PAPERS IN NEW GUINEA LINGUISTICS No. 8

by

C.L. Voorhoeve

K.J. Franklin

G. Scott

PACIFIC LINGUISTICS

The Australian National University

TABLE OF CONTENTS

CORRIGENDA

The name of the Phylum appears erroneously as
'South and Central New Guinea Phylum' on pages 3
(1.5. fourth line), 8 (3. title), 16 (map); and as
'South and West New Guinea Phylum' on page 10 (3.3.
last line). In all these cases one should read:
'Central and South New Guinea Phylum'.

THE CENTRAL AND SOUTH NEW GUINEA PHYLUM

A Report on the Language Situation in South New Guinea

C. L. VOORHOEVE

1. INTRODUCTION

1.0 In this report the writer presents the preliminary results of a lexicostatistical comparison of forty-one languages spoken in the plains of South New Guinea. It appears that some of these languages form a single stock, and that the remaining languages form, with this stock, one large phylum which stretches from Etna Bay in the west to the Papuan Gulf in the east, including a portion of the highlands in the interior of New Guinea and a number of islands in the Torres Straits.

1.1. By the end of 1966 our knowledge of the linguistic situation in the southern lowlands of New Guinea permitted us to distinguish nine groups of languages:[1]

1. The Kamoro-Sempan-Asmat group (Drabbe 1953)
2. The Awyu[2] languages (Drabbe 1959)
3. The Ok family of languages (Healey 1964)
4. The Awin-Pare group (Healey 1964)
5. The Kiwai group (Wurm 1951)
6. The Kunini-Oriomo group (Wurm, oral communication)
7. The Yaqay-Marind-Boazi group[3] (Boelaars 1950)
8. The Frederik-Hendrik Island languages (Drabbe 1949)
9. Yelmek-Maklew (Drabbe 1950)

Whether there existed genetic relationships between these groups was still unknown, and too little was known of the remaining languages to allow any classification.

1.2. During recent fieldwork in the Nomad area between the

1

Strickland River and the Southern Highlands it became clear
to the writer that the languages which he was studying -
Samo, Kubo, Bibo and Beami - were related to two mountain
languages, Bosavi and Fasu, spoken west of Lake Kutubu near
the border of the Southern Highlands. It also appeared that
there existed a genetic relationship with the Pare and Awin
languages to the west, with the Ok languages to the north-
west, and possibly even with languages as remote as Asmat
and Kamoro. Consequently this raised the question of the
possibility of genetic relationship between the Kamoro-
Sempan-Asmat group and the Ok languages.

These observations eventually led to the lexicostatis-
tical study the first results of which are presented below.

1.3. Publishing of results at this stage can have only a
limited aim: firstly, to show that genetic relationships
indeed appear to exist between a number of languages which
hitherto seemed unrelated; secondly, to give a tentative
classification of these languages to serve as a starting
point for further research.

To this end only the cognation percentages will be given
below, and not even an exhaustive list of these, but only
those which are needed to illustrate the point. The publi-
cation of lexical data and the discussion of the analytical
problems will have to wait till further progress has been
made.

1.4. The lexicostatistical counts have been made on the
basis of a version of Swadesh' 200-item list, adapted to the
specific New Guinean circumstances.[4] The critical cognation
percentages used in connection with this list are: 81% as
the lower limit for dialects belonging to the same lan-
guage, 28% as minimum percentage of languages belonging to
the same family, 12% as minimum percentage of language
families belonging to the same stock, and 5% as lower limit
for stocks belonging to the same phylum.

For every gloss in the list the whole field of comparable
lexical data was examined for probable cognates. The oc-
currence of regular sound changes was taken into account and
proto-forms were constructed where the date permitted it.
In this way the writer came to recognise many words as
cognates which at first seemed to be unrelated. Many of

the word lists available to the writer did not allow the full 200-item count. In order to make the percentages comparable to percentages obtained from a 200-item count, maximally 1% has to be subtracted for every 10 items counted less than 200.[5] Thus, if two word lists with 130 matching items show 40% shared cognates, the estimated percentage of shared cognates for the same lists, expanded to 200 matching items - the adjusted percentage - is (40%-7%=) 33% or a little more. In the section below three columns of figures will be given; the first shows the number of items counted, the second the percentage of shared cognates for that number, and the third the adjusted percentage. It goes without saying that 'cognates' stands for 'probable cognates' and 'cognation percentage' for 'percentage of probable cognates'.

1.5. In the following sections first a group of languages will be discussed which appear to form one large stock, the South and Central New Guinea Stock. Then a number of languages will be dealt with which can be combined with this stock into one phylum, the South and Central New Guinea Phylum. A list of sources, and references conclude the report.

2. THE SOUTH AND CENTRAL NEW GUINEA STOCK

2 1. Five language families and four isolated languages together form this stock:

> The Asmat-Awyu-Ok Family
> The Yaqay-Marind-Boazi Family
> The Pare-Samo-Beami-Bosavi Family
> The Kiwai Family
> The Oriomo River Family
> Fasu
> Gogodala[6]
> Tirio[6]
> Miriam

2.2. The Asmat-Awyu-Ok Family

This family consists of three major subgroups and one isolated language, Mombum. The subgroups are: Kamoro-

Sempan-Asmat, Awyu and Ok.

The Ok languages, established as a family by Healey (1964) appear to constitute a major subgroup of the much larger Asmat-Awyu-Ok Family, within which they have their closest relationship with Asmat.

Mombum is a border case; its closest relationship is with Asmat. Since it does not show comparably close links with any other language it has been provisionally included in the Asmat-Awyu-Ok Family.

A. Kamoro-Sempan-Asmat

Drabbe (1953) distinguishes six dialects within Kamoro but only in one of these, the Tarya dialect, he published sufficient lexical material to allow lexicostatistical comparisons to be made. Within Asmat five dialects can be distinguished (Drabbe 1963). They all share approximately 90% cognates. The Asmat figures are based on the 'Kawenak' or Central Coastal dialect since this dialect has been most fully described (Drabbe 1959a,b, 1963; Voorhoeve 1965).

Cognation percentages:

Kamoro - Asmat	152	74%	(70%)
Sempan - Asmat	200	72%	(72%)

B. Awyu

Drabbe (1959c) mentions six dialects: Syiagha, Yenimu, Pisa, Aghu, Kaeti and Wambon. These appear to be six different languages which fall into three groups: Syiagha-Yenimu, Pisa-Aghu, and Kaeti-Wambon.

Cognation percentages:

Syiagha - Yenimu	135	84%	(78%)
Pisa - Aghu	136	72%	(66%)
Kaeti - Wambon	135	70%	(64%)
Syiagha - Pisa	132	60%	(54%)
Pisa - Kaeti	137	44%	(38%)
Kaeti - Syiagha	137	37%	(31%)

For further counts Aghu has been selected to represent the subgroup. It seems to be relatively free of borrowings from the surrounding non-Awyu languages.

C. Ok

Since the internal relationships of the Ok languages have been described in detail by Healey (1964) and summarised by Wurm (1965) they will not be dealt with in this report. For the present purpose it should suffice to note that the Ok languages fall into two major groups, Mountain Ok and Lowland Ok. One language of each group has been included in the counts: Téléfol for Mountain Ok and Northern Kati[7] for Lowland Ok.

D. Cognation percentages on the Family Level:

Asmat - Teléfol	142	46%	(42%)
Asmat - Kati	155	33%	(30%)
Asmat - Aghu	156	37%	(34%)
Asmat - Mombum	156	31%	(28%)
Aghu - Kati	155	31%	(28%)
Aghu - Teléfol	142	32%	(28%)

2.2. The Yaqay-Marind-Boazi Family

Four languages belong to this family: Yaqay, North-west or Bian Marind, South-east Marind, and Boazi. Bian Marind, and South-east Marind constitute a subgroup. Boazi hovers on the borderline of family and stock but has been included in the family because it shares with Yaqay and Marind a feature of verb structure which sets them off from the surrounding languages: "The subject-index precedes the base" (Boelaars 1950, p 200).

South-east Marind is spoken in four dialects of which the Gawir dialect, spoken near Merauke, is the best known. This dialect has been used for the lexicostatistical counts.

Cognation percentages:

Bian - Gawir	200	67%
Yaqay - Gawir	200	30%
Yaqay - Bian	200	30%
Boazi - Gawir	200	27%
Boazi - Bian	200	26%
Boazi - Yaqay	200	21%

2.3. The Pare-Samo-Beami-Bosavi Family

There are four divisions:

A. Awin-Pare; B. Samo-Kubo-Bibo; C. Beami; and D. Bosavi.

A. Awin-Pare

The writer recorded two word lists of Awin, one each from the villages of Pampenae near Ningerum, and Drimska near Palmer Junction (Fly River). These samples will be referred to as West Awin and East Awin.

The Pare language is reported to consist of five dialects.[6] Of these, the easternmost or Ba dialect is the only one sufficiently studied by the writer to be included in the lexicostatistical comparison.

Cognation percentages:

West Awin	East Awin	82	85%	(74%)
West Awin	Ba	101	50%	(41%)
East Awin	Ba	102	45%	(36%)

Because of the limited size of the Awin word lists it cannot be clearly established whether West Awin and East Awin constitute dialects or separate languages. The lists have not been used for further counts.

B. Samo-Kubo-Bibo

This group also comprises two other languages, Alibu and Aibe, which seem to be most closely related to Bibo.

Cognation percentages:

Samo	Kubo	160	82%	(80%)
Samo	Bibo	160	80%	(80%)

Cognation percentages on the Family level:

Samo	Ba	153	36%	(32%)
Samo	Beami	138	35%	(29%)
Kubo	Beami	131	35%	(29%)
Bibo	Beami	131	43%	(37%)
Beami	Bosavi	79	40%	(29%)
Beami	Ba	112	25%	(18%)

2.4. The Kiwai Family

The Kíwai Family has been well established by Wurm (1951). As with the Ok languages no cognation percentages will be given for the languages within the family. For comparisons with languages outside the family the best known dialect, Island Kiwai of the Southern Kiwai language, has been used.

2.5. The Oriomo River Family

Three languages make up this family: Bine (Ray's Kunini), Gidra and Gizra.

Cognation percentages:

Bine - Gidra   80   43%   (32%)

Approximately the same percentage of cognates is shared by Gizra and Bine, Gizra and Gidra.[9]

2.6. Cognation Percentages on the Stock Level

Five more languages enter the comparison at this stage: Fasu, Gogodala, Tirio, Agöb (Ray's Dabu), and Miriam.[10] None of these seems to have lower level relationships with any other language.[11]

Asmat - Bian	155	14%	(12%)
Kati - Bian	154	15%	(12%)
Teléfól - Bian	141	16%	(12%)
Aghu - Bian	155	19%	(15%)
Kati - Ba	148	25%	(21%)
Teléfól - Ba	132	30%	(24%)
Teléfól - Samo	140	28%	(23%)
Beami - Fasu	108	20%	(12%)
Bosavi - Fasu	64	32%	(19%)
Ba - Gogodala	136	19%	(14%)
Samo - Gogodala	136	19%	(14%)
Kiwai - Gogodala	145	24%	(21%)
Kiwai - Ba	142	23%	(19%)
Kiwai - Samo	142	21%	(17%)
Kiwai - Kati	151	21%	(17%)

Kiwai - Teléfól	140	27%	(22%)
Kiwai - Bian	151	16%	(12%)
Agöb - Bine	⸱147	19%	(16%)
Miriam - Bine	200	23%	
Kiwai - Bine	200	20%	
Kiwai - Tirio	200	22%	
Kiwai - Miriam	200	27%	

3. THE SOUTH AND CENTRAL NEW GUINEA PHYLUM

3.1. To the south a number of languages are found which show phylum-level relationships with the South and Central New Guinea Stock. They can be divided into:

        A. The Frederik-Hendrik Island group
        B. Yelmek-Maklew
        C. Yey-Kanum-Moraori
        D. The Morehead River group

A. The languages spoken on Frederik-Hendrik Island are Kimaghama, Riantana and Ndom. They form one family.

Cognation percentages:

Kimaghana - Riantana	186	44%	(43%)
Riantana - Ndom	184	33%	(32%)
Ndom - Kimaghama	184	40%	(39%)

B. Yelmek and Maklew, on the eastern side of Marianne Strait also form one family.

Cognation percentage:

Yelmek - Maklew	200	58%

C. Yey, Kanum and Moraori, bordering on South-east Marind in the east, seem to form one stock. However, the percentages may be inflated by shared borrowings from South-east Marind.

Cognation percentages:

Yey - Kanum	200	17%
Yey - Moraori	200	18%
Kanum - Moraori	200	18%

D. The Morehead River Group corresponds with Ray's Bangu, Sanana and Parb groups (Ray 1923), and with Williams' Morehead-Bensbach and Mai Kussa-Morehead groups (Williams 1936). The divisions within this group are still not clear, but the three wordlists available show three languages forming one family, possibly with two subgroups following the division given by Williams. The lists are from Peremka in the western, Dorro in the central, and Parb in the eastern part of the area.

Cognation percentages:

Peremka - Dorro	118	35%	(28%)
Dorro - Parb	80	58%	(47%)
Peremka - Parb	86	33%	(23%)

3.2. Cognation Percentages on the Phylum Level:

Kimaghama - Mombum	187	12%	(11%)
Kimaghama - Gawir	123	10%	(7%)
Yelmek - Yaqay	200	8%	(8%)
Yelmek - Gawir	200	9%	(9%)
Yey - Gawir	124	14%	(10%)
Kanum - Gawir	122	12%	(8%)
Moraori - Gawir	124	28%[12]	(24%)
Agöb - Parb	105	14%	(9%)
Agöb - Dorro	122	14%	(10%)
Agöb - Peremka	116	10%	(6%)
Kimaghama - Yelmek	190	11%	(10%)
Kimaghama - Yey	126	13%	(9%)
Kimaghama - Kanum	126	14%	(10%)
Kimaghama - Moraori	126	13%	(9%)
Kimaghama - Peremka	87	5%	(3%)
Kimaghama - Agöb	101	7%	(4%)
Kimaghama - Bine	110	8%	(5%)

3.3. The Goliath Family

To the north, in the highlands east of the Baliem River, the languages of the Goliath Family are spoken. This language family has been established by Bromley (1967); it includes Wanam, Naltje (T-Valley), Korappun (Erok Valley), and

the language of Mount Goliath.

The only lexical data on these languages published so far is the short word list of the Mount Goliath language collected by De Kock (1912).

Healey (1964, p.116) using this list found 10% possible cognates with the Ok languages. Bromley (1967) however denied the existence of a genetic relationship between the Ok and the Goliath languages.

Looking through De Kock's word list the present writer arrived at the following results which fully confirm Healey's findings:

> Number of items compared: 60
> Possible cognates with Teléfól: 15
> Possible cognates with Kaeti: 12
> Possible cognates with Asmat: 8.

De Kock's word list is too short to allow calculation of meaningful percentages, but the indications of genetic relationship with Teléfól, Kaeti and Asmat appear to be clear enough to warrant the inclusion of the Mount Goliath language - and consequently, of the Goliath family - in the South and West New Guinea Phylum.

4. LIST OF SOURCES

Drabbe	1949	Kimaghama, Riantana, Ndom
"	1950	Mombum, Yelmek, Maklew
"	1953	Kamoro, Sempan
"	1954	Yaqay, Marind, Boazi, Yey, Kanum, Moraori
"	1955	Marind
"	1959a,b	Asmat
"	1959c	Syiagha, Yenimu, Pisa, Aghu, Kaeti, Wambon, Northern Kati
"	1963	Asmat
Healey	1964	Teléfól
De Kock	1912	Mt Goliath Language
Ray	1932	Kiwai
Riley - Ray	1930	Gogodala, Tirio, Kiwai, Bine (Kunini), Agöb (Dabu), Parb, Dorro, Peremka

Summer Institute
of Linguistics,
 Survey word list Fasu, Bosavi

Writer's own
 data on   Asmat, Awin, Ba, Samo, Kubo, Bibo, Beami,
                  Gogodala and Kiwai

Wurm, oral com-
 munication   Kiwai, Miriam, Tirio, Gidra, Gizra

5. REFERENCES

Boelaars, J.H.M.C.
   1950   *The Linguistic Position of South-Western New
          Guinea.* Leiden: E.J. Brill.

Bromley, M.
   1966   "The Linguistic Relationships of Grand Valley
          Dani: A Lexico-Statistical Classification",
          Oceania, 37:286-308.

Drabbe, P.
   1949   "Bijzonderheden uit de talen van Frederik-Hendrik
          eiland: Kimaghama, Ndom en Riantana", *Bijdragen
          tot de Taal-, Land- en Volkenkunde,* 105:1-24.

   1950   "Talen en Dialecten van Zuid-West Nieuw Guinea",
          Anthropos, 45:545-74.

   1953   *Spraakkunst van de Kamoro-taal.* Den Haag: Mar-
          tinus Nijhoff.

   1954   "Talen en Dialecten van Zuid-West Nieuw Guinea",
          Micro-Bibliotheca Anthropos, 11. Posieux/Fribourg,
          Zwitserland.

   1955   *Spraakkunst van het Marind.* Wenen, Mödling.

   1959a *Grammar of the Asmat Language.* Syracuse, Indiana,
          Our Lady of the Lake Press

   1959b *Dictionary of the Asmat Language.* Syracuse,
          Indiana, Our Lady of the Lake Press

   1959c *Kaeti en Wambon, twee Awju-dialecten.* Den Haag,
          Martinus Nijhoff.

   1963   "Drie Asmat-Dialecten", *Verhandelingen van het*

*Koninklijk Instituut voor Taal-, Land- en Volken-
kunde* 42. Den Haag, Martinus Nijhoff.

Healey, A.
1964   *The Ok language family in New Guinea.* Ph.D.
Thesis, Canberra.

Kock, A.C. de
1912   "Eenige ethnologische en anthropologische gegevens
omtrent een dwergstam in het bergland van Zuid
Nieuw-Guinea", *Tijdschrift Aardrijkskundig Genoot-
schap*, 29:154-70.

Murray, J.W.P. and Ray, S.H.
1918   "The people and language between the Fly and
Strickland Rivers, Papua", *Man*, 18:40-45.

Ray, S.H.
1923   "The languages of the Western Division of Papua",
Journal of the Royal Anthropological Institute,
53:332-60.

1932   *A Grammar of the Kiwai Language, Fly Delta.* Port
Moresby.

Riley, E.B and Ray, S.H.
1930   "Sixteen Vocabularies from the Fly River, Papua",
Anthropos, 25:173-94, 831-50.

Thomas, D. and Healey, A.
1962   "Some Philippine Language Subgroupings: A Lexico-
statistical Study", *Anthropological Linguistics*,
4(9):21-33.

Voorhoeve, C.L.
1965   "The Flamingo Bay Dialect of the Asmat Language",
*Verhandelingen van het Koninklijk Instituut voor
Taal-, Land- en Volkenkunde* 45. Den Haag, Mar-
tinus Nijhoff.

Williams F.E.
1936   *Papuans of the Trans-Fly.* Oxford, At the Claren-
don Press.

Wurm, S. A.

1951   "Studies in the Kiwai Languages, Fly Delta, Papua,
        New Guinea", *Acta Ethnologica et Linguistica* 2.
        Vienna.

1960   "The Changing Linguistic Picture of New Guinea",
        Oceania, 31:121-36.

1965   "Recent Comparative and Typological Studies in
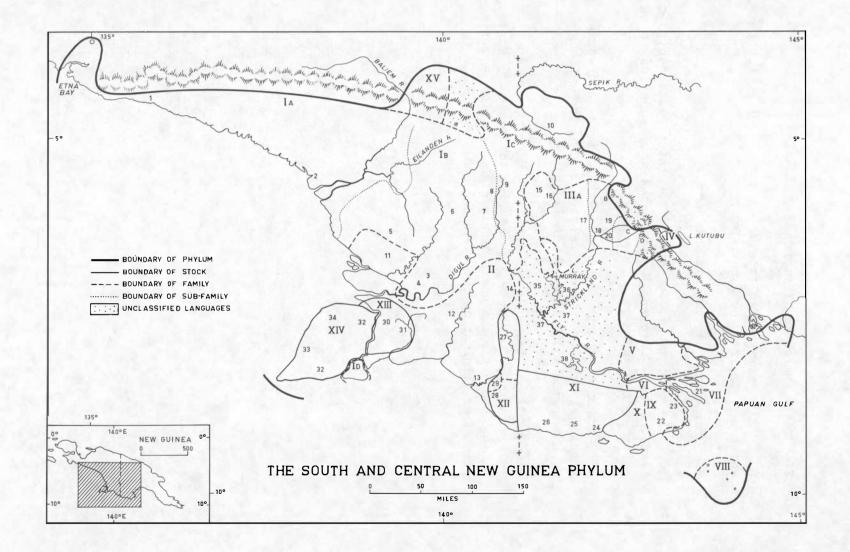   Papuan Languages in Australian New Guinea",
        Lingua 15, 373-99.

NOTES

1. The location of the languages and their groupings are shown on the map added to this report.

2. Drabbe's Dutch spelling of language names has been adapted to the English spelling by replacing **j** with **y**.

3. A short word list of a language spoken near Lake Murray (Kuni) was published by Ray (Murray and Ray 1918) who noted the clear lexical relationship which it shows with Gawir Marind. However, to state that "the Marind-Kuni family was first identified by Murray and Ray" (Healey 1964, p.108) seems to the writer a too broad interpretation of Ray's remarks.

   Three other languages in the same general area seem to link with Marind: Zimakani, Dea and Suki, but no published material is available to assess their relationships.

4. The need to adapt the Swadesh list to the special conditions encountered in New Guinea has been discussed by Wurm (1960, p.125) and more recently by Bromley (1966).

5. According to Thomas and Healey (1962), who do not mention how they arrived at this figure. Several checks made by the writer on wordlists used for this study confirmed that the maximum subtraction value (SV) is indeed 1%; for the majority of cases the actual value was found to be approximately $\frac{1}{2}$%. Furthermore it has to be noted that the 1% maximum SV does not hold for cognation percentages lower than 20%. For instance, for 10% shared cognates the maximum SV is $\frac{1}{2}$% as can be easily seen: if in the 100-item count 10% cognates is found, the minimum percentage cognates of the 200-item count will be 5%, and not 0%.

6. In the light of information available at present, Gogodala and Tirio may each constitute a small family.

7.   Drabbe called this language Kati Ninati.

8.   Oral communication from Mr Cochrane, U.F.M. Debepare, and later confirmed by Pare informants.

9.   Oral communication from S.A. Wurm.

10. The information concerning the interrelationships of Kiwai, Bine, Tirio and Miriam was kindly supplied to the writer by S.A. Wurm.

11. However, according to S.A. Wurm, Tirio is presumably identical with or closely related to the Mutum language spoken to the south along the Bituri River.

12. Drabbe (1954, p.1) mentions that Moraori - at the time spoken by only 40 people - is heavily influenced by Marind. This accounts for the unexpectedly high cognation percentage even after eliminating the obvious loans.

THE SOUTH AND CENTRAL NEW GUINEA PHYLUM

BOUNDARY OF PHYLUM
BOUNDARY OF STOCK
BOUNDARY OF FAMILY
BOUNDARY OF SUB-FAMILY
UNCLASSIFIED LANGUAGES

NEW GUINEA

MILES

LEGEND

I. THE ASMAT-AWYU-OK FAMILY

    A. Kamoro-Sempan-Asmat

        1. Kamoro (Tarya)
        2. Asmat (Kawenak)

    B. Awyu

        3. Syiagha
        4. Yenimu
        5. Pisa
        6. Aghu
        7. Kaeti
        8. Wambon

    C. Ok

        9. Northern Kati
      10. Telefól

    D. Mombum

II. THE YAQAY-MARIND-BOAZI FAMILY

      11. Yaqay
      12. Bian-Marind
      13. Gawir-Marind
      14. Boazi

III. THE PARE-SAMO-BEAMI-BOSAVI FAMILY

    A. Awin-Pare

      15. West Awin
      16. East Awin
      17. Ba

    B. Samo-Kubo-Bibo

      18. Samo
      19. Kubo
      20. Bibo

    C. Beami

    D. Bosavi

IV. FASU

V. GOGODALA

VI. TIRIO

VII. THE KIWAI FAMILY

      21. Island Kiwai

VIII. MIRIAM

IX. THE ORIOMO RIVER FAMILY

      22. Bine, Gizra
      23. Gidra

X. AGÖB

XI. THE MOREHEAD RIVER FAMILY

      24. Parb
      25. Dorro
      26. Peremka

XII. THE YEY-KANUM-MORAORI STOCK

      27. Yey
      28. Kanum
      29. Moraori

XIII. THE YELMEK-MAKLEW FAMILY

      30. Yelmek
      31. Maklew

XIV. THE FREDERIK-HENDRIK ISLAND FAMILY
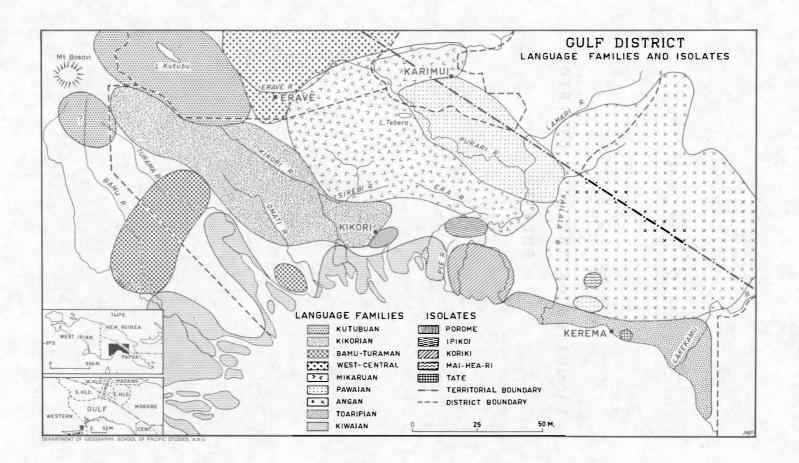
      32. Kimaghama
      33. Ndom
      34. Riantana

XV. THE GOLIATH FAMILY

UNCLASSIFIED LANGUAGES

      35. Kuni
      36. Dea
      37. Zimakani
      38. Suki

LANGUAGES OF THE GULF DISTRICT:

A PREVIEW

Karl J. Franklin

GULF DISTRICT
LANGUAGE FAMILIES AND ISOLATES

Mt Bosavi

L. Kutubu

ERAVE R
ERAVE

KARIMUI

L.Tebera

PURARI R

TURAMA R

KIKORI R

BAMU R

OMATI R

SIREBI R

ERA R

LAMARI R

VAILALA R

KIKORI

PIE R

KEREMA

LAKEKAMU R

LANGUAGE FAMILIES   **ISOLATES**

KUTUBUAN   POROME

KIKORIAN   IPIKOI

BAMU-TURAMAN   KORIKI

WEST-CENTRAL   MAI-HEA-RI

MIKARUAN   TATE

PAWAIAN   — · — TERRITORIAL BOUNDARY

ANGAN   — — — DISTRICT BOUNDARY

TOARIPIAN

KIWAIAN

0   25   50 M.

144° E

WEST IRIAN   NEW GUINEA

6° S

PAPUA

0   500 M.

MADANG

W.HLD.   CHIMBU

S.HLD.   E.HLD.

GULF   MOROBE

WESTERN

0   50 M.   CENT.

DEPARTMENT OF GEOGRAPHY, SCHOOL OF PACIFIC STUDIES, A.N.U.

MP

LANGUAGES OF THE GULF DISTRICT: A PREVIEW

KARL J. FRANKLIN

0. INTRODUCTION

This article outlines and classifies the languages of the Gulf District of Papua.[1] In so doing four previously un-reported Families of languages are suggested:

1. The **Mikaruan**, which extends from Karimui of the Chimbu District south and west as far as the junction of the Sirebi and Kikori Rivers (see Map), and then east to the Purari River.

2. The **Kikorian**, lying mainly along the Kikori River, but extending westward toward the Turama River area.

3. The **Bamu-Turaman**, consisting of languages between the middle Turama and Bamu Rivers, and of one language at the mouth of the Turama River.

4. The **Kutubuan**, comprising at least two languages in the area surrounding Lake Kutubu.[2]

1. PRELIMINARIES

1.1. Historical Summary

Prior to 1951 the Districts in Papua were called Divisions. During 1951 the Central Highlands and Delta Divisions of Papua were abolished and the former Gulf and Delta divisions were amalgamated into a single district known as the Gulf District. Administrative headquarters for the Gulf District was set up at Kerema. In 1966 the Chimbu District was formed, a small part of it from the Gulf District by crossing over the Papua-New Guinea territorial boundary (see Map inset).

The Papuan Gulf has had a long history of contact: linguistic information appeared as early as Bevan (1890), Ray

19

(1895), Chalmers (1897-8), and Holmes (1913).[3] Two recent surveys, Loukotka (1957) and Capell (1962b), give names and limited information on languages in the Gulf District. Capell lists 19 language names on his map of the district, but several of these are not verified. Loukotka includes certain language groups, as well as language isolates, on his map and amplifies them in text by including all possible dialect names of each language. Neither Capell nor Loukotka give details on how they arrive at their language groups. The language families proposed in this article include several of Loukotka's (1957:44ff): **Mikaruan** includes his **Sesa**; **Kikorian** includes some of his **Kasere**; several of his isolates are included within other families. Many of his language and dialect names are identified in the legend at the end of this article.

The most recent attempt to summarise linguistic information on Papua is by C.F. and F.M. Voegelin (hereafter referred to collectively as Voegelins) in 1965. Their interpretations of the linguistic situation in the Gulf are frequently in error and have been examined critically in this article.

1.2. Materials and Methods

Linguistic data are primarily from three sources: vocabularies from early Annual Reports of Papua (hereafter, simply *AR*), or, as Papua was known earlier, British New Guinea; from wordlists collected by members of the Summer Institute of Linguistics (hereafter *SIL*); and from wordlists collected by Reverend John Cribb of the London Missionary Society (hereafter *LMS*). Although the *AR* lists[4] appear often to be phonologically and in other ways defective, for many languages of the Gulf these alone are available for comparison.

The classifications proposed are based solely upon lexical data and may consequently be modified later. The number of lexical items compared between languages is given in square brackets immediately following the shared percentage figure. Percentages are a mean figure between apparent and possible cognates which have been identified by inspection. The term *Language Family* means that the languages listed as members of the Family generally show a lexical connection above 20%

in the vocabulary tested;[5] dialects show at least a 75%
lexical relationship. For the purposes of this article all
dialects of one language are assumed to be mutually intel-
ligible, but it is only at this level that mutual intel-
ligibility is considered. Sub-classification, based upon
limited intelligibility (Wurm and Laycock 1961) or upon
percentage figures (Wurm 1960, after Swadesh) is not at-
tempted, nor, at this stage, thought meaningful.

In certain instances separately published *AR* vocabularies
of the same language do not show the close relationship
expected. For example, vocabularies of the **Sau** language (in
the Samberigi valley area, near the common border of the
Southern Highlands and Gulf Districts) show less than a 70%
relationship with each other. Because there was then no
common trade language known throughout the hinterland, bi-
lingual (or multilingual) interpreters assisted the govern-
ment officers in collecting early *AR* lists. The inter-
preters, coupled with other factors such as word taboo and
(in cases other than the **Sau**) the semi-nomadic nature of the
people, probably contributed to skew the lexical relation-
ships by widening them. If this is so, even closer rela-
tionships between representative members of the Families may
be assumed.

2. LANGUAGE GROUPINGS

In the following presentation languages of the District
are catalogued according to their postulated Family rela-
tionship. Several apparent language isolates are labelled
"Unclassified". References in parentheses immediately fol-
lowing language names are to the major sources of data. The
languages are designated by numerals, and subscripts to
numerals designate dialects. Any name with the suffix -an
(or -n) always represents a language Family.

2.1 The Kiwaian Family

Beginning west of the mouth of the Fly River of the
Western District and extending east along the Gulf of Papua
to the Era Bay is a large number of related languages which
Wurm (1951) calls the Kiwai(an), after an island by that
name. One area, called the North-Eastern, is within the

Gulf District and is further subdivided into: (a) the Western, with the **Turama River** and **Kerewa-Goari** languages, and (b) the Eastern, with the **Urama-Iwainu** and **Era River** languages.[6] According to Wurm (1951:7ff) this NE group of Kiwaian contains some strong non-Kiwaian elements, but even so, **Kerewa** shares a 52% lexical relationship with "the majority" of other Kiwaian languages. The Family as a whole shares a 50-65% lexical relationship between the languages (p.77). The Kiwaian Family languages in the Gulf District on which we have data are:

(1) **Kerewo** (J. Cribb, *LMS*) which is spoken in the area from the West bank of the Omati River east and inland to the village of Samoa, near Aird Hills.

(2) **Gope** (J. Cribb, *LMS*) apparently spoken from the boundaries of Kerewo east to at least the Wapo River.[7] **Gope** shows a lexical relationship of between 51-59% [98 words] with **Kerewo**.

(3) **Turama** (Brown *et al*, *SIL*) is spoken on both banks of the lower reaches of the River by the same name, and may also include the Gama River area.

(3a) **Wariadai** and (3b) **Umaidai** (*AR*, 1923-4) appear to be closely related dialects on the west bank of the Turama River area. Lists in the *AR* were taken at the villages of Kesumubu and Iosiku. Austen's map (1934) calls the whole area the **Turamarubi**, meaning people of the Turama River area.

There are reported to be an estimated 5500 speakers in the North-Eastern group of Kiwaian (Wurm, forthcoming).

2.2   The Toaripian Family

One language Family extends from near the Purari River at the west to east of the Miaru River (near the border of the Gulf-Central Districts). Ray (1907:322ff) listed seven languages for this area which he said "are all more or less related to each other". Capell (1962:140ff), on the other hand, lists four names which he says "are all branches of one language, though not mutually intelligible".[8] By comparing the information of Capell and Ray (which was based mainly on Holmes), as well as *SIL* and *AR* wordlists, the following languages seem to be well attested:

(1) **Toaripi** proper (Brown *et al, SIL; AR,* 1890-1; Holmes 1924) includes the two languages called **Moaripi** and **Lepu**, both eastward toward Cape Possession.[9] Lists by Brown *et al, SIL,* suggest there may be at least three other dialects, each related by at least 75% [50] with **Toaripi**:

(1a) **Kaipi**, from the village of Silo; (1b) **Opau**, inland on a river by the same name and taken from the village of Malakera, near Kerema; and (1c) **Petoi**, west of the Kerema bay. Although the latter two are geographically quite close, they show a number of apparently regular sound changes, e.g. (O)pau #k > (P)etoi #t O – ƀ – > P –m– O#l > P #n; and O #h > P #p̵. These three dialects comprise areas referred to as **Kerema** by Capell, which in turn includes the language areas which Ray called **Uaripi** and **Milarepu**.

(2) **Elema** (Brown *et al, SIL; AR* 1914-15; 1919-20) extends from the mouth of the Purari River east to the Bairu River. The name **Elema** is apparently a Motu designation for people in the general Orokolo area (Williams 1940.24ff), but, as mentioned, Williams applies the name to all of the people between Cape Possession and the Purari River. It includes the main villages of **Orokolo** (see also Williams, 1940) and **Vailala**, which may also be dialects. The *AR* list from near Orokolo shows a 65% [35] relationship with Toaripi, while the list taken up the Vailala River at Paku shows only 53% [38]. Compared with each other, the *AR* lists are cognates in 24 out of the 28 words tested.

2.3. The Angan Family

The Angan or Kukukuku Family of languages centres on the Papua-New Guinea boundary and has up to eleven member languages.[10] Based on Lloyd's map (*SIL*, n.d.) three of these languages extend into, or totally lie within, the Gulf District. However, *AR* reports suggest only one major language consisting of numerous dialects.

(1) **Kapau** proper (W. and L. Oates, 1968, Brown *et al, SIL*) extending from the Morobe District well into the Gulf District mainly along the Tauri and Kapau Rivers, but as far inland east to the Lakekamu River (approximately the border of the Gulf and Central Districts). At least three dialects are apparent in the Gulf District: (1a) **Lohiki**, spoken from the Vailala River north and along the Lohiki River, then

perhaps north and northeast. It shows an 86% [50] relation-
ship with the dialect spoken further east at the Nabo
Range - (1b) **Mumuro**. **Lohiki** may be what Lloyd tentatively
calls **Obi**. (1c) **Oreba** (*AR*, 1918-19) is spoken along a river
of the same name which is a northeastern tributary of the
Lakekamu. It shows a close relationship with Mumuro (20/22
words), including some easily recognised sound shifts:
M #h > #?, M -r- > -t-.

There are undoubtedly many other dialects of **Kapau** but
at present there is no linguistic evidence which suggests
more than this one Angan language in the Gulf District.

2.4. The Pawaian Family

Wurm (forthcoming) places Pawaia as a language isolate
within the East New Guinea Highlands Phylum. However, there
are two known, although closely related, languages in the
Family, as well as dialects of the languages. The geo-
graphical spread of this Family is immense: from Karimui in
the Chimbu District south along the Pie River, and then
(probably) south along the Purari to near the Koriki lan-
guage area. In addition a settlement has been found as far
southeast as Pollard's Peak (northwest of Kerema).[11] Based
on other observations by Hides, as well as Capell, it seems
that the Pawaian have roamed far west into the area mapped
for the Mikaruan. According to Hides the names "Pawaia" and
"Turoha" were known and feared throughout the Kikori hinter-
land. Williams (1924), however, does not mention any of the
Pawaian names in sketching the boundaries and neighbours of
the Koriki tribes. At present there are but two Pawaian
languages known:

(1) **Pawaia** proper (D. Trefry, *SIL*) is spoken in the
Karimui area, south along the Pie, and along the Purari
River by some 2000 people.

(2a) **Aurama** (*AR*, 1919-20, J. Cribb, *LMS*) is spoken half-
way up the Purari in the present day vicinity of Oroi.[12] It
is 70-72% [98; 51] related to Pawaia and includes as a dia-
lect (2b) **Huaruha** at the village of Havoro, at Pollard's
Peak. The latter is 84% [56] related to **Aurama**, but only
60% [35] with **Pawaia**.

2.5. The Mikaruan Family

Extending from Karimui in the Chimbu District south to the headwaters of the Era River, then west to the junction of the Sirebi and Kikori Rivers, and then finally northwards to the Kerabi valley (near the southeastern border of the Southern Highlands District) is a large but yet undetermined number of related languages and dialects. Relationships within the proposed Family are very tentative.

(1) **Mikaru** proper (G. MacDonald, *SIL*) is a language spoken near Karamui and shows a 45% [170] relationship with

(2) **Kewah** (G. MacDonald, *SIL*), a language spoken somewhere in the vicinity of the junction of the Tua and Erave (upper Purari) Rivers.

(3a) **Polopa** (K. Franklin, *SIL*) is a dialect comprising some 1500 speakers, mainly in the Kerabi valley at the villages of Keba, Kumbirepa, Turibadi, Wopasali, Boro, Pupitau, Sirigi, Sepese, and Suani.[13] **Polopa** shows a 45% [170] relationship with **Kewah**, but only up to 25% [170] with **Mikaru**, indicating (perhaps) that **Kewah** is the genetic link between 1 and 3.

(3b) **Foraba** (*AR*, 1922-3) is a dialect spoken north of Mt Murray, ten miles or so east of the Polopa area. The *AR* list shows up to a 75% [70] cognate relationship with **Polopa**. This, along with the phonetic resemblance of the names, suggest that **Polopa** and **Foraba** are dialects.

(4a) **Bara** (*AR*, 1919-20) represents the village of Uari Sagi between the Kiko (now Kikori) and Sibi (now Sirebi(?)) Rivers at the headwaters of the Anu Creek. **Bara** is about 60% [58] related to **Polopa** (3a), 37% [58] related to **Mikaru** (1), and 86% [76] related to **Ro** (4b).

(4b) **Ro** (*AR*, 1922-3), which is also called **Keai** or **Worugl**, and **Bara** are dialects; **Ro** is located east-southeast of Mt Murray near the headwaters of the Sirebi River. The *AR* list is said to represent the villages of Muimani, Suru, and Abasariba. **Ro** is also closely related to **Polopa** (55% [66]) and **Foroba** (50% [85]) and may, with **Bara** actually constitute a dialect chain from the Kerabi valley area south to the junction of the Sirebi-Kikori Rivers.[14]

(5) **Sesa** (*AR*, 1924-5) is a language spoken in an area on the north bank of the Era River where it is joined by the

Aweri Creek, twelve miles above Maipua. The village where the list was collected is called Hai-i. **Sesa** shows up to a 45% [65] relationship with **Polopa**.

(6) **Ibukairu** (*AR*, 1920-1) vocabulary items were collected at the village of Wiau which is northeast of the Kuro Creek, off the Kwinic River (creek), i.e. just north of the **Sesa** and south of Lake Tebera. **Ibukairu** may eventually be classified as a dialect of **Sesa** in that it shows well over a 50% [65] relationship with it, as well as up to a 48% [62] relationship with **Polopa**.

Another language name known within the area is **Harahui** (J. Cribb, personal communication), which is said to be between the upper Purari and Mt Murray. This name is very similar to **Harahu** which Capell (1962) lists on his map as an unclassified language in the vicinity of **Bara**. The mobility of the people, and consequently the shifting of tribal names, suggest a possible dialect chain for some of the languages postulated earlier.

Capell (1962b:139) also lists the languages of **Mamisu** and **Songu** in the Lake Tebera area on the basis of information from A.P.C. oil expeditions. The former group are said to reside on island villages in the lake. It is doubtful that these languages would be very different from **Sesa** or **Ibukairu** (5 and 6).

2.6. The Kikorian Family

In general the languages which lie along the southern banks of the Kikori River, and extending as far westward as the Turama River, are closely related. The languages and dialects which are known to exist in this area are:

(1a) **Kasere** (Brown *et al*, Austen's map, 1934) appears to be spoken somewhere around the areas southeast of Kibirowi Island on the Kikori River. Brown's list (comprising only 50 words) was elicited from a speaker of Sorobo village.

(1b) **Kairi** (Brown *et al*) apparently is spoken not far from Wabi Island on the Kikori River. The speaker was from the village of Komaio. **Kairi** shows a 74% [50] relationship with **Kasere**.

(2) **Barika** (*AR*, 1921-2) vocabulary was taken at a village called Aso-nu which is (or was) eight miles northeast by

east from the headwaters of the Omati River. **Barika** shows a fairly close relationship with **Kasere** (57% [33]) and may actually be a dialect of **Dugeme** (3a).

(3a) **Dugeme** (*AR*, 1923-4) shows a 66% [62] relationship to **Barika**. The *AR* list was taken at a village which is also called Sorobo (see **Kasere**), said to be fifteen miles northwest of the headwaters of the Paibuna River.

(3b) **Karima**[15] (*AR*, 1919-20) is also said to be in the area at the headwaters of the Paibuna River and has been included here as a dialect with **Dugeme**, even though it shows only a 70% [63] relationship. **Dugeme** and **Karima** should, when more information is available, turn out to be even more closely related. **Karima** shows only a 44% relationship with **Barika**, compared to 66% for **Dugeme**.

(4) **Kibiri** (*AR*, 1917-18) is also called **Kai-iri** or **Dumu**.[16] It is said to be spoken along several tributaries of the Kikori River: the Veru River, the Momera Creek, and the Sirebi River. The last at least is also reported to be **Bara** (cf. 2.5., 4a) territory. **Kibiri** shows the following relationships with languages of the assumed Family: **Kasere** - around 20% [50]; **Kairi** - around 25% [50]; **Barika** - around 18% [110]; with **Kopo-Monia** (see below) - over 50% [50]. Only two or three words show any similarity with **Bara**.

(5) **Kopo-Monia** (Brown *et al*) is spoken mainly north of the government station of Kikori at the villages of Irimuku, Kabarau, Kopi, Waira, and Tugugi. **Kopo-Monia** shows only a 14% [50] relationship with **Kasere**, but has a chain relationship up the Kikori River similar to **Kibiri** and is therefore included within the Kikorian Family.

2.7. The Bamu-Turaman Family

Three languages are included within this Family, none of which show more than a chance relationship with the Kikorian Family, i.e. one or two words:

(1) **Pepeha** (*AR*, 1920-1) is also referred to as the **Eme-Eme** tribe. The *AR* list was collected two miles southwest of Hibiri on the Paibuna River. According to Austen (1934:25), the **Pepeha** are the same as the **Hei**, who live between the Bamu and Turama Rivers.

(2) **Mahigi** (*AR*, 1923-4) is 37% [95] related to **Pepeha** and

is located around the fork of the Aworra and Bamu Rivers.

(3) **Karami** (*AR*, 1917-18) is related to both **Pepeha** (16% [80]) and **Mahigi** (15% [80]) about equally. The list is said to represent the villages of Kikimairi and Aduahai on the right hand side of the left branch of the Turama River. It is tentatively included as a member of the Family because other languages which are also assumed members appear to lie between it and **Pepeha** or **Mahigi**. These additional but un-recorded languages should demonstrate the relationship of the Family more clearly by serving as a link between **Karami** on the one hand and **Pepeha** and **Mahigi** on the other.

2.8. The Kutubuan Family[17]

Within this Family there are two languages which adjoin or cross over the Southern Highlands District into the Gulf District:

(1) **Foi** (Rule, *UFM*;[18] Brown, *et al. SIL*) is a language spoken east and south of Lake Kutubu. An identical dialect is spoken on the Mubi River which includes three tribes: Mubi, Fimaga and Ifigi (Williams 1940-1:12,13). The **Foi** are cut off from the Kikori River by rapids on the Mubi (*AR* 1926-7:35). Although **Foi** shows little relation to **Kasere**, the Foi people originally obtained steel axes from such groups along the Kikori River (ibid., p.36). **Foi** shows a 25% [165] lexical relationship with **Fasu**.

(2) **Fasu** (J. May and E. Loeweke, *SIL*) is spoken west and southwest of Lake Kutubu by several dialects. It appears that the southernmost dialect of Fasu may cross over to the west bank of the Kikori River, east of Mt Bosavi. Voorhoeve (this volume) includes **Fasu** as a language isolate within his South and Central New Guinea Stock.

May and Loeweke have been told that **Fasu** speakers (a dialect?) are also located at the headwaters of the Turama River, i.e. south, southeast of Mt Bosavi. Some of the possible wider affinities of Kutubuan are mentioned later.

2.9. Unclassified Language Isolates

Several languages within the Gulf District do not show any lexical relationship with each other or the Families described:

(1) **Tate** or **Tati** (Strong, 1911) is spoken at the village of Uriri which is located "on the Cupola, a rocky promontory on the shores of the Papuan Gulf, close to the village of Kerema" (p.178). Strong remarks that in his list of 240 words, fifteen are similar to and probably borrowed from **Elema** (Toaripian Family). Ray examined Strong's list and appended a total of seventeen apparent borrowings from Melanesian languages to the east. [19]

(2) **Mai-hea-ri** (*AR*, 1917-18) is said to lie in the valleys between the Nabo Range and the Albert Mountains. Villages which speak this language are Karauwi, Papikava, and Arowa Hawoiu. [20]

(3) **Ipikoi** (*AR*, 1925-6; J. Cribb, *LMS*) shows a very slight relationship with **Kibiri**. The village where the *AR* list was collected was a temporary one called Amipoki and the people were semi-nomads at that time living about 30 miles up the Pie or Kapaina River. Cribb's list is from the village of Ipiko, also on the upper Pie River. The two lists show 81% [31] in the few words that it was possible to compare.

(4a) **Koriki** (Williams, 1924; Brown *et al*, *SIL*; J. Cribb, *LMS*), also commonly called **Namau** by both Ray (1907) and Holmes (1913), is spoken between the Kapaina Inlet and the Elema language area by about 4000 people. [21] Holmes (1913: 125) says that **Namau** refers to the Vaimuru tribe in the Era Bay, the Kaimare tribe east of the Pie River, and the Iai tribe inland near the eastern boundary of the delta. Williams (1924:5) lists four tribes and calls them all **Purari** (=**Koriki**) speakers: (a) Ukiravi (sometimes called Koriki), (b) Iari, (c) Kaimari, and (d) Baroi. Kaimari includes the villages of (e) Vaimuru and (f) Maipua, of which the latter is probably a separate dialect. Maher (1961:14ff) says that a-f are tribes which speak dialects of a common language.

(4b) **Maipua** (*AR*, 1893-4) is probably a close dialect of **Koriki** (Capell 1962:137). According to Brown *et al* (unpublished) other villages which speak the same dialect are: Akoma, Apiope, Ara-av, Baimuru, Ikinu, Kinapo, Kaimana, Koravake, and Kairimai.

In 1890 Bevan published a list of 72 words and expressions of a language which he called **Evorra** after a village

on the Stanhope River (now Pie River) of Port Romilly. Allowing for phonetic discrepancies the list matches that of Williams (1924) and can be classified as a Koriki dialect. Williams (1924) and, more recently, Maher (1961), have given ethnographic summaries of the Koriki area.

(5a) **Porome** (Brown, *et al SIL*; J. Cribb, *LMS*) is spoken in the Aird Hill area and is mentioned by Capell (1962:138) as a language distinct from **Dumu** or **Kiwai**. It shows a close 85% [165] relationship with the dialect (5b) **Veiru**, spoken by villagers at the junction of the Veiru River with the Kikori River.[22]

3. OTHER POSSIBLE GULF LANGUAGES

There are undoubtedly other languages than the ones outlined in this article that lie within the Gulf District. However, in no instance has a language or dialect been included without some linguistic data to support it. Other linguists and writers have mentioned names which are reported to be separate languages; some of these are even included on maps. In this section a list of these unverified language names is given, followed by, in some cases, a comment on their likely placing:

(1) **Harahu** (Capell, 1962:139 and on his Gulf District map), and (2) **Songu** (*idem*) are supposed to be spoken near Mt Favenc (=Faveng). These would seem to be quite clearly our **Sesa** and **Ibukairu**. Capell, however, speaks of **Harahu** and **Songu** as "two regions both near Mt Favenc" (p.139). Although both names appear as language designations on his map, it is unclear in the text if the same language is found at both areas, or if both areas speak a different language. Voegelins (1965:40) interpret Capell's remarks as the latter and list **Harahu, Songu** and also (3) **Mamisu** as languages. Capell quotes A.P.C. oil explorers as saying **Mamisu** is spoken on islands of Lake Tebera. If this is so, it is most likely a language of the Mikaruan Family, in that Pawaian languages are east of the Purari or on islands in the Purari. (4) **Waiiemi**, (5) **Morigi Island**, and (6) **Kibene** are also on Capell's map as languages in the Gulf District. **Kibene** is said to have "much vocabulary in common" with other languages of the upper Turama and Paibuna Rivers, "probably

including the Omati River" (p.138). This would suggest that **Kibene** is probably in the Bamu-Turaman Family. **Morigi Island** must be either a Kiwaian language, and if so a dialect of **Turama**, or else related to **Pepeha**. The former is more likely, in that Austen includes Morigi Island as part of the Turamarubi group.[23] The island is located at the mouth of the Turama River. Capell's **Waiiemi** is located inland between the Kikori and Turama Rivers. No other information is given by Capell, but all languages now known in this area belong to the Kikorian Family.

Lloyd of *SIL* has an Angan language called (7) **Yeripa** on their map with a question mark. This and their (8) **Obi** are in the vicinity of, and probably similar to, the **Lohiki** dialect of **Kapau**.

Austen (1934) prepared a map which outlines in great detail names of language groups, language group boundaries, tribe boundaries, tribes and villages. However, very few of the languages other than those in the Kiwaian Family are mentioned in the text, so that it is impossible to fully interpret the map. The name *tribe* is of course also ill-defined. It usually refers to some sort of a descent group which may either be localised (as is the case of the various tribes representing the **Koriki** language), or nomadic (as would be the case of the people around Lake Tebera or along the upper Purari River).

4. WIDER AFFINITIES

Some of the wider possibilities of linguistic affiliation have been mentioned by Voorhoeve (this volume) and Wurm (forthcoming). Voorhoeve's Central and South New Guinea Phylum already includes Kutubuan and Kiwaian and, depending on the interrelationship of the Kutubu-Kikorian Families, will quite likely include Kikorian. The position of the Bamu-Turaman Family is not as certain but it may also be included realistically within the Phylum.[24]

Wurm, as mentioned, has already included the Mikaruan and Pawaian Families within his East New Guinea Highlands Phylum. He has also included **Foi** as a language isolate, but this conflicts with our (and Voorhoeve's) evidence that Kutubuan belongs within the *CSNG* Phylum. It may, however, eventually be linked to Wurm's *ENGH* Phylum, but through the

West-Central Language Family. There is evidence of a lexical relationship between **Kewa** in the Southern Highlands District and **Fasu**. A dialect of **Kewa** borders **Foi** which in turn geographically separates **Kewa** and **Fasu**. There is also evidence of much culture contact between **Foi** and **Augu**, a **Mendi** dialect of the West-Central Family (Williams 1940-1). It is too early to positively conclude that **Fasu** or **Foi** and languages of the West-Central Family are genetically related. It appears, however, that the link of the Kutubuan with the *ENGH* Phylum should be investigated along this avenue, rather than as language isolates - **Fasu** in Voorhoeve's *CSNG* Phylum and **Foi** in Wurm's *ENGH* Phylum.

CHART 1, in a very superficial and limited manner, illustrates three words which are common across language Families. Most examples are from the *AR*s where, in some cases, polymorphemic entries are identified with parentheses.

Languages	*Grouping*	*eye*	*cassowary*	*dog*[25]
Kasere		si		kas
Kairi		si		kas
Barika		si	sigina	kase
Dugeme	**Kikorian**	si	sigina	kase
Karima		isi(tumu)	kaibavo	kase
Kibiri		(hi)hi(tu)	wai	ka
Kopo-Monia		hi(tu)		ka
Pepeha		kupina	koiboau	gaso
Mahigi	**Bamu-Turaman**	kuhiru	henia	gahola
Karami		epegu	koibo	kso
Ipikoi	**Unclassified**	uwhino	hinia	gaho
Fasu		hi	sikina	kasa
Foi	**Kutubuan**	i	guru	gesa
Kaluli(Bosavi)[26]	*CSNG* **Phylum**	siyo	gusuwa	gasa
Beami		si	wida	wæme

5. SUMMARY

There are eight distinct language families and five language isolates within the Gulf District. Three families, the Kiwaian, Angan and Kutubuan, are peripheral to their main areas which lie respectively in the Western, Morobe and Southern Highlands Districts. It is also possible that the southernmost language in the West-Central Family, i.e. **Sau** (Wurm 1960), overlies the Gulf-Southern Highlands border.

Of the 44 dialects outlined in this article, 29 are classified as individual languages. The aspects of this classification will undoubtedly change after the proposed survey, but the Families outlined here seem well established.

Several of the language Families as well as one language isolate show more remote affinities.

All of the evidence is lexical and the problem of wider and wider classifications, e.g., macro-phylums, and then macro-macro-phylums must be treated with caution. The classification of New Guinea Papuan (Non-Austronesian) languages has already been too extensive and needs more supporting comparative evidence.

6. LEGEND

In this section all Gulf languages or dialects which have been verified, as well as some neighbouring languages of other districts are listed alphabetically, followed in parentheses by the language family of which they are a member. Alternate names and their sources conclude each entry.

AURAMA (Pawaian) Turoha and Uri (Hides 1938);[27] cf. Huaruha

BARA (Mikaruan) Harahui (Cribb, n.d.); Harahu (Capell 1962)[28]

BARIKA (Kikorian)

DIBIASU (Bamu-Turaman(?))

DUGEME (Kikorian)

ERA RIVER (Kiwaian) (Wurm, 1951)

ELEMA (Toaripian) Orokolo (Ray 1892; Williams 1940); Kairu-Kaura[29] (*AR* 1920-1); Haira (*AR* 1914-15); Kaipi (Brown *et al*, Loukotka 1957); Muru (Loukotka 1957)

FOI (Kutubuan) Kutubu and Mubi River (Williams 1940-1);
  Foi-i or Mobi River (*AR* 1926-7)

FORABA (Mikaruan)

GIBARIO (Kiwaian) Goaribari (Ray 1913-14); Kerewa-Goari
  (Wurm 1951); Baia (Ray 1907)

GOPE (Kiwaian) Era River (Wurm 1951); Paia (Ray 1907)

HUARUHA (Pawaian) Dialect of Aurama

IBUKAIRU (Mikaruan)

IPIKOI (Unclassified) Ipiko (Williams 1924)[30]

KAPAU (Angan) Menyamya; Kukukuku (Voegelins 1965). In-
  cludes our Lohiki, Mumuro and Oreba dialects; Inaukina
  (Loukotka 1957)

KAIRI (Kikorian) Also Gairi

KAIPU (Kutubuan) Dialect of Fasu

KARAMI (Bamu-Turaman)

KARIMA (Kikorian) Dikima (*AR* 1926-7); Kibene (Capell 1962).
  As a Phylum (Voegelins 1965)

KASERE (Kikorian) Waiiemi (Capell 1962); possible dialects:
  Pimuru, Gorau, Utabi (Loukotka 1957)

KASUA (Kikorian) (?)

KEREMA (Toaripian) Our dialects of Kaipi, Opau (Loukotka
  1957) and Petoi; Uaripi (Ray 1907); Milarepu (Ray 1913-
  1914). Milareipu (Loukotka 1957)

KEREWA (Kiwaian) Kerewa-Goari (Wurm 1951); Baia (Ray 1907);
  Kerewo (Austen 1934)

KEWAH (Mikaruan) Kewá' (Wagner 1967)

KIBIRI (Kikorian) Kai-iri (*AR* 1917-18);[31] Dumu (Bevan
  1890; Capell 1962); Tumu (Ray 1895); Rumuwa (Austen
  1934)

KOPO-MONIA (Kikorian)

KORIKI (Unclassified) Evorra (Bevan, 1890), Evora (Loukotka
  1957); Kaura (Holmes 1913),[32] Namau (Holmes 1913);
  Ukirave and Kipaia (Will'ams 1924); Purari (Williams
  1924), Kaimare (Loukotka 1957)

LEPU (cf. TOARIPI)

LOHIKI (Angan) Dialect of Kapau; Obi (?) (Lloyd, n.d.)

MAHIGI (Bamu-Turaman)

MAIPUA (Unclassified) (Loukotka 1957) Vaimuru and Kaimari
    (Williams 1924); cf. KORIKI

MAI-HEA-RI (Unclassified) Possibly Opau (*AR* 1922-3)

MAMURO (Angan) Lakekamu (*AR* 1916-17); Kamaweka (Ray 1907)

MIKARU (Mikaruan) Karimui; Daribi (Wagner 1967)

MILAREIPU (cf. KEREMA)

MOTUMOTU (cf. TOARIPI)

OBI (Angan) Perhaps same as Lohiki

OREBA (Angan) Dialect of Kapau

OROKOLO (cf. VAILALA)

PAWAIA (Pawaian) Sira (Capell 1962)

PEPEHA (Bamu-Turaman) Eme-Eme (*AR* 1920-1); Hei (Austen
    1934); Oberi (Loukotka 1957)

POLOPA (Mikaruan)

POROME (Unclassified)

RO (Mikaruan) Keai or Worugl (*AR* 1921-2)

SAU (West-Central) Samberigi; Okani or Tugi (*AR* 1921-2)

SESA (Mikaruan) Mamisu and Songu (Capell 1962)

TATE (Unclassified) Tati; Lorabada or Lou (Brown *et al*
    1961)

TOARIPI (Toaripian) Moaripi (Ray 1907); Lepu (Ray 1913-14);
    Motumotu (Chalmers 1897)

UARIPI (cf. KEREMA)

UMAIDAI (Kiwaian) Turamarubi (Austen 1934). This and
    Wariadai (below) Turama River (Wurm 1951); Baru (Austen
    1934)

URAMA (Kiwaian) Urama-Iwainu (Wurm 1951); Kaa (Ray 1907);
    Iwainu (*AR* 1917-18)

VAILALA (Toaripian) Keuru (Ray 1907); this and Orokolo is
    Elema; Baibala (Loukotka 1957)

WARIADAI (Kiwaian) Perhaps Dabura (Ray 1907) and Morigi
    Island (Capell 1962)[33]

YERIPA (Angan) (Lloyd n.d.)

7. REFERENCES

Austen, Leo
1934 "The Delta Division of Papua", *The Australian Geographer* vol.II, No.4:20-25.

Beaver, W.N.
1914 "Some Notes on the Nomenclature of Western Papua", *Man* No.68:135-6.

Bevan, Theodore Francis
1890 *Toil, Travel, and Discovery in British New Guinea.* London: Kegan Paul, Trench, Trubner & Co.

Brown, Raymond *et al*
1961 Unpublished wordlists of Papua. Property of the Summer Institute of Linguistics.

Capell, A.
1962a "Oceanic Linguistics Today", *Current Anthropology* 3:371-96, plus *Comments, Reply and References*, pp.396-428.

1962b *A Linguistic Survey of the South-Western Pacific.* Noumea: South Pacific Commission Technical Paper 136.

Chalmers, James
1897-8 "Toaripi", *Journal of the Royal Anthropological Institute* 27:326-34.

Hides, J.G.
1938 *Savages in Serge.* Angus and Robertson.

Hogbin, G.R.
1964 *A Survey of Indigenous Rubber Producers in the Kerema Bay Area.* *NGRU* Bulletin No.5, The Australian National University, Canberra.

Holmes, J.H.
1903 "Notes on the Elema Tribes of the Papuan Gulf", *JRAI* 33:125-34.

1913 "A Preliminary Study of the Namau Language, Purari Delta, Papua", *JRAI* 43:124-42.

1924   *In Primitive New Guinea*.   London: Seeley, Service
        and Co.

Hooley, Bruce A.
1964   "The Morobe District - New Guinea", *Oceanic Lin-
        guistics* 3:201-47.

Klieneberger, H.R.
1957   *Bibliography of Oceanic Linguistics*, London:
        Oxford University Press.

Lloyd, R.
n.d.   "Map of the Anga Language Family".

Loukotka, Čestmir
1957   "Classification des Langues Papoues", *Lingua
        Posnaniensis* 6:19-83.

1962   Comment on Capell's "Oceanic Linguistics Today",
        CA 3:415.

Maher, R.F.
1961   *New Men of Papua: A Study in Culture Change*.
        Madison: University of Wisconsin Press.

Oates, W.J. and L.
1968   *Kapau Pedagogical Grammar*.   *Pacific Linguistics*,
        Series C, No. 10.

Ray, Sidney H.
1895   *A Comparative Vocabulary of the Dialects of
        British New Guinea*.   London: Society of Promoting
        Christian Knowledge.

1907   "The Languages of the Papuan Gulf" in *Reports of
        the Cambridge Anthropological Expedition to
        Torres Straits*, vol. III Linguistics, p. 320ff.

1913-   "The Languages of the Papuan Gulf District,
1914   Papua", *Zeitschrift für Kolonial-Sprachen* 4:20-
        67.

Strong, W. Marsh
1911   "Note on the Tate Language of British New Guinea",
        Man No. 100:178-81.

Voegelin, C.F. and F.M.
1965   "Languages of the World: Indio-Pacific Fascicle Five", *Anthropological Linguistics* 7(9):1-114.

Voorhoeve, C.L.
1968   "The South and Central New Guinea Phylum", in this volume of *Pacific Linguistics.*

Wagner, Roy
1967   *The Curse of Souw: Principles of Daribi Clan Definition and Alliance in New Guinea.* Chicago: University of Chicago Press.

Williams, F.E.
1924   *The Natives of the Purari Delta.* Anthropological Report No.5. Port Moresby.

1940   *Drama of Orokolo: The Social and Ceremonial Life of the Elema.* Oxford: Clarendon Press.

1940-1 *Natives of Lake Kutubu, Papua. Oceania Monographs* No.6.

Wurm, S.A.
1951   *Studies in the Kiwai Languages, Fly Delta, Papua, New Guinea. Acta Ethnologica et Linguistica* No.2. Vienna.

1960   "The Changing Linguistic Picture of New Guinea", *Oceania* 31:121-36.

forth- "The Papuan Linguistic Situation". To appear in
coming T.A. Sebeok (ed.), *Current Trends in Linguistics,* vol.8: *Linguistics in Oceania.*

Wurm, S.A. and Laycock, D.C.
1961   "The Question of Language and Dialect in New Guinea", *Oceania* 32:128-43.

NOTES

1. This preliminary report anticipates a more detailed survey of the Gulf District, proposed for early 1969 and to be carried out by the writer. I am grateful to T.E. Dutton, C.L. Voorhoeve, and S.A. Wurm of the Australian National University for comments on a previous draft of this article.

2. This Family lies almost completely within the Southern Highlands District, but borders on and probably extends into the Gulf District along the upper Kikori River.

3. A bibliography of the Papuan Gulf languages by Ray (1913-14), as well as a map by him (1907), summarises all of such very early language materials.

4. Klieneberger (1957) gives an excellent alphabetical listing of all *AR* vocabularies, although his language distributions and classifications are at times inconsistent.

5. No attempt has been made to adjust the percentages as if a full 200 items were being compared - as C.L. Voorhoeve does in his article on the Central and South New Guinea Phylum (*CSNG* Phylum) in an accompanying article of this volume. Earlier Wurm (1960:126) used the percentage figure of between 28% and 81% cognates as depicting a Family relationship. Wurm and Laycock (1961:140) later lowered the figure to 60%, which represents "at least limited mutual intelligibility". This, it seems to me, is much too low: distinct languages with which I am acquainted in the Southern Highlands would be considered dialects.

6. For a summary of Wurm's materials see Capell (1962b. 131ff).

7. Language or dialect boundaries are only suggestive. Cribb (personal communication to *SIL*) mentions a third Kiwaian "dialect" called **Urama**. This, with Wurm's **Iwainu** continue east to the Era River. However, Wurm (1951.2;96)

also mentions the **Era River** language which he says "shows the same typical features of the north-eastern group as **Urama** and **Iwainu**" but has some very atypical vocabulary. He suggests that words from **Gogodara** and **Waruna** (in the Western District and perhaps, with **Tirio**, a Family of the South and Central New Guinea Stock - see Voorhoeve, this volume) may have come into the **Era River** language. This remark may have prompted the postulation of a Kiwai Phylum (Voegelin 1965: 37). Loukotka's comment in *Current Anthropology* (1962:415) also points in this direction.

8. Williams (1940:25ff) called the population from Cape Possession to the Purari River the **Elema** and said that the area was divided into "some dozen territorial units which may be called tribes". He said that all of them "speak mutually intelligible dialects". Certainly the linguistic situation has changed very rapidly since Ray's assessment and **Toaripi** is now the dominant lingua franca for most of the area. Voegelins (1965:41-2) follow Capell and list four distinct languages. **Orokolo**, **Vailala**, **Kerema**, and **Toaripi**.

9. In 1907 Ray (p.324) stated that **Moaripi**, consisting of the villages of Jokea, Miaru and Lese had been surplanted by **Toaripi**. Lepu comprises the area closest to the Melanesian languages of **Roro** and **Mekeo**, both in the Central District, although **West Mekeo** is spoken at the village of Apinaipi, just within the Gulf District and at two villages near the junction of the Kunimaipa and Lakekamu Rivers.

10. R. Lloyd (*SIL*) confirms the classification of this Family, first postulated by S.A. Wurm (1960). Voegelins (1965:40-1) list seven member languages, but this includes **Samberigi**, which is in the West Central Family (Southern Highlands), **Wantakia** and **Barua**, which are called one language by Lloyd, and (probably) **Mumeng**, which, if it is **Buang-Mangga** as Voegelins suggest, is Austronesian (see Hooley 1964:247). Lloyd recently (personal communication) suggests that **Langimar** is more distantly related to other Angan languages. He also states that **Obi** and **Yeriba** are distinct Angan languages in the Gulf District.

11. The semi-nomadic nature of the Pawaian may render local information quite misleading; for example, the list taken at

Pollard's Peak may have been from a group temporarily settled in the area. In 1938 Hides reported four main nomadic tribes along the banks of the Purari: the **Uri**, the **Pawaia**, the **Naiakaia**, and the **Turoha**. Capell (1962:139) says that **Pavaia** [**Pawaia**] is spoken by people at Namaina, Keka, Taraha, Sira and Sesa, as well as being understood at Yo, to the east. However, Sesa is clearly in the Mikaruan Family, which is in turn only remotely related to the Pawaian Group. The blank area on the map between the Purari and Vailala Rivers is most likely Pawaian territory.

12. The *AR* list was collected at a village called Uo-Ho. Orio is near the now extinct village of Uri mentioned by Hides (1938) and marked on early maps.

13. **Sau** (Samberigi) villages which are eastward understand **Polopa**. Tiri, Tomo, and Waraga. The **Wiru** (*W-C* Family, Wurm 1960) and **Polopa** have social contact, but neither **Wiru** nor **Sau** show more than a remote lexical relationship with **Polopa**.

14. Interpreters who were used for several of these lists were from the Samberigi Valley (the **Sau** language), indicating that if a **Sau** speaker could understand **Foroba**, i.e. his nearest Mikaruan neighbour to the east, he could also understand other Mikaruan dialects or languages of the area. Apparently government officers asked what other villages spoke the language being collected and these names are usually listed at the top of the lists in the *AR*. However, it is questionable that **Foroba** speakers also reside in Dono, Iangorigi, Wariga, Suguburu, and Warerigi, or that some of these are anything more than the **Sau** words for the areas. **South Kewa (Pole)** speakers call an isolated sub-dialect of their language in the Kerabi Valley area "Yangori".

15. Voegelins (1965:60) follow Loukotka (1962:415) in postulating a Karima Phylum, despite the fact that they did not know where its member languages were located. As has been shown, the languages are closely related linguistically and are along the Kikori River.

16. **Dumu** has been perpetuated since Bevan first recorded some words and expressions in 1890 (see, for example, Ray

1907:322, Capell 1962:138; Voegelins 1965:39). Klieneberger (1957:36) correctly lists **Dumu** and **Kibiri** as the same language, in that Bevan's short vocabulary and the *AR* list are almost identical. Part of the confusion is one of language names and naming: Bevan thought **Dumu** referred to a group of people or a village, but as Beaver has shown (1914:136), the word simply meant 'bush'.

17. Voegelins (1965:12ff) follow Loukotka (1962:415), who speculated wildly when he suggested that **Kutubu (Foi), Sesa-Ibukairu, Ro-Keai-Bara, Foraba,** and **Pawaia** constitute a Sesa group. Aside from **Kutubu** and **Pawaia**, which are related only as possible language isolates in Wurm's *ENGH* Phylum (Wurm, forthcoming), all other languages are outlined in the Mikaruan Family. There is nothing to support Voegelins' suggestions that "further work may show that languages of the group [Sesa] are members of a family, rather than language isolates" (p.13). Pawaian and Mikaruan show slight relationship (less than 5% [165]) and this is probably simply the result of borrowing.

18. W. and J. Rule of the Unevangelized Field Mission (*UFM*) have studied **Foi** for a number of years. Vocabulary has been extracted mainly from their unpublished M.A. theses and then compared with other materials. The area Williams mentions is the upper Mubi (around the present *UFM* Orokana mission station), but the *AR* reports refer to the lower Mubi near the Gulf District border at the Kikori River. Voegelins (1965:13) mention 6 dialects of **Foi**, but 4 of them are simply Williams' villages in the present Orokano area. Voegelins also speak of the dialects of **Kutubu** and **Foi**, but Williams says these are the same.

19. In 1961 Brown *et al* recorded materials from a language which they called **Lorabada** or **Lou** from the village of Uriri. This is also the **Tate** language. Hogbin (1964) includes **Tati** speakers from Uriri village within the same culture group as the **Elema**. All reports indicate that **Tate** speakers also speak **Elema**.

20. The *AR* 1922:18-19 describes a tribe called the **Opau** and shows how it may have originally come from the Purari River area to Pollard's Peak, Keuru, and near Kerema, as well as

spreading north to the Lohiki River. This would be in the area west of the Nabo Range, near where the **Mai-hea-ri** list was taken. The **Opau** and **Mai-hea-ri** could refer to the same group.

21. Not 15,000 people, as reported by Capell (1962:137) and repeated by the Voegelins (1965:40). According to *AR* (1965-1966) only 18,363 people live in the whole Kikori sub-district. The 4000 figure is estimated by J. Cribb.

22. J. Cribb calls the **Porome** dialect in this area the **Kibiri**. To avoid confusion with the **Kibiri** of the Kikorian Family, Cribb's **Kibiri** is called **Veiru**. Apparently it is spoken by the villages of Tipeiowo (formerly Karatiwo, according to Cribb), Doibo, Paile, Koiara, and Babaguina.

23. Austen's **Turamarubi** covers all of his **Kiwai** tribes (1934:24). The name means Turama people (cf. Beaver 1914). Austen mentions an additional Kiwaian language: the **Baru** of the Gama estuary (in the Western District), which appears to be a part of Wurm's **Turama Kiwai.**

24. On the basis of information from J. May of the *SIL*, a language called **Kasua** is spoken on the upper reaches of the Kikori River. This language is approximately 15% [165] related to **Fasu**. **Kasua** and **Kasere** appear to be related, so that Kikorian and Kutubuan may be more closely related than now suspected. A language called **Dibiasu** (*AR* 1924-5:74) on the upper Bamu (Western District) shows some possible affinity to the Bamu-Turaman Family, as well as with Voorhoeve's Phylum.

25. Dog's teeth were an important item of trade along the Purari River (Williams, 1924). However, Pawaian has different words for dog from those shown in Chart 1.

26. **Kaluli** and **Beami** are languages in Voorhoeve's Pare-Samo-Beami-Bosavi Family.

27. These, along with the **Naiakaia**, are nomadic tribes listed in Hides. The *AR* 1926-7:36 refers to a "nomadic tribe of Papuan gypsies" on the course of the upper Vailala River and calls them the **Nahikai-a**. Both groups are probably the same and therefore Pawaian.

28.   Capell doee not describe this group in detail but I have placed the name as a variant within the area it most likely represents.

29.   Not a composite dialect of Akiave, Mikaravi, and Namau - as the *AR* suggests. Williams (1940:25) calls the whole Toaripian Family area the **Elema**.

30.   Williams (1924:3) also refers to some trading partners of the **Koriki** people by the name of the **Koropenairu**. This may be the **Ipikoi**.

31.   A tribe "far up the Kikori", said to be enemies of the **Foi**. This may be a dialect of the **Kasere**.

32.   Part of this group may not speak **Koriki** (Holmes 1913: 124).

33.   If **Morigio Islands**, **Baru**, **Umaidai**, and **Wariadai** all prove to be closely related, they can collectively be called **Morigio**.

FORE FINAL VERBS

GRAHAM SCOTT

* * *

0.   INTRODUCTION

The importance of the verb in Fore[1] should never be underestimated. Always appearing clause-finally, it is the only item obligatory to a clause. Furthermore, whole utterances can be made without the addition of other clause fillers. An example is wama kanáiyó uwaimítegina kanaakapa kabaabukuwe.[2] These five verbs have the meaning, "When you have gone and told them to come, and then come back, I will take you with me".

45

Two categories of verb structure occur in Fore, and these we term MEDIAL and FINAL. A Medial Verb always expresses a relationship between itself and a succeeding action, being used to denote sequences such as those signified by the English conjunctions "and, then, when, while, if", etc. In contrast, the Final Verb described in these pages expresses no such relationship, but is used to close an utterance.[3]

While Medial Verbs form the basis for continuous narrative, the simpler Final Verb is most important to everyday back-and-forth conversation.

1. DIVISION AND MULTIPLICATION

A system of division and multiplication aids explanation of Final Verb structure. The centre of consideration is the SIMPLE Final Verb, which is defined as containing only one verb stem. On one hand the Simple Verb may be divided into classes according to the contrastive features of Stem Type and Transitivity, while on the other it may also be multiplied by "to be", "to do", "to put", or "to go" Compounds.

2. DIVISION OF STEMS

The Stem of a verb is ascertained from Past Tense forms of the Simple Verb. When only obligatory items are present (as described in Section 3), the Stem is that part of the verb preceding the Past Tense morpheme. For example, in watúwe (wa-t´-uw-e[4] go-past tense-I-indicative) 'I went', wa- is the Verb Stem "to go".

2.1. Division by Stem Type

Stems are divided into four classes according to their final vowel, which is either a-, e-, i- or u-. Each Stem Type has its respective features. Firstly, e- and i- Stems make use of a transitional -y when the following morpheme commences with a vowel. a- and u- Stems do not, but prefer vowel elision or fusion. Secondly, i- and u- Stems cause conditioning of following morphemes which commence with -a, changing this -a to -e. a- and u- Stems do not. Table I outlines this division by Stem Type.

TABLE I

Division of Verbs according to Stem Type, with examples

USE OF TRANSITION -y:	CONDITIONING OF -a:	
	NOT CONDITIONED	CONDITIONED TO -e
NOT USED	a- STEMS wa- 'to go' waane 'You go.'	u- STEMS[5] tumu- 'to go down' tumene 'You go down.'
USED	e- STEMS[6] mae- 'to get' maeyaane 'You get.'	i- STEMS i- 'to go up' iyene 'You go up.'

2.2. Division by Transitivity

Stems are further classified according to their Transitivity. Here again there are four divisions: Intransitive, and Common, Direct and Indirect Transitives. The three Transitives differ from INTRANSITIVE in their ability to take an optional free-form clause-level Direct Object. Direct and Indirect Transitives contrast with the COMMON TRANSITIVE by taking obligatory internal Pronominal Referents (described in Section 3.1.). DIRECT TRANSITIVE and INDIRECT TRANSITIVE further contrast in that Indirect Transitives are alone able to support an optional clause-level Indirect Object. Table II shows the extended division caused by Transitivity.

TABLE II

Division of Verbs according to Transitivity, in conjunction with Stem Types

TRANSITIVITY:	STEM TYPE			
	a–	e–	i–	u–
INTRANSITIVE	wa– 'to go'	7	i– 'to go up'	tumu– 'to go down'
COMMON TRANSITIVE	na– 'to eat'	mae– 'to get'	ki– 'to build'	pu– 'to do'
DIRECT TRANSITIVE	a–ga– 'it–to see'		a–karáki– 'it–to screw up'	a–bu– 'it–to hear'
INDIRECT TRANSITIVE	a–bigá– 'him–to ask'			a–mu– 'him–to give to'

3. SIMPLE VERB

The tagmemic formula for the Simple Final Verb, the centre of our consideration, is:

Simple Verb = + Verb Stem ± Aspect 1 + Tense
            + Subject ± Aspect 2 + Mood

in which + indicates an obligatory item and ± an optional one.

natáane (na–tá–an–e eat–past–you singular–indicative)
   'You ate'

nagaitáampéne (na–gai–tá–ampé–n–e eat–completive–past–you singular–emphasis–indicative) 'You really finished eating'.

3 1. Verb Stem

Stem Types and Transitivity have already been outlined in Sections **2.1.** and **2.2.**, but more needs to be said concerning the place of Pronominal Referents. Intransitive and Common

Transitive Stems present no problems, as these are unadorned. Direct and Indirect Transitive Stems, however, take obligatory Pronominal Referent prefixes. Although it would be quite in order to include these in the Simple Verb formula as a separate item, it seems more reasonable to handle them as part of the Verb Stem because of their peculiar nature: obligatory to some verbs, obligatorily absent from others. Thus as fillers of the Verb Stem slot we have the following:

Intransitive: Intransitive stem, wa- 'to go'

Common Transitive: Common Transitive stem, na- 'to eat'

Direct Transitive: + Pronominal Referent + Direct Transitive root, a-ga- 'it-to see'

Indirect Transitive: + Pronominal Referent + Indirect Transitive root, a-bigá- 'him-to ask'

With Direct Transitives the Pronominal Referent refers to the optional clause-level Direct Object, while with Indirect Transitives it refers to the optional Indirect Object. In both instances the forms of the Referents are the same. These are set out in Table III.

TABLE III

Pronominal Referents for Direct and Indirect Transitive Roots

| NUMBER | PERSON | | |
	1st	2nd	3rd
Singular	na-	ka-[8]	a-
Plural	ta-	ti-[9]	i-
Dual	tasi-	tisi-	isi-

3.2   Aspect 1

This is an optional slot, able to be filled by Completive, Intensive, Permissive or Cautionary Aspects.

COMPLETIVE Aspect may be added to give a sense of finality to an action. Allomorphs are: -gasá used preceding -y or -a; -gas´ before other vowels; -gai´ and -ge´ preceding other consonants, the former following a- and e- Stems, the latter u- and i- Stems.

> nagasáyé (na-gasá-#-y´-e eat-completive-present-he-
> indicative) 'He has finished eating'

INTENSIVE Aspect morpheme -gá is used to give intensity to an action. It is not widely used except in a few verbs, of which the most common is the verb "to do" in its various forms and compounds.

> puɡaye (pu-gá-#-y´-e do-intensive-present-he-indicative)
> 'He does very much', or 'He does it intensely'

PERMISSIVE Aspect adds the meaning "should" or "may". It occurs only in Present Tense forms in clause-level Interrogative Mood (explained under Mood - Section **3.6.**), and always without Emphasis (Aspect 2 - Section **3.5.**). Its morpheme is -s.

> nasinó (na-s-#-in-ó eat-permissive-present-you singular-
> interrogative) 'Should you eat?' or 'May you eat?'

CAUTIONARY Aspect has the morpheme -ís. It is also limited in its usage, being restricted to the Present Tense, without Emphasis. Generally this aspect occurs in conjunction with a·yúgúwe 'It is inadvisable'.

> a·yúgu náisine[10] (a yúgú na-ís-#-in-e inadvisable eat-
> cautionary-present-you singular-indicative) 'It is not
> good that you eat'

The aspects mentioned do not occur concurrently. There is a possibility, however, of one or two other aspects filling this slot, but they at least can co-occur with Completives. Because of the uncertainty surrounding their analysis, and their limited occurrence, they are treated as part of complete verb stems.

> nawáe- 'to eat all' (or na-wáe- 'to eat-all')
> maerú- 'to get' (or mae-rú- 'to get-towards??')

3 3. Tense

Four tenses occur in Final Verbs. In general, PRESENT Tense is used to signify any time from the present moment back to and including the previous night; PAST Tense includes any time from yesterday to one or two weeks ago; FAR PAST is used for periods prior to that signified by Past Tense; FUTURE represents any time in the future. A special note is needed regarding Far Past Tense. This often has a "perfect" sense such as in the English phrase "He has arrived". Consequently it is often used in place of a Present Tense.

ibaa miye or ibaa mintíyé (ibaa 'today', mi-#-y-e or
  mi-nt´´-(i)y-e be-present/far past-he-indicative) 'He
  is there today'

Just occasionally a Past Tense is heard being used in the future, or a Present Tense concerning the past. It is quite probable that the tenses do not line up completely with a temporal definition, but rather have some kind of aspect about them such as Future showing incompleteness, Past completeness and so on. Further study of Fore may yet reveal this.

PRESENT Tense morpheme is -# (a zero morpheme).

nauwe (na-#-uw-e eat-present-I-indicative) 'I eat'

PAST Tense allomorphs are the norm -t´, and -tá which is used only when the following morpheme commences with -y or -a.

natúwe na-t´-uw-e eat-past-I-indicative) 'I ate'

natáane na-tá-an-e eat-past-you singular-indicative)
  'You ate'[11]

FAR PAST uses -nt´´ normally, but -nta[12] occurs with Set 2 Subject morphemes which commence with -a (Section 3.4.).

nantúwé (na-nt´´-uw-e eat-far past-I-indicative) 'I
  ate'

nantaampéne na-nta-ampé-n-e eat-far past-you
  singular-emphasis-indicative) 'You really ate'

FUTURE allomorphs are -k as the norm, -kib when Subject morphemes commence with -a, -e or -i, and -kub when they

commence with -o.

nakuwe (na-k-uw-e eat-future-I-indicative) 'I shall
eat'

nakibene (na-kib-an-e[13] eat-future-you singular-indi-
cative) 'You will eat'

nakubóné (na-kub-ó´-n-e eat-future-I-emphasis-indicat-
ive) 'I will really eat'

3.4. Subject

Subject is a fusion of Person and Number. There are
three basic sets of Subject morphemes, as displayed in
Table IV. SET 1 is considered the norm. SET 2 is used
exclusively in conjunction with Emphasis and Improbability
Aspects (Aspect 2 - Section 3.5.). Accents on Set 2 mor-
phemes override any caused by Tense morphemes. SET 3
occurs exclusively with Imperative Mood (Section 3.6.).

Some very interesting points concerning these Subject
morphemes are brought forward by Pike.[14] He explains the
possibility of separation of these composites into Person
(the initial vowel) and Number (the consonants and follow-
ing vowels). Broken lines in Table IV show how the vowels
separate 1st Persons (introduced by -u and -o) from 2nd and
3rd (-a), and make 3rd Singular a possible separate entity.
There seems to be no simple rule for the conditioning of the
consonant portions, except that s in Sets 1 and 3 and me in
Set 2 designate Dual. Worthy of note, though, is the criss-
crossing patterns in Set 1 of w and n, representing Singular
and Plural in 1st Person, but reversing to represent Plural
and then Singular in 2nd Person. This criss-crossing pattern
is again present in Set 2 morphemes in the usage of # and
mpé. In all Final Verbs 3rd person forms of Plural and
Dual are the same as their 2nd Person counterparts.

Morphemes commencing with -a are subject to conditioning.
When they immediately follow u- or i- Verb Stems or Future
Tense allomorph -kib, this -a is conditioned to -e. When
they follow Permissive Aspect (Aspect 1 slot), the -a is
conditioned to -i.

tumene (tumu-#-an-e go down-present-you singular-
indicative) 'You go down'

nasinó (na-s-#-an-ó eat-permissive-present-you
singular-interrogative) 'Should you eat?'

3rd Person −y is preceded by a transitional −i when following a consonant.

nakiye (na−k−(i)y−e eat-future-he-indicative) 'He will eat'

TABLE IV

Basic Sets of Composite Subject Morphemes

| NUMBER | SET 1 PERSON | | | SET 2 PERSON | | | SET 3 PERSON |
	1st	2nd	3rd	1st	2nd	3rd	2nd[15]
Singular	−uw	−an	−y or −y'[16]	−ó'	−ampé	−amí or −í[17]	−#
Plural	−un	−aw	−aw	−ompé	−á'	−á'	−íy
Dual	−us	−as	−as	−omé	−amé	−amé	−ís

3.5. Aspect 2

This is the second optional slot in the tagmemic formula, and may be filled by Emphasis, or by Improbable or Alternative Aspects.

EMPHASIS may be added by the inclusion of the Emphasis morpheme −n. Its presence necessitates usage of Set 2 Subject morphemes.

náoné (na−#−ó'−n−e eat-present-I-emphasis-indicative) 'I really ate'

IMPROBABLE Aspect morpheme −sin' is usually used in conjunction with a special Medial Verb form to give an Improbable Conditional construction, which will not be handled here. Again only Set 2 Subject morphemes are used.

náosiné (na−#−ó'−sin'−e eat-present-I-improbable-indicative) 'I would have eaten'

ALTERNATIVE Aspect has the allomorphs −bayaaw', −payaaw and −sabayaaw', and gives an "either... or" construction expressing doubt. This suffix may only be followed by the Indicative Mood morpheme −e, and in this respect parallels

the Questioner word class described in Section **3.6**. The w ending the allomorphs is virtually a Predicative morpheme (see under Equatives - Section **5**), but for simplicity of analysis here it is included in Alternative Aspect when associated with verbal forms, and listed as part of this Aspect 2 filler.

  mikubayaawé (mi-k-u-bayaaw´-e be-future-I-alternative-
    indicative) 'Will I be there or not?'

  mikibempépayaawé (mi-kib-ampé-payaaw´-e be-future-you
    singular-emphatic alternative[18]-indicative) 'Will you
    really be there or not?'

It will be noted in the first example that the Number portion of the Set 1 Subject morpheme appears to be absent. (This supports Pike's conjecture that Person and Number could be separated.) Its influence, however, is still there if not its presence. Where there was a w or y as the Number portion of the Subject composite, -bayaaw´ is the allomorph used. Where there was an n, -payaaw´ is used. Where an s, -sabayaaw´ occurs. Thus there is never confusion in the mind of the hearer. With Set 2 Subject morphemes (second example), -payaaw´ is always used. This usage shows that an n was previously present, which in this instance was the Emphasis morpheme -n. Thus even though Emphasis is not present segmentally, it certainly is morphophonemically. This could necessitate a separate tagmemic slot between Aspect 2 and Mood, or be handled as a limited duplication of the Aspect 2 slot. It has been mentioned in the morpheme breakdown here simply as "emphatic alternative". The phenomena of w causing -b... and n causing -p... are in accordance with morphophonemic changes as outlined by R. and R. Nicholson [19] For various reasons s seems to be a more recent addition to Fore phonemes, and as such does not conform to the general morphophonemic patterning.

Apart from the peculiarity mentioned, the various aspects of Aspect 2 slot are not co-occurrent, and none appear with the Imperative Mood.

3.6. Mood

Indicative, Interrogative and Imperative are the moods of Fore Final Verbs.

INDICATIVE Mood, whose morpheme is -e, is used in narratives and statements.

naana (na-#-an-e   eat-present-you singular-indicative)
   'You eat'

INTERROGATIVE Mood, morpheme -ó, is used for yes/no questions.

naanó (na-#-an-ó   eat-present-you singular-interrogative)
   'Are you eating?' or 'Have you eaten?'

Interrogative Mood may also be formed on the clause-level by using a Questioner plus Indicative Mood. (A Questioner is a non-verbal part of speech which asks a question such as 'What?', 'Where to?', 'How?', etc.) When this clause-level construction is used, accent from the Interrogative morpheme -ó remains on the Indicative morpheme -é. Alternatively it could be stated that there are two allomorphs of Interrogative mood. -ó and -é, with -é being used whenever a Questioner is present.

naaná naané (naaná na-#-an-é   What? eat-present-you
   singular-indicative??) 'What are you eating?'

IMPERATIVE Mood, morpheme -ó, is used in commands. Since Imperative Mood occurs only in the Present Tense, takes exclusively Set 3 Subject morphemes, and does not occur in association with Aspect 2 slot, Imperative and Interrogative morphemes can never be confused.

náo (na-#-#-ó   eat-present-you singular-imperative)
   'Eat!'

4. MULTIPLICATION OF COMPOUNDS

As explained in Section 1, the Simple Verb may be multiplied by various compounding verbs. Although it is common to hear compounds with "to be", or with "to do", or "to put" or "to go", extended multiplication is much less common. The structural system, however, allows for this possibility, and in the right situations many may be elicited.

punatáyaba mikenabiye (pu-na-tá-yaba'-mi-kena-pu-#-
   (i)y-e[20] do-for me-put-habituative-be-desiderative-
   do-present-he-indicative) 'He wants to be always
   doing it for me'

Extended multiplication, with explanation and examples, is handled in Section 4.5. For our purposes each compound will be dealt with separately at first. The tagmemic formula for a single compound is:

Compound = + Verb Stem + Aspect 3 + Compounding
              Verb Stem ± Aspect 1 + Tense + Subject
              ± Aspect 2 + Mood,

in which Aspect 3 depends on which Compounding Verb is used. When Aspect 3 slot is filled by segmental phonemes, Completive Aspect from Aspect 1 slot changes position to precede it. All morphemes following a Compounding Verb Stem are conditioned in accordance with it and not with the original Stem.

4.1. Multiplication by "to be"

When the Compounding Verb is mi- 'to be', the fillers of Aspect 3 slot are -yaba' and -'.

HABITUATIVE Aspect is formed using -yaba', giving the sense of something always occurring.

    nayaba'miye (na-yaba'-mi-#-y-e eat-habituative-be-
      present-he-indicative) 'He is in the habit of eating',
      or 'He is always eating'

Preceding -yaba' the Completive Aspect allomorph is -gasi'. Why it is not -gasá (Section 3.2.) I am not able to explain at present.

CONTINUATIVE Aspect is formed when -yaba' is absent and an accent is used instead. This gives continuation to an action. In this construction the accent falls on the penultimate syllable.

    kanamíye (kana-'-mi-#-y-e come-continuative-be-present-
      he indicative) 'He is coming', or 'He is in the act of
      coming'

4.2 Multiplication by "to do"

The Compounding Verb -pu 'to do' uses the morphemes -kena and -' as its fillers of Aspect 3 slot.

DESIDERATIVE Aspect is formed when -kena is used. This aspect does not occur in the Future Tense, probably because

-kena may be a combination of -k (Future) and -ena (Nominal-
iser).

    nakenabene (na-kena-pu-#-an-e eat-desiderative-do-
      present-you singular-indicative) 'You desire to eat',
      or 'You want to eat'

ABILITATIVE Aspect occurs when -kena is absent and an
accent instead is present. Again, as with the Continuative
Aspect, this accent falls on the penultimate syllable. In
both instances this accent is superseded by any caused by
Tense and Subject Morphemes.

    nabéne (na-´-pu-#-an-e eat-abilitative-do-present-you
      singular-indicative) 'You are able to eat', or 'You
      know how to eat'

4.3   Multiplication by "to put" or "to go"

Compounds caused by use of the verbs "to put" and "to
go" constitute the third multiplication. They are included
together in the composite tagmemic formula (mentioned in
Section 1 and detailed in 4.4.) for the simple reason that
they have never been observed in the same word. No amount
of elicitation has been able to produce such a combination,
so for the moment it must be assumed that "to put" and "to
go" Compounds are mutually exclusive. They are similar in
that the only Aspect 3 morpheme they take is an accent.

BENEFACTIVE Aspect is formed using the Compounding Verb
a-ta- 'him/it-to put'. So far, although occurrences of the
Benefactive are relatively rare except with the verb pu- 'to
do', no consistent limitations of its use have been noted.
Accent falls on the Root except when other accents follow,
in which event it shifts to the Pronominal Referent.

    punatáye (pu-´-na-ta-#-y-e do-benefactive-for me-put-
      present-he-indicative) 'He does it for me'

STATIVE Aspect is formed using wa- 'to go' Some verbs
necessitate usage of a following glottal stop, while others
take none, yet there appears to be no consistent ruling.
Very few verbs seem able to take this particular compound.
Accent falls on the syllable following wa-, and when this
syllable is word-final, wa- is also accented.

    atisa·wáyé (atisa(·)-´-wa-#-y-e break-stative-go-
      present-it-indicative) 'It is broken'

4.4 Extended Multiplication

A composite tagmemic formula including all compounds is:

Extended Compound = + Verb Stem ± (+Aspect 3
+ "to put" or "to go")
± (+Aspect 3 + "to do")
± (+Aspect 3 + "to be")
± Aspect 1 + Tense + Subject
± Aspect 2 + Mood,

in which Aspect 3 is restricted to use of the morphemes occurring with their respective Compounding Verbs. Table V gives examples of the compounded combinations observed to date.

TABLE V

Extended Multiplication of Compounds, with examples

"to be"		
be: nayaba·miye 'He is always eating'	*"to do"*	
be.do: mayaba·mikenabiye 'He wants to be always eating'	*do:* nakenabiye 'He wants to eat'	*"to put/go"*
be.put: punatáyaba·miye 'He is always doing it for me'	*do.put:* punatákenabiye 'He wants to do it for me'	*put:* punatáye 'He does it for me'
be.go: atisa·wayába·miye 'It is always being broken'	*do.go:* atisa·wakénabiye 'It wants to be broken (it will break)'	*go:* atisa·wáyé 'It is broken'
be.do.put: punatáyaba·mikenabiye 'He wants to be always doing it for me' *be.do.go:* atisa·wayába·mikenabiye 'It is always wanting to be broken'		

5. EQUATIVES

From one point of view an Equative is not strictly a verb, yet when it appears it has the status of a Final Verb filling the clause-level Action slot. An Equative is a non-verbal item which has been verbalised by the addition of Predicative and Mood morphemes, according to the formula:

Equative = + Non-verbal Item + Predicative + Mood.

kaasáané (kaasáa´-n-e new-predicative-indicative) 'It is new'

NON-VERBAL items in this formula may range over any parts of speech (except actual verbs), and include their various optional affixes.

naamápintíwe (naamá-pintí-w-e house-into-predicative-indicative) 'It is in the house'

PREDICATIVE allomorphs are -n and -w, and occasionally -y. All Non-Verbals fall into one of three arbitrary classes, each with its own peculiarities. Class I items use -w as their Predicative allomorph, though occasionally -y in some words and with some speakers fluctuates with it. Classes II and III use -n. These classes will be fully handled in a Non-Verbal paper dealing with morphophonemics at a later date. They have already been mentioned by R. and R. Nicholson.

MOOD slot may be filled by either Indicative -e or Interrogative -ó/-ė morphemes, but never by Imperatives.

It is probably good to restate the importance of the ACTION slot in Fore. No statement can be made without it. Thus *any* utterance *must* include either a Medial or Final Verb or an Equative.

NOTES

1. Fore belongs to the Gende-Siane-Gahuku-Kamano-Fore family of the Eastern Highlands District of the Territory of New Guinea - see S.A. Wurm, "The Languages of the Eastern, Western and Southern Highlands, Territory of Papua and New Guinea", in A. Capell, *Linguistic Survey of the South-Western Pacific*, new and revised edition (Noumea, South Pacific Commission, 1962).

2. Orthography used throughout is based on that suggested by R. and R. Nicholson in "Fore Phonemes and Their Interpretation", *Oceania Linguistic Monographs*, 6, 128-48 (1962). Changes have been made to the stops in that medially the voiced allophones have been written b, r, g, and the voiceless lengthened allophones p, t, k. Glottal stop is written '. Accent (´) is a pitch-stress combination as outlined by K.L. Pike and G. Scott in "Pitch Accent and Non-Accented Phrases in Fore (New Guinea)", *Zeitschrift für Phonetik, Sprachwissenschaft und Kommunikationsforschung*, 16: 179-89 (1963). I have benefited from some personal consultation by Pike, and also from Ruth Nicholson's "Introductory North Fore Verb Paper", *1961 Workshop Papers*, Summer Institute of Linguistics, New Guinea, 151-63 (mimeo). This present analysis has also been made in the Northern dialect.

3. A similar Medial/Final contrast exists in the other languages of this language family. An outline of this in Kanite (Kamano Sub-Family) from the point of view of Dependent and Independent clauses is given by Joy McCarthy in "Clause Chaining in Kanite", *Anthropological Linguistics*, 7(5): 59-70 (1965).

4. An acute following a morpheme indicates induced accent on the next syllable. Accent associated solely with Verb Stems is that which exists when only unaccented affixes are

present. Where a complex syllable is accented, the acute is marked over the first vowel only.

5.   u- Stems followed by a vowel or -y lose the u- of the Stem. When the u- of the Stem is followed by a consonant it fluctuates with i-, with the tendency towards i- except when the vowel following is also u. There are some irregular Verb Stems. a-egú- 'him-to hit' takes transition -y instead of u- loss. kai- 'to remove' becomes kas´- preceding a vowel.

6.   e- Stems take -ya as the transition when the following vowel is -a.

7.   Stems to fill these vacant boxes have not yet been recorded.

8.   In the split root u-...-mú- 'to tell to', the Referent which is normally a prefix becomes an infix. Then in accordance with the general morphophonemics relating to Fore consonants, 2nd Singular ka- changes to ga- and 1st Plural ta- to its voiced equivalent ra-. Further, 3rd Singular a- fuses with the initial u- of the stem to become o-, and initial i of 3rd Plural and Dual forms becomes wai. These changes also occur in Benefactives (where the Referents follow pu- 'to do' - Section 4.3.).

    ugamúwe (u-ka-mú-#-uw-e tell-you singular-tell-present-
      I-indicative) 'I tell you';

    omûwe (u-a-mú-#-uw-e tell-him-tell-present-I-
      indicative) 'I tell him'

9.   Referents which end in i- take a transitional -y when they precede a Stem commencing with a vowel.

    tiyegúye (ti(y)-egú-#-y-e you plural-hit-present-he-
      indicative) 'He hits you all'

10.   Two consecutive accents occur, but where three consecutive accents would appear, the centre one is lost.

11.   This analysis differs slightly from that used by K.L. Pike in "Theoretical Implications of Matrix Permutation in Fore (New Guinea)", *Anthropological Linguistics* (November 1963). There the vowel of the -tá allomorph was included in the Subject morpheme. The present method accommodates some-

what the Central dialect group where the equivalent to
natúwe (na-t´-uw-e) is natáuwé (na-tá´-uw-e) 'I eat'. See
G.K. Scott, "The Dialects of Fore", *Oceania*, 33, 280-6
(1963).

12. This could also be postulated as -nta´ or even -ntá´,
but any inherent accent is overridden by that on Set 2
Subject morphemes.

13. -an 'you singular' is conditioned to -en by the Future
Tense marker -kib. This conditioning is outlined in Section
3.4.

14. op. cit.

15. 1st and 3rd Person forms do exist, but only in a medial
construction, so have been omitted here.

16. An accent is induced in most Present Tense forms when a
preceding accent occurs on the stem or suffixes to which
this is directly attached. Limitations to this rule have
not been fully explored.

   nagasáyë (na-gasá-#-y´-e eat-completive-present-he-
      indicative) 'He has finished eating'

17. These fluctuate freely. -í is the shortened form of
-amí.

18. Explanation follows below.

19. op. cit., p.132.

20. Morphophonemically p becomes b when preceded by a
vowel, in line with k/g and t/r changes mentioned pre-
viously.

PACIFIC LINGUISTICS

(Series A, Nos.1-9, Series B, Nos.1-6, Series C, Nos. 1 and 3, and Bulletins 1 and 2 were called LINGUISTIC CIRCLE OF CANBERRA PUBLICATIONS)

SERIES A - OCCASIONAL PAPERS

No. 1 WURM, S.A. *Some Remarks on the Role of Language in the* $0.30
Assimilation of Australian Aborigines. 1963; 12 pp.

No. 2 HEALEY, Alan *Handling Unsophisticated Linguistic Informants.* $0.75
1964; iii + 30 pp.

No. 3 PENCE, Alan, DEIBLER Jr., Ellis, HEALEY, Phyllis M. and HOOLEY, $0.95
Bruce A. *Papers in New Guinea Linguistics* No.1. 1964;
iv + 42 pp. Reprinted 1971 as *Pacific Linguistics, Series A,*
No.3

No. 4 WURM, S.A. *Papers in New Guinea Linguistics* No.2. 1964; $0.95
iv + 41 pp.; 1 map. Reprinted 1971 as *Pacific Linguistics,*
Series A, No.4

No. 5 HEALEY, Phyllis M. *Papers in New Guinea Linguistics* No.3. $1.25
1965; iv + 53 pp.; 3 tables

No. 6 BEE, Darlene *Papers in New Guinea Linguistics* No.4. 1965; $1.50
iv + 68 pp.; 4 diagrams. Reprinted 1971 as *Pacific Lin-*
guistics, Series A, No.6

No. 7 FRANTZ, C.I. & M.E., OATRIDGE, D. & J., LOVING, R., SWICK, J., $2.15
PENCE, A., STAALSEN, P. and BOXWELL, H. & M. *Papers in New*
Guinea Linguistics No.5. 1966; viii + 93 pp. Reprinted 1971
as *Pacific Linguistics, Series A,* No.7

No. 8 SHETLER, J., PITTMAN, R., FORSBERG, V. and HUSSEY, J. *Papers* $0.95
in Philippine Linguistics No.1. 1966; iv + 38 pp. Reprinted
1971 as *Pacific Linguistics, Series A,* No.8

No. 9 NGUYEN DANG LIEM, A. TRAN HUONG MAI and DELLINGER, David W. $2.15
Papers in South East Asian Linguistics No.1. 1967;
iv + 43 pp. + 30 tables + 3 chart tables + 27 charts. Re-
printed in 1970 as *Pacific Linguistics, Series A,* No.9

PACIFIC LINGUISTICS

Occasional Papers - *continued*

No.10 GLASGOW, D. & K., KIRTON, Jean F., OATES, W.J. and SOMMER, $1.25
       B.A. & E.G. *Papers in Australian Linguistics* No.1. 1967;
       v + 59 pp.; 18 charts

No.11 VON BRANDENSTEIN, C.G., CAPELL, A. and HALE, K. *Papers in* $1.85
       Australian Linguistics No.2. 1967; iii + 73 pp. + 7 maps.
       Reprinted 1971

No.12 McELHANON, K.A. and RENCK, G. *Papers in New Guinea Lin-* $1.00
       guistics No.6. 1967; iv + 48 pp.; 6 charts; 2 figures. Re-
       printed 1971

No.13 GODDARD, J. and FRANKLIN, K.J. *Papers in New Guinea Lin-* $1.25
       guistics No.7. 1967; iv + 59 pp. Reprinted 1971

No.14 AGUAS, E.F. and TRYON, D.T. *Papers in Australian Linguistics* $1.00
       No.3. 1968; iii + 46 pp. + 1 map; 1 table. Reprinted 1971

No.15 CAPELL, A., PARKER, G.J. and SCHÜTZ, A.J. *Papers in Lin-* $1.25
       guistics of Melanesia No.1. 1968; iii + 52 pp. + 1 map. Re-
       printed 1971

No.16 VOORHOEVE, C.L., FRANKLIN, K.J. and SCOTT, G. *Papers in New* $1.35
       Guinea Linguistics No.8. 1968; iv + 62 pp.; 2 maps. Re-
       printed 1971

No.17 KINSLOW HARRIS, J., WURM, S.A. and LAYCOCK, D.C. *Papers in* $2.15
       Australian Linguistics No.4. 1969; vi + 97 pp.; 3 maps

No.18 CAPELL, A.; HEALEY, A., ISOROEMBO, A. and CHITTLEBOROUGH, M.; $2.15
       and WILSON, D.B. *Papers in New Guinea Linguistics* No.9.
       1969; vi + 110 pp.; 1 map. Reprinted 1971

No.19 MILLER, J. and MILLER, H.W. *Papers in Philippine Linguistics* $0.85
       No.2. 1969; iii + 32 pp. Reprinted 1971

No.20 PRENTICE, D.J. *Papers in Borneo Linguistics* No.1. 1969; $1.05
       iv + 41 pp. Reprinted 1971

No.21 CAPELL, A., CHOWNING, A. and WURM, S.A. *Papers in Linguistics* $2.25
       of Melanesia No.2. 1970; v + 105 pp.; 5 maps

No.22 LAYCOCK, D.C., LLOYD, Richard G. and STAALSEN, Philip *Papers* $1.95
       in New Guinea Linguistics No.10. 1969; v + 84 pp.

PACIFIC LINGUISTICS

Occasional Papers - *continued*

No.23   BUNN, G. & R.; PENCE, Alan, GEARY, Elaine and BJORKMAN, Doris; $2.00
       WEIMER, H. & N.; and CLAASSEN, O.R. and McELHANON, K.A. *Papers*
       in New Guinea Linguistics No.11.   1970; v + 78 pp.; 1 map

No.24   ABRAMS, N., FORSTER, J. and BRICHOUX, R. *Papers in Philippine* $1.95
       Linguistics No.3.   1970; vi + 77 pp.

No.25   VOORHOEVE, C.L., McELHANON, K.A. and BLOWERS, Bruce L. & Ruth $1.25
       Papers in New Guinea Linguistics No.12.   1970; iv + 60 pp. +
       1 map

No.26   BLOWERS, B.L., GRIFFIN, Margie and McELHANON, K.A. *Papers in* $1.35
       New Guinea Linguistics No.13.   1970; iv + 48 pp.

No.27   KIRTON, Jean F. *Papers in Australian Linguistics* No.5.   1971; $1.50
       iv + 70 pp.

In preparation:

No.28   DUTTON, T., VOORHOEVE, C.L. and WURM, S.A. *Papers in New Guinea Lin-*
       guistics No.14

No.29   GLOVER, W., HARI, Maria and HOPE, E. *Papers in South East Asian Lin-*
       guistics No.2

No.30   HOPE, E., KATSURA, Makio and NISHIDA, Tatsuo *Papers in South East*
       Asian Linguistics No.3

No.31   ALLEN, Janice, LAWRENCE, M., LEWIS, R.K. and LEWIS, Sandra C. *Papers*
       in New Guinea Linguistics No.15

SERIES B - MONOGRAPHS

No. 1   WURM, S.A. and HARRIS, J.B. *POLICE MOTU, An introduction to* $1.85
       the Trade Language of Papua (New Guinea) for Anthropologists
       and other fieldworkers.   1963; vi + 81 pp.

No. 2   WURM, S.A. *Phonological Diversification in Australian New* $1.85
       Guinea Highlands Languages.   1964; iii + 87 pp.; 1 map.   Re-
       printed 1971 as *Pacific Linguistics, Series B,* No.2

No. 3   HEALEY, Alan *Telefol Phonology.*   1964; iii + 1 figure + $1.25
       53 pp. + 5 tables

No. 4   HEALEY, Phyllis M. *Telefol Noun Phrases.*   1965; iii + 51 pp.; $1.25
       3 tables

PACIFIC LINGUISTICS

Monographs - *continued*

No. 5   HEALEY, Phyllis M.   *Levels and Chaining in Telefol Sentences.* $1.50
   1966; iv + 64 pp.; 5 tables.   Reprinted 1971 as *Pacific Lin-
   guistics, Series B*, No.5

No. 6   TRYON, Darrell T.   *Nengone Grammar.*   1967; x + 91 pp.; $2.00
   10 tables.   Reprinted 1971 as *Pacific Linguistics, Series B*,
   No.6

No. 7   TRYON, Darrell T.   *Dehu Grammar.*   1968; ix + 111 pp.; $2.50
   10 tables.   Reprinted 1971

No. 8   TRYON, Darrell T.   *Iai Grammar.*   1968; xii + 125 pp.; $2.95
   11 tables.   Reprinted 1971

No. 9   DUTTON, T.E.   *The Peopling of Central Papua: Some Preliminary* $3.75
   Observations.   1969; viii + 182 pp.

No.10   FRANKLIN, K.J.   *The Dialects of Kewa.*   1968; iv + 72 pp.; $2.50
   20 maps.   Reprinted 1971

No.11   SOMMER, B.A.   *Kunjen Phonology: Synchronic and Diachronic.* $1.95
   1969; iv + 72 pp.; 3 maps

No.12   KLOKEID, T.J.   *Thargari Phonology and Morphology.*   1969; $1.25
   viii + 56 pp.; 1 map

No.13   TREFRY, D.   *A Comparative Study of Kuman and Pawaian.*   1969; $2.00
   iv + 94 pp.; 1 map

No.14   McELHANON, K.A.   *Selepet Phonology.*   1970; v + 47 pp.; 1 map $1.25

No.15   TRYON, D.T.   *An Introduction to Maranungku (Northern Aus-* $2.50
   tralia).   1970; vi + 111 pp.; 1 map

No.16   McELHANON, K.A. and VOORHOEVE, C.L.   *The Trans-New Guinea* $2.50
   Phylum: Explorations in Deep-level Genetic Relationships.
   1970; v + 107 pp.; 4 maps

No.17   KUKI, Hiroshi   *Tuamotuan Phonology.*   1970; ix + 119 pp.; $2.50
   2 maps

No.18   YOUNG, R.A.   *The Verb in Bena-Bena: its Form and Function.* $1.50
   1971; v + 68 pp.

In preparation:

No.19   PATON, W.S.   *Ambrym Grammar*

No.20   CAPELL, A.   *Arosi Grammar*

PACIFIC LINGUISTICS

SERIES C - BOOKS

No. 1 LAYCOCK, D.C. *The Ndu Language Family (Sepik District, New* $5.00
Guinea). 1965; xi + 224 pp.; 1 map

No. 3 NGUYEN DANG LIEM *English Grammar (A Contrastive Analysis of* $5.00
English and Vietnamese vol.1). 1966; xliv + 177 pp.;
16 tables. Reprinted in 1970 as *Pacific Linguistics, Series C,*
No.3

No. 4 NGUYEN DANG LIEM *Vietnamese Grammar (A Contrastive Analysis* $5.50
of English and Vietnamese vol.2). 1969; xliii + 209 pp.;
37 tables

No. 5 NGUYEN DANG LIEM *A Contrastive Grammatical Analysis of English* $3.25
and Vietnamese (A Contrastive Analysis of English and Viet-
namese vol.3). 1967; xv + 151 pp.; 15 tables. Reprinted 1971

No. 6 TRYON, Darrell T. *Dehu-English Dictionary*. 1967; v + 137 pp. $2.95
Reprinted 1971

No. 7 TRYON, Darrell T. *English-Dehu Dictionary*. 1967; $3.25
iii + 162 pp. Reprinted 1971

No. 8 NGUYỄN DANG LIEM *A Contrastive Phonological Analysis of* $5.25
English and Vietnamese (A Contrastive Analysis of English and
Vietnamese vol.4). 1970; xv + 206 pp.; 22 charts; 19 tables

No. 9 TRYON, D.T. and DUBOIS, M.-J. *Nengone Dictionary. Part 1:* $9.00
Nengone-English. 1969; vii + 445 pp.

No.10 OATES, W. and OATES, L. *Kapau Pedagogical Grammar*. 1968; $3.75
v + 178 pp. Reprinted 1971

No.11 FOX, C.E. *Arosi-English Dictionary*. 1970; iv + 406 pp.; $8.95
1 map

No.13 WURM, S.A. and LAYCOCK, D.C., eds. *Pacific Linguistic Studies* $25.00
in Honour of Arthur Capell. 1970; viii + 1292 pp.; 25 maps;
1 photograph.
Articles authored, or co-authored, by:
B.W. Bender, Catherine M. Berndt, R.M. Berndt, H. Bluhme,
J.E. Bolt, C.G. von Brandenstein, †C.D. Chrétien, J.R.
Cleverly, C. Court, R.M.W. Dixon, W.H. Douglas, T.E. Dutton,
I. Dyen, S.H. Elbert, A.P. Elkin, E.H. Flint, K.J. Franklin,
Marie Godfrey, G.W. Grace, K. Hale, Joy Harris, A. Healey,
H. Hershberger, Ruth Hershberger, W.G. Hoddinot, P.W. Hohepa,

PACIFIC LINGUISTICS

Books - *continued*

No.13 (continued)
N.M. Holmer, B.A. Hooley, Dorothy J. James, H. Kähler, Susan
Kaldor, H. Kerr, Jean F. Kirton, D.C. Laycock, Nguyen Dang
Liem, K.A. McElhanon, H. McKaughan, G.N. O'Grady, A. Pawley,
Eunice V. Pike, R. Pittman, D.J. Prentice, A.J. Schütz, M.C.
Sharpe, †W.E. Smythe, A.J. Taylor, D.T. Tryon, E.M. Uhlen-
beck, C.F. Voegelin, F.M. Voegelin, C.L. Voorhoeve, S.A. Wurm,
J. Z'Graggen.

No.14 GEERTS, P. *'Are'are Dictionary*. 1970; iv + 185 pp.; 1 map $3.95

No.15 McELHANON, K.A. and N.A. *Selepet-English Dictionary*. 1970; $3.95
xxi + 144 pp.

No.16 FRANKLIN, K.J. *A Grammar of Kewa, New Guinea*. 1970; $2.95
ix + 138 pp.

No.17 PARKER, G.J. *Southeast Ambrym Dictionary*. 1970; xiii + 60 pp. $1.50

No.18 PRENTICE, D.J. *The Murut Languages of Sabah*. 1971; $6.50
ix + 311 pp.; 1 map

No.19 Z'GRAGGEN, J.A. *Classificatory and Typological Studies in* $3.95
Languages of the Madang District. 1971; viii + 179 pp.; 4 maps

In preparation:

No. 2 WURM, S.A. *Handbook of New Guinea Pidgin*

No.12 LAYCOCK, D.C. *Basic Materials in Buin: Grammar, Texts, and Dictionary*

No.20 LANG, Adrianne *Enga Dictionary with English Index*

No.21 PATON, W.S. *Ambrym (Lonwolwol) Dictionary*

No.22 LONGACRE, Robert E., ed. *Philippine Discourse and Paragraph Studies*
in Memory of Betty McLachlin.
Articles authored by: †Betty McLachlin and Barbara Blackburn,
Hazel Wrigglesworth, Claudia Whittle, Charles Walton.

No.23 TRYON, D.T. and DUBOIS, M.-J. *Nengone Dictionary. Part II: English-*
Nengone

No.24 ELBERT, S.H. *Puluwat Dictionary*

PACIFIC LINGUISTICS

SERIES D - SPECIAL PUBLICATIONS
(Bulletins, archival materials and other publications)

No. 1 *Bulletin* No.1. 1964; 9 pp. $0.25

No. 2 *Bulletin* No.2. 1965; 84 pp. $1.50

No. 3 WURM, S.A. *New Guinea Highlands Pidgin: Grammar Notes and* $3.50
       Materials. 1971; vii + 175 pp.

No. 4 WURM, S.A. *Language Map of the Eastern, Western and Southern* $0.35
       Highlands, Territory of Papua and New Guinea (in 14 colours).
       1961

No. 5 LAYCOCK, Don *Materials in New Guinea Pidgin (Coastal and Low-* $2.50
       lands). 1970; xxxvii + 62 pp.

No. 6 NGUYEN DANG LIEM *Four-Syllable Idiomatic Expressions in Viet-* $1.50
       namese. 1970; v + 60 pp.

No. 7 ELBERT, S.H. *Three Legends of Puluwat and a Bit of Talk.* $2.15
       1971; viii + 85 pp.; 1 map; 1 photograph

No. 9 *Index to Pacific Linguistics, Series A-D, as at the end of* $1.85
       1970. 1971; iv + 75 pp.

In preparation:

No. 8 LANG, A., MATHER, K.E.W. and ROSE, M.L. *Information Storage and*
       Retrieval: a Dictionary Project

No.10 PATON, W.S. *Tales of Ambrym*

No.11 PATON, W.S. *Customs of Ambrym, with Texts*