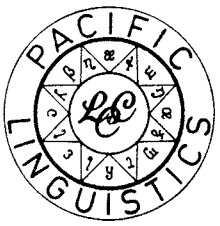
SERIES C - No. 19

CLASSIFICATORY AND TYPOLOGICAL STUDIES IN LANGUAGES OF THE MADANG DISTRICT

by

J.A. Z'graggen



PACIFIC LINGUISTICS

The Australian National University

PACIFIC LINGUISTICS is published by the *Linguistic Circle of Canberra* and consists of four series:

SERIES A - OCCASIONAL PAPERS
SERIES B - MONOGRAPHS
SERIES C - BOOKS
SERIES D - SPECIAL PUBLICATIONS.

EDITOR: S.A. Wurm. ASSOCIATE EDITORS: D.C. Laycock, C.L. Voorhoeve.

ALL CORRESPONDENCE concerning *PACIFIC LINGUISTICS*, including orders and subscriptions, should be addressed to:

The Secretary,
PACIFIC LINGUISTICS,
Department of Linguistics,
School of Pacific Studies,
The Australian National University,
Box 4, P.O.,
Canberra, A.C.T. 2600.
Australia.

Copyright © J.A. Z'graggen.
First published 1971.

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

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

National Library of Australia Card number and ISBN 0 85883 069 8

TO MY PROFESSORS IN LINGUISTICS:

FATHER DR P. SCHEBESTA SVD †

PROFESSOR S.A. WURM

TABLE OF CONTENTS

		Page
PREFACE		vi
PART ONE		
1.	*Introduction*	1
1.1.	*Historical Summary*	1
1.2.	*The Present Linguistic Picture*	4
1.3.	*Aims and Methods of the Present Study*	4
1.4.	*List of Abbreviations and Symbols*	7
1.5.	*Phonetic/Phonemic Symbols*	9
PART TWO		
2.	*Lexical Comparisons*	10
2.1.	*List and Classification of Languages*	10
2.2.	*Notes on the Languages and their Classification*	23
2.21.	*The Madang Phylum*	23
2.21.1.	*The Mabuso Stock*	23
2.21.2.	*The Usur Group*	36
2.21.3.	*Lexical Interrelationships within the Madang Phylum*	38
2.21.4.	*Illustrative List of Cognates of the Madang Phylum*	38
2.21.5.	*Typological Characteristics of the Madang Phylum*	41
2.22.	*The Adelbert Range Phylum*	42
2.22.1.	*The Isumrud Stock*	42
2.22.2.	*The Pihom Stock*	46
2.22.3.	*The Josephstaal Stock*	56
2.22.4.	*The Wanang Stock*	61
2.22.5.	*The Mugil Stock-Type Isolate*	64
2.22.6.	*Lexical Interrelationships within the Adelbert Range Phylum*	66
2.22.7.	*Illustrative List of Cognates of the Adelbert Range Phylum*	70

		Page
2.22.8.	*Typological Characteristics of the Adelbert Range Phylum*	73
2.23.	*The Ramu Phylum*	73
2.23.1.	*The Ruboni Stock*	74
2.23.2.	*The Goam Stock*	79
2.23.3.	*The Annaberg Group*	83
2.23.4.	*The Agoan Family*	87
2.23.5.	*The Aion Language*	88
2.23.6.	*The Kambot Language*	88
2.23.7.	*Lexical Interrelationships within the Ramu Phylum*	88
2.23.8.	*Illustrative List of Cognates of the Ramu Phylum*	89
2.23.9.	*Typological Characteristics of the Ramu Phylum*	92
2.24.	*The Torricelli Phylum in the Western Madang District*	92
2.25.	*The East New Guinea Highlands Phylum in the Western Madang District*	94
2.26.	*The Melanesian Languages in the Western Madang District*	96
2.3.	*Interphylic Relationships*	100
2.4.	*The Languages of the Astrolabe Bay*	104
PART THREE		
3.	*Typological Comparisons*	108
3.1.	*Indication of Number*	108
3.2.	*Concordance Class Systems*	118
3.3.	*Possessive Class Systems*	121
3.4.	*Counting Systems*	142
3.5.	*Simple Verb Structure*	145
BIBLIOGRAPHY		169

PREFACE

This study is the outcome of a period of research which began in August 1964 when I was transferred as a Missionary of the Society of the Divine Word (S.V.D.) to the Catholic Mission Station at Mugil. My linguistic aim at that time was to gain a basic idea of the nature of the Mugil language and to get an overall picture of the linguistic situation in the area for which I had to care as a missionary. An orientation trip to various parts of the Bogia Subdistrict and the Middle Ramu area was made in the second half of 1965. It was then that it became apparent to me how insufficient our linguistic knowledge of the Madang District was. Published material could be adequately understood only in the light of new field studies.

Fieldwork was resumed again in January 1967 under the auspices of the Australian National University. Initially I had planned to make a descriptive and comparative study of the Mugil language. I did, however, not succeed in establishing a family or stock with Mugil as a member, but the survey work along the coast progressed well and was equally successful in the Ramu River area. I was surprised to encounter in the Ramu River area, typological features found along the coast. The original plan of the field trip was then given up and the rest of the time spent on establishing the boundaries of typological features such as the indication of the subject with the verb, the prefixing or suffixing of possessive markers or object markers and others, and on collecting the necessary materials for a lexical classification of the languages. This in return enabled me to establish the language boundaries in large previously unsurveyed areas. The results of this survey were then summarized in my thesis for the degree of doctor of philosophy at the Australian National University, Canberra, in May 1969.

From July to November 1969 I had the opportunity to return to the Madang District to re-check and correct a number of data, specially the

population figures. Additional linguistic material in some unsurveyed areas could also be obtained; and as a result of this, two additional maps: "The Languages of the Mabuso Stock" and "The Languages of the Astrolabe Bay" could be included into this publication.

In this study I have attempted to undertake three things:

a) to give a historical summary of the linguistic work undertaken so far;

b) to present a preliminary lexical classification of the languages;

c) to discuss in some detail the nature and distribution of some typological features encountered in the languages of the Western Madang District.

This study, therefore, consists of three parts:

PART ONE The main linguistic contributions are referred to, the linguistic situation described and this study discussed with a view to its aims and methods.

PART TWO provides a preliminary classification of the languages of the Western Madang District into families, stocks and phyla. The distribution and the number of speakers of each individual language are given and publications for each language listed - it is hoped that the list of publications is reasonably complete. Typological characteristics are mentioned when discussing the families and phyla and summaries of typological features are given for each stock.

PART THREE Some typological features such as number marking with nouns, concordance class systems, counting systems and the simple verb structure are discussed in some detail.

I would like to express my thanks to Professor S.A. Wurm and Dr D.C. Laycock of the Department of Linguistics for supervising this study and adding helpful comments to earlier drafts; their interest and encouragement made this study become a reality. I am indebted to the Australian National University for the opportunity and funds made available to me to make this study and give thanks to the Department of Human Geography for the preparation of the maps. Thanks to Dr A. Capell of the University of Sydney, to Dr A. Chowning of the Australian National University for making valuable comments on my study and also thanks to Miss Louis Hogg, who carried out anthropological research in the surrounding area of Madang Town in 1969 and from whom I could receive some data. Thanks are also due to Professor A. Bühler, Basel, and

Professor Geering, Berne, on behalf of the Swiss Academy of Science, (Schweizerische Geisteswissenschaftliche Gesellschaft) for granting me financial assistance. I should also like to express my sincere thanks to the Administration officals at the District Offices of Madang, Bogia and Angoram, to the various Mission Bodies such as the Church of Christ Mission, the Lutheran Mission and especially the Catholic Mission for all the help which they have given me so generously. Special thanks are due to Father Dr J. Schütte, S.V.D., former Superior General of the Society of the Divine Word (S.V.D.), for granting me the permission to undertake this study and to Father J. Musinsky, Superior General, for kindly giving me permission to carry on the research. Thanks to Father Dr W. Saake S.V.D., Director of the Anthropos-Institute, for encouraging me in many ways and also to the staff of the Anthropos-Institute for assisting me in many ways while preparing this study for publication in 1970. Lastly, but no less sincerely, I should like to thank all those indiginous informants who co-operated so well with me in providing the linguistic materials upon which this study is based.

PART ONE

1. INTRODUCTION

The Western Madang District of New Guinea covers roughly the area of the triangle formed by the Gogol River east of Madang town, the Ramu River, and the Central North-Eastern Coast of New Guinea. Adjacent areas such as those of Simbai and the Keram River have been included so as to give a more complete linguistic picture of the area of primary concern. The area comprises 8,160 square miles, with a population of 122,900. The area is dominated topographically by the Adelbert Range stretching along the coast westwards from Madang town, and by the extensive Ramu River system with its two main tributaries, the Goam and Sogeram Rivers. The landscape is hilly and mountainous, and swampy only on the Lower Ramu.

1.1. *HISTORICAL SUMMARY*

The linguistic history of the Madang District and of the Territory of New Guinea begins with the Russian scholar N.N. Miklucho-Maclay in 1871. He collected wordlists and sentence materials in languages of Astrolabe Bay and of some in the area in which the town of Madang is located today. Since then a number of authors have contributed some linguistic information to the area concerned. Their work will be discussed in some detail in Part Two, under the names of the languages to which they contributed some materials or for which they at least established their names. A few additional notes on the linguistic history will be given below in this part. Numbers added in brackets to a language name refer to the general language map in Part Two.

1.1.1. Comprehensive linguistic studies were made of Monumbo (72) by Vormann and Scharfenberger (1914) and by Höltker (1964), of Gedaged (77)

by Mager (1952) and by Dempwolff (undated), of Bilbil (78) by Dempwolff (1909) and of Karam (84) by Pawley (1966). Pawley's study of the structure of the Karam language is one of the comprehensive studies of a single language in the area concerned.

1.1.2. The contributions made by Schmidt and Capell (bibliography, various dates) are outstanding. Both authors have gone beyond the mere collecting of wordlists or the study of a single language, and have systematically compared wordlists, the phonologies and the grammar of all the languages of the North East Coast of New Guinea known to them at the time.

W. Schmidt (1900) gave the first linguistic picture of the north east coast of German New Guinea. In a parallel study to that of Ray on the south coast, he established two main groups of languages for the New Guinea coast: Melanesian and Papuan. Schmidt's work showed that the Melanesian languages of the north coast of New Guinea form a special group within the Melanesian languages as a whole. He also stated that the Melanesian languages were similar in structure and vocabulary, but the Papuan languages often differed radically in lexicon while showing considerable similarity in structure.[1] Schmidt had the disadvantage of having to rely entirely on sources other than his own; these were often incomplete and insufficiently recorded, and much of his assessment has had to be revised in the light of recent studies.

Capell had the opportunity to visit the New Guinea coast himself as part of an extensive survey in 1949. His publication (1952) on the languages of the Bogia subdistrict provides informative wordlists, phoneme charts and outline grammars of many of the languages of the Bogia area. His book *A Linguistic Survey of the South Western Pacific* gives for the first time a language map for the Madang District. A list of languages in it indicates which languages had been studied and which might be suitable for educational purposes. Other miscellaneous points which seemed to him worthy of note are also added. The list of languages and publications is, however, not as complete as one would wish to see.

1.1.3. In addition, a considerable amount of language study has been undertaken by both the Lutheran Mission and the Roman Catholic Mission. In comparing the work carried out by both missions one observes that

---

[1] Schmidt 1920b:18.

the Lutheran Mission has done more for the practical side of linguistic work, and the Catholic Mission more for the theoretical.

1.1.3.1. Unfortunately the author is unable to give a complete account of the language studies undertaken by Lutheran Missionaries, especially as far as unpublished manuscripts are concerned. Studies of individual languages are probably quite numerous and it is hoped that in the near future they will become more generally known and accessible.

The Lutheran Mission, in its 1959 edition of the *Handbook of New Guinea Living for Lutheran Missionaries* (printed at Lutheran Press, Madang), still strongly emphasised the study of local languages on the part of members of its staff. The Lutheran Mission is the only organization which still makes use of vernacular languages for educational purposes. Gedaged (77), Amele (3), and Garuh (7), for example, are still used for missionary activities and students at the Evangelical Lutheran Church of New Guinea (E.L.C.O.N.G.) District Bible School at Amron are instructed in the Gedaged language.

1.1.3.2. Missionaries of the Roman Catholic Church received strong encouragement for language studies after the foundation of the periodical *Anthropos* in 1906 and of the Anthropos-Institute in 1932 by missionaries of the Divine Word (S.V.D.). Father W. Schmidt S.V.D., the founder of the Anthropos, worked out a new alphabet for transcription purposes in 1907. Father J. Schebesta (1934) provided a basic introduction for linguistic research in the New Guinea scene and Father F. Kirschbaum (1935) compiled a word and sentence list of 1085 items as a guide to the collection of linguistic materials. Thus was laid the theoretical foundation for an extensive research project.

Linguistic research between the two wars was largely under the leadership of Father F. Kirschbaum S.V.D., who surveyed large areas of the north-east coast and of the Sepik region. His career came to a tragic end when he died in an air crash in 1939.

Individual linguistic research was at that time mainly carried out by Fathers Schebesta and Höltker (fieldwork period from 1936-39) in the Bogia Subdistrict, and by Kaspruś in the Mugil and Middle Ramu areas. Little was published at that time, but much was collected and stored in the basement of the Alexishafen Cathedral, where the research material was believed to be safe. The material was to have been published later, but this was prevented by the outbreak of World War II.

Father Schebesta, the chief expert on the Bogia area, died on a Japanese boat in February 1944 and all the stacks of manuscripts stored in the basement of the Cathedral at Alexishafen were lost when the Cathedral was bombed in 1944. There is no estimate possible of just how much research work in linguistics was carried out by Father Kirschbaum and other Catholic Missionaries. Father Höltker (in Schebesta 1945:881) gives an account for Father Schebesta only. Höltker saved some of the research materials through having had copies made of the originals, and he is still editing them in short but concise studies in numerous publications.

World War II brought an end to extensive linguistic research by Missionaries of the Roman Catholic Church in the area concerned. Pidgin English is now exclusively used in church, except on special occasions.

1.2. *THE PRESENT LINGUISTIC PICTURE*

Our knowledge of the languages of the Western Madang District has been very limited to date. This is regrettable in view of the fact that linguistic research in the Territory of New Guinea has had its origin in the Madang District or, more precisely, in the Astrolabe Bay and the vicinity of the present town of Madang. Often no criteria are given in various sources as to what is meant by "language" and by "dialect". Capell's (1954, 1962a) language map of the Madang District gives only very rough language boundaries, with no information as to the numbers of speakers. No systematic linguistic survey of the entire area had previously been carried out, nor has any satisfactory comprehensive study of the published materials been undertaken. Klieneberger's Bibliography (1957) is in many respects very valuable, but he had insufficient knowledge of the New Guinea scene; his bibliography also does unfortunately not include publications which are not in letter press, and publications which are primarily anthropological, but contain valuable linguistic information. Loukotka's (1957) and Salzner's (1960) language maps are unsatisfactory, but it would have been better if the information contained in their bibliographies had been more thoroughly utilised. Voegelin's (1965) classification of the languages of the Madang District is unrealistic; there is too much of a tendency to relate languages whose interrelationships have not been proved.

1.3. *AIMS AND METHODS OF THE PRESENT STUDY*

The present study has as its aim to fill some of the gaps in our knowledge, and it is hoped that conditions will permit the project to be carried on further for some years. The findings given in this study

are the preliminary results of research of over five years, with fieldwork periods from August 1964 to February 1966, from January 1967 to March 1968, and July to November 1969. While in the field, the main concerns were a number of typological features (see Part Three) which, as the author's investigation showed, appeared to be universally present in certain areas; independently from this, a preliminary lexical comparison was carried out after the fieldwork period at the Australian National University, Canberra.

1.3.1. My approach during the field survey was as follows: informants were first asked which villages spoke the same language. The answers received were then checked and double checked with informants at other villages wherever possible. Thus, the division into languages as given in this study was arrived at through taking into account the native view as a starting point, but that native view was in almost all instances found to be proved correct by the subsequent lexical and typological comparisons. A complete village by village check was not possible except in the coastal area and along the main rivers and roads. This means that some more small languages might still be discovered, either spoken in portions of existing villages or in small villages not listed in the Village Directory 1968. Only actual patrolling from village to village can provide a definite answer to this.

1.3.2. After establishing the language distribution in a preliminary form, suitable informants were selected, and comparative wordlists were collected based on Wurm's *New Guinea Non-Cultural Vocabulary* (unpublished). Notes were taken in writing and then recorded on tape with Pidgin English as a medium of communication with the informant. Time did not allow to collect the entire wordlist in all cases: preference was, in such cases, given to easy obtainable items, and at least 150 items were collected, except for Gantj, Wamas, Monumbo, Ayon and Kambot. Grammatical features such as concordance, possession and number marking for nouns, and subject, tense, object and negation markers for verbs were collected in all the languages. There was, however, as a rule not enough time to study complex features of verb structure with more than one verb. Pidgin English in its use as an intermediary language, was found to be a helpful medium for setting up the necessary frames for morpheme cuts.

All the coastal villages from the Gogol River to the Ramu River were visited except Bunabun, and trips were made to the areas of Utu (10), Halopa (Garuh (7)), Sigu (Garus (4)), Dimir (21), Tangu (55), Igom (56), Tanguat (57), Mikarew (52) and Giri (54). The Ramu River was followed

upstream from the mouth to Atemple-Aiome. Additional trips were made to Josephstaal and to Annaberg, and then down the Keram River to Kambot and the Sepik River.

1.3.3. After the fieldwork period, lexico-statistical counts of probable cognates were made. Sixty four to sixty seven items were considered, except for Aion (70), Kambot (71) and Gantj (85) where only a small number of thirty items were available. Items involving a repetition of the same vernacular term such as *hair* and *feather* were omitted. A general figure of 50% similarity in form was accepted in identifying forms as probable cognates. Sound correspondences were taken into consideration whenever detected. Consonant agreements and equivalence were regarded as more important than those involving vowels, and the same applied to initial syllables versus final syllables, in view of the fact that the latter often constituted suffixed number of possessive-markers to nouns. The language classification itself was based on Swadesh's (1954:326) percentage figures: language: 100%-81%, family: 81%-36%, stock: 36%-12%, phylum: (or microphylum) 12%-4%.

The resulting classification has to be regarded as preliminary, in particular when taking into account that in the first count only 64-67 items were considered. However, it must be pointed out that subsequent counts of more extended lists gave substantially similar results. The number of individual languages might well be reduced at a later stage of research when sound correspondences have been studied in detail and more cognates are discovered.

The phonetic transcription throughout this study follows Pike (1947). It might be described as a broad phonetic transcription, i.e. only relatively few changes have been made in the raw field data in the interest of comparability and in the direction of ultimate complete phonemicisation. The marking of stress has been omitted, since the stress patterning has not been well established yet. Nouns are cited in wordlists of Part Two in their singular forms and adjectives in the masculine singular form, and numerals as used for counting male humans; this particular with reference to languages with number marking, concordance systems and affixation of possessive markers.

1.4. *LIST OF ABBREVIATIONS AND SYMBOLS*

Adj	Adjora
Adv	Adverb
Ai	Aiome
Ak	Akrukay
Al	Amele
Ama	Amaimon
And	Andarum
Ang	Angaua
Ar	Anor
ARPh	Adelbert Range Phylum
At	Atemple
Aw	Awar
B	Bau
b	base
Ba	Banaro
BAI	Baimak
Be	Bepour
BEM	Bemal
Bi	Bilbil
Bo	Bosman
BOG	Bogadjim
BOM	Bom
BON	Bongu
Br	Breri
Bu	Bunabun
C	Consonant
CC	Concordance Class System
Di	Dimir
dl	dual
DUD	Duduela
Em	Emerum
excl	exclusive
(Fr)	(Foran or Kamba)
f	Future Tense
Ga	Gamei
Ge	Gedaged
Gh	Garuh
Gi	Giri
Gl	Gal
Gr	Gorovu
Gs	Garus
GUM	Gumalu
HAM	Ham
Ig	Igom
Ik	Ikundun
JEN	Jenglam
JIL	Jilim
incl	inclusive
Is	Isebe
It	Itutang
Ka	Kaian
KAD	Kadda
KAM	Kamba
Km	Kambot
Ko	Korak
Kr	Kare
Kar	Karam
Kt	Katiati
KWA	Kwato
LAP	Lapting
Lg	Language
Li	Lilau
M	Marker
Ma	Manam
MAL	Male
MAT	Matepi
Me	Medebur
Meg	Megiar
Mg	Mugil
Mi	Mikarew
Mid	Midsivindi
Mk	Mawak
Ml	Malas
Mo	Moresado
Mon	Monumbo
MPC	Monumbo Possessive Class System
MPh	Madang Phylum
Mr	Musar
Mt	Matukar
Mu	Musak

MUN	Munit
MUR	Murupi
Mw	Mawan
Na	Nake
Neg	Negation Marker
Num	Number marker
O	Object
O Cl	O Class Members; terms denoting objects
Om	Object Marker
Os	Osum
P	Predicate
p	Past Tense
Pa	Pay
Par	Parawen
PC	Possessive Class System
pc	paucal
P Cl	P Class members, terms denoting body parts
Pd	Possessed
Pers	Person
Pi	Pila
pl	plural
PM	Possessive Marker
PN	Possessive Noun
Pn	Paynamar
Po	Pondoma
Pr	Possessor
pr	Present Tense
Pref	Prefix; prefixed
Pron	Pronoun
R Cl	R Class member, terms of relationship
Ra	Rao
Re	Rempi
Ro	Romkun
RPh	Ramu Phylum
S	Subject
Sa	Saki
SAM	Samosa
Se	Sepen
sg	singular
Sm	Subject Marker
SON	Songum
SP	Speakers
Sp	Sepa
Sr	Saruga
Su	Sumau
Suff	Suffix; suffixed
T	Tense, Time
Ta	Tani
Tg	Tanguat
Tk	Takia
Tn	Tangu
tr	trial
UKU	Ukuriguma
Ul	Ulingan
Ur	Urigina
Us	Usino
Ut	Utu
v	vowel
Vb	Verb base
vd	voiced
vl	voiceless
Wa	Wanambre
Wad	Wadaginam
Wm	Wamas
Wn	Wanuma
Ws	Waskia
Wt	Watam
Ya	Yaben
Yo	Yoidik
1 PC	One Possessive Class System
2 PC	Two Possessive Class System
3 PC	Three Possessive Class System
+	Obligatory occurrence
±	Optional occurrence
[ ]	Encloses phonetic citations
/ /	Encloses phonemic or broad phonetic citations
{ }	Encloses fused morphemes
Ø	Zero morpheme

1.5. *PHONETIC/PHONEMIC SYMBOLS*

Phonetic/phonemic symbols used in the transcription of the languages are set out in Chart A and B.

CHART A

Consonant Symbols

Manner of Articulation	Point of Articulation					
	Bilabial	Labio-dental	Alveo-lar	Alveo-palatal	Velar	Glottal
Stops						
vl	p		t	c	k	?
vd	b		d	j	g	
Fricatives						
vl	p̪	f	s	š	x	h
vd	b̪	v	z	ž	ɣ	
Nasals	m		n	ñ	ŋ	
Lateral						
vl			ɬ			
vd			l			
Vibrant			r			
Semivowel	w		y			

CHART B

Vowel Symbols

	Front unrounded	Central unrounded	Back rounded
high	i	ɨ[2]	u
mid	e	ə	o
	ɛ	ʌ	
low		a	

[2]The symbol [ɨ] is used for a range of high central vocoids which differ slightly from language to language.

PART TWO

2. LEXICAL COMPARISONS

The aim of Part Two of this study is, in the first place, to present the results of a preliminary lexical classification and, in the second, to discuss in some detail the individual languages and their relationships.

2.1. *LIST AND CLASSIFICATION OF LANGUAGES*

There are two types of languages in the Western Madang District. The great majority of the languages are Papuan (or non-Melanesian, i.e. non-Austronesian), but there are several Melanesian (i.e. Austronesian) languages in the immediate coastal area.

Most of the Papuan languages of the Western Madang District belong to three newly established local phyla: the Madang, Adelbert Range and Ramu Phyla. Two other phyla overlap into the District from other areas: the Torricelli Phylum in Monumbo (72) and Lilau (73), and the East New Guinea Highlands Phylum in Karam (84) and Gaintj (85). The languages of the Astrolabe Bay have still to be classified.

2.1.1. The following list and classification of languages is subdivided on this basis. The first column gives the name of the stock, the second those of the families or groups, and the third those of the languages. Column four contains the number of the language by which it is identified on the general language map (p.22). Column five contains the abbreviation of the language name, and column six the approximate number of speakers. The approximate number of speakers of families and stocks are put under the corresponding family or stock name and those for a phylum behind the phylum name. New additions to Z'graggen (1969) are identified by three capitalised letters and refer to the additional maps on the

languages of the Mabuso Stock (p.24) and the language of the Astrolabe Bay (p.105) and no numbers are given.

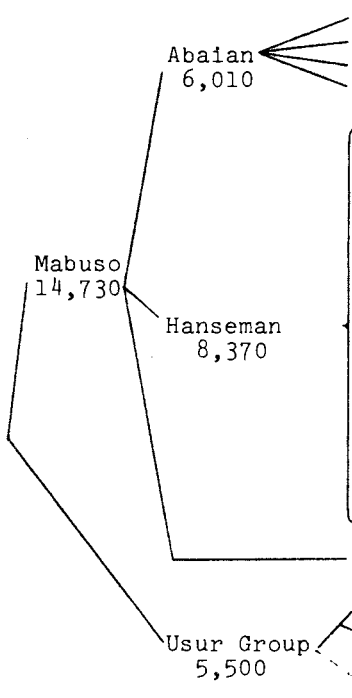
The numbers of speakers are approximate for two reasons: first, population figures for 1967 were not available for all villages in March 1968, and earlier figures had to be used; and secondly, no actual counts could be made in bilingual villages.[3] Unbroken lines indicate established relationships, whereas broken lines denote uncertain relationships. 'Groups' in the family column indicate tentative groupings with insufficient evidence at hand to determine whether they have family or stock status; the fact that material is inadequate, or that large unstudied areas surround such groups, is the reason for the uncertainty in such cases. Although indicated by branching, no names for subfamilies have been suggested at this stage. The results of additional fieldwork will be awaited before names are proposed for them.

Since there is no indigenous name for any of the languages, language naming has had to be artificial. Old, well established names have been retained where a change was not advisable. For the rest, village names central to the language area and giving for Europeans and natives alike an easy reference as to location, were chosen as language names. Where this was not satisfactory, the translation of *word* was taken as language name, as for instance for Pay, Pila, Saki, Tani. Administration spelling, as given in the Village Directory 1968, was adopted, although in some cases a marked discrepancy was observed between the spelling and the native pronunciation. Names of larger rivers, mountains, and ranges were taken for family and stock names, and where this was unsatisfactory, a new name was constructed out of the first syllables of the subordinate languages, such as "Abaian", which is composed of a-ba-i, i.e. Amele + Bau + Isebe. All family names could perhaps be replaced later by reconstructed forms of words like *man* or *word*. Language names meaning *what*, previously used by Kaspruś for instance, were abandoned, since they seem to provide no satisfactory basis for language naming and give no information on the location of the languages.

[3] Most figures of speakers of a language as given in Z'graggen (1969) could be corrected through obtaining additional population figures of villages.

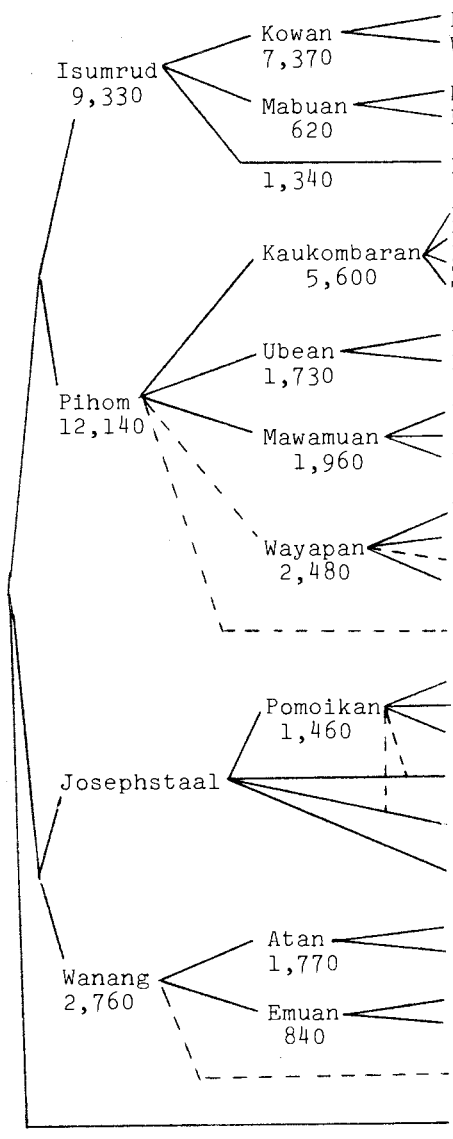
LIST AND CLASSIFICATION OF LANGUAGES

A. The Madang Phylum (20,230)



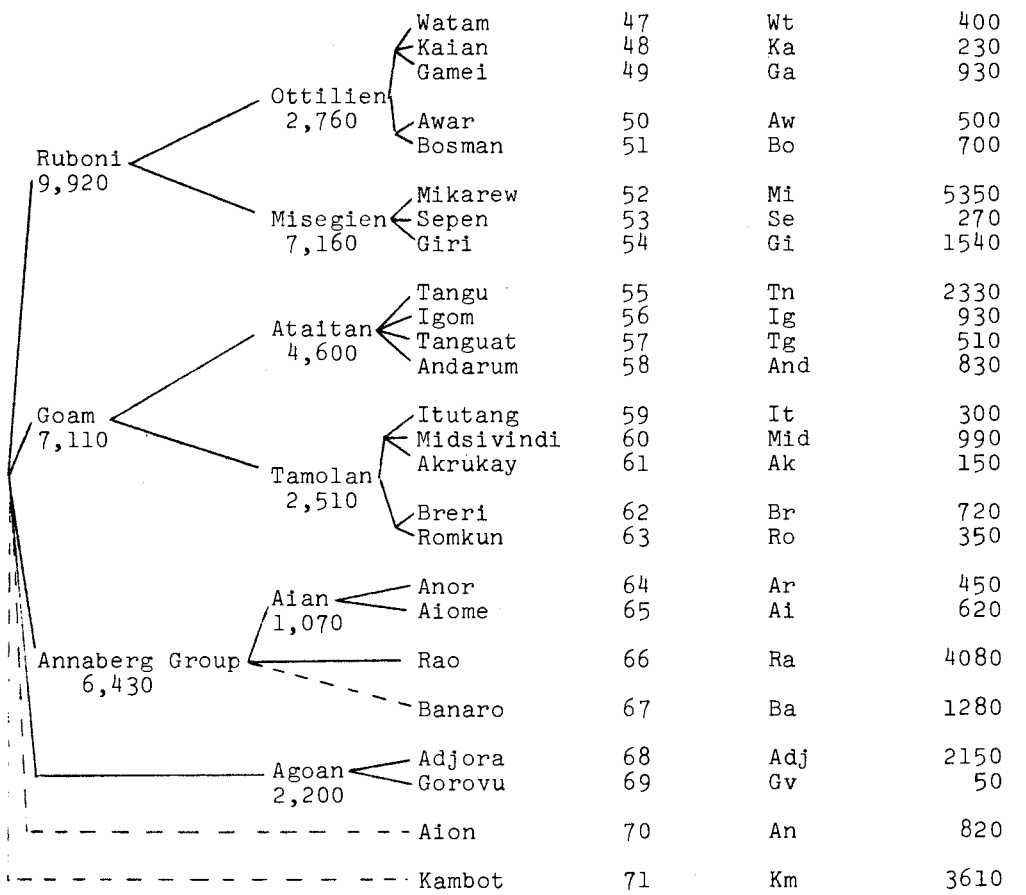
Stock	Family	Language	Number	Abbreviation	Speakers
Mabuso 14,730	Abaian 6,010	Isebe	1	Is	950
		Bau	2	B	1760
		Amele	3	Al	3070
		Gumalu	--	GUM	330
	Hanseman 8,370	Garus	4	Gs	1760
		Yoidik	5	Yo	450
		Rempi	6	Re	490
		Garuh	7	Gh	1960
		Kamba(Foran)	8	Kam	810
		Mawan	9	Mw	220
		Utu	10	Ut	630
		Wamas	11	Wm	150
		Saruga	12	Sr	150
		Gal	82	Gl	210
		Nake	83	Na	170
		Baimak	--	BAI	390
		Matepi	--	MAT	210
		Samosa	--	SAM	100
		Murupi	--	MUR	310
		Lapting	--	LAP	350
		Kare	13	Kr	340
	Usur Group 5,500	Usino	14	Us	1640
		Sumau	15	Su	2070
		Urigina	16	Ur	1790

B. The Adelbert Range Phylum (30,480)



Stock	Family	Language	Number	Abbreviation	Speakers
Isumrud 9,330	Kowan 7,370	Korak	17	Ko	170
		Waskia	18	Ws	7200
	Mabuan 620	Malas	19	Ml	190
		Bunabun	20	Bu	430
	1,340	Dimir	21	Di	1340
Pihom 12,140	Kaukombaran 5,600	Pay	22	Pa	610
		Pila	23	Pi	580
		Saki	24	Sa	2070
		Tani	25	Ta	2340
	Ubean 1,730	Ulingan	26	Ul	1630
		Bepour	27	Be	100
	Mawamuan 1,960	Mawak	28	Mk	1020
		Musar	29	Mr	500
		Wanambre	30	Wa	440
	Wayapan 2,480	Wanuma	31	Wn	1280
		Yaben	32	Ya	480
		Parawen	33	Par	540
		Ukuriguma	--	UKU	180
		Amaimon	34	Ama	370
Josephstaal	Pomoikan 1,460	Moresada	36	Mo	160
		Ikundun	37	Ik	850
		Pondoma	39	Po	450
		Wadaginam	35	Wad	460
		Katiati	40	Kt	2230
		Osum	38	Os	350
Wanang 2,760	Atan 1,770	Atemple	41	At	70
		Angaua	42	Ang	1700
	Emuan 840	Emerum	43	Em	600
		Musak	44	Mu	240
		Paynamar	45	Pn	150
		Mugil	46	Mg	1750

C. The Ramu Phylum (30,090)



D. The Torricelli Phylum in the Western Madang District (860)

Stock	Family	Language	Number	Abbreviation	Speakers
		Monumbo	72	Mon	450
		Lilau	73	Li	410

E. The East New Guinea Highlands Phylum in the Western Madang District (13,520)

Stock	Family	Language	Number	Abbreviation	Speakers
East New Guinea Highlands Stock	Karam 13,520	Karam	84	Kar	10,000
		Gantj	85	Gj	3,520

F. The Melanesian Languages (17,860)

Stock	Family	Language	Number	Abbreviation	Speakers
	Meseman 5,680	Manam	74	Ma	5,070
		Sepa	75	Sp	210
		Medebur	76	Me	400
	Belan 12,180	Gedaged	77	Ge	2,180
		Bilbil	78	Bi	590
		Takia	79	Tk	8,520
		Megiar	80	Meg	640
		Matukar	81	Mt	250

2.1.2. The following list of language names lists in alphabetical order all names used by an author with reference to linguistic information. Names in ordinary type in column one are those adopted in section (2.1.1.) and are identified by number, abbreviation, family, stock and phylum in column two. Names in italics have not been adopted in this present study and are not recommended for further use; the recommended name - or, in the case of unidentified or unstudied languages, the location - is given in the second column. Otherwise, column two gives the number and classification of the languages, as set out in this work. This list of the language names may help to prevent misunderstandings caused by different names or spellings.

LIST OF LANGUAGE NAMES

Names	Identification
Adjora	68, Adj, Agoan, RPh
A'e	Rempi
Aförö	Karam
Aiome	65, Ai, Aian, Annaberg, RPh
Aion	70, An, RPh
Akrukai	61, Ak, Tamolan, Goam, RPh
Ale	Nake
Amaimon	34, Ama, Pihom, ARPh
Amele	3, Al, Abaian, Mabuso, MPh
Andarum	58, And, Ataitan, Goam, RPh
Angaua	42, Ang, Atan, Wanang, ARPh
Annaberg	Rao
Anor	64, Ar, Aian, Annaberg, RPh
Aregerek	Musar
Ariawiai	Mikarew
Arini	Garuh
Ate	Garus
Atemple	41, At, Atan, Wanang, ARPh
Atemple-Apris	Atemple
Awar	Nubia
Bagasin	Girawa
Baimak	unidentified; probably Gal
Balahaim	Isebe
Banara	Kaukambaran, Pai, Tani
Banaro	67, Ba, Annaberg, RPh
Bau	1, B, Abaian, Mabuso, MPh
Bawaipa	Garuh
Bemal	BEM, Astrolabe Bay
Bepour	27, Be, Ubean, Pihom, ARPh
Bilakura	unidentified; located south of Dimir (21)
Bilbil	78, Bi, Belan, Melanesian
Bilibili	Bilbil
Bogadjim	BOG, Astrolabe Bay
Bom	BOM, Astrolabe Bay
Bonaputa-Mopu	Pila
Bongu	BON, Astrolabe Bay
Boroi	Gamei
Bosiken	Dimir

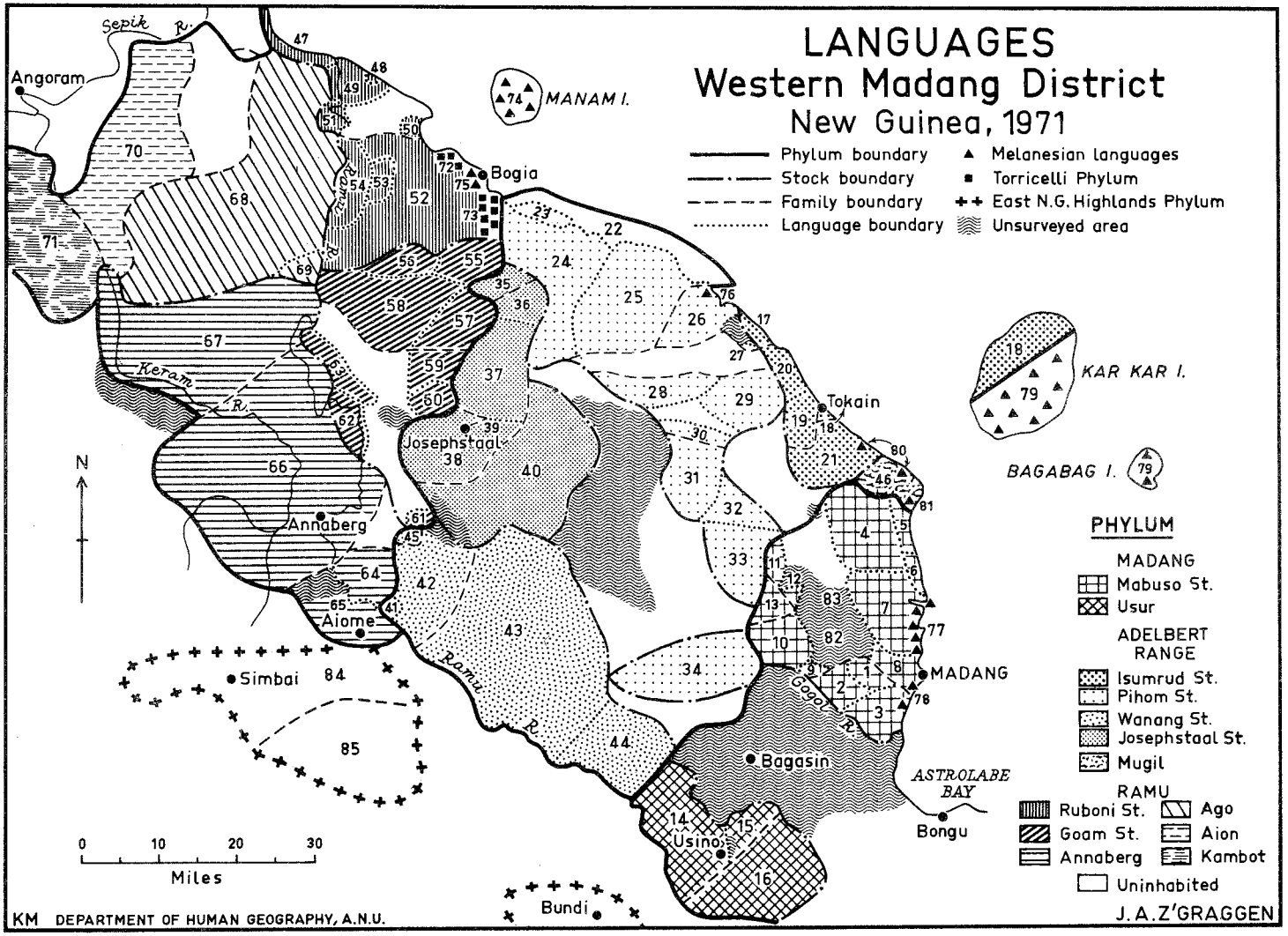
Names	Identification
Boskien	Dimir
Bosman	51, Bo, Ottilien, Ruboni, RPh
Bosngun	Bosman
Breri	62, Br, Tamolan, Goam, RPh
Bunabun	20, Bu, Mabuan, Isumrud, ARPh
Bunu	Mugil
Bunubun	Bunabun
Butelkud-Guntabak	Garuh
Dagoi (Dagui)	Pay
Dimir	21, Di, Isumrud, ARPh
Duduela	DUD, Astrolabe Bay
Em	Garus
Emerum	43, Em, Emuan, Wanang, ARPh
Erempi	Rempi
Erima	ERI, Astrolabe Bay
Foran	Kamba
Fuaz	Amele
Gal	82, Gl, Mabuso, Hanseman, MPh
Gamai	Gamei
Gamei	49, Ga, Ottilien, Ruboni, RPh
Gantj	85, Gj, Karam, East New Guinea Highlands Stock and Phylum
Garuh	7, Gh, Hanseman, Mabuso, MPh
Garus	4, Gs, Hanseman, Mabuso, MPh
Gedaged	77, Ge, Belan, Melanesian
Girawa	GIR, Astrolabe Bay
Giri	54, Gi, Misegian, Ruboni, RPh
Gorovu	69, Gv, Agoan, RPh
Graged	Gedaged
Gumalu	GUM, Abaian, Mabuso, MPh
Halopa	Garuh
Ham	HAM, Astrolabe Bay, Melanesian
Hatzfeldhafen	Pay, Kaukombaran
Hansevulkan	Manam
Igom	56, Ig, Ataitan, Goam, RPh
Ikundun	37, Ik, Pomoikan, Josephstaal, ARPh
Isebe	1, Is, Abaian, Mabuso, MPh
Itutang	59, It, Tamolan, Goam, RPh
Jenglam	JEN, Astrolabe Bay

Names	Identification
Jilim	JIL, Astrolabe Bay
Kadda	KAD, Astrolabe Bay
Kaian	48, Ka, Ottilien, Ruboni, RPh
Kamba	8, Kam, Hanseman, Mabuso, MPh
Kambot	71, Km, RPh
Karam	84, Kar, Karam, East New Guinea Highlands Stock and Phylum
Kare	13, Kr, Mabuso, MPh
Kari	Usino, Samau
Karker	Takia
Katiati	40, Kt, Josephstaal, ARPh
Kire-Puire	Giri
Komunimung	unrecorded; east of Breri (62)
Korak	17, Ko, Kowan, Isumrud, ARPh
Kwato	KWA, Astrolabe Bay
Kuanga	Breri
Lapting	LAP, Astrolabe Bay
Lilau	73, Li, Torricelli Phylum
Makarup	Mikarew
Malala	Pay
Malas	19, Ml, Mabuan, Isumrud, ARPh
Male	MAL, Astrolabe Bay
Manam	74, Ma, Meseman, Melanesian
Marangis	Watam
Matepi	MAT, Mabuso
Matukar	81, Mt, Belan, Melanesian
Mawak	28, Mk, Mawamuan, Pihom, ARPh
Mawan	8, Mw, Hanseman, Mabuso, ARPh
Medebur	76, Me, Meseman, Melanesian
Medebur-Toto	Medebur
Megiar	80, Meg, Belan, Melanesian
Midsivindi	60, Md, Tamolan, Goam, RPh
Mikarew	52, Mi, Misegian, Ruboni, RPh
Mikarew-Ariaw	Mikarew
Mindivi	Ikundun
Mis-Kemba	Kamba
Misdao	Garuh
Mitebog	Gedaged
Moando	Kaukombaran

Names	Identification
Moie	unrecorded; south of Bepour (27)
Moira	unrecorded; north-east of Katiati (40)
Monumbo	72, Mon, Torricelli Phylum
Moresada	36, Mo, Pomoikan, Josephstaal, ARPh
Moro-Sapra-Ulingan	Ulingan
Mosimo	unrecorded; south of Dimir (21)
Mugil	46, Mg, ARPh
Munit	MUN, Astrolabe Bay
Murisapa	Moresada
Murupi	MUR, Mabuso
Murusapa-Sarewa	Moresada
Musak	44, Mu, Emuan, Wanang, ARPh
Musar	29, Mr, Mawamuan, Pihom, ARPh
Nake	83, Na, Hanseman, Mabuso, MPh
Ngaimbon	Lilau
Nobanob (Nobonob)	Garuh
Nubia	Awar
Nupanop	Garuh
Osum	38, Os, Josephstaal, ARPh
Panim	Isebe
Para	Parawen
Parawen	33, Par, Wayapan, Pihom, ARPh
Pay	22, Pa, Kaukombaran, Pihom, ARPh
Paynamar	45, Pn, Wanang, ARPh
Pila	23, Pi, Kaukombaran, Pihom, ARPh
Pondoma	39, Po, Pomoikan, Josephstaal, ARPh
Porapora	Aion-Banaro
Ragetta	Gedaged
Rao	66, Ra, Annaberg, RPh
Rempi	6, Re, Hanseman, Mabuso, MPh
Rempin	Rempi
Rio	Gedaged
Romkuin	Romkun
Romkun	63, Ro, Tamolan, Goam, RPh
Saker	Mugil
Saki	24, Sa, Kaukombaran, Pihom, ARPh
Samosa	SAM, Hanseman, Mabuso, MPh
Sarang	Megiar
Saruga	12, Sr, Hanseman, Mabuso, MPh

Names	Identification
Sek	Gedaged
Szeak-Bagili	Gedaged
Sepa	75, Sp, Meseman, Melanesian
Sepen	53, Se, Misegian, Ruboni, RPh
Siar	Gedaged
Siar-Ragetta	Gedaged
Songum	SON, Astrolabe Bay
Suaru	Pila
Sumau (Garia)	15, Su, Usur, MPh
Takia	79, Tk, Belan, Melanesian
Tanggum	Tangu
Tangu	55, Tn, Ataitan, Goam, RPh
Tanguat	57, Tg, Ataitan, Goam, RPh
Tani	25, Ta, Kaukombaran, Pihom, ARPh
Tiara	Gedaged
Turutap	Saki
Ufien	unrecorded; south of Bepour (27)
Ukuriguma	UKU, Wayapan, Pihom, ARPh
Ulingan	26, Ul, Ubean, Pihom, ARPh
Urigina	16, Ur, Usur, MPh
Usino	14, Us, Usur, MPh
Utu	10, Ut, Hanseman, Mabuso, MPh
Vanambere	Wanambere
Wadaginam	35, Wad, Josephstaal, ARPh
Wadaginamb	Wadaginam
Wagi	Kamba
Wagimuda	Tani
Wamas	11, Wm, Hanseman, Mabuso, MPh
Wanambre	30, Wa, Mawamuan, Pihom, ARPh
Wanuma	31, Wn, Wayapan, Pihom, ARPh
Waskia	18, Ws, Kowan, Isumrud, ARPh
Watam	47, Wt, Ottilien, Ruboni, RPh
Weim	Gal
Woskia	Waskia
Yabem	Yaben
Yaben	32, Ya, Wayapan, Pihom, ARPh
Yakiba	Saki
Yoidik	5, Yo, Hanseman, Mabuso, MPh

2.1.3. The following language map of the Languages of the Western Madang District which is based on Administration maps of the District Offices at Madang, Bogia and Angoram, shows the approximate location of the languages surveyed. Languages are indicated by numbers, and stocks and isolates by shadings. For further explanatory notes see the map itself. An additional map is given of the Languages of the Mabuso Stock (p.24) and of the Languages of the Astrolabe Bay (p.105).


LANGUAGES
Western Madang District
New Guinea, 1971
Phylum boundary
Stock boundary
Family boundary
Language boundary
Melanesian languages
Torricelli Phylum
East N.G. Highlands Phylum
Unsurveyed area
Sepik R.
Angoram
MANAM I.
Bogia
Keram R.
Josephstaal
Annaberg
Aiome
Simbai
Ramu R.
Tokain
KAR KAR I.
BAGABAG I.
MADANG
Bagasin
Gogol R.
ASTROLABE BAY
Bongu
Usino
Bundi
N
0 10 20 30
Miles
PHYLUM
MADANG
Mabuso St.
Usur
ADELBERT RANGE
Isumrud St.
Pihom St.
Wanang St.
Josephstaal St.
Mugil
RAMU
Ruboni St.
Goam St.
Annaberg
Ago
Aion
Kambot
Uninhabited
KM DEPARTMENT OF HUMAN GEOGRAPHY, A.N.U.
J.A.Z'GRAGGEN

2.2. *NOTES ON THE LANGUAGES AND THEIR CLASSIFICATION*

This chapter contains the discussion of names of languages, families and stocks, lists of the villages where the individual languages are spoken, information about authors who made some contribution to the study of languages mentioned, lexicostatistical evidence for the establishment of families, stocks and phyla, and notes on characteristics of individual languages and language groups. Numbers or three capital letters are added to the language names to help the reader to ascertain the location of the languages on the language maps. Numbers in brackets following village, language, family, stock or phylum names refer to the approximate number of speakers.

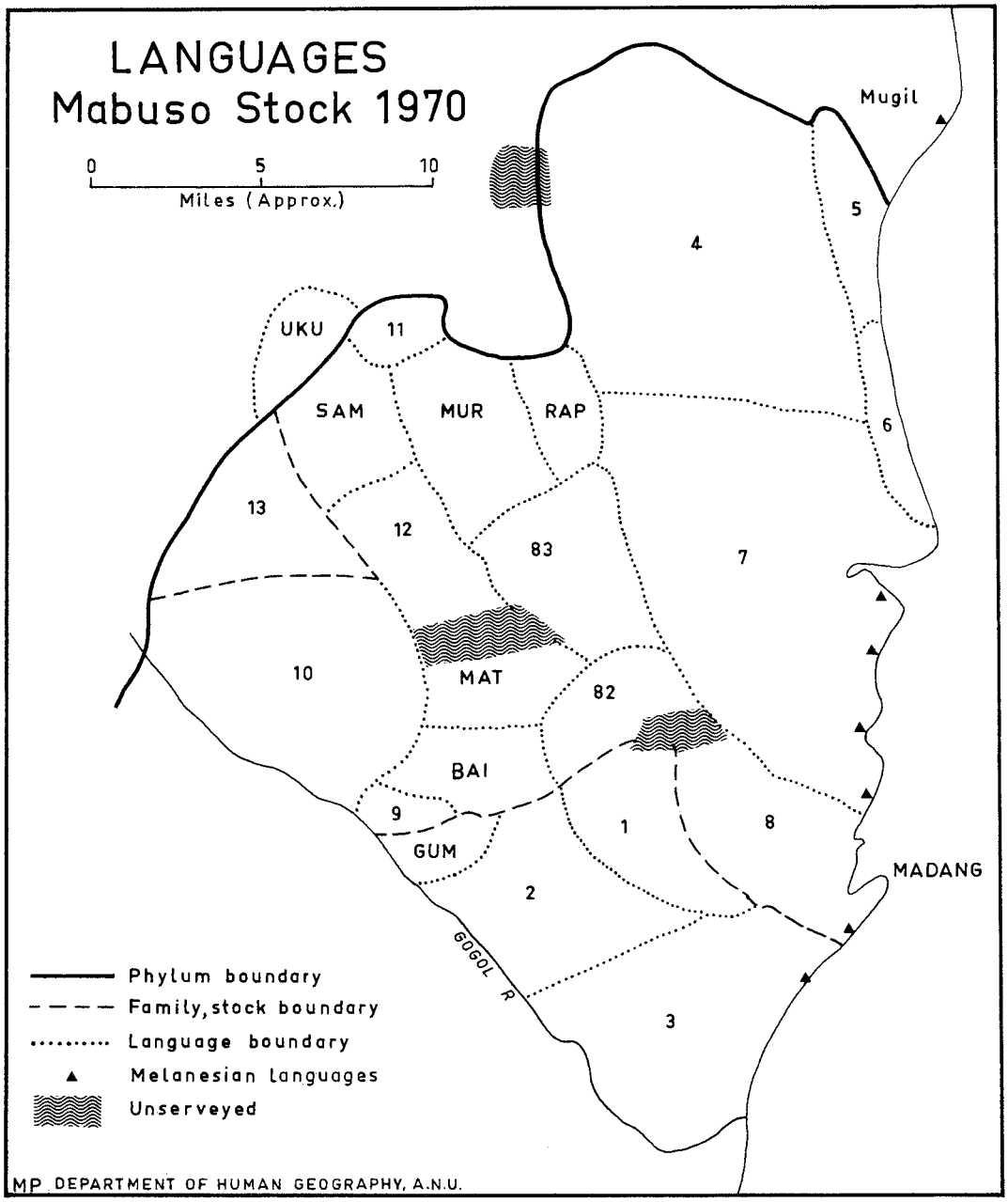
2.21. The Madang Phylum (20,230)

The Madang Phylum is divided into the Mabuso Stock, and the Usur Group in the Upper Ramu Valley. The present writer had been able to carry out additional fieldwork from July to November 1969 in the area of the Madang Phylum. Two new language maps are added to this publication: The Languages of the Mabuso Stock (p.24) and the Languages of the Astrolabe Bay (p.105). The newly discovered languages of the Mabuso area belong definitely to the Madang Phylum, but the linguistic relationship of most of the languages in the Astrolabe Bay is uncertain, and they are, therefore, listed at the end of part two of this publication (see section 2.4.).

2.21.1. *The Mabuso Stock (14,730)*

The Mabuso Stock consists of two families: the Abaian and the Hanseman Family, the latter named after the Hanseman Mountain, and one family type isolate: Kare. The Mabuso linguistic area refers roughly to the Ambenob, Gal-Utu, Saker-Garus, Sek-Rempi and Kare Census Divisions. The Mabuso Open Electorate from which the name was adopted in search for a name, extends, however, also across the Gogol River to Usino and the Vua Census Division at the southern side of the Upper Ramu.

Due to new field inquiries, the author could obtain additional material and make some corrections to the Mabuso Stock area on the general map of the Languages of the Western Madang District (p.22). The following map of the Languages of the Mabuso Stock (p.24) illustrates the improved linguistic knowledge of the area concerned. New additions are indicated by three capital letters, e.g. GUM for Gumalu; numbers refer to the general language map of the Western Madang District. The


LANGUAGES
Mabuso Stock 1970
0
5
10
Miles (Approx.)
Mugil
4
5
6
UKU
11
SAM
MUR
RAP
13
12
83
7
10
MAT
82
BAI
9
GUM
1
8
2
MADANG
GOGOL R
3
Phylum boundary
Family, stock boundary
Language boundary
Melanesian languages
Unserveyed
MP DEPARTMENT OF HUMAN GEOGRAPHY, A.N.U.

linguistic position of the following villages could not be identified yet: Ambenob Census Division: Aguru (229),[4] Bagupi (34), Birimai (67), Budup (43), Sein (90), Wagum (131); Gal-Utu Census Division: Silopi (130); Saker-Garus Census Division: Bilakura (35), Kudas (27); Sek-Rempi Census Division: Mosimo (57).

2.21.11. *The Abaian Family (6,010)*

Four[5] languages are included within this family: Isebe, Bau, Amele and Gumalu (GUM). All of them share a high percentage of cognates.

2.21.11.1. *Member Languages*

2.21.11.11. *Isebe 1/Is (950)*

Villages: Mirkuk, Barahaim, Urugan, Korog 1, Korog 2, Opi, Panim.

The language name Isebe was first mentioned by Mager (1952:118). Dempwolff (1905:245) collected a first wordlist of this language based on Panim village.

2.21.11.12. *Bau 2/B (1,760)*

Villages: Dolonu, Efu, Bau, Bamahal, Fulumu, Bauk, Bafalu, Lagaha, Umun, Guman.

Not previously recorded.

2.21.11.13. *Amele 3/A1 (3,070)*

Villages: Aiyap, Amele, Aiha, Bahor, Dalam, Daiya, Hilu, Hudini, Kesup, Mirhanak, Moilsehu, Ohu, Ohuru, Omuru, Ord, Sa, Saluku, So, Sua, Umuin, Waguk, Yahil, Yelso.

The Amele language was first investigated and reduced to writing by the Lutheran Missionaries Wullenkord and Walsh (unpublished), and also gave the name Amele to the language (see Mager 1952:185). Mager (1952: 85) calls Amele the Fuaz or Hual language of the Fuaz Tribe and incorporates a short wordlist into his Gedaged Dictionary. Capell (1954) adopted the name Amele, his miscellaneous notes are not yet published. Amele is still used for evangelical purposes by the Lutheran Mission; a good translation by Walsh of parts of the New Testament (*Jesusna Mahana Oboc*) has been published by the Lutheran Press, Madang (1949).

---

[4] Numbers in brackets following a village name indicate the population figure of this particular village throughout this study.

[5] Z'graggen (1969:40) could not include a fourth member, the Gumalu Language, see Language map (p.22) and paragraph 2.21.11.14.

2.21.11.14. *Gumalu GUM (330)*

Villages: Gumalu and other hamlets.

Z'graggen (1969:40) listed Gumalu Village as Bau speaking; in subsequent inquiries informants insisted on having their own distinct language, although a high degree of mutual intelligibility was admitted. A preliminary inspection of the available material shows Gumalu lexically and typologically as very closely related to the Abaian Family, and, thus, justifying an inclusion into the Abaian Family. Gumalu Language is also included into the population figures but not into the description of typological features in the remainder of this study

2.21.11.2. *Lexical Relationships within the Abaian Family*

Isebe - Bau	80%
Isebe - Amele	61%
Bau - Amele	67%

2.21.11.3. *Typological Characteristics of the Abaian*

1) Voiced and voiceless stops seems to be in phonemic contrast in Isebe, but not in Amele and Bau.[6]

2) A Two Possessive Class System (2PC) has been observed. The PM_p's[7] follow a ligative m or n suffixed to noun bases constituting members of the R and P Classes,[8] (see section 3.33.2.). This feature is found only in two more languages in the immediate neighbourhood: Utu (9) and Mawan (10).

3) The negation marker is a discontinuous form. The element preposed to Vb is similar in phonemic form to that found in the other languages of the Mabuso Stock, but the postposed element seems to be a fused form with tense and subject markers. The presence of a postposed element is in contrast to the neighbouring Hanseman Family.

For further typological features see 2.21.17.

---

[6] Voiced and voiceless stop symbols are, however, differentiated in Welsch's *Jesusna Mahanac Oboc* - a bible translation in Amele. The letter c in Welsch's translation indicates a glottal stop and the letter q a simultaneous glottal and bilabial stop.

[7] PM_p's are possession markers in a two possessive class system; person and number of the possessor are differentiated (see section 3.31.4.).

[8] R Class nouns are terms of relationship and P Class nouns are terms denoting body parts.

2.21.12. *The Hanseman Family (8,370)*

So far sixteen[9] languages have been identified as members of the Hanseman Family. Time did not permit for a proper evaluation of the field material to postulate a grouping into subfamilies; an attempt however, is hoped to be made in the near future.

2.21.12.1. *Member Languages*

2.21.12.11. *Garus*[10] *4/Gs (1,760)*

Villages: Abap, Anhabak, Badimfok, Baiteta, Balbe, Balabak, Bemdik, Bubno, Budum, Budip, Burbura, Dudula, Elebe, Haiya, Sigu.

Kaspruś (1942) has given a first wordlist and some notes on the grammar of Garus, or the Em Dialect, as he calls it. Father R. Stephansky S.V.D. (unpublished) has carried out extensive preliminary studies in Garus and produced translations for mission purposes.

2.21.12.12. *Yoidik 5/Yo (450)*

Villages: Bagildik, Banap, Yoidik.

Kaspruś (1942) refers to the Yoidik language as a unit - 'coastal unit' - within the Em (*what*) tribe. All my informants insisted, even after repeated inquiries that there was a considerable difference between Yoidik and its neighbours, but they admitted that there was a high degree of mutual intelligibility. On the basis of the results of the lexicostatistical comparison (see below, Chart 1), I list Yoidik as a language at this stage, though this may well be subject to revision.

---

[9] Z'graggen (1969:43) listed only nine member languages of the Hanseman Family. Nake and Gal were then tentatively included into the Mabuso Stock. Based on additional field material, the author could group both languages into the Hanseman Family sharing all the characteristics of this family. Additional members of the family are: Lapting (LAP), Murupi (MUR), Samosa (SAM), Matepi (MAT), Baimak (BAI). The additional members of the family will be included only in the population figures, but will be disregarded in other respects.

[10] Kaspruś's statement (1942:723): '..., they denote themselves as Em, A'e, Até, Alé etc. and also refer to one another intertribally by these terms' is incorrect insofar as these "'what'-names" probably have a European origin, caused by misunderstanding. My own enquiries did not support Kaspruś's interpretation. Language names meaning *what* were also introduced in the Kaukombaran Family (see 2.22.21.) and on the Rai coast.

2.21.12.13. *Rempi 6/Re (490)*

Villages: Bomasa, Deda, Kawe, Sempi.

The first vocabularies of Rempi were collected by Maclay (1951:173-83) under the name 'Erempi', by Dempwolff (1905:253) and by Kaspruś (1942) under the name 'A'e' (*what*). Fathers R. Stefansky S.V.D. and W. Ross S.V.D.[11] carried out preliminary studies, and in pre-war times the Rempi language was used for missionary purposes by Catholic Missionaries.

2.21.12.4. *Garuh 7/Gh (1,960)*

Villages: Abar, Aluak, Butelkud, Garigut, Gegiri, Guhup, Haidurem, Haimo, Hapurpi, Haven, Hipondik, Mabonob, Manep, Mebat, Mukuru, Nobanob, Wangar.

Wordlists of the Garuh language were collected by Dempwolff (1905: 25ff) in the Nupanob,[12] Bawaipa and Misdao villages,[13] by D. Waugh (1926:93) in Butelkud village and by Father Ladener S.V.D. of the Halopa Catholic Mission Station (unpublished). Extensive studies have been carried out by the Lutheran Missionaries Schuetz, Hueter and Inselmann (unpublished) who called the language Nobonob (Mager 1952:95). Mager (1952:95) of the Lutheran Mission notes with regard to the language name Nobonob: '... Garuh would perhaps be more appropriate'. Capell did not follow this suggestion. Since Nobanob village, however, is situated at one extreme end of the language area, I have followed Mager's suggestion in adopting the name Garuh.

The Garuh language has been used for missionary purposes by the Lutheran and Catholic Missions. The Lutheran Mission printed a Bible Reader and a Hymnal, and the Catholic Mission produced a Gospel Reader as early as 1929.

---

[11] In his bibliography, Loukotka (1957:74) lists Stefansky as the author of an unpublished manuscript of the Rempi language: "Vokabular und Grammatik der Rempi-Sprache". The "Official Handbook of the Territory of New Guinea" 1937:464 refers to a dictionary of the Rempi language containing 5,000 English words by a missionary whose name is not mentioned. Kaspruś (1942:714) identifies Rev. W. Ross S.V.D. as the composer of this manuscript. This puts the origin of this manuscript in doubt, but I listed this manuscript under the name of Stefansky who seems more likely to be the main author of this manuscript. I had unfortunately no opportunity to peruse this manuscript.

[12] Note the different spellings of Nobanob; Dempwolff: Nupanob, Lutheran Mission: Nobonob, Government: Nobanob.

[13] Bawaipa and Misdao are villages not listed in the Village Directory 1968.

2.21.12.15. *Kamba (Foran)*[14] *8/Kam (810)*

Villages: Foran, Kamba, Kauris, Mis, Silabob.

Dempwolff (1905:247,251) collected the first wordlist of Kamba in the villages Mis and Kembar.[15] Mager (1952:341) calls these people the Wagi Tribe. I did, however, not use this tribal name as a language name to avoid a possible confusion involving the Wahgi people on the Wahgi River in the Central Highlands.

2.21.12.16. *Mawan 9/Mw (220)*

Villages: Mawan, Lowo, Barik.

Previously unrecorded.

2.21.12.17. *Utu 10/Ut (630)*

Villages: Silaul, Asikan, Gilolo, Guteb, Utu, Mololo.

The Utu language was first listed by Kaspruś (1942:727) and its relationship to Garus indicated.

2.21.12.18. *Wamas 11/Wm (150)*

Villages: Wamas 1, Wamas 2 and other hamlets.

Z'graggen (1969:48) listed Kaspruś's wordlist (1942:742-67) of the 'Ate' (*what*) language under the name Wamas as suggested by Kaspruś's language map. Subsequent field investigation proved this suggestion to be erroneous. Informants insisted on three languages (Wamas, Murupi, Lapting) in the area marked by Kaspruś as 'Ate'. Kaspruś's wordlist of Ate corresponds best to the authors wordlist collected on the Murupi Language (see 2.21.12.25.).

2.21.12.19. *Saruga 12/Sr (150)*

Villages: Saruga, Sevoy and other hamlets not listed in the Village Directory 1968 as Nahu, Ituhu, Zaur, Tau, Wayagoro.

Previously unrecorded.

---

[14] Z'graggen (1969:47) recommended the village name 'Foran' as a language name. This choice was, however, unfortunate since Foran is the only one of the five villages which did not traditionally speak the language of the four other villages and had a language on its own, called the 'Med' language. The author received this information from Miss L. Hogg who also recommended 'Kamba' as a language name.

[15] 'Kembar' is probably another spelling of 'Kamba'.

2.21.12.20. *Gal 82/Gl (210)*

Villages: Gal 1, Gal 2, and the following villages not mentioned in the Village Directory 1968: Basapi, Larpi, Mes and Are, the latter hamlet is included in the Opi Village (Isebe speaking).

Capell (1969) collected some firsthand notes.

2.21.12.21. *Nake 83/Na (180)*

Villages: Nake, Itapi and other hamlets such as Uharpi, Saginep.

Nake is listed for the first time by Kaspruś (1942:719,727). Z'graggen (1969:52) put tentatively Waugh's (1969:94) wordlist of Matepi village into the Nake Language. In a subsequent field inquiry, however, the informants insisted on a difference between Matepi and the Nake languages. Waugh's wordlist belongs therefore to the Matepi language (see 2.21.12.23.).

2.21.12.22. *Baimak BAI (290)*

Villages: Baimak, Wanif, Meginam.

Previously unrecorded.

2.21.12.23. *Matepi MAT (210)*

Villages: Matepi, Autabak, Arar.

Waugh (1924:94) collected a first wordlist.

2.21.12.24. *Samosa SAM (100)*

Villages: Samosa, Soli.

Previously unrecorded.

2.21.12.25. *Murupi MUR (310)*

Villages: Murupi, Bai, Silahala, Mai and other hamlets.

Kaspruś (1942:742-67) collected a first wordlist under the name 'Ate' (*what*).

2.21.12.26. *Lapting LAP (350)*

Villages: Lapting, Asiwo and other hamlets.

Previously unrecorded.

2.21.12.2. *Lexical Interrelationship within the Hanseman Family*

The lexical interrelationships between the languages of the Hanseman Family are illustrated in Chart 1.

2.21.12.3. *Typological Characteristics of the Hanseman Family*

1) All members of the Hanseman Family share the suffixing Two Possessive Class System (2PC). Possessive nouns are employed only in the Kamba and the Garuh languages; this is a feature shared with the Melanesian languages. In Mawan and Utu, PM_p is suffixed through a ligative m or n to R and P Class members, a feature shared by the Abaian Family (see 2.21.11.3.).

2) Tense and Subject markers follow the Verb base.

3) In direct transitive verbs object markers are immediately suffixed to the verb base.

4) The negation marker is preposed.

For further typological features which the Hanseman Family shares with the Mabuso Stock as a whole, see section 2.21.17.

CHART 1

Percentage of Shared Cognates in the Hanseman Family

	Gs	Yo	Re	Gh	Kam	Mw	Ut	Sr
Gs		71	74	52	42	37	44	47
Yo			75	48	41	35	35	39
Re				55	45	37	39	43
Gh					68	42	39	43
Kam						39	36	37
Mw							64	46
Ut								55
Sr								

2.21.13. *Kare 13/Kr (350)*

Villages: Dawa, Maritambu, Mugunuramba, Musivanga, Oronga, Simuku.

Kare has to be regarded as a Family-Type Isolate in a phylum border area. Kare is linked with Saruga, its closest neighbour, by 27% cognation, but with the remainder of the Hanseman Family only by 19% to 14%, and only by 11% with the Abaian Family (see Chart 2). The

deficiency of 1% cognation precluding the inclusion of Kare into one stock with the Abaian Family may perhaps be explained through the geographical separation of Kare and the Abaian Family by the intervening Hanseman Family.

The inclusion of Kare in the Mabuso Stock may be regarded as supported on the typological level by the following features:

1) No number marking on nouns.

2) The suffixing Two Possessive Class System is found, although only partially realized; 12 out of 25 expected R+P Class nouns are exceptional in having no PM_p marker obligatorily suffixed to the noun base (see section 3.33.2.).

3) The object marker with direct transitive verbs is immediately suffixed to Vb.

4) The negation marker is preposed to the verb.

5) Kare phonology, however, deviates from that of the remainder of the stock in having prenasalized voiced stops. The occurrence of velar nasals found in Kare is also uncommon in the Mabuso Stock in general.

2.21.14. *Lexical Interrelationships within the Mabuso Stock*

The lexical interrelationships within the Mabuso Stock are illustrated in Chart 2.

2.21.15. *List of Cognates in the Mabuso Stock*

A few selected series of cognates in the Mabuso Stock are given in the following Wordlist 1 for illustrative purposes. Doubtful cases are put in brackets. Each column contains a series of cognates.

CHART 2

Percentages of Shared Cognates in the Mabuso Stock

Is	**B**	**Al**	**Gs**	**Yo**	**Re**	**Gh**	**Kam**	**Mw**	**Ut**	**Sr**	**Kr**
Is	80	61	32	31	33	38	39	27	28	34	11
	B	67	29	31	31	33	33	24	27	30	11
		Al	24	29	29	30	33	22	21	27	11
			Gs	71	74	52	42	37	44	47	19
				Yo	75	48	41	35	35	39	17
					Re	55	45	37	39	43	17
						Gh	68	42	39	43	14
							Kam	39	36	37	14
								Mw	64	46	15
									Ut	55	18
										Sr	27
											Kr

WORDLIST 1

Illustrative List of Cognates: Mabuso Stock

	Al	B	Is	Gs	Yo	Re	Gh	Kam	Mw	Ut	Sr	Kr
man	tana	tana	dana	dal	dal	dal	danap	danap	(sina)	tana:n	tana	(daw)
father	mɛm	mɛm	mɛm	mam	mam	mam	mam	mɛm	mɛm	---	mam	ma
mother	an-	---	an-	an-	an-	an-	an-	an-	an-	---	an-	an-
I	isa	isa	isɛ	---	---	---	---	---	---	---	---	---
I	---	---	---	dɛʔ	daʔ	daʔ	da	da	hak	sɛk	saga	(tsu)
You sg	ina	ina	inɛ	---	---	---	---	---	---	---	---	---
You sg	---	---	---	na	nak	nak	na	na	nak	nɛk	naga	(nu)
he	uʔpa	uʔpa	uʔpa	---	---	---	---	---	---	---	---	---
he	---	---	---	nuk	---	nuk	nuk	nuk	nuk	nuk	nuga	---
we	ɛkɛ	ikɛ	igɛ	ik	it	it	ik	ik	hik	i:k	iga	---
You pl	akɛ	akɛ	agɛ	ɛk	ak	ak	ak	ak	hak	ɛk	aga	---
arm	ɛpɛ-	ɛpɛ-	ɛbɛ-	avu-	ave-	ave-	ebɛ-	evɛ-	debu-	zɛvi-	avu-	be-
eye	ami-	ami-	ame-	ame-	ama-	ame-	ame-	amɛ-	hami-	ami	amu-	omo-
forehead	ola-	ora-			ula-	ula-	ora-	ura-	iro-	ura-	ura-	(orovo-)
dog	pa	pai	pai	pɛ	pɛ	pai	pai	pɛ	---	pai	pai	---
louse	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi
taro	ma	ma	ma	mɛ	ma	ma	ma	ma	ma	ma	ma	mu
cloud	saw	hab	hap	sɛp	sap	sap	hap	sav	---	---	a:b	tsamba
sun	ʔam	ʔam	ʔam	---	(a)	(ah)	am	kɛm	am	---	---	---
two	lels	ɛris	ɛris	(ailtɛ)	(ail)	(ail)	aris	arit	---	---	arɛtɛ	---
Negation Marker	pɛ[16]	pi	pɛ	pi	pi	pi	pi	pi	kwj	pi	pi	(i)

[16]This marker occurs obligatorily with a suffixed marker, forming one discontinuous morpheme, in **Al**, **B**, and **Is**. This is not the case in the other languages listed here.

2.21.16. *Typological Features of the Mabuso Stock*

1) Stops occur at four points of articulation: bilabial, alveolar, velar and glottal. Further research will have to establish more definitely if the k and ʔ phones are really in phonemic contrast. The glottal stop seems to be absent in Kamba and Kare. There appears to be no phonemic contrast between voiced and voiceless stops in Amele, Bau, Mawan, Utu, Saruga and Kare; in the last, prenasalized voiced stops are found.

2) Nasals occur at two points of articulation: bilabial and alveolar. A velar nasal occurs as part of the prenasalized voiced velar stops in Kare; a sporadic occurrence, probably in loanwords, is observed in Rempi, Garuh, Mawan and Utu.

3) Fricatives have been observed at two or three points of articulation: bilabial or labiodental, alveolar and glottal. the /f/ and /v/ phonemes do not seem to occur in Rempi; the /h/ phoneme is not present in Kamba and Kare.

4) /l/ and /r/ seem to be in phonemic contrast in Bau, Garus, Yoidik, Rempi, Garuh and Kamba.

5) The following phonemes have not been observed: /c/, /ñ/, /ŋ/.

6) Unrounded vowels are found in front and in low central positions; rounded vowels in back positions.

7) No high central vowels have been observed.

8) No number marking with nouns.

9) No Concordance Class System.

10) Absence of a first person plural exclusive and inclusive distinction.

11) There is no distinction between the second and third person in the non-singular form of pronouns and subject and object markers.

12) The suffixing Two Possessive Class System is universal. Kamba and Garuh deviate partly from this system in having possessive nouns and following in this respect the Melanesian pattern.

13) A special dual form, derivable from the corresponding plural form, is found in pronouns and subject and object markers.

14) The Vb is suffixed by tense-subject markers.

15) The object marker in direct transitive verbs is immediately suffixed to Vb.

16) The negation marker is usually a preposed enclitic to the verb, but Abaian has an additional suffixed element.

17) A great predominance of suffixes over prefixes on nouns and verbs is observed.

2.21.2. *The Usur Group (5,500)*

The Usino (14), Sumau (15) and Urigina (16) languages have been tentatively grouped into a unit, seeing that they show much closer relationship to each other than to any other language under consideration here. Mager (1952:138) refers to Usino and Sumau as the Kari language; but my comparative wordlist shows them to be related only on the low family level. Usino-Sumau are related to the Hanseman Family on the low stock level, but less closely to Abaian and Kare. Urigina links on the stock level with Usino and Sumau, but shows a much lower relationship to any other language of the phylum (see Chart 3).

For these reasons the author hesitates to regard the Usur Group as a family.

Claassen-McElhanon (forthcoming) express no doubts concerning the family status of these three languages and also include the Bagasin (Girawa) language, north of the Usur Group. Claassen-McElhanon provisionally name the Usur Group the Usino Family, thus duplicating the same name to denote a language and a family. This is just what the present writer wants to avoid. The language name Garia instead of Samau is also preferred and no reason is given for this. The Bagasin Wordlist collected by Claassen links Bagasin closer with the Usur Group, whereas the authors wordlist links Bagasin much closer with the Mabuso Stock. Both wordlists differ considerably and a checkup in the field is called for.

The linguistic identification of two villages in the Usur Area is yet to be established; they are the villages Danaru (116) and Deini (131) in the Igoi-Sop Census Division.

The linguistic survey of the area north and east of the Usur Group and the Astrolabe Bay has yet to be completed. A list of the languages and a map will be given in section 2.4. The present writer hopes to propose a classification in a later publication. His field material is not sufficient and the material already published must be compiled and evaluated in the light of new field material.

2.21.21. *Member Languages*

2.21.21.1. *Usino 14/Us (1,640)*

Villages: Igoi, Dunuba, Bil, Garaligut, Kepsau, Usino, Faita, Arimori, Beire, Bigei, Merioi.

Previously unrecorded.

2.21.21.2. *Sumau (or Garia)*[17] *15/Su (2,070)*

Villages: Moro, Nugu, Sumau, Tababu, Pukisak, Uria, Enam, Eweiwa, Ibinoro, Yanipa, Igurue, Poini, Totoba.

Previously unrecorded.

2.21.21.3. *Urigina 16/Ur (1,790)*

Villages: Adjuai, Wiai, Rainbana, Biri, Mataloi, Uria, Korigina, Kesa, Sana, Onguru, Yagumbu, Aiambi, Ketuba, Korona, Yonapa, Urigini, Sausi.

Previously unrecorded.

2.21.22. *Lexical Interrelationship with Usur*

Usino	- Sumau	38%
Usino	- Urigina	30%
Urigina	- Sumau	34%

2.21.23. *Typological Features of the Usur Group*

1) Stops occur at three points of articulation: labial, alveolar and velar; the glottal stop is present only in Sumau. Voiced stops in Urigina appear to be all prenasalized.

2) Nasals occur at two points of articulation: labial and alveolar. A velar nasal occurs as part of the prenasalized stops in Urigina.

3) Fricatives occur at bilabial or labio-dental and at alveolar points of articulation.

4) [r] and [l] phones are found in all members of the group; further study will be needed to decide whether they are in phonemic contrast in any of the languages.

5) Unrounded vowels are found in front and in low central positions, and rounded vowels in back positions.

6) A high central vowel type is found only in Usino.

---

[17] Claassen-McElhanon (forthcoming) prefer the name Garia.

7) No number marking with nouns is present.

8) No Concordance Class System is present.

9) The suffixing Two Possessive Class System is found in all members of Usur, although the Two Class System has been found to be only partially realised in Usino, i.e. 10 out of 25 R+P Class nouns have no PM_p suffixed.

10) The Vb is suffixed by tense-subject markers.

11) The object marker in direct transitive verbs is immediately suffixed to the verb base.

12) Words tend to end in a vowel.

2.21.3. *Lexical Interrelationship within the Madang Phylum*

The lexical interrelationships between members of the Madang Phylum are displayed in Chart 3.

2.21.4. *Illustrative List of Cognates in the Madang Phylum*

Some illustrative series of cognates were given in section 2.21.15. The following list of cognates attempts to illustrate the relationship between the Usur Group and the Mabuso Stock. The first column contains the words under consideration in English. The second contains the cognates and in column three it is indicated in which languages of the Usur Group a particular cognate occurs. Column four contains the corresponding cognates as found in the Mabuso Stock and the occurrence in languages, of this particular cognate is indicated in column 5.

The wordlist represents only a selection of cognates from the original wordlists used for comparison. It is hoped that the lists may illustrate the assumed relationship adequately.

CHART 3

Percentages of Shared Cognates in the Madang Phylum

Is	B	Al	Gs	Yo	Re	Gh	Kam	Mw	Ut	Sr	Kr	Us	Su	Ur
Is	80	61	32	31	33	38	39	27	28	34	11	5	5	4
	B	67	29	31	31	33	33	24	27	30	11	4	8	4
		Al	24	29	29	30	33	22	21	27	11	6	8	4
			Gs	71	74	52	42	37	44	47	19	15	12	6
				Yo	75	48	41	35	35	39	17	12	11	5
					Re	55	45	37	39	43	17	12	10	6
						Gh	68	42	39	43	14	12	10	6
							Kam	39	36	37	14	12	10	6
								Mw	64	46	15	17	15	6
									Ut	55	18	16	13	6
										Sr	27	14	13	6
											Kr	4	5	4
												Us	38	30
													Su	34
														Ur

WORDLIST 2

Illustrative List of Cognates: Usur Group and Mabuso Stock

English	Usur-Word	Occurring	Mabuso-Word	Occurring
hand	sabu	Us	zɛvi-	Ut
	ubu-	Su	dɛvu-	Mw
			ave-	Wm,Kam,Re,Yo,Gs
			avu-	Sr
			ɛpɛ-	Al,B,Is,Gh
			be-	Kr
belly	o-	Su	o-	Yo,Kam,Mw,Ut,Sr
			wo-	Re,Gh
nail	tsira	Su	tili-	Sr,Yo
	tirobu	Ur		
hair	uli	Su	uli	Yo,Mw
			uru	Re,Gh,Kam
			viri	Gs,Wm
name	wɛn-	Us,Su	vɛni-	Kam,Gs,Ut
	ɛni-	Ur	wani-	Yo,Re,Gh,Mw
			pina	Sr
			žɛni	Is
			rɛni	B
nose	nur-	Us	no-	Gs,Yo,Re,Gh,Kam,Mw
	nuru-	Su,Ur	nome	Ut
			nɛm-	Kr
			numu-	Sr
			nov-	Wm
mother	an-	Us	an-	Abean,Hanseman
elder brother	awa-	Us,Su	awa-	Is,Sr,Kr
			apa-	Mw,Kam,Gs,B
			aha-	Yo,Re,Gh,Gs
you(sg)	na	Us,Ur	na	Gs,Gh,Kam
	nɛ	Su	nak	Yo,Re,Mw,Ut
			naga	Sr,Wm
			nu	Kr
he	nu	Us,Su	nu	Gs,Re,Gh,Kam,Mw,Ut
	no	Ur	nug	Sr,Mawan

Wordlist 2 (cont'd)

English	Usur-Word	Occurring	Mabuso-Word	Occurring
bird	ai	Us	ai	Re,Gh,Ut,Sr,Is
			ɛ	Gs,Kam
wing	sa	Us,Su,Ur	sa-	Gs,Re
louse	mi	Us,Su	mi	Abean,Hanseman
	mɛi	Ur		
snake	mat	Us,Su	mat	Kam,Ww,Wm
	mani	Ur	man	Al,B,Is
banana	mugu	Us,Ur	muk	Hanseman
rope	muli	Us,Su	muri	Sr,Ut,Mw,Gh
			muil	Re,Yo,Gs
			mar	Is
taro	mɛ	Us,Su	ma,mɛ	Mabuso,except Kr
tree	na	Su	na	Abean

2.21.5. *Typological Characteristics of the Madang Phylum*

Typological features have been dealt with in some detail in section 2.21.16. for the Mabuso Stock and in section 2.21.23. for the Usur Group. This section intends to summarize and emphasize typological features which are characteristic of the Madang Phylum as a whole.

1) The phonology of the Madang Phylum is characterized by the absence of the following phonemes: /c/, /ñ/, /ɡ/, /x/, /ŋ/ and /ɨ/ which are present in other languages under consideration. A high central vowel type /ɨ/ has been observed only in Usino; a velar nasal is present, as part of the prenasalized voiced stops in Kare and Urigina.

2) No number marking on nouns is present.

3) No Concordance Class System is present.

4) A special dual form, derivable from the corresponding plural form is found for pronouns and subject and object markers, this feature could, however, not yet be established for Usur.

5) There is no distinction between the second and third person in the non-singular forms for pronouns and subject and object markers. Usur is doubtful in this respect.

6) The suffixing Two Possessive Class System is universally present. In fact, the suffixing of PM_p is one of the basic characteristics of the Madang Phylum. Kamba and Garuh deviate in part from this system in employing possessive nouns and following the Melanesian pattern in this respect.

7) The tense-subject markers are suffixed to the verb base.

8) Object markers in obligatory transitive verbs are immediately suffixed to Vb; this being another typical characteristic of the Madang Phylum.

9) Great predominance of suffixes over prefixes on noun and verb bases.

2.22. The Adelbert Range Phylum (30,480)

Four stocks, the Isumrud, Pihom, Josephstaal and Wanang stocks and one stock-type isolate: Mugil constitutes the Adelbert Range Phylum. Isumrud-Pihom and Josephstaal-Wanang form subphyla which are in part separated from each other by a large unsurveyed area. Linguistically unknown are the villages of the Siluwa and Avisan Census Divisions and the villages: Avansi (Mayamboi) (59), Imunamgaim (64), Wogavunt (64) of the Uramin Census Division and the villages: Askunka (168), Igana (?), Kominimung (151), Makapai (88) in the Josephstaal Census Division. Further fieldwork will have to demonstrate whether or not the languages in the unsurveyed area constitute links between the two subphyla. If not, we may have to postulate an additional phylum for the Western Madang District which might be termed the Sogeram Phylum consisting of the Josephstaal and Wanang Stocks. For the time being the four stocks are regarded as members of one phylum.

2.22.1. *Isumrud Stock (9,330)*

The Isumrud Stock - named after the Isumrud Strait separating Karkar Island from the New Guinea mainland - is located on the northern portion of Karkar Island and in the coastal mainland area opposite Karkar Island. The Kowan and Mabuan Families and the family-type isolate Dimir constitute the stock.

2.22.11. *The Kowan Family (7,370)*

2.22.11.1. *Member Languages*

2.22.11.11. *Korak 17/Ko (170)*

Villages: Korak, Tavultai.
Previously unrecorded.

2.22.11.12. *Waskia 18/Ws (7,200)*

Waskia is spoken in the Waskia Census Division on Karkar Island and in Tokain village on the mainland.

Höltker (1937:964 fn.20) mentions Waskia as the Tokain language, and Capell lists the language as Vaskia (Woskia). Mager (unpublished) studied the Waskia language in some detail (Mager 1952:ivf). Bergmann-Kunze (1893:57) provided a first list of numerals under the name Karkar; they also pointed out the existence of intensive social connections westwards to the mainland, while denying its existence eastwards towards Madang. This view is supported by the linguistic evidence. Kaspruś (1942:727) links Waskia with Garus (4). This however is incorrect and Capell (1962:54) already expressed doubts in this direction.

2.22.11.2. *Lexical Interrelationship within the Kowan Family*

Korak and Waskia link with 36% cognation at the lowest margin of family level. This low percentage figure may be attributable to a distant separation by sea; the crossing of the Isumrud Straight by canoe is nowadays forbidden by the Administration. Furthermore, a sharp drop in the cognation percentage figures from 36% between Korak and Waskia to 17% between Korak and Bunabun, the language next closely related to Korak within the same stock, is observable (see Chart 4).

2.22.11.3. *Typological Characteristics of the Kowan Family*

The following characteristics of Kowan have been observed.

1) A high front rounded vowel phoneme is found in a few words in Waskia; this is a phoneme not observed in any other language of the Adelbert Range Phylum.

2) No number marking with nouns

3) PM_p possessive markers are prefixed to the noun base. A Three Possessive Class System (3PC) is found in Korak. This is the only case found amongst all the languages under consideration (see section 3.3.4.).

The prefixing Two Possessive Class System as found in Waskia is, however only partially materialised, i.e. PM_p is found prefixed to only nine R+P Class members out of 28 items taken into account.

4) The Object Marker in Korak is prefixed to Vb.

5) The negation marker is preposed in Waskia but postposed in Korak.

For further typological features which Kowan shares with Isumrud, see section 2.22.15.

2.22.12. *The Mabuan Family (620)*

The Mabuan Family, with Malas and Bunabun as members, shares a comparatively high percentage of cognates with languages of the Pihom Stock.

2.22.12.1. *Member Languages*

2.22.12.11. *Malas 19/Ml (190)*

Villages: Malas, Imbarb.
Previously unrecorded.

2.22.12.12. *Bunabun 20/Bu (430)*

Villages: Bunabun, Asimbin, Murukinam.
Capell (1952:193ff) lists Bunabun (Bunubun) for the first time and provides a phoneme chart, notes on grammar and a wordlist.

2.22.12.2. *Lexical Interrelationship within the Mabuan Family*

Malas and Bunabun share 39% of common vocabulary.

2.22.12.3. *Typological Characteristics of the Mabuan Family*

1) In Bunabun a voiceless velar fricative /x/ has been observed preceding /k/ in some instances, as in /xka/ *dog*, /maxkumum/ *ground*. Since Capell (1952:193ff) does not indicate a velar fricative in his transcription, it seems to be a dialectical variation within the Bunabun language. Its phonemic status is not yet clear.

2) No /l/ phoneme is present in Bunabun, but the /l/ and /r/ seem to be in phonemic contrast in Malas.

3) No number marking with nouns.

4) One Possessive Class System (1PC).

5) Object marker is prefixed to Vb.

6) Negation marker is preposed to the verb in Bunabun but postposed in Malas.

For further typological features which Mabuan shares with the Isumrud Stock, see section 2.22.15.

2.22.13. *The Dimir Language*

2.22.13.1. *Dimir 21/Di (1,340)*

Villages: Baskan, Dimir, Gamenkin, Garup, Karagum, Mirap.

Dimir has first been mentioned by Kaspruś (1942), and then by Capell (1954) under the name Boskien. Since Boskien (Bośiken) is only a little known village, I propose the well known name Dimir for the language.

The following lexical relationship of Dimir with the remainder of the Isumrud Stock has been observed:

Dimir - Malas	27%
Dimir - Bunabun	21%
Dimir - Waskia	15%
Dimir - Korak	12%

The following main characteristics are found in Dimir:

1) Number marking with nouns.

2) One Possessive Class System (1PC)

3) The Object is incorporated in some of the verbs.

4) The Negation Marker is preposed to the verb.

For further typological features which Dimir shares with the remainder of the Isumrud Stock, see section 2.22.15.

2.22.14. *Lexical Interrelationships within the Isumrud Stock*

The lexical interrelationships between the languages of the Isumrud Stock are shown in Chart 4.

2.22.15. *Typological Features of the Isumrud Stock*

1) Stops occur at three points of articulation: bilabial, alveolar and velar.

2) Nasals are found at three points of articulation: bilabial, alveolar and velar.

3) Fricatives are present at three points of articulation: bilabial or labio-dental and alveolar.

4) /l/ and /r/ seem to be in phonemic contrast, except in Bunabun.

5) Unrounded vowels occur in front and in low central positions and rounded vowels in back positions.

6) The Isumrud Stock is characterized by the absence of the following phonemes: /c/, /ʔ/, /ñ/, /ɡ/, /h/, and /ɨ/ - which are present in other languages under consideration.

7) No number marking with nouns, except in Dimir.

8) No Concordance Class System.

9) No special dual and trial forms for pronouns and verbs are present.

10) The PM_p type of possessive markers are prefixed to the noun base.

11) Tense and subject markers are obligatorily suffixed to the verb base.

12) If the object is incorporated into the verb, the object marker is prefixed to the verb base.

CHART 4

Percentages of Shared Cognates in the Isumrud Stock

	Ko	Ws	Ml	Bu	Di
Ko	36	14	17	12	
Ws		12	11	15	
Ml			39	27	
Bu				21	
Di					

2.22.2. *The Pihom Stock (12,140)*

The Pihom Stock - named after the highest mountain in the Adelbert Range - extends from the immediate coastal area across the Adelbert Range towards the Upper Gogol River. Three families are definitely members of the Pihom Stock, i.e. the Kaukombaran, Ubean and Mawamuan families. The Wayapan family and the Family-Type Isolate Amaimon have been tentatively included in the Stock.

2.22.21. *The Kaukombaran Family (5,600)*

The Pay, Pila, Saki and Tani languages form the Kaukombaran Family, which has been named after the Kaukombar River, situated in the centre of the family area. Since no village name in this area was satisfactory as a language name, the translation of *word* (toktok) has in this family been taken as language name. While inquiring about a language name, informants referred to Saki as maya (*what*) and to Tani as meani (*what*).

2.22.21.1. *Member Languages*

2.22.21.11. *Pay 22/Pa (610)*

Villages: Aidibal, Busip, Dagoi, Dugumur, Malala, Rurunat, Tobinam.

Hollrung (1887:85ff) published the first notes on Pay, or Hatzfeldhafen as he calls it. He provides a short wordlist and adds some useful notes on the phonology. Zöller (1890:126ff; 1891:406ff) published another wordlist collected by a government official and W. Schmidt (1900:60-2) incorporated this wordlist into his linguistic survey of German New Guinea. His classification of verbs according to certain suffixes is erroneous, because they are in fact tense-subject markers. Werner (1911:305) gives a list of numerals under the name of Dagoi, and finally Schebesta (1940:586ff) provides a detailed list of terms of relationship under the name of Dagui (Dagoi). The language could also be listed under the village name Malala.

2.22.21.12. *Pila 23/Pi (580)*

Villages: Bimat, Bonaputa, Moap, Suaru, Yambainbai, Wango.

The language could also be listed under the village name Suaru. Schebesta (1940:586ff) gives a detailed list of terms of relationship under the village names of Bonaputa and Mopu.

2.22.21.13. *Saki 24/Sa (2,070)*

Villages: Dalua, Dongwanam, Dumadum, Gum, Gurube, Mililamuda, Mugumat 2, Oubirap, Pariakanam, Sanarvat, Siriar, Turatapa, Turupard, Wanaru, Wagadab, Bwanayab, Wedaro, Yakiba, Roumirap.

The language could also be listed as Yakiba. Chinnery (1923:89ff) gives a first wordlist of this language from the villages Turutapa and Rurugap. The latter is not included in the Village Directory 1968.

2.22.21.14. *Tani 25/Ta (2,340)*

Villages: Ababigab, Alisuab, Beidup, Bubum, Eribadab, Ereivanum, Euwarame, Gugubar, Kaukomba, Manugwar, Misabura, Moisiamanot, Mugumat 1, Narahek, Sabero, Simbini, Tamagot, Ulatabun, Uwunipi, Yavera, Waba, Wagimuda, Suvat.

Tani could also be listed as Wagimuda. Tranel (1952:468ff) provides a first wordlist and Capell (1952) a phoneme chart, notes on grammar, text and wordlist, under the name Banara. Tani was used by the Catholic Mission in pre-war times for missionary purposes.

2.22.21.2. *Lexical Interrelationships within the Kaukombaran Family*

Members of the Kaukombaran Family share the following percentages of common vocabulary:

Pay	- Pila	58%
Pay	- Saki	50%
Pay	- Tani	61%
Pila	- Saki	58%
Pila	- Tani	44%
Saki	- Tani	52%

2.22.21.3. *Typological Characteristics of the Kaukombaran Family*

1) There seems to be no phonemic distinction between voiced and voiceless stops; in Pay and Pila, voiced stops tend to be prenasalized.

2) The alveopalatal nasal has been observed only in Pay.

3) The velar nasal is present in all languages, except in Tani.

4) The voiceless labio-dental fricative seems to be absent.[18]

5) Presence of a prefixing Two Possessive Class System.

6) The object marker is prefixed to the verb base.

7) The negation marker precedes the verb.

For typological features which Kaukombaran shares with the Pihom Stock see section 2.22.27.

---

[18] Hollrung (1887:85f) observes with regard to the phonology of Pay or as he calls it the Hatzfeldhafen language: there are no /f,h/ phonemes, no distinction is made between r and l and voiced and voiceless stops. He also observes: 'Namentlich häufig vertauscht werden "i" und "u" (itsuats, utsuats), "a" und "e" (adsids, edsids), "t", "ts" und "tsch" (kuat, kuats, kuatsch).

2.22.21.4. There is considerable uncertainty in the literature as to whether the Kaukombaran group should be considered as a family, or as one language with a number of dialects. Schebesta and Höltker generally refer to the Kaukombaran Family as 'Moando', while Capell calls them the Banara dialects.

Schebesta (1940) uses the plural form - 'languages of Dagoi and Bonaputa-Mopu' - in his article on the terms expressing relationship, and in his (1938) inquiry about the concept of God, he differentiates the village of Dagoi from Mopu-Suaru, thus making a difference between Pay and Pila. In another study (1942:885), however, he makes no clear distinction in his terminology between language and dialect.[19] Schebesta (1942:885) also points out the geographically far-flung relationship of Kaukombaran and 'Biramur'. From the layout of the article, one would expect the location of Biramur to be in the Yaben (32) language area; but it may also refer to the Birimai village, located on Administration Maps east of Gal (82) in a linguistically unsurveyed area.

Höltker (in Tranel 1952:451) emphasizes that 'Moando' - in my terminology Kaukombaran - is a single language[20] while observing at the same time a marked difference between Pay and Pila in Schebesta's wordlist of terms of relationship.[21] Höltker (1937:964 fn.20) also mentions a geographically far-flung relationship of Kaukombaran (Moando) as far as Bongu in the Astrolabe Bay. Such a relationship, however, has never been documented.

---

[19] Schebesta (1942:885) says, with reference to Moando (Kaukombaran): 'Mit diesem Ausdruck benenne ich eine Anzahl papuanischer Sprachdialekte, die m.E. nahe miteinander verwandt sind, so dass man, statt von einer Sprachgruppe, wohl von einer Sprachfamilie sprechen kann. Zur moando - Sprachfamilie gehören auch mehrere Sprachen, die sich sporadisch an der Küste im Bogia-Bezirk zeigen z.B. die Sprachen von Dagoi und Banara. Auch die Sprache von Malala gehört dazu. Ich wähle den Namen für diese Sprache deshalb, weil in allen dazu gehörigen Dialekten das Wort moando "Mensch" bedeutet'.

[20] Höltker (in Tranel 1952:454): 'Wie schon erwähnt, haben wir es hier mit einer einheitlichen und einzigen Sprache zu tun....Die Einheitlichkeit schliesst natürlich die Aufsplitterung in Dialektgruppen nicht aus.'

[21] '...stark divergierenden Dialekten von Dagoi und Bonaputa-Mopu' in Tranel (1952:455).

Capell (1962) generally refers to Kaukombar as the Banara Dialects, while at the same time pointing out the existence of a considerable difference between Pay and Pila in a short wordlist as in Schebesta's terms of relationship.

The division into four languages began to emerge in the mind of the present writer after a long enquiry in the field, and was finally confirmed by the results of the lexical comparison (see 2.22.21.2.). The four languages are randomly scattered among a number of villages adjacent to each other along the coast which results in a complex distributional picture for the individual languages (see language map). The position was, however, apparently much simpler originally. Villages speaking Tani and Saki are newcomers to the immediate coast. The Dagoi village - Pay-speaking - is separated from the remainder of Pay-speaking villages by Pila-speaking villages to the west; but Tranel (1952:452) reports the Dagoi people as immigrants from Aidibal east of Pila. Thus the original distribution was as follows: **inland:** Saki in the western part of the family area and Tani in the eastern; **coast:** Pila in the western part of the family area and Pay in the eastern.

2.22.22. *The Ubean Family (1,730)*

2.22.22.1. *Member Languages*

2.22.22.11. *Ulingan 26/Ul (1,630)*

Villages: Aketa, Aminten, Yeipamir, Meivok, Moro, Muaka, Papur, Saramun, Sikor, Tarigapa, Susuri, Rarin, Meriman.

Ulingan is first listed as a language by Höltker (1937:467 fn.20); Capell (1952:188) gives a phoneme chart, notes on grammar and a word-list. He treats Ulingan under the same heading with Banara 'for practical reasons', but notes (1952:188): 'the verbal systems of the two are separate'.

2.22.22.12. *Bepour 27/Be (100)*

Previously unrecorded. The exact distribution of this language has not yet been established. No satisfactory answer could be obtained as to whether the villages Moira and Ufien belonged to the Bepour language area. For this reason the area is marked on the map as unsurveyed.

2.22.22.2. *Lexical Interrelationship within the Ubean Family*

Ulingan and Bepour share 40% common vocabulary.

2.22.22.3. *Typological Characteristics of the Ubean Family*

1) The /k/ phoneme is found in Ulingan but not /ʔ/; the /ʔ/ phoneme is found in Bepour but not /k/.

2) A velar nasal is present in Ulingan but not in Bepour.

3) The /h/ phoneme has been observed in Bepour but not in Ulingan.

4) The One Possessive Class System (1PC) is found in Bepour; the Two Possessive Class System, Type 2PC-R/P+O, is found in Ulingan (see section 3.33.4.).

5) The object marker is prefixed to the verb base.

6) The negation marker is a clitic which precedes the verb in Ulingan but in Bepour it is a discontinuous morpheme consisting of both preposed and postposed elements, which may be free or affixed to the verb.

For typological features which Ubean shares with the Pihom Stock see section 2.22.27.

2.22.23. *The Mawamuan Family (1,960)*

The linguistic identification of the villages Embor (126) and Hinongabe (217) both belonging to the Mawamuan Family area and the Inland Bunabun Census Division, is still unknown.

2.22.23.1. *Member Languages*

2.22.23.11. *Mawak 28/Mk (1,020)*

Villages: Hininon, Mawak, Mesekor, Narahek, Perene, Yaure, Makinten.
Previously unrecorded.

2.22.23.12. *Musar 29/Mr (500)*

Villages: Aregerek, Reinduk, Dagurip, Boiya, Sarisawu, Sarembem, Soberom.
Previously unrecorded. The language is named after the Musar Mountain (2,400 ft.).

2.22.23.13. *Wanambre 30/Wa (440)*

Villages: Wanambre, Mabet, Katemat, Tinami.
Capell (1952:195ff) lists Wanambre (Vanémbere) for the first time as a language and gives a phoneme chart, notes on grammar, a text and a wordlist.

2.22.23.2. *Lexical Interrelationships within the Mawamuan Family*

Mawak - Musar	41%
Mawak - Wanambre	39%
Musar - Wanambre	40%

2.22.23.3. *Typological Characteristics of the Mawamuan Family*

1) The phonemes /ñ/ and /ŋ/ have been observed in Musar.

2) The phoneme /h/ is found in all members of the family.

3) /l/ and /r/ appear to be in phonemic contrast in Musar and Wanambre. In Mawak they seem to be allophones.

4) Voiced stops tend to be prenasalized.

5) The One Possessive Class System (1PC) is present.

6) The object marker is prefixed to the verb base.

7) The negation marker is preposed to the verb in Wanambre, postposed in Musar and a discontinuous form in Mawak, i.e. a preposed clitic and a postposed element which may be affixed to the verb.

For typological features which Mawamuan shares with the Pihom Stock see section 2.22.27.

2.22.24. *The Wayapan Family or Group (2,480)*

Villages: Boborana (43) and Ikarinagra (56) of the Wayapan Group area and the Yaben Census Division are linguistically unknown yet.

Wanuma (31) and Yaben (32) share a relatively high percentage of cognates (63%), whereas Parawen (33) is linked to them by the low cognate percentage figures, 39% and 31% (see 2.22.24.2.). The inclusion of Parawen is, however, justified by a marked drop in the cognate percentage figures when comparing Parawen with any other language of the Pihom Stock (see Chart 5). These three languages have been tentatively regarded as constituting the Wayapan Family; 'Wayapan Group' might be preferable, as only a limited amount of material could be collected,[22] and the group appears to be aberrant within the Pihom Stock: member languages of the Group link at percentage levels below the diagnostic level of 12% with some of the members of the Stock (see Chart 5). Since most of the Wayapan area is under the influence of

[22] I owe my thanks to Reverend O. Fuhlbohm, Head of the E.L.C.O.N.G. District Bible School at Amron, for making pupils at his school available to me for research, and for making some additional tape recordings.

the Lutheran Mission, it is possible that research has been carried out by some of its members, but no details are available on this.

2.22.24.1. *Member Languages*

2.22.24.11. *Wanuma 31/Wn (1,280)*

Villages: Wabriatau, Munimataman, Yabsau, Kowat, Wanuma, Arimatau, Selausi, Megiranu, Atitau, Yeria.

Previously unrecorded.

2.22.23.12. *Yaben 32/Ya (480)*

Villages: Idimakuma, Gulkrubrana, Barata, Abaiya, Magilan.

First listed by Kaspruś (1942).

2.22.24.13. *Parawen 33/Pr (540)*

Villages: Parawen, Ebenan, Tarina, Ilima, Ilimamkutu, Ilebeguma, Kosilanta, Magila, Komiarum.

First listed by Kaspruś (1942).

2.22.24.14. *Ukuriguma UKU (180)*

Villages: Ukuriguma, Yarawata, Kagi.

Previously unrecorded and not listed in Z'graggen (1969). Ukuriguma links closely with the Parawen language and a tentative inclusion into the Wayapan Group is therefore justified. Ukuriguma is included into the figures of speakers, but disregarded in any other respect. For location of the language see the language map on the languages of the Mabuso Stock (see p.).

2.22.24.2. *Lexical Interrelationships within the Wayapan Family*

The following cognation percentages will illustrate the interrelationships between the languages of the Wayapan Family:

Wanuma - Yaben	63%
Wanuma - Parawen	31%
Yaben - Parawen	39%

2.22.24.3. *Typological Characteristics of the Wayapan Family*

1) The /k/ phoneme has been observed in Parawen, but not in Wanuma and Yaben; the phoneme /ʔ/ is present in Wanuma and Yaben but not in Parawen.

2) The /ñ/ phoneme is found in Yaben; the /ŋ/ phoneme only in Wanuma.

3) The /ɣ/ phoneme is found only in Parawen.

4) No /h/ phoneme has been observed.

5) /r/ and /l/ seem to be in phonemic contrast, but not in Wanuma and Parawen.

6) The Two Possessive Class System, Type 2PC-R/P+O (see section 3.33.4.) is found in all members.

7) The object marker is prefixed in Wanuma, but it is uncertain if the object is incorporated into the verb in Yaben and Parawen.

8) The negation marker precedes the verb. For typological features which Wayapan shares with the Pihom Stock see section 2.22.27.

2.22.25. *The Amaimon Family-Type Isolate*

2.22.25.1. *Amaimon 34/Ama (370)*

Villages: Amaimon, Karamsarik, Tenbinsarik, Wabusarik, Baisarik.
Previously unrecorded.

Amaimon has been tentatively included into the Pihom Stock but could equally well be treated as a Stock-Type Isolate within the Adelbert Range Phylum. The unsurveyed area in a north-westerly direction from Amaimon might prove to be crucial for a proper classification of Amaimon.

The cognation percentage figures of Amaimon within the Pihom Stock area as follows:

Amaimon - Yaben	12%
Amaimon - Wanuma	12%
Amaimon - Wanambre	11%
Amaimon - Musar	10%
Amaimon - Mawak	10%
Amaimon - Parawen	9%
Amaimon - Pay	9%
Amaimon - Pila	5%
Amaimon - Saki	5%
Amaimon - Tani	6%
Amaimon - Ulingan	5%
Amaimon - Bepour	6%

Amaimon shares the following characteristics with all or most languages of the Pihom Stock:

1) No number marking with nouns.

2) No Concordance Class System.

3) The One Possessive Class System (1PC), which is also found in five other languages of Pihom, is present.

The following features, however, are at variance with those of the remainder of the Pihom Stock:

1) A high central vowel type is present.

2) A velar fricative is present which is observed in two other languages of Pihom, i.e. in Parawen and perhaps Pay.

2.22.26. *Lexical Interrelationships within the Pihom Stock*

The lexical interrelationships within the Pihom Stock are illustrated in Chart 5.

2.22.27. *Typological Features of the Pihom Stock*

1) Stops occur at three points of articulation: bilabial, alveolar and velar or glottal.

2) Voiced and voiceless stops seem to be differentiated in Saki, Parawen and Amaimon; voiced stops tend to be prenasalized in Pay, Pila, Mawak, Musar and Wanambre.

3) Nasals have been found to occur at at least two points of articulation: bilabial and alveolar; in addition to this they have been observed at the alveo-palatal position in Pay, Musar, Yaben and perhaps Parawen, or at the velar position in Pay, Pila, Saki, Musar, Wanuma, Amaimon and perhaps in Ulingan and Mawak.

4) Fricatives occur at at least two points of articulation: bilabial or labio-dental, and alveolar, and in addition to these at the velar position in Amaimon, Parawen and maybe Pay, and at the glottal point in Bepour and in the Mawamuan Family.

5) /l/ and /r/ seem to be in phonemic contrast in Pay, Pila, Ulingan, Musar, Wanambre, Yaben, and Amaimon.

6) Unrounded vowels have been observed in front positions and in low central position, and rounded vowels in back positions.

7) No number marking with nouns is present.

8) No Concordance Class System is present.

9) The prefixing Two Possessive Class System (types 2PC-R+P/O and 2PC-R/P+O) is found in 8 languages and the One Possessive Class System (1PC) in 5 languages.

10) All verbs have tense and subject markers suffixed to them.

11) In all languages, except in one and two doubtful cases, the object is incorporated into the verb and the object-marker is prefixed to the verb base.

12) The negation marker precedes the verb, except in Musar where the negation marker follows the verb, and in Bepour and Mawak where the negation marker is a discontinuous morpheme consisting of both a preposed and postposed element, which may be free or affixed to the verb.

CHART 5

Percentages of Shared Cognates in the Pihom Stock

Pa	Pi	Sa	Ta	Ul	Be	Mk	Mr	Wa	Wn	Ya	Pr	Ama
Pa	58	50	61	21	18	19	16	14	14	15	12	9
	Pi	58	44	18	17	17	14	16	11	14	12	5
		Sa	52	18	16	15	14	14	11	14	13	5
			Ta	25	24	26	15	14	12	14	13	6
				Ul	40	30	17	14	14	12	11	5
					Be	38	22	11	14	12	11	6
						Mk	41	39	14	11	10	10
							Mr	40	17	11	12	10
								Wa	14	17	13	11
									Wn	63	31	12
										Ya	39	12
											Pr	9
												Ama

2.22.3. *The Josephstaal Stock (4,500)*

The Josephstaal Stock - named after the Census Division - consists of the Pomoikan Family and three Family-Type Isolates: Wadaginam, Katiati and Osum.

2.22.31. *The Pomoikan Family (1,460)*

The Pomoikan Family consists of three languages: Moresada (36), Ikundun (37) and Pondoma (39).

2.22.31.1. *Member Languages*

2.22.31.11. *Moresada 36/Mo (160)*

Villages: Moresada and other hamlets.

The Moresada language was first listed by Höltker (1937:964 fn.20) under the name 'Murusapa-Sarewa'. No village Sarewa is listed in the Village Directory 1968. Capell (1952:143ff) provides a phoneme chart, notes on grammar, a text and a wordlist.

Capell (1952:206) lists Moresada as a member of the Ramu Phylum, i.e. his 'third group', while at the same time pointing out its difference from the remainder of the Ramu Phylum, i.e. his 'third group'.[23] 'The peculiar system of noun-endings' to which Capell (1952: 144) refers, are number markers. A Concordance Class System between nouns and adjectives has been observed in Moresada and the Pomoikan Family[24] (see section 3.2.2.).

Apparently influenced by Capell, but also by making comparisons on the basis of Capell's wordlist, Wurm (1969) classifies Moresada as a member of his Western Family with Watam, Bosman (Bosngun), Gamei, and Awar as members. But Wurm also observes that Moresada does not fit typologically into his Western Family and for this reason he links Moresada with the Central Family, with Bunabun and Wanambre as members, under what he calls structural type two.

Structural considerations and the results of lexical comparisons made the present writer decide in favour of the incorporation of Moresada into the Adelbert Range Phylum. This classification gives a much more uniform picture: Tense-Subject markers are suffixed to Vb; object markers prefixed to Vb; and the prefixing Two Possessive Class system is present. All these features are in contrast to the Ramu Phylum.

---

[23] Capell (1952:143): 'The Murusapa language is phonetically similar to its neighbours, but structurally more complicated' and (ibid.:144) 'Seeing that -ka is predominantly inanimate in Igom-Tanggum, correlation with these languages is not promising'.

[24] This in reference to Capell (1952:144): 'There is a peculiar system of noun-ending reminiscent of the noun classification system of Monumbob (sic) - Lilau, but the material collected gives no evidence of any such system or concord connected with it'.

There are no indications - as Capell has already pointed out - of a close relationship of Moresada with Monumbo (72) and Lilau (73). Moresada (and the Pomoikan Family) stand as far apart from the remainder of the languages of the Western Madang District in showing a Concordance Class System, as Monumbo-Lilau does with its class system. But Monumbo-Lilau is different from all other languages in the Western Madang District in many other respects as well.

2.22.31.12. *Ikundun 37/Ik (850)*

Villages: Waiutang, Avunamakai, Mindivi, Ikundun, Tumandapuar, Utah, Aramant, Ewvar.

Previously unrecorded.

2.22.31.13. *Pondoma 39/Po (450)*

Villages: Manduguar, Pondoma, Tumbuduwi, Watitangu.

Previously unrecorded.

2.22.31.2. *Lexical Interrelationships within Pomoikan*

Moresada - Ikundun 66%
Moresada - Pondoma 37%
Pondoma - Ikundun 45%

2.22.31.3. *Typological Characteristics of the Pomoikan Family*

1) Voiced stops tend to be prenasalized.

2) A velar fricative has been observed in Moresada and Ikundun, but not in Pondoma.

3) A high central vowel type is found in all members of the family, but not in word initial position.

4) Pomoikan is characterized by the absence of the phonemes /c/ and /ñ/, which occur in the other members of the stock.

5) Number marking with nouns.

6) A Concordance Class System (see section 3.2.) is present.

7) A Two Possessive Class System is found: Type 2PC-R+P/O in Moresada and Ikundun and Type 2PC-R/P+O in Pondoma.

8) The object markers are prefixed to the verb base.

For typological features which Pomoikan shares with the Josephstaal Stock see section 2.22.36.

2.22.32. *The Wadaginam Language*

Wadaginam 35/Wd (460)

Villages: Wadaginam and other hamlets.

Höltker (1937b:964 fn.20) first lists this language name. The Wadaginam language is situated at the south end of the Pomoikan Family and links on the family level (with 54%) with Moresada, its closest neighbour, and with Ikundun (45%). However, it links only on the stock level (with 28%) with Pondoma. This, and a considerable agreement in typological features, may suggest the inclusion of Wadaginam into Pomoikan. But, since the Concordance Class System is not present in Wadaginam, the present writer prefers to list Wadaginam as a language isolate.

2.22.33. *The Katiati Language*

Katiati 40/Kt (2,230)

Villages: Tevari, Maranget, Kaibugu, Maumiaku, Turagere, Monimbugor, Kimbugor, Kundegende, Usimbugor, Simba, Mavundi, Amjaibibu, Sangarup, Amingari, Katiati, Negiadzabai, Iabtangu, Imunamgaim, Angasa, Iamamuk, Kisila, Isinsibi.

Previously unrecorded.

Katiati links on the family level (with 42%) only with Pondoma, but not with the remainder of the Josephstaal Stock. Since no Concordance Class System and no number marking on nouns has been observed in Katiati, the present writer has preferred not to include Katiati into the Pomoikan Family. Katiati might well form a part of a family with languages yet to be discovered in a larger unsurveyed area west of Katiati.

For typological features which Katiati shares with the Josephstaal Stock see section 2.22.36.

2.22.34. *The Osum Language*

Osum 38/Os (350)

Villages: Yigebuguar, Osum, Alaginam, Indavaia, Ivaray. The south-western border towards the Goam River is not yet well established and other villages might have to be included.

Osum is related to any other language of the Josephstaal Stock above the stock level. No Concordance Class System is present, number is marked with nouns, and an additional alveopalatal nasal (ñ) is found

which does not occur in the other languages of the stock. For typological features which Osum shares with the Josephstaal Stock see section 2.22.36.

2.22.35. *Lexical Interrelationships within the Josephstaal Stock*

The lexical interrelationships within the Josephstaal Stock are shown in Chart 6.

2.22.36. *Typological Features of the Josephstaal Stock*

1) Stops occur at three points of articulation: bilabial, alveolar and velar, in Katiati also at a fourth point: alveopalatal.

2) Voiced stops tend to be prenasalized.

3) Nasals are present at three points of articulation: bilabial, alveolar and velar. In Osum and Katiati also at the alveopalatal point of articulation.

4) Fricatives occur at three points of articulation: labio-dental, alveolar and velar.

5) The /r/ phoneme is present in all languages, but the /l/ phoneme seems to be absent.

6) Unrounded vowels occur in the front and low central position, rounded vowels in back positions; in addition to these a high central vowel type has been observed.

7) The Josephstaal Stock is characterized in comparison with other members of the phylum by the absence of the following phonemes: /ʔ/, /h/, /l/, /c/; only Katiati shows the last phoneme.

8) Number marking with nouns except in Katiati.

9) A Concordance Class System is found in Pomoikan, but not in the remainder of the stock.

10) The Two Possessive Class System, Type 2PC-R+P/O is present in Moresada, Ikundun and Wadaginam and Type 2PC-R/P+O in Pondoma, Osum and Katiati.

11) Tense and subject markers are suffixed to Vb.

12) The object markers are prefixed to Vb; but not in Katiati.

13) The negation marker in Ikundun, Pondoma and Osum is a discontinuous form consisting of a preposed clitic and a postposed element which might be affixed to the verb.

CHART 6

Percentages of Shared Cognates in the Josephstaal Stock

	Mo	Ik	Po	Wa	Kt	Os
Mo	66	37	54	18	31	
Ik	45	45	19	30		
Po	22	42	34			
Wa	12	28				
Kt	19					
Os						

2.22.4. *The Wanang Stock (2,760)*

The Wanang Stock - named after the Wanang River, which in turn is one of the main tributaries of the Ramu River - centres north of the Middle Ramu area. Two families and one language isolate constitute this stock: the Atan and Emuan Families and the Painamar language. Only Paynamar (45) and Musak (44), both at opposite extremes of the Stock area, show below stock-level cognation with some of the other languages.

The following villages in the Wanang Stock area are linguistically still unknown: Kamambu (130), Kumbuna (60), Musita (45), Sileibi (61) in the Angamu-Kumaran Census Division and the villages Akuarikai (?), Atiapi (64), Matogan (21), Parapasan (178), Pungambu (75), Ungamarvin (36) in the Aiome-Angaua-Anor Census Division.

2.22.41. *The Atan Family (1,770)*

2.22.41.1. *Member Languages*

2.22.41.11. *Atemple 41/At (70)*

Village: Atemple.

Stanley (1921:89ff) collected a wordlist when the Wattle Expedition explored the Ramu River in 1921. Kaspruś (unpublished) collected another wordlist at a later date. Capell (1952:185ff) erroneously puts his notes and wordlist of Anor (64) under the name Atemple.

2.22.41.12. *Angaua 42/Ang (1,990)*

Villages: Agilimup, Wasiaruk, Andugus, Gwaringiri, Awangir, Animinkin, Akurumgunt, Isowak, Awam, Longar, Nambinj, Irivas, Pasinkam, Itaranku, Astangu, Akavamprang, Ipongador, Aiangat.

A. Kaspruś (unpublished) collected a first wordlist.

2.22.41.2. *Lexical Interrelationship within the Atan Family*

Atemple - Angaua 47%

2.22.41.3. *Typological Characteristics of the Atan Family*

1) Presence of the /c/ phoneme.

2) Absence of the glottal stop.

3) Voiced stops tend to be prenasalized.

4) Presence of the /ñ/ phoneme.

5) /l/, /r/ are in phonemic contrast in Angaua. In Atemple this is not the case.

6) Absence of the /h/ phoneme.

For typological features which the Atan Family shares with the other members of the Wanang Stock see section 2.22.45.

2.22.42. *The Emuan Family (840)*

2.22.42.1. *Member Languages*

2.22.42.11. *Emerum 43/Em (600)*

Villages: Wabu, Urangere, Emerum, Siniap, Gaum, Sumasaru, Galisakan, Mange, Sambakua.

Kaspruś (unpublished) collected the first wordlist from the village of Sumasaru, which name he gave to the language. However, I chose the village name Emerum, because in contrast to Sumasaru, Emerum is shown on many geographical maps of New Guinea.

2.22.42.12. *Musak 44/Mu (240)*

Villages: Musak, Banam, Kikerei, Sepu.

Kaspruś (unpublished) collected the first wordlists, from the Musak and Sepu villages. A comparison of Kaspruś's wordlists with my own gave no evidence that two separate languages were involved.

2.22.42.2. *Lexical Interrelationship within the Emuan Family*

Emerum and Musak share 36% common vocabulary. A significant drop in the percentage figures of common cognates with regard to any other member of the Wanang Stock has been observed (see Chart 7) and this supports the grouping of Emerum and Musak into one family.

2.22.42.3. *Typological Characteristics within the Emuan Family*

1) No alveopalatal stops are present.

2) A glottal stop occurs only in Musak.

3) Voiced and voiceless stops seem to be in contrast only in Musak.

4) The alveopalatal nasal is found in Emerum but not in Musak.

5) There seem to be no differentiation of /r/ and /l/ phonemes.

For typological features which the Emuan Families share with the other members of the Wanang Stock see section 2.22.45.

2.22.43. *The Paynamar Language*

Paynamar 45/Pn (150)

Villages: Paynamar and a few other small hamlets.

Previously unrecorded.

Paynamar has been only tentatively included into the Wanang Stock because its cognation figure with one member of the Emuan Family is below the figure of 12% which is regarded as diagnostic of the stock-level relationships, and its cognation figure with two other members of that family is at the lowest level still diagnostic for such relationships (see Chart 7). Paynamar, however, fits structurally into the Wanang Stock, see section 2.22.45.

2.22.44. *Lexical Interrelationships within the Wanang Stock*

The lexical interrelationships between members of the Wanang Stock are shown in Chart 7.

2.22.45. *Typological Features of the Wanang Stock*

1) Stops occur at at least three points of articulation: bilabial, alveolar and velar, and in addition to these at the alveopalatal point in Atemple, Angaua and Paynamar and at the glottal point in Musak.

2) Voiced stops tend to be prenasalized, except in Musak.

3) Nasals have been observed at four points of articulation: labial, alveolar, alveopalatal and velar, except in Musak where the /ñ/ phoneme is not present.

4) Fricatives are present at three points of articulation: labio-dental, alveolar and velar, and an additional fricative, i.e. h, appears to occur in Musak, Emerum and Atemple.

5) Unrounded vowels are found in front and low central positions and rounded vowels in back positions; in addition to these, a high-central vowel type is also found in all member languages.

6) No number marking on nouns, but it might perhaps be present in Angaua.

7) No Concordance Class System is present.

8) The One Possessive Class System is met with.

9) The verb base has tense and subject markers suffixed to it.

10) The object markers do not seem to be incorporated into the verb structure.

CHART 7

Percentages of Shared Cognates in the Wanang Stock

	At	Ang	Em	Mu	Pn
At	47	14	11	12	
Ang	15	11	17		
Em	36	12			
Mu	10				
Pn					

2.22.5. *The Mugil Stock-Type Isolate*

2.22.51. *Mugil 46/Mg (1,750)*

Villages: Aronis, Baranis, Bunu, Garup, Kurum, Liksal, Nom, Saulis, Udisis, Wasab, Wasabamal.

2.22.52. Dempwolff (1905:245) gives the first wordlist from Bunu village. The late Father Wiesenthal S.V.D. carried out extensive studies of the Mugil language and is still well remembered by the natives for his fluency in Mugil. His linguistic materials, except for some translations, were lost during World War II. Kaspruś (1942) published an extensive wordlist and miscellaneous notes on Mugil, or Saker as he calls it. Z'graggen (1965:119ff) discussed in detail the Two Possessive Class System, which was believed to be a typical "Melanesian" feature. I have since abandoned 'Saker' as a language name. Saker does not mean *word*, and it is unlikely to be identical with saker *strong* as Kaspruś (1942:721) claims. In the present writer's experience, there is a marked lack of knowledge on the part of the natives as to the real

meaning of the word 'Saker'; some vague hints were given that suggested that 'Saker' might refer to a culture hero who created human speech.

2.22.53. Mugil has been included into the Adelbert Range Phylum as a Stock-Type Isolate. Lexically, there would be equal reason to link it with the Madang Phylum (see section 2.22.6.E), but the following typological features, which are typical of the ARPh, seem to suggest that its inclusion into the ARPh may be appropriate:

1) PM_p markers are prefixed to the noun base.

2) The object markers are prefixed to the verb base.

3) No separate dual form for pronouns and verbs exists.

2.22.54. The following typological features are found in Mugil:

1) Stops are found at four points of articulation: bilabial, alveolar, velar and glottal. Whether /k/ and /ʔ/ are in phonemic contrast still remains to be established. The /p/ phoneme has been observed only in loan-words.

2) Nasals are found at two points of articulation: bilabial and alveolar.

3) Fricatives are found at the following points of articulation: labio-dental, alveolar and glottal.

4) /l/ and /r/ are in phonemic contrast.

5) Unrounded vowels are found at front and low central positions and rounded vowels at back positions.

6) No high-central vowel type has been observed.

7) No number marking with nouns is observed.

8) No Concordance Class System is present.

9) Tense-subject markers are suffixed to the verb base.

10) The object markers are prefixed to the verb base.

11) The negation marker precedes the verb.

12) No special dual and trial forms for pronouns and verbs are observed.

2.22.6. *Lexical Interrelationships within the Adelbert Range Phylum*

The lexical interrelationships between the Stocks of the Adelbert Range Phylum will be illustrated in this section. One language of each family of each stock has been selected and compared with one language of each family of the remaining stocks. Some of the comparisons are repetitive, but have been included for added clarity.

The lexical interrelationships are illustrated as follows:

A. ISUMRUD STOCK

a. **Isumrud Stock - Pihom Stock**

Korak	-	Saki	4%
"	-	Ulingan	9%
"	-	Wanambre	6%
"	-	Parawen	6%
Bunabun	-	Saki	17%
"	-	Ulingan	9%
"	-	Wanambre	14%
"	-	Wanuma	12%
"	-	Amaimon	8%
Dimir	-	Tani	10%
"	-	Bepour	12%
"	-	Musar	9%
"	-	Parawen	9%
"	-	Amaimon	9%

b. **Isumrud Stock - Josephstaal Stock**

Korak	-	Katiati	5%
"	-	Midsivindi	5%
"	-	Idundun	3%
Malas	-	Korak	4%
"	-	Pondoma	4%
"	-	Ikundun	3%

c. **Isumrud Stock - Wanang Stock**

Korak	-	Emerum	8%
"	-	Musak	5%
"	-	Angaua	2%
Malas	-	Angaua	2%
"	-	Emerum	2%

d. For Isumrud - Mugil see E.

B. PIHOM STOCK

a.	Pihom Stock	-	**Isumrud Stock**
	Saki	-	Korak 4%
	"	-	Bunabun 17%
	"	-	Dimir 8%
	Ulingan	-	Korak 9%
	"	-	Bunabun 9%
	"	-	Dimir 8%
	Mawak	-	Korak 8%
	"	-	Malas 14%
	"	-	Dimir 8%
	Wanuma	-	Korak 3%
	"	-	Bunabun 4%
	"	-	Dimir 12%
	Amaimon	-	Korak 3%
	"	-	Bunabun 8%
	"	-	Dimir 9%
b.	Pihom Stock	-	**Josephstaal Stock**
	Saki	-	Katiati 8%
	"	-	Moresada 5%
	"	-	Madaginam 5%
	"	-	Midsivindi 5%
	Ulingan	-	Katiati 4%
	"	-	Moresada 4%
	"	-	Wadaginam 3%
	Wanambre	-	Katiati 9%
	"	-	Moresada 6%
	"	-	Wadaginam 6%
	"	-	Osum 3%
	Parawen	-	Katiati 5%
	"	-	Ikundun 4%
	"	-	Osum 2%
c.	Pihom Stock	-	**Wanang Stock**
	Saki	-	Musak 6%
	"	-	Angaua 5%
	Ulingan	-	Musak 3%
	"	-	Paynamar 3%
	Wanambre	-	Musak 8%
	"	-	Angaua 3%
	Yaben	-	Musak 8%
	"	-	Angaua 2%
	Amaimon	-	Musak 8%
	"	-	Emerum 7%
	"	-	Angaua 2%
d.	For Pihom	-	Mugil see E.

C. JOSEPHSTAAL STOCK

a.	Josephstaal Stock	-	Wanang Stock	
	Ikundun	-	Atemple	4%
	"	-	Angaua	8%
	"	-	Emerum	6%
	"	-	Musak	7%
	Osum	-	Angaua	6%
	"	-	Atemple	5%
	"	-	Emerum	9%
	Katiati	-	Angaua	9%
	"	-	Atemple	6%
	"	-	Emerum	17%
	"	-	Musak	13%
b.	Josephstaal Stock	-	Pihom Stock	
	Katiati	-	Saki	8%
	"	-	Ulingan	4%
	"	-	Wanambre	9%
	"	-	Mawak	4%
	Ikundun	-	Saki	3%
	"	-	Ulingan	2%
	"	-	Mawak	3%
	"	-	Wanambre	6%
c.	Josephstaal Stock	-	Isumrud Stock	
	Katiati	-	Korak	5%
	"	-	Malas	3%
	"	-	Dimir	2%
	Ikundun	-	Korak	2%
	"	-	Malas	2%
	"	-	Dimir	2%
d.	For Josephstaal	-	Mugil see E.	

D. WANANG STOCK

a.	Wanang Stock	-	Josephstaal Stock	
	Angaua	-	Katiati	9%
	"	-	Moresada	6%
	"	-	Osum	6%
	"	-	Wadaginam	5%
	Emerum	-	Katiati	17%
	"	-	Ikundun	6%
	"	-	Osum	9%
	"	-	Wadaginam	8%
	Paynamar	-	Katiati	12%
	"	-	Pondoma	8%
	"	-	Wadaginam	3%

b. Wanang Stock - Pihom Stock

Emerum	-	Saki	8%
"	-	Wanambre	6%
"	-	Amaimon	6%
"	-	Ulingan	2%
"	-	Wanuma	2%
Angaua	-	Saki	5%
"	-	Tani	5%
"	-	Ulingan	2%
"	-	Wanambre	2%
"	-	Wanuma	2%

c. Wanang Stock - Isumrud Stock

Emerum	-	Korak	8%
"	-	Bunabun	2%
Musak	-	Korak	5%
"	-	Bunabun	2%

d. For Wanang - Mugil see E.

E. MUGIL STOCK-TYPE ISOLATE

To illustrate more clearly the Stock-Type Isolate Mugil within the Adelbert Range Phylum and in relation to the Madang Phylum, its relationship percentages have been given below in a separate table.

a. Mugil - Isumrud Stock

Mugil	-	Dimir	17%
"	-	Waskia	7%
"	-	Bunabun	13%

b. Mugil - Pihom Stock

Mugil	-	Pila	12%
"	-	Ulingan	10%
"	-	Musar	7%
"	-	Yaben	5%
"	-	Amaimon	3%

c. Mugil - Josephstaal Stock

Mugil	-	Wadaginam	5%
"	-	Moresada	4%
"	-	Katiati	0%
"	-	Osum	0%

d. Mugil - Wanang Stock

Mugil	-	Musak	5%
"	-	Angaua	0%

e. Mugil - Madang Phylum

Mugil	-	Amele	8%
"	-	Garus	10%
"	-	Kamba	11%
"	-	Utu	3%
"	-	Usino	5%

2.22.7. *Illustrative Lists of Cognates*

The lexical relationships between the languages of the Isumrud-Pihom Stock and the Josephstaal-Wanang Stocks are, on a selective basis, illustrated below in Wordlist 3 for Isumrud-Pihom and in Wordlist 4 for Josephstaal-Wanang. Each column contains a series of cognates. Space does not permit the inclusion of the whole wordlists which were used for comparison, but it is hoped that this selection from the list of series of cognates will be adequate to illustrate the interrelationships. Doubtful members in a cognate series have been put in brackets.

WORDLIST 3

Illustrative List of Cognates: Isumrud-Pihom

	man	*father*	*father*	*mother*	*mother*	*older brother*	*I*
Ko	---	-ɓɛ	---	---	---	-pap(no)	---
Ws	---	---	tata	ina	---	bawa	---
Ml	munu	---	tʌ	nʌ	---	pʌ	yi
Bu	(mumdiɛn)	avi	---	nan	---	mbaɓ	---
Di	---	---	tʌ-	nʌ-	---	pʌ-	yiŋ
Pa	moando	-naɓi	---	-nan		-mbaɓ	ɛ-
Pi	moando	-ŋaɓi	---	---	-ŋia		-yo
Sa	moande	-ŋaɓi	---	-nan	-ŋamo	-baba	yo
Ta	moado	-anave	---	---	-namu	-papa	tso
Ul	moa	-niawi	---	-nene	---	-papa	yo
Be	moa	---	ɛta	---	---	apap	i
Mk	mandɛ	---	itamant	unɛnt	---	apa	jɛ
Mr	mandɛ	ʔavi	ita			imbab	yɛ
Wa	munɛ	---	yɛta	---	yɛmi	poba	yɛ
Wn	munɛ	---	-tayn	-nani	---	-bayn	yɛ
Ya	munanu	---	-ta	-na	---	-pabu	ya
Par	munama	---	-ta	-nan	---	-paba	yana
Ama	(uma)	---	---	naniya	---	avata	ɛ-
Mg	mat	---	---	-nen	---	-bab	ya

WORDLIST 3 (cont'd)

	You sg	*You pl*	*hand*	*name*	*breast*	*bird*	*egg*	*egg*	*dog*	*banana*	*tree*	*taro*	*louse*
Ko	ni-m	ni-mtaŋ	---	---	am	---	no	---	kuad	kud	---	(nam)	---
Ws	ni	ni-na	---	---	amin	---	niŋo	---	kausik	---	---	---	---
Ml	nɛ	nʌn	imbɛn	unim	---	---	nau	---	kakas	kuntsu	---	mamu	gunu
Bu	nɛnɛ	anɛ	ombɛn	unim	---	muŋguan	na	---	xka	kundi	---	mam	gunu
Di	nɛŋ	nɛn	avɛn		---	---	---	---	kaŋap-	---	(ŋom)	mom	igun
Pa	na-	-nai	-nambɛ	-unum	mɛk	muka	---	---	kɛ	(ŋgi)	nanam	mam	---
Pi	-no	-nai	-mbo	-nim	mɛnga	mungua	---	---	kaɓun	kindi	ŋanam	mam	---
Sa	no	-nai	-mɛ	-nim	mɛg	muŋgua	---	---	kawuŋ	kidi	ŋanam	mam	---
Ta	no	-ni	-apo	-unum	amɛ	muka	unam	---	---	uti	nam	mam	---
Ul	no	ni	wapɛna	unuma	---	---	---	munɛka	---	(akia)	nomo	moma	---
Be	nɛ	nini	wapen	onimp	---	---	---	muno?	---	(ɛ?i)	nama	ima	(una)
Mk	nɛ	niŋge	ape	unim	mɛ	muŋga	---	munaŋk	---	---	na	ma	---
Mr	nik	---	ɛmbɛ	unim		muŋga	---	minaŋ	---	(ɛŋgi)	na	ma	---
Wa	nɛ	nik	apɛ	unim	ɛmi	muka	---	munak	---	---	na	(mana)	---
Wn	nɛ	(an)	ubɛn	unum	---	(murugan)	inaw	---	---	---	nam	---	gun
Ya	na	(an)	ubatu	añimu	---	(malaŋwan)	ñaw	---	(?i?o)	---	namu	mamu	gunu
Par	nan	(an)	ubata	unimu	---	---	nia	---	(ika)	kuárj	nama	mama	gunu
Ama	nɛ-ŋi	---	---	(unin)	---	---	---	---	(sika)	---	(ŋam)	mam	gunu
Mg	ni	nɐ	-ben	---	---	---	---	---	(gaun)	---		ma	(gaw)

WORDLIST 4

Illustrative List of Cognates: Josephstaal and Wanang Stocks

	Mo	Ik	Po	Wad	Kt	Os	At	Ang	Em	Mu	Pn
man	uramp	uramp	uraŋ+	uramp	kuru	urom+nt	kuram	(rom)	kuraŋ	kur	(rum)
father	-ɓaŋgɛn	-av+ŋg+n	-ɓna	-vuɠam	-ɓa	-v+ŋ	---	---	yaɓaŋ	---	awaŋ
mother	-may	žam	-mna	-may	-maka	-mak	ŋam	ŋam	yam	yama	am+ŋ
older brother	sasay	(-t+m+ŋk)	(-simga)	tatay		tsasay	(asaŋ)	tat-	(isaŋ)	(isam)	tasaŋ
I	yɛ(ɠ)	yi	yi	yaɠ	yi	yig	---	---	ta	ya	---
You sg	na(g)	na	na	naɠ	na	nag	na	nama	na	na	---
he	nə(ɠ)	---	n+	n+ɠ	nu	nugo	(naŋgə)	---	numa	nu	---
we	aŋə(ɠ)	aŋ	aŋ+	ɠaŋ	---	aŋ	---	---	---	---	---
we	---	---	---	---	ara	---	aruɠu	ar+	araŋ	ar+	ara
hand	-ɠumbugar	-ɠumbuŋgər	umpuŋgri	(-numbunamp)	---	(ipunam+nt)	---	---	---	---	---
hand	---	---	---	---	kuma	---	oman	oman	kuman	kumob	---
breast	amamp	amamba	amaŋu	amanamp	ama	amam+nt	amen	man	amaŋ	am+	---
name	-imbɛ(p)	-n+mbep	n+mbi	-nimbimp	ñimbi	---	---	ɛmpiya	imbi	---	(aɓi)
tongue	-mɛrəp	-mir+p	mir+	---	mir	mirɠab	---	---	---	---	mirɠaɓ
bird	---	---	kawaŋu	---	kaɓa	---	ap	apa	kabaŋ	kap+	---
banana	manəŋamp	manuŋamp	man+ŋ	---	man	manum+nt	---	(an+ŋ)	man	maŋ	---
egg	mukunoŋk	m+kuŋu	mukuŋ	---	muk+	makəka	(-akə)	(-aŋk)	maŋg+	---	muku
louse	imamp	n+mamp	n+maŋ	nimanamp	ñima	-nim+ndə	ɛman	ɛman	iman	(im+)	---
tree	arap	ar+pa	ar+	---	---	---	---	alɛ	tari	tar	---

2.22.8. *Typological Characteristics of the Adelbert Range Phylum*

The typological features have been amply dealt with while discussing the individual stocks, and the reader is referred to these sections for fuller information. The aim of this section is to point out some of the typological features which are universally or almost universally present in the languages of the phylum.

1) The velar nasal is very common.

2) None of the languages appears to be tonal.

3) The Two Possessive Class System appears to be common. The possessive markers PM_p are prefixed to the noun base - this is a typical feature of the languages of the ARPh. The 2PC-R/P+O possessive system is found only in languages of the ARPh (see Map in section 3.33.).

4) The verb base always has tense-subject markers suffixed to it.

5) The object marker, if incorporated into the verb, is prefixed to the verb base; this is a typical feature of the ARPh.

6) A special dual form for pronouns and verbs is rare.

2.22.8.1. *The Isumrud-Pihom and Josephstaal-Wanang Subphyla*

As already pointed out in section 2.22., the Josephstaal-Wanang stocks and the Isumrud-Pihom stocks constitute subphyla, and may at a later stage of research have to be regarded as separate phyla.

The universal occurrence of the velar fricative and a high central vowel type in the Josephstaal-Wanang stocks and the non-occurrence of these two phoneme types in the Isumrud-Pihom stocks, except in one or two cases, seems to support such a division. But the typological features given in section 2.22.8.1. may permit the tentative conclusion that the four stocks and Mugil form a unit, although their genetic interrelationship will still have to be more convincingly established. A regional overlapping of typological features and of lexicon has also been observed.

2.23. The Ramu Phylum (30,090)

The Ramu Phylum, named after the Ramu River, extends up the river as far as Aiome (65) and comprises a large inland area on both sides of the river. Two stocks (Ruboni, Goam), one group (Annaberg), and one family isolate (Agoan) constitute the phylum, and two other language isolates (Kambot (71) and Aion (70)), have been tentatively included in it.

2.23.1. *The Ruboni Stock (9,920)*

The Ruboni Stock, named after the Ruboni Range which follows the coast west from Bogia Town, extends from the mouth of the Sepik River to the mouth of the Ramu River and then inland, in an easterly and southerly direction. The Ruboni stock comprises two families: the Ottilien and Misegian Families.

2.23.11. *The Ottilien Family (2,760)*

'Ottilien' was the name originally given to the Ramu River by German explorers. The Ottilien Family is located on both sides of the mouth of the Ramu River and has five member languages. It can be subdivided into two subfamilies: Watam-Kaian-Gamei and Awar-Bosman.

2.23.11.1. *Member Languages*

2.23.11.11. *Watam 47/Wt (400)*

Villages: Watam, Marangis.[25]

The first record of the Watam language was given by Pöch (1908:170ff). Capell (1952:132ff) incorporated this material into his article on the languages of the Bogia District. Since then, no further fieldwork has been carried out in the language. Unfortunately, the present writer did not have enough time to travel all the way from the mouth of the Ramu to Watam village; other unsurveyed areas seemed more important at that time. My material has been obtained from informants from Marangis village, about two hours walk from the Ramu River. Marangis informants assured me that originally they had had a language of their own, but nobody can speak it any more today, and it seems that the Marangis villagers have adopted the Watam language.

2.23.11.12. *Kaian 48/Ka (230)*

Village: Kaian.

Höltker (1937b:964 fn.20) lists the Kaian language. Meiser (1958; 1959) published some interesting anthropological material on the inhabitants of Kaian village.

---

[25] Haberland (1966:34f) lists the Kopar Village at the mouth of the Sepik River as Watam speaking; this is, however, contrary to Höltker's (1938: 279) note: 'Wánggan spricht mit den Dörfern Kópar und Sígrin am unteren Sepik die gleiche Sprache, die von der Watam-Sprache ganz verschieden ist.' My field notes support Höltker's observation.

2.23.11.13. *Gamei 49/Ga (930)*

Villages: Bak, Boroi, Botbot, Buliva, Damur, Gabun, Galek, Gamei, Kabuk.

Gamei was first listed by Höltker (1937b:964 fn.20) as a dialect of Boroi; Capell (1952:134ff) gives a first phoneme chart, some notes on grammar and a wordlist.

2.23.11.14. *Awar 50/Aw (500)*

Villages: Awar, Nubia, Sisimangun.

The Awar language is also named Nubia by other authors. Since Nubia is only a small village and refers also to the Nubia plantation, the name Awar may be preferable for future use. Capell (1952:135f), under the name Nubia, gives a phoneme chart, notes on grammar and a wordlist. Höltker (1947:197) points out some interesting features concerning directional words (based on orientation towards the sea or inland).

2.23.11.15. *Bosman 51/Bo (700)*

Villages: Bosman villages and Daidem.

The language was first listed by Höltker (1937b:964 fn.20) under Bosngun; Capell (1952:135f) gives a phoneme chart, notes on grammar, a text and a wordlist under Bosngun. Bosngun is the old spelling of Bosman and seems to reflect the proper original pronunciation of the village name. Natives have nowadays adopted the Europeanized pronunciation of Bosman; I was not able to get the original pronunciation even in a sentence like 'we go to Bosman'; the spelling 'Bosman' is therefore recommended.

2.23.11.2. *Lexical Interrelationships within the Ottilien Family*

Watam - Kaian	77%
Watam - Gamei	72%
Watam - Awar	38%
Watam - Bosman	41%
Kaian - Gamei	77%
Kaian - Awar	39%
Kaian - Bosman	42%
Gamei - Awar	41%
Gamei - Bosman	45%
Awar - Bosman	63%

2.23.11.3. *Typological Characteristics of Ottilien*

1) The /c/ phoneme has been observed in Awar.

2) A glottal stop occurs in word final position.

3) The /ñ/ phoneme is present in Bosman.

4) No /f/ phoneme is found.

5) A high central vowel type is found in all members, except in Kaian and Gamei.

6) In addition to the three number categories, i.e. singular, dual and plural found in all[26] members of the Ottilien Family, an additional category, i.e. paucal, is found in Kaian (see section 3.12.). The appearance of marking morphemes with nouns in Ottilien is subject to many complex rules (see section 3.12.).

For typological features which Ottilien shares with the Ruboni Stock see section 2.23.14.

2.23.12. *The Misegian Family (7,160)*

The Misegian Family extends from the Lower Ramu eastwards towards Bogia and comprises three languages; Mikarew, Sepen and Giri.

2.23.12.1. *Member Languages*

2.23.12.11. *Mikarew 52/Mi (5,350)*

Villages: Iku, Niapak, Masawara, Naupi, Waremis, Apingan, Sirin, Dimuk, Puk, Ariangon, Mari, Rugusak, Nauri, Ariap, Sangan, Tiab, Tongbur, Wasangabang, Mekera, Wakima, Banang, Igos, Iruari, Mikarew, Ikemin, Abegani, Warekam, Adui, Dinam, Gorak, Gun, Aringen, Bekun, Isung.

---

[26] Pöch (1908:172), and with him Capell (1952:133), deny the presence of number markers in Watam. However, the proof which Pöch gives is not conclusive. Numerals, especially those for *one* and *many*, are frequently added to the noun base or the adjective base. Furthermore, I discovered the number markers occurring with noun and adjectives often only after several attempts, and sometimes only as a by-product. Since my material is based on information obtained from Marangis villagers, I have not enough evidence of a definite occurrence of number marking also in Watam. In view of the overall pattern in related languages, it would, however, be surprising if Watam had no number markers for nouns and adjectives. - The present writer was able to definitely establish the number marking system for Gamei; though Capell (1952:134) states: 'There is no information on...the indication of number in nouns'.

Schebesta (1913:880) lists Mikarew as Ariawia, Höltker (1937b:964 fn.20) as Mikarew-Ariaw and later (1961:288) as the Gumasi language. Father Schorr S.V.D. (unpublished) compiled a large dictionary and produced some translations for missionary purposes. Capell (1952:138ff) under the name Makarup, gives a phoneme chart, notes on grammar, a text and a wordlist.

2.23.12.12. *Sepen 53/Se (270)*

Villages: Akukum, Sepen.

The language has not been recorded previously, unless one takes Höltker's note (1961:289) 'Gumasi - or Ekua - language group' as a hint for an additional language otherwise not listed and mapped by him. Knowing Höltker's language map, I was puzzled when shortly before I finished my field research on Giri (54) informants told me that Sepen and Akukum spoke a language different from Mikarew. A check was then made and the lexical comparison confirmed the natives' view.

2.23.12.13. *Giri 54/Gi (1,540)*

Villages: Birap, Tung, Giri, Warinung, Minu, Temnu, Pir, Kominung.

Höltker (1937b:964 fn.20) lists Giri as Kire-Puire and in a later publication (1961:297) he gives a first wordlist.

2.23.12.2. *Lexical Interrelationships within the Misegian Family*

Mikarew	- Sepen	60%
Mikarew	- Giri	42%
Sepen	- Giri	60%

2.23.12.3. *Typological Characteristics of the Misegian Family*

1) /h/ is found in Giri and perhaps in Mikarew.

2) Misegian is characterized by the presence of the following phonemes: /f/, /z/ and /ɨ/ and by the absence of the following phonemes: /c/, /ʔ/, /ñ/, /l/.

3) Number marking with nouns is found, with no or only a few allomorphs. Only three number categories have been observed: singular, dual and plural.

4) No Concordance Class System[27] is present.

For typological features which Misegian shares with the Ruboni Stock see section 2.23.14.

2.23.13. *Lexical Interrelationships within the Ruboni Stock*

The lexical interrelationships within the Ruboni Stock are displayed in Chart 8.

2.23.14. *Typological Features of the Ruboni Stock*

1) Stops are found at at least three points of articulation: bilabial, alveolar, velar and at a fourth point, (glottal), in the Ottilien Family (except in Bosman). The occurrence of the alveo-palatal stop in Awar, Bosman and Mikarew is doubtful.

2) Nasals are found at three points of articulation: bilabial, alveolar, velar and maybe at a fourth point, i.e. alveo-palatal, in Bosman and Mikarew.

3) Fricatives have been observed at three points of articulation: labio-dental, alveolar and velar. The /f/ and /z/ phonemes have not been observed in Ottilien. The /h/ phoneme is present in Giri and perhaps in Mikarew.

4) The /r/ phoneme is universally present; the /l/ phoneme is met with only in Gamei and perhaps in Bosman.

5) Unrounded vowels are found in front and low-central positions, rounded vowels in back positions and a high central vowel type has been observed in all members except in Kaian and Gamei.

6) None of the languages appears to be tonal.

7) Number marking is present with nouns.

8) No Concordance Class System occurs.

9) The One Possessive Class System is found.

10) Tense markers are suffixed to the verb base.

11) Subject and object are not incorporated into the verb.

---

[27] There is no indication of a class system; nouns and adjectives have a number marker affixed to them, i.e. /-mu/ or /-m/ for singular and /-ba/ for plural; see section 3.1.1. This contradicts Capell's view (1952:139): 'All words that are not functioning as verbs or particles end in -imu, -im... This gives a spurious suggestion of noun-classification by suffix (as in Monumbo) in such phrases as kumasim ukwarim, tall man, especially as the plural is ku'masipa a'kwaripa.'

CHART 8

Percentages of Shared Cognates in the Ruboni Stock

	Wt	Ka	Ga	Aw	Bo	Mi	Se	Gi
Wt		77	72	38	41	16	17	18
Ka			77	39	42	14	15	16
Ga				41	45	12	16	19
Aw					63	15	18	22
Bo						14	18	19
Mi							60	42
Se								60
Gi								

2.23.2. *The Goam Stock (7,110)*

The Goam Stock is located on both sides of the Goam River, one of the main tributaries of the Ramu River. Two families constitute the stock: the Ataitan and Tamolan Families.

2.23.21. *The Ataitan Family (4,600)*

The Ataitan Family extends mainly north of the Goam River. The family comprises four languages: Tangu, Igom, Tanguat and Andarum. Tangu and Igom are frequently regarded as dialects, but my preliminary lexical comparison does not support this view.

2.23.21.1. *Member Languages*

2.23.21.11. *Tangu 55/Tn (2,330)*

Villages: Wasamb, Beiamp, Giar, Amuk, Andeamarup, Duapmang, Sirikin, Mangigim.

The Tangu language is first listed by Höltker (1937b:964 fn.20). Father Van Baar (unpublished) carried out extensive studies in Tangu and translated religious texts into Tangu. Capell (1952:141ff) gives some notes on grammar and a wordlist.

2.23.21.12. *Igom 56/Ig (930)*

Villages: Arep, Aber, Igamuk, Isingin, Reng.

Igom was first listed by Höltker (1937b:964 fn.20). Capell (1952: 141ff) gives some notes on Igom and a wordlist. The wordlist, however, differs considerably from my own.

2.23.21.13. *Tanguat 57/Tg (510)*

Villages: Tanguat, Gutepek, Ambok.
Previously unrecorded.

2.23.21.14. *Andarum 58/And (830)*

Villages: Barit, Andarum, Sokumu, Umbo, Dakit, Avunkum, Zukin, Laptu.

Schebesta (1941b) and Höltker (1961:302) refer to this area as Awarken. When I inquired about this name, nobody seemed to know it. For this reason I propose the well known village name Andarum as language name.

2.23.21.2. *Lexical Interrelationships within the Ataitan Family*

Tangu	- Igom	65%
Tangu	- Tanguat	41%
Tangu	- Andarum	36%
Igom	- Tanguat	41%
Igom	- Andarum	39%
Tanguat	- Andarum	37%

2.23.21.3. *Typological Characteristics of the Ataitan Family*

1) Voiced stops tend to be prenasalized.

2) The /ñ/ phoneme is universally present.

3) The /f/, /z/, /h/ and /l/ phonemes do not seem to occur.

For typological features which Ataitan shares with the Goam Stock see section 2.23.24.

2.23.22. *The Tamolan Family (2,510)*

The Tamolan Family extends mainly south of the Goam River towards the Lower Sogeram River. Tamol - formerly a village, but now abandoned - was taken as reference point by the mapping section of the U.S. Army, for the area of 4°30' to 4°45' latitude and 144°30' to 145°00' longitude. The five languages of the Tamolan family can be further subdivided into two subfamilies: Itutang-Midsivindi-Akrukai and Breri-Romkuin. No name was given to these subfamilies because some areas situated between the two subfamilies are still to be surveyed.

2.23.22.1. *Member Languages*

2.23.22.11. *Itutang 59/It (300)*

Villages: Itutang, Iangere, Isarikan.
Previously unrecorded.

2.23.22.12. *Midsivindi 60/Mid (990)*

Villages: Matanga, Midsivindi, Ingavaia, Olumkun, Bugei, Ungei, Porpor, Uvorai. The language area extends east of the Goam River.
Previously unrecorded.

2.23.22.13. *Akrukay 61/Ak (150)*

Spoken in Akrukay and other small hamlets. The language is isolated from the remainder of its family by a large unpopulated area. But Akrukay links most closely with Tamolan, although it is a close neighbour to Paynamar (45), a language of the Adelbert Range Phylum.
Previously unrecorded.

2.23.22.14. *Breri 62/Br (720)*

Villages: Misinki, Korbunka, Sutubu, Wengabu, Limbubu.
Kaspruś (unpublished) collected a first wordlist. Stanhope (1968) provides a very short list of medical terms of Breri; but Romkun village is not Breri speaking.

2.23.22.15. *Romkun 63/Ro (350)*

Spoken in Romkun and other small hamlets.
Previously unrecorded.

2.23.22.2. *Lexical Interrelationships within Tamolan*

Itutang	- Midsivindi	73%
Itutang	- Akrukay	36%
Itutang	- Breri	38%
Itutang	- Romkun	34%
Midsivindi	- Akrukay	46%
Midsivindi	- Breri	42%
Midsivindi	- Romkun	41%
Akrukay	- Breri	38%
Akrukay	- Romkun	35%
Breri	- Romkun	71%

2.23.22.3. *Typological Characteristics of Tamolan*

1) The alveopalatal stop is present in Mindsivindi and Akrukay.

2) Breri seems to have voiced and voiceless vocoids.

3) No high central vowel type has been observed in Andarum.

4) The phonemes /ʔ/, /f/, /z/ and /l/ are not found.

5) Words tend to end in a vowel.

6) Romkun is possibly tonal, and voiced and voiceless nasals seem to occur.

For typological features which Tamolan shares with the Goam Stock see section 2.23.24.

2.23.23. *Lexical Interrelationships within the Goam Stock*

The lexical interrelationships between the members of the Goam Stock are illustrated on Chart 9.

2.23.24. *Typological Features of the Goam Stock*

1) Stops are found at three points of articulation: labial, alveolar and velar, and in Midsivindi and Akrukay also at the alveopalatal point of articulation.

2) Voiced stops tend to be prenasalized.

3) Nasals are found at four points of articulation: bilabial, alveolar, alveopalatal and velar.

4) Fricatives have been observed at three points of articulation: labio-dental, alveolar and velar, and perhaps at the glottal point in Andarum. The fricatives /f/, /z/ and /x/, however, do not seem to occur.

5) The /r/ phoneme is universally present, the /l/ phoneme may perhaps be found in Tangu and Andarum.

6) Unrounded vowels are found at front and low central positions, and rounded vowels in back positions. In addition to these a high central vowel type has been observed.

7) Number marking on nouns is usually present, but their occurrence in Itutang and Akrukay is doubtful.

8) No Concordance Class System is found.

9) The One Possessive Class System is present.

10) Tense markers are suffixed to the verb base.

11) Subject and object markers are not incorporated into the verb structure.

CHART 9

Percentages of Shared Cognates in the Goam Stock

	Tn	Ig	Tg	And	It	Mid	Ak	Br	Ro
Tn		65	41	36	32	11	11	15	13
Ig			45	39	28	14	23	17	13
Tg				37	30	12	23	20	15
And					24	17	20	15	10
It						73	36	38	34
Mid							46	42	41
Ak								38	35
Br									71
Ro									

2.23.3. *The Annaberg Group (6,430)*

The Anor, Aiome, Rao and Banaro languages are tentatively regarded as constituting the Annaberg Group which extends from the Upper Keram to the Middle Ramu River. Anor (64) and Aiome (65) constitute the Aian Family. Rao (66) links only with Anor on the stock level, and the cognation of Banaro (61) falls even below that level, (see Chart 10). In view of the existence of some unsurveyed areas and the uncertainty of language boundaries, the term 'group' is favoured for the time being.

2.23.31. *The Aian Family (1,070)*

2.23.31.1. *Member Languages*

2.23.31.11. *Anor 64/Ar (450)*

Villages: Iwam, Diugumbi, Asapi, Atsuvatapi, Ivagripi, Uliangupi, Ivarapi, Vavapi.

Kaspruś (unpublished) collected a first wordlist of Anor. Capell (1952:185), under the name Atemple, gave a phoneme chart, grammar notes, a text and a wordlist. This linguistic material belongs definitely to the Anor language and not to the Atemple language (41) spoken at Atemple village.

2.23.31.12. *Aiome 65/Ai (620)*

Villages: Ambaiat, Irigrat, Ipirait, Jamenke, Kurakem.

Kaspruś (unpublished) collected a first wordlist. There is some misunderstanding concerning the name Aiome, because there is an Aiome Mountain, the highest peak in the Schrader Range, and the Aiome Patrol Post at the foothills of the Schrader Range. The two locations are siutated in areas of two different phyla, the East New Guinea Highlands Phylum and the Ramu Phylum. This was not previously recognised. Haddon (in Moyne, 1957b:xviii) named the natives of the areas surrounding the Aiome Mountain the 'Aiome Pygmies'. This name was taken up by M. Gusinde (1958:504) and Aufenanger (1960:247ff). Linguists like Wurm, Biggs and Pawley preferred the name Karam for the language of these people. The name 'Karam' appears also on the map in Gusinde's article on the Aiome Pygmies. Furthermore, nowadays the name Aiome, if not explicitly referring to the Aiome Mountain, is generally understood as indicating the Aiome Patrol Post and the Aiome Census Division which extends in the opposite direction, away from the Aiome Mountain, and towards the Ramu River. For these reasons, I use the language name Aiome here with reference to the language at the Aiome Patrol Post and, to avoid misunderstandings, it may be suggested that the name Aiome be used only in this sense.

2.23.31.2. *Lexical Interrelationships within Aian*

Anor - Aiome 58%

2.23.31.3. *Typological Characteristics of Aian*

1) Voiced stops seem to be prenasalized in Aiome but not in Anor.

2) No number marking on nouns is present.

For further typological features see section 2.23.34.

2.23.32. *The Rao Language (4,080)*

Rao 66/Ra (3,340)

Villages: Tsumba, Yehit, Bumbera, Nanikeso, Nagrubu, Bamfu, Bunungom, Nabringi, Pakingibu, Mungeibu, Chungrebu, Banimo, Urineibu, Grengabu, Indobu, Watabu, Vimbitabu, Nodabu, Sabu, Nambabu, Buro, Moibu, Rebu, Jitibu, Wobu, Litubu, Baibu, Brokoto, Djam, Gokto, Guasingi, Iongitabu, Iogoi, Kiga, Kragabu, Meleto, Mui, Nalisa, Numari, Rebu, Rororabu, Wabesa, Dubu. The -bu endings in almost all of the village names

means 'place' or 'location'. The village names might mean 'the place of butterflies' or 'the place of kunai (swordgrass)', etc.

Kaspruś (unpublished) collected a first wordlist. Capell (1952:182), under the name Anaberg, gives a phoneme chart, grammatical notes, a text and a wordlist. Capell (1952:51) expresses doubts concerning the linking of Rao with the Ramu Phylum,[28] however, my material gives enough evidence for the membership of Rao to the Ramu Phylum.

Rao is listed in this study as a member of the Annaberg Group; for percentage figures of common cognates which Rao shares with other members of the Annaberg Group see Chart 10.

Capell's notes on the verb structure[29] are apparently based on a misunderstanding. According to my notes, neither the subject nor the object markers are incorporated into the verb structure, but Rao shows a complex system of changes of the verb base in accordance with the tense and the number of the subject and the object. Rao is the only language in which informants freely varied the sentence pattern from subject-object-verb to object-subject-verb within one and the same paradigm.

For further notes on the typological features of Rao see section 2.23.35.

2.23.33. *The Banaro Language*

Banaro 67/Ba (1,280)

Villages: Yar, Bugaram, Kevim, Angisi, Tongwik, Mogum, Komting, Ninias, Kongrum, Togo, Mogas, Kendai, Yabis, Renol.

Banaro was first studied by Thurnwald (1916, 1934). In his primarily anthropological studies he incorporated some wordlists, and Laycock has in his possession unpublished field notes of Thurnwald on Banaro. My linguistic material is based on Bingo village (old location 144°30' longitude - 4°32' latitude) which was recently translocated to the Bangapela village at the Ramu River.

---

[28] Capell (1954:23) says with reference to the Rao language: 'It does not appear to connect with those of the Bogia District'. However, two years earlier (1952:205), he said with reference to Rao (Anaberg) and Anor (Atemple): 'Both Anaberg and Atemple will show points of contact with the third group in structure but very little in vocabulary'.

[29] Capell (1952:183): 'If the subject pronoun begins a sentence, it must be repeated before the verb as a verbal pronoun, just as in Melanesian languages, but it need not be used at the beginning except for emphasis. ...The object precedes the verb, so that if a subject is not used, the sentence begins with the object pronoun, followed by the verbal pronoun....'.

Banaro has been tentatively listed as a member of the Annaberg Group; for percentage figures or common cognates see section 2.23.34. and for typological features section 2.23.35.

2.23.34. *Lexical Interrelationships within the Annaberg Group*

The lexical interrelationships within the Annaberg Group are shown in Chart 10.

CHART 10

Percentages of Shared Cognates in the Annaberg Group

	Ar	Ai	Ra	Ba
Ar	58	13	9	
Ai		10	5	
Ra			11	
Ba				

2.23.35. *Typological Features of the Annaberg Group*

1) Stops are found at four points of articulation: bilabial, alveolar, alveopalatal and velar; a glottal stop may perhaps be present in Banaro.

2) Voiced stops seem to be prenasalized in Aiome and Banaro.

3) Nasals are found at four points of articulation: bilabial, alveolar, alveopalatal and velar.

4) Fricatives have been observed at three points of articulation: labio-dental, alveolar, velar, and perhaps also at the glottal point in Anor.

5) There appears to be no phonemic contrast between [l] and [r].

6) Unrounded vowels have been observed in front and low central positions and rounded vowels in back positions. In addition to these, a high central vowel is found in all members.

7) No number marking with nouns is present.

8) No Concordance Class System is found.

9) The One Possessive Class System is present.

10) Tense markers are suffixed to the verb base.

11) No incorporation of the subject and object markers into the verb structure takes place.

2.23.4. *The Agoan Family (2,200)*

The Agoan Family, with Adjora (68) and Gorovu (69) as members, extends westwards from the Lower Ramu River towards the Lower Sepik and Lower Keram River areas. On the basis of information obtained from Patrol Officers and Missionaries, Laycock (1965) lists a Porapora language. This seems to be the result of a misunderstanding. The Porapora Census Division takes in parts of the Adjora and the Banaro language areas, and there is no evidence for the existence of a separate Porapora language.

2.23.41. *Member Languages*

2.23.41.1. *Adjora 68/Adj (2,150)*

Villages: Mangum, Tarangai, Senae, Unkenang, Asau, Eronen, Bwai, Gwai, Manmong, Dumer, Mauruk, Yangit, Adjora, Kirop, Ogomania, Muruk, Aramundi, Dokoram, Kitchikan, Lembum, Jeta, Palipan, Pinam, Pokoran.

The Adjora language was first listed by Laycock (1965), on evidence given by Patrol Officers and Missionaries. My linguistic material is based on Senae Village, about one day's travel west of Bosman (51).

2.23.41.2. *Gorovu 69/Gv (50)*

Village: Part of Bangapella.

Gorovu (Crovu) was first listed by Laycock (1965) on the basis of information received from officers and missionaries. The village of Gorovu was formerly located further inland towards the Keram River (4°29' longitude, 144°34' latitude), but was translocated recently to Bangapella village on the Ramu River. Its inhabitants form now one village with the former Bingos (Banaro speaking). The Gorovu language is much more closely related to Adjora than to Banaro; in the near future, Gorovu is expected to die out because of the prevalence of the Banaro language in the new village.

2.23.42. *Lexical Interrelationships within Agoan*

Adjora - Gorovu 51%

2.23.43. *Typological Features of Agoan*

1) Number marking on nouns is present.
2) No Concordance Class System is found.
3) The One Possessive Class System is present.
4) The tense markers are suffixed to the verb base.

5) No incorporation of the subject and object markers into the verb structure.

2.23.5. *The Aion Language*

Aion 70/An (820)

Villages: Akaian, Arango, Angang, Agrak, Ombos, Oremai, Pankin, Agrant.

Laycock (1965) lists the Aion Language, but has collected no data. I collected only a very short wordlist. Because of the scarcity of the material, Aion has only tentatively been included into the Ramu Phylum.

No percentage figures and no typological features will be given at this stage of research; Aion will not be included into the remainder of this study.

2.23.6. *The Kambot Language*

Kambot 71/Km (3,610)

Villages: Bobaten, Gekten, Kambaramba, Kambot, Kambuku, Korogapa, Lol, Pamban, Pataka, Panyaten, Raten, Simbiri, Wom, Yamen, Yip.

Laycock (unpublished) collected detailed materials on Kambot. He very kindly put it at my disposal for comparison with my own materials in languages of the Ramu Phylum, and I decided to tentatively include Kambot into the Ramu Phylum. The Kambot language extends towards the Yuat River and the Biwat language area (not shown on my language map). Between the Biwat and the Kambot languages the following villages were said to have languages of their own: a) Mangol, Kamba, b) Dimiri, Yaul, Manu, Maruwat.

No percentage figures of common cognates will be given at this stage of research and Kambot will not be included into the remainder of this study.

2.23.7. *Lexical Interrelationships within the Ramu Phylum*

The following cognation percentages will illustrate the interrelationships between the languages of the Ramu Phylum. One language of each family and the isolates are compared with one language of each family, and the isolates, within the phylum.

1) **Ruboni Stock**

Gamei	-	Igom 9%
"	-	Akrukay 8%
"	-	Anor 6%
"	-	Rao 6%
"	-	Banaro 6%
"	-	Adjora 14%
Mikarew	-	Igom 12%
"	-	Akrukay 9%
"	-	Anor 10%
"	-	Rao 8%
"	-	Banaro 3%
"	-	Adjora 14%

2) **Goam Stock**

Tanguat	-	Kaian 6%
"	-	Mikarew 12%
"	-	Aiome 9%
"	-	Rao 8%
"	-	Banaro 6%
"	-	Gorovu 5%
Breri	-	Kaian 6%
"	-	Mikarew 9%
"	-	Anor 9%
"	-	Rao 5%
"	-	Banaro 5%
"	-	Adjora 15%

3) **Annaberg Group**

Aiome	-	Gamei 5%
"	-	Giri 8%
"	-	Tangu 9%
"	-	Midsivindi 13%
"	-	Adjora 11%
Rao	-	Awar 8%
"	-	Mikarew 8%
"	-	Andarum 12%
"	-	Midsivindi 6%
"	-	Adjora 8%
Banaro	-	Awar 5%
"	-	Mikarew 3%
"	-	Andarum 9%
"	-	Breri 5%
"	-	Adjora 8%

4) **Agoan Family**

Adjora	-	Awar 11%
"	-	Mikarew 18%
"	-	Tanguat 8%
"	-	Breri 15%
"	-	Aiome 11%
"	-	Rao 8%
"	-	Banaro 8%

2.23.8. *Illustrative List of Cognates of the Ramu Phylum*

The lexical interrelationships between languages of the Ramu Phylum are highlighted by the following illustrative list of cognates. Space does not permit the inclusion of the entire wordlists used for comparison, but it is nevertheless hoped that this selection of series of cognates will adequately demonstrate the lexical cohesion within the Ramu Phylum. Doubtful members in a series of cognates have been bracketed.

WORDLIST 5

List of Cognates: Ramu Phylum

	I	*You sg*	*he*	*he*	*we*	*we*	*You pl*	*they*	*father*	*father*	*banana*	*banana*	*mouth*
Wt	--	(u)	ma?	--	ai	--	ne	min	ase	--	naŋas	--	--
Ka	--	--	ma	--	ai	--	ne	mi	ais	--	ŋas	--	--
Ga	--	(un)	man	--	ai	--	nen	min	ait	--	ŋat	--	--
Aw	ŋgo	--	--	nə	ai	--	ne	mɛ	sat	--	ŋas	--	--
Bo	ŋgo	--	--	nəna	ei(t)	--	ni(t)	mɛ(t)	sat	--	ŋas	--	--
Mi	ko	no	--	(a)	eya	--		mɛ	--	--	--	akɨnim	akam
Se	kɨ	nɨ	--	ana	(ɛ)	--	--	mɛ	--	--	--	akɨn	akamtoŋ
Gi	gu	ndu	--	ana	(ža)	--	--	(mbɛ)	--	--	--	kɨn	kamtoŋ
Tn	kuaƀ	nuaƀ	man	--	(nay)	--	niaƀ	(mandar)	--	yaƀay	--	gɨan	akam
Ig	ko	nu	manɛ	--	(ne)	--	ni	(maŋgere)	--	yap	--	gɨən	kamtsik-
Tg	ku	nu	man	--	--	ani	niɡ	miɡ	--	apək	--	aŋgɨnaŋk	akamak
And	ko	no	ma	--	--	ɛn	--	me	--	--	--	ŋgon	aɡamtsiaŋ
It	gai	ndu	--	anɨ	--	añi	ñu	--	--	əpəki	--	aŋkəra	akama
Md	gai	nuŋ	--	--	--	añi	ñɨ	--	--	apɨŋa	--	akɨna	akama
Ak	ku	nu	--	an	--	añi	--	--	--	api	--	aŋgɨn	--
Br	--	unu	--	ana	--	ɛñɛ	iñi	məŋg	--	əpuŋɛ	--	ɛngənə	kam
Ro	--	unu	--	ana	--	ñe	iñe	oməŋgə	--	apia	--	(ɛŋgrɨ)	--
Ai	ŋgu	nu	man	--	--	añe	uñe	mañ	--	--	--	--	--
Ar	ŋgu	nɨ	man	--	--	añɨ-	uñe	me	--	--	--	--	--
Ra	ŋgu	nə-	mo	--	--	(ni-)	no-bɛ	mɛ-bɛ	--	--	--	--	--
Ba	ŋgu	(u)	ma	--	(a-ƀat)	--	--	--	ceca	--	--	akun	--
Gv	ŋgə	--	mə	--	--	añi	uñi	--	tsesi	--	--	--	aɡam
Adj	--	--	mə	--	--	añi	uñi	--	cas	--	--	ekɨ	kamaŋku

WORDLIST 5 (cont'd)

	bird	*ear*	*name*	*dog*	*dog*	*hand*	*hand*	*bone*	*bone*	*tree*	*breast*	*breast*
Wt	gora	koar	--	piraŋ	--	par	--	gagar	--	--	--	mur
Ka	ŋgora?	koar	--	piraŋ	--	par	--	gaɠar	--	--	--	mur
Ga	ŋgora?	koar	--	piraŋ	--	par	--	gagar	--	--	--	mɨr
Aw	ŋgora?	kur	--	pɛraŋ	--	para?	--	gagar	--	kan	--	mɨr
Bo	kuarak	kur	zi	pɛraŋ	--	par	--	gar	--	kan	--	mɨr
Mi	kuarasim	kuarim	iziam	--	--	--	aɠarim	aɠarim	--	--	otɛm	--
Se	kuarak	koar	izɨ	--	--	--	aɠat	aɠar	--	kɨ	tɨ	--
Gi	kuarak	koat	zɨ	--	--	--	ahat	ahad	--	ka	ta	--
Tn	ŋguarak	ukuar	--	--	arɨey	--	--	--	ɠavaŋ	--	--	--
Ig	ŋguarak	ɠukuar	--	--	yariaŋ	--	--	--	ɠavaŋ		--	--
Tg	oŋguarak	--	--	--	ariak	--	akurok	--	(awaŋak)	--	--	--
And	ŋguara	kuaram	--	--	ri	(ŋgoapar)	--	--	--	--	--	--
It	oŋguaraka	kuara	izɨ	--	ariɠa	--	akura	--	aƀa	ka	untsɨ	--
Md	okarɨka	ukuara	ize	--	ariya	--	akura	--	aƀa	ka	otsɨ	--
Ak	ŋgaraɠ	kuarɨ	--	--	arɨ	apar	--	--	avaŋ	kantmə	ntsɨgu	--
Br	akraɠa	--	izigi	--	ɛri	--	--	--	aƀŋa	--	untsuɠu	--
Ro	aŋka	okro	izu?	--	ɛrɨ	--	--	--	aƀŋa	--	intsu	--
Ai	ukər	kurmɨn	zɨ	--	--	(afrɨŋgɨn)	--	--	afu	--	--	--
Ar	ukra	krupi	zɨ	--	--	--	--	--	--	--	--	--
Ra	kuro	--	(ntsi)	--	--	--	--	(ɠratə)	--	--	tsa	--
Ba	ŋgora?	--	--	--	--	--	--	--	--	--	ɛnjo	--
Gv	aɠrɨŋ	kurɨ	--	--	--	(afə)	--	aga	--	kə	užip	--
Adj	uŋkara	kur	--	--	--	--	--	gaar	--	kɨ	oncə	--

2.23.9. *Typological Characteristics of the Ramu Phylum*

1) Stops are found at at least three points of articulation: labial, alveolar, velar, and in some languages also at alveo-palatal or glottal points.

2) Nasals are found at three or four points of articulation: bilabial, alveolar, velar and alveopalatal; the last seems not to occur in the Ruboni languages and in Rao.

3) Fricatives are found at three points of articulation: labio-dental, alveolar and velar. The /h/ phoneme has been observed only in a few languages.

4) [r] and [l] do not seem to be in phonemic contrast.

5) Unrounded vowels have been observed in front and low-central positions, rounded vowels in back positions. A high-central vowel type is met with in all languages except for Watam, Kaian, and Andarum.

6) Number marking with nouns is very common.

7) No Concordance Class System is found.

8) The One Possessive Class System has been universally observed.

9) A dual number is present in number markers and personal pronouns.

10) The tense markers are suffixed to the verb base.

11) Subject and object are not incorporated into the verb.

2.24. The Torricelli Phylum in the Western Madang District (860)

The Torricelli Phylum overlaps from the Sepik Districts into the Madang District in the Monumbo (72) and Lilau (73) languages.

2.24.1. Kirschbaum (1926:277), who had a good knowledge of the Sepik languages, already postulated a link of Monumbo-Lilau (Ngaimbom) with Sepik languages, especially with Buna (west of Marienberg). His postulate was based on linguistic observations and on stories and myths. The Buna people and the Monumbo-Lilau (Ngaimbom) people are said to have a common origin, but were then split off by the Nor-Pondo at the Murik-Lakes and then again by the Mikarew (52) people.

Schebesta (1913:881), however, attempts to link Monumbo-Lilau with the Ramu Phylum specifically, with the Mikarew language.[30] Schebesta had only a very limited knowledge of the Sepik languages, and as a result of close contact, Monumbo-Lilau share some cognates with the surrounding languages which misled him.

Independently from this, Laycock (1968), while inspecting the present writer's material of Lilau and Vormann-Scharfenberger's on Monumbo, definitely confirmed the relationship of Monumbo-Lilau to the remainder of the Torricelli Phylum which he had established.

Monumbo and Lilau are usually regarded as dialects of one language. Vormann-Scharfenberger (1914:1) distinguish three dialects: Monumbo, Dalua (Ndalúa) and Lilau (Ngaimbom). They mention Dalua - 10 kilometers west of Dugumur Plantation (Hatzfeldhafen) - as a colony of Monumbo speakers. Dalua was indicated to me as Saki speaking, but I was unfortunately unable to check this while in the field. This illustrates very well how important it is to travel from village to village for reliable information on the distribution of languages. The villagers of Dalua might well speak both Lilau and Saki; the joining two groups speaking distinct languages, into one village is not rare in New Guinea. Capell (1952:178) treats Monumbo-Lilau as dialects, but observes: 'The vocabulary diverges so far that one is inclined to class Lilau as a sub-language rather than as a dialect of Monumbo'.

On the basis of Swadesh's criteria one has to treat Monumbo and Lilau as different languages which share 64% of common cognates. Apart from this, the Monumbo and Lilau people differ culturally. The Lilau or Ngaimbom people are inland people and used to occupy the hills east of Bogia Station, and moved to the immediate coast only recently. The Monumbo people are coast- and seagoing people. Schebesta (1932:249 fn.3) reports the Monumbo as the original inhabitants of Manam Island before the arrival of the Melanesians.

2.24.2. *Member Languages of the Torricelli Phylum in the Madang District*

2.24.21. *Monumbo 72/Mon (450)*

Villages: Buaikulu, Kamasina, Kosakosa; all these villages are situated west of Bogia Station.

---

[30] Schebesta (1913:881) 'Und ich glaube auch an eine Verwandtschaft der Monumbo-Nanubun-Sprache mit der Ariawia-Sprache. Ich habe dafür aus dem Wortschatz manche Belege, und vielleicht wird sich auch eine Verwandtschaft mit den Hatzfeldhafen-Sprachen ergeben'. 'Ariawia Sprache' refers to Mikarew (52), 'Hatzfeldhafen' to the Kaukombaran family: Pay (22), Pila (23), Saki (24), and Tani (25), Nanubun is unknown to me unless it refers to Lilau (Ngaimbom).

Some linguistic material concerning the Monumbo language has been published by Pöch (1905:230ff), Schmidt (1900:63-70), Schebesta (1932: 249-62), Reschke (1935), and Höltker (1947:195). Vormann-Scharfenberger (1914) published a study of the Monumbo language which for their time was exceptionally detailed and comprehensive. Höltker (1964) added valuable corrections to this publication.

2.24.22. *Lilau 73/Li (410)*

Villages: Ambana, Babangaua, Kwongam, Lilau, Dalun. All these villages are situated east of Bogia Station.

Capell (1952:178ff) published a phoneme chart, notes on grammar, a text and a wordlist of Lilau. Schebesta (1938:662), Vormann-Scharfenberger (1914:1) and Höltker (1937:965 fn.20) refer to this ethnic group as the Ngaimbom. Since Ngaimbom is not a village name and gives no information as to the location of these people, I prefer the name Lilau, following Capell in this respect.

2.24.3. As the languages of the Torricelli Phylum lie, for the most part, outside the area under consideration, I refrain from discussing its typological features here and refer the reader to Vormann-Scharfenberger (1914), Laycock (1968) and Wurm (1969) but one of the most typical features of Monumbo-Lilau, the possessive phrase structure, will be discussed in Part III, section 3.3.5.

2.25. The East New Guinea Highlands Phylum in the Western Madang District

Two languages of the East New Guinea Highlands Phylum, established by Wurm (1960, 1961, 1964), overlap on the northern slopes of the Schrader and Bismark Ranges into the Madang District, i.e. Karam (84) and Gantj (86).

2.25.1. *Member Languages - the Madang District*

2.25.11. *Karam*[31] *84/Km (10,000)*

Villages: Apinam, Kombungabara, Kanain, Glomante, Kuibrav, Gumbendul, Yambunglin, Marengar, Giringiri, Tinam, Arunk, Kandum, Kampanying, Miami, Sahguvak, Kurumdek, Muriki, Kuip, Koromen, Gaban, Simbai, Fundun, Bobaimp, Kumbruf, Kakopi, Nugunt. These were the villages given to the author. Biggs (1963:13) describes the Karam boundaries as follows:

[31] For the name see section 2.23.31.12.

'Their territory includes the upper reaches of Asai and Simbai valleys on the Ramu side of the Bismarck-Schrader Ranges, and the upper reaches of the Karonk and Kaiment valleys, on the Jimi river side of the same mountains. It is also probable that Karam is spoken in the lower Asai Valley and on the slopes of Aiome mountain, to within a few miles of the government patrol post at Aiome.'

The probability has been confirmed through my own work, but the Gantj (85) language is also spoken on both sides of the lower Simbai River, but not reaching as far towards the Ramu river as Karam does.

Father Kirschbaum S.V.D. (1937:661) was the first European to visit the Karam area (in July 1926). On this occasion he collected a first wordlist and called the language aförö *mountain*. The word aförö for mountain does, however, not appear in any of my wordlists. Kaspruś (unpublished) collected another wordlist and named the language Karam. Aufenanger (1960:247ff) described their counting system, which is a system of body-counting. Wurm (1961b) lists the language under Karam. Biggs (1963:13ff) points out some interesting phonological features and Pawley (1966) has produced a good, comprehensive study of the structure of this language.

2.25.12. *Gantj 85/Gt (3,520)*

Villages: Aingdai, Tungaga, Manyinbai, Komaraga, Sangamp, Bank, Kinimbong, Fogaikumpt, Tsengamp, Nimaga, Singanai, Ngai, Tuguma, Tsembaga.

Wurm (1961b) lists the Gantj language for the first time. Biggs (1963:16) and Pawley (1966:3) mention Gantj as related to Karam. Both describe its location as being on the northern side of the Lower Simbai Valley. According to my information, and that obtained from Wurm's language map of the Eastern Highlands District, Gantj extends to both sides of the Lower Simbai River. Aufenanger (1960:249) describes the counting system, which is a body-counting system. I collected only a very brief wordlist from Gantj speakers in Madang.

2.25.2. As members of the East New Guinea Highlands Phylum are located for the most part, outside the area under consideration, the reader is referred for the typological features of Karam and Gantj to Pawley 1966.

2.26. The Melanesian Languages in the Western Madang District (17,860)

The Melanesian (Austronesian) languages in the area under consideration are divided into two families: Meseman in the Bogia Subdistrict and Belan in the Madang Subdistrict. It has yet to be established just how far west Meseman extends, and how far Belan extends to the east. The Melanesian languages of New Guinea form a subgroup within the Melanesian languages as a whole. This sub-grouping was first discovered by Brandes in 1884 for West Irian and by W. Schmidt in 1900 for Papua and New Guinea. Capell (1943) came independently to the same results, Wurm stated similar views in 1957 and termed these languages 'New Guinea Melanesian or Papuo-Melanesian', and Milke (1965) discussed the Austronesian languages of New Guinea in some detail.

2.26.1. *The Meseman Family (5,680)*

Three languages constitute the Meseman Family: Manam (74), Sepa (75) and Medebur (76). The Sepa and Medebur people immigrated from Manam Island to the mainland. The three languages were, therefore, originally one language, but have become linguistically different in the course of time due to separation from each other, and close contact with the neighbouring tribes speaking non-Austronesian languages.

2.26.11. *Member Languages*

2.26.11.1. *Manam 74/Ma (5,070)*

Spoken on all of Manam Island.

First wordlists and notes on Manam were collected by Pöch (1907:150; 1908:149f) and Werner (1909:111-3; 1911:300-5), and Capell (1962:73) refers to miscellaneous notes collected by Wedgwood which are now in his possession. Father C. Böhm S.V.D. (unpublished) carried out some preliminary studies in Manam, compiled an extensive dictionary and produced some translations for missionary purposes. The Manam language is divided into two dialects, one characterized the presence of the /k/ phoneme and the other by the glottal stop in corresponding positions.

2.26.11.2. *Sepa 75/Sp (210)*

Sepa is spoken in the villages of Sepa and Wanam, immediately east and west of Bogia Station. Some linguistic notes were taken by Schebesta (1921a, 1921b, 1932, 1938) and Höltker (1947:196f).

2.26.11.3. *Medebur 76/Me (400)*

Villages: Medebur, Agua, Toto. All these villages are situated west of Ulingan harbour. Höltker (1937b:964 fn.20) lists Medebur as Melanesian.

2.26.12. *Lexical Interrelationships within Meseman*

Manam	- Sepa	72%
Manam	- Medebur	40%
Sepa	- Medebur	50%

2.26.2. *The Belan Family (12,180)*

The Belan Family extends over the islands and the immediate coastal area of the Madang Subdistrict, and over the southern half of Karkar Island. Five languages are members of the Belan Family: Gedaged, Bilbil, Takia, Megiar, Matukar.

Capell refers to Belan as Graged. A lexical comparison, however, supported by some typological differences, made a subdivision into five languages necessary. Bergmann-Kunze (1893:57) already observed a marked difference between the dialects of Siar and Graged villages which speak dialects of Gedaged. Schmidt (1900:383) believes to recognize two or four languages in Zöller's wordlist of Seak-Bagili.

Mager (1952:22) defines the word Bel as 'a general name' for the Gedaged and Bilbil speakers. I propose 'Belan' as a family name although Mager seems not to include Takia, Megiar and Matukar. A high degree of mutual intelligibility has been observed between the members of the Belan Family, and they also form a social unit.

2.26.21. *Member Languages*

2.26.21.1. *Gedaged 77/Ge (2,180)*

Villages: Sek, Riwo, Siar Kranket, Biliau, Malamal.

Some linguistic material on Gedaged is given by Maclay (1951:174ff) from Tiara (Siar) and Rio (Riwo), by Bergmann-Kunze (1893:57) from Siar, by Zöller (1891:444ff) from Szeak-Bagili (Sek), by Schmidt (1900:383ff) from Szeak-Bagili (Sek), by Hanke (1905:257-62; 1909:115-7) from Siar-Ragetta (Siar), by Friederici (1912:228-31) of Graget (Kranket) and by Dempwolff (1918:129-31) of Graged (Kranket). Dempwolff published texts in Gedaged, and his grammar of Gedaged (unpublished) was translated into English and reproduced in mimeographed form. Aufinger (1942) published some interesting notes on the secret language of these people. A

comprehensive dictionary with some notes on grammar was published by Mager (1952) and a foreword is given by Capell. For further hints on literature in Gedaged see Mager (1952:vii). Mager incorporates into his dictionary also wordlists of other languages of the Madang Subdistrict area, as well as many interesting notes on the sociology and religion of these people.

Mager (1952:100) introduced the spelling Gedaged and regards spellings like 'Kranket', as 'mispronunciations'. I follow Mager in this respect. The Lutheran Mission has been using Gedaged as a lingua franca and is still using it for missionary purposes. There is a good translation of the New Testament: *Idinad Ujanzen Jesus Kristus*, published by the British and Foreign Bible Society in London 1960.

2.26.21.2. *Bilbil 78/Bi (590)*

Villages: Bilbil and Yabob east of Madang Town.

Maclay (1951:173), and Zöller (1890:127f) respectively took first wordlists under the name Bili-Bili. Schmidt (1900:383) incorporated these wordlists into his study under the name 'Bilibili and Mitebog' and added some notes of his own. Dempwolff (1909) provided extensive notes on Bilbil grammar, texts and a wordlist and also added a short wordlist of their secret language.

2.26.21.3. *Takia 79/Tk (8,520)*

Takia is spoken in the Takia Census area on Karkar Island and on Bagabak Island.

Schmidt (1900:1-8) gives a first account of Takia under the name Karkar; his material is based on a manuscript compiled by the Missionary G. Kunze in 1893. Father Hubers S.V.D. compiled a Takia dictionary in manuscript form.

2.26.21.4. *Megiar 80/Meg (640)*

Villages: Megiar, Sarang.

Megiar was first studied by Father Fr. Weyer S.V.D.; but all his notes were lost in a canoe accident. Dempwolff (1905:214ff) published a first wordlist from Sarang Village, and Kaspruś (1942) provided another long wordlist with some notes on grammar. Megiar links very closely with Takia (79).

2.26.21.5. *Matukar 81/Mt (250)*

Villages: Matukar, Surumurang.

Kaspruś (1942) published a first wordlist with some miscellaneous notes on grammar.

2.2 .22. *Lexical Interrelationships within Belan*

Gedaged	- Bilbil	73%
Gedaged	- Takia	67%
Gedaged	- Megiar	71%
Gedaged	- Matukar	67%
Bilbil	- Takia	65%
Bilbil	- Megiar	65%
Bilbil	- Matukar	57%
Takia	- Megiar	80%
Takia	- Matukar	67%
Megiar	- Matukar	77%

2.26.3. *Lexical Interrelationships within the Melanesian Languages*

The lexical interrelationships between the Melanesian languages under consideration are displayed in Chart 11.

CHART 11

Percentages of Shared Cognates in Melanesian Languages

	Sp	Me	Ge	Bi	Tk	Meg	Mt
Ma	72	40	33	28	27	31	33
	Sp	50	33	29	27	33	35
		Me	33	34	28	34	34
			Ge	73	67	71	67
				Bi	65	65	57
					Tk	80	67
						Meg	77
							Mt

2.26.4. *Notes on Typological Features*

1) No number marking with nouns is found.

2) The Two Possessive Class System, Type 2PC-R+P/O possessive noun (see section 3.33.3.) is present.

3) Tense markers are suffixed to Vb or to Vb + Om.

4) Subject markers are prefixed to the verb base.

5) Object markers are immediately suffixed to the Vb.[32]

6) The negation marker is an enclitic preceding the verb.

Despite a considerable general uniformity in the structure of these Melanesian languages it is worthwhile to point out a few characteristics observed only in one or some of the languages under consideration.

1) The presence of /+/ in Gedaged.[33]

2) The presence of a trial form for pronouns and verbs in Manam.

3) R+P class nouns tend to change their base in accordance with the possessor in Gedaged and Bilbil.

4) Many of the adjectives in Matukar and Megiar function as R+P class nouns, i.e. a PM_p is obligatorily suffixed to them.

5) A differentiation of Sm sets for present past and future has been observed in Manam (see 3.56.3.2.).

2.3. *INTERPHYLIC RELATIONSHIPS*

Although published materials have not been utilized in the classificatory assessment of my own linguistic materials, it is of interest to consider the views of other authors in the light of the findings arrived at in this study. The classification of languages as given in this study has in part been foreshadowed by various authors. But a marked uncertainty is observable with regard to relationships father afield, because no author has so far been able to give an overall picture based on his own materials, and quite a few of the languages dealt with by me, both inland and on the coast, were previously unknown.

---

[32] Capell (1948:193f) says with reference to the New Guinea Melanesian languages: 'They retain the Papuan word-order, and they seem to have taken over the prefixing of the object pronouns to the verb from the Saker group of Papuan languages'. This is, however contrary to Kaspruś' note (1942: 739): '...the object, however, is suffixed...'. Mager's - (1952:ixf) examples of transitive verb structure indicate clearly the suffixation of object markers to the verb base. Capell fails in this case to clearly distinguish the object slot and the object marker slot. Object markers are suffixed to the verb base in the Melanesian languages under consideration and this is clear differentiation to the Mugil (Saker) language and the Adelbert Range Phylum. The object precedes the verb in Papuan and Melanesian languages as well.

[33] See Capell (1948:193; 1962a:52).

2.3.1. Schebesta (1913:881) postulated a very far-flung relationship of Mikarew (which he calls Ariawiai) (52) with languages of the Sepik area and also with a language in the eastern portion of the Bogia Subdistrict, referred to by him as Hatzfeldhafen (i.e. Kaukombaran).[34] He also assumes that the relationship extends further east towards the Madang Subdistrict.[35] A careful study of his text reveals that he had no doubts concerning a language group with Mikarew as a member, but he had doubts about linking this Mikarew group with Monumbo and Lilau, and with Kaukombaran. This, in the light of the results of the present study, means basically the Ramu Phylum, with a doubtful, uncertain relationship to the Torricelli Phylum (Monumbo-Lilau) and the Adelbert Range Phylum. There is at present no evidence to support such a relationship.

2.3.2. Höltker (1937:964 fn.20) at a relatively early date of his fieldwork period, mentions a relationship of Kaukombaran (Moando) as far afield as Bongu in the Astrolabe Bay. This means an interrelationship of the Adelbert Range Phylum, with the Madang Phylum and the Astrolabe Phylum, if Bongu proves to be a member of a possible Astrolabe Phylum. My own material seems to support such a widespread connection only on macrophylum level.

2.3.3. Kaspruś (1942:737ff) distinguishes three groups of languages: Melanesian, Saker and Garus dialects. This matches my classification: Melanesian, Adelbert Range and Madang Phyla. But Kaspruś erroneously links Waskia (1942:727) with Garus.

2.3.4. On the basis of lexical comparisons and structural considerations, Capell (1952:205) groups the languages of Bogia Subdistricts into three units:

---

[34] Schebesta (1913:881) says with reference to Monumbo-Lilau and Kaukombaran (Hatzfeldhafen): 'Und ich glaube auch an eine Verwandtschaft der Monumbo-Nanubun-Sprache mit der Ariawia Sprache. Ich habe dafür aus dem Wortschatz manche Belege, und vielleicht wird sich auch eine Verwandtschaft mit den Hatzfeldhafen-Sprachen ergeben.'

[35] Schebesta (1942:885): 'Die Sprache der Biramur-Leute gehört zu der moando- Sprachfamilie. Mit diesem Ausdruck benenne ich eine Anzahl papuanischer Sprachdialekte, die m.E. nahe miteinander verwandt sind, sodass man, statt von einer Sprachgruppe, wohl von einer Sprachfamilie sprechen kann.' See section 2.22.21.4.

1) Monumbo-Ngaimbom-Lilau, i.e. the Torricelli Phylum.

2) The languages east of Lilau, i.e. The Adelbert Range Phylum.

3) The western and inland languages, i.e. the Ramu Phylum. Moresada (36) is erroneously linked with the Ramu Phylum (see section 2.22.31.11.).

This division is somewhat obscured when Capell tries to give an overall linguistic picture of the Madang District. With reference to languages of the Pihom Stock he says: 'They are also related in many ways to the Tanggum-Makarub group' (Capell 1962:52). These 'many ways' have not been illustrated. Summarizing his overall view on the linguistic situation in the Madang District, Capell (1962b:373) says: 'There is probably at any rate a phylum connection of the Bogia group with the Mugil languages (Kaspruś 1942-45) and those in the hinterland of Madang, Nobonob, Amele, etc.'.

2.3.5. This statement was taken by F.M. Voegelin (1965:50ff) to postulate his 'Madang (Bogia) Phylum'.

2.3.6. Based on Capell's and Kaspruś' material, Wurm (1969) postulates a Bogia Phylum for the area under consideration. Cognate identifications may perhaps be very generous as Wurm's percentage figures are much higher than the present writer's. Considering the typological features of his phylum, Wurm finds it more satisfactory to distinguish typologically three types, which means in the present writer's terms, the Ramu, Adelbert and Torricelli Phyla. Wurm lists his Bogia Phylum among those phyla which 'may have some remote connection with the Central New Guinea Macro-Phylum'.

2.3.7. The present writer arrived at his preliminary classification as presented in this study independently of Wurm's classification. Families and stocks as given in this study are in agreement with Wurm's classification, i.e. Wurm's percentage figures are also within the family and stock levels, though much higher. A discrepancy in the percentage figures is, however, observable between languages regarded in this study as belonging to different phyla.

The division into three phyla instead of one seems lexically and typologically more appropriate and more promising, in giving a more uniform picture. Each of the three phyla present a picture in which the lexical and typological agreements run largely parallel, i.e. a number of typological features are universally or almost universally

observed in one particular phylum only. This is for instance the case with the suffixing of tense and subject markers to the verb base in the languages of the ARPh and MPh, as opposed to no marking of the subject with the verb in languages of the RPh; or the suffixing of the possessive markers and object markers in the Madang Phylum as opposed to the prefixing of the same markers in the ARPh.

Wurm (1969) assumes a remote relationship of his Bogia Phylum with the Central New Guinea Macro-Phylum. But to the present writer it seems to be more promising to look for a remote linkage of the RPh in a westerly direction, i.e. towards the Sepik, and of the ARPh and MPh in an easterly direction, i.e. towards the Finisterre and Huon Phyla (a discussion of these has been given by Hooley and McElhanon, 1969).

Laycock (oral communication) has observed a striking similarity between the number marking in Kaian and Angoram (Middle Sepik Phylum). The Sepik culture appears to extend its influence as far as the Ramu Phylum. The word tuk, tukoy for *tobacco* is found in most of the languages of the RPh and is also very common in the Sepik area (Laycock, oral communication). The slit drum disappears eventually in the eastern border area of the RPh. Father J. Noss S.V.D., who spent many years as a missionary in the Josephstaal area, mentioned to the present writer that a group of people immigrated to Josephstaal following the rivers upstream, and the area of the Josephstaal Patrol Station became a battle ground between the intruders and the earlier inhabitants. Such a historical observation may explain the extremely complex linguistic picture offered by the Josephstaal area.

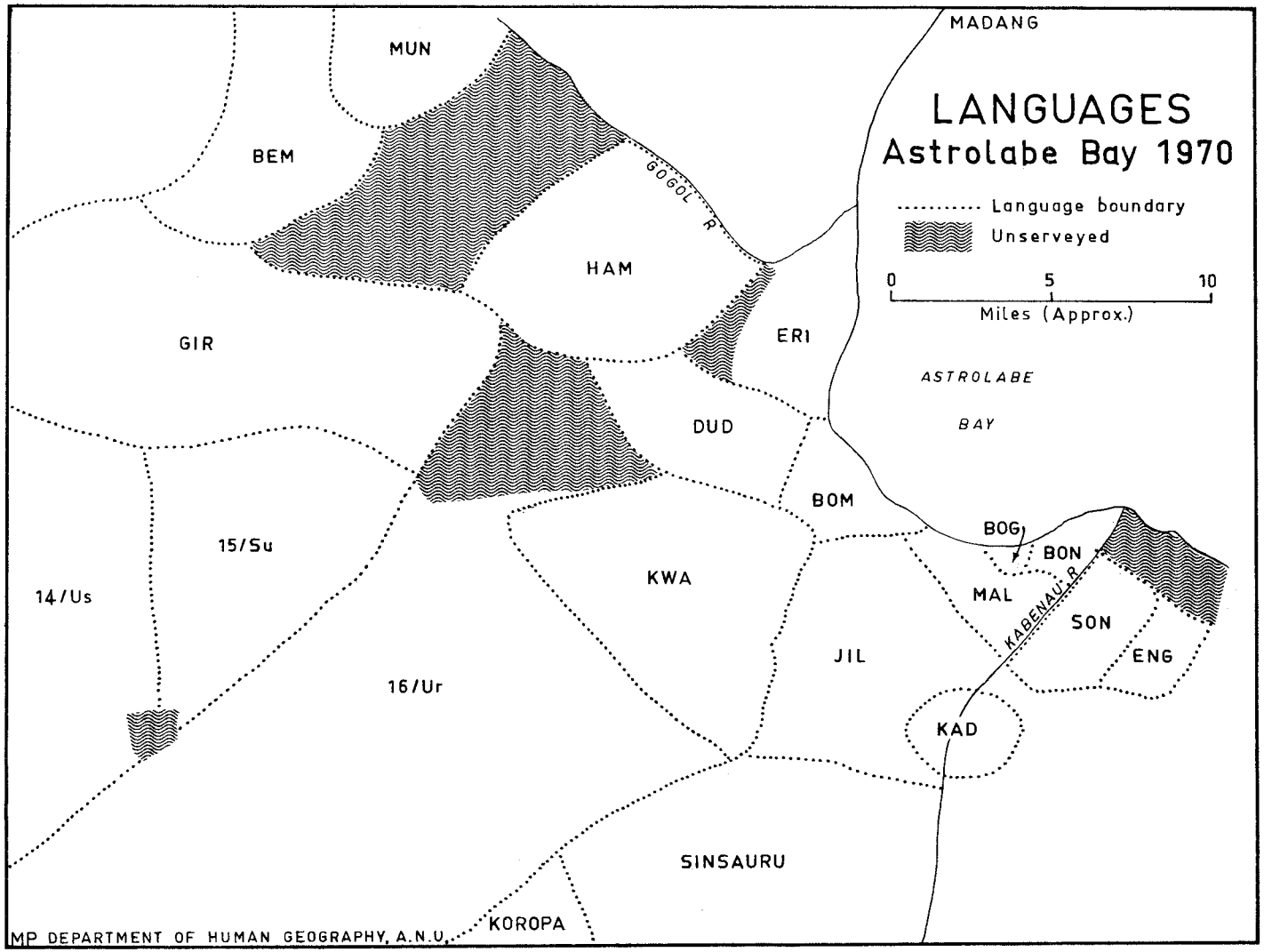
The same arguments call for a more radical separation of the Ramu and Madang Phyla. It seems to be more promising to look for a remote relationship of the Madang Phylum in an easterly direction, towards the Finisterre and Huon Phyla. All these languages have in common the suffixing of tense and subject markers to the verb base. The word bul for *pig* is very common in this entire area but again absent in the Ramu Phylum. Voorhoeve (oral communication) observed a remote relationship of the Madang Phylum with the Sentani Language in West Irian (Cowan, 1951) and feels that a remote relationship of the Madang Phylum with the Koiarian Languages (Dutton, 1969) in Papua is quite likely.

Looking for connections of the Adelbert Range Phylum in an easterly direction seems more promising. The suffixing of tense and subject markers to the verb base and the presence of a Two Possessive Class System in most of the languages are features which support the assumption of such links. The Ramu and Madang Phyla overlap lexically and typologically into the ARPh, i.e. the RPh mainly into the Josephstaal-Wanang

Stocks and the Madang Phylum mainly into the Isumrud and Pihom Stock and the Mugil Stock-Type Isolate. This might be attributable to geographic factors. The Adelbert Range Phylum is of a very complex nature and further research might result in major modifications. The Concordance Class System, found only in the Pomoikan Family needs an explanation.

2.4. *THE LANGUAGES OF THE ASTROLABE BAY*

The aim of this chapter is to give a brief account of the languages of the Astrolabe Bay, this is the area south of Madang town and the Gogol river or the Bogadjim and Bagasin-Girawa Census Divisions. The present writer had the opportunity to collect linguistic material of this area from July to November 1969. An attempt has been made to incorporate these languages either into the languages of the Madang Phylum or the languages of the Rai Coast Stock (see Claassen-McElhanon, forthcoming), but no satisfactory results could be obtained for most of the languages. The area appears to be linguistically extremely complex and it seems that satisfactory results can be obtained only in taking the surrounding areas into account. The numerous publications relating to the languages of the Astrolabe Bay have so far not been satisfactorily compiled and evaluated, this can be done only with a good knowledge of the field itself. The following map of the languages of the Astrolabe Bay will indicate the approximate location of a language. The language names are indicated by the first three capitalized letters of the full language name, e.g. KWA for Kwato language; numbers refer to the language map of the Western Madang District and full names refer to the languages of the Rai Coast Stock. In the following paragraphs 2.4.1.-2.4.15. language names are proposed and the approximate number of speakers are given and the villages where a particular language is spoken. The already published linguistic material related to this area could not be included, since some sources are not fully understood yet by the present writer. The following villages are linguistically still unknown: in the Bogadjim Census Division: Asui (51), Ato (80), Boimbi (32), Daumoina (45), Pulabu (68), Tumbu (69), Yabie (45); in the Bagasin-Girawa Census Division: Aupio (86), Borkwa (104), and Usu (68).


MADANG
LANGUAGES
Astrolabe Bay 1970
Language boundary
Unserveyed
0
5
10
Miles (Approx.)
MUN
BEM
GOGOL R.
HAM
ERI
GIR
ASTROLABE
BAY
DUD
BOM
BOG
BON
MAL
KABENAU R.
SON
ENG
JIL
KWA
15/Su
14/Us
16/Ur
KAD
SINSAURU
KOROPA
MP DEPARTMENT OF HUMAN GEOGRAPHY, A.N.U.

2.4.1. *Girawa (Bagasin) GIR (3,260)*

Villages: Amasua, Animinik, Bagasin, Baisop, Bamesos, Bilbil, Eiunimei, Ensaru, Garinam, Gasual, Iagi, Inomtop, Kunduk, Negiri, Orlsop, Oworu, Sai, Sanawai, Urirai.

2.4.2. *Bemal BEM (500)*

Villages: Bemal, Jal, Jobto, Sakwari, Weheglo, Sup.

2.4.3. *Munit MUN (350)*

Villages: Berin, Bemari, Jobto, Oupan, Waguma.

2.4.4. *Erima ERI (410)*

Villages: Balima, Dogia, Erima, Malaga (Garim).

2.4.5. *Duduela DUD (380)*

Villages: Buai, Duduela, Wuia, Saro.

2.4.6. *Bom BOM (800)*

Villages: Bauak, Bom, Lalok, Yawar, Kud, Saro.

2.4.7. *Kwato KWA (880)*

Villages: Aiyau, Balaia, Buai, Kulel, Kwato, Mabeluku, Wuya, Yaula.

2.4.8. *Jilim JIL (550)*

Villages: Alibu, Jamjam, Jilim, Rerau, Wenge.

2.4.9. *Male MAL (270)*

Villages: Male, Kaliku, Buram, Damun.

2.4.10. *Bongu BON (320)*

Bongu, Gorendu, Gumbu, the latter two villages are not listed in the Village Directory 1968.

2.4.11. *Bogadjim BOG (?)*

Bogadjim village is not listed as village in the Village Directory 1968. But the language is known by a wordlist collected by Hanke (1905: 257f).

2.4.12. *Songum SON (260)*

Villages: Songum, Bang.

2.4.13. *Jenglam or Englam JEN (?)*

Englam village is not listed in the Village Directory 1968, but the language is known by a wordlist collected by Miklucho-Maclay and published by Gabelentz-Meyer (1883:500-2). The approximate location of Jenglam is given in Hanke's language map (1909).

2.4.14. *Kadda KAD (?)*

Kadda village is not listed in the Village Directory 1968. The language is known by a wordlist published by Zöller (1891:444-529) and the approximate location is given by Werner (1911:49).

2.4.15. *Ham HAM (980)*

Villages: Atu, Aigut, Barum, Buroa, Buru, Derin, Gasua, Gomuru, Gonua, Kuyonbon, Mair, Ouba.

Ham belongs to the Melanesian languages.

PART THREE

3. TYPOLOGICAL COMPARISONS

In Part three of this present study, a number of typological features of the noun phrase and verb phrase structure will be discussed in some detail. Emphasis has been placed on some selected structural features which seem to be basic for any preliminary study of a Papuan language, i.e. number marking, the concordance class system, the possessive class system, the tense, subject and object markers and the verb base in verbs. A few notes on the counting system will also be added. Space does not allow to present illustrative material for each language, but the carefully selected material will - it is hoped - give enough insight into the structures in general. The material will be presented in a tagmemic formulation. The obligatory (+) and optional (±) signs of occurrence refer to the nucleus tagmemes of the phrase structures under discussion. In a number of cases, the optional slots had to be filled to avoid misunderstandings.

3.1. *INDICATION OF NUMBER*

Formal indication of number with nouns and adjectives is a common feature of most of the languages of the Ramu Phylum, and of the Torricelli Phylum (Laycock 1968). Within the Ramu Phylum, number marking occurs as a characteristic feature of all members of the Ruboni Stock, in those of the Agoan Family, in the Aion language, in most members of the Goam Stock (Itutang (59), Midsivindi (60) and Akrukay (61) are doubtful cases) and also in the two members of the Torricelli Phylum which are located within the Madang District, i.e. in Monumbo (72) and Lilau (73). Members of the Annaberg Group and the Kambot language (Laycock, oral communication) constitute exceptions to this. Formal number marking occurs in only a few languages of the Adelbert Range Phylum - almost all of these languages are adjacent to the Ramu Phylum, i.e. Wadaginam (35), Moresada (36),

Ikundun (37), Osum (38) and Pondoma (39). There is one geographically isolated occurrence, Dimir (21). The absence of formal number marking with nouns is a characteristic feature of the remaining languages of the Adelbert Range Phylum, of those of the Madang Phylum and of the Melanesian languages. In these languages, number is in general indicated by attributive numerals following the noun. Only with a few nouns is the number overtly indicated, i.e. Mugil /aw/ *woman*, /on/ *woman* (Z'graggen, 1965:120).

Usually three numbers are distinguished: singular (sg), dual (dl) and plural (pl), but in Kaian there are four numbers: singular, plural dual and paucal (a few) (pc), and in Dimir only two: singular and plural. Number marking is never done by prefixes to a noun or adjective, but either by suffixes and/or through the base form undergoing changes.

Two cases of formal number marking have been selected for illustration: Mikarew (52) and Kaian (48). Mikarew exhibits a simple system in which the number markers are simply suffixed to the noun base, whereas Kaian illustrates a more complex system.

3.1.1. Number Marking in the Mikarew Language

The number marker (Numb) suffixed to the noun or adjective base form. These suffixes are:

-m ∿ -mu ∿ -Ø Singular. The allomorphs occur in free variation.

-ni Dual. Always suffixed to the singular allomorph /-m/.

-ba Plural. Suffixed to the base form.

The number markers of nouns are replaced by an /-r/ suffix if the noun is followed by an adjective.

The following Illustration 1 displays the patterning of formal number marking in the Mikarew language. No class system or gender agreement has been observed.

ILLUSTRATION 1

Number Marking in Mikarew (52)

+Nb	+NumbM	Translation
gumasi-	-m	*man*
gumasi-	-m-ni	*men (two)*
gumasi-	-ba	*men*
amisi-	-m	*woman*
amisi-	-m-ni	*women (two)*
amisi-	-ba	*women*
suɛ-	-m	*leg*
suɛ-	-m-ni	*legs (two)*
suɛ-	-ba	*legs*
itɛ-	-m	*tree*
itɛ-	-m-ni	*trees (two)*
itɛ-	-ba	*trees*
kuarasi-	-m	*bird*
kuarasi-	-m-ni	*birds (two)*
kuarasi-	-ba	*birds*
dag+a-	-m	*stone*
dag+a-	-m-ni	*stones (two)*
dag+a-	-ba	*stones*

Nb	/-r/	Adj/b	NumbM	Translation
aveba-	-r	aŋwi-	-m	*good brother*
aveba-	-r	aŋwi-	-m-ni	*good brothers (two)*
aveba-	-r	aŋwi-	-ba	*good brothers*
da-	-r	aŋwi-	-m	*good pig*
da-	-r	aŋwi-	-m-ni	*good pigs (two)*
da-	-r	aŋwi-	-ba	*good pigs*
t+pɛn-	-r	ekia-	-m	*big house*
t+pɛn-	-r	ekia-	-m-ni	*big houses (two)*
t+pɛn-	-r	ekia-	-ba	*big houses*
ak+ni-	-r	ekia-	-m	*big banana*
ak+ni-	-r	ekia-	-m-ni	*big bananas (two)*
ak+ni-	-r	ekia-	-ba	*big bananas*
ameba-	-r	aŋwi-	-m	*good mother*
ameba-	-r	aŋwi-	-m-ni	*good mothers (two)*
ameba	-r	aŋwi-	-ba	*good mothers*

3.1.2. Number Marking in the Kaian Language

In contrast to the simple formal number marking system in Mikarew, the Kaian language (48) exhibits a more complex system. In Kaian four numbers are distinguished: singular, dual, plural and paucal. The dual form is formed by the suffixing of /-ni/ to the singular form and the paucal by the suffixing of /-paʔ/ to the plural form. The following Illustration 2 shows the formation of the dual and paucal.

ILLUSTRATION 2

Dual-Paucal Formation in Kaian

Noun sg/pl	Suffix dl/pc	Translation
aim		*mother*
aim	-ni	*mothers (two)*
amɛr		*mothers*
amɛr	-pa?	*mothers (few)*

The singular form of nouns and adjectives is taken as the base form, and the plural form is derived from it. The formation of the plural form is not predictable. A study of plural formation has been made on 120 items (see Table 1), and it has been found that two principles, i.e. suffixation and morphophonemic changes in the base form, are involved in it. A number of rules apply which have been listed in section 3.1.2.1.: each rule occurs in at least three instances, but they are subject to exceptions. These rules have been described in the following paragraph.

3.1.2.1. The following rules have been observed in the marking of the plural form:

RULE 1:
A number marker is suffixed to the singular form. There are two sets of allomorphs:

Set a: The allomorphs end in a stop preceded by a homorganic nasal. The allomorphs are:

/-ɛmp, ~ -amp/ observed only after consonants

/rɛmp/ observed only after vowels

/-p, -t, -k/ observed following a homorganic nasal.

Set b: The allomorphs end in /r/. The allomorphs are:

/-air, -ar, -ɛr, -ir, -or, -ur, -r, -gar/; they have been observed following a consonant or a vowel, but not following a velar nasal. Column 4 in Table 1 illustrates the occurrence of the allomorphs.

The following two rules occur only in conjunction with Rule 1:

RULE 2:
The non-final vowel of the last syllable in a morpheme consisting of more than one syllable is deleted; this applies irrespective of whether this last syllable begins with C or V. However, there are exceptions for this, e.g., see example 6.

RULE 3:
Stops in final position tend to be voiceless phonemes but change to voiced phonemes in medial position.

The following four rules may occur in conjunction with Rule 1:

RULE 4:
/a/ becomes /ai/ in medial position.

RULE 5:
/o/ becomes /u/ in medial position.

RULE 6:
/ɛa/ becomes /i/ in medial position.

RULE 7:
/ŋg, nd, nz/ becomes /g, d, z/ respectively in medial position.

The following three rules cannot occur in conjunction with Rule 1, but may occur in conjunction with Rules 4-7:

RULE 8:
/t/ becomes /r/ in final position.

RULE 9:
/ʔ/ becomes /k/ in final position.

RULE 10:
/m, ŋ/ becomes /p, k/ respectively in final position.

1.1.2.2. Table 1 illustrates the application of the rules on the plural formation as described above (1.1.2.1.). The first column gives the word under consideration in English, and the second column in Kaian, first in the singular form and then in the plural form. The third column lists the rule or rules applied in column two, and column four the suffixed allomorphs. Column five gives irregular phoneme correspodences. Phoneme changes not observed in at least three instances in the following Table 1 are considered as irregular. Hyphens indicate the position of the phonemes under consideration as medial or final.

TABLE 1

Plural Formation in Kaian

	English	Kaian	Rules Applied	Suffixes	Irregular Phoneme Correspondences
1	*man*	namot namtair	R1+R2	-air	
2	*woman*	mɛaz mik	R6,R9		
3	*child*	ŋandamuŋ ŋadabur	R7		-m- -ŋ -b- -r
4	*father*	ʌis ʌs-ɛr	R1+R2	-ɛr	
5	*mother*	ʌɓo ʌɓo-ar	R1	-ar	
6	*husband*	kaŋgait kaŋt-ɛr	R1+R2	-ɛr	-ŋg- -ŋ-
7	*older brother*	yakai yakai-r	R1	-r	
8	*younger brother*	yap yaip	R4		
9	*sister*	mbi mbi-ar	R1	-ar	
10	*mother*	aim aim-ɛr	R1+R2	-ɛr	
11	*hand*	par pair	R4		
12	*back*	kupik kupk-ar	R1+R2	-ar	
13	*belly*	ni:k ni:k-ɛmp		-ɛmp	
14	*stomach*	mimoŋ mimg-ur	R1+R2	-ur	-ŋ- -g-
15	*bone*	gaɠar gaɠr-ir	R1+R2	-ir	
16	*breast*	mur mur-ir	R1	-ir	
17	*chin*	kamuniŋ kamuniŋ-gar	R1	-gar	
18	*ear*	koar koair	R4		
19	*elbow*	-digin -dign-ar	R1+R2	-ar	
20	*eye*	ramɛak ramik-ur	R1,R6	-ur	
21	*fat*	waipak waipk-ar	R1+R2	-ar	

TABLE 1 (cont'd)

	English	Kaian	Rules Applied	Siffixes	Irregular Phoneme Correspondences
22	*(finger) nail*	- amboum - ambam-ur	Rl+R2	-ur	-o- -a-
23	*forehead*	rambaŋgut rambaŋgut-ar	Rl	-ar	
24	*hair*	-tsaprit -tsaprir	R8		
25	*body hair*	dibrat dibrar	R8		
26	*head*	paŋan paŋain-t	Rl,R4	-t	
27	*heart*	rukut rukt-ar	Rl+R2	-ar	
28	*knee*	- tutup - tutp-amp	Rl+R2	-amp	
29	*leg*	or op-air	Rl	-air	-r -p-
30	*liver*	bɛbɛk bɛbk-ar	Rl+R2	-ar	
31	*mouth*	up up-ɛmp	Rl	-ɛmp	
32	*name*	wi wi-rɛmp	Rl	-rɛmp	
33	*navel*	tɛn tɛn-ar	Rl	-ar	
34	*nose*	i:ndup i:ndp-ar	Rl+R2	-ar	
35	*palm*	-ukut -ukt-ar	Rl+R2		
36	*shoulder*	nakep naikp-ar	Rl+R2,R4	-ar	
37	*skin*	si:k si:k-ɛmp	Rl	-ɛmp	
38	*sole*	tagir taigr-ɛmp	Rl+R2,R4	-ɛmp	
39	*sore*	pis pis-ir	Rl	-ir	
40	*thigh*	-bis -bis-ir	Rl	-ir	
41	*throat*	yokot yokt-ɛmp	Rl+R2	-ɛmp	
42	*tongue*	mɛmraŋ mɛmraŋ-gar	Rl	-gar	
43	*tooth*	nadaġai ndaġair	Rl	-r	

TABLE 1 (cont'd)

	English	Kaian	Rules Applied	Suffixes	Irregular Phoneme Correspondences
44	*bird*	ŋgoara? ŋgoraik	R4,R9		
45	*egg*	yor yur	R5		
46	*chicken*	kakur kawkr-ir	R1+R2	-ir	Ø w
47	*feather*	rarau rarau-r	R1	-r	
48	*wing*	auk auk-ɛmp	R1	-ɛmp	
49	*cassowary*	mbunoŋ mbung-or	R1+R2	-or	-ŋ -g-
50	*dog*	piraŋ piraiŋk	R1,R4	-k	
51	*tail*	- bugon - bugn-amp	R1+R2	-amp	
52	*fly*	numkɛt numkɛr	R8		
53	*fish*	siŋ siŋ-k	R1	-k	
54	*mosquito*	naŋgit naŋgir	R8		
55	*pig*	markum markum-p	R1	-p	
56	*snake*	mindop mindp-or	R1+R2	-or	
57	*bamboo*	za za-r	R1	-r	
58	*banana*	ŋas ŋais	R4		
59	*betelnut*	mbo? mbuk	R5,R9		
60	*food*	amnagain amnagain-t	R1	-t	
61	*grassland*	ndain ndan-ɛmp	R1+R2	-ɛmp	
62	*pandanus*	nuŋgup nuŋp-ar	R1+R2	-ar	-g- -Ø-
63	*pandanus*	wi wi-rɛmp	R1	-rɛmp	
64	*rope*	naŋtik naŋg-air	R1+R2+R5	-air	t Ø
65	*salt*	sɛrɛm sɛrɛm-p	R1	-p	

TABLE 1 (cont'd)

	English	Kaian	Rules Applied	Suffixes	Irregular Phoneme Correspondences
66	*sugar*	tau tau-r	R1	-r	
67	*taro*	maunt mand-ur	R1+R2+R5	-ur	
68	*tanket*	kindiŋ kidik	R7,R10		
69	*tanket*	bormborot bormboror	R8		
70	*leaf*	-rapar -rapair	R4		
71	*bark*	-nanziŋ -naziu	R7,R10		
72	*stump of a tree*	- muniŋ - muniŋ-k	R1	-k	
73	*top of a tree*	- os - us-ir	R1,R5	-ir	
74	*trunk of a tree*	- arik -airk-ɛmp	R1+R2,R4	-ɛmp	
75	*piece of wood*	-ait -ait-ɛr	R1	-ɛr	
76	*yam*	im im-ɛr	R1	-ɛr	
77	*arrow*	ndzikar ndzikr-ar	R1,R2	-ar	
78	*arrow*	onzaŋ ozaik	R4,R7,R10		
79	*spear*	ɛa?po? ɛa?puk	R5,R9		
80	*axe*	otɛa? otɛik	R9		-a- -i-
81	*bow*	warkam warkaim-p	R1,R4	-p	
82	*woods*	raŋ raŋ-gair	R1	-gair	
83	*grass skirt*	kagum kagup	R7,R10		
84	*fence*	goa? goaik	R4,R9		
85	*fire*	sa:k sa:g-air	R1+R3	-air	
86	*fog*	wau wau-rɛmp	R1	-rɛmp	
87	*ground*	wagapa? wagapag-air	R1+R3,R9	-air	

TABLE 1 (cont'd)

	English	Kaian	Rules Applied	Suffixes	Irregular Phoneme Correspondences
88	*garden*	wariŋ wairŋ-ɛmp	R1+R2,R4	-ɛmp	
89	*house*	ɛndau ɛndau-r	R1	-r	
90	*roof*	- kupik - kupk-ar	R1+R2	-ar	
91	*moon*	ka:re ka:re-ar	R1	-ar	
92	*knife*	urim urim-p	R1	-p	
93	*mountain*	sakur sawkr-ir	R1+R2	-ir	-Ø- -w-
94	*string*	mɛndzai mɛndzai-r	R1	-r	
95	*path*	raup rapu-ɛmp	R1	-ɛmp	
96	*river*	ok uk-ɛr	R1,R5	-ɛr	
97	*ship*	yaŋgum yagup	R7,R10		
98	*canoe*	ko:r kuour			-o:- -uou-
99	*voice*	ŋap ŋaip	R4		
100	*dancing*	uɛta uɛwɛar			-ta -wɛar
101	*smoke*	sakor sakr-ar	R1+R2	-ar	
102	*tobacco*	sokai sokai-r	R1	-r	
103	*stone*	ŋaut wat-ur	R1+R2	-ur	ŋ- w-
104	*star*	goai goai-r	R1	-r	
105	*sun*	ra ra-ir	R1	-ir	
106	*water*	ŋarum ŋarum-p	R1	-p	
107	*good*	yauŋ yauŋ-k	R1	-k	
108	*bad*	ŋgorɛaʔ ŋgurik	R5,R6,R9		
109	*big*	anɛaʔ anik	R6,R9		

TABLE 1 (cont'd)

	English	Kaian	Rules Applied	Suffixes	Irregular Phoneme Correspondences
110	*small*	ino?			
		inuk	R5,R9		
111	*red*	yaup			
		yaup-ɛmp	R1	-ɛmp	
112	*white*	gogouk			
		gogog-or	R1+R2+R3	-or	
113	*yellow*	ŋorŋor			
		ŋorŋor-or	R1	-or	
114	*heavy*	makuk			
		makuk-ur	R1	-ur	
115	*new*	ŋgam			
		ŋgaip	R4,R10		
116	*old*	bagar			
		bagr-ir	R1+R2	-ir	
117	*sharp*	wiwir			
		wiwir-ar	R1	-ar	
118	*short*	ait			
		ait-ɛr	R1	-ɛr	
119	*trousers*	trausis[36]			
		trausis-ar	R1	-ar	
120	*pencil*	pɛntsir[36]			
		pɛntsir-ar	R1	-ar	

3.2. *THE CONCORDANCE CLASS SYSTEM*

Nouns and pronouns in the languages under consideration can be divided into classes from two points of view:

1) from that of concordance systems involving verbs and/or adjectives

2) from that of the expression of possession.

This is the basis of two separate types of Class Systems: The Concordance Class System (CC) and the Possessive Class System (PC). Both systems appear to be independent from each other in their distribution and structures, but can be cross-cutting.

In this section (3.2.) the Concordance System is described; the Possessive Class System will be dealt with in section 3.3.

[36] Neo Melanesian Loanwords.

3.2.1. A Concordance Class System affecting both adjectives and verbs is found within the Western Madang District only in the Monumbo (72) and Lilau (73) (Torricelli Phylum) languages. The present writer does not intend to give a detailed description of this system, since his field notes on Lilau are not fully adequate for this purpose, and the system has been described in some detail by Vormann-Scharfenberger (1914) for Monumbo and by Capell (1952:179ff) for Lilau. The reader is referred to these two sources for further information.

3.2.2. A Concordance Class System affecting only adjectives functioning as noun-modifying satellite tagmemes is found within the Western Madang District only in the languages of the Pomoikan Family of the Josephstaal Stock (Adelbert Range Phylum). The languages are: Moresada (36), Ikundun (37), and Pondoma (39). In Moresada, four main classes are distinguished: male, female, animal and object. In Ikundun and Pondoma, there are three classes: male, female, and object (including animal). The Pomoikan Concordance System does not affect the verb structure, as shown in Illustration 3 for intransitive verbs and in Illustration 4 for transitive verbs. The Concordance System for nouns and adjectives in Moresada is given in Table 2. In the examples, the noun-slot has not been filled with a noun, but instead, the filler class has been marked as male, female, etc. The adjective base has an obligatory concordance marker suffix (CM) followed by the number marker (NumM). Moresada is a language with overt number marking. The most common plural allomorph is /-aŋ/, but the allomorphs /-iŋ, -at/ occur as well. The CM differs in its phonemic shape in accordance with the adjective base, thus e.g. CM /-ŋgap/ occurs with the adjective *good* and CM /-kur/ with the adjective *big*. The CM also seems to be phonemically conditioned by the plural marker following, e.g. the phoneme /ə/ is deleted if followed by the plural marker. Further study will have to determine the conditioning factors of the phonemic shape of the concordance marker. The Illustrations 3-4 and Table 2 may be adequate to illustrate the existence and type of the Concordance System found in the languages of the Pomoikan Family.

ILLUSTRATION 3

Absence of CC in Intransitive Verbs in Moresada

±S	$+V_b$	$+TS_m$	Translation
uramp	is-	-i	*the man is*
yamokat	is-	-i	*my sister is*
apiamp	is-	-i	*the dog is*

ILLUSTRATION 4

Absence of CC in Transitive Verbs in Moresada

±S	±O	$+O_m$	$+V_b$	$+TS_m$	Translation
yɛ	uramp	nu-	-ku-	-i	*I give a man*
yɛ	yanamp	nu-	-ku-	-i	*I give my wife*

TABLE 2

Concordance System in Moresada

±N	+Adjb	+CM	+NumM	Word under consideration
male sg	ave-	-ŋgap	Ø	Adjective base *good*
male pl	ave-	-ŋgab-	-aŋ	
female sg	ave-	-mbər	Ø	
female pl	ave-	-mbr	-aŋ	
animal sg	ave-	-mək	Ø	
animal pl	ave-	-mk-	-aŋ	
object sg	ave-	-aŋk	Ø	
object pl	ave-	-aŋg-	-aŋ	
male sg	aro-	-kur	Ø	Adjective base *big*
male pl	aro-	-gab-	-aŋ	
female sg	aro-	-nant	Ø	
female pl	aro-	-br-	-aŋ	
animal sg	aro-	-mək	Ø	
animal pl	aro-	-mk-	-aŋ	
object sg	aro-	-k	Ø	
object pl	aro-	-k-	-iŋ	
male sg	ruŋgru-	-gak	Ø	Adjective base *black*
male pl	ruŋgru-	-gab-	-aŋ	
female sg	ruŋgru-	-bər	Ø	
female pl	ruŋgru-	-br-	-aŋ	
animal sg	ruŋgru-	-mək	Ø	
animal pl	ruŋgru-	-mk-	-aŋ	
object sg	ruŋgru-	-dər	Ø	
object pl	ruŋgru-	-dr-	-aŋ	

3.3. *THE POSSESSIVE CLASS SYSTEMS*

Any possessive phrase in the languages under consideration is composed of at least three obligatory tagmemes: the possessor (Pr), the possessed (Pd) and the possessive relation marker (PM).

3.31.1. With regard to the expression of possession nouns can be divided into three semantic classes: terms of relationship (R Class), terms denoting body parts (P Class), and terms denoting objects (O Class). According to this, three types of possessive phrases will be distinguished (see below). Exceptions and uncertainties with regard to these three semantic classes have been encountered and exceptions to the R or P Class have been found to belong to the O Class. If more than one set of PM occurs in a language, the noun denoting Pd always determines the set of possessive markers in a given case.

3.31.2. The Pr slot may be filled by a noun or pronoun. Personal pronouns occurring in a free form frequently alter their phonemic shape when they are part of a possessive phrase; they are then possessive pronouns. Such an alteration will in the remainder of this study be marked by a hyphen following the possessive pronoun.

3.31.3. The following Possessive Class Systems are found in the Western Madang District:

1PC: The Single Possessive Class System. All nouns belong to one class (see section 3.3.2.).

2PC-R+P/O: The Two Possessive Class System sub-type R+P/O. Nouns are divided into two classes: terms of relationships (R) and body parts (P) belong to one class and objects (O) to another. There are three sub-types of possessive phrases within this system, i.e. a special set of PM's is prefixed (see section 3.33.1.) or suffixed (see section 3.33.2.) to the noun or a possessive noun is used (see section 3.33.3.).

2PC-R/P+O: The Two Possessive Class System sub-type R/P+O. Nouns are divided into two classes: terms of relationship form one class and body parts and objects another (see section 3.33.4.).

3PC: The Three Possessive Class System. Nouns are divided into three classes: terms of relationship (R), body parts (P) and objects (O) (see section 3.3.4.).

MPC: The Monumbo Possessive Class System is found in the Monumbo and Lilau languages and will be described in section 3.3.5.

3.31.4. There are four sets of PM's which will be labelled with subscript o, p, r, referring to the class members with which they most frequently or exclusively occur, or with subscript m, referring to the (two) languages in which they have been observed.

The PM sets are characterized by their occurrence in certain possessive class systems with certain class members, and by depending or not depending in their form on the person and/or number of the Pr, and by depending or not depending in their membership to one of the four sets, and by depending on the class and number of the Pd. These features have been listed in Table 3.

The PM's have the following identificational contrastive features:

PM_o: occurs with Pd members of the O class, in all systems except in the System 2PC-PN, and it is also encountered with P class members in the systems 2PC-R+P/O and MPC. The person of the possessor is never indicated in it and its number only in a few cases, e.g., Musak, Painamar, Mugil, Isebe.

PM_p: occurs with Pd members of the P class + R class in the 2PC-R+P/O system, with all Pd nouns in the 2PC-PN system and with Pd members of the R class in the MPC system. The number and person of the Pr and the class of the Pd are always indicated in it but not the number of the Pd.

PM_r: occurs only with Pd members of the R class in the 2PC-R/P+O system; the person but not the number of the Pr, and the class but not the number of the Pd are indicated in it. This marker is found only in a prefixed form and/or is manifested through changes in the form of the nouns.

PM_m: occurs only with Pd of the P and O classes in the MPC system; neither the person nor the number of the Pr are indicated in it, but the class and number of the Pd are.

3.31.5. Disregarding the fixed position of the PM (see below), two tagmeme arrangements are observable in any possessive phrase:

Sequence A: +Pr +Pd
Sequence Z: +Pd +Pr

TABLE 3

Possessive Markers

PM	Occurrence				Dependent on				
	Class System	Class member			Possessor			Possessed	
		O	P	R	Pers	Numb	Class	Numb	Class
PM_o	1PC	+	+	+	-	-(+)[37]	-	-	-
	2PC-R+P/O	+	±	±	-	-	-	-	+
	2PC-R/P+O	+	+	±	-	-	-	-	+
	3PC	+	±	±	-	-	-	-	+
PM_p	2PC-R+P/O	-	+	+	+	+	-	-	+
	2PC-PN	+	+	+	+	+	-	-	-
	3PC	-	+	-	+	+	-	-	+
	MPC	-	-	+	+	+	-	-	+
PM_r	2PC-R/P+O	-	-	+	+	-	-	-	+
PM_m	MPC	-	+	+	-	-	-	+	+

The position of the PM is fixed, i.e. PM_o is always suffixed to the Pr; PM_p is always suffixed to the PN in the 2PC-PN system and prefixed or suffixed to the Pd in the systems 2PC-R+P/O, 3PC, and MPC. PM_r has been observed in prefixed form and/or in manifesting itself in a change in the form of the noun base. PM_m has been found to follow the Pr.

Sequence A and sequence Z are perhaps both permissible in many of the languages under consideration, but in most of the languages a preference for either sequence A or sequence Z is noticeable. However, in a few languages - all of them in phylic border areas - there is free variation; it was found that the sequences were frequently freely interchanged by the same informant within the same paradigm.

Sequence A has been observed in Melanesian languages, in all languages of the Ramu Phylum except Aiome (65), in all languages of the Isumrud, Pihom (except Amaimon) and Josephstaal stocks and in the Paynamar language of the Wanang stock (these are all languages of the Adelbert Range Phylum) and in addition in some languages of the Madang Phylum, i.e. Usur group, Garus (4) and Yoidik (5).

[37] Note (+) indicates rare occurrence.

The sequence Z has been observed in all languages of the Mabuso Stock (except in Garus and Yoidik) in the Madang Phylum, in the Wanang Stock (except in Paynamar) and in the Amaimon language of the Adelbert Range Phylum.

Sequence A/Z have been observed in the languages: Parawen (33), Yaben (32), Anor (64), Moresada (36), Ikundun (37) and Midsivindi (60).

The distribution of the Possessive Class Systems will be shown on the following map entitled: Possessive Class Systems, Western Madang District.

3.3.2. The Single Possessive Class System (1PC)

The Single Possessive Class System (1PC) represents the simplest form of the possessive phrase structure. The possessive marker does not change for person and only in a few cases, e.g. in Musak, Paynamar and Mugil, for number (see Illustration 8). The sequences A and/or Z are permissible in the various languages.

The 1PC is found in all languages of the Ramu Phylum, and within the Adelbert Range Phylum in all languages of the Wanang Stock, and in the Bepour (27), Mawak (28), Musar (29) and Wanambere (30) languages of the Pihom Stock, but it is absent from the remainder of the Adelbert Range Phylum, the Madang Phylum and the Melanesian languages. Although the class system is not present, the structure of the possessive phrase as found in the 1PC has also been observed as a variant of any of the other systems (see below), except for the system 2PC-PN.

Examples of the 1PC will be given in the Illustrations 5-8. The Illustrations are from the Ramu Phylum (Kaian, Aiome) and the Adelbert Range Phylum (Emerum, Musak).

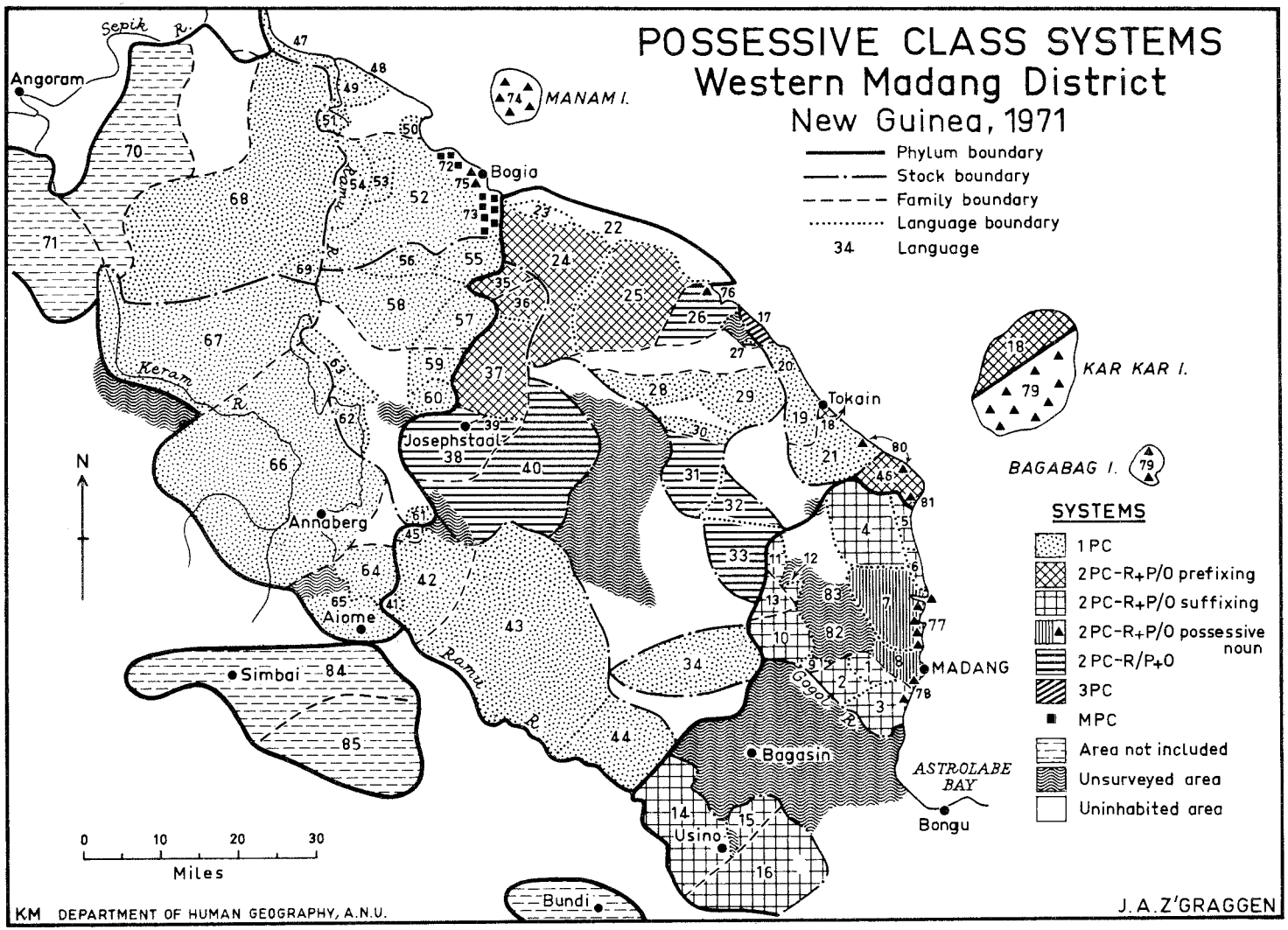

POSSESSIVE CLASS SYSTEMS
Western Madang District
New Guinea, 1971
Phylum boundary
Stock boundary
Family boundary
Language boundary
34 Language
SYSTEMS
1 PC
2 PC-R+P/O prefixing
2 PC-R+P/O suffixing
2 PC-R+P/O possessive noun
2 PC-R/P+O
3PC
MPC
Area not included
Unsurveyed area
Uninhabited area
Angoram
Sepik R.
Bogia
MANAM I.
Josephstaal
Annaberg
Aiome
Keram R.
Ramu R.
Simbai
Tokain
KAR KAR I.
BAGABAG I.
MADANG
Bagasin
ASTROLABE BAY
Bongu
Usino
Bundi
N
0 10 20 30
Miles
KM DEPARTMENT OF HUMAN GEOGRAPHY, A.N.U.
J.A.Z'GRAGGEN

ILLUSTRATION 5

Possessive Phrase : Kaian (48)

	+Pr	+PM_o[38]	+Pd	Translation
1sg	ʌ'[39]	-na	yakay	*my brother*
2sg	go-	-na	yakay	*your brother*
3sg	mʌ	-na	yakay	*his brother*
1pl	ɛ	-na	yakay	*our brother*
2pl	ne	-na	yakay	*your brother*
3pl	mi	-na	yakay	*their brother*
1dl	ʌŋ-	-na	yakay	*our (two) brother*
2dl	oŋ-	-na	yakay	*your (two) brother*
3dl	maniŋ-	-na	yakay	*their (two) brother*
1pc	apea'	-na	yakay	*our (few) brother*
2pc	nepa'	-na	yakay	*your (few) brother*
3pc	minpa'	-na	yakay	*their (few) brother*

ILLUSTRATION 6

Possessive Phrase : Aiome (65)

	+Pd	+Pr	PM_o	Translation
1sg	ŋam	ŋ-	-an	*my mother*
2sg	ŋam	n-	-an	*your mother*
3sg	ŋam	man	-an	*his mother*
1pl	ŋam	añ-	-an	*our mother*
2pl	ŋam	uñ-	-an	*your mother*
3pl	ŋam	muñ	-an	*their mother*

ILLUSTRATION 7

Possessive Phrase : Musak (44)

	+Pd	+Pr	+PM_o	Translation
1sg	iŋam	ya-	-nt	*my pig*
2sg	iŋam	na-	-nt	*your pig*
3sg	iŋam	nu-	-nt	*his pig*
1pl	iŋam	ya-ru	-nt	*our pig*
2pl	iŋam	na-ru	-nt	*your pig*
3pl	iŋam	nu-ru	-nt	*their pig*

[38] To avoid complexity of presentation only one subscript letter will be used with PM to all instances, though one particular PM may refer to more than one class in individual languages.

[39] In this and all following illustrations pronouns without a hyphen after them indicate free forms and nouns with a hyphen following denote forms occurring only with PM obligatorily suffixed to them.

ILLUSTRATION 8

Possessive Phrase : Emerum (43)

	+Pd	+Pr	+PM_O	Translation
1sg	isam	ya	-ka	*my brother*
2sg	isam	na	-ka	*your brother*
3sg	isam	nu	-ka	*his brother*
1pl	isam	ya-ru	-kuŋ	*our brother*
2pl	isam	na-ru	-kuŋ	*your brother*
3pl	isam	nu-ru	-kuŋ	*their brother*

3.3.3. The Two Possessive Class System (2PC)

In languages with a Two Possessive Class System nouns are divided into two basic classes with regard to the expression of possession. The classes for any language are either:

a) R+P/O classes: terms of relationship and body parts constitute one class and objects another

b) R/P+O classes: terms of relationship form one class and body parts and objects another.

In a Two Possessive Class System, two ways of possessive marking, not interchangeable for any given noun, are differentiated. The presence of these two ways of indicating possession results in two types of possessive phrases for every language under consideration, each with its own structure.

The 2PC has been observed in all Melanesian languages, in all members of the Madang Phylum, in Monumbo-Lilau (Torricelli Phylum) and in a number of languages of the Adelbert Range Phylum, mostly in immediate coastal areas and inland along possible trade routes. The 2PC is lacking in the Ramu Phylum.

In languages with the R+P/O Possessive Class System, three distinct kinds of possessive phrase structure have been observed:

a) the Prefixing Two Possessive Class System. PM_p is prefixed to the R+P class members (see section 3.33.1.)

b) the Suffixing Two Possessive Class System. PM_p is suffixed to the R+P class members (see section 3.33.2.)

c) the Possessive Noun Two Possessive Class System. PM_p is suffixed to a possessive noun to express possession with O class members and immediately suffixed to the Nb's of R+P class members (see section 3.33.3.).

3.33.1. *The Prefixing Two Possessive Class System*

The Prefixing Two Possessive Class System is found only in languages of the Adelbert Range Phylum, i.e. in the Kaukombaran Family: Pay (22), Pila (23), Saki (24) and Tani (25); in some languages of the Josephstaal Stock, i.e. in Wadaginam (35), Moresada (36) and Ikundun (37); in the Isumrud Stock only in Korak (77) and in a very incomplete form in Waskia (18), and in the stock-level isolate Mugil (46).

The PM_p marker is always prefixed to R+P class members. The PM_o does not as a rule vary for person and number, but in just one case the number is shown, i.e. in Mugil (see Illustration 9).

The Prefixing Two Possessive Class System is illustrated below by two languages: Mugil and Pay. In the examples, the Pd slot is filled by either an O or an R+P class member.

ILLUSTRATION 9

Possessive Phrase : Mugil (46)[40]

a) the Pd slot is filled by an O class member

	+Pr	+PM_o	+Pd	Translation
1sg	ya	-go	bul	*my pig*
2sg	nin	-go	bul	*your pig*
3sg	in	-go	bul	*his pig*
1pl	iy	-gigo	bul	*our pig*
2pl	ne	-gigo	bul	*your pig*
3pl	in	-gigo	bul	*their pig*

b) the Pd slot is filled by a R+P class member

	+Pr	+PM_p	+Pd	Translation
1sg	ya	i-	-ben	*my hand*
2sg	ni-	ni-	-ben	*your hand*
3sg	in	a-	-ben	*his hand*
1pl	iy	gi-	-ben	*our hand*
2pl	ne	gi-	-ben	*your hand*
3pl	in	gi-	-ben	*their hand*

[40] See Z'graggen (1965:119ff).

ILLUSTRATION 10

Possessive Phrase : Pay (22)

a) the Pd slot is filled by an O class member

	+Pr	+PM_o	+Pd	Translation
1sg	yo-	-ŋor	masi	*my garden*
2sg	ni-	-ŋor	masi	*your garden*
3sg	o-	-ŋor	masi	*his garden*
1pl	i-	-ŋor	masi	*our garden*
2pl	nai-	-ŋor	masi	*your garden*
3pl	ai-	-ŋor	masi	*their garden*

b) the Pd slot is filled by a R+P class member. The following rules have been observed with the prefixing of PM_p, and there are two allomorphs for the PM_p of the third person plural: /Ø-/, /o-/. Allomorph /o-/ occurs when the noun base begins with /u-/, and /Ø-/ in all other instances.

	±Pr	±PM_o	+PM_p	+Pd	Translation
1sg	yo-	-ŋor	i-	-mbar	*my mouth*
2sg	ni-	-ŋor	ni-	-mbar	*your mouth*
3sg	o-	-ŋor	Ø	ambar	*his mouth*
1pl	i-	-ŋor	ɛ-	-mbar	*our mouth*
2pl	nai-	-ŋor	nɛ-	-mbar	*your mouth*
3pl	ai-	-ŋor	Ø	ambar	*their mouth*
1sg	yo-	-ŋor	i-	-muak	*my head*
2sg	ni-	-ŋor	ni-	-muak	*your head*
3sg	o-	-ŋor	Ø	umuak	*his head*
1pl	i-	-ŋor	ɛ-	-muak	*our head*
2pl	nai-	-ŋor	nɛ-	-muak	*your head*
3pl	ai-	-ŋor	o-	-muak	*their head*

3.33.2. *The Suffixing Two Possessive Class System*

The Suffixing Two Possessive Class System is found only in the members of the Madang Phylum, except for Garuh (7) and Kamba (8). This system is absent from the other phyla under consideration. The system is, however, only partly realised in two languages in the phylic border area, i.e. in Kare (13) 12 out of 35 R+P class nouns have no PM_p suffix, and in Usino (14) only 10 out of 25 R+P class nouns.

In the Suffixing Two Possessive Class System, as in its prefixing counterpart, two sets of possessive markers: PM_o and PM_p, are distinguished. PM_o does not change for the person and number of the possessor, and no exception has been observed and PM_p changes for the number and person of the possessor. PM_p is either immediately suffixed to a noun

base, or via a ligative /m/ or /n/ phoneme which immediately precedes a PM_p. The ligative suffix is found in the Abaian Family: Isebe (1), Bau (2), Amele (3) and in two other languages in the close neighbourhood of the Abaian Family: Mawan (9) and Utu (10). The meaning of these /m/, /n/ phonemes is not known - they may be purely functional - but they allow the R+P nouns to be divided into three subclasses: M nouns, i.e. those appearing with the /m/ phoneme, N nouns, i.e. those suffixing the /n/ phoneme and zero /Ø/ nouns, i.e. those suffixing PM_p without an intervening phoneme (immediate suffixing type). The /m/, /n/ phonemes and /Ø/ are not interchangeable for a given noun.

The immediate suffixing type will be illustrated by two languages: Garus (Illustration 11) and Kare (Illustration 12) and the ligative suffix by the Bau language (Illustration 13). For Bau, a list of M, N, and Ø class members is added.

ILLUSTRATION 11

Possessive Phrase : Garus (4)

a) the Pd slot is filled by O class member

	+Pr	$+PM_o$	+Pd	Translation
1sg	d-	-ɛh	muk	*my banana*
2sg	nag	-ɛh	muk	*your banana*
3sg	nug	-ɛh	muk	*his banana*
1pl	ig	-ɛh	muk	*our banana*
2pl	ag	-ɛh	muk	*your banana*
3pl	inag	-ɛh	muk	*their banana*

b) the Pd slot is filled by a R+P class member

	±Pr	+Pd	$+PM_p$	Translation
1sg	da	gale-	-Ø	*my skin*
2sg	nag	gale-	-n	*your skin*
3sg	nug	gal-	-aʔ	*his skin*
1pl	ig	gale-	-k	*our skin*
2pl	ag	gal-	-yak	*your skin*
3pl	inag	gal-	-yak	*their skin*

ILLUSTRATION 12

Possessive Phrase : Kare (13)

a) the Pd slot is filled by an O class member

	+Pd	+Pr	$+PM_O$	Translation
1sg	tsombaga	tsut-	-aŋgu	*my egg*
2sg	tsombaga	nun-	-aŋgu	*your egg*
3sg	tsombaga	nuŋg-	-aŋgu	*his egg*
1pl	tsombaga	yɛy-	-aŋgu	*our egg*
2pl	tsombaga	wu-	-aŋgu	*your egg*
3pl	tsombaga	aŋg-	-aŋgu	*their egg*

b) the Pd slot is filled by a R+P class member

	+Pd	$+PM_P$	±Pr	$+PM_O$	Translation
1sg	pɛ-	-ya	tsut-	-aŋgu	*my arm*
2sg	pɛ-	-ya	nun-	-aŋgu	*your arm*
3sg	pɛ-	-Ø	nuŋg-	-aŋgu	*his arm*
1pl	pɛ-	-inda	yɛy-	-aŋgu	*our arm*
2pl	pɛ-	-a	wu-	-aŋgu	*your arm*
3pl	pɛ-	-a	aŋg-	-aŋgu	*their arm*

ILLUSTRATION 13

Possessive Phrase : Bau (2)

a) the Pd slot is filled by an O class member

	+Pd	+Pr	$+PM_O$	Translation
1sg	do	is-	-ow	*my house*
2sg	do	in-	-ow	*your house*
3sg	do	u'p-	-ow	*his house*
1pl	do	ik-	-ow	*our house*
2pl	do	ak-	-ow	*your house*
3pl	do	hoak-	-ow	*their house*

b) the Pd slot is filled by a R+P, Ø subclass member

	±Pr	+Pd	$+PM_P$	Translation
1sg	isa	vav-	-i	*my belly*
2sg	ina	vav-	-in	*your belly*
3sg	u'pa	vavu-	-Ø	*his belly*
1pl	ikɛ	vav-	-ikɛ	*our belly*
2pl	akɛ	vav-	-a	*your belly*
3pl	hoakɛ	vav-	-a	*their belly*

the Ø class member

ame-	*eye*
vavu-	*belly*

c) the Pd slot is filled by a R+P class, M subclass member

	±Pr	+Pd	+{-m-}	+PM_p	Translation
1sg	isa	mɛtɛ-	-m-	-i	*my nose*
2sg	ina	mɛtɛ-	-m-	-in	*your nose*
3sg	u'pa	mɛto	Ø	Ø	*his nose*
1pl	ikɛ	mɛtɛ-	-m-	-ikɛ	*our nose*
2pl	akɛ	mɛtɛ-	-m-	-a	*your nose*
3pl	hoakɛ	mɛtɛ-	-m-	-a	*their nose*

M class members

kokoto-	*back*
fɛhiri-	*bone*
pio'to-	*buttocks*
muku-	*chest*
hipɛ-	*chin*
rɛni-	*name*
kapara-	*shoulder*
usɛ-	*thigh*

d) the Pd slot is filled by a R+P, N subclass member

	±Pr	+Pd	+{-n-}	+PM_p	Translation
1sg	isa	ɛpɛ-	-n-	-i	*my hand*
2sg	ina	ɛpɛ-	-n-	-in	*your hand*
3sg	u'pa	ɛpɛn	Ø	Ø	*his hand*
1pl	ikɛ	ɛpɛ-	-n-	-ikɛ	*our hand*
2pl	akɛ	ɛpɛ-	-n-	-a	*your hand*
3pl	hoakɛ	ɛpɛ-	-n-	-a	*their hand*

N class members

roka-	*blood*
ta'hi	*ear*
munahu-	*fat*
'o-	*mouth*
pɛ-	*throat*
pɛria-	*tongue*
ai-	*tooth*

3.33.3. *The Possessive Noun Class System*

In the Possessive Noun Class System, nouns are divided into the R+P/O classes as in the prefixing and suffixing systems (3.33.1.-2.), but only one set of Possessive Markers (PM_p) is employed and an additional element appears to distinguish the two classes, i.e. the Possessive Noun (PN). R+P class members do not occur in a free form, but always have PM_p suffixed to them. The PN has always PM_p suffixed to it and follows the Pr in a tagmeme sequence (Illustration 16-17) but Pd in Manam (Illustration 15). The PN is found in all Melanesian languages under consideration

and in two Papuan languages: Garuh (7) and Kamba (8), both of which are members of the Mabuso Stock of the Madang Phylum. If there is more than one PN in a language, different PN's can occur with the same O class member, depending on the relationship of the Pr to the Pd. Exclusively and obligatorily occurring in the O possessive phrase structure, the PN expresses the nature of the relationship of the Pr to the Pd. Illustration 14 illustrates this for the Manam language. The Pr and the Pd are unchanged, but the relationship between them changes. A banana may be food, referred to by the PN /kana-/, or just an object to keep, referred to by the PN /ne-/, or it might be poisonous for the Pr and is referred to by the PN /ŋa-/.

Interchangeability with regard to the Pd, and the exclusive occurrence with O class members are the identificational - contrastive features of a possessive noun.

According to Wurm (1954:469), the possessive noun as described above is a typical feature of the Melanesian languages and the existence of one or only a few PN's in one particular language is again a typical feature of the New Guinea Melanesian languages (Wurm 1963:89). The occurrence of PN in Papuan languages such as Kamba and Garuh is very exceptional and can perhaps be regarded as an influence from the Melanesian languages which are their immediate neighbours.

Examples of the Possessive Noun Class System will be given below in Illustrations 14-17 of the Manam, Matukar and Kamba languages; for Gedaged see also Mager (1952:ix).

ILLUSTRATION 14

Possessive Nouns in Manam (74)

±Pr	+Pd	+PN	$+PM_p$	Translation	Relationship
ŋau	udi	kana-	-gu	*my banana*	*food*
ŋau	udi	ne-	-gu	*my banana*	*object to keep*
ŋau	udi	ŋa-	-gu	*my banana*	*poisonous for me*

ILLUSTRATION 15

Possessive Phrase : Manam (74)

a) the Pd slot is filled by R+P class member

	±Pr	+Pd	$+PM_p$	Translation
1sg	ŋau	tama-	-gu	*my father*
2sg	kaiko	tama-	-m	*your father*
3sg	ŋai	tama-	-Ø	*his father*
1pl incl	kita	tama-	-da	*our father*
1pl excl	keka	tama-	-ma	*our father*
2pl	kam	tama-	-miŋ	*your father*
3pl	di	tama-	-di	*their father*
1dl incl	kita-ru	tama-	-da-ru	*our father*
1dl excl	keta-ru	tama-	-ma-ru	*our father*
2dl	kam-ru	tama-	-miŋ-ru	*your father*
3dl	di-aru	tama-	-di-aru	*their father*

b) the Pd slot is filled by an O class member

	±Pr	+Pd	+PN	$+PM_p$	Translation
1sg	ŋau	baŋ	kana-	-gu	*my taro*
2sg	kaiko	baŋ	kana-	-m	*your taro*
3sg	ŋai	baŋ	kana-	-Ø	*his taro*
1pl incl	kita	baŋ	kana-	-da	*our taro*
1pl excl	keka	baŋ	kana-	-ma	*our taro*
2pl	kam	baŋ	kana-	-miŋ	*your taro*
3pl	di	baŋ	kana-	-di	*their taro*
1dl incl	kita-ru	baŋ	kana-	-da-ru	*our (two) taro*
1dl excl	keka-ru	baŋ	kana-	-ma-ru	*our (two) taro*
2dl	kam-ru	baŋ	kana-	-miŋ-ru	*your (two) taro*
3dl	di-aru	baŋ	kana-	-di-aru	*their (two) taro*

	±Pr	+Pd	+PN	$+PM_p$	Translation
1sg	ŋau	ogi	ne-	-gu	*my axe*
2sg	kaiko	ogi	ne-	-m	*your axe*
3sg	ŋai	ogi	ne-	-Ø	*his axe*
1pl incl	kita	ogi	ne-	-da	*our axe*
1pl excl	keka	ogi	ne-	-ma	*our axe*
2pl	kam	ogi	ne-	-miŋ	*your axe*
3pl	di	ogi	ne-	-di	*their axe*

ILLUSTRATION 16

Possessive Phrase : Matukar (81)

a) the Pd slot is filled by a R+P class member

	±Pr	+Pd	$+PM_p$	Translation
1sg	ŋau	mata-	-w	*my eye*
2sg	oŋ	mata-	-m	*your eye*
3sg	mɛin	mata-	-n	*his eye*
1pl incl	it	mata-	-t	*our eye*
1pl excl	ŋam	mata-	-mam	*our eye*
2pl	aŋ	mata-	-mim	*your eye*
3pl	mɛin	mata-	-di	*their eye*

b) the Pd slot is filled by an O class member

	±Pr	+PN	$+PM_p$	+Pd	Translation
1sg	ŋau	ha-	-ŋ	palagis	*my axe*
2sg	oŋ	ha-	-m	palagis	*your axe*
3sg	mɛin	ha-	-n	palagis	*his axe*
1pl incl	it	ha-	-t	palagis	*our axe*
1pl excl	ŋam	ha-	-mam	palagis	*our axe*
2pl	aŋ	ha-	-mim	palagis	*your axe*
3pl	mɛin	ha-	-di	palagis	*their axe*

ILLUSTRATION 17

Possessive Phrase : Kamba (8)

a) the Pd slot is filled by a R+P class member

	±Pr	+Pd	$+PM_p$	Translation
1sg	da	ani-	-l[41]	*my mother*
2sg	na	ani-	-n	*your mother*
3sg	nug	ani-	-k	*his mother*
1pl	ig	ani-	-nig	*our mother*
2pl	ag	an-	-lag	*your mother*
3pl	pɛ	an-	-lag	*their mother*

b) the Pd slot is filled by an O class member

	+Pd	±Pr	+PN	$+PM_p$	Translation
1sg	fo	da	si-	-l[41]	*my pig*
2sg	fo	na	si-	-p	*your pig*
3sg	fo	nu	si-	-k	*his pig*
1pl	fo	i-	si-	-nig	*our pig*
2pl	fo	a-	si-	-lag	*your pig*
3pl	fo	pɛ	si-	-lag	*their pig*

[41] /-n/ and /-p/ are morphologically conditioned allomorphs.

3.33.4. *The R/P+O Two Class System*

Apart from the R+P/O Two Class System as described in sections 3.33.1.-3., also a R/P+O Two Class System (2PC-R/P+O) occurs and is found in a number of languages of the Adelbert Range Phylum. With regard to possession, nouns are divided into the R class, i.e. terms of relationship and the P+O class, i.e. nouns denoting body parts and objects. In contrast to the PM_p described above, the PM_r does not change for the number of the Pr, occurs only with R class members and is prefixed to, and/or modifies the noun base.

The R/P+O Two Class System is exclusively found in languages of the Adelbert Range Phylum, predominantly in inland areas, i.e. in the Pihom Stock in Ulingan (26), in the Wayapan Family in Wanuma (31), Yaben (32), and Wanambre (33); and in the Josephstaal Stock in Katiati (40), Osum (38), and Pondoma (29).

Illustrative material will be given from the Ulingan and Yaben languages.

ILLUSTRATION 18

Possessive Phrase : Ulingan (26)

a) the Pd slot is filled by a P+O class member

	+Pr	$+PM_o$	+Pd	Translation
1sg	yɛ-	-na	unuma	*my name*
2sg	nɛ-	-na	unuma	*your name*
3sg	o	-na	unuma	*his name*
1pl	iyɛ-	-na	unuma	*our name*
2pl	niɛ-	-na	unuma	*your name*
3pl	wiɛ-	-na	unuma	*their name*

b) the Pd slot is filled by a R class member

	±Pr	$±PM_o$	$+\{PM_r$	+Pd$\}$	Translation
1sg	yɛ-	-na	Ø	-awa	*my father*
2sg	nɛ-	-na	ni-	-awi	*your father*
3sg	o	-na	wi-	-awi	*his father*
1pl	iyɛ-	-na	Ø	-awa	*our father*
2pl	niɛ-	-na	ni-	-awi	*your father*
3pl	wiɛ-	-na	wi-	-awi	*their father*

	±Pr	±PM_o	+{PM_r +Pd}	Translation
1sg	yɛ-	-na	ayte	*my mother*
2sg	nɛ-	-na	nɛne	*your mother*
3sg	o	-na	nak	*his mother*
1pl	iyɛ-	-na	ayte	*our mother*
2pl	niɛ-	-na	nɛne	*your mother*
3pl	wiɛ-	-na	nak	*their mother*

ILLUSTRATION 19

Possessive Phrase : Yaben (32)

a) the Pd slot is filled with a P+O class member

	+Pd	+Pr	+PM_o	Translation
1sg	ubatu	ya	-nalu	*my hand*
2sg	ubatu	na	-nalu	*your hand*
3sg	ubatu	wa-	-nalu	*his hand*
1pl	ubatu	ini-	-nalu	*our hand*
2pl	ubatu	ani-	-nalu	*your hand*
3pl	ubatu	waji-	-nalu	*their hand*

b) the Pd slot is filled by a R class member

	±Pr	±PM_o	+{PM_r +Pd}	Translation
1sg	ya	-nalu	tʌ	*my father*
2sg	na	-nalu	tiña	*your father*
3sg	wa-	-nalu	uda	*his father*
1pl	ini-	-nalu	tʌ	*our father*
2pl	ani-	-nalu	tiña	*your father*
3pl	waji-	-nalu	uda	*their father*

3.3.4. The Three Possessive Class System (3PC)

A Three Possessive Class System is only found in Korak (17) of the Adelbert Range Phylum. This three class system is, in a way, a combination of the prefixing 2PC-R+P/O and the 2PC-R/P+O systems.

With regard to possession nouns are divided into R, P and O classes. The PM_o as described in (3.3.2.) is linked with Pd O class members and is optionally employed with the Pr in P and R possessive phrase types: the prefixing PM_p as described in (3.33.1.) is linked with Pd P class members, and PM_r as described in (3.33.4.) with Pd R class members. The structural pattern of the O, P, R possessive phrases is the same as in the respective classes of the Two Possessive Class System.

ILLUSTRATION 20

Possessive Phrase : Korak (17)

a) the Pd slot is filled by an O class member

	+Pr	+PM_o	+Pd	Translation
1sg	ŋa-	-ŋkatɛ	wa	*my fish*
2sg	ni-	-ŋkatɛ	wa	*your fish*
3sg	nu-	-ŋkatɛ	wa	*his fish*
1pl	ani-	-ŋkatɛ	wa	*our fish*
2pl	nimta-	-ŋkatɛ	wa	*your fish*
3pl	numta-	-ŋkatɛ	wa	*their fish*

b) the Pd slot is filled by a P class member

	±Pr	±PM_o	+PM_p	+Pd	Translation
1sg	ŋa-	-ŋkatɛ	ŋ-	-kusɛn	*my bone*
2sg	ni-	-ŋkatɛ	nu-	-kusɛn	*your bone*
3sg	nu-	-ŋkatɛ	Ø	-kusɛn	*his bone*
1pl	ani-	-ŋkatɛ	a-	-kusɛn	*our bone*
2pl	nimta-	-ŋkatɛ	nu-	-kusɛn	*your bone*
3pl	numta-	-ŋkatɛ	Ø	-kusɛn	*their bone*

c) the Pd slot is filled by a R class member

	±Pr	±PM_o	+{PM_r	+Pd}	Translation
1sg	ŋa-	-ŋkatɛ	Ø-	-awɛ	*my father*
2sg	ni-	-ŋkatɛ	ni-	-kuɛ	*your father*
3sg	nu-	-ŋkatɛ	nu-	-kuɛ	*his father*
1pl	ani-	-ŋkatɛ	Ø-	-awɛ	*our father*
2pl	nimta-	-ŋkatɛ	ni-	-kuɛ	*your father*
3pl	numta-	-ŋkatɛ	nu-	-kuɛ	*their father*

3.3.5. The MPC Possessive Class System

Although the R/P+O class distinction is also found in Monumbo (72) and Lilau (73), it seems nevertheless appropriate to treat the Possessive Class System as found in Monumbo Lilau (Torricelli Phylum) as a separate system, because it shows some peculiarities and deviations from the previously described systems. I call the system the Monumbo Possessive Class System (MPC), with reference to Monumbo and Lilau in which this system can be observed, taking the well known Monumbo language name as representative.

Terms of relationship are obligatorily prefixed by the PM_p which contrasts with 2PC-R/P+O system (see section 3.33.4.), in which the PM_r is prefixed. Since the PM_p denotes the possessor sufficiently, the Pr slot is seldom filled in this case. For this reason the optional Pr slot in Illustration 22 is not filled.

The PM_m is not determined by the Pr filler for person, number or class, but depends in its form on the class and number of the filler of the Pd slot. In being determined by the Pd number, the PM_m differs from any other PM described above. There are five $PM_{m/sg}$ determined by the singular form of the Pd, one $PM_{m/pl}$ determined by its plural form and at least three $PM_{m/dl}$ determined by its dual form. My own field material on Lilau is unfortunately inadequate to establish the exact nature of the distributional relationship between the $PM_{m/sg}$ and the $PM_{m/dl}$. With regard to the $PM_{m/sg}$, nouns are divided into five classes, which are labelled in Table 5 as the -unaina class, etc. The same Table 4 gives a list of fillers for each class. The variation and changes of the PM_m are illustrated in Illustration 21. Illustration 22 illustrates the possessive phrase structure as observed in Lilau.

ILLUSTRATION 21

Possessive Phrase : Lilau (73)

+Pd	+Pr	+PM_m	Translation
kumbuna	ak-	-unauna	*my cassowary*
kumbuna-ŋu	ak-	-ikini	*my cassowaries*
iruna	ak-	-unamina	*my bone*
irumbi	ak-	-ikini	*my bones*
aƀ	ak-	-unuŋgina	*my arm*
ab-aŋ	ak-	-ikini	*my arms*
nakur	ak-	-unini	*my bird*
nakur-i	ak-	-ikini	*my birds*

ILLUSTRATION 22

Possessive Phrase : Lilau (73)

a) the Pd slot is filled by a R class member

	(±Pr)	+PM_p	+Pd	Translation
1sg		ak-	-unata	*my father*
2sg		tuk-	-unata	*your father*
3sg male		nuŋ-	-unata	*his father*
3sg female		uk-	-unata	*her father*
3sg child		ik-	-unata	*its father*
1pl		im-	-unata	*our father*
2pl		um-	-unata	*your father*
3pl male		miŋ-	-unata	*their father*
3pl female		boak-	-unata	*their father*
3pl child		boak-	-unata	*their father*
1dl		ip-	-unata	*our (two) father*
2dl		up-	-unata	*your (two) father*
3dl male		mak-	-unata	*their (two) father*
3dl female		wak-	-unata	*their (two) father*
3dl child		mak-	-unata	*their (two) father*

b) the Pd slot is filled by an -unamina class filler, singular form

	+Pd	+Pr	+PM$_{m/sg}$	Translation
1sg	iruna	ak-	-unamina	*my bone*
2sg	iruna	tuk	-unamina	*your bone*
3sg male	iruna	nuŋ-	-unamina	*his bone*
3sg female	iruna	uk-	-unamina	*her bone*
3sg child	iruna	ik-	-unamina	*its bone*
1pl	iruna	im-	-unamina	*our bone*
2pl	iruna	um-	-unamina	*your bone*
3pl male	iruna	miŋ-	-unamina	*their bone*
3pl female	iruna	boak-	-unamina	*their bone*
3pl child	iruna	boak-	-unamina	*their bone*
1dl	iruna	ip-	-unamina	*our (two) bone*
2dl	iruna	up-	-unamina	*your (two) bone*
3dl male	iruna	mak-	-unamina	*their (two) bone*
3dl female	iruna	wak-	-unamina	*their (two) bone*
3dl child	iruna	mak-	-unamina	*their (two) bone*

c) the Pd slot is filled by an -unamina class filler, plural form

	+Pd	+Pr	+PM$_{m/pl}$	Translation
1sg	irumba	ak-	-ikini	*my bones*
2sg	irumba	tik-[42]	-ikini	*your bones*
3sg male	irumba	niŋ-	-ikini	*his bones*
3sg female	irumba	uk-	-ikini	*her bones*
3sg child	irumba	ik-	-ikini	*its bones*
1pl	irumba	im-	-ikini	*our bones*
2pl	irumba	um-	-ikini	*your bones*
3pl male	irumba	miŋ-	-ikini	*their bones*
3pl female	irumba	boak-	-ikini	*their bones*
3pl child	irumba	boak-	-ikini	*their bones*
1dl	irumba	ip-	-ikini	*our (two) bones*
2dl	irumba	up-	-ikini	*your (two) bones*
3dl male	irumba	mak-	-ikini	*their (two) bones*
3dl female	irumba	wak-	-ikini	*their (two) bones*
3dl child	irumba	mak-	-ikini	*their (two) bones*

TABLE 4

List of PM$_m$: Lilau (73)

PM$_{m/sg}$	PM$_{m/pl}$	PM$_{m/dl}$
-unaina	-ikini	-unamanama
-unauna		-unawanawa
-unini		-unaŋgaŋga
-unamina		
-unaŋgina		

[42] The Pr pronoun of 1sg and 3sg male differ somewhat when referring to sg and pl Pd nouns.

TABLE 5

List of Class Members : Lilau (73)

unaina Class

back	moarapa
buttocks	zimbara
eye	tara
forehead	gagabi
heart	kaura
knee	kuta
sore	kamaka
egg	nakundu
banana	kuana
tree	kaya
bow	itama
fire	aita

unamina Class

bone	iruna
leg	tumarama
mouth	suaruna
feather	yarauna
snake	ki:na
rope	ndauna

unauna Class

belly	mbuka
breast	nima
ear	maka
name	unia
shoulder	sumba
skin	sila
pandanus	yu:ma
taro	kira
spear	kindar
ground	musupa

unini Class

blood	mati
head	gagali
nose	simbiti
teeth	yari
bird	nakur
dog	waur
fish	wandupu
village	wani
arrow	yarambaria

angina Class

leaf	kambia
house	tiŋgin
string bag	manday
water	suya

3.35.1. Vormann and Scharfenberger (1914:20-3) describe, in some detail, the structure of the possessive phrase of Monumbo. Their description tallies with my own to a great extent. The PM_m markers are optional in Monumbo, i.e. constitutes an alternative to PM_o with the sequence A (see 3.3.5.) Vormann and Scharfenberger give the following examples: /ék tsiŋger/ *my house* in the sequence +Pr +PM_o +Pd; PM_o is zero in this case; /kóan ek nini/ *my banana* in the sequence +Pd +Pr +PM_m (Z). These alternatives are not found in my field notes. The Possessive Class System bears no relation to the Adjective-Verb Concordance Class System. Vormann and Scharfenberger try to establish such a relationship (p.22), but feel uneasy about it.[43] A special set of personal pronouns for the dual and plural is not necessary, if the phoneme sequence /ek/ is assigned to the PM_m form. Thus /áure akék nini/ *my dogs* should really be /áure ak-ékini/, thus simplifying the description. The list of PM_m as given by Vormann and Scharfenberger is roughly the same as that obtained by me in Lilau, but I have no equivalent in my material for the dual /nánamban/ and for the plural /nanaŋ/.

3.35.2. Capell (1952:181) discusses the possessive phrase in Monumbo-Lilau very briefly. His description shows some errors in the understanding of the structure involved: /gagali mikini/ *our head* should be translated as *our heads*; /-ikini/ establishes /gagali/ as a plural form. /gagali pikini/ *your head* should be translated as *your (two) heads*. The same holds for /gagali makini/ *their* (male) *(two) heads*; /p-, mak-, wak-/ are dual forms, not plural forms. The rest of his description is in accordance with my own field notes.

3.4. *COUNTING SYSTEMS*

At least three basic counting systems are found in the Western Madang District: the Pair-, Quinary- and Body Counting Systems. The material collected by the present writer in various languages is not complete enough to establish the particular system for every one of the individual languages. This is attributable to the great difficulty encountered in trying to obtain the numerals, especially in coastal areas where the native numerals are falling more and more into disuse and are being replaced by Pidgin terms. In spite of this, it may be worth while to present what is known at this stage of research.

---

[43] -----They say (p.22): "Ich habe viel über diese Formen nachgefragt und gefunden, dass dieselben nicht streng auseinander gehalten werden." The examples given seem to disprove the existence of a relationship between the two systems under discussion.

3.4.1. The Pair Counting System is found in a geographically contiguous area, i.e. in the Ramu Phylum in most languages east of the Ramu River (except in Romkun (63)), and in the Adelbert Range Phylum mainly in the hinterland area in a north-westerly direction from the coast. The Pair Counting System is absent from the Madang Phylum, from most languages of the Ramu Phylum which are situated to the west of the Ramu River, and from the Melanesian languages. The Pair Counting System is easily detected by the recurring of the numerals one and two.

3.4.2. The Body Counting System is found in the Madang/Adelbert Range Phylic border area, i.e. in Usino (14), Musak (44), Amaimon (34), Kare (13), Mawan (9), Utu (10), Wamas (11) and Saruga (12). Höltker (1961: 300f) reports the Body Counting System also for Giri (54) in the Ramu Phylum. However, this system seems to be no longer in use today; I observed a Pair Counting System instead. Informants of languages with Body Counting System used to point at the upper arms and shoulders which was a sure first indication of the presence of a Body Counting System in their languages. Time did not permit me to obtain the full systems and for this reason no illustrative material will be given here.

3.4.3. The Quinary System is found mainly in coastal areas, but in a few cases also inland, e.g., in Breri (62) and Romkun (63). A Quinary System was regarded as identified for a particular language when the numerals one and two recurred again in at least the numerals for six and seven. This degree of certainty could, however, not always be achieved.

3.4.4. Illustrative material for the Pair and Quinary Counting Systems will be given in the following Illustrations 23-24.

ILLUSTRATION 23

Pair Counting System

a) Pair Counting System in Malas (19)

one	gɛmɛm
two	arɛr
three	arɛr-gɛmɛm
four	arɛr-arɛr
five	arɛr-arɛr-gɛmɛm
ten	arɛr-arɛr-arɛr-arɛr-arɛr

b) Pair Counting System in Wanambre (30)

one	kolik
two	oirɛ
three	oirɛ-kolik
four	oirɛ-oirɛ
five	oirɛ-oirɛ-kolik

c) Pair Counting System in Osum (38)

one	mɨtsaka
two	aniɠay
three	aniɠay-mɨtsaka
four	aniɠay-aniɠay
five	aniɠay-aniɠay-mɨtsaka

d) Pair Counting System in Mikarew (52)

one	wamɛra
two	pumuni
three	pumuni-ko-kɛsɛm
four	pumuni-ko-pumuni
five	pumuni-ko-pumuni-kɛsɛm

e) Pair Counting System in Igom (56)

one	ɠunuaŋaŋga
two	mukupɛ
three	mukupɛ-ɠunuaŋaŋga
four	mukupɛ-mukupɛ
five	mukupɛ-mukupɛ-ɠunuaŋaŋga

ILLUSTRATION 24

Quinary Counting System

a) Quinary Counting System in Pay (22)

one	unduaka
two	ŋɛr
three	karop
four	arambam
five	iŋgur
six	iŋgur-unduaka
seven	iŋgur-ŋɛr

b) Quinary Counting System in Ulingan (26)

one	kusov
two	ɛrup
three	arov
four	ɛrɛpam
five	ikur
six	wapɛna-kusov
seven	wapɛna-ɛrup

c) Quinary Counting System in Kaian (48)

one	kaku
two	mbuniŋ
three	gɛramaut
four	paureik
five	rapauŋ
six	mbut-kaku
seven	mbut-mbuniŋ
eight	mbut-gɛramaut

3.5. *SIMPLE VERB STRUCTURE*

The simple verb structure - i.e. a predicate with only one verb - has been studied in the languages under consideration with regard to the Verb base (Vb), the Tense (T), Object (Om) and Subject (Sm) marking and to some extent the indication of negation (Neg). The existence of a particular structure was regarded as tentatively established when found reoccurring in at least four verbs in a single language, in most cases more than 20 and up to 240 verbs were involved.

3.5.1. That part of the predicate is regarded as the Vb which is left when all affixes are accounted for. The Vb may undergo morphophonemic changes when affixes are added to it, or its phonemic shape may change to denote object, tense and subject, i.e. the Vb may be object-, tense- or subject-determined.

3.5.2. Time may be expressed by a tense affix (T) and/or time adverb. In all languages under consideration, the T is, obligatorily, immediately or non-immediately suffixed to the Vb, i.e. the Vb does not occur without T. The time adverb tagmeme which precedes or follows the subject slot, is optional, but may be required to determine the meaning of the T more definitely or more specifically, e.g. as denoting near or remote past.

3.5.3. The Subject marker (Sm) refers to the Subject (S) of a sentence and agrees with it in person and number. In most cases Sm is a fused or portmanteau form denoting person and number; it is suffixed to the Vb and the T marker as, e.g. in all languages of the Madang and Adelbert Range Phyla, or is prefixed to them as in the Melanesian languages and in Monumbo and Lilau, or is not affixed to the Vb at all, as in the Ramu Phylum. Sets of Sm's may differ for tense, as in Mugil (Illustration 26); the verb may occur without a S, but never without a Sm.

3.5.4. The Object marker (Om) refers to the number and person of the Object (O), and may be immediately prefixed to the Vb as in most languages of the Adelbert Range Phylum, or may be immediately suffixed to the Vb and preceding the TSm or T as in all languages of the Madang Phylum, the Melanesian languages and the Monumbo and Lilau languages. The Om is incorporated with direct transitive verbs, e.g. *to give, to see*, but there are transitive Vb's which can optionally occur without an Om in some languages, e.g. *to eat*. In such cases, the O slot is also optional.

3.5.5. The Negation marker (Neg) is frequently a clitic preceding to the verb, and does not vary for person, number or tense. But there are also other types of negative markers of verbs, which vary for tense or vary their position with regard to the verb, i.e. can be preposed, postposed or discontinuous, or vary for other yet unknown reasons. My material for this latter type is as yet insufficient and the problem requires fuller study in view of its complexity.

3.5.6. In the following section (3.56.1.-5.) some selected illustrative materials will be provided for the various structural elements described in section (3.5.1.-5.). These constitute selections from the author's field data and should, it is hoped, give enough insight into the matters under consideration. Allomorphs will only be given where they have been established through analytical procedures; if this is not the case the morphemes will be given in the forms in which they appear with the particular verbs selected for illustration.

3.56.1. The Mikarew (52) language, representative of the Ramu Phylum, shows no incorporation of the Sm or Om into the verb structure. The tense morphemes are:

/-i/ :for the present tense; the preceding vowel is deleted

/-gag+va ∿ -egag+va/ :for the past tense.

/-ami/ :for the future tense; the preceding vowel is deleted.

ILLUSTRATION 25

Verb Structure in Mikarew (52)

Pers	+S	+Vb	+T	Translation
1sg	ko	gar-	-i	*I watch*
2sg	no	gar-	-i	*you watch*
3sg	a	gar-	-i	*he watches*
1pl	e	gar-	-i	*we watch*
2pl	yɛ	gar-	-i	*you watch*
3pl	mɛ	gar-	-i	*they watch*
1dl	ga	gar-	-i	*we (two) watch*
2dl	goa	gar-	-i	*you (two) watch*
3dl	ani	gar-	-i	*they (two) watch*

The Vb may undergo changes in its phonemic shape according to the following patterns:

a) $Vb_{pr} \neq Vb_{p,f}$:the Vb for present (pr) differs from the Vb for past (p) and future (f).

b) $Vb_{pr,p} \neq Vb_{f}$:the Vb for present and past differs from the Vb for future tense.

c) Vb :no change is observed.

Examples will be given in Table 7. Certain general rules seem to underlie these changes such as some prevalence of velar consonants in the p,f forms versus that of dental ones in the pr forms, but they have not yet been adequately understood and have for this reason not been included here.

TABLE 7

Verb Base Changes in Mikarew (52)

a) $Vb_{pr} \neq Vb_{p,f}$

Tense	Vb	Translation
pr	va-	*to blow*
p,f	vɛŋ-	
pr	mut-	*to cough*
p,f	mutiŋ-	
pr	ati-	*to laugh*
p,f	ak(i)-	
pr	iti-	*to be*
p,f	ik(i)-	
pr	are-	*to be sick*
p,f	arem(i)-	
pr	mɨs-	*to vomit*
p,f	mɨg-	

b) $Vb_{pr,p} \neq Vb_{f}$

Tense	Vb	Translation
pr,p	aru-	*to walk*
f	daru-	
pr,p	tu-	*to stand*
f	tɨv-	
pr,p	aku-	*to sleep*
f	raku-	
pr,p	wagir-	*to go down*
f	magir-	

c) Vb

Tense	Vb	Translation
pr, p, f	ovɛŋ-	*to die*
pr, p, f	mɨg-	*to fly*
pr, p, f	dɨkav-	*to stand up*

3.56.2. Tense and subject markers (TSm) are suffixed to the Vb in the languages of the Adelbert Range and Madang Phyla. Illustrative materials will be given of Mugil and Dimir of the Adelbert Range Phylum and of Garus and Utu of the Madang Phylum.

3.56.2.1. The TSm morphemes have been studied in Mugil with over 200 verbs; it is therefore possible to give a fairly detailed account of their allomorphic variations.

In comparing the $T_{pr}Sm$ with the T_fSm, one might be inclined to regard zero as the present tense marker and /-d- ∿ -da-/ as the future tense marker. But final stops in the T_fSm's are dropped; the overt differentiation of number in T's is rare; the T_f is dropped in the third person plural and the Sm morphemes /-au?/ and /-am/ for the first person plural show little similarity. Because of these complexities, T and Sm morphemes will be treated as fused forms $T_{pr}Sm$ or T_fSm respectively. This interpretation is supported by the definitely fused form of T_pSm.

There are no allomorphic sets with regard to the present and future tense, but there are four sets of T_pSm markers (for the past tense) which are phonologically conditioned by the Vb and therefore predictable. With regard to T_pSm, Vb's can be divided into the following four classes which show in part overlapping characteristics.

VC Class: includes all verbs ending in a vowel plus consonant, except /e/ plus consonant.

EC Class: includes all verbs ending in /e/ plus consonant.

V Class: includes all verbs ending in a vowel, except /e/.

E Class: includes all verbs ending in /e/.

A special set of T_pSm belongs to each class as will be shown in Illustration 26c; a short verb list of each class will also be included.

ILLUSTRATION 26

Verb Structure in Mugil (46)

a) Present Tense

Pers	±S	+Vb	+$T_{pr}Sm$	Translation
1sg	ya	leh-	-ay	*I go*
2sg	ni	leh-	-a?	*you go*
3sg	in	leh-	-a?	*he goes*
1pl	iy	leh-	-au?	*we go*
2pl	ne	leh-	-ay	*you go*
3pl	ni	leh-	-ay	*they go*

b) Future Tense

Pers	±S	+Vb	+T_fSm	Translation
1sg	ya	leh-	-day	*I will go*
2sg	ni	leh-	-da	*you will go*
3sg	in	leh-	-da	*he will go*
1pl	iy	leh-	-au?	*we will go*
2pl	ne	leh-	-da	*you will go*
3pl	ni	leh-	-da	*they will go*

c,1) Past Tense: VC-T_pS set

Pers	±S	±[tu][44]	+Vb	+T_pSm	Translation
1sg	ya	tu-	bol-	-Ø	*I came*
2sg	ni	tu-	bol-	-Ø	*you came*
3sg	in	tu-	bol-	-Ø	*he came*
1pl	iy	tu-	bol-	-Ø	*we came*
2pl	ne	tu-	bol-	-iy	*you came*
3pl	in	tu-	bol-	-iy	*they came*

List of VC Verbs

-sisimun-[45]	*to ask*
-isih-	*to cover*
-sor-	*to carry*
-orot-	*to cut*
-bay-	*to bend*
-oy-	*to cook*
ulam-	*to smoke*
-waz-	*to hold*

c,2) Past Tense: EC-T_pSm set

Pers	±S	±[tu]	+Vb	+T_pSm	Translation
1sg	ya	ti-	leh-[46]	-Ø	*I went*
2sg	ni	ti-	lah		*you went*
3sg	in	ti-	lah		*he went*
1pl	iy	ti-	leh-	-Ø	*we went*
2pl	ne	ti-	leh-	-iy	*you went*
3pl	in	ti-	leh-	-iy	*they went*

List of EC Verbs

em-	*to do*
ditrem-	*to cough*
mider-	*to light*
reg-	*to climb*
ley-	*to plant*

[44] [ti] ∿ [tu] are morphologically conditioned allomorphs.

[45] The hyphen preceding the Vb indicates obligatory prefixing of the object marker.

[46] T_pSm indication through changing the Vb.

c,3) Past Tense: V-T_pSm set

Pers	±S	±[tu]	+Vb	+T_pSm	Translation
1sg	ya	ti-	ga-	-y	*I cried*
2sg	ni	ti-	ga-	-m	*you cried*
3sg	in	ti-	ga-	-m	*he cried*
1pl	iy	ti-	ga-	-w	*we cried*
2pl	ne	ti-	ga-	-iy	*you cried*
3pl	in	ti-	ga-	-iy	*they cried*

List of V Verbs

mo-	*to die*
goati-	*to go up*
wi-	*to carry*
-itu-	*to kill*
-bi-	*to call*

c,4) Past Tense: E-T_pSm set

Pers	±S	±[ti]	+Vb	+T_pSm	Translation
1sg	ya	ti-	ne-	-y	*I ate*
2sg	ni	ti-	ne-	-m	*you ate*
3sg	in	ti-	ne-	-m	*he ate*
1pl	iy	ti-	ne-	-w	*we ate*
2pl	ne	ti-	ne-	-y	*you ate*
3pl	in	ti-	ne-	-y	*they ate*

List of E Verbs

otsere-	*to comb*
-bide-	*to carry*
-hure-	*to pull*
ure-	*to sharpen*
-ire-	*to push*

d) Negation Marking

±S	±Neg	+Vb	+TSm	Translation
ya	ahi-	leh-	-ay	*I do not go*
iy	ahi-	leh-	-au?	*we do not go*
in	ahi-	leh-	-da	*he will not go*
in	ahi-	boi-	-daay	*they will not come*
ya	ahi-	boi-	Ø	*I did not come*
amun	ahi-	ga-	-m	*the child did not cry*
in	ahi-	mo-	-m	*he did not die*

3.56.2.2. Verbs in Dimir (21) are divided into E and O classes. The TSm's for Class E are shown in Illustration 27. In the O class the phoneme /ɛ/ of the first syllable of a T_{pr}Sm morpheme is replaced by /o/, thus e.g. /ŋɛŋ, ɛmɛn/ become /ŋoŋ, omɛn/. Only a few O class members were observed and the material is not sufficiently reliable to permit the inclusion of this class into the illustrative material.

All verbs (E and O classes) are divided into two classes with respect to the TSm's: the C class, ending in a consonant, and the V class, ending in a vowel. In the V class, the final vowel of the Vb is elided in all cases in which the TSm begins with a vowel.

ILLUSTRATION 27

Verb Structure in Dimir (21)

a) The Vb ends in a consonant

Pers	±S	+Vb	+TSm[47]	Translation
1sg	yiŋ	in-	-ɛm	*I sleep*
2sg	nɛŋ	in-	-ŋɛŋ	*you sleep*
3sg	wuŋ	in-	-ŋɛr	*he sleeps*
1pl	yin	in-	-ɛmin	*we sleep*
2pl	nɛn	in-	-ɛmɛn	*you sleep*
3pl	wun	in-	-ɛmit	*they sleep*
1sg	yiŋ	in-	-um	*I slept*
2sg	nɛŋ	in-	-ɛŋ	*you slept*
3sg	wuŋ	in-	-ɛr	*he slept*
1pl	yin	in-	-min	*we slept*
2pl	nɛn	in-	-mɛn	*you slept*
3pl	wun	in-	-mit	*they slept*
1sg	yiŋ	in-	-am	*I will sleep*
2sg	nɛŋ	in-	-aŋ	*you will sleep*
3sg	wuŋ	in-	-ar	*he will sleep*
1pl	yin	in-	-amin	*we will sleep*
2pl	nɛn	in-	-amɛn	*you will sleep*
3pl	wun	in-	-amit	*they will sleep*

[47] It can be seen from the Illustration that the TSm for p-f tense can be regularly derived from the pr form, i.e.

	pr		p		f
1sg	ɛ-	>	u-	>	a-
2,3sg	ŋɛ-	>	ɛ-	>	a-
pl	ɛ-	>	ø-	>	a-

b) The Vb ends in a vowel

Pers	±S	+Vb	+TSm	Translation
1sg	yiŋ	sawr-	-ɛm	*I laugh*
2sg	nɛŋ	sawra-	-ŋɛŋ	*you laugh*
3sg	wuŋ	sawra	-ŋɛr	*he laughs*
1pl	yin	sawr-	-ɛmin	*we laugh*
2pl	nɛn	sawr-	-ɛmɛn	*you laugh*
3pl	wun	sawr-	-ɛmit	*they laugh*
1sg	yiŋ	sawr-	-um	*I laughed*
2sg	nɛŋ	sawr-	-ɛŋ	*you laughed*
3sg	wuŋ	sawr-	-ɛr	*he laughed*
1pl	yin	sawra-	-min	*we laughed*
2pl	nɛn	sawra-	-mɛn	*you laughed*
3pl	wun	sawra-	-mit	*they laughed*
1sg	yiŋ	sawr-	-am	*I will laugh*
2sg	nɛŋ	sawr-	-aŋ	*you will laugh*
3sg	wuŋ	sawr-	-ar	*he will laugh*
1pl	yin	sawr-	-amin	*we will laugh*
2pl	nɛn	sawr-	-amɛn	*you will laugh*
3pl	wun	sawr-	-amit	*they will laugh*

c) Negation Marking

±S	+Neg	+Vb	+TSm	Translation
yiŋ	kuŋ	sawr-	-ɛm	*I do not laugh*
wuŋ	kuŋ	sawra-	-ŋɛr	*he does not laugh*
yin	kuŋ	sawra-	-min	*we will not laugh*
wun	kuŋ	sawra-	-mit	*they did not laugh*
yin	kuŋ	in-	-min	*we did not sleep*
wun	kuŋ	in-	-amit	*they will not sleep*

3.56.2.3. The TSm's in Garus (4) and Utu (10) will be given in connection with the verbs /nig-/ *to sleep* and /da-/ *to be* respectively. The T morpheme for the Present (T_{pr}) in Garus is /-d-/ and /-Ø-/ for the past (T_{p}). The Sm's differ in these two tenses only in the third person singular, i.e. /-a/ (pr) versus /-e:/ (p). However, the Sm's for the future deviate in several respects from those encountered with T_{pr} and T_{p}, and T_{p} + Sm is therefore regarded as a fused morpheme [T_{f}Sm].

ILLUSTRATION 28

Verb Structure in Garus (4)

Pers	±S	+Vb	+T	+Sm	Translation
1sg	dɛ	nig-	-d-	-im	*I sleep*
2sg	nɛg	nig-	-d-	-em	*you sleep*
3sg	nug	nig-	-d-	-a	*he sleeps*
1pl	ig	nig-	-d-	-um	*we sleep*
2pl	ɛg	nig-	-d-	-ip	*you sleep*
3pl	inɛg	nig-	-d-	-ip	*they sleep*
1sg	dɛ	nig-	-Ø-	-im	*I slept*
2sg	nɛg	nig-	-Ø-	-em	*you slept*
3sg	nug	nig-	-Ø-	-e:	*he slept*
1pl	ig	nig-	-Ø-	-um	*we slept*
2pl	ɛg	nig-	-Ø-	-ip	*you slept*
3pl	inɛg	nig-	-Ø-	-ip	*they slept*

Pers	±S	+Vb	$+\{T_p Sm\}$	Translation
1sg	dɛ	nig-	-i	*I will sleep*
2sg	nɛg	nig-	-am	*you will sleep*
3sg	nug	nig-	-oun	*he will sleep*
1pl	ig	nig-	-du	*we will sleep*
2pl	ɛg	nig-	-eip	*you will sleep*
3pl	inɛg	nig-	-eip	*they will sleep*

±S	±Neg	+Vb	+TSm	Translation
nug	pi	nig-	-da	*he does not sleep*
ig	pi	nig-	-dum	*we do not sleep*
dɛ	pi	nig-	-i	*I will not sleep*
inɛg	pi	nig-	-eip	*they will not sleep*
nug	pi	nig-	-e:	*he did not sleep*

ILLUSTRATION 29

Verb Structure in Utu (10)

a) Present

Pers	S	+Vb	+T	+Sm	Translation
1sg	sɛk	da-	-una-	-min	*I am*
2sg	nɛk	da-	-una-	-mun	*you are*
3sg	nuk	da-	-una-	-um	*he is*
1pl	ik	da-	-una-	-mun	*we are*
2pl	ɛk	da-	-una-	-vi	*you are*
3pl	ɛsa	da-	-una-	-vi	*they are*
1dl	i	da-	-una-	-mur	*we (two) are*
2dl	ɛv	da-	-una-	-vir	*you (two) are*
3dl	ɛra	da-	-una-	-vir	*they (two) are*

b) Past

Pers	±S	+Vb	+T_{pr}	+Sm	Translation
1sg	sɛk	da-	-Ø-	-min	*I was*
2sg	nɛk	da-	-Ø-	-mun	*you were*
3sg	nuk	da-	-Ø-	-um	*he was*
1pl	ik	da-	-Ø-	-mun	*we were*
2pl	ɛk	da-	-Ø-	-vi	*you were*
3pl	ɛsa	da-	-Ø-	-vi	*they were*
1dl	i	da-	-Ø-	-mur	*we (two) were*
2dl	ɛv	da-	-Ø-	-vir	*you (two) were*
3dl	ɛra	da-	-Ø-	-vir	*they (two) were*

c) Future

Pers	±S	+Vb	+T_{pr}	+Sm	Translation
1sg	sɛk	da-	-nako-	-min	*I will be*
2sg	nɛk	da-	-nako-	-mun	*you will be*
3sg	nuk	da-	-nako-	-um	*he will be*
1pl	ik	da-	-nako-	-mun	*we will be*
2pl	ɛk	da-	-nako-	-vi	*you will be*
3pl	ɛsa	da-	-nako-	-vi	*they will be*
1dl	i	da-	-nako-	-mur	*we (two) will be*
2dl	ɛv	da-	-nako-	-vir	*you (two) will be*
3dl	ɛra	da-	-nako-	-vir	*they (two) will be*

3.56.3. Tense markers are suffixed in Melanesian languages and in Monumbo-Lilau, and the Sm is prefixed to the Vb. For Monumbo, see Vormann and Scharfenberger (1914) and for Lilau, Capell (1952:180). Illustrative material will be given for Matukar and Manam (Illustrations 30-31).

3.56.3.1. The Matukar language has the following tense markers:

/-go ∿ -ago/ :for the present; /-go/ occurring after vowels and a velar nasal, and /-ago/ in other environments.

/-e ∿ -we/ :for the past; /-we/ occurring after /u/, and /e/ in other environments.

/-ba ∿ -aba/ :for the future; /-ba/ occurs after vowels and bilabials, /-aba/ in any other environment.

There are two sets of Sm's, i.e. Sm1 and Sm2, which do not seem to be phonemically conditioned and do not change for tense.

The Sm sets are shown in Table 8, and a short list of verbs taking the two different Sm sets has been added. Illustrative material on Matukar verb structure is given in Illustration 30.

TABLE 8

Subject Markers in Matukar (81)

Pers	Sm1	Sm2
1sg	ŋa-	ŋai-
2sg	Ø-	we-
3sg	Ø-	ye-
1pl incl	ta-	tai-
1pl excl	ŋama-	ŋamai-
2pl	a-	ai-
3pl	di	di:e-

List of Sm1 Verbs

-soŋ-	*to go*
-naniŋ-	*to light*
-nei-	*to cook*
-ur-	*to follow*
-ro-	*to fly*
-sei-	*to laugh*

List of Sm2 Verbs

-pa-	*to sleep*
-p-	*to watch*

ILLUSTRATION 30

Verb Structure in Matukar (81)

Pers	±S	+Sm	+Vb	+T	Translation
Present					
1sg	ŋau	ŋa-	-soŋ-	-go	*I go*
2sg	oŋ	Ø-	-soŋ-	-go	*you go*
3sg	mɛin	Ø-	-soŋ-	-go	*he goes*
1pl incl	it	ta-	-soŋ-	-go	*we go*
1pl excl	ŋam	ŋama-	-soŋ-	-go	*we go*
2pl	aŋ	a-	-soŋ-	-go	*you go*
3pl	mɛin	di-	-soŋ-	-go	*they go*
Future					
1sg	ŋau	ŋa-	-soŋ-	-aba	*I will go*
2sg	oŋ	Ø-	-soŋ-	-aba	*you will go*
3sg	mɛin	Ø-	-soŋ-	-aba	*he will go*
1pl incl	it	ta-	-soŋ-	-aba	*we will go*
1pl excl	ŋam	ŋama-	-soŋ-	-aba	*we will go*
2pl	aŋ	a-	-soŋ-	-aba	*you will go*
3pl	mɛin	di-	-soŋ-	-aba	*they will go*
Present					
1sg	ŋau	ŋai-	-na-	-go	*I sleep*
2sg	oŋ	we-	-na-	-go	*you sleep*
3sg	mɛin	ye-	-na-	-go	*he sleeps*
1pl incl	it	tai-	-na-	-go	*we sleep*
1pl excl	ŋam	ŋamai-	-na-	-go	*we sleep*
2pl	aŋ	ai-	-na-	-go	*you sleep*
3pl	mɛin	di:e-	-na-	-go	*they sleep*

3.56.3.2. In the Manam language, preference is given to the indication of tense by a Time Adverb rather than by a Tense Suffix. The only tense suffix (which might be an aspect marker) obtained by the present writer was /-doy/ for the past tense, a morpheme which was however not used by some informants. Böhm (unpublished) gives no list of tense suffixes. Such suffixes do, however, occur in all the other Melanesian languages under consideration. For this reason, the Tense slot is put in brackets (+T) in Illustration 31. However, a difference in the Sm sets for present-past and for future is found in the Manam language; the Sm has, therefore, an additional function of denoting tense. In Manam dual and trial forms are distinguished, and both number categories are derived from the plural by suffixing /-ru ∿ -aru/ for the dual and /-to ∿ -ato/ for the trial to the personal pronouns (see the S slot in Illustration 31) or to the verbs (see the Sm/Numb slot in Illustration 31).

Illustrative material on the verb structure in Manam is given in Illustration 31. The plus sign for the Sm/Numb slot refers only to the dual and trial forms not to the plural. Table 9 contains the Sm sets for present-past and for the future. Only the morpheme /-ta/ for the first person plural inclusive is the same in both sets. The material presented is based on the writer's own field notes, but was checked against Böhm's (unpublished) notes on the Manam language.

TABLE 9

List of Subject Markers (Sm) in Manam (74)

Sm set for present and past		Sm set for future	
1sg	u-	1sg	m-
2sg	ku-	2sg	go-
3sg	i-	3sg	ŋa-
1pl incl	ta-	1pl incl	ta-
1pl excl	ki-	1pl excl	ga-
2pl	ka-	2pl	kama-
3pl	di-	3pl	da-

ILLUSTRATION 31

Verb Structure in Manam (74)

±S	±Time Adv	+Sm	+Vb	(+T)	+Sm/ Numb	Translation
ŋai		i-	-lako			*I go*
di		di-	-lako			*they go*
di -aru		di-	-lako		-ru	*they (2) go*
di -ato		di-	-lako		-to	*they (3) go*
di -aru		di-	-lako	-doy	-ru	*they (2) went*
di -aru		di-	-lako	-doy	-ru	*they (3) went yesterday*
di -ato		da-	-lako		-to	*they (3) will go*
di -ato	zama	da-	-lako		-to	*they (3) will go tomorrow*

3.56.4. In most languages of the Adelbert Range Phylum Direct Object Markers (Om) are immediately prefixed to the Vb, but immediately suffixed to the Vb in languages of the Madang Phylum and in Melanesian languages. In languages of the Madang Phylum, the Om is followed by the TSm and in Melanesian languages by T. The suffixed Om is easily detected through the known environment presented by intransitive verbs, but the identification of the prefixed Om can be very difficult, because the Om can be zero, or be very similar to the personal pronoun, and the O slot is, in many languages, rarely filled by a personal pronoun. Prefixed Om's can be identified easily if the negation marker is preposed to the verb, i.e. immediately preposed to the Om. If this is not the case, it is useful if the personal pronoun as an O slot filler is expanded by a modifier such as a numeral. The O slot is then filled in most cases and the numeral separates the O from the Om.

The prefixed Om will be illustrated with materials from the Mugil and Tani languages of the Adelbert Range Phylum, and the suffixed type with material from two Melanesian languages; Matukar and Manam, and from two languages of the Madang Phylum: Garus and Bau.

3.56.4.1. The Om set for Mugil (46) is shown in Table 10. The verb /-ug-/ *to give* is the only exception to the rule among over 200 tested verbs. The Om set for it is given in the Om slot in Illustration 32. A number of verbs undergo partial or complete changes in their Vb's if combined with the Om of the third person singular. The changes are unpredictable, although a change from initial /n/ to initial /w/ has

been frequently observed; an exception to this rule would be e.g. /wa-/ *to take* which remains unchanged, probably because it has initial /w/. A short list of verbs which undergo changes in their Vb form for the third person singular object is given in Table 11.

TABLE 10

Object Markers in Mugil (46)

1sg	i-
2sg	ni-
3sg	Ø-
1pl	gi-
2pl	gi-
3pl	gi-

TABLE 11

Verb Base Changes in Transitive Verbs in Mugil (46)

Vb for 3sg	Vb for other persons than 3sg	Translation
-bulon-	-bilen-	*to talk*
-hol-wa-	-biy-	*to see*
-oy-	-noy-	*to burn*
-wol-	-nol-	*to fight*
-wolwor-	-nolwor-	*to break*
-wolron-	-nolron-	*to wipe*
-wad-	-nad-	*to be angry at*

ILLUSTRATION 32

Object Marker Incorporation in Mugil (46)

±S	±O	+Om	+Vb	+TSm	Translation
mat	ya	i-	-hurit-	-a?	*the man heare me*
mat	ni	ni-	-hurit-	-a?	*the man hears you* (sg)
mat	in	Ø-	-hurit-	-a?	*the man hears him*
mat	iy	gi-	-hurit-	-a?	*the man hears us*
mat	ne	gi-	-hurit-	-a?	*the man hears you* (pl)
mat	in	gi-	-hurit-	-a?	*the man hears them*
aw	ya	ya-	-g-	-a?	*the woman gives me*
aw	ni	ni-	-g-	-a?	*the woman gives you* (sg)
aw	in	Ø	-ug-	-a?	*the woman gives him*
aw	iy	iy-	-g-	-a?	*the woman gives us*
aw	ne	ne-	-g-	-a?	*the woman gives you* (pl)
aw	in	ne-	-g-	-a?	*the woman gives them*

3.56.4.2. The allomorphic Om sets of Tani (25) have not yet been sufficiently studied for a detailed presentation. The sets differ with respect to the vowel phoneme of the Om, but the conditioning factors for this could not yet be adequately established. Tense is not differentiated in any set. The Om set in Table 12 is given with reference to the verb /-nak-/ *to give*. The material given in Illustration 33 should be adequate to reveal the structure of direct transitive verbs. The O slot is very seldom filled by a personal pronoun and for this reason has been left empty.

TABLE 12

Object Markers in Tani (25)

1sg	sa-
2sg	na-
3sg	Ø-
1pl	se-
2pl	ne-
3pl	e-

ILLUSTRATION 33

Object Marker Incorporation in Tani (25)

±S	+Om	+Vb	+TSm	Translation
moato	sa-	-nak-	-at	*the man gave me*
moato	na-	-nak-	-at	*the man gave you* (sg)
moato	Ø-	-nak-	-at	*the man gave him*
moato	se-	-nak-	-at	*the man gave us*
moato	ne-	-nak-	-at	*the man gave you* (pl)
moato	e-	-nak-	-at	*the man gave them*

±S	±O	+Om	+Vb	+TSm	Translation
so	nata	Ø-	-nak-	-amo	*I gave to a child*
so	nata	e-	-nak-	-amo	*I gave to children*

3.56.4.3. In Melanesian languages, object markers are immediately suffixed to the Vb and followed by the tense. Table 13 lists the Om allomorphs for Matukar (81). No Om allomorphs were observed in Manam; the Om set is given in the Om slot in Illustration 34. A verb base changes its form rarely for a suffixed Om. The verb /-hun-/ *to hit* which changes to /-hum-/ for the third person plural object, is one of the rare cases in which such a change occurs.

Illustrative material for Matukar and Manam is given in Illustration 34-35.

TABLE 13

Object Markers in Matukar (81)

Pers	Om	Occurrence
1sg	-au-	:occurring in all environments
2sg	-oŋ- ∿ -om-	:allomorph /-om-/ occurs before the future tense marker; /-oŋ/ in all other environments
3sg	-iŋ- ∿ -ŋ-	:allomorph -iŋ- occurs after consonants; -ŋ- after vowels
1pl incl	-ad-	:in all environments
1pl excl	-amam-	:in all environments
2pl	-aŋ- ∿ -am-	:allomorph /-am-/ occurs before the future tense morpheme /-ba/; /-aŋ-/ in all other environments
3pl	-din- ∿ -ai-	:the conditioning factors are unknown.

ILLUSTRATION 34

Object Marker Incorporation in Matukar (81)

±S	+Sm	+Vb	+Om	+T	Translation
peinim	di-	-pan-	-au-	-go	*the women give me*
peinim	di-	-pan-	-oŋ-	-go	*the women give you* (sg)
peinim	di-	-pan-	-iŋ-	-go	*the women give him*
peinim	di-	-pan-	-ada-	-go	*the women give us* (incl)
peinim	di-	-pan-	-amama-	-go	*the women give us* (excl)
peinim	di-	-pan-	-aŋa-	-go	*the women give you* (pl)
peinim	di-	-pan-	-dina-	-go	*the women give them*

ILLUSTRATION 35

Object Marker Incorporation in Manam (74)

±S	(±O)	+Sm	+Vb	+Om	(+T)[48]	Translation
tamota		di-	-ra-	-ya		*the men tell me*
tamota		di-	-ra-	-ko		*the men tell you* (sg)
tamota		di-	-ra-	-i		*the men tell him*
tamota		di-	-ra-	-kita		*the men tell us* (incl)
tamota		di-	-ra-	-kama		*the men tell us* (excl)
tamota		di-	-ra-	-kamiŋ		*the men tell you* (pl)
tamota		di-	-ra-	-di		*the men tell them*
tamota		di-	-ra-	-kita-ru		*the men tell us (two* incl*)*
tamota		di-	-ra-	-kita-to		*the men tell us (two* excl*)*

[48]The O and T slots are seldom filled and for this reason have been left empty.

3.56.4.4. Direct Object markers are immediately suffixed to the Vb followed by the TSm in all languages of the Madang Phylum. Although the tagmeme is easily detected, the allomorphs are as a rule extremely difficult to establish. A considerable amount of time has been spent by me on doing this, but the results are not yet satisfactory. For this reason, the Om morphemes will only be given with reference to the verbs taken for illustration in the following Illustrations (36-37) from Garus and Bau.

ILLUSTRATION 36

Object Incorporation in Garus (4)

±S	+Vb	+Om	+TSm	Translation
dal	ul-	-ɛl-	-da	*the man hits me*
dal	ul-	-ir-	-da	*the man hits you* (sg)
dal	ul-	-Ø-	-da	*the man hits him*
dal	ul-	-ɛg-	-da	*the man hits us*
dal	ul-	-ayad-	-da	*the man hits you* (pl)
dal	ul-	-ayad-	-da	*the man hits them*

ILLUSTRATION 37

Object Incorporation in Bau (2)

±S	+Vb	+Om	+TSm	Translation
mɛm	of-	-it-	-ana	*the father saw me*
mɛm	of-	-is-	-ana	*the father saw you* (sg)
mɛm	of-	-is-	-ana	*the father saw him*
mɛm	of-	-ik-	-ana	*the father saw us*
mɛm	of-	-at-	-ana	*the father saw you* (pl)
mɛm	of-	-at-	-ana	*the father saw them*
mɛm	of-	-ir-	-ana	*the father saw us (two)*
mɛm	of-	-ar-	-ana	*the father saw you (two)*
mɛm	of-	-ar-	-ana	*the father saw them (two)*

3.56.5. As has already been pointed out in connection with the Mugil and Matukar languages, the verb base of any verb may undergo changes in its phonemic form in accordance with the nature of the object. Such stem changes tend to be more complex in languages with no Om incorporation, although both phenomena may occur together in any language with many or only a few verbs. It requires extensive analysis work to establish all object conditioned Vb's of a single verb. Two languages have been selected for the illustration of this: Dimir (21) of the Adelbert Range Phylum and Mikarew (52) of the Ramu Phylum.

In the first column in Tables 14-15 the verb under consideration is given in English, the second column indicates the person and number of the object, and then the Vb is given. The Vb does not change for tense or the pronoun/noun classes in Dimir, but it does in Mikarew. The object slot for Mikarew identifies the filler as pronoun, noun singular (sg) and noun dual (dl) as another class. Tense may or may not have an influence on the Vb. The tenses are indicated in column four for Mikarew.

TABLE 14

List of Verb Bases in Dimir (21)

English	Om	Vb
to talk	1sg	sagisa-
	2sg	sagisa-
	3sg	sasa-
	1pl	tagara-
	2pl	tagara-
	3pl	tagara-
to see	1sg	(ka)ga-
	2sg	(ka)ga-
	3sg	(ka)ga-
	1pl	iruga-
	2pl	iruga-
	3pl	iruga-
to bite	1sg	ganisa-
	2sg	ganisa-
	3sg	gusu-
	1pl	ganara-
	2pl	ganara-
	3pl	ganara-
to give	1sg	isi-
	2sg	nasa-
	3sg	usu-
	1pl	ida-
	2pl	asa-
	3pl	ida-

TABLE 15

List of Object Determined Verb Bases In Mikarew (52)

Verb	Object	Verb base	Tense
to give	Pronoun Noun	ganiŋ-	Present Past
	Pronoun Noun sg Noun dl	daniŋ-	Future
	Noun pl	raniŋ-	Future
to see	Pronoun Noun sg Noun dl	n+gar-	Present Past
	Noun pl	r+gar-	Present Past
	Pronoun Noun sg Noun pl	n+gan-	Future
	Noun pl	r+gan-	Future
to talk	Pronoun Noun sg Noun pl	muge-	Present
	Noun pl	wuge-	Present
	Pronoun Noun sg Noun pl	mukemi-	Past Future
	Noun pl	wukemi-	Past Future
to hear	Pronoun Noun sg Noun pl	barav-	Present
	Noun pl	warav-	Present
	Pronoun Noun sg Noun pl	bare-	Past
	Noun pl	ware-	Past
	Pronoun Noun sg Noun pl	barag-	Future
	Noun pl	warag-	Future

CHART C

Typological Features

A. Madang Phylum																		
Lg	Numb	CC	IPC	2PC--R+P/O suff.	2PC--R+P/O pref.	2PC--R+P/O poss. noun	2PC--R/P+O	3PC	MPC	Counting Systems 2	5	BC[49]	Tense pref.	suff.	Sm pref.	suff.	Om pref.	suff.
Is 1	-	-	-	+	-	-	-	-	-	-	+	-	-	+	-	+	-	+
B 2	-	-	-	+	-	-	-	-	-	-	+	-	-	+	-	+	-	+
Al 3	-	-	-	+	-	-	-	-	-	-	+	-	-	+	-	+	-	+
Gs 4	-	-	-	+	-	-	-	-	-	-	+	-	-	+	-	+	-	+
Yo 5	-	-	-	+	-	-	-	-	-	-	+	-	-	+	-	+	-	+
Re 6	-	-	-	+	-	-	-	-	-	-	+	-	-	+	-	+	-	+
Gh 7	-	-	-	-	-	+	-	-	-	-			-	+	-	+	-	+
Kam 8	-	-	-	-	-	+	-	-	-	-	+	-	-	+	-	+	-	+
Mw 9	-	-	-	+	-	-	-	-	-	-	-	+	-	+	-	+	-	+
Ut 10	-	-	-	+	-	-	-	-	-	-	-	+	-	+	-	+	-	+
Wm 11	-	-	-	+	-	-	-	-	-	-	-	+						
Sr 12	-	-	-	+	-	-	-	-	-	-	-	+	-	+	-	+	-	+
Kr 13	-	-	-	+	-	-	-	-	-	-	-	+	-	+	-	+	-	+
Us 14	-	-	-	+	-	-	-	-	-	-	-	+	-	+	-	+	-	+
Su 15	-	-	-	+	-	-	-	-	-	-			-	+	-	+	-	+
Ur 16	-	-	-	+	-	-	-	-	-	-			-	+	-	+	-	+

[49] Body counting system

CHART C (cont'd)

B. Adelbert Range Phylum

Lg	Numb	CC	IPC	2PC--R+P/O suff.	2PC--R+P/O pref.	2PC--R+P/O poss. noun	2PC--R/P+O	3PC	MPC	Counting System 2	Counting System 5	Counting System BC	Tense pref.	Tense suff.	Sm pref.	Sm suff.	Om pref.	Om suff.
Ko 17	-	-	-	-	-	-	-	+	-	-	+	-	-	+	-	+	+	-
Ws 18	-	-	-	-	+	-	-	-	-	-		-	-	+	-	+		-
Ml 19	-	-	+	-	-	-	-	-	-	+	-	-	-	+	-	+	+	-
Bu 20	-	-	+	-	-	-	-	-	-	-	+	-	-	+	-	+	+	-
Di 21	+	-	+	-	-	-	-	-	-	-	+	-	-	+	-	+	-	-
Pa 22	-	-	-	-	+	-	-	-	-	-	+	-	-	+	-	+	+	-
Pi 23	-	-	-	-	+	-	-	-	-	-	+	-	-	+	-	+	+	-
Sa 24	-	-	-	-	+	-	-	-	-	-	+	-	-	+	-	+	+	-
Ta 25	-	-	-	-	+	-	-	-	-	-	+	-	-	+	-	+	+	-
Ul 26	-	-	-	-	-	-	+	-	-	-	+	-	-	+	-	+	+	-
Be 27	-	-	+	-	-	-	-	-	-	-	+	-	-	+	-	+	+	-
Mk 28	-	-	+	-	-	-	-	-	-	+	-	-	-	+	-	+	+	-
Mr 29	-	-	+	-	-	-	-	-	-	+	-	-	-	+	-	+	+	-
Wa 30	-	-	+	-	-	-	-	-	-	+	-	-	-	+	-	+	+	-
Wn 31	-	-	-	-	-	-	+	-	-				-	+	-	+	+	-
Ya 32	-	-	-	-	-	-	+	-	-	+	-	-	-	+	-	+	+	-
Par 33	-	-	-	-	-	-	+	-	-	?	-	+	-	+	-	+	+	-
Ama 34	-	-	+	-	-	-	-	-	-	-	-	+	-	+	-	+	+	-
Mo 36	+	+	-	-	+	-	-	-	-	-	+	-	-	+	-	+	+	-
Ik 37	+	+	-	-	+	-	-	-	-	+	-	-	-	+	-	+	+	-
Po 39	+	+	-	-	-	-	+	-	-	+	-	-	-	+	-	+	+	-
Os 38	+	-	-	-	-	-	+	-	-	+	-	-	-	+	-	+	+	-
Wad 35	+	-	-	-	+	-	-	-	-	+	-	-	-	+	-	+	+	-
Kt 40	-	-	-	-	-	-	+	-	-	+	-	-	-	+	-	+		-
At 41	-	-	+	-	-	-	-	-	-	+	-	-	-	+	-	+	-	-
Ang 42		-	+	-	-	-	-	-	-	+	-	-	-	+	-	+	-	-
Em 43	-	-	+	-	-	-	-	-	-	+	-	-	-	+	-	+	-	-
Mu 44	-	-	+	-	-	-	-	-	-	+	-	-	-	+	-	+	-	-
Pn 45	-	-	+	-	-	-	-	-	-	+	-	-	-	+	-	+	-	-
Mg 46	-	-	-	-	+	-	-	-	-	-		-	-	+	-	+	+	-

CHART C (cont'd)

C. Ramu Phylum															
							Counting Systems			Tense		Sm		Om	
Lg	Numb	CC	1PC	2PC	3PC	MPC	2	5	BC	pref.	suff.	pref.	suff.	pref.	suff.
Wt 47	+	–	+	–	–	–	–	+	–	–	+	–	–	–	–
Ka 48	+	–	+	–	–	–	–	+	–	–	+	–	–	–	–
Ga 49	+	–	+	–	–	–	–	+	–	–	+	–	–	–	–
Aw 50	+	–	+	–	–	–	–	+	–	–	+	–	–	–	–
Bo 51	+	–	+	–	–	–	–	+	–	–	+	–	–	–	–
Mi 52	+	–	+	–	–	–	+	–	–	–	+	–	–	–	–
Se 53	+	–	+	–	–	–	+	–	–	–	+	–	–	–	–
Gi 54	+	–	+	–	–	–	+	–	+	–	+	–	–	–	–
Tn 55	+	–	+	–	–	–	+	–	–	–	+	–	–	–	–
Ig 56	+	–	+	–	–	–	+	–	–	–	+	–	–	–	–
Tg 57	+	–	+	–	–	–	+	–	–	–	+	–	–	–	–
And 58	+	–	+	–	–	–	+	–	–	–	+	–	–	–	–
It 59		–	+	–	–	–	+	–	–	–	+	–	–	–	–
Mid 60	+	–	+	–	–	–	+	–	–	–	+	–	–	–	–
Ak 61		–	+	–	–	–	+	–	–	–	+	–	–	–	–
Br 62	+	–	+	–	–	–	–	+	–	–	+	–	–	–	–
Ro 63	+	–	+	–	–	–	–	+	–	–	+	–	–	–	–
Ar 64	–	–	+	–	–	–				–	+	–	–	–	–
Ai 65	–	–	+	–	–	–	+	–	–	–	+	–	–	–	–
Ra 66	–	–	+	–	–	–	–			–	+	–	–	–	–
Ba 67	–	–	+	–	–	–	–			–	+	–	–	–	–
Adj 68	+	–	+	–	–	–	–			–	+	–	–	–	–
Gv 69	+	–	+	–	–	–	–			–	+	–	–	–	–

CHART C (cont'd)

D. Melanesian Languages															
Lg	Numb	CC	IPC	2PC-R+P/O Poss. Noun	3PC	MPC	Counting Systems			Tense		Sm		Om	
							2	5	BC	pref.	suff.	pref.	suff.	pref.	suff.
Ma 74	-	-	-	+	-	-	-	+	-	-	+	+	-	-	+
Sp 75	-	-	-	+	-	-	-	+	-	-	+	+	-	-	+
Me 76	-	-	-	+	-	-	-	+	-	-	+	+	-	-	+
Ge 77	-	-	-	+	-	-	-	+	-	-	+	+	-	-	+
Bi 78	-	-	-	+	-	-	-	+	-	-	+	+	-	-	+
Tk 79	-	-	-	+	-	-	-	+	-	-	+	+	-	-	+
Meg 80	-	-	-	+	-	-	-	+	-	-	+	+	-	-	+
Mt 81	-	-	-	+	-	-	-	+	-	-	+	+	-	-	+

BIBLIOGRAPHY

This bibliography contains:

a) a list of all works quoted or referred to in the text; manuscripts are referred to by 'unpublished'.

b) other selected works to which no direct reference was made but which have, at some time, been consulted and therefore form part of the background to the present study.

AUFENANGER, H.

1960 "The Ayom Pygmies' Myth of Origin and Their Method of Counting." *Anthropos* 55:247-9.

AUFINGER, A.

1939 "Wetter Zauber auf den Yabob-Inseln in Neuguinea." *Anthropos* 34:277-91.

1942-45 "Die Geheimsprachen auf den kleinen Inseln bei Madang in Neuguinea" (Karte). *Anthropos* 37-40:629-46.

BAAR, van C.

undated *Die Tangum*. (Unpublished).

BERGMANN-KUNZE

1893 (Die Sprachen auf den Inseln Siar und Karkar). *Nachrichten aus dem Kaiser Wilhelm's Land* 9:56-7.

BIGGS, B.

1963 "A Non-Phonemic Central Vowel Type in Karam, A 'Pygmy' Language of the Schrader Mountains, Central New Guinea." *Anthropological Linguistics* 5:13-7.

BÖHM, C.

undated *Studies on the Manam Language.* Unpublished.

CAPELL, A.

1933 "The Structure of the Oceanic Languages." *Oceania* 3/4:418-34.

1943 "Notes on the Islands of Choiseul and New Georgia, Solomon Islands." *Oceania* 14:20-9.

1948-49 (Review: The Languages of the Mugil District, N.E. New Guinea by Kaspruś 1942-45). *Oceania* 19:193-4.

1952 "Languages of Bogia District, New Guinea." *Oceania* 22:130-47, 178-207.

1954 *A Linguistic Survey of the South-Western Pacific.* Noumea: South Pacific Commission, Technical Paper No.70.

1962a *A Linguistic Survey of the South-Western Pacific.* Revised new edition. Noumea: South Pacific Commission, Technical Paper No.136.

1962b "Oceanic Linguistics Today." *Current Anthropology* 3:371-429.

1969 *A Survey of New Guinea Languages.* Sydney University Press, Sydney.

CHINNERY, E.

1923-24 (Vocabularies of Native languages: portions of Aitape, Madang and Morobe Districts). *New Guinea Annual Report 1923-4.* 87-92. (Australia House).

CLAASSEN-McELHANON

forth-coming *Languages of the Finisterre Range - New Guinea.*

COWAN, H.

1951 "Notes on Sentani Grammar." *Oceania* 21:214-28, 302-9; 22: 53-71.

DEMPWOLFF, O.

1905 "Beiträge zur Kenntnis der Sprachen von Deutsch-Neuguinea." *Mitteilungen des Seminars für Orientalische Sprachen* 8:182-254.

1909 "Beiträge zur Kenntnis der Sprache von Bilibili." *Mitteilungen des Seminars für Orientalische Sprachen* 12/1: 221-61.

1911 "Sagen und Märchen aus Bilbil." *Basler Archiv* 2:63-102.

1918-19 "Eine Gespenstergeschichte aus Graged, Deutsch-Neuguinea." *Zeitschrift für Kolonialsprachen* 9:129-31.

1925-26 "Sagen und Märchen aus Gedaged und Sivo" (Neu Guinea). *Zeitschrift für Eingeborenensprachen* 16:1-58.

undated *Grammar of the Graged Language.* Duplicated at the Lutheran Mission Narer, Karkar Island, New Guinea.

DUTTON, T.E.

1969 *The Koiarian Languages of the Central Papua: A Historical and Descriptive Linguistic Study.* Doctoral dissertation, The Australian National University, Canberra.

FRIEDERICI, G.

1912 "Beiträge zur Völker- und Sprachenkunde von Deutsch-Neuguinea." *Mitteilungen aus den Deutschen Schutzgebieten.* Ergänzungsheft 5:228-31.

GABELENTZ, G. and MEYER, A.

1883 "Beiträge zur Kenntnis der melanesischen, mikronesischen und papuanischen Sprachen." *Abhandlungen der sächsischen Gesellschaft der Wissenschaft, phil. hist. Classe* 8:375-541, Leipzig.

GEORGE, H.

undated *Gedaged-Deutsches-Takia. Wörterbuch.* Unpublished.

GUDSCHINSKY, S.

1956 "The ABC's of Lexicostatistics (Glottochronology)." *Word* 12:1-210.

GUSINDE, M.

1958 "Die Ayom - Pygmäen auf Neuguinea." *Anthropos* 53:497-574, 817-63.

HABERLAND, E.

1966 "Zur Ethnographie der Alfendio-Region (Südlicher Sepik-Distrikt, Neuguinea)." *Jahrbuch des Museums für Völkerkunde zu Leipzig* 23:33-7.

HANKE, A.

1905 "Die Sprachverhältnisse in der Astrolabe-Bai in Deutsch-Neu Guinea." *Mitteilungen des Seminars für Orientalische Sprachen* 8:255-62.

1909 *Grammatik und Vokabularium der Bongu-Sprache.* Archiv für das Studium deutscher Kolonial-Sprachen. Bd.8. Berlin.

HOLLRUNG, M.

1887 (Erstes Verzeichnis von Wörtern des Dialektes, welcher von der Eingeborenen in den Umgebung von Hatzfeldhafen gesprochen wird). *Nachrichten aus dem Kaiser Welhelmsland* 3:85-7.

HÖLTKER, G.

1937 "Vorbericht über meine ethnographischen und anthropologischen Forschungen im Bogia-Distrikt (Neuguinea)." *Anthropos* 32: 963-7.

1938 "Eine fragmentarische Wortliste der Gapún-Sprache Neuguineas." *Anthropos* 33:279-82.

1940-41 "Verstreute ethnographische Notizen über Neuguinea." *Anthropos* 35-36:1-67.

1947 "Die maritime Ortung bei einigen Stämmen in Nordost-Neu-Guinea." *Geographica Helvetica* 2/3:192-205.

1961 "Leichenbrand und anderes vom unteren Ramu (Neuguinea)." In: *Beiträge zur Völkerforschung: Hans Damm zum 65. Geburtstag*. Berlin. pp.285-303.

1964 "Zur Sprache der Monumbo-Papua in Nordost-Neuguinea." *Anthropos* 59:860-903.

HOOLEY, B. and McELHANON, K.

1969 "Languages of the Morobe District." *Pacific Linguistics* Series C, forthcoming.

HUBERS, H.

undated *Takia-English Dictionary*. Unpublished.

INSELMANN, R.

undated *Nobonob-English Dictionary*. Unpublished.

KASPRUŚ, A.

1942-45 "The Languages of the Mugil District, NE-New Guinea." *Anthropos* 37-40:711-78.

1946-49 "Correction of the Article 'The Languages of the Mugil District, NE-New Guinea'." *Anthropos* 40-44:370.

undated *Studies on Languages of the Middle Ramu River*. Unpublished.

KIRSCHBAUM, A.

1922 "Sprachen- und Kulturgruppierungen in Deutsch-Neuguinea." *Anthropos* 16-17:1052-3.

1926 "Miscellanea aus Neuguinea." *Anthropos* 21:274-7.

1927 "Ein neuentdeckter Zwergstamm auf Neuguinea." *Anthropos* 22:202-15.

1935 *Block für Sprachliche Aufnahmen in Neu-Guinea*. Mödling-Wien.

1937 "Zur Erforschung der Ramu-Pygmäen (Neuguinea)." *Anthropos* 32:661.

KLIENEBERGER, H.R.

1957 *Bibliography of Oceanic Linguistics.* Oxford University Press, London.

LAYCOCK, D.C.

1965 *The Ndu Language Family (Sepik District).* The Australian National University, Canberra.

1968 "Languages of the Lumi-Sub-District (West Sepik District, New Guinea)." *Oceanic Linguistics*, forthcoming.

LOUKOTKA, C.

1957 *Classification des langues Papoues.* Posnań.

MAGER, J.

1952 *Gedaged-English Dictionary.* Board of Foreign Missions of the American Lutheran Church. Columbus, Ohio.

undated *Vaskia-English Dictionary.* Unpublished.

MEISER, L.

1958 "Relationship and Marriage among the Kaean of the Northern Coast of New Guinea." *Anthropos* 53:806-16.

1959 "Child-Bearing and Child-Rearing among the Kaean of the Northern Coast of New Guinea." *Anthropos* 54:232-4.

MIKLUCHO-MACLAY

1951 *Sobraniye Sočinenye.* (Collected Works) Vol.III. Moscow, Vocabularies pp.157-85.

MILKE, W.

1965 "Comparative Notes on the Austronesian Languages of New Guinea." *Lingua* 14:330-48.

MOYNE, LORD

1936a "Pygmies in New Guinea." *Pacific Island Monthly* 8:57.

1936b *Walkabout. A Journey in Lands between the Pacific and Indian Oceans.* London-Toronto.

NIDA, E.

1963 *Morphology. The Descriptive Analysis of Words.* (Second ed.) The University of Michigan Press, Ann Arbor.

PAWLEY, A.K.

1966 *The Structure of Karam : A Grammar of a New Guinea Highlands Language.* Doctoral dissertation, University of Auckland, New Zealand.

PIKE, K.

1947 *Phonemics: A Technique for Reducing Languages to Writing.* The University of Michigan Press, Ann Arbor.

PÖCH, R.

1905 "Beobachtungen über Sprache, Gesänge und Tänze der Monumbo, anlässlich phonographischer Aufnahmen in Deutsch-Neuguinea." *Mitteilungen der anthropologischen Gesellschaft Wien* 35:230-7.

1907 "Reisen in Neuguinea in den Jahren 1904-1906." *Zeitschrift für Ethnologie* 39:382-400.

1908 "Reisen an der Nordküste von Kaiser-Wilhelmsland." *Globus* 93:139-43, 149-55, 169-73.

RESCHKE, H.

1935 *Linguistische Untersuchungen der Mythologie und Initiation in Neuguinea.* Anthropos Bibliothek III, 5 Münster.

SALZNER, R.

1960 *Sprachenatlas des Indopazifischen Raumes.* Wiesbaden.

SCHEBESTA, J.

1913 "Sprachgruppierung und Totemismus der Potsdamhafen Gruppe, Deutsch-Neuguinea." *Anthropos* 8:880-1.

1921-22a "Parak-Institution im Bogia-Distrikt unter den Sepa." *Anthropos* 16/17:1053-5.

1921-22b "Totemismus bei den Ariawiai, Neuguinea." *Anthropos* 16/17: 1055-6.

1932 "Vier Sagen in der Sepa-Sprache." *Wiener Zeitschrift für die Kunde des Morgenlandes* 38:249-62.

1934 "Allgemeine Grammatik zur Aufnahme und Studium von Eingeborenensprachen." In: Kirschbaum Fr. - Fürer-Heimendorf, Christoph von, *Anleitung zu ethnographischen und linguistischen Forschungen mit besonderer Berücksichtigung der Verhältnisse auf Neuguinea und den umliegenden Inseln.* Wien-Mödling. pp.42-5.

1938 "Ein Versuch, der ältesten Gottheit der Sepa auf linguistischem Wege näherzukommen." *Anthropos* 33:659-63.

1940-41a "Terms expressing relationship in the languages of Dagoi and Bonaputa-Mopu, New Guinea." *Anthropos* 35-36:586-92.

1940-41b "Ein paar erste Notizen über die Awarken in Neuguinea." *Anthropos* 35-36:978.

1942-45 "Ethnographische Miszellen von einer Dienstreise in der Mission von Alexishafen in Neuguinea." *Anthropos* 37-40: 881-6.

SCHEBESTA, J. and HÖLTKER, G.

undated *Vergleichende Wörterelisten von Bogia Sprachen.* Manuscript in possession of the Anthropos-Institute.

SCHMIDT, W.

1900-01 "Die Sprachlichen Verhältnisse von Deutsch-Neuguinea." *Zeitschrift für afrikanische und ozeanische Sprachen* 5: 354-84; 6:1-99.

1907 "Die Sprachlaute und ihre Darstellung in einem allgemeinen linguistischen Alphabet." *Anthropos* 2:282-329, 508-87, 822-97, 1058-105.

1920a "Melanesische Sprachen." *Deutsches Kolonial-Lexikon*, ed. by Schnee H. Vol.2:538-44. Leipzig.

1920b "Papua Sprachen." *Deutsches Kolonial-Lexikon*, ed. by Schnee H. Vol.3:17-20.

1926 *Die Sprachfamilien und Sprachenkreise der Erde.* (Kulturgeschichtliche Bibliothek, 1. Reihe: Ethnol. Bibliothek: 5) Heidelberg.

SCHORR, W.

undated *Mikarew-Dictionary.* Unpublished.

STANHOPE, J.M.

1968 "Competitive Systems of medicine among the Rao-Breri, Lower Ramu River, New Guinea." *Oceania* 34:137-45.

STANLEY, E.R.

1921-22 "Report on the Salient geological features and natural resources of the New Guinea Territory, including notes on Dialectics and ethnology." *New Guinea Annual Report 1921-2*: 84-91.

STEFANSKY, R.

undated *Vokabular und Grammatik der Rempi-Sprache.* Unpublished.

undated *Studies in the Garus-Language.* Unpublished.

SWADESH, M.

1954 "Perspectives and Problems of Amerindian Comparative Linguistics." *Word* 10:306-32.

1955a "Towards Greater Accuracy in Lexicostatistic Dating." *International Journal of American Linguistics* 21:121-37.

1955b *American Non-Cultural Vocabularies.* Revised ed. (mimeographed).

THURNWALD, R.

1916 "Banaro Society: Social Organization and Kinship System of a Tribe in the Interior of New Guinea." *American Anthropologist*: Memoirs 3:251-91.

1934 "Adventures of a Tribe in New Guinea (The Tjimundo)." In: *Essays presented to C.G. Seligman.* London, 245-600.

undated *Banaro Wordlist.* Unpublished.

TRANEL, P.
1952 "Völkerkundliche und sprachliche Aufzeichnungen aus dem Moundo-Sprachgebiet in Nordost-Neuguinea." *Anthropos* 47: 443-73.

VORMANN, F. and SCHARFENBERGER, W.
1914 *Die Monumbo-Sprache.* Wien.

VOEGELIN, C.F. and F.M.
1965 "Languages of the World: Indo-Pacific Fascicle." *Anthropological Linguistics* 7.

WAUGH, D.
1924-25 (Vocabularies collected at Butelkud and Matepi Villages respectively). *New Guinea Annual Report 1924-5*:93-5.

WERNER, E.
1909 "Im westlichen Finisterregebirge und an der Nord-Küste von Deutsch Neuguinea." *Pettermann's Mitteilungen aus Justhus Perthes geographischen Institut, Gotha* 55:73-83, 107-13.

1911 *Kaiser Wilhelmsland.* Freiburg i.Br.

WURM, S.
1954 "Notes on Structural Affinities of Non-Melanesian (Papuan) Languages." In: *Die Wiener Schule der Völkerkunde, Festschrift zum 25 jährigen Bestand 1929-1954*, pp.467-72.

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

1961a "The Linguistic Situation in the Highlands Districts of Papua and New Guinea." *Australian Territories* 1/2:14-23.

1961b *Languages of the Eastern, Western and Southern Highlands, Territory of Papua and New Guinea.* Coloured map, The Australian National University, Canberra.

1963 "Aberrant Melanesian in the Santa Cruz Islands, and The Classification of Melanesian Languages." *The Proceedings of the Ninth Pacific Science Congress, 1957.* Vol.3:87-9.

1964 "Australian New Guinea Highlands Languages and the Distribution of Their Typological Features." *American Anthropologist* 66/4 Part II:77-97.

1969 "The Papuan Linguistic Situation." In: *Current Trends in Linguistics*, Vol.8: Linguistics in Oceania. Mouton and Co. Forthcoming.

undated *New Guinea Non-Cultural Vocabulary.* Mimeographed, Canberra

WURM, S. and LAYCOCK, D.

1962 "The Question of Language and Dialect in New Guinea." *Oceania* 32:128-43.

Z'GRAGGEN, J.

1965 "Possessor-Possessed Relationship in the Saker Language, NE-New Guinea." *Oceanic Linguistics* 4:119-25.

1968 "A Linguistic Survey of the Central-North-East Coast of New Guinea." *Anthropica Gedenkschrift zum 100. Geburtstag von P. Wilhelm Schmidt.* Studia Instituti Anthropos, Band 21. Steyl, pp.421-8.

ZÖLLER, H.

1890 "Untersuchungen über vierundzwanzig Sprachen aus dem Schutzgebiet der Neuguinea Compagnie." *Petermanns Mitteilungen* 36:122-8, 145-52.

1891 *Deutsch-Neuguinea und meine Ersteigung des Finisterre-Gebirges.* Stuttgart, pp.444-529.