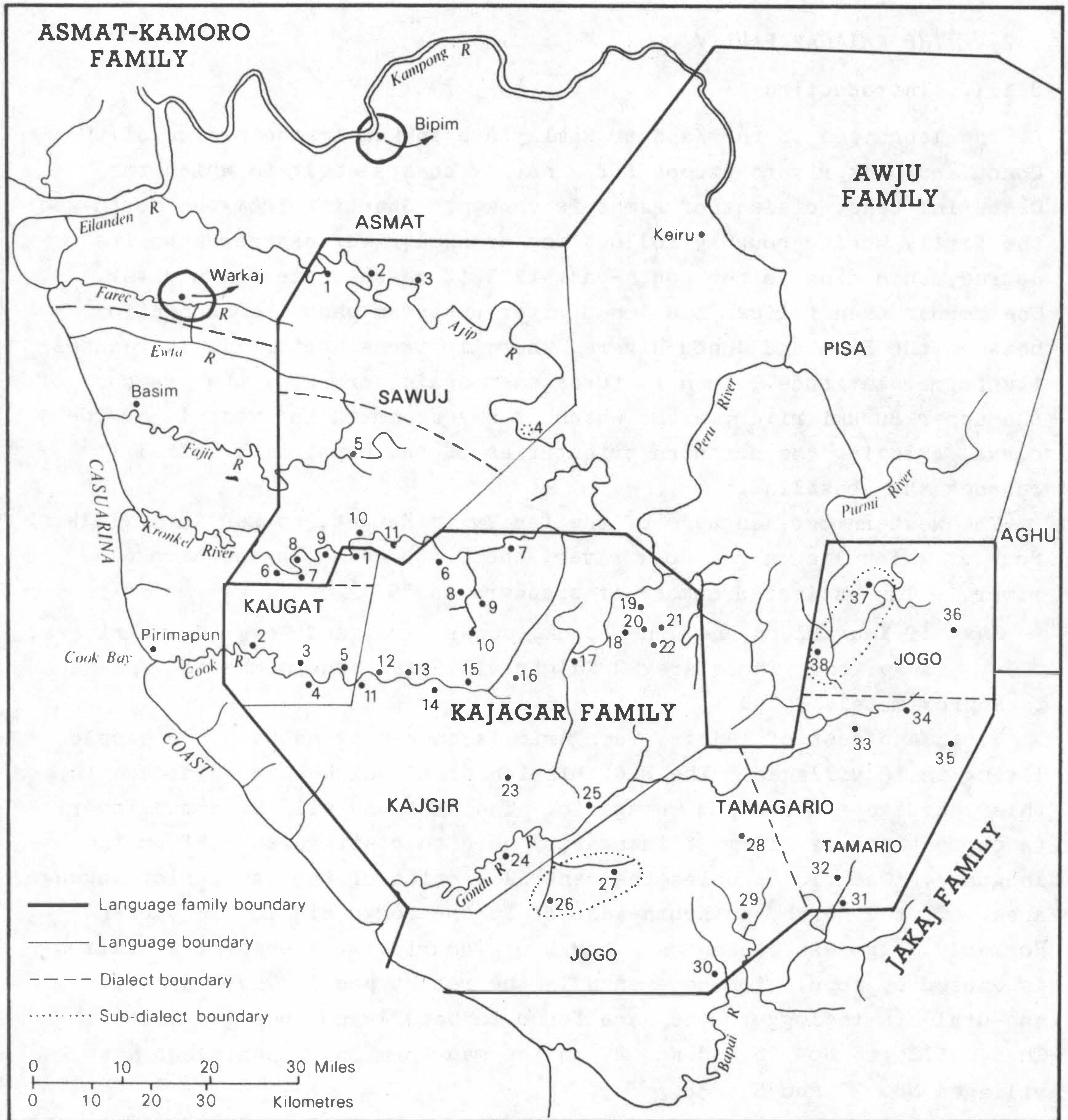
South and east of Kajgir, Tamagário is spoken by about 3,500 people living in 13 villages. The R.C. Mission distinguishes two dialects in this language: Joggo and Tamagário. The last one will be named Tamário (a current shorter form of Tamagário) here to distinguish it from the language. Tamario occupies the central section of the Tamagario language area. To the north and south-west of it the Joggo dialect is spoken. Formerly Joggo was spoken only north of Tamario; the present situation is caused by population movements in the recent past. There are two sub-dialects in Joggo; they are found in both Joggo speaking areas. Thus, villages No 26 and No 27 on the map form one sub-dialect with villages No. 37 and No 38.

The total number of Kajagar speakers is approximately 7,200. The neighbours of the Kajagar Family are: Asmat in the west, Sawuj and Pisa in the north, and Jakaj in the east and south.

<sup>1</sup>A list of villages names has been added to the map, p. 80.

<sup>2</sup>The latest census figures available date from 1961, and these do not cover all the villages now existing. The figures given here and below can therefore be only rough estimates.





MAP 2: LANGUAGES OF THE CASUARINA COAST HINTERLAND



## LANGUAGES OF THE CASUARINA COAST HINTERLAND

- |                |   |                   |  |
|----------------|---|-------------------|--|
| <b>Sawuj:</b>  | <ol style="list-style-type: none"> <li>1. Bawor</li> <li>2. Kagami</li> <li>3. Tambor</li> <li>4. Ero-Sato<br/>(exact location unknown)</li> <li>5. Ujar-Kagas</li> <li>6. Sanepaj</li> <li>7. Bawor</li> <li>8. Isaip</li> <li>9. Saremit</li> <li>10. Kamur</li> <li>11. Kainam</li> </ol>  | <b>Tamagário:</b> | <ol style="list-style-type: none"> <li>26. Taregaj</li> <li>27. Ati</li> <li>28. Kajegai</li> <li>29. Kageir</li> <li>30. Gaumi</li> <li>31. Terejemu</li> <li>32. Makabak</li> <li>33. Arare</li> <li>34. Topum</li> <li>35. Pagai</li> <li>36. Xajtox</li> <li>37. Jame</li> <li>38. Segere</li> </ol> |
| <b>Kaugat:</b> | <ol style="list-style-type: none"> <li>1. Jakamit</li> <li>2. Sanem</li> <li>3. Sinepit</li> <li>4. Ajkut</li> <li>5. Kajpom</li> </ol>   |                   |  |
| <b>Kajgir:</b> | <ol style="list-style-type: none"> <li>6. Amian</li> <li>7. Amegas</li> <li>8. Amkum</li> <li>9. Amsüme</li> <li>10. Amkaj</li> <li>11. Gagare</li> <li>12. Ajru</li> <li>13. Wagesu</li> <li>14. Kawem</li> <li>15. Amaru</li> <li>16. Garuboob</li> <li>17. Kajbu</li> <li>18. Xairipm</li> <li>19. Okor</li> <li>20. Waragom</li> <li>21. Asipm</li> <li>22. Sementajpm</li> <li>23. Gogogir</li> <li>24. Gomberu</li> <li>25. Sene</li> </ol> |                   |  |



The materials collected in the Kajagar languages are:

**Kaugat:** two recorded word lists. Informants were a boy of Jakamit and two young men of Sinepit.

**Kaigir:** two word lists, one obtained from Kawem people visiting Pirimapun, one recorded in Kawem itself.

**Tamagário:** one word list, obtained from a young man of Arere.

Father F. Lommertsen m.s.c., missionary in Pirimapun, kindly supplied the writer with general information on the Kajagar languages and lent him a manuscript containing a grammatical sketch of Tamagário by Drabbe, and grammatical sketches of Kajgir and Joggo by himself.

### 3.2.2. Phoneme Inventories

#### 3.2.2.1. Consonant phonemes:

All Kajagar languages have a stop at the bilabial, dental and velar points of articulation /p, t, k/, a bilabial and a dental nasal /m, n/, a flapped or trilled vibrant /r/, and two semivowels /w, j/. In addition, Kaugat has an unvoiced alveopalatal stop /c/, and both Kaugat and Kaigir have fricatives at the labiodental, dental and velar points of articulation /f, s, x/.<sup>1</sup>

The main allophones and their distribution are presented in the following chart. Abbreviations used are: I = word-initially, M = word-medially, F = word-finally: the symbol ~ is used for 'freely alternating with'.

<sup>1</sup>Kaugat /c/ developed from an original \*t under influence of a high front vowel in the immediate environment, as shown by the following sound correspondences (/i/ to be read as: actual or reconstructable /i/):

	Kaugat	Kaigir	Tamagário	
	t	t	t	I, not followed by /i/
*t:	c	t	t	I, followed by /i/
	t	r	r	M, not preceded or followed by /i/ F, not preceded by /i/
	c	r	r	M, preceded or followed by /i/ F, preceded by /i/

In Kaigir and Tamagário, r < \*t merged with the original /r/ which shows the correspondences:

*r	r	r	r	M, F
----	---	---	---	------



phoneme	allophones and their distribution	language
p	[p] - I,M,F [b] - M, a) intervocally, ~ [p] b) in clusters with /m,n,r/, ~ [p] Note: In Tamagario one would expect also fricative allophones, but no such have been noted.	all
t	[t] - I,M,F [d] - M, in clusters with /r,n/, ~ [t]  [t <sup>s</sup> ] - I,F, ~ [t,s] [s] - I,F, ~ [t,t <sup>s</sup> ]; M, ~ [t]	all  Tamagário
k	[k] - I,M,F [g] - M, ~ [k]  [ʔ] - M, between /a/ and /a/, with exclusion of [k] and [g]  [k <sup>x</sup> ] - I,M (intervocally), F, ~ [k,g] [x] - M (intervocally), ~ [k,k <sup>x</sup> ,g] [ɣ] - M (intervocally), ~ [k,k <sup>x</sup> ,g,x] Note: in all languages, all velar allophones are backed when contiguous to /u,o,a/.	all  Kaugat  Tamagário

Footnote continued from page 82.

The other consonant correspondences are:

*p	p	p	p	I,M,F,
*k	k	k	k	I,M,F, except between /a/ and /a/
	k	x	k	M, in context /a/ - /a/
*f	f	f	p	I,M,F,
*s	s	s	t	I,M,F,
*x	x	x	k	I,M,F,
*m	m	m	m	I,M,F,
*n	n	n	n	I,M,F,
*w	w	w	w	I,M,F,
*j	j	j	j	I,M,F,

Thus, the proto-Kajagar consonant system probably was:

p	t	k
f	s	x
m	n	
w	j	
	r	



phoneme	allophones and their distribution	language
m	<p>[b] - I, when the next consonant is a stop or /r/</p> <p>[m] - I, when no consonant follows, or when the next consonant is a nasal. Alternation of [b] and [m] was noted in two instances, one with next consonant /p/, and the other with /r/ as the next consonant.</p> <p>- M,F</p>	all
n	<p>[n] - I,M,F</p> <p>[d] - I, there seems to be a tendency towards complementary distribution with [n]: if the next consonant is a nasal, only [n] occurs; if the next consonant is a stop, mostly [d] occurs (but [n] before intervocalic [ɣ] and [b]). Some cases of alternation between [n] and [d] have been noted.<sup>1</sup></p>	<p>all</p> <p>Not in Kronkel river dialect of Kaugat, which lacks [d].</p>
r	<p>[ɣ] ~ [ɣ̃] - M,F the trilled allophone is perhaps a feature of speakers with knowledge of the Indonesian language.</p> <p>[d] - M (intervocalically) ~ [ɣ̃, ɣ̃].</p>	<p>all</p> <p>Tamagário</p>
w	[w] - I,M,F	all
j	<p>[j] - I,M,F</p> <p>[j̃] - I,M, noted twice only, in Kaugat</p>	all
f	[p <sup>f</sup> ]~[f] - I,M	Kaigir, Kaugat
s	<p>[s] - I,M,F,</p> <p>[t<sup>s</sup>] - I,F ~ [s]</p> <p>In Kaigir, also voiced and interdental allophones occur intervocalically: [z, θ, ð].</p>	" "
x	<p>[x] - I,M,F</p> <p>[k<sup>x</sup>] - I,F ~ [x]</p> <p>All allophones are backed when contiguous to /u,o,a/.</p>	" "
c	[č] - I,M,F	Kaugat

<sup>1</sup>In this respect the Kajagar languages resemble Asmat, in which [b] and [m] are allophones of one phoneme /m/, and [d] and [n] allophones of /n/, the nasal allophones occurring almost exclusively if the next consonant is a nasal consonant, and always in word-final position.



### 3.2.2.2. Vowel Phonemes:

All Kajagar languages have the following vowel phonemes: /i,e,a,o,u/, and perhaps /ə/. For Kaugat two more phonemes were provisionally set up: 1. /ü/, to accommodate a rounded high front vowel [ü] which in some cases contrasts with /i/ and /u/, (e.g. *iki stone, ükü spittle, ku thunder*) but in others could be interpreted as an allophone of /i/ (after /w/, and in the environment /p/ - /p/, e.g. *wim,wüm tree*); 2. /ö/, to accommodate a slightly backed, rounded mid-front vowel [ö] and a rounded mid-central vowel [ə] which could not be allocated to any other vowel phoneme. /ü/ and /ö/ do not occur in the Kronkel River dialect of Kaugat.

Chart of the vowel phonemes and their main allophones:

i	[i,ɪ]	(ü [ü])		u	[u,ʊ]
e	[e,ɛ]	(ö [ö ə])	<u>e</u> [ə]	o	[o,ɔ]
		a	[a,ɑ,æ]		

( ) in Kaugat only

     phonemic status uncertain

In Kaigir, word-final /m/ tends to cause non-phonemic nasalization of the preceding vowel(s); a few cases were noted in which dropping of a final /m/ caused compensatory nasalization of the preceding vowel.

### 3.1.2.3. Distribution

Single consonants occur word-initially, medially, and finally. Clusters of no more than two consonants occur medially. Word-finally only the clusters /pm/ and /tn/ are permitted. In this position /pm/ and /tn/ contrast with final /p/ and /t/; the nasal in these clusters can carry stress [pʰ, tʰ].

Single vowels occur word-initially, medially and finally, as do sequences of two vowels, including like vowels.

### 3.2.3. Grammar<sup>1</sup>

Personal pronouns: these have emphatic and non-emphatic forms, indirect-object forms, and possessive forms, as shown in the chart below.

<sup>1</sup>The recorded word lists contain very few grammatical notes. For most of the following information I am indebted to Father Lommertsen M.S.C.



		non- emph.	emph.	ind. obj.	possessive <i>my</i>	possessive <i>mine</i>
Tamagário	s.1	nak	nakar	nakere	nem,nakanem	
	2	ak	akar	akere	anam	
	3	ek	ekamar	ekamere	enem	
	p.1	nep	nepar	nepere	nokom	
	2	akanek	akanar	akanere	ikim	
	3	wep wene	wepar	wepere	wepkom	
Kaigir	s.1	nax	naxare	naxeru	nem naxanem	nemar
	2	ax	axare	axeru	anem	anemar
	3	ekam	ekamare	ekameru	enem	enemar
	p.1	nep	nepare	neperu	naboxom noxom	noxomar
	2	axan	axanare	axaneru	axanikim	axanikimar
	3	ene	enare	eneru	enekem	enekemar
Kaugat	s.1	naxa	na' ar	na' akawe	namor	
	2	axa	a' ar	-	anemor	
	3	-	-	-	-	
	p.1	nipi	nipir	-	nipmor	
	2	a' ani	a' aner	-	ekmor	
	3	-	-	-	-	

Nouns: in Tamagário, possession is marked by a particle *akam*: *wakum aj akam father's pig*; *wakum junim nem akam my elder brother's pig*.

Verbs in Tamagário take suffixes and vary for tense, mood, aspect, person and number. There are five tenses: present, past (on the same day), past (recent past, before to-day), past (distant past), and future. There are two aspects: punctiliar, and durative-repetitive. The order of the suffixes is: durative - tense - person (number). A suffix marking plurality of actor occurs only in the punctiliar forms of some verbs. Otherwise, number is not indicated (1st person), or person and number are jointly indicated by one morpheme (2nd and 3rd person).

The present tense (progressive aspect) forms consist of: verb root, durative suffix, tense suffix, person (number) suffix:

urok parm-o-m-e	<i>I am talking / we are talking</i>
parm-o-m-an	<i>you s. are talking / they are talking</i>
parm-o-m-in	<i>he is talking</i>
parm-o-m-ren	<i>you p. are talking</i>



Present tense, punctiliar, with number suffix:

kere-m-e	<i>I hit it, he hits it (once)</i>
kere-m-an	<i>you s. hit it</i>
kere-aka-m-e	<i>we hit it</i>
kere-aka-m-ren	<i>you pl. hit it</i>
kere-aka-m-an	<i>they hit it</i>

There are sentence-medial forms indicating that the action is followed by another action. These forms vary for identity and non-identity of subject. The sentence-medial verb forms are compounds in which the second constituent is a form of the verb 'to cease':

verb root + tem	(identity of subject)
tema[riki]	(non-identity of subject)

Sentence structure: some examples of recorded phrases and clauses are presented here without further attempts at generalizing.

Tamagário:	wow namor	(noun-possessive pronoun) <i>my house</i>
	wakum pokura	(noun-adjective) <i>a big pig</i>
	makam jair-o-me akari	(object-verb-indirect object) <i>I am roasting sago for you</i>
	makaŋ ba jair-o-m-an	(object-question marker? - verb) <i>are you roasting sago?</i>
	nakanem jaitem	(pronoun-verb) <i>roast it for me, roast mine</i>
	jare kanakan	(verb-negative) <i>it has not been roasted</i>

#### Kaugat

(Sinepit)	pérom kupiákaram	(noun-adjective) <i>a long rope</i>
	pákém wow	(demonstrative - noun) <i>this house</i>
	kep temenáŋ	(object-verb) <i>stop speaking</i>
(Jakamit)	axa ówm	(subject-verb) <i>you should eat</i>
	nibi má?am ówp	(subject-object-verb) <i>let us eat sago</i>

#### 3.2.4. Genetic Relationships

**Internal:** The Jakamit and Sinepit lists of Kaugat represent two different dialects; they share 92 items of which 86 (93%) yield pairs of cognates. The two dialects will be named the Kronkel and Cook River dialects respectively.

A comparison of a 136-item list in Kaugat (Sinepit), Kaigir and Tamagário yielded the following cognation percentages: Kaigir - Kaugat: 56%, Tamagário - Kaugat 57%, Kaigir - Tamagário 76%. Kaigir and Tamagário constitute a subgroup of the family.



**External:** A preliminary assessment of the relationships with languages outside the family made it clear that the Kajagar languages have their closest relationships with the languages of the Central and South New Guinea Stock (Asmat-Kamoro Family,<sup>1</sup> Awju Family, Ok Family). The relationship with these languages seems to lie well within the range of phylum-level relationships. The relationships with the languages of the Marind,<sup>2</sup> Jelmek-Maklew, and Frederik-Hendrik Island Stocks are less although perhaps still within the phylum-level range.

There are no languages with which the Kajagar Family has stock-level relationships. The family has been provisionally classified as a one-member stock within the Trans-New Guinea Phylum.

### 3.2. THE SAWUJ LANGUAGE

#### 3.2.1. Introduction

The Sawuj language is spoken by an estimated 1,500-2,000<sup>3</sup> people living on the middle and upper Ajip river, the upper Fajit river and on the middle Kronkel river. There are 11 villages: Bawor, Kagami, Tambor, and Ero-Sato on the Ajip; Ujar-Kagas on the Fajit, and Kamur, Kainam, Bawor, Esaip, Sanapai and Saremit on the Kronkel. Two more names were mentioned by informants in Kagas: Minaki and Mause. These are probably names of nomadic groups living near the Ajip river. The location of Ero-Sato is not known to the writer; the village is said to be one day's rowing upstream from Tambor.

Three word lists of varying length were recorded; they represent the dialects of Bawor (Ajip river), Kagas, and Saremit. A fourth list, collected in Sanapai, was kindly supplied to the writer by Father van der Wouw, Missionary in Basim. The Saremit and Sanapai lists are identical;

<sup>1</sup>Early cultural contact between the Asmat and Kajagar tribes is suggested by two words in the sacred vocabulary of Asmat songs, which are of Kajagar origin: *okom water* and *kokopuc dog* (Kaugat: *opoc*). The headwaters of the Fajit and Kampong rivers, originating in the hinterland of the Casuarina Coast, play an important part in Asmat mythology.

<sup>2</sup>The Jakaj group may be relatively new in the area: the Kajagar languages show closer relationships to Marind than to Jakaj. The lists further suggest early contact of the Kajagar groups with the Sjiagha-Jenimu tribes and with the tribes now living on Frederik-Hendrik Island.

<sup>3</sup>This figure was arrived at by assuming an average of 150 inhabitants per village. The average is based on census figures dating from 1960, quoted in Amelsvoort 1964, i.e. Ujar - 165; Abtatie (=Kagas?) 174; Kainam - 146; Kamur - 164; Saremit - 137, and on the writer's own estimate of the size of the villages on the middle Ajip river.



the Kagas list is only slightly different from the Saremit list, showing minor differences in word form but 100% shared cognates (number of items: 90). The Bawor list is more divergent, sharing 91% cognates with Saremit (90-item list), and 93% cognates with Kagas (80-item list). All the villages on the Kronkel river are said to speak the same dialect; the same was reported for the villages on the middle Ajip. There appear then to exist at least two dialects in Sawuj; the middle Ajip dialect and the Fajit-Kronkel dialect. Saremit and Kagas represent two sub-dialects. The dialectal affiliation of Ero-Sato is not yet known.

### 3.2.2. Genetic Relationships

Genetically the Sawuj language has its closest relationships with the Awju languages.<sup>1</sup> Preliminary cognate counts using the Saremit list to represent Sawuj, showed that the closest relationships with languages within the Awju Family are with Sjiagha/Jenimu:<sup>2</sup> 36% (122-item list); next come Pisa: 29%, and Kaeti: 23%. If the Saremit and Kagas lists are combined, the test list is expanded to 166 items, yielding the following results: with Sjiagha/Jenimu 32%, with Pisa 27%, with Kaeti 19%.

<sup>1</sup>The Awju languages form a family with two subgroups: Awju, and Dumut. Awju has 5 member languages: Sjiagha/Jenimu, Pisa, Aghu, Airo-Sumaghage, and Kotügüt; Dumut has at least three member languages: Wambon, Kaeti and Wangom. (Healey 1971: 997,998).

<sup>2</sup>It is interesting to note that Sawuj shares a number of cognates exclusively with languages spoken south of the mouth of the Digul river and on Frederik Hendrik Island:

banana	:	Sawuj xorob, Mombum xurub, Riantana karö
bad	:	" ea:x, " lkor, Dom jaxur Kimaghama jaka
big	:	" faran, Maklew balaq, Jelmek mbalak
bow	:	" xarab, Mombum xarew, Riantana karavo, Dom xaref (but in the Kajagar languages pe, Jakaj: mi)
housefly	:	" arwer, Kimaxama uraora, Dom worwer
wife	:	" lwar, Dom jebör
tooth	:	" torok, Dom trex; (also in languages near the Indonesian-Australian border: Moraori terox, Kanum tor, Jej ter).

The sharing of a cultural term like 'bow' and the formal similarity of the words make it likely that these languages have been in direct contact at some point in their history. This, combined with the fact that also the Kajagar languages show traces of contact with the same groups, and the fact that a Marind-type language is spoken in two enclaves in Asmat territory (Warkai - Bipim, see below) makes it clear that in the past considerable migrations must have taken place in the area.



These results are approximative because the equivalence of several of the compared words - especially of verb stems - is doubtful. On account of the above percentages it is possible to classify Sawuj provisionally as a member of the Awju family, forming a third sub-group by itself.

3.2.3. Phonology

There are no phonological differences between the two dialects. Tentative analyses of the three recorded lists all yielded the same results.

The consonant phonemes are:

p	t	k
b	d	g
f	s	x
m	n	
w	j	
	r	

/p/ and /b/, /t/ and /d/, /k/ and /g/, contrast in word-initial and word-medial position. In word final position this is not clear: neither clear contrast nor free variation was noted. A possible case of contrast is (Bawor): kood *eye* versus jitkoot *elbow*, workoot *neck*. Word final voiceless and voiced stops are written here as they were transcribed from the recordings.

/f/ was noted only once word-medially, and never word-finally. /x/ does not occur preceding front vowels. This is a feature which is characteristic of all the known Awju languages.

The following chart shows the main allophones of the consonant phonemes in Word-initial (I), medial (M) and final (F) position. The symbol ~ indicates free alternation.

	p	b	t	d	k	g	f	s	x	m	n	r	w	j
I	p	b	t	d	k ḳ	g g̣	p <sup>f</sup> ~f	t <sup>s</sup> s	k <sup>x</sup> x k <sup>x</sup> x̣	m	n	l	w	j
M	p	b~ḅ	t	d	k ḳ	g g̣	f	s~z	x x̣~ Y Ỵ	m	n ŋ	ṛ~ṛ̣	w	j
F	p	b	t	d	k ḳ	g g̣	-	s	x x̣	m	n~∅	ṛ~ṛ̣	w	j

All velar consonants tend to be backed when contiguous to /a/ or /o/. Free alternation of voiceless and voiced fricatives occurs intervocalically only. The velar nasal [ŋ] occurs only preceding /k/ and /g/. /n/ in word-final position causes optional nasalization of the preceding vowel;



in this position the nasal can be dropped, in which case the preceding vowel always becomes nasalized. A final nasal vowel thus has to be interpreted as vowel + /n/.

Consonant clusters occur word-medially only. The following have been noted: pt, pd, bk, bg, bx, bt, tk, sm, mb, md, ms, mx, nd, ng, rp, rb, rt, rk, rg, rm, rn, rw.

The vowel phonemes and their main allophones are:

i	[i,ɪ]	u	[u]
e	[ɛ̃,ɛ]	o	[o,ɔ]
a	[æ,a,ɑ]		

Sequences of two vowels occur word-initially, medially, and finally. The following have been noted: ai, ae, au, aa, ei, ee, ea, ii, ia, uu, uo, ui, oo, oa, oi.

Stress and vowel length: the last syllable in a word carries the (main) stress. Concomitant with stress is a lengthening of the vowel. In the word list eliciting situation in which an informant pronounces the words with a certain emphasis and free of context, this lengthening can approach the double length of short (unstressed) vowels. This is always the case with monosyllabic words ending in a consonant. Besides phonetically long vowels, sequences of two like vowels also occur, and it is possible that at least some of the long vowels noted have to be interpreted as vowel sequences. Pending further research the writer will follow the original transcription of the recordings, writing two like vowels where the acoustic impression was one of two separate vowels, and writing a long vowel in the other cases.

Pitch contours: typical for most of the words with a long vowel is a falling-rising pitch contour on the last syllable. A number of instances was recorded of a level pitch contour on the last syllable; the fact that in the three recordings the same words exhibit a level pitch contour (ko:d, mu:d, a:r, sir, a:p) rules out the possibility of an accidental variation of intonation, and points to the possibility of phonemic pitch in this language.

#### 3.2.4. Grammar

A comparison of the few verb forms and sentences contained in the word lists with Drabbe's notes on Sjiagha/Jenimu (Drabbe 1950) showed the following similarities:

*To be present*, Sawuj: verb stem ba preceded by particle di or da:  
 du di bá ne *is there sago?* du di ba *there is sago.* no ap ke da ba  
*my house in he-is.* In Sjiagha the verb is bo-,baxa- *to sit* preceded by



a particle *da da:ne bax he is here* (*ne here* = Sawuj *ene*). Futurum 1 p. pl., Sawuj: stem + *wi*, *xa-wi I shall go*; Sjiagha: stem + *we*, or *wæ*, *axa-wæ I shall go*; Imperative 2 p.sg. Sawuj: stem + *ni*, *popa-ni sit!*; Sjiagha stem + *na*, *ati-na bite!*, *bo-no* (irregular) *sit!* Past tense 1 p.sg. Sawuj: stem + *ke+ de*, *fan-ke-de I ate*; Sjiagha: stem + *kV + dewe*, *en-ke-dewe I ate (yesterday)*.

The Sawuj pronouns appear to have retained an old feature which has been lost in the other Awju languages; the characterization of the 1st and 2nd person plural forms by a high front vowel as against the low-central or back vowels of the singular forms. This feature is still found in many of the languages of the Trans New Guinea Phylum. Traces of it are found in the pronoun system of the Kajagar languages.

Chart: Comparative list of Sawuj, Sjiagha, Pisa, and Kaeti personal pronouns.

	Sawuj	Sjiagha	Pisa	Kaeti
sg. 1	nogo, nogop	no	nu	nöp
2	go, gop	go	gu	ngöp
3	e, ep	ewe, ege	eki	ege
pl. 1	nigi, nigip	noxo	nugu	nongüp
2	gi, -	goxo	gugu	nengip
3	-	joxo	joxo	jengip

### 3.3. WARKAI-BIPIM

#### 3.3.1. Introduction

The villages Warkai and Bipim form two linguistic enclaves within the Asmat language area. The two villages speak one language, which belongs to the Marind Stock. Warkai is situated on the Farec river, about 5 miles upstream of the Asmat village Omadesep. Bipim is on the As (Kampong) river, three miles upstream of the Asmat village Ar-Danim. The villages are small; Warkai counted 115 people in 1960, Bipim 79. Their present size seems about the same. A few generations ago the two villages still lived together, presumably near the source of the Farec river. In Warkai the memory of the former unity with Bipim is still alive; in Bipim the informants denied to know anything about it.

The first word list collected in Warkai dates from the late fifties; it was collected by one of the early missionaries in the area, either Father von Pey, or Father van Kessel. Subsequent lists were recorded



in 1961 and in 1970 by the present writer, who also collected a word list in Bipim. The three lists, taken in chronological order, show an increase in Asmat loan words. The first list gives *reka* *fire* (// Jakaj *reka*), where the later lists have *usa*, from Asmat *jisa*. The 1961 list gives *ahaj* *old*; where the 1970 list has *tari* = Asmat *tari*. Other Asmat loans in Warkai are: *po* *paddle*, *jawi* *sun*, *ose* *tree*, *par* *wide*. Since the introduction of Mission and Government frequent contacts have developed between Warkai, Bipim, and the neighbouring Asmat villages. It can be expected that the Warkai-Bipim language will in the future be heavily influenced by Asmat. Warkai-Bipim is now separated from the other languages of the Marind Stock by languages of the Awju and Kajagar Families. It may have been in contact with several of these languages as is shown by the following probable loans:

*jaka*, Sawuj *jakae* *stone*; *eber*, Sawuj *sebar* *earth*; *kade*, Pisa *kadu* *meat*; *peheur*, Kaugat *xaur* *above*; *kasi*, Kaigir *xasi* *stone axe*; *kerme* Kaigir *xaxaram* *moon*; *pep* *fireplace*, Tamagario *pep*, *earth*; *marep*, Tamagario *manep* *star*.

### 3.3.2. Genetic Relationships

The Warkai-Bipim language belongs to the Marind Stock of languages. Its closest relative is the Jakaj language, with which it has been tentatively united into one family. A provisional cognate count, based on a 130-item word list, yielded 30% cognates with Jakaj, and 19% cognates with Bian-Marind. The comparative word lists presented below in Appendix II give the following results:

	Jakaj	Bian-Marind
Warkai:	29	12

### 3.3.3. The Sound System

There seem to be 15 consonant phonemes and at least 6 vowel phonemes. The consonant phonemes and their main allophones are:

p	[p]	t	[t]	k	[k, ḳ, g, g]	'	[ʔ]
b	[b]	d	[d]				
f	[p <sup>f</sup> , f]	s	[t <sup>s</sup> , s]	x	[x, x̣, γ, γ]	h	[h, ḥ] <sup>1</sup>
m	[m]	n	[n, ŋ]				
w	[w]	j	[j, j̣]				
		r	[ʃ]				



The glottal stop /' / and the uvular fricative /h / were noted word-medially only. The voiced-voiceless opposition in the stops seems to have been neutralized in word final position. In this position all stops are lenis and unvoiced. /f / was not found word-finally; /x / only word-medially. The velar consonants are backed when contiguous to /a / or /o /, and have freely alternating voiced and unvoiced allophones in intervocalic position. The fricatives /f / and /s / have freely alternating affricate and fricative allophones in word-initial position. /n / has a velar allophone [ŋ] when preceding /k /. Word-initially, /j / has freely alternating alveodental and alveopalatal allophones.<sup>1</sup>

The vowel phonemes and their main allophones are:

i	[i]	u	[u,ü]
e	[e,ě] (ə)	o	[o,ɔ]
ɛ	[ɛ,œ]	a	[a,ɑ]

The phonemic status of the mid-central vowel [ə] is uncertain.

Single consonants occur in all positions; consonant sequences occur word-medially only. The following have been noted: md, mn, ms, nd, nk, nj, jm, rw. Single vowels occur in all positions; sequences of two vowels were noted word-medially and finally only: ai, ae, au, ei, eu, ei, ia, ua, ou, aa, uu.

<sup>1</sup>The sound system of Jakaj lacks the glottal stop and the fricative consonants (fricatives and affricate stops are allophones of stops). Warkaj /k, x, h and ' / all correspond most commonly to /k / in Jakaj; the data is too limited to trace the causes of the four-to-one correspondence. Warkaj /s / corresponds to Jakaj /t /; no correspondence involving Warkaj /f / was found. The other most common correspondences are:

Warkaj	:	Jakaj		Warkaj	:	Jakaj
p	:	p		m	:	m
b	:	b	(initially)	n	:	n
b	:	mb	(between vowels)	r	:	r (finally)
d	:	nd	(between vowels)	j	:	j

No correspondences involving Warkaj /t / has been noted.

The Jakaj vowels are:

i	u	
e	ö	o
ä	a	

The most common correspondences with Warkaj are:

Warkaj	:	Jakaj		Warkaj	:	Jakaj
i	:	i		a	:	a
e	:	e		o	:	o
ɛ	:	a		u	:	u

No correspondences involving Jakaj ä or ö have been noted.



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APPENDICES



APPENDIX 1: languages of north-east West Irian, COMPARATIVE WORD LISTS.

English	Tumawo	Awji	Taikat	Manem	Waris	Waina	Sengi		
<i>all</i>	-	-	-	ogono	1	-	nonon	1	
<i>ashes</i>	tö	ku	1 ko	1 wusmuf	2	smu	2 imok	tokos	
<i>belly</i>	hü	al	embaro	1 askə	2	eɛ	2 atak	2 soak	
<i>big</i>	māki	tuja	1 -	1 tiafa	1	dɛkle	muka	fun	
<i>bird</i>	tāā, tāñā	noj	1 nor	1 joŋ jor	1	tuawa	2 teafu	2 -	
<i>bite</i>	-	-	-	-	-	he-	-	-	
<i>black</i>	nɛmbɪ	tubulwa	1 -	1 tompo	1	suəhil	ongu	si	
<i>blood</i>	hi	keane	jafor	1 psonko	1	towol	1 tap	1 nine	
<i>bone</i>	ee	sakər	1 sagər	1 kaŋ, kar	1	kəl	1 kek	1 ke	1
<i>breast</i>	no	mā	1 mɛ	1 maŋ, mar	1	tɛt	2 tot	2 mandr	1
<i>burn</i>	-	tao	-	-	-	sang, 1) sing	1 sumerk	1 urəbi	2
<i>cloud</i>	-	bu	tik	1 tik	1	tɛko	1 lango	1 ku	
<i>cold</i>	lɛlaŋö	tapsasi	dur	kiga	nelpank	1 nenep	1 nenep	1 nener	1
<i>come</i>	-	manam	-	jepuŋ	1 paraw	1 joaŋbogo	1 joaŋbogo	1 poko	1
<i>cry</i>	-	o	1 -	1 wo naŋa	1	ubea	1 we	1 -	
<i>dead</i>	-	-	-	-	-	-	1 merik	1 murk, mundr	1
<i>dog</i>	naké	wəl	1 ur	1 -	1 unde	1 ure	1 ure	1 wandr	1
<i>dry</i>	-	təkəl	-	-	1 hoholɛl	1 goba	1 goba	1 sarik	
<i>ear</i>	lö	keato	1 keat	1 kafŋe	1 aŋku	2 ongok	2 ongok	2 aten	1

Series of cognates have been numbered; words having no cognates in any of the lists have not been numbered.

Footnote: 1) With sg. and pl. object respectively.



English	Sawa	Amgotro	Mongowar	Jafi	Dubu	Molof	Usku	Tofamna	Kaure
<i>all</i>	-	maboa	-	-	-	-	-	-	-
<i>ashes</i>	subos 2	katəbu 2	karemp 2	unduk 2	wafu 3	tonkomo	fu 3	wenbo	sandehu
<i>belly</i>	wəs	kambada 1	xambala 1	jalək 3	diale 3	kau 4	ku 4	kete 4	koal 4
<i>big</i>	angan 2	egandu wanada	buka 1	kiniai	soromape	aibe	pikine	lembuk	numogoa 1
<i>bird</i>	bisjas	du 3	tu 3	awe 4	olmu	au 4	lokwe	jetai	ku
<i>bite</i>	-	kded-	-	-	-	-	-	-	-
<i>black</i>	gensan	nambada 2	nemoare 2	seŋgəri 3	təŋəra 3	wolekana 4	polokwe 4	duike	sandetū
<i>blood</i>	wətwen	kodoa 2	hola 2	mob	təri	mat	mise	leki	katsa
<i>bone</i>	ok	gemda	saba	əndai 2	gwano	antai 2	kla 1	nta 2	loa
<i>breast</i>	pan 1	toto 2	tutu 2	muam 3	mamu 3	mu 3	mi 3	mo 3	mu 3
<i>burn</i>	-	-	iki	ərəbik 2	watuk	erse-ens	kiombra	wekimisima	sai
<i>cloud</i>	wəjɔŋ	namba	jobeli	kwabi	kau 2	majar- wakawc	keke 3	kco 2	kete 3
<i>cold</i>	səsanən	apde- amənaŋge	kekalbi	nənən 1	walofop- ka? a	wisita	soro	gokome	pese
<i>come</i>	laf	gabəda-	sokombo-	kwalopai 2	kəlawai 2	nembislai	duarse	maje	gembasa
<i>cry</i>	pəs	ekwad-	alani 2	aməlane 2	kemeŋi	jaŋdjis	nifikounde	ala	kuŋ
<i>dead, die</i>	-	awe- 2	maba- 2	ape 2	kma? a	-	-	-	-
<i>dog</i>	wəs 1	jabodo 2	-	jendru 2	-	-	-	-	-
<i>dry</i>	-	nagamda	sepale	arŋkper	nunwan	silea	leletom	bahe	pesebe
<i>ear</i>	uskɲs	kumbo- keda 3	gombo- gala 3	waigi	fa? a	ou	beikli 3	kemb telu 3	goktu 3



English	Tumawo	Awji	Taikat	Manem	Waris	Waina	Sengi
earth	fíto 2	mu 1	ma 1	poskwe 2	petha 2	betoja 2	pit 2
eat	kā/tā/pā	na, ane 1	na 1	na 1	ne 1	nekem 1	na 1
egg	tā kò	sugul 1	sur 1	suiŋ, suir 1	suul 1	suk 1	tu 1
excrements	am	am 1	asa 1	ekoko	igob 2	- 2	
eye	lutò	najo 1	nondor	nof 1	nop 1	rugok 1	now 1
FAR	habà	mesil 1	-	ani bwəfər 1	awkəla	-	-
fat, grease	-	joop 0	-	nombe 1	nambul 1	-	-
father	ái, re 2)	aju 1	aiwa 1	pasi <sup>3)</sup> asa <sup>4)</sup> 1	alal	aja 1	aja 1
fell tree		ka-	-	sampaŋ, kos <sup>5)</sup>	he(w)	-	-
fire	ra 1	tao 1	dow 1	saw 1	sue 1	sue 1	tow 1
fish	möö	o 1	oa 1	wo 1	tambukua	so	war 1
to fly	-	-	-	-	-	efuguh 1	-
foot, leg	tāe	malke 1	təka	mogor 1	mongola 1	mingak 1	monla 1
fruit	ri tò 1	ti tol 1	dor 1	tfoŋ, tfor 2	mobol 2	pok 2	lo 1 fu_ 2
full	-	fiŋa	-	-	-	-	-
give	-	tano	-	ja 1	řao 1	pai	djau 1
good	-	fange	-	entow ente	besel	mapenem	jenik
hair	ta 1	jento, ta <sup>6)</sup> 1	bakta, tar <sup>6)</sup> 1	ta 1	tea 1	mog-tše 1	-
arm	no	kenie 1	tur	kaŋkŋa 1	engəla 1	nengak	angla 1
hand	no-bero						

Footnotes: 2) Terms of address and reference respectively. 3) my father. 4) his father. 5) With sg. and pl. object respectively. 6) hair of head, bodyhair respectively.



English	Sawa	Amgotro	Mongowar	Jafi	Dubu	Molof	Usku	Tofamna	Kaure
<i>earth</i>	mo	1 kəbo	3 gəwou	3 abər	tede	aitman	ta	jai	siŋ
<i>eat</i>	to	2 tato-	2 hede-	fer	ne	1 ne	1 kepo	sembe	ganasi
<i>egg</i>	suŋun	1 dogomda	2 tugabola	2 sen	alani	le	3 kle	3 taili	wale
<i>excreta</i>	selan	-	-	-	-	-	-	-	-
<i>eye</i>	naf	1 kumba- kwada	2 kamba- gala	2 dji	3 ei	3 lom	nifi	1 jei	3 gewe
<i>far</i>	-	gada	-	-	-	-	-	-	-
<i>fat, grease</i>	wimbil	ganowe	ula	weli	jani	limo	ndai	ruku	kaldja
<i>father</i>	tele	aja	1 -	ap	-	-	-	-	-
<i>fell tree</i>	towae	jogode-	-	zek	-	-	-	-	-
<i>fire</i>	bət	kai	2 kai	2 dau	1 we	3 tombe	jo	we	3 sareŋ
<i>fish</i>	ɔŋgles	dabona	2 spola	2 -	ambla	feuti	aŋkeu	tekakle	bi
<i>to fly</i>	-	-	dukape-	2 fuk- takwape	1 fuk- war	1 wantea	kiese	rila	kalataru
<i>foot, leg</i>	pokəs	idu	2 aseru	2 fuŋi	3 puŋwa	3 fu	3 nafu	3 wanta	dowe
<i>fruit</i>	baklan	nomo gemda	-	dju	-	-	-	-	-
<i>full</i>	-	-	-	-	-	-	-	-	-
<i>give</i>	bənaŋ-	tatawa	1 sebi	2 tipi	2 ta'a	1 tua	1 aseloti	ne	hambakwa
<i>good</i>	amsan	amani	1 -	kiap	pani	1 talie	uwa'a	mesi	sepa
<i>hair</i>	nimbias	nananda	2 nenale	2 mepai	məndini- teke	ela	flekke- kunda	kembele- na	hai
<i>hand, arm</i>	səkəs, səksan	wada	2 wala	2 djai	3 fəro	2 lai	3 mesa	lonta	watuabe



English	Tumawo	Awji	Taikat	Manem	Waris	Waina	Sengi
<i>head</i>	róbe 1	nangər 1	bagər 1	bagar 1	ku 1	mosok	repek 1
<i>hear</i>	lö/ru/rö	keato-kærkəri 1	-	-	hələ 1	ege-kep	salo 1
<i>heart</i>	-	nukuānti	-	porfor	unt	-	-
<i>heavy</i>	-	bəsə 0	-	kəne 1	ken 1	-	-
<i>I</i>	ni	ko 1	ka 1	ga 1	kε 1	koa 1	ka 1
<i>kill</i>	-	ro	-	iknom, spuka <sup>7)</sup>	-	-	-
<i>knee</i>	lám̄bi	tumt-kur 1	dobut 1	-	-	mokokek	kumblu 1
<i>leaf</i>	ri hà	ti fi je 1	tofej 1	fre, fra 1	wəliεl 1	-	-
<i>long</i>	ekapé	abra	-	kɲuɲ	tokol	kwek	kukitaman
<i>louse</i>	fi	tu 1	-	-	ku 1	kue 1	ku 1
<i>man</i>	ba, kébanè	kir 1	kir 1	knigiɲ, knigir 1	tənda	owak	du 0
<i>many</i>	-	-	-	ɲomp, moɲomp 1	-	nip 1	dandr
<i>meat</i>	na	kōār 1	skar 1	nigiɲ, nigir 2	nihil 2	sesuweki(?)	nik 2
<i>moon</i>	ke	kunɲəru	use 1	wes 1	wes 1	wuies 1	wos 1
<i>mother</i>	ma 1	mame 1	mama 1	bai <sup>8)</sup> afa <sup>9)</sup> 2	awal 2	ava 2	apa 2
<i>mountain</i>	pe	junu 1	janar 1	or 2	ola 2	aigen(?)	kembere
<i>mouth</i>	lájöw	kamu mingir <sup>10)</sup> 2	kamea 1	mosof	meɲk 2	mengeɲ 2	nambetep

Footnotes: 7) With sg. and pl. object respectively. 8) My/your, mother. 9) His mother. 10) 'jaw'.



English	Sawa	Amgotro	Mongowar	Jafi	Dubu	Molof	Usku	Tofamna	Kaure
<i>head</i>	walambiap 0	boda 2	bapale 2	məndai 3	məndini 3	emi	flekle	kemble	plen
<i>hear</i>	sko-	ombodo-	hambili- 2	fau 3	fei 3	ar	jukluse	warke	bogiome
<i>heart</i>	wəfəs	toboa	-	-	-	-	-	-	-
<i>heavy</i>	jewen	emboda	-	-	-	-	-	-	-
<i>I</i>	ka 1	ewo, eo 2	ji 2	nam 3	no 3	mai	ose	niawi	wen
<i>kill</i>	-	-	-	baba	-	-	-	-	-
<i>knee</i>	ambəs	daboda-gemda 1	mokamola	əgli 2	arəngoli 2	tainfu	onkula 2	wokomba	amu
<i>leaf</i>	fəkən	nom təbu 2	səbu 2	bai 1	təfu 2	lai	kunda	pete	kala
<i>long</i>	wəlken	gagadə 1	gaila 1	eligwapo	sorənggo	worjomo	pro	ju	hewa
<i>louse</i>	ku 1	manə 2	mave 2	jemar	mi 3	lem	nimi 3	bli	mi 3
<i>man</i>	siseu	jani-ndia 2	jani 2	arab	tonkwar	lomo 3	mekenja	lame 3	debla
<i>many</i>	-	mawa	buka	kiniai 1	sorbu	kanta	pise	kurina 1	njahin 1
<i>meat</i>	tin	taba 3	saba 3	findi	narmibi	kaitei	kar 1	bemi	hato
<i>moon</i>	məm	amana 2	anam 2	djun̄k	wuluma	ar	mengerne	menti-gaku	gaka
<i>mother</i>	kajaj	mi	-	iam	-	-	-	-	-
<i>mountain</i>	ɲubikin	kəbo-toara	-	abərumbi	kemai	la² a	ke	bekli	in
<i>mouth</i>	nun̄gap	jabogeda 3	djabaga-gala 3	duomi	kleseri 4	tonble	kosei 4	lotake	moklu



English	Tumawo	Awji	Taikat	Manem	Waris	Waina	Sengi
<i>nail</i>	noobe	təbaiki 1	kəŋkəki 1	-	ɛŋgəla woska	nengak kek 1	note
<i>name</i>	-	-	-	-	nabae	unha	-
<i>near</i>	lalapalele 1	faŋgājē	-	nafanana 1	murupata	-	-
<i>neck</i> (nape)	-	uŋkur 1	-	-	waŋka 1	waŋk 1	-
<i>new</i>	nàto	nōmō 1	-	bogar	nəmeɪ 1	nemik 1	nim 1
<i>night</i>	rampal	jaburoa 1	eabur 1	süomp	sinim	inaikim	se
<i>nose</i>	ha	nubru	nakan	paf	lomus	bosok	peŋe
<i>not</i>	-	mako	-	-	mane	owai	moine
<i>rain</i>	ifo 1	mu 1	mow 1	pu 1	po 1	po 1	fowek 1
<i>red</i>	öle	keanewa	-	kaŋka	ambul 1	ambu 1	sumba(?)
<i>road,</i> <i>path</i>	-	məŋgir 1	meo 2	monofo 2	muna 2	mna 2	mona 2
<i>root</i>	rikālě	ti waker 1	səri 2	ŋante prante 3	plal 3	bəgak 3	sambəla
<i>rope</i>	pö	wor 1	wor 1	-	we 1	kuo	was 1
<i>round</i>	-	-	-	-	-	mok	mofan
<i>sand</i>	ható	ukas	pas	pefjis	-	engek 1	senger 1
<i>say,</i> <i>speak</i>	pi leile	fi tantoro	-	mosof oŋ-	isho	-	-
<i>see</i>	fo, fū 2	najo tai	-	naŋk, neŋke <sup>11)</sup> 1	nəŋg- 1	nuk wokem 1	nefo 2
<i>sit</i>	mölekō	kurə tai	-	ogokon	ɔfa	abogo	-
<i>skin</i>	nö rɔ	fəker 1	fager 1	tofno, tofro 2	towol 2	lopok	kep 3

Footnote: 11) With sg. and pl. object respectively.



English	Sawa	Amgotro	Mongowar	Jafi	Dubu	Molof	Usku	Tofamna	Kaure
<i>nail</i>	fan	bebe- gopeda 2	bebeapru 2	gəməndi	toko	laitaf	nekrefi	lonke	wagi
<i>name</i>	-	-	dia 1	djei 1	kini	ti	-	emi	nokomne
<i>near</i>	-	kabodo	-	-	-	-	-	-	-
<i>neck</i> (nape)	wətkəm	japogam- gemda	-	-	-	-	-	-	-
<i>new</i>	sombən 2	tambəda 2	-	djeki 3	tambo 2	rof	ntabo 2	leki 3	haria
<i>night</i>	janga	tambode 1	ebie	sukur	wəli 2	wosoli 2	mengrik	tifuma	kere
<i>nose</i>	sənpokəp	gutubu	damor	məŋai 1	məndi 1	tonga	mendi 1	məniti 1	gopo
<i>not</i>	ŋgən	nenda	-	-	-	-	-	-	-
<i>old</i> (house)	nangan- sapas	edeba	-	-	-	-	-	-	-
<i>rain</i>	jaipe	kue 2	gəwei 2	ar	kəwei 2	nemei 3	nemblei 3	la	dei
<i>red</i>	kulian	kamburu 1	kamburu 1	mongwai	piai	kaita 2	pu	matokop	katasa 2
<i>road,</i> <i>path</i>	mul 2	bakoda 1	-	mai	fiəa	mef	tra	meka 1	selu
<i>root</i>	sək ban	nom agada	nemo lu	fiŋgu 4	peringu 4	sele 2	nani	lapipi	tisi
<i>rope,</i> <i>rattan</i>	səson	kətam	-	draŋ	-	-	-	-	-
<i>round</i>	-	-	popa	arəgat	parin- iŋgo	pertomo- kana	totiki	welokama	logo
<i>sand</i>	wus	gədəgə 2	gətia 2	gərək 2	tədər	korofek 2	fasi	nukutili	kuti
<i>say,</i> <i>speak</i>	sū	pabe-	-	-	-	-	-	-	-
<i>see</i>	naf ōni 2	kombada 3	kambai 3	netəlane	aleikie 4	lukia 4	flase	mesmi	kokola
<i>sit</i>	sā	namadə- 1	nomo- 1	raŋk	fraikru	aiterkai	tamela- rose	frumbe	nemaiba
<i>skin</i>	sən	kueda 1	kiaba 3	fou	ser	kant	ninje	jefake	aguli



English	Tumawo	Awji	Taikat	Manem	Waris	Waina	Sengi
<i>sleep</i>	lu-wele	neni tit 1	-	nof skea	nitha 1	nun 2	ru 2
<i>small</i>	hápo	antoma 1	-	ntopa 1	awsel	wisuk(?)	tak
<i>smoke</i>	rapõ	tuti 1	nungute	suis 1	suwul 1	suwek 1	tukur 2
<i>stand</i>	-	tiwe 1	-	soboŋ	-	kelekio 2	pulu
<i>star</i>	há	mase 1	mase 1	manman	tae	bagimop 2	temar
<i>stone</i>	wũ	ser 1	sər 1	suk 1	hon 2	xun 2	kwondr 2
<i>sun</i>	rãá	mentao	kwom 1	usam	okumba 1	okomba 1	pola
<i>swim</i>	-	-	-	-	-	buse 1	tenao
<i>tail</i>	-	waenge	-	-	ebndet	tetable	sok 1
<i>that</i>	-	-	-	-	-	snok	aməna
<i>this</i>	-	-	-	-	mamba	ohe	ana
<i>thou</i>	me	kebe	-	sa 1	die 2	ne 2	ra 2
<i>tongue</i>	-	marie 1	-	mte 1	minde 1	melik 1	ro
<i>tooth</i>	kõ 0	ka 0	kaembi	so	lelo 1	-	nunalk 1
<i>tree</i>	ri 1	ti 1	di 1	ti 1	ti 1	-	ti 1
<i>two</i>	hĩto	[nanger] <sup>12)</sup> 1	-	sampaŋ 2	sambila 2	sambaga 2	tambila 2
<i>one</i>	all	[mangua] 1	[ŋgoa] 1	gueno 1	muŋasəl 1	mongoir 1	mongau 1
<i>walk, go</i>	-	neni	-	-	boboha	ehuakep	-
<i>warm</i>	eti	pabə 1	kotər	pabaŋ 1	sue pəb 1	jonusu	pap 1
<i>water</i>	pa 2	wobio 1	obeə 1	pu 2	po 2	poa 2	po 2
<i>we</i>	ne	jebe	-	kiŋ ta	pi 1	koa-negelk	duka

Footnote: 12) Items between square brackets have been taken from Galis' list.



English	Sawa	Amgotro	Mongowar	Jafi	Dubu	Molof	Usku	Tofamna	Kaure
<i>sleep</i>	sis 1	apo 3	apo 3	amb 3	wamo 3	ur 2	tianise	jutunge	hei
<i>small</i>	bəlian- tan	take- nawej	takawi 2	kwarəgə- məlok	satumi	fentana	brene	mokom	tenehel
<i>smoke</i>	bas	togoemo 3	tekəmo 3	tur 2	pəfar	kolor	ju	wemi	sabu
<i>stand</i>	kəfnangə	dukwa 1	-	felp 3	kalkalo 2	iselei	fleitalse	felke 3	katula
<i>star</i>	waf	tunu- amenda	mopi 2	pururumi	terpu	takea	armafu	luiti	kolipaple
<i>stone</i>	səpat	nəmai 3	nimi 3	andrur	kwola 2	le	pane	klo 2	tisi
<i>sun</i>	ninaf	kəbu 1	gəfu 1	djəmar	ma' a	nei 2	nei 2	jaku	hafei
<i>swim</i>	-	-	-	djilk	kokewaje	inseai	ailesase	nembasu- weke	wabi
<i>tail</i>	kən	tenda 2	sela 2	kweli	tumu	sok 1	mesekele	muntuo	aeidja
<i>that</i>	-	kaena 1	akani 1	səma	pəso	-	kene 1	see	mutju
<i>this</i>	-	danu 1	dani 1	maman	pabe	nijena	ndar 1	wamtini	hato
<i>thou</i>	sə 1	te 2	tje 2	nem 2	fro	ni	-	-	-
<i>tongue</i>	məsən, məs	tabu 2	tep 2	metaləp	klemalbo	ai	bra	gongogok	sremu
<i>tooth</i>	an	jabo- gemda 2	djabo 2	djurai	kle	te	neŋkle 1	geme	sbeje
<i>tree</i>	sək	nomo, namo	agala	war 2	wejalgi 2	woar 2	weli 2	kili 2	te 1
<i>two</i>	-	imbu 2	jimbal 2	anənggar 1	kre	ateti	narna 3	neni 3	trapi
<i>one</i>	-	mano ŋguadu 1	mamu 2	angetəwam	kərowali	kwasekak	kisifaini	kenano	gogotia
<i>walk</i>	gale	pe- 1	pe- 1	kwape	polo	slai	toflikse	woma	matapo
<i>warm</i>	wəbnan 1	kəbua 2	gogobu 2	nenjap	nafo- faklei	-	nemintit	meren- eike	hari- sapri
<i>water</i>	wətəl	kue 3	gəwei 3	djewek	ai 4	jat	ei 4	basu	gomesi



English	Tumawo	Awji	Taikat	Manem	Waris	Waina	Sengi
<i>what</i>	-	-	-	-	mane 1	mak	matel 1
<i>white</i>	tóto	kamsowa	-	jumpo 1	dumbal 1	busuk	jamba 1
<i>who</i>	-	-	-	-	aan 1	manek	ani 1
<i>woman</i>	pemè	kuru 1	koraha 1	jaman 2	nguabe 3	unwabe 3	jemena 2
<i>yellow</i>	tāle 1	-	-	jampa	soal 1	sawea 1	-
<i>you pl.</i>	e	kebe	-	kirsa	dieta 1	-	dura 1
<i>banana</i>	inɔ	wafe 1	wafe 1	maju	ubue	konk	fo
<i>bamboo</i>	pú	kut 1	gut 1	-	wohona	-	-
<i>breadfruit</i>	-	ni	tenk 1	-	lp 2	if 2	ten 1
<i>sago</i>	hö	nu 1	na 1	ni (tree) 1 amp 2 (flour)	naul 1	amba 2	na (tree) 1 na tiep
<i>cassowary</i>	tārù	kuji 1	kwije 1	egue 1	wama	kwai 1	kui 1
<i>crocodile</i>	mönö	wongo 1	wanogwa 1	wakamante (1)	wewa	-	-
<i>hornbill</i>	tāú	moj- tibar 1	netbar 1	-	pela	misa	-
<i>housefly</i>	lū	koabane 1	kaap 1	-	amptete	alpa 2	anhop 2
<i>mosquito</i>	le	ngi 1	niŋ 1	-	pata	uhuk	kles
<i>pig</i>	pále 1	wot 1	wot 1	aŋ,ar 1	mi	ogtse	sar mejan 2
<i>snake</i>	i	kaskai 1	wobe 2	-	saihola	soanbene	djemok
<i>door</i>	-	jamaku	mebi	-	tup	-	-
<i>hole</i>	-	mini 1	-	me 1	me 1	-	nandr
<i>house</i>	pá	ju 1	ja 1	juf 1	deb 2	jup 1	jaga



English	Sawa	Amgotro	Mongowar	Jafi	Dubu	Molof	Usku	Tofamna	Kaure				
<i>we</i>	kam	igoa	-	nin	2	numu	2	inte-kule	pu	1	wone	hatl	
<i>what</i>	-	nague	2	nakun	2	abən	tepate	3	tafe	3	namne	temanu	gwai
<i>white</i>	pantan	ode	2	gongwa	weli	2	teli	sowikana	leikle	kosei	wako		
<i>who</i>	-	danebo	2	daniep	2	waunap	mate	mife	namuke	nameno	-		
<i>woman</i>	sao	kuadedebo	3	kolbake	3	elim	keke	anale	jomia	ale	dae		
<i>yellow</i>	-	amatuda	2	amatera	2	saŋwii	3	tukər	jokana	arse	ritokop	sambi	3
<i>you pl.</i>	səm	te	-	-	-	-	-	-	-	-	-	-	
<i>banana</i>	ŋufɛl	1	tambe	-	mbut	-	-	-	-	-	-	-	
<i>bamboo</i>	wəskəs	adogwa wambea	-	bum	-	-	-	-	-	-	-	-	
<i>breadfruit</i>	mu	batebu	-	kwak, ju	-	-	-	-	-	-	-	-	
<i>sago</i>	be	2	banu	3	ban	3	ban	3	-	-	-	-	
<i>cassowary</i>	wiskis	koange	-	pasi	-	-	-	-	-	-	-	-	
<i>crocodile</i>	wəŋgu	1	-	-	gərindrub	-	-	-	-	-	-	-	
<i>hornbill</i>	sau	duwabo	-	səmbok	1	-	-	-	-	-	-	-	
<i>house fly</i>	em	emopabo	2	mapap	2	bai	3	wajani	3	foiwale	jesra	bimsine	ali
<i>mosquito</i>	sabas	amu	kenene	djəŋkar	mimi	karse	amsi	tek	jaboia				
<i>pig</i>	wo	1	wadə	1	-	sər	2	-	-	-	-	-	
<i>snake</i>	ufke	tandarə	akuave	2	əmbrub	wauli	woske	1	plak	lambla	hei		
<i>door</i>	jap	nabo	-	matabmei	-	-	-	-	-	-	-	-	
<i>hole</i>	-	mbea	1	-	mi, mei	1	-	-	-	-	-	-	
<i>house</i>	jə	1	odo	-	nab	2	-	-	-	-	-	-	



APPENDIX II: languages of south West Irian, COMPARATIVE WORD LISTS.

The Sawuj list represents the Fajit-Kronkel dialect; the Sjiagha list has been taken from Drabbe 1959, and the Jakaj list from Drabbe 1954.

English	Kaugat	Kajgir	Tamagario	Sawuj	Sjiagha	Warkaj	Jakaj
<i>all</i>	papitanem 1	miap 2	oraratap 3	auwa:t 4	monoxo 5	-	dom 6
<i>ashes</i>	icicip 1	ererep 1	ererep 1	idirip 1	senagoto 2	pepkade 3	pop 4
<i>belly</i>	kape 1	kaap 1	kaap 1	mujo 2	mudu 2	kadäm 3	kandom 3
<i>big</i>	xame 1	tapur 2	pokura 3	fara:n 4	binige 5	ka asbu 6	arepakat 7
<i>bird</i>	wakem 1	səpam 2	towpam 2	e:r 3	ji <sup>1)</sup> 3	ebep 4	petakaw 5
<i>black</i>	sakum 1	sakum 1	takum 1	boko:n 2	boxo 2	tokor 3	otop 4
<i>blood</i>	wis 1	jes 1	jet 1	esa:x 1	goŋ 2	kap 3	kab 3
<i>bone</i>	nömöp 1	namop 1	nomop 1	kwoteba:r 2	boge 3	iməhä 4	ia 5
<i>breast</i>	ötöm 1	-	erem 1	a:m 2	ome 2	abur 3	abur 3
<i>burn</i>	-	-	-	fam 1	raru-d 2	oxon 3	parade 4
<i>cloud</i>	imip 1	imom 1	taam 1	ideir 2	-	piduas 3	-
<i>cold</i>	namaxanip 1	inip 2	namu 1	torko:n 3	toru 3	ba'ar 4	kok 5
<i>come</i>	xae 1	-	kae 1	sar- 2	mode-d 3	au 4	nam 5
<i>cry(ing)</i>	nice 1	neir 1	neir 1	səsa:r 2	eŋe ro-nd 3	nemar 4	nama-pin 4
<i>dead, die</i>	kanikin 1	kapnepe 2	-	xomen 3	ku-nd 4	-	kuruk 5
<i>dog</i>	upoc 1	epe(re) 1	epe 1	si:r 2	se 2	äis 3	kake 4
<i>dry</i>	saseme 1	sokorap 2	taptəken 3	rod- 4	kera 5	arəhä 6	apopen 7
<i>ear</i>	icoxop 1	iripam 1	ipiram 1	seda:p 2	toro 3	kebərə ar 4	mono 5
<i>earth</i>	upkem 1	mep 2	mep 2	seba:r 3	moka 4	ebär 3	mokon 4
<i>eat</i>	owp 1	xapri 2	kapri 2	fan- 3	e-nd 4	noáe 5	baé 6
<i>egg</i>	mapiam 1	mapiaxam 1	mapiakam 1	mugo 2	gena 3	meju 4	moka 2

Footnote : 1) The links are: Kaeti et, Wambon jet.



English	Kaugat	Kajgir	Tamagarrio	Sawuj	Sjiagha	Warkaj	Jakaj
<i>excreta</i>	ane 1	-	ana 1	a:r 1	or 1	nä 1	nao 1
<i>eye</i>	saam 1	saxam 1	sakam 1	ko:d 2	kero 2	ki:t 2	kind 2
<i>far</i>	karumkos 1	uru 2	wasu 3	argi:r 4	xaxa 5	-	makon-pe 6
<i>fat, grease</i>	weep 1	wuup 1	-	waud 2	kepe 3	ixi 4	beke 3
<i>father</i>	aí 1	jet 1	aj 1	nabo 2	aje 1	adi 3	e 4
<i>fire</i>	acu 1	aru 1	aru 1	jood 2	jindo 2	usa 3	reka 4
<i>fish</i>	peten 1	jakam 2	jakam 2	-	axae 3	na'i 4	jank 2
<i>foot, leg</i>	apir 1	apir 1	apir 1	kini:b 2	kitu 2	kamdi 3	ramu 4
<i>fruit</i>	ja'am 1	weam 1	jakam 1	i:r 2	ro 3	-	mbaj 4
<i>full</i>	kipakorom 1	-	kaimataur 2	-	toxobo-d 3	-	kopdak 4
<i>give</i>	kawe- 1	xarape- 1	kai- 1	aidi 2	ede-d 2	-	panokon 3
<i>good</i>	xaip 1	naimap 2	roxae 1	de:r 3	xagoio 4	dawe 5	bV-endVp 6
<i>hair</i>	upm 1	owpm 1	upm 1	a:t 2	moxo 3	saker 4	taker 4
<i>hand, arm</i>	japm 1	jep 1	jep 1	i'ft 2	bedo 3	idäp 4	marap 5
<i>head</i>	tikem 1	toxom 1	tokom 1	ase:m 2	xeiba 3	muu 4	muku 4
<i>hear</i>	jica'ap 1	-	jirəkap 1	dar- 2	da-d 2	-	bokoke 3
<i>heart</i>	-	-	umur 1	-	dibo 2	-	akemok 3
<i>heavy</i>	kacum 1	xarim 1	karim 1	xateme:r 1	bodi ke-d 2	unəhu 3	jendakaw 3
<i>I</i>	naxa 1	nax 1	nak 1	nogo 1	no 1	no 1	anok 1
<i>knee</i>	kupm 1	kupiam 1	kupiakam 1	obəxa:n 2	bokin 2	jabur 3	jambu 3
<i>leaf</i>	kajepm 1	xap 1	kap 1	mo:x 2	anamo 3	isip 4	iri 4
<i>lie down</i>	-	apsaxam 1	-	dax- 2	re-d 3	-	poara 4
<i>long</i>	kupiaxaram 1	woro 2	maneāt 3	jagu:r 4	pere 5	petaxaram 6	jearp 7



English	Kaugat	Kajgir	Tamagario	Sawuj	Sjiagha	Warkaj	Jakaj
<i>louse</i>	numu 1	so:m 2	-	amur 1	go 3	nabun 1	nambun 1
<i>man</i>	mapirie 1	jo 2	jo 2	riga:p 3	yo-butu 4	kae 5	rade 6
<i>many</i>	papitanem 1	-	oraratap 2	auwa:t 3	naxaba 4	-	-
<i>meat</i>	woxom 1	jakoxom 2	wokom 1	fa:t 3	kodo 4	kade 4	jaeketek 5
<i>moon</i>	ka?aram 1	xaxaram 1	kakaram 1	oxa:r 2	afe 5	kämä 4	kamo 4
<i>mother</i>	ini 1	anu 1	owp 2	nae 3	wini 1	apu 4	vu 4
<i>mouth</i>	moop 1	mowp 1	mowp 1	xadaxa:d 2	xate-to 2	tä 3	mem <sup>2)</sup> 4
<i>nail</i>	ənəm-üp 1	jep-wop 1	je-wop 1	kosəra:x 2	doxo 3	tereir 4	ri 5
<i>name</i>	-	-	-	fui 1	fi 1	erakai 2	eke 2
<i>near</i>	karu mame 1	-	-	-	kataxaia 2	-	-
<i>neck</i>	cini 1	beriaxam 2	biriakam 2	torko:t 3	mu-boge 4	tebegen 5	rob 6
<i>new</i>	em 1	wameasap 2	wamatap 2	xare 3	noxongo 4	nem 5	nokok 4
<i>night</i>	isi 1	esi 1	ete mowp 1	besogui 2	asiu 2	usam 3	rira 4
<i>nose</i>	opom 1	jup 2	jup 2	joko:p 3	sji 4	semä 5	tamank 5
<i>not</i>	mame 1	meme 1	-	-	boxoda 2	-	bVrakaV 3
<i>old</i>	ow 1	ojasap 2	owatap 2	taraw 3	jaxa 4	ahaj 4	makati 5
<i>one</i>	papriaxap 1	paxamu 2	pakamok 2	paidəra:p 3	-esja 4	adihir 5	kajaga- maere 6
<i>rain</i>	mene 1	muna 1	muna 1	xaurax <sup>3)</sup> 2	a 2	dedaha 3	akaid 4
<i>red</i>	merem 1	koper 2	pipəre 3	sawa:r 4	kango 5	kese 6	kabokob 7
<i>road</i>	sepmop 1	xami 2	kame 2	-	-	-	-
<i>rope</i>	perom 1	orom 1	-	kege:n 2	tere 3	arup 1	rup 4
<i>sand</i>	-	-	tiniberen 1	-	getepoporo 2	-	gem akakaj <sup>3)</sup>
<i>say</i>	kep 1	-	keep 1	sien <sup>4)</sup> ro:x <sup>5)</sup> 2 3	roxoxo-roxo-d <sup>3)</sup> 3	-	tumi pak

Footnotes: 2) The cognate with Warkaj *tä* is Jakaj *ete lip*. 3) *xaur-ax sky water*; compare Sjiagha *xotu*, Pisa *xow*, Kaeti *kut sky*. 4) 'language'. 5) 'sound, voice'.



English	Kaugat	Kajgir	Tamagario	Sawuj	Sjiagha	Warkaj	Jakaj
<i>see</i>	sa'ap 1	saxape 1	takape 1	naxad- 2	fete-d 3	wokomsan 4	madi 5
<i>sit</i>	ce- 1	tei- 1	tei- 1	popad- 2	bo-d 2	sebehä 3	pindok 4
<i>skin</i>	piep 1	pip 1	pip 1	aba:g 2	xa 3	tahap 4	rumb 5
<i>sleep</i>	afin 1	-	apun 2	kene:p 3	kono re-d 3	terän 4	kindanpoén5
<i>small</i>	motərep 1	tapəreax 2	tapəreak 2	pakəre 3	kasede 4	paxatän 3	rambakae 5
<i>smoke</i>	aca'ap 1	ererip 1	aruarip 1	sumsu:r 2	oru 3	wanur 4	aku 5
<i>stand</i>	-	-	wapi erum 1	farad- 2	e-d 3	-	ira 4
<i>star</i>	supüp 1	supkup 1	tupup 1	xauti:m 2	mi 3	marep 4	mind 5
<i>stone</i>	iki 1	kakup 2	maitu 3	jakae 1	sengeboge 4	jaka 1	kor 5
<i>sun</i>	teme 1	taam 1	taam 1	ata:p 1	sera 2	jawi 3	tapak 1
<i>swim</i>	-	-	kipkup 1	-	oxori ki-nd2	-	bokowk 3
<i>tail</i>	-	kafie 1	kapm 2	-	mini 3	kedehe 4	kende 4
<i>that</i>	pokom 1	omaro 2	omar 2	one 3	ewere 4	-	-
<i>this</i>	pekem 1	-	-	ene 2	nere 2	-	-
<i>thou</i>	axa 1	ax 1	ak 1	go,go:p 1	go 1	-	ox 1
<i>tongue</i>	menaxaram 1	marap 2	marap 2	se:p 3	fagè 4	enem 5	inem 5
<i>tooth</i>	ukoxom 1	oxom 1	ukom 1	toro:k 2	tare 2	tadehe 2	manger 3
<i>tree</i>	wim 1	wom 1	wom 1	toxod 2	ji 3	ose 4	de 5
<i>two</i>	coopm 1	tosigi 2	totigi 2	nauri 3	okomo 4	isa'ain 5	diakand 6
<i>walk</i>	jor 1	mane 2	onom 3	xa 4	xo-d 4	nua- 5	riakak 6
<i>water</i>	oxom 1	oxom 1	okom 1	a:x 1	oxo 1	adia 2	mi 3
<i>we</i>	nipi 1	nep 1	nep 1	nigi:p 1	noxo 2	-	indok 2
<i>what</i>	-	-	takane 1	-	kenaxa-de 2	-	-



English	Kaugat		Kajgir		Tamagario		Sawuj		Sjiagha		Warkaj		Jakaj	
<i>white</i>	kopor	1	koprap	1	koprap	1	korai	2	xajo	2	iwa'em	3	waju	3
<i>who</i>	-		-		-		xae	1	ekaxa	2	-		-	
<i>woman</i>	enepe	1	onop	1	onop	1	iwa:r	2	finigi	3	ina'ut	4	taw	5
<i>you pl.</i>	a'ani	1	axan	1	akan	1	gi:p	2	goxo	3	-		eox	1
<i>banana</i>	səmi	1	xaer	2	kaer	2	xoro:b	3	tu <sup>6)</sup>	1	nawer	4	naper	4
<i>bamboo</i>	supu	1	sopo	1	tupu	1	sobo	1	sumbe	1	fe	2	opok	3
<i>sago</i>	ma'am	1	maxam	1	makam	1	du	2	do	2	bä	3	baj	3
<i>cassowary</i>	umuis	1	kue	2	kujo	2	kuje	3	sawari	3	kojä	2	kuju	2
<i>crocodile</i>	xow	1	xo	1	-		paero	2	saxambo	3	noxo	4	nango	4
<i>hornbill</i>	akis	1	oxais	1	-		airo	2	-		ea	3	-	
<i>housefly</i>	mörö	1	more	1	more	1	arwe:r	2	obusiri	3	komneim	4	kumburum	4
<i>mosquito</i>	iri	1	ni	1	ni	1	-		sjimpere	2	nikir	3	nangit	3
<i>pig</i>	wakum	1	wakum	1	wakum	1	tui	2	wi	2	basi	3	batik	3
<i>snake</i>	ikor	1	jekor	1	ekor	1	xaud	2	wuti	2	wami	3	ra	4
<i>door</i>	amenopm	1	enemowp	1	-		ajwa:d	2	abità	2	maha	3	jangor	4
<i>hole</i>	poxop	1	poxop	1	pokop	1	ta:p	2	to	2	pe'ep	1	kop	1
<i>house</i>	wow	1	wuw	1	wowk	1	a:p aboxaim <sup>7)</sup>	2 3	afoxai	3	ami	4	wuri	5

Footnotes: 6) The links are: Pisa su, Aghu sjü, Kati (Ok Family) jum. 7) 'village'.



## NOTES ON THE LINGUISTIC SITUATION IN THE TRANS-FLY AREA

S.A. WURM

1. Introduction.
2. History of the Classification of the Trans-Fly Languages.
  - 2.1. Voorhoeve's 1968 Classification.
  - 2.2. Wurm's Classification in Current Trends in Linguistics, volume 8.
  - 2.3. Voorhoeve's 1969 Classification.
  - 2.4. Voorhoeve's 1969-70 Classification.
3. The Trans-Fly Stock.
  - 3.1. Introductory Remarks.
  - 3.2. Composition of the Trans-Fly Stock.
  - 3.3. The Families included in the Trans-Fly Stock.
    - 3.31. The Kiwai Family.
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    - 3.33. The Eastern Trans-Fly Family.
    - 3.34. The Pahoturi River Family.
    - 3.35. The Morehead and Upper Maro Rivers Family.
  - 3.4. Internal Relationships within the Trans-Fly Stock.
  - 3.5. Typological and Structural Features of the Languages of the Trans-Fly Stock.
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## 1. INTRODUCTION

The Trans-Fly area of the Western District of the Territory of Papua and New Guinea, i.e. the land lying between the Fly River in the north and the West Irian border in the west, is a thinly populated country occupied by a number of linguistically, culturally and physically rather diverse groups of people (Williams 1936).

Of the languages encountered in that area, only Kiwai, on the eastern coast and adjacent islands, received detailed attention at a relatively early date (Ray 1931, Wurm 1951). On the other languages, only a few short notes and remarks were published (Ray 1907, 1923, Williams 1936, Capell 1962) with the information on Kunini - now recognised as a dialect of the Bine language - more extensive than on the other languages of the area. Riley (and Ray) (1930-31) published quite lengthy vocabularies of several of the Trans-Fly languages, and some texts in Kiwai (Riley 1931) are available. Translations of portions of Scripture were published at a relatively early date in the Island Kiwai dialect of Kiwai (later revised) and in the Kunini dialect of Bine (in part issued in a new version in 1969). Some materials on a few of the languages, especially the Kunini dialect of Bine and on Tirio, were collected by A. Capell in the field, and also by a few other workers.

Some attempts at classifying the languages of the area were undertaken by Ray (1907, 1923), Williams (1936) and Capell (1962), and Wurm (1951) attempted a classification of the languages of the Kiwai Family.

In 1966, the present writer carried out fieldwork in the Western District in the course of which he was able to collect extensive information on Bine, Gidra, Gizra and Agöb, and also on the Island Kiwai dialect of Southern Kiwai and on Wabuda. He was very greatly assisted in this by Mr Tatie Olevale and his brother Mr Ebia Olevale (now a member of the House of Assembly) from Kunini village, and by pupils of Daru High School through the kind offices of Mr J. Baker, the headmaster of the School, and also by Rev. Cullingford who kindly arranged for Island Kiwai and Wabuda informants to be made available to him. In 1970, the present writer was able to carry out another stretch of fieldwork in the Western District, which, with the help of pupils from Daru High School and the assistance of Mr J. Baker, resulted in the collection of extensive information on Tonda, Nambu, Idi, Tirio and Aturu and of further materials in Trans-Fly languages investigated in 1966. The present writer's thanks are due to all his informants and those assisting and helping him in his work, and also to Mr Ian Holmes, District Commissioner of the Western District, who kindly made census and map materials available to him and,



together with the good offices of members of the Local Government Council, arranged for working space for him while he was interviewing and recording informants in Daru. His special thanks are also due to Dr A. Capell, of the University of Sydney, for putting at his disposal notes on Trans-Fly languages collected by him in the field years ago.

The present Notes constitute a brief report on the results of an assessment of the available information on the languages of the Trans-Fly area - much of this information consisting of the author's own field notes.

After his 1966 field trip, a short preliminary assessment of his materials in the languages studied by him on that fieldtrip had been undertaken, and the results embodied into this contribution on the Papuan Linguistic Situation in *Current Trends in Linguistics*, volume 8 (Wurm 1970a). Earlier these preliminary results had also been drawn upon by Voorhoeve in his work on the general classification of the languages of the central southern part of the New Guinea mainland which led to the establishment of the Central and South New Guinea Phylum by him (Voorhoeve 1968). In a modified form, they were utilised in his and McElhanon's subsequent work which led to the recognition of the existence of the Trans-New Guinea Phylum (McElhanon and Voorhoeve 1970, Wurm 1972).

## 2. HISTORY OF THE CLASSIFICATION OF THE TRANS-FLY LANGUAGES

### 2.1. VOORHOEVE'S 1968 CLASSIFICATION

On the basis of the results of this first preliminary assessment of the author's 1966 field materials, and other available materials, both the present writer and Voorhoeve had come to the conclusion that the languages of the Trans-Fly area were interrelated, but constituted a number of clearly distinguishable groups.

In his first overall classification of the languages constituting the Central and South New Guinea Phylum, Voorhoeve (1968) mentioned the existence of the following language groups in the Trans-Fly region:

1) The Kiwai Family represented in the area in question by the Southern Kiwai language (with its dialects Island Kiwai, the Coastal Kiwai sub-dialects such as Mawatta, Tureture, Daru, Parama and others, as well as the Doumo dialect in the Fly Delta), and marginally by the Wabuda language in the Fly Delta area.

2) The Oriomo River Family composed of Bine, Gidra and Gizra.

3) Tirio which was at that stage regarded as a family-level isolate.

4) Agöb, regarded at that stage as a family-level isolate.



These four groups and isolates were looked upon by Voorhoeve as occupying family-level positions<sup>1</sup> within his Central and South New Guinea Stock which constituted by far the major part of his Central and South New Guinea Phylum. It may be mentioned that of languages adjacent to the Trans-Fly area, he included Miriam on the Eastern Torres Straits Islands, and Gogodala north of the Fly River, as further family-level isolates<sup>1</sup> within the Central and South New Guinea Stock and kept Suki in the north-western part of the Trans-Fly, unclassified.

5) The Morehead River group occupying the western half of the Trans-Fly area. The materials available in the form of Riley's (and Ray's) (1930-31) wordlists on three of the languages of this group, Peremka, Dorro and Parb, suggested that these three were members of the same family, but the overall classificatory situation within the group remained unclear. Voorhoeve regarded this group as constituting a distinct stock within his Central and South New Guinea Phylum.

On the basis of Drabbe's (1954) materials, Voorhoeve included Yey, Kanum and Moraori spoken to the west of the West Irian-Australian New Guinea border, into one stock, named by him the Yey-Kanum-Moraori Stock, and regarded it as another distinct stock within the Central and South New Guinea Phylum.

## 2.2. WURM'S CLASSIFICATION IN CURRENT TRENDS IN LINGUISTICS, VOLUME 8

In his contribution to *Current Trends in Linguistics*, volume 8, *Linguistics in Oceania* (Wurm 1970a), the present writer took essentially the same view as Voorhoeve (1968) with regard to the classification of the languages of the area under consideration. The only differences introduced by him into the classification were:

1) Tirio, instead of being regarded as a family-level isolate<sup>1</sup> within the Central and South New Guinea Stock, was assumed to be a family in that stock and to consist of three languages, Tirio, Tagota and Mutum.

2) Voorhoeve's Morehead River Group was described by him as a stock-level family consisting of Peremka (or Semariji-Gambadi), Dorro (or Keraki) and Parb, and was believed to also include Mikud.

3) Agöb was thought to constitute a stock-level, rather than a family-level, isolate<sup>1</sup>.

4) Suki which Voorhoeve 1968 had regarded as unclassified, was tentatively included as a member of the Yaqay-Marind-Boazi Family within the Central and South New Guinea Stock.



### 2.3. VOORHOEVE'S 1969 CLASSIFICATION

In 1969, Voorhoeve carried out additional classificatory work in the languages of the area, and changed his earlier views quite considerably. A summary of his findings was included in Wurm 1970a as a supplement. The basic feature of his reclassification was the assignment of stock-level status to a number of groups and isolates which had been given family status in his 1968 classification.

Apart from this, he recognised the existence of a closer relationship of Suki to Gogodala than to the languages of what in 1968 he had called the Yaqay-Marind-Boazi Family, and now regarded as a stock, named by him the Marind Stock. In consequence, he combined Suki and Gogodala into a separate stock, the Suki-Gogodala Stock (Voorhoeve 1970). In this, it seems possible that, as suggested in Wurm 1970a, Gogodala in fact constitutes a family composed of the Gogodala and Waruna languages.

At the same time, he found that Mikud was not a member of the Morehead River stock-level Family<sup>1</sup>, but closely related to Agöb and constituting with it a two-language stock-level family, the Agöb Family.

The Morehead River stock-level Family<sup>1</sup> proposed by Wurm (1970a) was re-constituted by Voorhoeve as a stock consisting of two families, the Bensbach River Family and the Morehead River Family. Within the latter, it appeared that Dorro and Keraki were in fact two separate, though closely related, languages, and not alternative names for one language.

In the light of this, the Trans-Fly region and adjacent areas, according to Voorhoeve's classification in Wurm 1970a, appeared to be occupied by the following groups and isolates:

Stocks = Suki-Gogodala, Morehead River, and Yey-Kanum-Moraori.

Stock-level families<sup>1</sup> = Agöb, Oriomo River, Tirio, and Kiwai.

Stock-level isolates = Miriam (considered as possibly combinable, as a family-level isolate, with the Kiwai Family into a Kiwai-Miriam Stock).

In his subsequent studies as a result of which Voorhoeve, in collaboration with McElhanon, established the existence of the Trans-New Guinea Phylum (McElhanon and Voorhoeve 1970), Voorhoeve largely adhered to the classification as outlined above. The only differences were the reversal of the Tirio stock-level Family to the status of stock-level isolate, and the re-naming of the Agöb stock-level Family and the Yey-Kanum-Moraori Stock as the Pahoturi River Family and Upper Maro River Stock respectively.



#### 2.4. VOORHOEVE'S 1969-70 CLASSIFICATION

In late 1969 and early 1970, Voorhoeve attempted a reappraisal of the classificatory situation of the languages of the Trans-Fly area and adjacent regions in the light of a more detailed assessment of the present writer's 1966 materials, and with the help of additional vocabulary materials culled from a variety of newly unearthed sources, mainly patrol reports.

The present writer is indebted to C.L. Voorhoeve for putting the as yet unpublished results of this reappraisal work at his disposal.

An important result of this reappraisal was the recognition by Voorhoeve, of the existence of stock-level relationships<sup>1</sup> amongst languages belonging to his Oriomo, Pahoturi, Morehead and Bensbach Rivers Families and what was previously his Upper Maro River Stock (now a group on the borderline between stock and family) which made it possible to include all these families into a single stock. At the same time, he could, on the basis of a chain relationship, marginally include the Bensbach and Morehead River Families into a single family.

Voorhoeve's figures of percentages of basic vocabulary cognates are largely based on rather short lists because of the inadequacy of the materials available to him when carrying out his reappraisal work, with the number of lexical items generally between 80 and 120 per list, and a few instances of higher and lower figures. To adjust the percentage figures arrived at by him to a 200-item list basis, an adaptation of a procedure proposed by Thomas and Healey (1962; see also Voorhoeve 1968 and Wurm 1970b) has been followed by the present writer, and the results are given below.

Voorhoeve's percentage figures of cognates shared by members of the same family within the new stock established by him are as follows:

##### Oriomo River Family:

Bine

37    Gidra

28        24    Gizra

##### Pahoturi River Family:

Agöb

63    Mikud

56        70    Warubi



Note: Warubi represented by a short list of 60 items, appears to be the northernmost member of the Family.

**Morehead River Family:**

Keraki

54 Dorro

46 47 Parb

**Bensbach River Family:**

Peremka

44 Kebana Gara

Note: Kebana Gara, represented by a very short list of 40 items, appears to be located north of Peremka.

When combining the Morehead and Bensbach Rivers Families into a single family, the following percentage figures appear:

Peremka

30 Dorro

26 54 Keraki

22 47 46 Parb

The combination of the two families into one is made possible through the figure of 30% cognates shared between Peremka and Dorro. This figure is the above-28% connecting point of chains of percentage figures on both sides which are persistently above 28%. No inter-family figures have been worked out by Voorhoeve for Kebana Gara.

In what was previously his Upper Maro River Stock, Voorhoeve gives the figures of 24% cognates shared between Yey and Kanum, but no figures referring to Moraori. This figure, while considerably higher than the 17% given by him in Voorhoeve 1968, still falls short of the minimum figure of 28% diagnostic for recognising two languages compared as members of the same family. However, it is higher than any of the figures given by Voorhoeve as reflecting percentages of cognates shared between languages belonging to different families within his newly established stock. On these grounds, it seems possible to assign at least to Yey and Kanum, the status of two languages which constitute a recognisable sub-group within the new stock as a whole.

To substantiate his theory that the languages of the families mentioned above, and the Yey-Kanum group are members of the same stock, Voorhoeve quotes the following percentage figures of shared cognates:



Agöb - Bine	18
Agöb - Gidra	20
Agöb - Gizra	21
Agöb - Dorro	19
Agöb - Keraki	15
Agöb - Parb	19
Kanum - Peremka	20
Kanum - Keraki	20

With these figures Voorhoeve limits himself to illustrating the relationships of languages belonging to adjacent families, and in consequence, speaks of a "Trans-Fly Superstock" characterised by chaining percentages which are persistently above 12% - the lower limit of percentages of shared cognates diagnostic of languages belonging to the same stock - if languages belonging to different families are compared with each other.

Voorhoeve does not include the Kiwai and Tirio Families with this stock. However, he establishes a figure of 18% for cognates shared between Tirio and the Island Kiwai dialect of Southern Kiwai which would be indicative of at least these two languages being members of one stock. However, he finds the cognation between Tirio and Gidra to be a very low 4%, and that between Tirio and Agöb on a perhaps even lower level (-4%). The one between Tirio and Gogodala, of the Suki-Gogodala Stock (Voorhoeve 1970) is 10%. At the same time, he finds that the Tureture dialect of Southern Kiwai shows the following percentages of cognates shared with members of the Oriomo River Family:

Tureture - Bine	19
Tureture - Gidra	11
Tureture - Gizra	12

Voorhoeve regards the Tureture-Bine figure as most certainly inflated by borrowing, and the other two figures are on, and 1% below, the 12% figure diagnostic of two languages being members of the same stock, if the percentage figures are based on a 200-item list (Swadesh 1955). At the same time, the lexicostatistical criteria for the determination of two languages being members of the same stock has been re-defined for the purpose of New Guinea linguistics (Wurm 1970), and the following applies: languages are classified as belonging to the same stock if they show lexicostatistical cognation of usually below 28% and more frequently below 20%, but not often below 12%, based upon regular sound-correspondences in the majority of the cases, and on the assumption that a list of about 200 items is employed in the comparison. In the light of this,

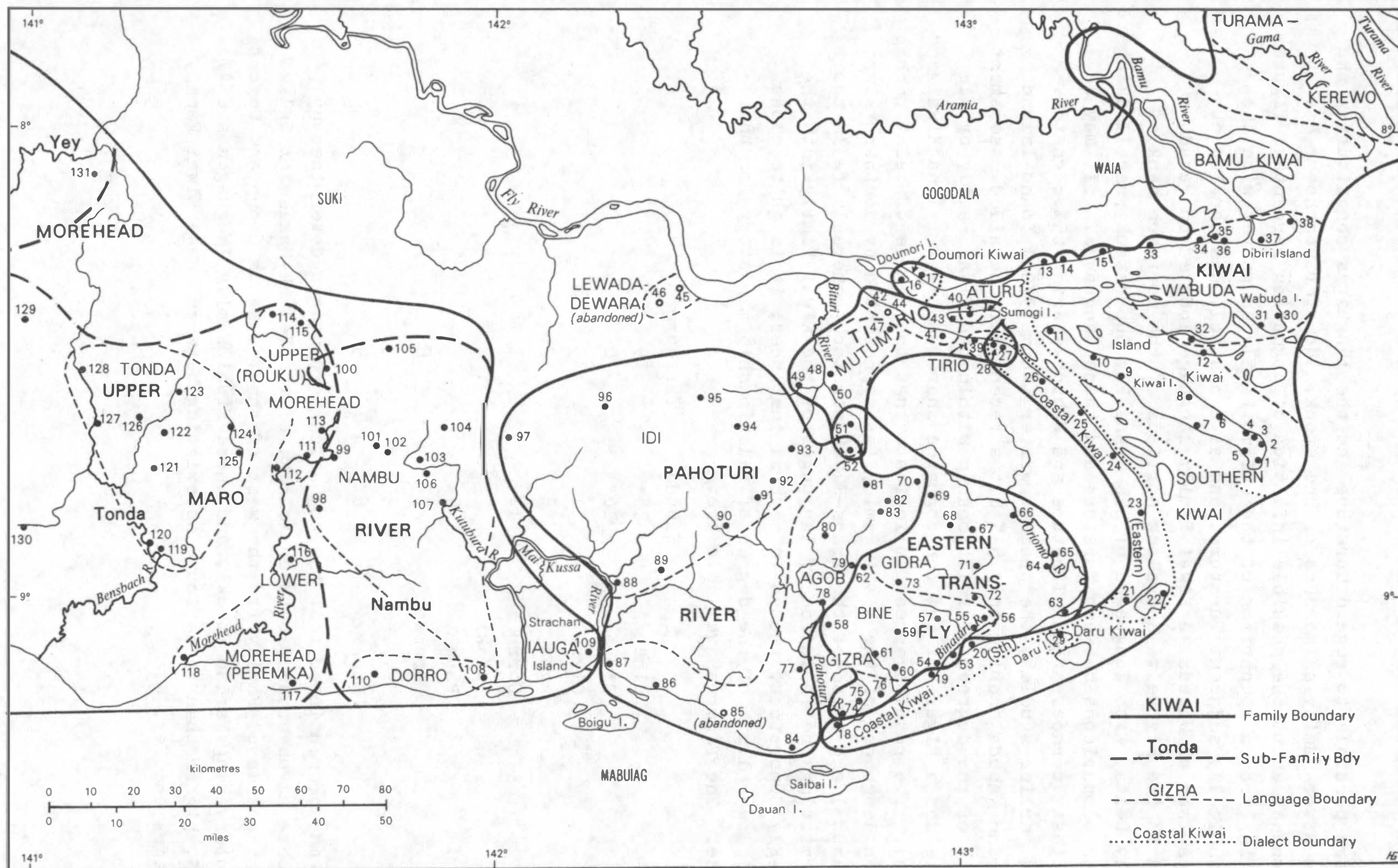


it seems possible to regard Tureture and the languages constituting the Oriomo River Family as members of one stock. However Voorhoeve has felt uneasy about the possible inflation of cognation percentage figures resulting from a comparison of the Oriomo Family languages with the geographically adjacent Tureture, and as a control, has carried out a comparison of Wabuda, a Kiwai Family language located on Wabuda Island in the Fly Delta and along portions of the northern bank of the Fly Delta, with languages of his Trans-Fly Superstock, paralleling it with comparisons between Tureture and these languages. (It may be noted that Voorhoeve found Tureture and Wabuda sharing 65% cognates. In his earlier studies, the present writer (Wurm 1970a) found Island Kiwai and Wabuda sharing only 51% but a recent more detailed assessment of some of the degrees of relationship within the Kiwai Family by him has yielded a figure of 66% for cognates shared between Island Kiwai and Wabuda). The results appear to indicate that the degree of relationship between languages of the Kiwai Family (as represented by Southern Kiwai and Wabuda) and those of the Trans-Fly Superstock generally falls short of permitting the inclusion of languages of the Kiwai Family into the Trans-Fly Superstock, though in several instances, it is quite close to the lower limit of the degree of relationship mandatory for this purpose. The figures available are:

	Wabuda	Tureture
Bine	15	19
Gidra	10	10
Gizra	11	12
Agöb	8	12
Dorro	11	11
Keraki	7	7
Parb	5	6
Peremka	5	6
Yey	3	3
Kanum	6	5

It may be mentioned that the cognation percentages determined by Voorhoeve as observable between Yelmek, of the Yelmek-Maklew or Bulaka River stock level Family (to the west of the Yey-Kanum Group and beyond the intervening Marind Stock), and these Kiwai Family languages are 4% and 4%, higher than those found as existing between these Kiwai Family languages and Yey.





DEPARTMENT OF HUMAN GEOGRAPHY, A.N.U.

MAP 1: VILLAGES AND LANGUAGE DISTRIBUTION



## VILLAGE NAMES APPEARING ON MAP I AND LANGUAGES SPOKEN IN THEM:

## KIWAI FAMILY:

## Southern Kiwai:

## Island Kiwai Dialect:

1. SAGUANE
2. OROMASAPUO
3. IPISIA
4. AGOBARA
5. SAMARI
6. SAGASIA
7. IASA
8. WOPA'URA
9. KUBIRA
10. DOROPO
11. SEPE
12. AIBINIO
13. ABERAGEREMA
14. KENAME
15. WARIOBODORO (Southern Kiwai-  
Wabuda transition dialect)

## Doumori Kiwai Dialect:

16. DOUMORI
17. PAGONA

## Coastal Kiwai Dialect:

## Southern Coastal Kiwai Sub-dialect:

18. MABADUAN
19. MAWATTA
20. TURETURE

## Eastern Coastal Kiwai Sub-dialect:

21. KATATAI
  22. PARAMA
  23. SUI
  24. DAWARI
  25. SEWERIMABU
  26. KOABU
  27. MADAME
  28. WEDEREHIAMO
- } in part Coastal  
Kiwai-Tirio bi-  
lingual villages

## Daru Kiwai Dialect:

29. DARU

## Wabuda:

30. DAMERATAMU
31. GESOA
32. WAPI
15. WARIOBODORO (Southern Kiwai-  
Wabuda transition dialect)
33. DAMERA
34. MADADUO
35. KOAVISI
36. SAGERO
37. TIRERE
38. MAIPANI (in part Wabuda-Bamu-  
Kiwai bilingual village)

## TIRIO FAMILY:

## Tirio:

39. TIRIO
  28. WEDEREHIAMO
  27. MADAME
- } in part Coastal  
Kiwai-Tirio bi-  
lingual villages

## Aturu:

40. ADULU

## Lewada-Dewara:

41. BALAMULA
  42. LEWADA
  43. DEWALA
  - (44) PISIRAMI
  - (45) TAGOTA
  - (46) WERIDAI
- } abandoned

## Mutum (Paswam):

47. MUTUM
48. UPIARA
49. SANGUANSO
50. TEWARA
51. RUAL (predominantly Gidra  
speaking)



52. KAPAL (predominantly Gidra and Agöb speaking)

**EASTERN TRANS-FLY FAMILY:**

**Bine:**

53. KUNINI  
54. MASINGLE (MASINGARA)  
55. BOZE  
56. DIRIMU (plantation)  
57. GININGAREDE  
58. SEBE (WABOZI)  
59. TATI  
60. IRUPI  
61. DRAGELE  
62. SOGALO

**Gidra:**

63. DOROGORI  
64. ABAM  
65. PEAWA  
66. ZIM  
67. WONIO  
68. IAMEGA (in part Agöb speaking)  
69. PODARI  
70. WIPIM (a few Agöb speakers)  
71. KURU  
72. UME  
73. GAMAEVE  
52. KAPAL (in part Mutum and Agöb speaking)

51. RUAL (in part Mutum speaking)

**Gizra:**

74. TOGO  
75. KUPERI  
76. WAIDORO

**PAHOTURI RIVER FAMILY:**

**Agöb:**

77. GNAO  
78. KIBULI  
79. GLABI  
80. NANU

81. KANEL/WIM

82. BIAMBOD 1

83. BIAMBOD 2

68. IAMEGA (in part Bine speaking)

70. WIPIM (mostly Gidra speaking)

84. SIGABADURU

85. TABATATA (largely abandoned)

86. BER

87. BUJI

52. KAPAL (in part Mutum and predominantly Gidra speaking)

**Idi:**

88. SIBIDIRI

89. DIMIRI

90. BUBUJI

91. MALAM

92. LIMOL

93. KINKIN

94. KONDOBA

95. BUK

96. DIMSISI

97. BIMADEBUN

**MOREHEAD AND UPPER MARO RIVER FAMILY:**

**Nambu Sub-Family:**

**Nambu:**

98. MIBINI

99. GARAITA

100. SETAVI (Nambu-Upper Morehead bilingual village)

101. MATA

102. SARAINA

103. PONGAKI (or PANGARAKI)

104. GUBAM

105. KERU

106. DERIDERI

107. ARUFI

108. TAIS (Nambu-Dorro transition dialect)

**Iauga (Parb):**

109. IAUGA



**Dorro:**

- 110. MARI
- 108. TAIS (Dorro-Nambu transition dialect)

**Tonda Sub-Family:****Upper Morehead (Rouku):**

- 111. ROUKU
- 112. IOKWA
- 113. UPARUA
- 100. SETAVI (Upper Morehead-Nambu bilingual village)
- 114. SIRISA
- 115. KIRIWO

**Lower Morehead (Peremka):**

- 116. TONDA
- 117. JARAI
- 118. BULA

**Tonda:**

- 119. BUNDABER
- 120. WANDO
- 121. KOROMBO
- 122. MENGETE
- 123. INDORODORO
- 124. TOKWA
- 125. WEMENEVRE
- 126. KANDARISA
- 127. WEAM
- 128. WEREAVE

**Kanum:**

- 129. SOTA
- 130. BRONGA (or BERONK)

**Yey:**

- 131. KWARI



For the sake of completeness, it may be mentioned that the cognation established by Voorhoeve as existing between Suki, of his Suki-Gogodala Stock (Voorhoeve 1970), and the languages of his Trans-Fly Superstock, the Kiwai Family and Tirio is generally of a higher level than that observed by him as prevailing between the languages of the Trans-Fly Superstock and languages of the Kiwai Family and Tirio. His figures are as follows:

	Suki
Wabuda	5
Tureture	6
Tirio	9
Bine	5
Gidra	12
Gizra	8
Agöb	10
Mikud	11
Warubi	10
Dorro	10
Keraki	8
Parb	10
Peremka	5
Kanum	5
Yey	6

The cognation between Suki and the two members of the Yelmek-Maklew (or Bulaka River) Family is lower than any of the figures given above, i.e.:

	Suki
Yelmek	3
Maklew	+4

### 3. THE TRANS-FLY STOCK

#### 3.1. INTRODUCTORY REMARKS

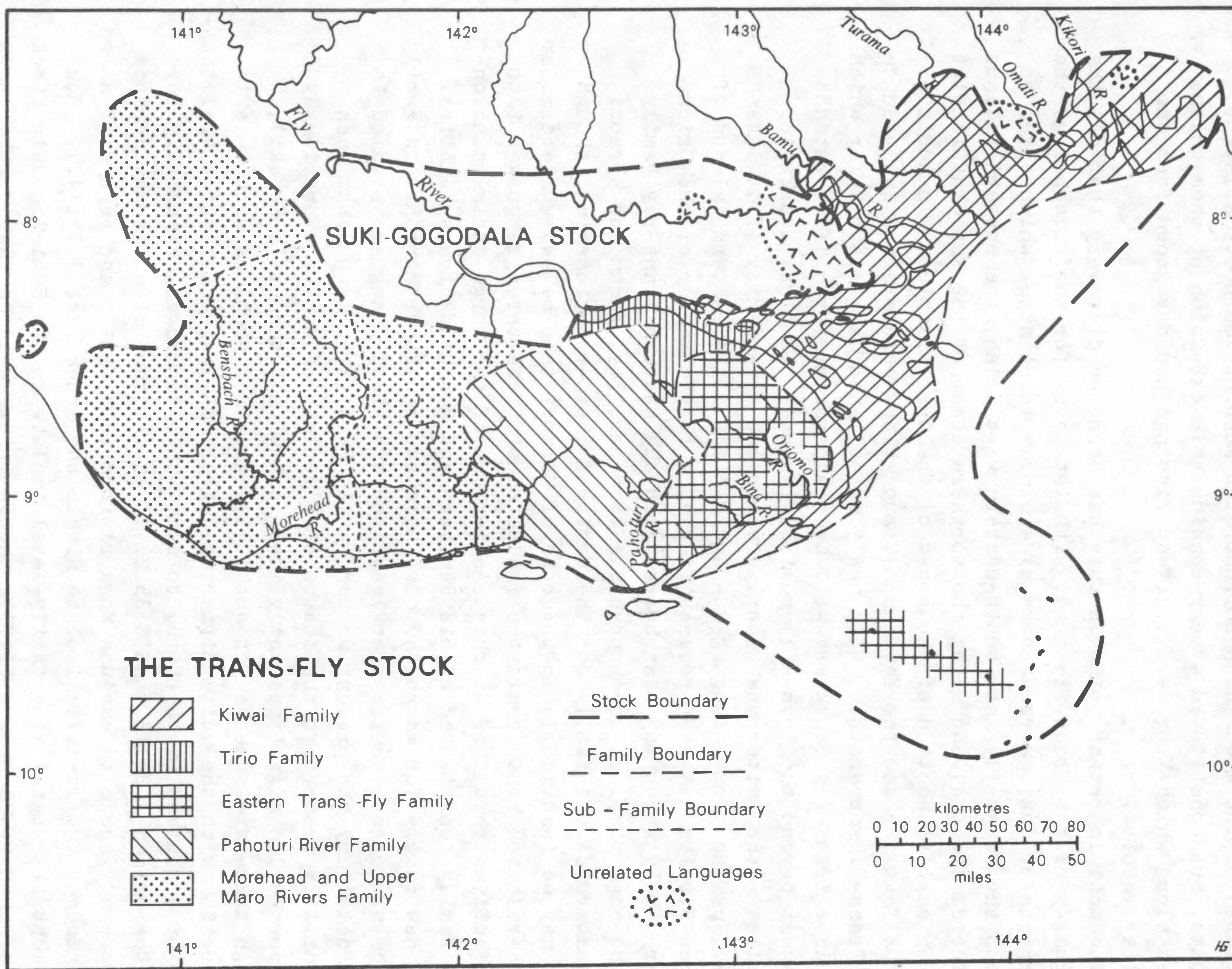
The present writer's 1970 fieldwork was undertaken against the background of this changeable and obviously still preliminary picture of the classificatory situation of the languages of the Trans-Fly region and adjacent areas, with a view to collecting additional information on languages of the area, and to place classificatory approaches involving the Trans-Fly languages on a firmer ground. The first assessment of his extensive new materials in several languages not recorded before in any detail in



conjunction with a reappraisal, by the present writer, of the results arrived at on the basis of his earlier materials, and materials from other sources, led to the recognition of a classificatory picture of the languages of the area which corroborated much of Voorhoeve's latest results, but constituted a very considerable extension of them on the lines along which Voorhoeve's latest findings had developed from the earlier results.

The most important point in this has been the discovery that all the languages of the Trans-Fly area, with (at least for the time being) the exception of Suki, were members of a single large stock which extended beyond the Trans-Fly into south-eastern West Irian, the eastern islands of Torres Straits, and along the northern coast of the Western District and an eastern section of the coast of the Gulf District. In addition to the families and the Yey-Kanum Group which Voorhoeve had included in his Trans-Fly Superstock, this newly established larger stock for which the name Trans-Fly Stock may well seem appropriate even if it extends somewhat beyond the Trans-Fly region, includes the Kiwai and Tirio Families - the latter now clearly recognised as a family of at least three, perhaps four, languages - and Miriam of the eastern islands of Torres Straits has been reclassified as a fourth member of the Oriomo River Family which may best be re-named the Eastern Trans-Fly Family. At the same time, it seems possible to regard Yey, Kanum and Moraori as members of one family on the basis of chain-relationships, though this may be inadvisable in the case of Moraori (see below) while similar chain-relationships permit the inclusion of these three languages into one family with all of Voorhoeve's members of the large chain-relationship family constituted by his Bensbach and Morehead Rivers Families. This new family for which the name Morehead and Upper Maro Rivers Family may be suggested, contains at least one additional language studied in some detail by the present writer, while Parb (i.e. Iauga) has been essentially reduced to the status of a dialect of Nambu, a previously unreported language (apparently identical with Voorhoeve's Keraki), though there are some as yet not fully explained problems with this in connection with the quite differing degrees of lexicostatistical relationship of Nambu and Iauga (Parb) to some other languages, especially Yey and Dorro (see 3.35.13. and 3.35.2.). At the same time, it may perhaps be more advisable to exclude Moraori from this family and regard it as an independent family-level isolate within the stock (see 3.35.14.). Suki has kept its status as a family-level isolate in the Suki-Gogodala Stock established by Voorhoeve (1970), though it may well be that further work may make it possible to include it, and perhaps also Gogodala, into the





M A P 2



new Trans-Fly Stock.

For the most part, percentages of shared cognates as established by the present writer for compared language pairs already lexicostatistically assessed by Voorhoeve lie above to well above Voorhoeve's figures. The reason for this is quite obvious: as has been the case with all instances of the recognition, in recent years, of spectacular and far-reaching relationship links between Papuan languages previously believed to be unrelated, or only very distantly related, (see Wurm 1970a, 1971, 1972), the abovementioned discrepancies in percentage figures are attributable to the fact that extensive additional information now available on most of the languages involved, several of which were only poorly documented or almost entirely unknown before, has made possible the recognition of regular sound correspondences or indirect relationship links involving third languages, between words which were formerly believed to be non-cognate.

The new Trans-Fly Stock contains between twenty-two and twenty-four languages according to how two communalects, at least one of which is on the border between dialect and language status, are treated (in the listing given below, these two cases have been indicated by swallow-brackets). Of these languages, nineteen to twenty-one are located in the Trans-Fly region itself, or in areas immediately adjacent to it.

### 3.2. COMPOSITION OF THE TRANS-FLY STOCK

The Trans-Fly Stock shows the following composition (the population figures are close approximations):

Trans-Fly Stock	32060
A) Kiwai Family <sup>2</sup>	20950
1) Southern Kiwai	9700
Island Kiwai	3500
Doumori	400
Coastal Kiwai dialects	4800
Southern Coastal Kiwai	1800
Eastern Coastal Kiwai	3000
Daru Kiwai	1000
2) Wabuda	1700
3) Bamu Kiwai	4100
4) Turama-Kerewo (Goari)	2550
Mogiri and Gama River dialects	1150
Kerewo (Goari)	1400



5)	Urama-Gope		2900
	Urama		1500
	Gope		1400
B)	<b>Tirio Family</b>	<b>1350</b>	
1)	Tirio		280
2)	Aturu )		220
	)		
3)	Lewada-Dewara)		450
4)	Mutum (Paswam)		400
C)	<b>Eastern Trans-Fly Family</b>	<b>4450</b>	
1)	Bine		1550
2)	Gidra		1600
3)	Gizra		600
4)	Miriam		700
D)	<b>Pahoturi River Family</b>	<b>2000</b>	
	Agöb		1100
	Idi		900
E)	<b>Morehead and Upper Maro Rivers Family</b>	<b>3310</b>	
Ea)	<b>Nambu Sub-Family</b>		800
1)	Nambu )		700
	)		
2)	Iauga (Parb) )		25
3)	Dorro		75
Eb)	<b>Tonda Sub-Family<sup>3</sup></b>	<b>1470</b>	
1)	Upper Morehead (Rouku)		350
2)	Lower Morehead (Peremka)		200
3)	Tonda		600
4)	Kanum		320
Ec)	<b>Yey Sub-Family</b>	<b>1000</b>	
	Yey		1000
Ed)	<b>Moraori Sub-Family</b>	<b>40</b>	
	Moraori		40



Note: These are good grounds (see 3.35.14.) for regarding Ed) as constituting a separate family within the Trans-Fly Stock. In such a classification, the Morehead and Upper Maro Rivers Family would only contain the sub-families Ea), Eb) and Ec), and one would have to add:

F) Moraori Family (isolate)	40
Moraori	40

In addition to these languages, the following are located in, or adjacent to, the Trans-Fly area:

1) Suki, a family-level isolate of the Suki-Gogodala Stock (Voorhoeve 1970).

2) On Saibai, Boigu and Dauan Islands off the south coast, a dialect of Mabuag, an Australian language, is spoken (Ray 1907).

With the exception of Mabuag, all the languages of the Trans-Fly area are Papuan languages and belong to that part of the Trans-New Guinea Phylum (McElhanon and Voorhoeve 1970, Wurm 1972) of Papuan languages which constituted the Central and South New Guinea Phylum in previous classifications (Voorhoeve 1968, Wurm 1970a).

The percentages of cognates shared by Suki with languages of the Trans-Fly Phylum are generally around 10% or below (see 2.4. but in the light of comparisons made with the help of more extensive materials in languages of the Trans-Fly Stock, some of the very low percentage figures given there have moved up, close to the 10% range).

Percentage figures illustrating the stock-level interrelationships of languages belonging to different Families within the Trans-Fly Stock will be given in 3.4. Suffice it to say here that all the figures resulting from comparisons between such languages from various parts of the Trans-Fly area in which the present writer has collected extensive materials himself, are above to well above the lower limit diagnostic for stock-level interrelationships. The same applies to such comparisons based on materials from other sources, but these materials are usually more limited and in some instances of a lower level of reliability.

It seems likely that all the figures for intra-Trans-New Guinea Stock relationships are somewhat inflated by borrowing, but even if a drop in the percentage figures by one-fifth or even one-quarter were allowed for this reason, almost all of them would still be above the lower limit necessary for the recognition of stock-level interrelationships. At the same time, the nature of sound-correspondences between items recognised as cognates suggests that most of them are reflexes of proto-forms, and not straight borrowings.



In addition to lexical comparisons, typological and structural features were taken into account when establishing the stock. Typologically speaking, there are essentially two somewhat distinct types encountered in the languages constituting the Trans-Fly Stock, with more or less pronounced deviations from these two basic types met with in the languages of the Kiwai Family on the one hand, and in those of the Tirio Family on the other, as well as in Moraori which has been tentatively included in the Morehead-Upper Maro Rivers Family as a sub-family level isolate. At the same time, there is considerable formal agreement between languages in a number of structural features, and all the languages share both specialised typological, and some structural, features.

A discussion of the phenomena briefly outlined here will be given in 3.5. Remarks on the individual families will be given first.

### 3.3. THE FAMILIES INCLUDED IN THE TRANS-FLY STOCK

#### 3.31. THE KIWAI FAMILY

##### 3.31.1. Remarks on the Individual Languages

The Kiwai Family consists of the closely interrelated Southern Kiwai, Wabuda, Bamu Kiwai, Turama-Kerewo (Goari), Urama-Gope languages, and occupies much of the south-eastern and eastern coasts of the Trans-Fly area, parts of the southern (right) and northern (left) banks of the Fly Delta and several islands in it, and the coastal areas and lower courses of the rivers in the Bamu, Gama, Turama, Kikori, Urama and Era Rivers areas.

A considerable amount of work has been carried out in languages of the Kiwai Family. A detailed grammar of Island Kiwai was written by Ray (1931), a comparative-historical study of what was known about the Kiwai languages in 1950 was attempted by the present writer (Wurm 1951), detailed field studies have been carried out by the present writer in the Island, Coastal and Daru Kiwai dialects of Southern Kiwai and in Wabuda, by C. Voorhoeve in Bamu Kiwai, and by J. Harris in Urama. Riley (and Ray) (1930-31) published lengthy vocabularies of the Tureture, Island and Doumori dialects of Southern Kiwai, of Wabuda, and of two dialects of Bamu Kiwai, and Riley also published some Kiwai texts (Riley 1931). Rev. B. Butcher produced a manuscript grammar of Kerewo. Translations of Scripture are available in Island Kiwai, Bamu Kiwai and Kerewo (Goari), and, in duplicated form, in Daru Kiwai.

The internal classification of the Kiwai Family is under re-study by the present writer, and only those of its languages and dialects which



have some bearing on the linguistic situation in the Trans-Fly area, i.e. Southern Kiwai, and marginally Wabuda, will be referred to here in greater detail.

### 3.31.11. Southern Kiwai

Southern Kiwai, which has about 9,700 speakers, is sub-divisible into four distinct dialects, at least one of which has two or more sub-dialects. It seems likely that the results of studies now in progress will affect and modify the current classificatory picture presented by the Southern Kiwai dialects as given below.

#### 3.31.11.1. *Island Kiwai Dialect*

Island Kiwai is spoken in the villages of Saguane, Oromasapu Ipisia, Agobara, Samari, Sagasia, Iasa, Wopa'ura, Kubira, Doropo and Sepe on Kiwai Island in the Fly Delta, by about 2,600 speakers<sup>4</sup>, and in a somewhat different form, in the village of Aibinio on Aibinio Island, and in those of Aberagerema, Kename and Wariobodoro on the left bank of the Fly (the last one constituting a Southern Kiwai-Wabuda transition dialect) by about 900 speakers which gives a total of about 3,500 speakers<sup>4</sup> of the Island Kiwai dialect. It has become the standard form of Southern Kiwai through its early use in missionary work, and the publication of sizable portions of Scripture in it as early as 1917. It is, in addition, the only member of the Kiwai Family to have attracted extensive interest by linguists at an early date (e.g. Ray 1907, 1931, Wurm 1951). It shows the most complex structure of all the Kiwai languages and dialects - with the exception of Wabuda and perhaps the Doumori dialect of Southern Kiwai, the structures of the other Kiwai languages and dialects give the appearance of more or less extensively decayed and simplified versions of a structure represented by Island Kiwai in its full form. Wabuda structure is, in some respects, quite different from that of the other Kiwai languages, and Doumori structure is near-identical with that of Island Kiwai.

#### 3.31.11.2. *Doumori Dialect*

The Doumori dialect is spoken in the village of Doumori on Doumori Island, in the western part of the Fly Delta, and in that of Pagona on the left bank of the Fly, downstream from Doumori Island, by a total of about 400 speakers<sup>5</sup>. The main published material available on it comprises Ray's (1923), Capell's (1962) and the present writer's (Wurm 1951) notes and Riley's wordlist (Riley (and Ray) 1930-31), but



materials were collected in it by A. Capell, the present writer and members of the UFM Mission at Wasua. The dialect shares some phonological features with Coastal Kiwai though it has special phonological features of its own such as general Kiwai *-ai>e*, and in its vocabulary it stands half-way between Coastal Kiwai and Island Kiwai. Structurally it is very much like Island Kiwai.

### 3.31.11.3. *Coastal Kiwai Dialects*

The dialects spoken in villages on the southern and eastern coasts of the Trans-Fly area, and the eastern portion of the southern bank of the Fly Delta constitute Coastal Kiwai. The dialects of the various villages differ slightly, but a division into at least two main sub-dialects appears possible:

#### 1) Southern Coastal Kiwai

This sub-dialect is spoken in the villages of Mabaduan, Mawatta and Tureture, by a total of about 1,800<sup>6</sup> speakers.

#### 2) Eastern Coastal Kiwai

This sub-dialect is found in the villages of Katatai, Parama, Sui, Dawari, Sewerimabu, Koabu, Madame and Wederehiamu (the latter two are in part Coastal Kiwai-Tirio bilingual villages) by a total of about 3,000 speakers<sup>6</sup>. The total number of speakers of Coastal Kiwai dialects is therefore about 4,800<sup>6</sup>.

The main published materials in Coastal Kiwai are Ray's notes and vocabularies (Ray 1907, 1923), the present writer's notes (Wurm 1951), Capell's (1962) notes, and Riley's (and Ray's) vocabularies (1930-31) in the Tureture local dialect of Southern Coastal Kiwai. The present writer has collected sizable materials in Tureture.

The coastal Kiwai dialects contrast with Island Kiwai in a few phonological features, such as the appearance in many instances, of *h* for Island Kiwai *s*, especially in Southern Coastal Kiwai, and the presence of a somewhat simpler verb morphology than that met with in Island Kiwai.

### 3.31.11.4. *Daru Kiwai Dialect*

Daru Kiwai is spoken on the Island of Daru by the resident population, apart from those living in the village corners who speak the dialects and languages of their respective home villages. The total number of native speakers of this dialect is around 1,000, but it is used in addition as a lingua franca by many of the village corner residents.



Published materials in this dialect are Government notices and instructions, as well as duplicated portions of Scripture. The present writer has collected fairly extensive materials in this dialect.

Daru Kiwai is basically a Coastal Kiwai local dialect, but with greatly simplified morphology.

### 3.31.12. Wabuda

The Wabuda language is spoken in the villages of Dameratamu and Gesoa on Wabuda Island in the Fly Delta, in Wapi on Aibinio Island in the Delta, and in the villages of Damera, Madaduo, Koavisi and Sagero on the left bank of the Fly. It is also spoken in the villages of Tivere and Maipani on Dibiri Island, but the latter is, to a limited extent, a Wabuda-Bamu Kiwai bilingual village, and, as has been mentioned in 3.31.11.1., the dialect spoken in Wariobodoro on the left bank of the Fly, constitutes an Island Kiwai-Wabuda transition dialect. The total number of speakers of Wabuda is about 1,700<sup>7</sup>.

The main published materials on Wabuda are Ray's (1923), Capell's (1962) and the present writer's Wurm (1951) notes and Riley's (and Ray's) vocabulary (1930-31), but the present writer has carried out extensive studies in it and collected sizable materials.

Wabuda differs quite markedly from all other languages of the Kiwai Family in showing what appear to be archaic features in the phonological shape of many of its lexical items - such as the appearance of -k- or -t- in places where in other Kiwai languages, a glottal stop is found between two vowels, or two vowels adjoin each other without an intervening consonant - in possessing an abundance of long vowels which are lacking in most other Kiwai languages, apparently lacking a tonal system, and in displaying unique morphological features and forms and syntactical features which are aberrant when compared with those of all other Kiwai languages. It appears possible that the present speakers of Wabuda originally spoke a different language, and adopted a Kiwai language at some time in the past, preserving in the process, some of the features of their original language in it.

### 3.31.13. Bamu Kiwai

Bamu Kiwai is spoken in several dialects by about 4,100<sup>8</sup> speakers in the Bamu Delta and Bamu River area, as far inland as the point at which the Guavi and Wawoi Rivers merge to become the Bamu River. The chief published materials in it are Ray's (1923), Capell's (1962) and the present writer's (Wurm 1951) notes, and Riley's (and Ray's) (1930-31)



vocabularies in two Bamu Kiwai dialects, Sisiame and Pirupiru. Translations of portions of Scripture in Bamu Kiwai were published in 1952.

C.L. Voorhoeve collected materials in a Middle Bamu dialect.

The Bamu Kiwai dialects are characterised by some loss of intervocalic consonants when compared with Southern Kiwai, and a morphology which is considerably more simplified than the Coastal Kiwai dialects when compared with the Island Kiwai dialect, but simplified in a different manner than is the case with the Daru Kiwai dialect of Southern Kiwai.

### 3.31.14. Turama - Kerewo (Goari)

The dialects spoken in the Lower Turama and the Gama Rivers area on the one hand, and those located between the Omati River area and Bevan Sound on the other are on the borderline between constituting two greatly differing dialects of one language, or two very closely related languages. For the purpose of this paper for which they are only of marginal interest, the first alternative has been adopted.

The dialect spoken on the Lower Turama River as far inland as the village of Saragi (K. Franklin, personal communication) is known as Morigi, and has about 600 speakers. The closely related dialects in the Gama River area are spoken by approximately 550 people, giving a total of about 1,150 speakers for the Turama and Gama Rivers dialects.

The closely interrelated dialects spoken from just west of the mouth of the Omati River eastwards to Bevan Sound and inland as far as Kikori town and approaching Aird Hills, and completely surrounding the non-related Porome language located at Aird Hills and south of Kikori town, are known as Kerewo (or Goari) and have about 1,400 speakers (K. Franklin, 1968 and personal communication). The total number of speakers of Turama-Kerewo is therefore approximately 2,550. Published materials in the dialects mentioned above are Ray's (1923), Capell's (1962) and the present writer's (Wurm 1951) notes, and sizable translations of Scripture (1946) are available in Kerewo. Franklin (1968) mentions them in this survey. A manuscript grammar and vocabulary of Kerewo has been compiled by Rev. B. Butcher and K. Franklin collected materials in Turama-Kerewo dialects in 1971.

Of the two dialects, Morigi and the Gama River dialects constitute phonologically and structurally a transition between Bamu Kiwai and Kerewo, though lexically they are closer to the latter. Kerewo is characterised by the quite frequently occurring replacement by glottal stop, or the complete absence, of intervocalic consonants found in Southern Kiwai equivalents of Kerewo morphemes, and a simplification in



morphological elaboration which goes further than that observed in Bamu Kiwai when compared with the Island Kiwai dialect of Southern Kiwai.

### 3.31.15. Urama-Gope

Two dialects constituting a separate language within the Kiwai Family are located east of the Aird Hills area and extend as far as the Pie River. One of these, Urama, with about 1,500 speakers, takes up the southern half of the region and occupies the coastal and peninsular areas and the islands, whereas the other, Gope, with about 1,400 speakers, is located north of the Urama territory and spoken in villages along the Ivi River and in some villages on the Wapo River. The total number of speakers of Urama-Gope is therefore about 2,900.

Some notes have been published on these dialects by Ray (1923), Capell (1962) and the present writer (Wurm 1951), and Franklin (1968) mentions them in his survey. J. Harris has collected very extensive materials in Urama and carried out a thorough study of it (unpublished), and materials in the dialects were also collected by K. Franklin and Rev. J. Cribb.

Urama-Gope show an even stronger tendency than Kerewo to replace by a glottal stop, or to lack, intervocalic consonants found in Southern Kiwai equivalents of morphemes in them. At the same time, the resulting large number of homophones has led to the secondary development of a two-tone system of relatively high functional load which constitutes an elaboration of the two-tone system present in the Kiwai languages (with the apparent exception of Wabuda) but which has an extremely low functional load. The morphological system is even simpler than that met with in Kerewo.

### 3.31.2. Internal Relationships of the Languages of the Kiwai Family

The lexical interrelationship of the members of the Kiwai Family is quite close. No complete lexicostatistical grid has been worked out for the purpose of this article, but the following figures will serve as illustrations (Sisiame and Pirupiru are two Bamu Kiwai dialects):

#### Island Kiwai

66	Wabuda			
66	60	Sisiame		
58	59	84	Pirupiru	
58	52	50	52	Kerewo



## Additional figures:

Island Kiwai - Tureture	84
Wabuda - Tureture	68
Island Kiwai - Turama (Mogiri)	56
Sisiame - Turama (Mogiri)	53
Turama (Mogiri) - Kerewo	79
Kerewo-Gope	56

Structurally, the languages of the Kiwai Family are in principle, very similar to each other, though, as has already been mentioned in 3.31.11.1., the structures of most Kiwai languages and dialects appear to be versions of Island Kiwai structure more or less simplified in varying degrees.

### 3.31.3. Typological and Structural Features of the Languages of the Kiwai Family

In this section, only such features as are relevant to a comparison with features encountered in member languages of other families will be mentioned. The Kiwai languages have a relatively simple phonology. The consonant phonemes found in them are p t k ? b d g m n r s h w, with s and h excluding each other in several languages and dialects. l appears in some of the northern languages instead of r. The vowel phonemes are a e i o u, with several diphthongs. Long vowels are frequent in Wabuda, and occur in the northern languages, but are very rare or absent in Southern Kiwai dialects. The suprasegmental system manifests itself in a complex stress system with rhythm principles, and a two-tone system is present in all the languages, except apparently Wabuda. Its functional load is extremely low in most languages except for Urama-Gope where it is quite high. Syllable structure is very simple; no consonant clusters occur (except for the very rare presence of -nd- in Kerewo) and all syllables are open. Clusters of up to three vowels are present if the two parts of a diphthong are counted as two vowels.

The morphology is characterised by the distinction of four numbers; singular, dual, trial and plural, and three persons in the pronoun, but only two, speaker and non-speaker, in the verb morphology. There are only two basic sets of pronouns, one for singular and one for plural - the dual and trial forms are derived from the plural forms through suffixes. Possession is expressed through the preposed personal pronouns which usually carry a suffix, which also functions as ergative and emphasis marker. Numerous noun (and pronoun) suffixes are present and denote a variety of local relationships, and the ergative. Adjuncts precede the words which they determine, except for Wabuda in which certain adjuncts follow the determined word.



The verb morphology is elaborate. The verb stem and sometimes its prefixes, undergo changes to denote singularity and non-singularity of the object, and special stem suffixes denote a variety of aspects such as punctiliarity, repetitiveness and continuity. Prefixes denote modes of actions such as spontaneity, and reflexivity. Several past and three future tenses as well as a present are met with and are indicated by tense forms of subject prefixes, together with combinations of prefixes, suffixes and tense forms of the affixes indicating the number of the subject. In many verb forms, the tense is signalled several times, often first in a general form by the shape of the subject prefix - i.e. present, past or future only - which is then followed by the indication of a specific past or future tense. The person of the object is indicated by a subject-object portmanteau prefix only if the object is in the first person, but the number of the object is marked, in a general form - by the form of the verb stem (and of the stem-prefixes) and in the case of the object being non-singular, its specific number - dual, trial or plural - is denoted by affixes. Special negative verb forms exist, several imperative forms are present, and verbal nouns play an important part.

A feature of the Kiwai languages which is important for their typological comparison with languages of other families in the Tran-Fly Stock is the total absence of any gender distinction in the morphology.

It may be noted here that the present writer's earlier studies in the Kiwai languages (Wurm 1951) as well as Voorhoeve's (personal communication) have shown that the present-day Kiwai languages show strong connections with languages of the Upper Fly River area. It seems likely that the ancestors of the present-day Kiwai speakers migrated down the Fly to the Fly Delta area. The ancestors of the present-day Wabuda speakers who may have spoken a non-Kiwai language, appear to have taken over an archaic form of Kiwai, at the same time perserving features of their earlier language. Kiwai then appears to have spread southwards along the eastern and southern coast of the Trans-Fly, and north to the Bamu and perhaps the Gama and Turama Rivers areas.

Subsequently, further language migrations carried Kiwai languages to the north-east from the original dispersal area and the coast of the Trans-Fly. These migrations are discernable from the stratification of the vocabularies of the individual Kiwai languages which, especially in the northern languages, contain items which represent quite different sets of sound correspondences and which are attributable to different migrations. In addition, loan words from non-Kiwai languages provide useful evidence.



So, for instance, loan words from Bine, a language of the Eastern Trans-Fly Family, are found in Urama in the extreme north-east.

### 3.32. THE TIRIO FAMILY

#### 3.32.1. Remarks on the Individual Languages

The Tirio Family which occupies a section of the right bank of the upper region of the Fly Delta, and Sumogi Island, consists of the Tirio and Mutum (or Paswam) languages, and of the dialects spoken in the villages on the right bank of the Fly, upstream from Tirio, and in the village of Dewala on Sumogi Island (Lewada-Dewara) on the one hand, and that of the village of Adulu (Aturu) on Sumogi Island on the other. Aturu and Lewada-Dewara are on the borderline of being two closely related languages, or dialects of one language, though the lexico-statistical evidence favours the first of the two possibilities. The criterion of mutual intelligibility is not applicable, because passive tri-lingualism involving these two communalects and Tirio, is practically universal amongst speakers of the two doubtful languages (or dialects) and Tirio.

Materials in print on languages of the Tirio Family comprise a vocabulary by Chalmers (1897) of a dialect of Lewada-Dewara, Ray's (1907, 1923), William's (1936) and Capell's (1962) notes, and Riley's (and Ray's) (1930-31) vocabulary of Tirio. Materials in languages of the Tirio Family were collected by A. Capell, Rev. Nigel Gore and Rev. T. Hoel of the U.F.M. Mission, and by the present writer.

#### 3.32.11. Tirio

Tirio is spoken in the Tirio village by about 240 speakers, and the villages of Wederehiamo and Madame, to the east of it, are in part Tirio-Coastal Kiwai bilingual villages. The total number of Tirio speakers, including those living in Daru, is about 280.

#### 3.32.12. Aturu

Aturu is spoken in the village of Adulu on Sumogi Island by about 200 speakers. In addition, there may be about a dozen or so Aturu speakers in Daru which brings their total number to about 220.

#### 3.32.13. Lewada-Dewara

The group of dialects referred to as Lewada-Dewara (see above in 3.32.1.) is spoken in the villages of Balamula and Lewada on the right bank of the Fly, and in the village of Dewala on Sumogi Island, by a



total of about 450 speakers. Lewada is close to the site of the no longer existing village of Pisirami reported by Ray (1907), and Dewala contains the populations of the villages of Tagota (Ray 1907, 1923) and Weridai (Williams 1936) which used to be a considerable way upstream on the right bank of the Fly, but which are now abandoned, along with the village of Narakiwai which used to be further downstream, but whose population has also migrated to Dewala village.

The communalects spoken at Lewada, Balamula and Dewala are closely enough related to be regarded as dialects of a single language, and as has been pointed out above in 3.32.1., it may be possible to regard Aturu also as a dialect of the same language.

#### 3.32.14. Mutum (or Paswam)

Mutum (or Paswam) is spoken in the villages of Mutum, Upiara, Sanguanso and Tewara, and there are Mutum speakers in Rual and Kapal, in addition to the Gidra (and in the latter, also Agöb) speakers there. The total number of speakers of Mutum (Paswam) is about 400.

#### 3.32.2. Internal Relationships of the Languages of the Tirio Family

The lexical interrelationship of the languages of the Tirio Family is not very close, though in their structures they are very similar.

The following lexicostatistical percentage figures will serve to illustrate the degrees of lexical interrelationship between the dialects of Lewada-Dewara on the one hand, and those dialects and Aturu on the other:

	Dewara		
	81	Lewada	
	78	78	Aturu
Lewada-Balamula	84		

The Tirio Family shows the following percentages:

Tirio			
45	Aturu		
36	78	Lewada-Dewara	
38	43	47	Mutum

A remarkable feature of this grid is the large discrepancy between the figures for Tirio-Aturu (45) and Tirio with Lewada-Dewara (36) in the light of that for Aturu with Lewada-Dewara (78).



### 3.32.3. Typological and Structural Features of the Languages of the Tirio Family

The phonology of the languages of the Tirio Family is relatively complex. The results of a superficial phonological study are still tentative, but they seem to possess the following consonant phonemes: p t k ʔ p<sup>w</sup> b d g b<sup>w</sup> ŋ<sup>w</sup> b<sup>y</sup> d<sup>y</sup>~dz mb nd ŋg m n (ŋ) n<sup>y</sup> (f) ð ð<sup>y</sup> s z<sup>v</sup>z r l w y. The bracketed phonemes are doubtful. The vowel phonemes appear to be: a æ e i o u œ ə. Vowel length is phonemic. Several diphthongs occur. Stress appears to be phonemic, and a complex rhythm system is present. No tonal system has been observed. The syllable structure is comparatively simple and open syllables consisting of C+V or C+V+V are overwhelmingly predominant initially and medially. However, word-final nasals, stops and -r are frequent, and low-frequency syllable-boundary clusters of nasal + stop, -r + stop, -l + stop or nasal, -s + nasal and -ʔ + stop are found, as well as -g+z- and the three consonant cluster -l + stop + nasal-. Clusters of up to three vowels are met with.

The morphology is characterised by the distinction of masculine and feminine gender in the third person which affects the pronoun system and the subject and object indication with the verb. Four numbers, singular, dual, trial and plural are distinguished in the verb morphology, but the pronouns display only singular and plural forms. Three persons are distinguished in the pronoun system and in the verb morphology, with the third person having a masculine and feminine form in singular, and in part also in the plural. Possession is indicated through the preposed personal pronouns which carry special suffixes to denote possession. An ergative is absent, and noun (and pronoun) suffixes denoting local relationships are relatively few. Adjuncts mostly precede the words which they determine but a few follow such words.

The verb morphology is complex. The verb stem undergoes changes to denote the number of the object (and in some instances that of the subject), but sometimes one form appears with singular and dual objects, and another with trial and plural objects, or there are three different forms, with distinct forms found with trial and with plural objects. Aspects are quite numerous. There are several past tenses but only one future and a present. The tenses are indicated in a general form - i.e. present versus past versus future - by tense forms of subject prefixes, together with suffixes and particles which denote the exact tense. The number of the subject is indicated by the use of specific subject prefixes for the different numbers. A large number of different verb classes or conjugations appears to exist and the subject prefixes and object number



affixes show differences in them. The person of the object is indicated by subject-object portmanteau prefixes and its number by the form of the verb stem and, if it is not in the singular, by additional affixes. Special negative verb forms are found, and several imperative forms are present.

### 3.33. THE EASTERN TRANS-FLY FAMILY

#### 3.33.1. Remarks on the Individual Languages

The Eastern Trans-Fly Family (formerly - Voorhoeve 1968, Wurm 1970 - called the Oriomo River, or Binaturi and Oriomo Rivers Family) occupies the Binaturi and Oriomo Rivers area, most of the country between the Binaturi and Pahoturi Rivers, and the eastern islands of Torres Straits. It consists of the four languages Bine, Gidra, Gizra and Miriam.

The main materials in print on these languages comprise notes by Ray (1907, 1923), Williams (1936) and Capell (1962), and wordlists in Riley (and Ray) (1930-31). A detailed grammar and an extensive wordlist of Miriam has been published in Ray 1907, and translations of Scripture have appeared in Bine (Kunini dialect) (1934, a new version in 1969) and Miriam (1902). Materials in the mainland languages were collected by A. Capell and the present writer, and in Miriam by A.C. Woodward whose notes were kindly put at the disposal of the present writer by J. Beckett.

#### 3.33.11. Bine

Bine is spoken in the villages of Kunini, Masingle (appearing as Masingara on most maps), Boze, Dirimu (plantation), Giningarede, Sebe (Wabozi), Tati, Irupi, Dragele, and Sogalo by a total of about 1,550 speakers.<sup>9</sup> It has a much simpler phonology than the other languages of the family, a fact which may perhaps be attributable to Kiwai influence.

#### 3.33.12. Gidra

Gidra is spoken in the villages of Dorogori, Abam, Peawa, Zim, Wonio, Iamega (in part Agöb speaking), Podari, Wipim (a few Agöb speakers), Kuru, Ume and Gamaeve, as well as in those of Kapal (some Mutum and Agöb speakers) and Rual (some Mutum speakers) which, including Gidra speakers living in Daru, gives a total of about 1,600 speakers.

#### 3.33.13. Gizra

Gizra is spoken in the villages of Togo, Kuperi and Waidoro by close to 600 speakers.



## 3.33.14. Miriam

Miriam is spoken in the eastern part of the Torres Straits on the Murray Islands (Mer, Dauar and Waier), Darnley Island (Erub) and Stephen's Island (Ugar) by about 700 speakers.

## 3.33.2. Internal Relationships of the Languages of the Eastern Trans-Fly Family

The lexical interrelationship of the languages of the Eastern Trans-Fly Family is relatively distant, as can be seen from the lexicostatistical percentage figures given below for illustration:

Bine				
42	Gidra			
38	34	Gizra		
28	26	37	Miriam	

Though the figure of 26% for Gidra-Miriam is below the level diagnostic for a family-level relationship on the basis of a 200-items basic vocabulary list (see 2.4.), the presence of a relationship chain of persistently above 28% which links Gidra with Miriam through Gizra makes it possible to regard both Gidra and Miriam as members of the same family.

## 3.33.3. Typological and Structural Features of the Languages of the Eastern Trans-Fly Family

As has been mentioned above in 3.33.11., the phonology of Bine is relatively simple in contrast to that of the other members of the Family. It shows the following consonant phonemes: p t k ʔ b d g m n ŋ nʸ s ẓ ʒ r l w y, and the vowel phonemes a æ e i o u. Vowel length is phonemic. Several diphthongs occur. The suprasegmental system shows a complex stress system with rhythm principles, and apparently a two-tone system of very low functional load. The syllable structure is rather simple, and open syllables consisting of C + V or C + V + V predominate. No closed syllables occur word-finally. However, word-initial clusters of stop + l- or r- are found, and relatively low-frequency syllable-boundary clusters of stop + nasal or r- or l-, nasal + l-, -ʔ + stop, and -ŋ + w- are present. Clusters of up to three vowels are met with.

In Gidra the consonant phonemes are: p tʸ t k ʔ pʷ kʷ b dʸ d g gʷ mb ndʸ nd ŋg ŋgʷ m n nʸ ŋ ŋʸ f s ʃ h v z ʒ (ɣ) ɾ l w y. Consonantal length seems to be phonemic and is frequently present with b g nʸ and s. The vowel phonemes are: a ε e i o o † u œ ə. The bracketed



phoneme is doubtful. Vowel length is phonemic. A few diphthongs occur, but are of very low frequency. The suprasegmental system appears to be comparable to that encountered in Bine, but the tonal system seems to have an even lower functional load. The syllable structure is relatively complex, and closed syllables ending in a single consonant abound. Double-closed syllables also occur. Initial clusters of two or three consonants are relatively frequent, though apparently restricted to stop or  $v-$  +  $\tilde{r}-$  or  $l-$ , and  $gl-$ . Word-finally, stops, nasals,  $-v$ ,  $-s$ ,  $-l$ ,  $-r$  and  $-w$  have been observed, as well as nasals + stops and long stops, especially  $-b:$  and  $-g:$ , and  $-s:$ . Amongst syllable-boundary clusters of two consonants, nasal or  $-l$  or  $-v$  or stop +  $r-$  or stop, as well as stop or  $-w$  or  $-r$  + nasal or  $-l$  have been frequently observed. Also  $-r$  or nasal +  $y-$  are common, as are stop +  $f-$ . This list is however not exhaustive. In stop + stop clusters, voiced + voiceless stops cluster without assimilation (e.g.)  $-t^w-$  contrasts with  $-tk^w-$ ). Of syllable-boundary clusters of three consonants,  $-vlt-$  has been recorded.

In Gizra, the consonant phonemes are:  $p$   $t^v$   $t$   $k^v$   $k$   $ʔ$   $p^w$   
 $k^w$   $b$   $d^v$   $d$   $g^v$   $g$   $g^w$   $mb$   $nd^v$   $nd$   $ng^v$   $ng$   $ng^w$   $m$   $n^v$   
 $n$   $\eta$   $s$   $\int$   $h$   $z$   $ʒ$   $(\gamma)$   $\tilde{r}\tilde{r}$   $l$   $w$   $y$ . Consonantal length seems to be phonemic, but is not so frequently encountered as in Gidra. The vowel phonemes are:  $a$   $\text{æ}$   $e$   $i$   $o$   $\text{ɔ}$   $\text{ɪ}$   $\text{æ}$   $\text{ə}$ . The bracketed phoneme is doubtful. Vowel length is phonemic. A few diphthongs occur and their appearance is of higher frequency than in Gidra. The suprasegmental system is similar to that present in Gidra. The syllable structure is simpler than in Gidra, but more complex than in Bine. Closed syllables ending in a single consonant are frequent word-finally, but very much less frequent medially than in Gidra. Double-closed syllables and initial clusters are absent, as are syllable-boundary clusters of more than two consonants. Amongst syllable-boundary clusters of two consonants, stop +  $l-$ , nasal or  $-\tilde{r}$  or  $-l$  or  $-s$  + stop, as well as  $-\tilde{r}$  + nasal are common. Word-finally, stops, nasals,  $-l$ ,  $-\tilde{r}$  and  $-z$  have been observed.

The phonology of Miriam - in which the present writer did not collect any materials himself - appears to be similar to that of Gizra.

In the morphology, there is a rudimentary distinction between masculine and feminine gender in the third person through the appearance of different object prefixes according to the sex of the object if the object is a human being, or a certain animal (e.g. a pig). Also, some verbs such as "go" and "come" have different subject markers in the third person, and in some instances even different stem forms, according to



whether the subject refers to a male or female person. No gender distinction has been observed in the pronominal system. In the verb morphology, four numbers, singular, dual, trial and plural, are distinguished, but the pronouns display only singular and plural. Inclusive and exclusive forms are distinguished, and this distinction carries through to the indication of person with the verb. Possession is indicated through the preposed personal pronouns which carry special suffixes to denote possession. An ergative is present, and noun (and pronoun) suffixes denoting local relationships are numerous. Special suffixes marking nouns and pronouns as objects occur. Adjuncts precede the words which they determine.

The verb morphology is of great complexity. The verb stem mostly undergoes extensive changes to indicate the number of the object, and there are a number of verb classes according to whether the verbs have one form for all numbers of the object, or two, three or four. The distribution of these forms with regard to the number of the object also depends on the verb class, i.e. some verbs with two forms have one form for singular and dual objects, and the other for trial and plural, others one form for singular and the other for the non-singular forms, or one for all numbers except plural and the other for plural, etc. A few verbs show a similar multiplicity of stem forms according to the number of the subject. Aspects are quite numerous and are usually marked by suffixes. There are several past tenses, but basically only one future, and a present. The tenses are indicated by suffixes and through tense forms of the suffixes denoting the number of the objects (and subjects) and, to a limited extent, through tense forms of the object prefixes, or combined object + subject portmanteau prefixes. The person of the subject is denoted by suffixes in conjunction with subject-object portmanteau prefixes. In Bine and Gidra a full range of subject persons suffixes is found for all numbers, with or without additional subject number markers. In Gizra, the person suffixes are more limited, and in part defective and in Miriam they are lacking entirely: only the subject number suffixes appear, and the person of the subject is signalled by the object-subject prefixes, the preposed personal pronouns and to a limited extent with intransitive verbs, by subject prefixes. The person of the object is indicated by the subject-object portmanteau prefixes, and its number by the appearance of special object prefixes for various numbers, the changes in the verb stem and special suffixes. The negative is expressed by a particle, but there are traces of special negative verb forms in Gidra and Gizra. Several imperative forms are present.



### 3.34. THE PAHOTURI RIVER FAMILY

#### 3.34.1. Remarks on the Individual Languages

The Pahoturi River Family (formerly - Voorhoeve 1968, Wurm 1970 - called the Agöb Family) occupies the Pahoturi River area and the country to the west and north-west of it. It consists of the two closely inter-related languages Agöb and Idi (called Mikud in McElhanon and Voorhoeve 1970).

The main materials in print on these languages consist of notes by Ray (1907, 1923), Williams (1936) and Capell (1962), and a wordlist in Riley (and Ray) (1930-31). Agöb is generally referred to in these sources as Dabu, and dialects of it as Bugi or Buji and by village names. Materials in the languages of this family were collected by A. Capell and the present writer.

#### 3.34.11. Agöb

Agöb is spoken in the villages of Gnao, Kibuli, Glabi, Nanu, Kand/Wim, Biambod 1 and Biambod 2, Wipim (mostly Gidra speaking), as well as in Sigabaduru, Tabatata (now largely abandoned), Ber and Buji. Some Agöb speakers are also at Kapal. The total number of speakers of Agöb, including those living in Daru, is about 1,100.

#### 3.34.12. Idi

Idi is spoken in the villages of Sibidiri, Dimiri, Bubuji, Malam, Limol, Kinkin, Kondoba, Buk, Dimsisi and Bimadebun by a total of about 900 speakers, including Idi speakers living in Daru.

#### 3.34.2. Internal Relationship of the Languages of the Pahoturi River Family

The lexical relationship of Agöb and Idi is very close. The lexicostatistical comparison of the Idi dialect of Dimiri and the Agöb dialect of Gnao has yielded a percentage figure of 77. Geographically closer and more distant villages yield proportionally higher and lower figures, but even the most distant dialects of the two languages are still very closely related.



### 3.34.3. Typological and Structural Features of the Languages of the Pahoturi River Family

Agöb and Idi are almost identical in structure. Their phonology is simpler than that of the majority of the members of the Eastern Trans-Fly Family, and shows the following consonant phonemes: p tʰ t k b dʷdz d g m nʷ n ŋ s v z ʃʷʃ l w y. The vowel phonemes are: a ə i ɔ u ə ə. Vowel length is phonemic. Several diphthongs occur and appear with moderate frequency. The supra-segmental system manifests itself in a relatively complex stress system with rhythm principles, but no tonal system seems to be present. The syllable structure is of medium complexity. Open syllables predominate by far medially, but closed syllables ending in a single consonant are quite frequent finally. Double-closed syllables occur finally, but are limited to nasal + stop. Amongst syllable-boundary clusters of two consonants, stop + nasal or r-, nasal + stop or r-, and stop or r- + nasal occur. Word-finally, stops, nasals, -r, -l and, as has been mentioned above, nasal + stop are found. Clusters of up to three vowels are met with.

In the morphology, no gender distinction has been observed. In the verb morphology, three numbers, singular, dual and plural are regularly distinguished and there are traces of a trial number. However, in the pronoun system only singular and plural forms are present. The pronoun system is also defective in having only one form for the second and third person plural. Possession is indicated through the preposed personal pronouns which carry special suffixes to denote possession. An ergative is present and there are quite a few noun (and pronoun) suffixes indicating local relationships. A few occurrences of special suffixes marking nouns and pronouns as objects have been observed. Adjuncts precede the words which they determine.

The verb morphology is elaborate. Characteristic features are the fact that verbs usually have double stems of which the first is often nominal in character, and the appearance of extensive changes in the initial syllable of the verb forms to denote tense. For instance, in intransitive verbs which have no subject-object prefix, the initial consonant of the verb stem changes for tense. The verb stem does not undergo changes to indicate the number of the object as is the case in the languages of the Kiwai, Tirio and Eastern Trans-Fly Families. Only a few verbs such as "to give" show some changes of this kind. Several past tenses are present, but basically there is only one future and a present. It has been mentioned above that tense is indicated by changes in the initial syllable of the verb form - the initial syllable can be part of the verb stem



itself or an object or combined object-subject-prefix, and also, through suffixes and changes in the suffixes, can denote the number of the subject and the object. The person of the subject is indicated by suffixes, though they are absent in some verb forms, and/or through the subject-object portmanteau prefixes. In some verbs, subject-prefixes occur. The number of the subject is marked by the form of the subject affixes, or by special suffixes. The person of the object is shown by these subject-object portmanteau prefixes, sometimes in combination with suffixes, and its number by suffixes. The negative is expressed by particles, and the imperative forms are relatively simple.

### 3.35. THE MOREHEAD AND UPPER MARO RIVERS FAMILY

#### 3.35.1. Remarks on the Sub-Families and Individual Languages

The Morehead and Upper Maro Rivers Family which is a combination of the Morehead River Family (Wurm 1970, but excluding Mikud), the Morehead and Bensbach River Families (Voorhoeve's reclassification in Wurm 1970) and the Yey-Kanum-Moraori (Voorhoeve 1968) or Upper Maro (McElhanon and Voorhoeve 1970) Stock, occupies the Morehead River area and much of the country to the east of it including Strachan Island, as well as the region between the Morehead and Bensbach Rivers, the Bensbach River area itself, the Upper Maro River area in West Irian and one village far to the north of the Bensbach area.

It consists of four sub-families, the Nambu, Tonda, Yey and Moraori Sub-Families, of which the latter may, in a different classification, be regarded as constituting a different family (see below 3.35.11.).

The main materials in print on the languages of the Nambu and Tonda Sub-Families comprise Ray's (1907, 1923), William's (1936) and Capell's (1962) notes (languages and group names found in these sources and Bangu, Sanana, Wandatokwe, Tokwasa, Dungenwab and others), as well as wordlists of the Lower Morehead (Peremka) language, Dorro and Parb in Riley (and Ray) (1930-31). For Kanum, Drabbe's (1954) and Boelaars' (1950) grammars, vocabularies and notes provide excellent published sources.

Materials in some languages of these two sub-families were collected by A. Capell and the present writer. For Yey and Moraori, Drabbe's (1954) and Boelaars' (1950) publications are again the best published sources.



### 3.35.11. The Nambu Sub-Family

#### 3.35.11.1. *Remarks on the Individual Languages*

The Nambu Sub-Family is located between the Morehead, Kutubora and Mai Kussa Rivers, and consists of the Nambu languages, with the Iauga (or Parb) dialect on Strachan Island, which could also be regarded as constituting a separate language within the sub-family, and the Dorro language.

#### 3.35.11.11. *Nambu*

Nambu is spoken in the villages of Mibini, Garaita, Setavi (a Nambu-Upper Morehead bilingual village), Mata, Saraina, Pongaki (or Pangaraki), Gubam, Keru, Derideri, Arufi and Tais by a total of about 700 speakers. The dialect of Tais is a transition dialect between Nambu and Dorro.

#### 3.35.11.12. *Iauga (or Parb)*

Iauga is spoken in the village of Iauga on Strachan Island by about 25 speakers.

#### 3.35.11.13. *Dorro*

Dorro is spoken in the village of Mari on the south coast by about 75 speakers. Riley (and Ray) (1930-31) describe Dorro as spoken by an inland tribe, however it appears to be spoken nowadays only by the inhabitants of the coastal village. The dialect of Tais has been mentioned in 3.35.11.11. as a member of Dorro transition dialect.

#### 3.35.11.2. *Internal Relationship of the Languages of the Nambu Sub-Family*

The degree of the lexical interrelationship between the languages of the Nambu Sub-Family can be seen from the following lexicostatistical percentage figures:

Nambu			
83	Iauga (or Parb)		
62	51	Dorro	

From these figures it seems clear that Iauga (Parb) could, at least on the lexical level, be regarded as a dialect of Nambu. At the same time, its lexical relationship to Dorro is considerably lower than that existing between Nambu and Dorro.



3.35.11.3. *Typological and Structural Features of the Languages of the Nambu Sub-Family*

The present writer has information from his own fieldnotes, on the structures of Nambu and Iauga (Parb) which are virtually identical. The following notes reflect only their features.

The phonology is quite complex, and the following statements are also tentative. The consonant phonemes appear to be: p~ɸ t k ʔ b d g kp mb nd ŋg ndʷ~ndʒ~ndz m nʷ n ŋ f θ s (sʷ) v~β ð z (ɣ) ʃ~ʒ l w y. The bracketed phonemes are doubtful. In addition, a large number of labialized consonants are present. Their phonemic status is not yet clear. The following have been observed: pʷ gʷ kpʷ ŋgʷ ŋʷ ɣʷ. Consonantal length seems to be phonemic and to affect mainly k. The vowel phonemes appear to be: a æ e i ɔ ɒ u w œ ü ə. Vowel length is phonemic. Several diphthongs are found. The suprasegmental system appears to consist of a relatively complex stress system with rhythm principles, but no tonal system seems to be present. The syllable structure is of some complexity. Open syllables predominate, but closed syllables are nevertheless frequent. Double-closed syllables occur finally, but are limited to nasal + stop. Amongst syllable-boundary clusters of two consonants, stop or nasal or -r + stop or nasal or s- (or v), stop + r-, -s + v- and -r + s- occur. Amongst syllable-boundary clusters of three consonants, -nbʃ has been found and the combination -m + kp- (two phonemes) may be mentioned as occurring with some frequency. Word-finally, nasals, stops and -ʃ are common, as well as nasal + stop as has been mentioned above.

In the morphology, no distinction of gender appears to be present. In the verb morphology, three numbers: singular, dual and plural, are regularly distinguished, and traces of a trial member are present. In the pronoun system, only singular and plural forms are regularly distinguished, though dual and trial forms exist for the first and second persons, but are rarely used. The pronoun system is defective in having only one form for the third person singular and plural and another for the second person singular and plural. Possession is indicated through the preposed personal pronouns which carry special suffixes to denote possession. As ergative seems to be present and several noun (and pronoun) suffixes indicate local relationships. Adjuncts precede the words which they determine.

The verb morphology is of some complexity. Verbs usually have double stems of which the first is often a noun. The first syllable of the verb forms undergoes changes to indicate tense. The verb stem does not show changes in accordance with the number of the object. Several past tenses



occur, but only one future and a present. In addition to being marked by changes in the initial syllable of the verb forms, the tenses are indicated by suffixes and changes in the suffixes denoting the number of the subject and the object. The person of the subject is in part indicated by suffixes, but they are defective. At the same time, it is signalled by subject-object portmanteau prefixes. Subject prefixes seem to occur in some verbs. The number of the subject is shown by the forms of the subject suffixes, or by special suffixes. The person of the object is denoted by the subject-object portmanteau prefixes, and suffixes sometimes co-occur. Its number is indicated by suffixes. The negative is shown by a particle, and there are traces of a negative conjugation. Imperative forms are relatively simple.

### 3.35.12. The Tonda Sub-Family

#### 3.35.12.1. *Remarks on the Individual Languages*

The Tonda Sub-Family is located in the Morehead and Bensbach Rivers areas and the country between the two rivers, and it extends westwards into the south-eastern corner of West Irian. It consists of the Upper Morehead (or Rouku) and Lower Morehead (or Peremka) languages, the Tonda language centred on, and east of, the Bensbach River area, and the Kanum language in the adjacent part of south-eastern West Irian. Dialects in the villages assigned to these four languages do to some extent constitute chains, especially between Tonda and the Upper Morehead and Lower Morehead languages, and between the latter two so that the delineation of the language boundaries is rather arbitrary. The break between Tonda and Kanum is more definite.

#### 3.35.12.11. *Upper Morehead (or Rouku)*

What may be described as the Upper Morehead (or Rouku) language is spoken in several dialects in the villages of Rouku, Iokwa, Uparua, Setavi (an Upper Morehead-Nambu bilingual village), Sirisa and Kiriwo by a total of about 350 speakers.

#### 3.35.12.12. *Lower Morehead (or Peremka)*

Lower Morehead (or Peremka) is spoken in the villages of Tonda, Jarai and Bula by a total of about 200 speakers. The language of which a wordlist is given in Riley (and Ray) (1930-31) under the name Peremka is this language. It is very closely related to the Upper Morehead language.



3.35.12.13. *Tonda*

Tonda is spoken in several dialects in the villages of Bundaber, Wando, Korombo, Mengete, Indorodoro, Tokwa, Wemenevre, Kandarisa, Weam and Wereave by a total of about 600 speakers. The language for which the name "Tonda" is used officially today, and is recognised by the speakers of it, is not spoken in the village of Tonda itself which belongs to the Lower Morehead language area, though the two languages are lexically quite closely related. Structurally the two languages seem to be identical.

3.35.12.14. *Kanum*

According to Drabbe (1954), Kanum is spoken in three dialects, one of them in two villages called Yenggalntyur and Onggaya by 165 speakers, the second by the 57 inhabitants of the village of Sota close to the Australian border north-west of the Tonda-speaking village of Wereave, and the third by about 100 speakers in six other villages, amongst them the village of Bronga (or Beronk) just beyond the Australian border south-west of Weam. The total number of Kanum speakers was therefore about 320 round 1950.

3.35.12.2. *Internal Relationships of the Languages of the Tonda Sub-Family*

The following table of lexicostatistical percentage figures will demonstrate the degree of the lexical interrelationship between the languages of the Tonda Sub-Family.

## Upper Morehead (Rouku)

71	Lower Morehead (Peremka)		
60	55	Tonda	
39	39	40	Kanum

It is evident from these figures that the Upper Morehead (Rouku), Lower Morehead (Peremka) and Tonda languages form a unit in contrast to Kanum. As a result of the presence of general passive tri-lingualism amongst speakers of Upper Morehead, Lower Morehead and Tonda, all tend to regard their three lexically distinct languages as a single language which they call "Tonda".



### 3.35.12.3. *Typological and Structural Features of the Languages of the Tonda Sub-Family*

The present writer has at his disposal information on the structure of Tonda, and some brief notes on that of Lower Morehead (Peremka) from his own fieldnotes, on Upper Morehead (Rouku) from A. Capell's fieldnotes, and on Kanum from Drabbe's (1954) and Boelaars' (1950) publications. The languages are virtually identical in structure, though Kanum appears to differ somewhat from the other three in phonology.

The phonology of the languages of the Tonda Sub-Family is rather complex, though perhaps somewhat less so than that of those of the Nambu Sub-Family. The consonant phonemes appear to be: p<sup>v</sup> φ t<sup>v</sup> t<sup>f</sup> t k  
 ? p<sup>v</sup> k<sup>w</sup> b d<sup>v</sup> d<sup>z</sup> d g mb nd<sup>v</sup> nd<sup>z</sup> nd ŋg m m<sup>w</sup> n<sup>v</sup>  
 n ŋ θ s v ð z ř<sup>v</sup> ř l w y. The vowel phonemes appear to be: a æ e i ɔ ʌ u w œ ü ə. Vowel length is phonemic. A considerable number of diphthongs are found, but clusters of more than two vowels seem to be absent. The suprasegmental system appears to manifest itself as a fairly complex stress system with rhythm principles, but no tonal system appears to be present. The syllable structure seems to be somewhat less complex than in the Nambu Sub-Family, but shows more complicated syllable-boundary clustering. Open syllables predominate more than in the Nambu Sub-Family, though closed syllables are still common. Double-closed syllables occur finally, but are limited to nasal + stop. Amongst syllable-boundary clusters of two consonants, stop or nasal or -r + stop or nasal or s-, stop + r- or l-, -s + stop, -r + θ- or v-, -l + v-, and -v + r- occur. Amongst syllable-boundary clusters of three consonants, -řtř has been found. Word-finally, stops, nasals and -ř are common, as well as nasal + stop as has been mentioned above.

The morphology shows a distinction between masculine and feminine gender in the third person through the appearance of distinct object prefixes according to the sex of the object if the latter is a human being or an animal of a certain kind (e.g. a pig). Also, some verbs such as "come" have different subject markers in the third person according to whether the subject refers to a male or female person. No gender distinction is present in the pronominal system. In the verb morphology, three numbers, singular, dual and plural, are present, and traces of a trial number are found. In the pronoun system, only singular and plural forms are met with. The pronoun system is also defective in having only one basic form for the third person singular and plural. Possession is denoted through the preposing of the person pronouns which carry special suffixes to indicate possession. An ergative is present,



and several noun (and pronoun) suffixes are found indicating local relationships. Adjuncts precede the words which they determine.

The verb morphology is complex. Most verbs have double stems, the first of them often a noun. The first syllable of the verb forms undergoes changes to denote tense. The verb stem shows no changes in accordance with the number of the object. There are at least three past tenses, but only one future, and a present. Tenses are indicated by the changes in the initial syllable of verb-forms and in addition by suffixes and changes in the suffixes denoting the number of the subject and object. The person of the subject is in part marked by suffixes, which are, however, defective. It is also shown by subject-object portmanteau prefixes. Some intransitive verbs have subject prefixes. The number of the subject is denoted by the shape of the subject affixes, or by special suffixes. The person of the object is indicated by the subject-object portmanteau prefixes, and its number by suffixes. The negative is denoted by particles and there are traces of a negative conjugation. Imperative forms are relatively simple.

### 3.35.13. The Yey Sub-Family

The Yey Sub-Family consists of the sub-family level isolate Yey which is spoken in several dialects in southeastern West Irian in a number of villages in the Upper Maro River area, west of the Australian border and in the Trans-Fly in the village of Kwari, north of the Tonda Sub-Family and west of the Suki areas. The total number of the speakers of Yey is about 1,000.

Lexically, Yey is a member of the Morehead and Upper Maro Rivers Family only through sharing 30% cognates with Kanum which provides a chain through which it can be included in the Family, because with one exception all its cognation percentages with other members of the family lie below 28% (see 3.35.2.), the lower limit of percentage figures diagnostic for inclusion into the same family of languages sharing them. The one exception is constituted by Iauga (Parb) with which Yey shares 28%. This is a very surprising figures, because with Nambu of which Iauga (Parb) is a dialect, Yey shares only 21%. An explanation for this unexpectedly high cognation of Yey with that member of the Morehead and Upper Maro Rivers Family which is geographically farthest removed from the Yey-speaking area may perhaps be offered by the fact that, according to Williams (1936), the village of Buji (Bugi), at the mouth of the Wai Kussa virtually opposite the village of Iauga, used to be a resort of refugees from different areas. While it may be to far-fetched to assume that Yey



refugees lived there, the equally high figures of 28% for Iauga-Kanum - the same as that for Iauga-Tonda though Tonda is geographically closer to Iauga - suggests some connection between speakers of Iauga, and of the West Irian members of the Morehead and Upper Maro Rivers Family.

Typologically and structurally, Yey is very much like the languages of the Tonda Sub-Family, except that an ergative is present in a rudimentary form only, and its pronoun system is defective in having only one form for the third person singular and plural forms, as well as another single form for the second person singular and plural forms, as is the case with languages of the Nambu Sub-Family (see above). There is considerable formal agreement between Yey morphemes and morphemes encountered in languages of the Tonda Sub-Family.

#### 3.35.14. The Moraori's Sub-Family

The Moraori Sub-Family consists of the sub-family level isolate Moraori which in the early 1950's was spoken only by the 40 or so inhabitants of the village of Mbur, situated about ten miles east of Merauke.

Like Yey, Moraori is lexically a member of the Morehead and Upper Maro Rivers Family only by virtue of its sharing 30% cognates with Kanum which provides a chain through which it can be included in the family. However, its cognation percentage figures with other members of the family are very considerably lower than those shared by Yey with members of the family, and the percentage of cognates which it shares with Yey is only 25. This, and its typological and structural differences from the other members of the family (see below) may make it seem likely that a more realistic classification of Moraori may be to give it the status of an independent family-level isolate within the Trans-Fly Stock (see 3.2.).

Phonologically, Moraori appears to be similar to Yey and the languages of the Tonda Sub-Family. In its morphology, it shows a distinction between masculine and feminine gender in the third person through the appearance of distinct object markers according to the sex of the object if it is a human being. These markers are formally identical with the comparable markers found in languages of the Eastern Trans-Fly Family (see 3.33.3.). No gender distinction is present in the pronoun system. In the verb morphology, three numbers, singular, dual and plural, are met with. It is not clear whether a trial number may be expressed in it. In the pronoun system, only singular and plural forms are present. Possession is indicated by the preposing of the personal pronouns to which special suffixes are added to express possession. The presence of an ergative



seems doubtful. Several noun (and pronoun) suffixes are present to denote local relationships. Most adjuncts precede the words which they determine, but some follow such words.

The verb morphology is of considerable complexity. The most prominent feature in it is the appearance of quite different stem forms for different numbers of the object and the subject, a feature which is strongly reminiscent of characteristics of the languages of the Eastern Trans-Fly Family (see 3.33.3.), and to a lesser extent of those of the Tirio (see 3.32.3.) and Kiwai Families (see 3.31.3.). There are three past tenses, but only one future and a present. Tenses are indicated by changes in the subject suffixes. The person and the number of the subject are marked by suffixes, in part defectively. The person of the object is indicated by suffixes, infixes, or prefixes and its number by the shape of these affixes. The negative is indicated by a particle, and a negative conjugation is present. Imperative forms are simple.

### 3.35.2. Internal Relationships of the Languages of the Morehead and Upper Maro Rivers Family

The lexical interrelationship of the languages of the Morehead and Upper Maro Rivers Family is demonstrated by the table of lexicostatistical percentage figures given below:

#### Nambu

83	Iauga (Parb)							
62	51	Dorro						
41	34	33	Upper Morehead (Rouku)					
33	35	37	71	Lower Morehead (Peremka)				
35	28	31	60	55	Tonda			
26	28	25	39	39	40	Kanum		
21	28	22	25	25	24	30	Yey	
19	18	15	22	22	21	30	25	Moraori

Of particular interest in this table are:

a) The comparatively low figure of 51% for Dorro-Iauga in contrast to the Dorro-Nambu figure of 62% if it is taken into account that Nambu and Iauga share 83% cognates and are dialects of one language. No satisfactory explanation is available for this phenomenon, except a suggestion that the special stratification of Iauga vocabulary through the intake of loan-words from refugees (see 3.35.13.) may be responsible for this skewed picture.



b) The comparatively high figure of 41% for Upper Morehead (Rouku)-Nambu which has obviously been inflated by loan-words.

c) The comparatively high figures for Iauga-Kanum and Iauga-Yey (in contrast to the figures of cognates shared by Kanum and Yey with other members of the Nambu Sub-Family) have already been commented on in 3.35.13., as have the figures relevant for the inclusion of Yey, and perhaps Moraori, into the Morehead and Upper Maro Rivers Family (see 3.35.13. and 3.35.14.).

### 3.35.3. Typological and Structural Features of the Languages of the Morehead and Upper Maro Rivers Family

As will be seen from a comparison of the discussion of the typological and structural features of the various sub-families of the Morehead and Upper Maro Rivers Family (see 3.35.11.3., 3.35.12.3., 3.35.13., 3.35.14.), the languages of this Family except Moraori, are typologically and structurally very similar, the only important difference between them being the presence of some gender distinction in the members of the Tonda and Yey (and also Moraori) Sub-Families in contrast to those of the Nambu Sub-Family. The attention of the reader may at the same time be drawn to the great similarity of the typological and structural features of the Nambu Sub-Family in particular, to those of the Pahoturi River Family (see 3.34.3. and 3.35.11.3.), and of some features of Moraori to those of the languages of the Eastern Trans-Fly Family and to a lesser extent, to those of the Tirio and Kiwai Families (see 3.35.14.).

### 3.4. INTERNAL RELATIONSHIPS WITHIN THE TRANS-FLY STOCK

To illustrate the degrees of interrelationship between languages included in the Trans-Fly Stock, the present writer has established a grid of lexicostatistical percentages of shared cognates of some of those languages on which he has collected materials himself. It is given in the table below:

#### Island Kiwai

21	<b>Tirio</b>								
17	45	<b>Aturu</b>							
29	21	22	<b>Bine</b>						
27	27	25	42	<b>Gidra</b>					
24	26	25	38	34	<b>Gizra</b>				
18	22	22	24	22	28	<b>Agöb</b>			
17	20	20	23	22	26	77	<b>Idi</b>		
18	18	19	17	18	19	25	24	<b>Nambu</b>	
19	20	19	17	19	17	17	17	35	<b>Tonda</b>



**Additional Figures:**

Island Kiwai - Miriam	27
Kanum - Agöb	21
Kanum - Yey	19
Kanum - Moraori	11

The following of these figures may call for some comment:

- a) The relatively high percentage figures for cognates shared by Island Kiwai with Bine, Gidra and Gizra may to some extent reflect inflation by borrowing, but apart from that they are indicative of the relatively close relationship of the languages of the Eastern Trans-Fly Family with those of the Kiwai Family.
- b) Of the unexpectedly high figures for Tirio-Gidra and Gizra (and Aturu - Gidra and Gizra). The ones referring to Gidra can be regarded as inflated by borrowing, but this would be difficult to assume for Gizra which is geographically removed from the Tirio Family area. It appears that there is a common lexical element in Gizra (and Gidra) and the languages of the Tirio Family which is absent from Bine (or supplanted in it by a Kiwai element).
- c) The high figures of Agöb-Gidra is probably attributable to inflation by borrowing.
- d) The relatively high percentage figures of cognates shared by Agöb and Idi with Nambu reflect the relatively close interrelationship between these languages rather than inflation by borrowing. It is remarkable in this connection that the percentage for Idi-Nambu is lower than that for Agöb-Nambu, though Idi is geographically closer to the Nambu area than Agöb.

### 3.5. TYPOLOGICAL AND STRUCTURAL FEATURES OF THE LANGUAGES OF THE TRANS-FLY STOCK

The languages of the Trans-Fly Stock display a good measure of typological and structural similarity, and share a considerable number of features. On the phonological level, they all share a suprasegmental system which manifests itself in a complex stress system with rhythm principles, and in addition, the languages of the Kiwai and Eastern Trans-Fly Families possess a two-tone system with usually low to very low functional load. The segmental phonologies are mostly quite complex, only the languages of the Kiwai Family have quite simple systems, and that of Bine of the Eastern Trans-Fly Family is also much simpler than those of



the other languages, though it is more complicated than those met with in the Kiwai Family.

On the morphological level, a large number of features are generally shared. These are: the distinction of at least three numbers: singular, dual and plural, in the verb morphology, with an additional trial number present either in full or at least in a rudimentary form or in traces. At the same time, the pronominal system usually shows only singular and plural forms. Only the languages of the Kiwai Family have forms for all numbers, but the dual and trial forms are clearly derived from the plural forms. The languages of the Nambu Sub-Family of the Morehead and Upper Maro Rivers Family possess dual and trial forms in their pronoun system, but they are rarely used. The pronoun systems of the languages of the Pahoturi and the Morehead and Upper Maro Rivers Families (except for Moraori) are also defective in having only one form for two distinct pronouns. In the first person plural of the pronoun system of the languages of the Eastern Trans-Fly Family, inclusive and exclusive forms are distinguished, and this distinction carries over into the indication of person with the verb. Possession is, in all the languages, indicated by the preposed personal pronouns which carry special suffixes to mark possession. An ergative is generally present, although it appears to be absent in the languages of the Tirio Family. In Moraori its presence is doubtful and in the languages of the Kiwai Family it is somewhat rudimentary. All languages have a number of noun and pronoun suffixes to indicate local relationships. In most languages, adjuncts precede the words which they determine, although in the languages of the Tirio Family and in Moraori some adjuncts are met with which follow such words.

In the complex verb morphology features shared by the languages include the indication of the person and number of the object with the verb though prefixes in all languages, with the partial exception of Moraori and the languages of the Kiwai Family, and in some cases in combination with suffixes. In Moraori, the object is indicated through prefixes with some verbs, but other verbs have object suffixes or infixes. In the languages of the Kiwai Family, the indication of the person of the object is rudimentary. The object prefixes are in all languages to some extent subject-object portmanteau prefixes. In addition to the partial marking of the subject through these prefixes and, especially with intransitive verbs - and in the languages of the Kiwai Family in most instances - through pure subject-prefixes, all languages, except those of the Tirio Family, have suffixes to mark at least the number, if not the person, of the subject. Subject-person suffixes are absent in the languages of the Kiwai and Tirio Families, in Miriam and in part in



Gizra of the Eastern Trans-Fly Family, and are defective in the languages of the Morehead and Upper Maro Rivers Family, except for Moraori. The number of the object is in all languages, except Moraori, indicated by suffixes (in the languages of the Tirio Family by affixes including suffixes). However the languages of the Kiwai, Tirio, and Eastern Trans-Fly Families, and Moraori, show changes in the forms of the stems of the verbs in accordance with the number of the object, and in some cases also with the number of the subject. In those of the Pahoturi River Family only a few rudimentary changes of this kind occur. All languages have a number of past tenses, but all of them, except those of the Kiwai Family, have basically only one future and present. In the languages of the Pahoturi River, and the Morehead and Upper Maro Rivers Families, tenses are indicated through changes in the first syllable of the verb forms irrespective of whether they are part of the verb stem, or prefixes. In addition, tenses are indicated in these families through suffixes, and through changes in the suffixes denoting the number of the subject and the object. Similar indication is to some extent present in the languages of the Kiwai and Eastern Trans-Fly Families: in the former, tenses are denoted in part by tense forms of the subject prefixes, and in part through suffixes and tense-forms of the suffixes denoting the number of the subject. In the languages of the Eastern Trans-Fly Family, tenses are denoted predominantly through suffixes, as well as by tense-forms of the suffixes indicating the number of the subject and the object. Tense-forms of the subject-object portmanteau prefixes play only a very minor part. In the languages of the Tirio Family, tenses are denoted by tense-forms of the subject prefixes, as well as through suffixes and particles. In Moraori, tenses are indicated by tense-forms of the subject suffixes.

A very important feature of the majority of the languages of the Trans-Fly Stock is the distinction between two genders, masculine and feminine. This feature is present in the languages of the Eastern Trans-Fly and Tirio Families, and of the Tonda, Yey and Moraori Sub-Families of the Morehead and Upper Maro Rivers Family. However, in all these languages, except for those of the Tirio Family, the indication of gender is limited to the marking of the third person object with verbs, and to the subject marking of a few verbs. No gender distinction is present in the pronoun systems. Only in the languages of the Tirio Family, is gender distinction present in the third person in the pronoun system, and in the subject and object indication with the verb.



Of the other features of the verb, the fact may be mentioned that in all the languages, the negative is indicated by a particle, and in most languages, except apparently those of the Pahoturi River Family, there are traces of a negative conjugation. Full negative conjugations are present in the languages of the Kiwai and Tirio Families, and in Moraori. Imperative forms are simple in the languages of the Pahoturi, and the Morehead and Upper Maro Rivers Families, but there are several imperatives in those of the Kiwai, Tirio and Eastern Trans-Fly Families.

When assessing the typological and structural features of the languages of the Trans-Fly Stock as a whole, it is evident that they share a considerable number of features. With regard to those features which are not generally shared, a clear separation exists between the languages of the Pahoturi, and Morehead and Upper Maro Rivers Families (except for Moraori) on the one hand, and those of the Kiwai, Tirio and Eastern Trans-Fly Families on the other, with Moraori siding in part with this second group. The languages of the Kiwai and Tirio Families, and Moraori, are in some ways aberrant, and those of the Eastern Trans-Fly Family have also a few aberrant features. The most prominent features of the first group are: changes in the initial syllable of verb forms for tense; no changes in the verb stem according to the number of the object or the subject (except for a few traces of this in the languages of the Pahoturi Family); defectiveness of the mostly limited pronoun system through the presence of only one form for two different pronouns; and simple imperatives. The absence of a two-gender system in the languages of the Pahoturi Family and the Nambu Sub-Family of the Morehead and Upper Maro Rivers Family may be mentioned in passing. The pronouns in the languages of this first group display far-reaching formal similarity. On the phonological level, all these languages appear to lack a tonal system.

The second group is typologically and structurally less homogeneous than the first. Its most prominent features are the presence of stem changes according to the number of the object (and sometimes also the subject), the absence of the defectiveness of the pronoun system which is characteristic of the languages of the first group, and the presence of more than one imperative. Moraori shares the first of these two features. A two-gender system is present in the languages of the Eastern Trans-Fly and Tirio Families, and constitutes a full system in the latter. It is lacking in the languages of the Kiwai Family. At the same time, the languages of the Kiwai and Tirio Families have full negative conjugations - in those of the Eastern Trans-Fly Family, only traces of it are present. Moraori also has a full negative conjugation, and it may be mentioned



that the gender markers in the Moraori verb are formally identical with those met with in the languages of the Eastern Trans-Fly Family. The pronoun systems of this second group display very much less formal similarity than is the case with the pronoun systems of the first group, and they also show little similarity with those of the first group, except for Moraori. On the phonological level, the languages of the Kiwai and Eastern Trans-Fly Families possess a two-tone system of generally very low functional load, but it appears to be absent from the languages of the Tirio Family.

Of the aberrant features of the languages of the Kiwai Family, the following may be mentioned: a rudimentary system of indication of the person of the object by prefixes; the distinction of only two persons, speaker and non-speaker, in the verbal system (three persons are distinguished in the pronoun system); the presence of three future tenses; perhaps the absence of a gender system; and the presence of a comparatively simple phonology. The most prominent aberrant features of the languages of the Tirio Family are the absence of suffixes to mark the number of the subject and object, and the complete limitation of the subject-marking to prefixes. Also, the presence in it of a full two-gender system in the third person both in the pronoun system and in the marking of person with the verb, is exceptional for the languages of the Trans-Fly Stock.

The most striking aberrant feature of Moraori is the appearance of object suffixes and infixes (though the object prefixes characteristic of the languages of the Trans-Fly Stock are also found with some verbs) and the exclusive marking of the subject through suffixes.

An unusual feature of the languages of the Eastern Trans-Fly Family is the presence of inclusive and exclusive forms in the first person plural, both in the pronoun system and the person marking system with the verb.

### 3.6. WIDER CONNECTIONS OF THE LANGUAGES OF THE TRANS-FLY STOCK, AND CONCLUDING REMARKS

The languages which have now been included in the newly established Trans-Fly Stock were recognised by Voorhoeve (1968) as forming parts of the Central and South New Guinea Phylum established by him. This phylum was included by the present writer into the Central New Guinea Macrophyllum (Wurm 1970a). The inclusion of the old Central and South New Guinea Phylum into the wider Trans-New Guinea Phylum (McElhanon and Voorhoeve 1970) and the replacement of the Central New Guinea Macrophyllum by an expanded version of the Trans-New Guinea Phylum by the present writer makes the languages of the Trans-Fly Stock members of the largest group of interrelated Papuan languages established to date.



Amongst the stock-level members of the old Central and South New Guinea Phylum, the Yelmek-Maklew (or Bulaka River) Stock-level Family (Voorhoeve 1968) may be more closely related to the Trans-Fly Stock than some other stocks, though the level of lexical relationship between the two is not very high as is evidenced by lexicostatistical percentages averaging around 9%. However, there are several significant typological and structural similarities between members of the two stocks (Boelaars' 1950) and formal similarities of morphemes. Apart from this stock, a relatively close relationship of the Trans-Fly Stock is possible with the Suki-Gogodala Stock (Voorhoeve 1970, see also 2.4.).

Viewing the languages of the Trans-Fly Stock from the point of view of linguistic prehistory, it seems likely that the Kiwai languages were originally immigrant languages from the Upper Fly River area. Connections between them and the Upper Fly River languages had been pointed out by the present writer two decades ago (Wurm 1951), and the likelihood of the Kiwai speakers coming originally from the Upper Fly River area has recently been strongly substantiated by Voorhoeve (personal communication). It seems that the Kiwai speakers have reached the Fly Delta area as a wave of the expansion of the Trans-New Guinea Phylum speakers from the hub-area of New Guinea (Wurm 1972) which travelled down the Fly. In close and prolonged contact with speakers of Trans-Fly languages, especially those of the present Eastern Trans-Fly Family, features and lexical elements from those languages entered the Kiwai languages making them, from the present-day point of view, members of the Trans-Fly Stock, though with aberrant typological and structural features. The influence appears to have gone the other way as well, and the special case of Wabuda has already been mentioned in 3.31.12. Kiwai influence also seems to have been strong in the case of Bine whose phonology is remarkably simpler, and much more similar to that of the Kiwai languages, than those of the other members of the Eastern Trans-Fly Family to which Bine belongs.

The other languages of the Trans-Fly Stock constitute a rather aberrant block, from the typological and structural point of view, within the languages of the old Central and South New Guinea Phylum, and the Trans-New Guinea Phylum as a whole. Their defective pronoun systems, the rudimentary gender system in many of them, the changes of the verb stems in accordance with the number of the object which is found in a number of them, the changes of the first syllable of the verb forms for tense which is a feature of others, and the forms of their pronouns and person-markers with the verbs, constitute features which put them rather apart from most of the languages of the old Central and South New Guinea Phylum,



and the Trans-New Guinea Phylum as a whole. Also, they lack some of the features which are very widespread amongst the Trans-New Guinea Phylum languages, such as special medial verb forms. All this may make it seem justified to see in them remnants of pre-Trans-New Guinea Phylum languages located at one of the extremities of the spread of the Trans-New Guinea Phylum languages through the New Guinea Mainland (Wurm 1972), but influenced by the Trans-New Guinea Phylum languages to a point where they can be regarded as, even if in many ways aberrant, members of the Trans-New Guinea Phylum.

Within the Trans-Fly Stock, the presence of striking typological, structural and also formal similarities between Moraori at the western and languages of the Eastern Trans-Fly Family at the eastern extremity of the area covered by the stock, constitutes a puzzle for which no immediate answer offers itself. It may well be some connection with the past raids of the Kiwa head-hunters in the east, the Suki and Lake Murray head-hunters in the north, and those of the Marind head-hunters in the west and from the south which gave rise to population movements in the Trans-Fly on a remarkable scale, as seems likely from the knowledge which we have of such events towards the end of the last century (Williams 1936). The fact that the small village of Mbur with its 40 or so Moraori speakers is completely separated from the main body of the speakers of Trans-Fly Stock languages, with the nearest typological and structural relatives of the Moraori language far to the east, may make it possible to look upon the Moraori speakers as refugees from some distant place.



## N O T E S

1. To avoid confusion in the minds of the readers, an explanation of the terms "family-level" and "stock-level" may be appropriate seeing that each of these terms refers to two distinct levels of hierarchy according to the context in which they are used. "Family level isolate" denotes a single language which by itself constitutes a family, i.e. is on the level of being a family by itself. Conversely, "stock-level isolate" refers to a language which constitutes a stock by itself. By implication, a "stock-level family" is a group of at least two languages whose relationship to each other is close enough for them to constitute a family, but this family constitutes a stock by itself, without other languages entering into the composition of the stock. In other words, from an external point of view, such a family occupies the level of a separate stock within a phylum.

At the same time, "family-level (inter)relationships" refers to a degree of relationship between two or several languages which is on a level characteristic of the interrelationships between members of a single family. Similarly, "stock-level (inter)relationships" denotes a degree of relationship typical of that between family-level members of one stock. In the same light, "language-level (inter)relationships" are those characteristic of members of one language, i.e. of dialects, and "phylum level (inter)relationships" are those observed when comparing different stock-level members of the same phylum.

2. The exact classificatory position of the Kiwai languages located north of the Fly Delta area is under study, and no extensive details will be given here.

3. In Voorhoeve 1970, the language of a tribe called Ngowugar by Nevermann (1939) and described as the western neighbours of the Suki, is regarded as a member of Voorhoeve's Bensbach-Morehead Family within the frame work of his 1969-70 classification (see 2.4.). However, it has now been found that this language which is spoken by the inhabitants of the present-day village of Kwari, far to the north of the Tonda language area,



and west of the Suki, is a dialect of Yey, with some Kanum affiliations. As such, it belongs to Ec) in the present writer's classification of the Trans-Fly Stock languages, and not to Eb).

4. These figures include speakers of Island Kiwai living in the "village corners" in Daru.

5. These figures include speakers of the Doumori dialect living in the "village corners" in Daru.

6. These figures include speakers of Coastal Kiwai living in the "village corners" in Daru.

7. This figure includes speakers of Wabuda living in the "village corners" on Daru.

8. This figure includes Bamu Kiwai speakers living in the "village corners" in Daru.

9. This figure includes Bine speakers living in the "village corners" in Daru.



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