

## CHAPTER 1



## INTRODUCTION

Karl J. Franklin

### 1.1. The Gulf District and Adjacent Districts

Prior to 1951 the Districts in Papua were known as Divisions. Consequently *Annual Reports* published before that date use the earlier term. The Papuan Divisions of the Central Highlands, Delta, and Gulf were established after the second world war. The Central Highlands Division comprised the Northern portion of the former Western and Delta Division. The northern boundary was the Territorial Border between Papua and New Guinea. A headquarters for the Central Highlands Division was established at Lake Kutubu in 1949.

The border between the Central Highlands and Delta Division was a line drawn from Mt. Karimui in the east to Mt. Bosavi in the west, then slightly northwest to the then Dutch New Guinea border. The western border of the Delta Division was the Western Division Boundary of the Turama River and the eastern border was the Purari River in the East. The Delta Division had its headquarters at Kikori.

The Gulf Division was east of the Purari River as far as the border or the Central Division - a line drawn due north from Cape Possession to the Papua New Guinea Border. The headquarters for the Gulf Division was at Kerema.

In 1951 the former Gulf and Delta Divisions were amalgamated into the Gulf District, with headquarters at Kerema. Part of the Central Highlands was incorporated into the Western District and the remainder was renamed the Southern Highlands District, with headquarters at Mendi. The present borders of the Western - Gulf - Southern Highlands Districts is a line drawn from the mouth of the Gama River northwest to the headworks of the Turama River, then directly north at 143° to east of

Mt. Bosavi. The line then is drawn east and then north to the Karius Range before it proceeds along the range west to the Mueller Range and then due north to the Papua New Guinea (Territorial) border.

The Chimbu District was formed in 1966, with headquarters in Kundlawa. It was formed mainly from the Kerawagi, Chimbu, Chuave, Karimui, and Gumine areas of the Eastern Highlands District, with some small boundary adjustments as well in the Western Highlands, Southern Highlands and Gulf Districts.

The history of European penetration into the Gulf of Papua is quite early and extensive along the coast. In 1846 the H.M.S. Bramble surveyed some areas to the east, but it was not until 1883 that Chalmer discovered one of the outlets of the Purari River. A few years later (1890) Bevan described his voyages up the Kikori a short distance and also up several inlets to the east. By 1912 the coast of Papua was said to be almost completely controlled.

Visits to the interior apparently began in 1907 when D. Mackay led an expedition up the Purari and walked west as far as Mt. Murray. S. Smith extended the journey in 1910-11 in an ill-fated expedition up the Kikori by boat then north to Mt. Murray by foot. His plans were then to walk west to the Strickland River. Instead his party became separated and confused and after an extremely difficult journey ended up back on the Kikori River. However, in 1913 H. Ryan went up the Kikori and then westward across the headwaters of the Turama, Abavi and Wawe Rivers, finally descending the Aworra.

It was not until 1922 that L. Flint and H.M. Saunders visited the Samberigi Valley, crossed the Kerabi Valley and found the Erave River. B.W. Faithorn and C. Champion followed the Erave to its junction with the Purari in 1929, after they had gone up the Turama and east. About the same time (1930) M. Leahy and M. Dwyer rafted down the Purari from the Eastern Highlands (the Upper Ramu). H. Hides patrolled the upper Purari between 1931 and 1934. Finally in 1937 C. Champion and F.W.G. Anderson established a camp at Lake Kutubu and penetrations were begun in earnest into the Southern Highlands. I. Champion and Adamson patrolled from the Bamu River to the Leonard Murray Mts., to Lake Kutubu, the Waga Furari Valley, Mt. Giluwe and back to the Purari River. Champion (1940) gives an account of this expedition. J. Hides and J. O'Malley had also already crossed the Papuan Plateau and parts of the Southern Highlands in their Strickland - Purari patrol of 1935.

The Karimui area was not effectively patrolled until 1952 when

D.P. Sheehey and T.M. Claridge went from Mendi to Mt. Karimui.

Despite these early penetrations, little has been known of the linguistic situation in the Gulf District. The present volume is an attempt to classify all the languages which are known to be spoken in the Gulf area. Because political and administrative boundaries of the type outlined above intersect language groups, certain areas adjacent to the Gulf District are also described.

## 1.2. Previous Studies and Linguistic Classifications of the Gulf

The Gulf, with a paucity of linguistic evidence, has not been without several proposed classifications. Later in this section we shall outline the most complete ones and summarise some of the findings presented in this book.

### 1.21. General Information

Several aspects of the early life of the people in the Gulf area have been recorded. Chinnery (1917), for example, noted the use of the wooded kipi trumpet and the conch shell. Cannibalism was widespread, except for the Elema, but the lack of pottery in the Gulf meant that human flesh was roasted (Beaver 1914). His observations extend from the Bamu area east at least to the Purari area, where the Motu traders brought their pottery in exchange for sago.

The most notable item in the Gulf area was the carved gope boards (Thorpe 1931), which were erected in the men's clubhouses. These were associated with a dance celebrating both initiation and pig kills (Austen 1934). The boards were similar in some respects to the agibe slabs used at dances along the Turama River area (Austen 1935-36). The designs on the gope boards have been illustrated in Newton (1963), and their association with bullroarers and other objects is repeated by him. He has also (Newton 1961) described the art styles which are common throughout the Gulf area. Wirz (1937) has commented on the possible common origin of the bullroarer (which is apparently not found at Kikori or westward) and the use of the tall masks known throughout the delta and former Western Division of Papua.

Another common feature throughout the Gulf area was a dance known in the western Eleman as the ehalo (Humphries 1931), named after the type of masks used.

Further to the west, an eastern migration of the Kiwai (Chapter 6) is also supported by the legends about a mythological character known as

Hido (Austen 1931-32), who was called Iko by the Namau tribes of the Purari delta. The people near Baimuru (Vaimuru or Kemeravi), were said to have come from Wimari on Kiwai Island, near Auti village.

An interest in the Purari river area has been maintained since 1908 when the Little and Mackay discovered coal during an expedition up the river to the Hathor gorge. An account of their trip and the names of some of the villages and people can be found in the *Geographical Journal* (1911). They were apparently in Polopa territory (see Chapter 3) during much of their expedition.

As Brown summarises later (Chapter 8), the work of Williams is of primary importance in any understanding of the early life of the people in the Purari delta, and especially of the Eleman as a society. His article on age grading (1939) preceded his extensive account of the Orokololo (1940). Williams suggested that the name Elema was the term used by Motu sailors in their trading expeditions into the area, in that it was probably their rendering of Hereva-Haera, the people living near Orokololo.

There are two early main studies that touch upon the Purari area. The first is an extensive study of the people of the delta by Williams (1924). His book, coupled with the photographs of the area, allow Maher (1961) to describe the Purari culture before European contact (Chapter 11). Maher also has maps which show the distribution of Purari villages at the time of contact, in 1939, and finally in 1955. The second major early study is by Holmes (especially 1903), who recorded some of the oral tradition of the people. This suggested that although the birthplace of the Purari people is not certain, it may have been from the interior. Some confusion is due to the tribal history of the Purari (or as Holmes calls them, the Namau) area. Holmes (1913) mentions four groups or tribes: (1) the Muru, living east of the Purari, who were probably a split from the Kaura (or Haura); (2) a group of the Kaura also on the east bank of the Purari. These were probably Elema people in that they could not speak Namau; (3) another group of Kaura, but on the west bank of the Purari and speaking Namau. These were not Elema, but were probably given the name by those living near them; (4) the Namau proper, divided into the Vaimuru at Era Bay, the Kaimare on the Pie River, and the Iai, living further inland. Williams (1924) also mentions the Kaura people of the Purari River, but does not relate them to his four tribes of the delta area: Koriki, Iari, Kaimari and Baroi.

The only other account of the Purari area which mentions groups of

people is by Hides (1938), but generally his expedition was further inland than the delta.

The Gulf people have long been traders, but apparently not sailors. Williams (1932) describes the early disasters of the Elema people who attempted to imitate the Motu in their lakatoi vessels. Besides their trade of sago for clay pots, the Elema also traded bows and arrows, as well as tobacco, for shell ornaments. Seligmann (1910) gives the fullest account of the Motu trading voyages, and this is supplemented by William's own account.

In Chapter 8 Brown's comments on the probably migration of the Eleman tribes from the interior is supported by the earlier observations of Holmes (1903). Holmes said that oral tradition suggested a split into six different tribes of two main groups: (1) those with tribal names ending in *ipi*; and (2) those ending in *raʷuʷau*. Some of the latter are at each end of the Elema territory.

Holmes (1924) notes certain similarities of the Namau-Toaripi, especially the body part counting system and the use of reduplication for the number four. However, both features are widespread throughout the Gulf. It is, rather, Brown's study in Chapter 8 which allows the combination of Purari-Eleman into a broad linguistic group. His classification of the lexical relationship is along four separate avenues: (1) loans, such as the word for *men's house*; (3) words which are unique to the two areas, such as *headman*, or unique to Namau and Toaripi, such as *courage* and *fear*; (4) common introductions from Motu, such as *price* and *fish-hook*.

Of particular interest is the Tate, or Raepa Tati ("Hill Tati") as Brown calls them (8.6.). If this is an AN language, there is little evidence left today. On the other hand the language known as Tati may have been strongly influenced by the Mekeo. Brown indicates that Kovio (an AN language) is closely related to the Tati, or North Mekeo, as it is now known. At any rate there are no known affinities between it and Toaripi, although a full study of the N. Mekeo and Raepa Tati is needed at this point. The latter has been strongly influenced by Toaripi and Brown seems to feel that the Raepa Tati may be historically related to the AN languages, such as Roro to the east.

One interesting fact which parallels our linguistic evidence is that the AN-NAN division near the common Gulf-Central District border is supported by a study of tattooing patterns by Barton (1918). He found that even though the Eleman (as well as the Tate, Kiwai further west, or

other groups) tattooed men, their patterns were extremely crude when compared to the AN groups further east.

A continuing problem in the Gulf area has been sickness and depopulation. (Murray 1932; McCarthy 1968). Even though Murray suggested possible avenues to overcome the problem, there has been no lessening of the trend. Murray thought, somewhat naively we might add, that depopulation might work for the better, in that "the more resistant stocks will remain, and that their natural increase will be more than sufficient to make up any loss" (1932:213). His comments were in relation to the interaction of sickness, insufficient food supply, and the passing of the old native way of life.

Coupled with the problem of depopulation has been a general sense of confusion and inferiority caused by a period of hysteria related to a type of cargo cult (Williams 1934). Williams felt that this was due to the inability to assimilate the new aspects of the European culture, as well as the loss of the customary means of social control.

We might conclude by stating that although the linguistic history of the Gulf area turns out to be quite interesting (as will be summarised below), the general lot of the Gulf people has been poor since the days of earliest contact. The government and the missions who have worked in the area have done much in regard to social benefits, but the general present absence of cultural pride in the area (Beier and Kiki 1970), coupled with depopulation and other factors is generally disheartening.

There are several linguists who have attempted to classify the linguistic situation in the Gulf from early in the century up until the middle of the century. We will examine the findings of four of them: Ray, Loukotka, Capell and the Voegelins.

#### 1.22. Sydney Ray

The earliest attempt to classify languages in the Gulf area was by S.H. Ray (1907). Beginning with Girara at the left bank of the Fly River and continuing east to the Biarur River he noted nineteen languages. Nine of these were what we now call Kiwalian languages, seven were Eleman, and the remaining three were apparently what we call Kairi (Ray's Dumu), Ipiko (his Epai or Ipikoi), and Purari (his Namau or Maipua). Only Ray's Paia is uncertain, for there are no words or details recorded about it, but its position on his map suggests that it is in a Kiwalian area.

At the same time Ray suggested the distinction between Papuan and Melanesian languages (1907:287). Papuan languages were said to have no

common origin in the pronouns, formation of possessive pronouns by a suffix to the personal pronouns, noun cases formed by postpositions, subject of a transitive verb in the instrumental case, higher numerals usually reckoned by naming parts of the body, and a complicated verb system which included expressing tense, person, and number by suffixes. Each of these points contrasted with characteristics of Melanesian languages.

Ray's later studies (e.g. 1913-14, 1927) built upon this early report. His collection of vocabularies for Papua had grown from forty-six in 1907 to almost 300 by 1927. He classified the lists into sixty-five apparent groups. The languages of the Delta Division which he listed were Kibiri, Aurama, Ibikaira, Orokolo, Namau, Ahiare, Karima, Bara and Eme-eme. In the Gulf Division he listed Madinava, Maiheari, Baibala, Toaripi and Tate. We have attempted to identify and classify these names on legends at the close of appropriate chapters.

### 1.23. Čestmír Loukotka

In 1957 Loukotka classified the language of Papua in an article accompanied by a linguistic map. His information was drawn entirely from existing sources. In the Gulf his groupings were the Kukukuku, Elema, Aurama, Namau, Sesa, Samberigi, Kasere, Kiwai, as well as groups in the inland and interior. Many of his names are difficult to trace, but I have commented on some of his work elsewhere (1968). We have also attempted to identify the names he used at the close of each appropriate chapter in this book.

Loukotka's Kukukuku group is Lloyd's Angan (Chapter 2), but Loukotka had only one language, apparently Kapau, listed. His Elema corresponds to Brown's Eleman (Chapter 8), but Brown includes several of Loukotka's names which are unaccounted for. One other of his isolates, Maiheari is also in Lloyd's Angan Family. Loukotka's Aurama and Namau groups correspond to Pawaia and Purari respectively. His Sesa is included within MacDonald's Teberan (Chapter 3) his Samberigi is in the West-Central Family (Wurm 1960, 1971), his Kasere is in our Turama-Omatian (Chapter 7), and his Kiwai are apparently all within Wurm's Kiwalian (1951; Chapter 6). Other languages that he mentioned will be identified in the legends at the end of each chapter. Later (1962:415) Loukotka proposes two groups which include Gulf languages in particular: (1) the Karima group, including languages called Karima, Barika, Kibiri, and Dugeme; (2) the Sesa group, including Sesa-Ibukaira, Ro-Keai-Bara,

Foraba, and Kutubu. All of the Sesa group except Kutubu (Chapter 4) are discussed in Chapter 3 by MacDonald. All of the Karima groups are discussed in Chapter 7.

#### 1.24. A. Capell

Capell's classification (1962a) of the Gulf area added some unidentified names to the earlier classification. Waiemi, apparently at the headwaters of the Turama-Omati Rivers, for example, is not mentioned in his text. In general, rather than giving a firm classification, Capell gave brief accounts of two language areas. These were the Kikori delta and the Kerema coastal area, the later including four branches of what Capell called one language: Vailala - Orokelo - Kerema - Toaripi (see Chapter 8). In the Kikori delta and inland Capell mentioned the Kerewa and other groups east to the Era River as Kiwaiian (see Chapter 6). Other than this he described only a few features of Koriki and mentioned two groups of languages inland: (1) the upper Turama, Paibuna, and Omati Rivers languages. In this area he listed only Kibene by name; (2) the Pavaia, which he said (p.139) was spoken at Namaina, Keka, Taraha, Sira and Sesa. In a publication about the same time (1962b:374) Capell stated that only the Kiwai and Orokelo were definite groups. Because he was describing a much broader classification he did not go into any detail on specific languages of the Gulf.

Capell also listed the Rumu and Poromi languages, both being distinct from Kerewa. Rumu is classified later (Chapter 7, as Kairi) and Poromi is considered a language isolate. The different language which he reported near Mt. Favenc and the group on the islands of Lake Tebera are described by MacDonald in Chapter 3 on the Teberan Family.

#### 1.25. C.F. and F.M. Voegelin

In a volume called *Indio-Pacific Fascicle Five* (1965) the Voegelins proposed an overall classification of New Guinea languages.

Their first large group, called the Central New Guinea Macro-Phylum (p.4ff.), was extended to include all groups said to be related to any group within the macro-phylum. This chain relationship allowed the inclusion of the ENGH Micro-Phylum, the Southeastern WNG Phylum, the Ok-Oksapmin Phylum, the Binandere Phylum, the Kâte Phylum and the Ndu and Ndani Families.

Included within the ENGH Micro-Phylum are Duna (see Chapter 5 for mention of this language), Kutubu (=Foe, see Chapter 4), Mikaru and

Pawaia (Chapter 3). Voegelins then include Kutubu and several dialects of our Teberan Family (Sesa - Ibukaira, Ro-Keai-Bara, and Foraba) in a "Sesa Group" (cf. also Loukotka).

There are two other Phyla which the Voegelins establish which include languages of the Gulf District: the Kiwai (generally Wurm's Kiwai Family) and the Karima. In the latter they follow Loukotka's (1962) "Karima Group" and propose four languages: Karima, Barika, Kibiri and Dugeme. All of these names are mentioned in Chapter 7.

All other languages in the Gulf District (except the Kukuku and Vailala-Orokolo-Toaripi Families) are listed as unclassified. These include Kibene, Kasere, Waiiemi, Wariadai, Pepeha, Morigi Island, Dumu, Poromi, Harahu, Mamisu and Kouki. All of these languages are mentioned and identified in appropriate chapters.

### 1.3. More Recent Classifications

Beginning with Wurm's classification of the Highland and certain adjacent languages, the Australian National University has contributed substantially to our understanding of Papua New Guinea linguistics. Both Wurm and Voorhoeve have studied in linguistic areas which clearly relate to the Gulf. Most recently (1971) Greenberg has proposed even more spectacular relationships between New Guinea and other languages.

#### 1.31. C.L. Voorhoeve

In 1968 Voorhoeve proposed far-reaching linguistic relationships which led to his establishing the South and Central New Guinea Phylum. Of the languages or Families which are examined in this volume, he included Samo-Kubo-Bibo, Bosavi and Fasu (see Chapter 4 and 5), as well as the Kiwai Family (Chapter 6) within his Phylum. Later (1970) he renamed the entire group a stock, in keeping with his and McElhanon's establishment of a Trans-New Guinea Phylum which included the Central South New Guinea Stock as a member.

Laycock and Voorhoeve (1971) also give a brief account of the history of linguistic research in the Gulf area, as well as mentioning broader Papuan classifications.

McElhanon and Voorhoeve's study (1970) was the first indication that the so-called Highland group of languages had a broader relationship which connects languages in the Huon peninsula with languages in the southwest of Papua New Guinea. This includes a good part of the Gulf,

as well as most of the languages discussed in Chapters 4, 5, and 7 of this book.

Voorhoeve (1970) also has shown how languages in the Western District which were previously not thought to be related are part of a much larger CSNG Phylum (now called a Stock by Wurm, 1972).

His studies of the CSNG area have clarified the linguistic picture to a considerable extent. His contribution as co-author in Chapter 4 is of particular note, in that it relates to an area where two quite distinct linguistic stocks meet - the Highlands and the CSNG.

### 1.32. S.A. Wurm

The linguistic situation has been reassessed by Wurm continuously and we will attempt to review only his most recent work (1971, 1972) of the Gulf District.

Within Wurm's CNG Macro-Phylum are the ENGH Phylum, the Huon Peninsula Phylum, the SENG Phylum, the CSNG Phylum, and the WNGH Phylum, as well as the Anga Family, the Mikaru (now our Teberan) Family, the Foe (Kutubu) and Pawaia.

Wurm outlines sixteen shared features of the members of the Macro-Phylum (1971) as well as typological features of the Angan Family (p.597).

Certain of the families which Wurm describes (pp. 648ff.) on the basis of information supplied by myself have been modified in this present study. In particular: (1) his Kikori River family (my Turama-Kikori) has not proven to be at a Family level, if Kairi (Dumu) is included. Because of this we have chosen to call the Turama-Kikori group a Stock; (2) the Inland Gulf Stock includes languages of the upper Bamu River, the Paibuna River and as far east as the lower western side of the Purari River. The latter Ipiko (Ipikoi) was earlier classified as an isolate. Other names given by Wurm in his finder list (p. 1258 ff.) will be included at the end of appropriate chapters.

Another supposed isolate Mai-hea-ri has consequently proven to be a member of the Angan Family.

In the same article Wurm brings up to date Voorhoeve's internal classification of the CSNG Phylum. He reported a change in several areas which affect the Gulf District; (1) the CSNG is now simply a Stock of a much larger group; (2) Fasu, Foe and Duna are considered Family-level isolates of the large SCNG Phylum; (3) the Kikori River (see above) and Kiwai Families are considered on a Stock-level.

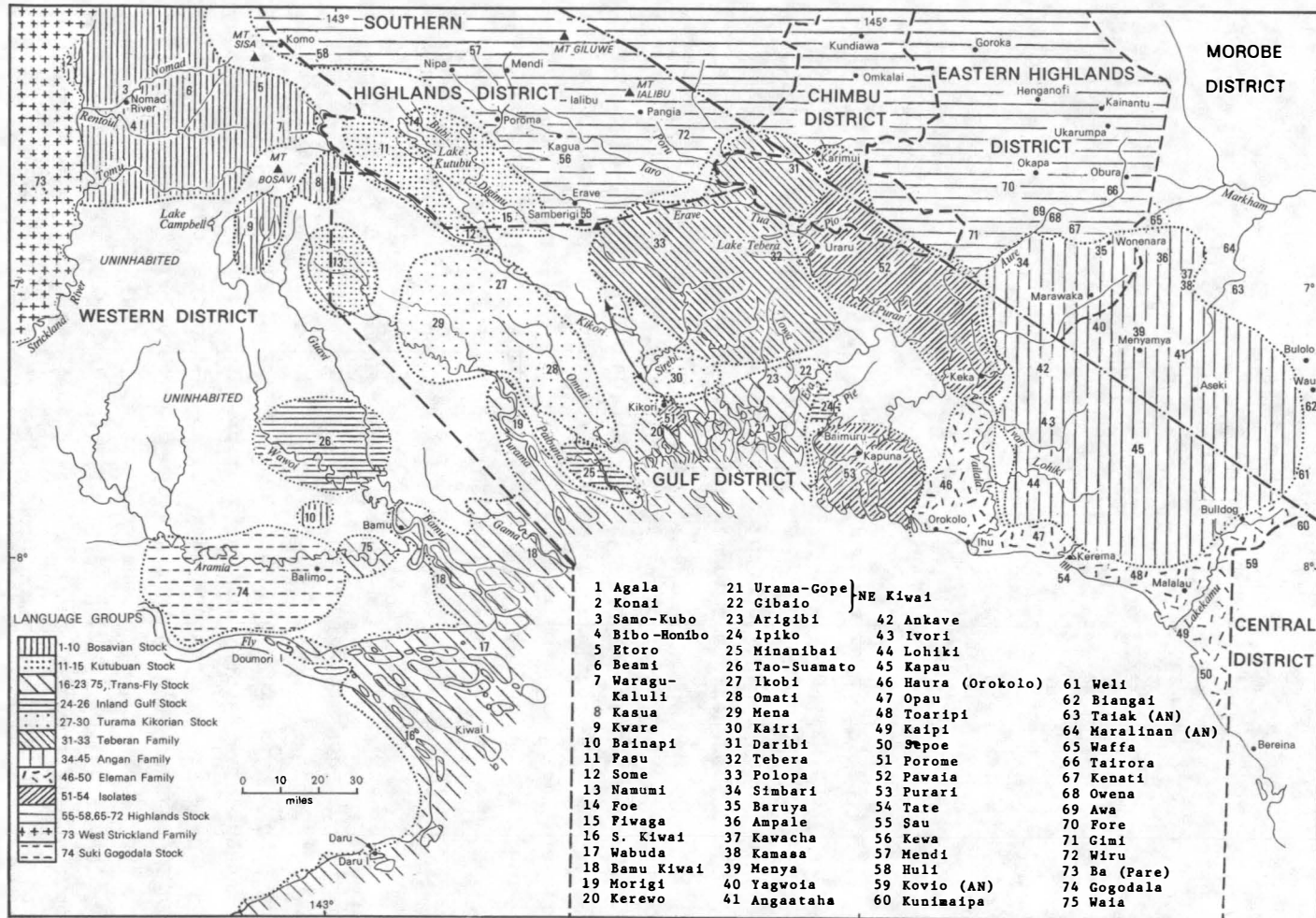
The possibility of combining the ENGH Phylum and the CSNG Phylum into one large phyla was added as a late note to Wurm's article. In the light of Greenberg's hypothesis (see below) even this possibility can now be considered as conservative. Now (in 1972) Wurm has established a Trans-New Guinea Phylum. This includes the following stocks and families: Central and South New Guinea Stock, East New Guinea Highlands Stock, Angan Stock, Turama-Kikorian Stock, Kutubu Stock, Teberan Family, and Pawaian Family. He also mentions two unrelated phylic groups: the Inland Gulf Stock and the Eleman (or Toaripian) Family. He does not mention Porome or Tate. Wurm's classification is in keeping with our knowledge at that time. Certain modifications which were not supplied to Wurm earlier will be outlined in §1.34.

### 1.33. J.H. Greenberg

In 1971 Greenberg published studies with evidence to demonstrate that the bulk of the NAN languages of Oceania belonged to a single genetically related group. Thus not only were seven New Guinea groups related to each other, but they were assumed related also to the following groups: (1) Tasmania; (2) Central Melanesia; (3) Bougainville; (4) New Britain; (5) Halmahera; (6) Timor-Alor; and (7) the Andaman Islands.

In his study the seven New Guinea groups are given geographic designations and several of the group include languages or language families described in this book.

Greenberg's classification can best be compared with the one given in this study by the following table (numbers refer to Map I).



MAP 1: LANGUAGES OF THE GULF AND ADJACENT DISTRICTS

GULF DISTRICT LANG.	GREENBERG'S GROUPS	THIS VOLUME		
1. Kukukuku	{ Southwestern (Marind-Ok) { One of five sub-groups	Angan Family		
2. Kiwai	{ Southern (Kiwaiic) (2-19)  Kiwai sub-group	{  Kiwaiian Family		
3. Urama				
4. Goaribari				
5. Kerewa				
6. Turama				
7. Era River				
8. Dibiri				
9. Karami				
10. Eme-eme (Pepeha)			{	{ Inland Gulf Stock
11. Mahigi				
12. Ipikoi				
13. Barika	{	{ Turama-Onatian Family		
14. Dugeme				
15. Karima				
16. Foraba			{ Barika sub-group	{ Teberan Family
17. Ro				
18. Sesa				
19. Tumu (Kairi)			{	{ E. Kikorian Family
20. Kutubu				
21. Fasu	{ Central (20-23) Highlands sub-group	{ Kutubuan Stock Perhaps E. Strickland F. Teberan Family		
22. Duna				
23. Mikaru				
24. Elema	{ Eastern (24-30)  Elema sub-group	{		
25. Kairi-Kaura				
26. Uaripi				
27. Toaripi				
28. Milareipi				
29. Orokolo				
30. Namau	Namau sub-group	Eleman-Purari Stock		
31. Tate	{ Unclassified	Isolate		
32. Aurama		Pawaian Family		
33. Huaruha		Teberan Family		

Greenberg, in addition to giving etymologies for each major group, provides eighty-four words which are considered as common to his Indo-Pacific major group. We will consider his classification as it relates to the Gulf in detail in Chapter 9 of this book.

#### 1.34. The Present Study

In 1968 the author proposed a general classification of the Gulf District languages. The present volume substantially clarifies certain parts of that study. At the same time, we have attempted to be cautious and have been hesitant to group languages within a family, or in some cases, even within a stock without some evidence of regular sound correspondences. In other instances, the broader groupings will have to be accepted with reservations and will need much more study. The geographical distribution of the following classification can be seen on Map I (p. 14) as follows:

Languages 1-4 are in the East Strickland Family; 5-9 are in the Bosavian Family; 10 is at present the only member of the North Aramian Family and all of these are members of Voorhoeve's CSNG Stock. Languages 11-13 are in the West Kutubuan Family; 14 and 15 are tentatively placed within the East Kutubuan Family. These may belong to the CSNG Stock or they may be members of the Highlands Stock. Rule (1965) compared both Huli and Pole (S. Kewa) of the WC Family with Foe of the East Kutubuan Family. His conclusions, based on lexical and grammatical evidence, is that the languages may be, at the most, on a Stock-level relationship. On the other hand, there are obvious linguistic and cultural features with them and the Teberan Family (languages 31-33) to the east. In that Wurm has already included Teberan and Pawaia (52) as family isolates within his Highlands Stock a. Connection between all of these areas is implied. Languages 16-32 are Kiwaian; 24-26 constitute the Inland Gulf Stock and are the obvious remnants of a group which once probably inhabited a larger area of the Gulf; 27-29 comprise the Turama-Omatian Family and 30 is the apparent sole member of the East Kikorian Family; 34-45 are in the Angan Family; 46-50 in the Eleman; 53 is probably in the Purari-Eleman Stock; and other languages of the Gulf District (51, 54) have unknown affiliations. Other languages listed on the map surround the linguistic groups described in this book.

As a result of Brown's study (Chapter 8), Purari (Koriki) can be joined with the Eleman Family as the Purari-Eleman Stock. However, the placement of this stock within a phylum such as the Trans-New Guinea

one is uncertain at this stage.

It should also be pointed out that the relationship of the Angan Family within the Trans-New Guinea Phylum is tenuous at best. Its links with the ENGH languages have been found by Lloyd (Chapter 3) to be very slight (a 5-6% lexical relationship). Its relationship to the Kunimaipen or Pawaian are even less (3-4%), and there is no apparent relationship between Angan and Eleman or AN languages. Therefore to place Eleman within the Trans-New Guinea Phylum would imply a relationship between it and Angan, in that Wurm (1972) has placed Angan in the phylum. Nor is there any relationship of note (3-4%) between Angan and the Huon area.

Of the languages in the Gulf, this leaves only Porome (Chapter 7) and Tate (Chapter 8) without any known relationships. We have commented more on them in Chapter 9, in that Greenberg feels that all unclassified languages of New Guinea must (almost by definition) be a part of his Indo-Pacific Family. Brown's speculation on Paepa Tati (our Tate) has already been mentioned.

One language outside of the Gulf should also be commented upon. This is what we have called Waia, after a village of the same name near Mapoda on the Aramia River of the Western District. It is spoken at the villages of Waia, Saiwase, Garu, Alagi, Tabepi, and Arikinapi. Two villages on the Fly River are also said to speak the same language. Waia shows generally a 10-12% lexical relationship with languages of the Kiwaian Family, but over 15% with Gogodara. The language is located adjacent to both groups and may be a member of what Voorhoeve (1970) has described as the Suki-Gogodara Stock. Capell (1962; Map X) has noted a language called Kenedibi in the Waia area, but says nothing about it.

MacDonald's chapter gives reliable linguistic information on the Teberan area for the first time. Capell (1962:139) indicated that a group of people lived on two islands of Lake Tebera. His report from the Australian Petroleum Company (APC), gave the population as 1,000, but as MacDonald shows, this is not the case. It is interesting to note that at the time of earlier contact (reported in the *Annual Report*, 1928-29, p.28) there is no mention of people living on the lake.

There is some likelihood that certain languages in the Gulf or adjacent areas may be related to those in the Upper Sepik. This has been hinted at by Townsend (1969) for the Sepik ~~Hill~~-Teberan Families and more recently (1973) Conrad and Dye have noted a similar relationship between the Upper Sepik area and the Strickland Family. Obviously,

there is a great deal of further study needed before the two areas can be positively united, despite Greenberg's (1971) assertion that all of the NAN of Papua New Guinea belong to one family.

#### 1.4. Materials and Methodology

It is obvious that the conclusiveness of any classification, such as the one proposed here, is only as reliable and complete as the materials upon which it is based. The studies of the Eleman (Chapter 8), Angan (Chapter 2), Teberan (Chapter 3), Kiwalian (Chapter 6), East Strickland (Chapter 5), and to some extent, the Bosavian and Kutubuan (Chapter 4) are the most reliable. Each of the authors has done a detailed study of at least one language in the family and has been able to make a more accurate assessment of language relationships as a result.

The other area studies are less reliable and are based almost solely upon lexical evidence. The word list which was used consisted of 292 words of Wurm's TRIPP list plus an additional twenty-three words which are on the standard SIL survey list, but not on Wurm's. In some cases only shorter lists were available, mainly due to problems of monolingual elicitation. Whenever possible the full 100 Swadesh word list has been included in the Appendices at the end of this book.

Oswalt, in a recent study (1971), uses statistical formula based on pairs of shared cognates and divergence of such pairs between language families to arrive at a "relative stability index" for the Swadesh 100 word list. The same technique is used to test semantic groups, e.g. pronouns, body parts, adjectives, and so on. This results in a proposal to drop at least twenty items from the Swadesh 100 list as being quite unstable due to divergence factors. We have not attempted to check the percentages given in this study by dropping the vocabulary items which Oswalt suggests are unstable.

McElhanon has also recently (1971) summarised the problems associated with classifying New Guinea languages and has suggested what might be done to reduce the number of variable inherent in any such system of classification. He suggests a uniform, revised test list; an agreement on what constitutes lexical equivalents; refinement of eliciting techniques; agreement on the use of lexical percentages, intelligibility and other criteria; and cross-checking between scholars. In this study we have attempted to resolve the latter problem by an overlap of data between areas, where two or more authors have then examined the data. The more acquainted an author is with a language in an area will

determine to what degree his analysis will reflect universal features which are not superficial. For example, someone more familiar with the languages outlined in Chapter 7 could compare them more accurately than I have been able to do. On the other hand, my observations on the relationship of Gulf languages and West-Central Highland languages should be accurate, regardless of additional details.

Wurm (1972:145) "is generally in agreement with McElhanon's opinions on the subject, though he is inclined to take a somewhat more moderate view."

Laycock (1970), after examining the eight basic wordlists which have been used in Papua New Guinea linguistic surveys, concludes that out of 357 entries only fifty-six of them can be considered reliable, although an additional twenty-three should also always be elicited. Other linguists would undoubtedly score the reliability of the vocabulary items differently than Laycock, reinforcing McElhanon's contention that linguists should cross-check this data. Laycock's reliable items in fact include less than half of the ones which McElhanon and Voorhoeve (1970) treat in establishing the Trans-New Guinea Phylum.

In this study lexicostatistical figures were derived on the basis of inspecting and comparing the various word lists. No attempt was made to adjust percentages when the word lists were not of the same length. Although this is plausible and has been done elsewhere (for example in Voorhoeve 1965), it does not in anyway affect major groupings. Indeed, if Greenberg (1971) and Wurm (forthcoming) are correct, all Papuan languages are genetically related at some remote point which lexicostatistical evidence would probably not even suggest. Lexicostatistical figures were established by comparing fifty languages (the author), twenty-nine languages (Lloyd), twenty-four languages (MacDonald) and nineteen languages (Shaw), in each case with overlap of a few languages between authors for cross-checking. In addition the author did a lexicostatistical study of the work of Riley and Ray (1931, see Chapter 6) as a further check of his own Kiwai materials. After the word lists has been inspected and coded the information was fed into a computer with instructions for five separate outputs: (1) a percentage based on a comparison of the full word list in each language (i.e. up to 315 words, but in many cases less); (2) a percentage based on the full word list less twenty-four assumed cultural items; (3) a percentage based on the cultural words only (see also Chapter 10); (4) a percentage based on the SIL basic survey list, i.e. deleting known reduplications and other problem words, some 154 words; (5) and a percentage based on the Swadesh

100 word list which, with the deletion of troublesome words and duplicates, resulted in ninety words being compared.

It was assumed that if two languages shared a fairly low percentage (say below 10-15%) on the full list, then the corresponding shorter SIL and Swadesh lists would increase the percentage. On the other hand the full list without cultural items should lower percentages, especially in adjacent languages not thought to be genetically related. The cultural list alone should of course increase the percentage out of all proportion to the other lists, if there was in fact a great deal of culture contact between two or more areas.

For an example of the corresponding percentages from the five different outputs notice the following (from MacDonald) languages which are in a left to right geographical distribution, but which are not closely related. F means the full list, L means less cultural items, I means SIL, S means Swadesh, and C means cultural items.

FOE (E. Kutubu F.)

7	9	8	11	7	SAU (W. Central F.)										
10	9	10	9	20	12	12	11	16	10	POLOPA (Teberan F.)					
7	6	8	8	20	4	4	4	5	7	13	14	16	23	8	PAWAIA
F	L	I	S	C	F	L	I	S	C	F	L	I	S	C	

By examining the above figures (which appear to be representative of what has generally been found) we can see that the shorter list does at times increase the percentage: note that between Polopa and Pawaia there is an increase of ten points between the full and the Swadesh lists. However the cultural list shows a lesser relationship, suggesting that we explore the hypothesis that Polopa and Pawaia are genetically related. On the other hand the figures between Polopa (or Pawaia) and Foe suggest considerable cultural contact and influence, but a more remote genetic relationship: ten points, in the case of Polopa, or thirteen in the case of Pawaia, are added if only cultural terms are compared. The relationship of Sau and Foe or Sau and Pawaia does not change significantly regardless of the list used, so it is not possible to form any hypothesis on the basis of these figures. Although such percentage discrepancies undoubtedly have other variables that are not controlled, it is possible to study the effects of longer and shorter lists, with

implications which then follow about core vocabulary and culture contact. In a careful study of thirteen languages known to be related the presence of cultural items in the full list raised the average percentage by only 1% as against the full list without the cultural items.

Dutton's study (Chapter 10) is of particular interest in regard to the distribution of such assumed cultural items. Transitional zones correspond to areas where linguistic relationships are quite remote. Aside from being the most extensive analysis of a restricted set of vocabulary items, it also gives the broadest geographical treatment to date.

Two other facts should be mentioned about the data: (1) in some cases we used lists which may skew the percentages downward. There were lists published in early issues of *Annual Report*, and often the villages of people are no longer in the stated area. Nevertheless, such lists may suggest earlier dialects or languages in such areas; (2) where lists have been collected in remote areas under difficult circumstances, as from speakers living at the headwaters of the Turama or from speakers using two interpreters, the percentages are undoubtedly higher than those we have computed.

#### 1.5. Presentation

The lexicostatistical figures mentioned above are generally introduced at the beginning of each chapter. Following this, comments are made on the location and number of speakers of each language. The population figures are based on government census figures. The spelling of village names and the census division names follows the 1968 government *Village Directory*.

In the fuller studies, comments on the phonology and grammar are given. They vary according to the materials available and knowledge of the author.

An attempt is made in every case to describe relationships which are broader than the family level. For example MacDonald's study in Chapter 3 includes comparisons with Pawaia. The concluding chapter by Dutton goes considerably beyond the Gulf District and some of the groupings proposed solely on linguistic evidence.

A legend at the conclusion of each chapter gives an alphabetical listing of all languages described in the article. The language family for each language is given in parenthesis after the language name. Although language names are not in every case exhaustive, they do provide a valuable cross-reference to other sources such as the

*Ethnographic Bibliography of New Guinea* or Capell (1962a).

Each chapter closes with a selected bibliography. However certain often cited items not found at the end of chapters are listed in the general bibliography which concludes this introductory chapter.

The main Appendices precede the bibliography and give as many words of the Swadesh 100 list that were recorded for each language described. A fuller description of the primary data also can be found at the conclusion of each chapter.

#### 1.6. Acknowledgements

The survey was begun in December 1970 with the author as principal investigator. The first part of the survey was undertaken by the author, Mr George MacDonald, and Mr Jim Parlier. Mr Parlier, although he has not contributed to this book, was particularly helpful in the early part of the survey. Mr Richard Lloyd, assisted by Mr Ron Huisman, carried out all of the survey in the Angan area and Mr Dan Shaw and the author surveyed the Strickland River area.

Professor Wurm, who has encouraged us in the survey from the very beginning, also kindly consented to write Chapter 6. In addition to his own Kiwai materials we have supplied him with some word lists from the survey.

Drs. Dutton and Voorhoeve, each with considerable experience in Papuan linguistics, have combined their own extensive materials with some supplied as a result of the survey. Their contributions have been deeply appreciated.

The survey was made possible by research grants from the Australian National University and the Research Fund of the New Guinea Branch of the Summer Institute of Linguistics (SIL). The aviation department of the SIL provided full use of their helicopter, a Hughes 300C, and many hours were flown on it. The radio department of SIL provided portable transceivers which were used during the survey. Survey operations were carried out from Samberigi (Southern Highlands District), Kikori, Baimuru and Kapuna (Gulf District), Mapoda and Nomad River (Western District), Karimui (Chimbu District), as well as Aiyura in the Eastern Highlands. We are very appreciative of the hospitality and cooperation of the Asian Pacific Christian Mission (APCM) at Samberigi and Mapoda, and of the United Church (UC) at Kikori and Kapuna. In addition, with the assistance of the District Commissioner at Kerema (then Mr R.S. Bell) and the field officers at Ihu, Baimuru, and Kikori,

we were able to freely use interpreters, maps, and other materials. We can only offer our profound thanks to all of the people concerned and hope that the survey will be of some practical benefit for all of them. Specific acknowledgements to others are made in individual chapters.

We are also indebted to Professor M. MacKay of the Mathematics Department of the University of Papua and New Guinea for the provision of computer time and a programme which provided a lexicostatistical output of the type described in this chapter.

I am also indebted to Norm Draper for assisting in obtaining census figures and to Maureen Lee for translating Loukotka's (1957) materials, which are in French.

The author also expresses sincere appreciation to the Australian National University for a visiting fellowship during six weeks of 1971-72. This made it possible to do the preliminary writing and editing for the present volume.

### Appendix

Certain abbreviations are used commonly throughout this volume. For language groups these are:

AN	Austronesian
ENGH	East New Guinea Highlands
CNG	Central New Guinea
CSNG	Central South New Guinea
NAN	Non-Austronesian
SENG	South East New Guinea
WNGH	West New Guinea Highlands

For journals and other publications abbreviations are:

AL	<i>Anthropological Linguistics</i>
CTL8	<i>Current Trends in Linguistics, Volume 8: Linguistics in Oceania</i> , T.E. Sebeok (ed.)
IJAL	<i>International Journal of Linguistics</i>
JRAI	<i>Journal of the Royal Anthropological Institute of Great Britain and Ireland</i>
OL	<i>Oceanic Linguistics</i>
PL	<i>Pacific Linguistics</i> (A = Series A, B = Series B, C = Series C)
SHC	<i>Studies in Honour of A. Capell</i> , S.A. Wurm and D.C. Laycock (eds.)

## GENERAL BIBLIOGRAPHY

*An Ethnographic Bibliography of New Guinea, Volumes 1-3.* Prepared by the Department of Anthropology and Sociology, Australian National University and published by the Australian National University Press, Canberra, 1968.

### AUSTEN, Leo

- 1931-32 "Legends of Hido", *Oceania*, 2:468-75.  
1934a "The Dance of the Gope in Kerewo", *Man*, Vol.4, No.3.  
1934b "The Delta Division of Papua", *Australian Geographer*, 2:20-7.  
1935-36 "Head Dances of the Turama River", *Oceania*, 6:342-9.

### BARTON, R.R.

- 1918 "Tattooing in South Eastern New Guinea", *JRAI*, 48:22-79.

### BEAVER, W.N.

- 1914 "Some Notes on the Eating of Human Flesh in the Western Division of Papua", *Man*, No.74:145-7.

### BEIER, V. and A.M. KIKI

- 1970 *Hohao: The Uneasy Survival of an Art Form in the Papuan Gulf.* Thomas Nelson Ltd.

### BEVAN, T.F.

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

## CAPELL, A.

- 1948-49 "Distribution of Languages in the Central Highlands, New Guinea", *Oceania*, 1 :104-29; 234-53; 349-77.
- 1962a *A Linguistic Survey of the South-Western Pacific*. Noumea: South Pacific Commission Technical Paper No.36.
- 1962b "Oceanic Linguistics Today", *Current Anthropology*, 3:371-431.
- 1969 *A Survey of New Guinea Languages*. Sydney University Press.

## CAREY, S.W.

- 1941 "Report on the Geology of the Purari River Region, Permit 5, Papua". Unpublished report of the Australian Petroleum Corporation.

## CHAMPION, I.

- 1940 "The Bamu-Purari Patrol, 1936", *The Geographical Journal*, 96:191-206; 243-57.

## CHINNERY, E.W.P.

- 1973 "Further Notes on the Use of the Wooden Kipi Trumpet and Conch Shell by Natives of Papua", *Man*, No.55:73-7.

## CONRAD, R. and W. DYE

- 1973 "Language Relationships in the Upper Sepik Region", (forthcoming).

## FRANKLIN, K.J.

- 1968 "Languages of the Gulf District: A Preview", *PL-A*, No.16:18-44.
- 1970 "A Preliminary Report of a Language Survey of the Gulf District, Papua", unpublished.

## GREENBERG, J.H.

- 1971 "The Indo-Pacific Hypothesis", in CTL8, pp.807-71.

## HIDES, J.G.

- 1938 *Savages in Serge*. Sydney: Angus and Robertson.

## 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*, 43:124-4.
- 1924 *In Primitive New Guinea*. London: Seely Service and Co., Ltd.
- HUMPHRIES, A.R.
- 1931 "The Gulf Division Ehalo Dance", *Man*, No.165:159-63.
- KLIENEBERGER, H.F.
- 1957 *Bibliography of Oceanic Linguistics*. Oxford University Press.
- LAYCOCK, D.
- 1970 "Eliciting Basic Vocabulary in New Guinea", in SHC, PL-C, No.13:1126-76.
- LAYCOCK, D. and C.L. VOORHOEVE
- 1971 "History of Research in Papuan Languages", in CTL8, pp.509-40.
- LOUKOTKA, C.
- 1957 "Classification des Langues Papoues", *Lingua Posnaniensis*, 6:19-83.
- Comment on Capell's "Oceanic Linguistics Today", *Current Anthropology*, 3:415.
- "The Mackay-Little Expedition in Southern New Guinea", *The Geographical Journal*, 38:483-7 + Map (p.556), 1911.
- MAHER, R.F.
- 1961 *New Men of Papua: A Study in Culture Change*. Madison: University of Wisconsin Press.
- MCCARTHY, J.
- 1968 "Future Looks Bleak for Gulf People", *South Pacific Post*, Wednesday, May 15.
- McELHANON, K.A.
- 1967 "Preliminary Observations on Huon Peninsula Languages", *OL*, 6:1-45.

- 1971 "Classifying New Guinea Language", *Anthropos*, 66:120-44.
- McELHANON, K.A. and C.L. VOORHOEVE  
 1970 *The Trans-New Guinea Phylum: Explorations in Deep-Level Genetic Relationships*. PL-B, No.16.
- MURRAY, H.  
 1932 "Depopulation in Papua", *Oceania*, 3:207-13.
- NEWTON, D.  
 1961 *Art Styles of the Papuan Gulf*. New York.  
 1963 "Multiple Human Figures in Western Papuan Gulf Art", *Man*, No.111:86-90.
- OSWALT, R.L.  
 1971 "Toward the Construction of a Standard Lexicostatistical List", *AL*, 13:421-57.
- RAY, S.H.  
 1907 "The Languages of the Papuan Gulf", in *Reports of the Cambridge Anthropological Expedition to Torres Straits*, Vol.III, Linguistics.  
 1913-14 "The Languages of the Papuan Gulf District, Papua", *Zeitschrift für Kolonial-Sprachen*, 4:20-67.  
 1927 "The Papuan Languages", in *Festschrift Meinhof*, Sprachwissenschaftliche and andere Studien, Hamburg.
- RILEY, E.B. and S.H. RAY  
 1930-31 "Sixteen Vocabularies from the Fly River, Papua". *Anthropos*, 25:173-94; 831-50; 26:171-92.
- RULE, M.  
 1965 "A Comparative Study of Huli, Pole and Foe, Southern Highlands", M.A. Thesis, University of Sydney.
- RUXTON, B.P. *et al*  
 1969 *Lands of the Kerema-Vailala Area, Papua New Guinea*. Commonwealth Scientific and Industrial Research Organisation, Australia, Land Research Series No.23.

- SEBEOK, T.A. (ed.)  
 1971 *Current Trends in Linguistics: Volume 8, Oceania*. The Hague, Mouton Co.
- SELIGMAN, C.G.  
 1910 *The Melanesians of British New Guinea*. Cambridge: Cambridge University Press.
- SOUTER, G.  
 1964 *New Guinea: The Last Unknown*. Sydney: Angus and Robertson
- THORPE, W.W.  
 1931 "Carved Gopi Boards from the Papuan Gulf Area", *Man*, No.60:57-8.
- TOWNSEND, P.K.W.  
 1969 *Subsistence and Social Organisation in a New Guinea Society*. Ph.D. Dissertation, University of Michigan.
- VOEGELIN, C.F. and F.M.  
 1965 *Languages of the World: Indio [sic] - Pacific Fascicle Five*, AL, 7(9):1-114.
- VOORHOEVE, C.L.  
 1968 "The Central and South New Guinea Phylum: A Report of the Language Situation in South New Guinea", *PL-A*, No.16:1-17.  
 1970a "The Languages of the Lake Murray Area". *PL-A*, No.25:1-18.  
 1970b "Some notes on the Suki-Gogodala Subgroup of the Central and South New Guinea Phylum", in *SHC, PL-C*, pp.1246-70.
- WILLIAMS, F.E.  
 1923 "The Pairama Ceremony in the Purari Delta, Papua", *JRAI*, 53:361-87.  
 1924 *The Natives of the Purari Delta*. Port Moresby, Anthropological Report No.5.  
 1932 "Trading Voyages from the Gulf of Papua: Growth of the Bevaia Trade", *Oceania*, 3(2):141-66.

- 1934 "The Vailala Madness in Retrospect", in E.E. Evans-Prichard, *et al* (eds.), *Essays Presented to C.G. Seligman*. London: Kegan Paul, Trench, Trubner and Co., pp.369-79.
- 1939 "Seclusion and Age Grouping in the Gulf of Papua", *Oceania*, 9(4):359-81.
- 1940 *Drama of Oroko: The Social and Ceremonial Life of the Elema*. Anthropology Report No.18, Oxford: Clarendon Press.

## WIRZ, P.

- 1937 "The Kaianu-Ebidha-Gi-Cult in the Delta region and Western Division of Papua", *JRAI*, 67:407-13.

## 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.
- 1971 "The Papuan Linguistic Situation", in T.A. Sebeok (ed.) *CTL8*, pp.519-656.
- 1972 "The Classification of Papuan Languages and its Problems", *Linguistic Communications*, 6:118-78.
- Forth-coming "Developments in Papuan Genetic Linguistics since 1968", in *Papers in Honour of A.A. Hill*, Austin, Texas.