

CLASSIFICATORY AND TYPOLOGICAL STUDIES IN LANGUAGES
OF THE WESTERN MADANG DISTRICT, NEW GUINEA

BY

J .A. Z'GRAGGEN

The Australian National University
The Research School of Pacific Studies
Department of Linguistics
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PREFACE

This thesis 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 Sub-district 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. This could, however, unfortunately be done only in some regions; other areas had to be left unsurveyed for the time being.

In this thesis 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 thesis, therefore, consists of three parts:

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

PART II 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 phylas and summaries of typological features are given for each stock.

PART III 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 thesis 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 two maps that are being used in a forthcoming publication. Thanks are also due to Professor A. Bühler, Basel, and Professor Geering, Bern, on behalf of the Swiss Academy of Science, for granting me financial assistance. I should also like to express my sincere thanks to the Administration officials at the District Offices of Madang, Bogia and Angorum, to the various Mission Bodies such as the Church of Christ Mission, the Lutheran Mission and the

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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 8160 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 has been 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 refers to the language map in Part II.

1.1.1. Comprehensive linguistic studies were made of Monumbo (72) by Vormann and Scharfenberger in 1914 and by Höltker in 1964, of Gedaged (77) by Mager in 1952 and by Dempwolff (undated), of Bilbil (78) by Dempwolff in 1909 and of Karam (84) by Pawley. Pawley's study of the structure of the Karam Language is the only modern study 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 grammars 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 ot 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

¹Schmidt 1920b: 18.

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 word-lists, 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 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 on 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 to make 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 study 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, the founder of 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 large 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 now still editing them in short but concise studies in numerous publications.

World War II brought an end to any extensive linguistic research by Missionaries of the Roman Catholic Church in the area concerned. Pidgin English is now exclusively used in schools and in church

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 language map (1957) is unsatisfactory, but it would have been better if the information contained in his bibliography 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 interrelationship has 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 results of research of over four and a half years, with fieldwork periods from August 1964 to February 1966 and from January 1967 to March 1968.

At the beginning of the research period in 1964, short outline grammars on the Mugil and Garus languages were produced and studies on verb structure made in several other languages of the Western Madang District. It was then that it became apparent how insufficient our linguistic knowledge of the Western Madang District was. A systematic survey was then carried out in 1967 and 1968 under the auspices of the Australian National University, supported by a financial grant of the Schweizerische Geisteswissenschaftliche Gesellschaft. While in the field, the main concerns were a number of typological features (see Part III) which, as the author's investigation showed, appeared to be universally 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. Important grammatical features such as concordance, possession and number marking for nouns, and

subject, tense, object and negation markers for verbs were collected in all of 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 Atempte-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 or 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% - 2%.

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
Be	Bepour
Bi	Bilbil
Bo	Bosman
Br	Breri
Bu	Bunabun
C	Consonant
CC	Cocnordance Class System
Di	Dimir
dl	dual

Em	Emerum
excl	exclusive
Fr	Foran
f	Future Tense
Ga	Gamei
Ge	Gedaged
Gn	Garuh
Gi	Giri
Gl	Gal
Gr	Gorovu
Gs	Garus
Ig	Igom
Ik	Ikundun
incl	inclusive
Is	Isebe
It	Itutang
Ka	Kaian
Ko	Korak
Km	Kambot
Kr	Kare
Kar	Karam
Kt	Katiati
Lg	Language
Li	Lilau
M	Marker

Ma	Manam
Me	Medebur
Meg	Megiar
Mg	Mugil
Mi	Mikarew
Mid	Midsivindi
Mk	Mawak
Ml	Malas
Mo	Moresada
Mon	Monumbo
MPC	Monumbo Possessive Class System
MPh	Madang Phylum
Mr	Musar
Mt	Matukar
Mu	Musak
Mw	Mawan
Na	Nake
Neg	Negation 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
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
Se	Sepen
sg	singular
Sm	Subject Marker

SP	Speakers
Sp	Sepa
Sr	Saruga
Su	Sumau
Suff	Suffix: suffixed
T	Tense
Ta	Tani
Tg	Tanguat
Tk	Takia
Tn	Tangu
tr	trial
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
<u>+</u>	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 A Articulation	Point of Articulation					
	Bilabial	Labio- Dental	Alveo- lar	Alveo- palatal	Velar	Glotta
Stops vl vd	p b		t d	c j	k g	ʔ
Fricatives vl vd	ɸ ɸ̥	f v	s z	^v s ^v z	x g	h
Nasals	m		n	ɲ	ŋ	
Lateral vl vd			ɭ l			
Vibrant			r			
Semivowel	w		y			

CHART B

Vowel Symbols

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

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

PART TWO

2. 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).

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 language map. 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.

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. 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 name. 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 Kasprus 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.

List and Classification of Languages

A. The Madang Phylum (16,270)

Stock	Family	Language	Number	Abbreviation	Speakers
	Abaian 6570	Isebe	1	Is	770
		Bau	2	B	1690
		Amele	3	Al	4110
	Hanseman 5980	Garus	4	Gs	1910
		Yoidik	5	Yo	200
		Rempi	6	Re	450
		Garuh	7	Gh	1730
		Foran	8	Fr	800
		Mawan	9	Mw	---
		Utu	10	Ut	580
		Wamas	11	Wm	---
		Saruga	12	Sr	90
	Usur Group 3380	Kare	13	Kr	340
		Gal	82	Gl	---
		Nake	83	Na	---
		Usino	14	Us	1050
		Sumau	15	Su	770
		Urigina	16	Ur	1560

B. The Adelbert Range Phylum (28,645)

Stock	Family	Language	Number	Abbreviation	Speaker	
Isumrud 8710	Kowan 6820	Korak	17	Ko	170	
		Waskia	18	Ws	6650	
	Mabuan 620	Malas	19	Ma	190	
		Bunabun	20	Bu	430	
	1270		Dimir	21	Di	1270
Pihom 11,635	Kaukombaran 5690	Pay	22	Pa	600	
		Pila	23	Pi	580	
		Saki	24	Sa	2240	
		Tani	25	Ta	2270	
	Ubean 1305	Ulingan	26	Ul	1210	
		Bepour	27	Be	95	
	Mawamuan 1960	Mawak	28	Mk	1020	
		Musar	29	Mr	500	
		Wanambre	30	Wa	440	
	Wayapan 2310	Wanuma	31	Wn	1210	
		Yaben	32	Ya	600	
		Parawen	33	Par	500	
	-----Amaimon		34	Ama	370	
	Josephs- taal 4690	Pomoikan 1360	Moresada	36	Mo	150
			Ikundun	37	Ik	880
Pondoma			39	Po	330	
Wadaginam		35	Wad	460		
Katiati		40	Kt	2300		
Osum		38	Os	570		
Atan 2060		Atemple	41	At	70	
		Angaua	42	Ang	1990	
Wanang 2910	Emuan 700	Emerum	43	Em	460	
		Musak	44	Mu	240	
	-----Paynamar		45	Pn	150	
		Mugil	46	Mg	1700	

C. The Ramu Phylum (28,645)

Stock	Family	Language	Number	Abbreviation	Speakers
	Ottilien 4260	Watam	47	Wt	600
		Kaian	48	Ka	230
		Gamei	49	Ga	930
		Awar	50	Aw	500
		Bosman	51	Bo	2000
	Misegian 8070	Mikarew	52	Mi	5660
		Sepen	53	Se	870
		Giri	54	Gi	1540
	Ataitan 4750	Tangu	55	Tn	2430
		Igom	56	Ig	730
		Tanguat	57	Tg	570
		Andarum	58	And	1020
	Tamolan 2500	Itutang	59	It	370
		Midsivindi	60	Mid	910
		Akrukay	61	Ak	150
		Breri	62	Br	720
		Romkun	63	Ro	350
	Aian 390	Anor	64	Ar	390
		Aiome	65	Ai	---
	Annaberg Group 3730	Rao	66	Ra	3340
		Banaro	67	Ba	---
	Agoan 415	Adjora	68	Adj	370
		Gorovu	69	Gv	45
	-----	Aion	70	An	540
		Kambot	71	Km	4383

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

<u>Stock</u>	<u>Family</u>	<u>Language</u>	<u>Number</u>	<u>Abbreviation</u>	<u>Speakers</u>
		Monumbo	72	Mon	450
		Lilau	73	Li	410

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

<u>Stock</u>	<u>Family</u>	<u>Language</u>	<u>Number</u>	<u>Abbreviation</u>	<u>Speakers</u>
East New Guinea Highlands Stock	Karam 13,520	Karam	84	Kar	10,000
		Gantj	85	Gj	3520

F. The Melanesian Languages (16,245)

<u>Stock</u>	<u>Family</u>	<u>Language</u>	<u>Number</u>	<u>Abbreviation</u>	<u>Speakers</u>
	Meseman 5560	Manam	74	Ma	5070
		Sepa	75	Sp	130
		Medebur	76	Me	360
	Belan 10,685	Gedaged	77	Ge	1840
		Bilbil	78	Bi	590
		Takia	79	Tk	7400
		Megiar	80	Meg	640
		Matukar	81	Mt	215

2.1.2. The following list of language names lists in alphabetical order all names used by an author with reference to linguistic information. Underlined names 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 which are not underlined 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

<u>Names</u>	<u>Identification</u>
<u>Adjora</u>	68,Adj,Agoan, RPh
A'e	Rempi
Aföörö	Karam
<u>Aiome</u>	65,Ai,Aian,Annaberg, RPh
<u>Aion</u>	70,An, RPh
<u>Akrukai</u>	61,Ak,Tamolan,Goam,RPh
Ale	Nake
<u>Amaimon</u>	34,Ama,Pihom, ARPh
<u>Amele</u>	3,Al,Abaian,Mabuso, MPh
<u>Andarum</u>	58,And,Ataitan,Goam, RPh
<u>Angaua</u>	42,Ang,Atan,Wanang, ARPh
Annaberg	Rao
<u>Anor</u>	64,Ar,Aian,Annaberg, RPh
Aregerek	Musar
Ariawiai	Mikarew
Arini	Garuh
Ate	Garus
<u>Atemple</u>	41,At,Atan,Wanang, ARPh
Atemple-Apris	Atemple
<u>Awar</u>	Andarum
Baimak	unidentified; probably Gal
Balahaim	Isebe

<u>Names</u>	<u>Identification</u>
Banara	Kaukambaran, Pai, Tani
<u>Banaro</u>	67, Ba, Annaberg, RPh
Bawaipa	Garuh
<u>Bepour</u>	27, Be, Ubean, Pihom, ARPh
Bilakura	unidentified; located south of Dimir(21)
<u>Bilbil</u>	78, Bi, Belan, Melanesian
Bilibili	Bilbil
Bonaputa-Mopu	Pila
Boroi	Gamei
Bosiken	Dimir
Boskien	Dimir
<u>Bosman</u>	51, Bo, Ottilien, Ruboni, RPh
Bosngun	Bosman
<u>Breri</u>	62, Br, Tamolan, Goam, RPh
<u>Bunabun</u>	20, Bu, Mabuan, Isumrud, ARPh
Bunu	Mugil
Bunubun	Bunabun
Butelkud-Guntabak	Garuh
Dagoi(Dagui)	Pay
<u>Dimir</u>	21, Di, Isumrud, ARPh
Em	Garus
<u>Emerum</u>	43, Em, Emuan, Wanang, ARPh
Erempi	Rempi
<u>Foran</u>	8, Fr, Hanseman, Mabusu, MPh

<u>Names</u>	<u>Identification</u>
Fuaz	Amele
<u>Gal</u>	82,G1,Mabuso, MPh
Gamai	Gamei
<u>Gamei</u>	49,Ga,Ottilien,Ruboni, RPh
<u>Gantj</u>	85,Gj,Karam,East New Guinea High- lands Stock and Phylum
<u>Garus</u>	4,Gs,Hanseman,Mabuso, MPh
<u>Gedaged</u>	77,Ge,Belan, Melanesian
<u>Giri</u>	54,Gi,Misegian,Ruboni, RPh
<u>Gorovu</u>	69,Gv,Agoan, RPh
Graged	Gedaged
Halopa	Garuh
Hatzfeldhafen	Pay,Kaukombaran
Hansevulkan	Manam
<u>Igom</u>	56,Ig,Ataitan,Goam, RPh
<u>Ikundun</u>	37,Ik,Pomoikan,Josephstaal, ARPh
<u>Itutang</u>	59,It,Tamolan,Goam, RPh
<u>Kaian</u>	48,Ka,Ottilien,Ruboni, RPh
<u>Kambot</u>	71,Km, RPh
<u>Karam</u>	84,Kar,Karam, East New Guinea Highlands Stock and Phylum
<u>Kare</u>	13,Kr,Mabuso, MPh
Kari	Usino,Sumau
Karker	Takia
<u>Katiati</u>	40,Kt,Josephstaal, ARPh

<u>Names</u>	<u>Identification</u>
Kire-Puire	Giri
Komunimung	unrecorded; east of Breri(62)
<u>Korak</u>	17,Ko,Kowan,Isumrud, ARPh
Kuanga	Breri
Lilau	73,Li, Torricelli Phylum
Makarup	Mikarew
Malala	Pay
<u>Malas</u>	19,Ml,Mabuan,Isumrud, ARPh
<u>Manam</u>	74,Ma,Meseman, Melanesian
Marangis	Watam
<u>Matukar</u>	81,Mt,Belan, Melanesian
<u>Mawak</u>	28,Mk,Mawamuan,Pihom, ARPh
<u>Mawan</u>	9,Mw,Hanseman,Mabuso, ARPh
<u>Medebur</u>	76,Me,Meseman, Melanesian
Medebur-Toto	Medebur
<u>Megiar</u>	80,Meg,Belan, Melanesian
<u>Midsivindi</u>	60,Md,Tamolan,Goam, RPh
<u>Mikarew</u>	52,Mi,Misegian,Ruboni, RPh
Mikarew-Ariaw	Mikarew
Mindivi	Ikundun
Mis-Kemba	Foran
Misdao	Garuh
Mitebog	Gedaged
Moando	Kaukombaran

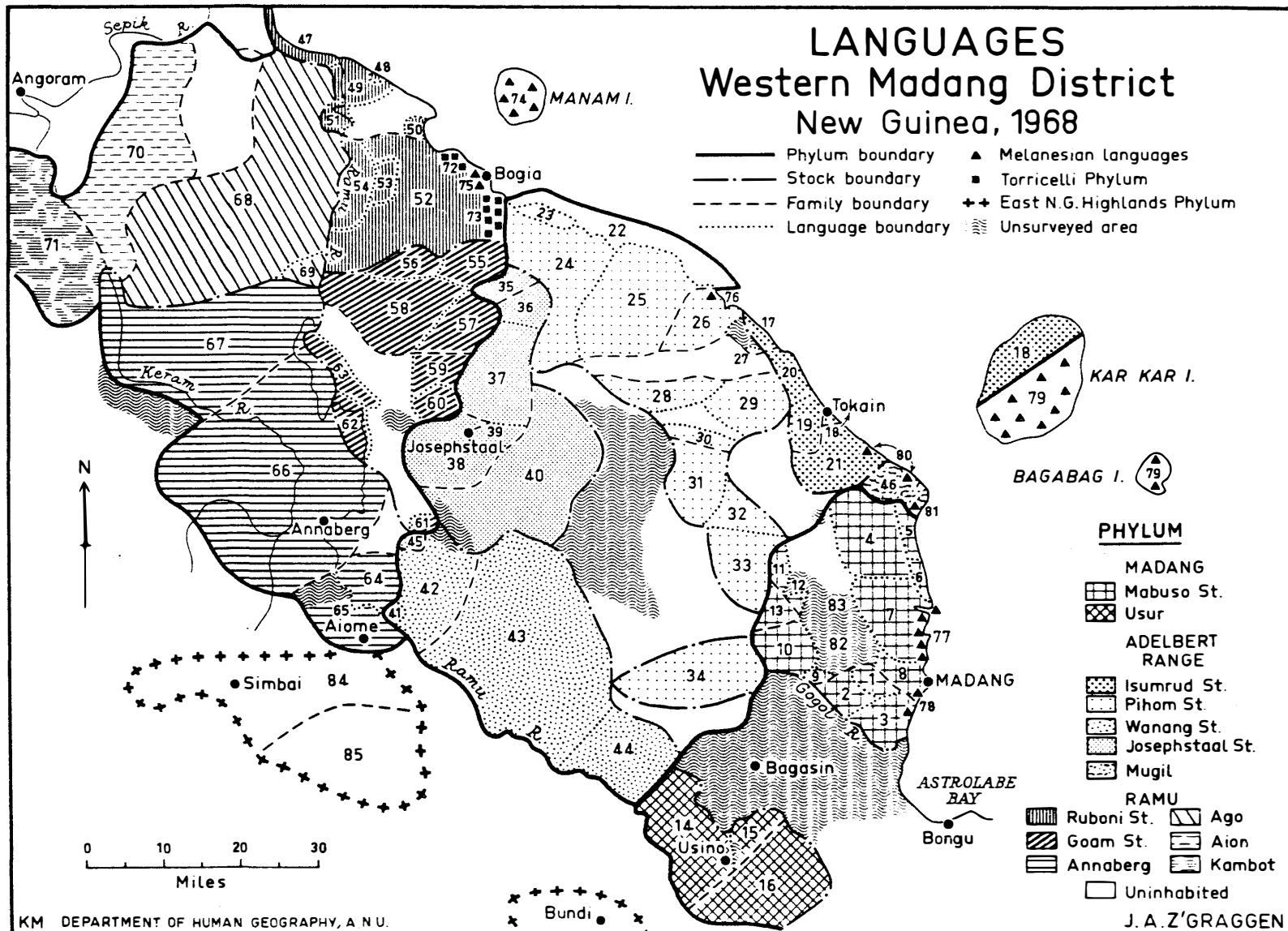
<u>Names</u>	<u>Identification</u>
Moie	unrecorded; south of Bepour(27)
Moirā	unrecorded; north-east of Katiati(40)
<u>Monumbo</u>	72,Mon, Torricelli Phylum
<u>Moresada</u>	36,Mo,Pomoikan,Josephstaal, ARPh
Moro-Sapra-Ulingan	Ulingan
Mosimo	unrecorded; south of Dimir(21)
<u>Mugil</u>	46,Mg, ARPh
Murisapa	Moresada
Murusapa-Sarewa	Moresada
<u>Musak</u>	44,Mu,Emuan,Wanang, ARPh
<u>Musar</u>	29,Mr,Mawamuan,Pihom, ARPh
Ngaimbon	Lilau
Nobanob (Nobonob)	Garuh
Nubia	Awar
Nupanop	Garuh
<u>Osum</u>	38,Os,Josephstaal, ARPh
Panim	Isebe
Para	Parawen
Parawen	33,Par,Wayapan,Pihom, ARPh
<u>Pay</u>	22,Pa,Kaukombaran,Pihom, ARPh
<u>Paynamar</u>	45,Pn,Wanang, ARPh
<u>Pila</u>	23,Pi,Kaukombaran,Pihom, ARPh
<u>Pondoma</u>	39,Po,Pomoikan,Josephstaal, ARPh
Porapora	Aion-Banaro

<u>Names</u>	<u>Identification</u>
Ragetta	Gedaged
<u>Rao</u>	66,Ra,Annaberg, RPh
<u>Rempi</u>	6,Re,Hanseman,Mabuso, MPh
Rempin	Rempi
Rio	Gedaged
Romkuin	Romkun
<u>Romkun</u>	63,Ro,Tamolan,Goam, RPh
Saker	Mugil
<u>Saki</u>	24,Sa,Kaukombaran,Pihom, ARPh
Sarang	Megiar
<u>Saruga</u>	12,Sr,Hanseman,Mabuso, MPh
Sek	Gedaged
Szeak-Bagili	Gedaged
<u>Sepa</u>	75,Sp,Meseman, Melanesian
<u>Sepen</u>	53,Se,Misegian,Ruboni, RPh
Siar	Gedaged
Siar-Ragetta	Gedaged
Suaru	Pila
<u>Sumau</u>	15,Su,Usur, MPh
<u>Takia</u>	79,Tk,Belan, Melanesian
<u>Tanguat</u>	57,Tg,Ataitan,Goam, RPh
<u>Tangu</u>	55,Tn,Ataitan,Goam, RPh
Tanggum	Tangu
<u>Tani</u>	25,Ta,Kaukombaran,Pihom, ARPh

<u>Names</u>	<u>Identification</u>
Tiara	Gedaged
Turutap	Saki
Ufien	unrecorded; south of Bepour(27)
<u>Ulingan</u>	26,U1,Ubean,Pihom, ARPh
<u>Urigina</u>	16,Ur,Usur, MPh
<u>Usino</u>	14,Us,Usur, MPh
<u>Utu</u>	10,Ut,Hanseman,Mabuso, MPh
Vanambere	Wanambere
<u>Wadaginam</u>	35,Wad,Josephstaal, ARPh
Wadaginamb	Wadaginam
Wagi	Foran
Wagimuda	Tani
<u>Wamas</u>	11,Wm,Hanseman,Mabuso, MPh
<u>Wanambre</u>	30,Wa,Mawamuan,Pihom, ARPh
<u>Wanuma</u>	31,Wn,Waypan,Pihom, ARPh
<u>Waskia</u>	18,Ws,Kowan,Isumrud, ARPh
<u>Watam</u>	47,Wt,Ottilien,Ruboni, RPh
Weim	Gal
Woskia	Waskia
Yabem	Yaben
<u>Yaben</u>	32,Ya,Wayapan,Pihom, ARPh
Yakiba	Saki
<u>Yoidik</u>	5,Yo,Hanseman,Mabuso, MPh

2.1.3. The following language map which is based on Administration maps at 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.

LANGUAGES Western Madang District New Guinea, 1968



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 are added to the language names to help the reader to ascertain the location of the languages on the language map given above. Numbers in brackets following language, family, stock or phylum names refer to the approximate number of speakers.

2.2.1. The Madang Phylum (16,270)

The Madang Phylum is divided into the Mabuso Stock (named after the Mabuso Open Electorate), and the Usur Group in the Upper Ramu Valley area. Further survey work is required in the central area of the Mabuso Stock and south of the Gogol River, generally referred to as the Bagasin area (see the language map above). Mager (1952) listed the Ham, Girawa and Munit languages for this area. According to Capell (1962:55), Ham is Melanesian; and Girawa, according to Capell (1962:53) is a dialect of Amele.

2.21.1. The Mabuso Stock (12,890)

The Mabuso Stock consists of two families: the Abaian and the Hanseman Families, the latter named after the Hanseman Mountain, one family type isolate: Kare, and two further languages, Gal and Nake, have tentatively been included with the Stock.

2.21.11. The Abaian Family (6570)

Three languages are included within this family: Isebe, Bau and Amele. All of them share a high percentage of cognates; Isebe and Bau might prove to be dialects in the light of further study.

2.21.11.1. Member Languages

2.21.11.11. Isebe 1/Is (770)

Villages: Mirkuk, Baramaim, Urugan, Korog 1, Korog 2, Opi.

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, a village not listed in the Village Directory 1968.

2.21.11.12. Bau 2/B (1690)

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

Not previously recorded.

2.21.11.13. Amele 3/A1 (4110)

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), who 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).

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.³

³Voiced and voiceless stop symbols are, however, differentiated in Welsch's Jesusna Mahana 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.

2) A Two Possessive Class System (2PC) has been observed. The PM_p 's⁴ follow a ligative m or n suffixed to most noun bases constituting members of the R and P Classes,⁵ (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 2.21.16.

2.21.12. The Hanseman Family (5980)

So far nine languages have been identified as members of the Hanseman Family. Although a tentative

⁴ 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.).

⁵ R Class nouns are terms of relationship and
P Class nouns are terms denoting body parts.

branching into sub-families is shown in the List and Classification of Languages of the Western Madang District (see above), no name has yet been given to them, because of the possibility of an area not included in the survey being crucial for more definite groupings on the sub-family level.

2.21.12.1. Member Languages

2.21.12.11. Garus⁶ 4/Gs (1910)

Villages: Abap, Anhabak, Asiwo, Badimfok, Baiteta, Balbe, Balabak, Bemdik, Bubno, Budum, Budip, Burbura, Dudula, Elebe, Maik, 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 of a missionary nature.

⁶ 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" have an European origin, caused by misunderstanding. My own enquiries did not support Kaspruś's interpretation. The same phenomenon is also observed in the Kaukombaran Family (see 2.22.21.) and on the Rai coast.

2.21.12.12. Yoidik 5/Yo (200)

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.

2.21.12.13. Rempi 6/Re (450)

Villages: Bomasa, Deda, Rempi, Sempì.

The first vocabularies of Rempi were collected by MacLay (1951:179) 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.⁷

⁷In 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 5000 English words by a missionary whose name is not mentioned. Kaspruś (1942:71 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.

carried out preliminary studies, and in pre-war times the Rempí language was used for missionary purposes by Catholic Missionaries.

2.21.12.4. Garuh 7/Gh (1730)

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

Wordlists of the Garuh language were collected by Dempwolff (1905:25ff) in the Nupanob,⁸ Bawaipa and Misdao Villages,⁹ by D. Waugh (1924:93) in Butelkud village and by Father Ladener S.V.D. (unpublished) of the Halopa Catholic Mission Station. 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'.

⁸ Note the different spellings of Nobanob; Dempwolff: Nupanob, Lutheran Mission: Nobonob, Government: Nobanob.

⁹ Bawaipa and Misdao are villages not listed in the Village Directory 1968.

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.

2.21.12.15. Foran 8/Fr (800)

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

Dempwolff (1905:247,251) collected the first word-list of Foran in the villages Mis and Kembar.¹⁰ 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, Baimak, Wanif, Meginam.

Previously unrecorded.

¹⁰ 'Kembar' is probably another spelling of 'Kamba'.

2.21.12.17. Utu 10/Ut (580)

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

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

2.21.12.18. Wamas 11/Wm (?)

Villages:¹¹ Ap, Asip, Bai, Dadi, Kimbas, Ivap, Marupasi, Moek, Vabit, Yamas.

Kaspruś (1942) published a first wordlist of Wamas or as he calls it, Ate ('what'). I had no opportunity to collect materials, but the wordlist given by Kaspruś clearly indicates that this language belongs to the Mabuso Stock and the Hanseman Family. Since Wamas was not included in the original cognation count, it does not appear in the Charts 1-3.

2.21.12.19. Saruga 12/Sr (90)

Village: Saruga. Fieldwork will be necessary to ascertain if other villages should be included in the language area.

Previously unrecorded.

¹¹The names of villages where the Wamas Language is spoken are given as indicated by Kaspruś 1942:719.

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 Foran 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 2.21.16.

CHART 1Percentages of Shared Cognates in the Hanseman Family

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

2.21.13. Kare 13/Kr (340)

Villages: Bawa, 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 it is also uncommon in the Mabuso Stock in general.

2.21.14. The Gal and Nake Languages

2.21.14.1. Gal 82/G1 (?)

The number of Gal speaking villages is uncertain. Capell (unpublished) collected some notes. The present writer had no opportunity to collect data of his own.

2.21.14.2. Nake 83/Na (?)

Nake is listed for the first time by Kaspruś (1942:719,727) under the name Ale ('what'). Kaspruś names the following villages as Nake speaking: Bayat, Itapi, Nake, Sarabdik, Yabdin. Kaspruś also mentions the close relationship of Nake to Wamas. The present writer had no opportunity to collect linguistic materials of his own, but Garuh speakers confirmed the close relationship of Nake to Garuh to him. Waugh's (1924:94) wordlist from Matepi Village probably belongs to the Nake language. Matepi village is not included in Kaspruś's language map (1942:719), but the Government map at the district office in Madang shows this village south of Nake. The -l possessive suffix in many words denoting body parts indicates that Matepi probably belongs to Hanseman. Further field investigation would have to establish whether Matepi is a dialect of Nake or constitutes a different language.

2.21.14.3. Gal and Nake have been tentatively grouped with the Mabusu Stock; further fieldwork will, however, have to assign them their proper places. These two languages will not be included in the remainder of this study.

2.21.15. Lexical Interrelationships within the Mabuso Stock

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

2.21.16. 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.

WORDLIST 1Illustrative List of Cognates: Mabuso Stock

	<u>man</u>	<u>father</u>	<u>mother</u>
Al	tana	mem	an-
B	tana	mem	---
Is	dana	mem	an-
Gs	dal	mam	an-
Yo	dal	mam	an-
Re	dal	mam	an-
Gh	danap	mam	an-
Fr	danap	mem	an-
Mw	(sina)	mem	an-
Ut	dana	---	---
Sr	tana	mam	ana-
Kr	(daw)	ma	an-

Wordlist 1 (continued)

	<u>I</u>	<u>I</u>	<u>You sg</u>	<u>You sg</u>	<u>he</u>	<u>he</u>	<u>we</u>	<u>You pl</u>
Al	isa	---	ina	---	u'pa	---	εke	ake
B	isa	---	ina	---	u'pa	---	ike	ake
Is	ise	---	ine	---	u'pa	---	ige	age
Gs	---	dε'	---	na	---	nuk	ik	ek
Yo	---	da'	---	nak	---	---	it	ak
Re	---	da'	---	nak	---	nuk	it	ak
Gh	---	da	---	na	---	nuk	ik	ak
Fr	---	da	---	na	---	nuk	ik	ak
Mw	---	(hag)	---	nak	---	nuk	hik	hak
Ut	---	zεg	---	nek	---	nuk	ik	ek
Sr	---	sa	---	naga	---	nuga	iga	aga
Kr	---	(tsu)	---	(nu)	---	---	---	---

Wordlist 1 (continued)

	<u>arm</u>	<u>eye</u>	<u>forehead</u>	<u>dog</u>	<u>louse</u>	<u>taro</u>
Al	εpe-	ami-	ola-	pa	mi	ma
B	εpe-	ami-	ora-	pai	mi	ma
Is	εbe-	ame-		pai	mi	ma
Gs	avu-	ame-		pe	mi	me
Yo	ave-	ama-	ula-	pe	mi	ma
Re	ave-	ame-	ula-	pai	mi	ma
Gh	εbe-	ame-	ora-	pai	mi	ma
Fr	eve-	ame-	ura-	pe	mi	ma
Mw	debu-	hami-	iro-	---	mi	ma
Ut	zevi-	ami	ura-	pai	mi	ma
Sr	avu-	amu-	ura-	pai	mi	ma
Kr	be-	(omo-)	(orovo-)	---	mi	mu

Wordlist 1 (continued)

	<u>cloud</u>	<u>sun</u>	<u>two</u>	<u>Negation Marker</u>
Al	saw	ʔam	leis	pɛ ¹²
B	haɓ	ʔam	ɛris	pi
Is	hap	ʔam	ɛris	pɛ
Gs	sɛp	---	(ailtɛ)	pi
Yo	sap	(a	(ail)	pi
Re	sap	(ah)	(ail)	pi
Gh	hap	am	aris	pi
Fr	sav	kɛm	arit	pi
Mw	---	am	---	pi
Ut	---	---	---	pi
Sr	---	---	arete	pi
Kr	tsamba	---	---	(i)

¹² 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.

2.21.17. 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 Foran 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 Foran and Kare.

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

5) The following phonemes have not been observed: /c/, /ɲ/, /ɣ/.

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. Foran 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 (3380)

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). The Usur Group is separated from the Mabuso Stock in the Madang Phylum by a large unsurveyed area. The unknown languages in this unsurveyed area may well be crucial for the proper classification of the Usur Group.

2.21.21. Member languages

2.21.21.1. Usino 14/Us (1050)

Villages: Igoi, Dunuba, Bil, Garaligut, Kepsau, Usino
Faita.

Previously unrecorded.

2.21.21.2. Sumau 15/Su (770)

Villages: Moro, Nugu, Kuru, Sumau, Tababu,
Tababu, Punisak, Uria.

Previously unrecorded.

2.21.21.3. Urigina 16/Ur (1560)

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

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.

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 2.21.16. 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

WORDLIST 2Illustrative List of Cognates: Usur Group and Mabuso Stock

English	Cognate	Occurring in Usur	Cognate	Occurring in Mabuso Stock
hand	sabu-	Us	zevi-	Ut
	ubu-	Su	devu-	Mw
			ave-	Wm,Fr,Re,Yo,Gs
			avu-	Sr
			εpe-	Al,B,Is,Gh
			be-	Kr
belly	o-	Su	o-	Yo,Fr,Mw,Ut,Sr
			wo-	Re,Gh
nail	tsira	Su	tili-	Sr,Yo
	tirobu	Ur		
hair	uli	Su	uli	Yo,Mw
			uru	Re,Gh,Fr
			viri	Gs,Wm
name	wen-	Us,Su	veni-	Fr,Gs,Ut
	eni-	Ur	wani-	Yo,Re,Gh,Mw
			pina	Sr
			ženi	Is
			reni	B
nose	nur-	Us	no-	Gs,Yo,Re,Gh,Fr,Mw
	nuru-	Su,Ur	nome	Ut
			nem -	Kr
			numu-	Sr
			nov-	Wm

Wordlist 2 (continued)

<u>English</u>	<u>Usur-Word</u>	<u>Occurring</u>	<u>Mabuso-Word</u>	<u>Occurring</u>
mother	an-	Us	an-	Abean, Hanseman
elder brother	awa-	Us, Su	awa-	Is, Sr, Kr
			apa-	Mw, Fr, Gs, B
			aha-	Yo, Re, Gh, Gs
you(sg)	na	Us, Ur	na	Gs, Gh, Fr
	ne	Su	nak	Yo, Re, Mw, Ut
			naga	Sr, Wm
			nu	Kr
he	nu	Us, Su	nu	Gs, Re, Gh, Fr, Mw, Ut
	no	Ur	muga	Sr, Mawan
bird	ai	Us	ai	Re, Gh, Ut, Sr, Is
			e	Gs, Fr
wing	sa	Us, Su, Ur	sa-	Gs, Re
louse	mi	Us, Su	mi	Abean, Hanseman
	mei	Ur		
snake	mat	Us, Su	mat	Fr, Ww, Wm
	mani	Ur	man	Al, B, Is
banana	mugu	Us, Ur	muk	Hanseman
rope	mulu	Us, Su	muri	Sr, Ut, Mw, Gh
			muil	Re, Yo, Gs
			mar	Is
taro	me	Us, Su	ma, me	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 2.21.17. 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/, /ɛ/, /x/, /ŋ/ and /ɬ/ 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 the 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. Foran 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 direct 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 (29 645)

Four stocks, the Isumrud, Pihom, Josephstaal and Wanang stocks and one stock-type isolate: Mugil constitute the Adelbert Range Phylum. Isumrud-Pihom and Josephstaal-Wanang form subphyla which are in part separated from each other by a large unsurveyed area. 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 (8710)

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 (6820)

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 (6650)

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 Karker; 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 Strait 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 main 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 is found in Waskia, however, it is 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; but the object does not seem to be incorporated into the verb in Waskia.

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/M1 (190)

Villages: Malas, Imbarb .

Previously unrecorded.

2.22.12.12. Bunabun 20/Bu (430)

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

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.

2.22.13. The Dimir Language

2.22.13.1. Dimir 21/Di (1270)

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

Dimir has first been mentioned by Kaspruś (1942), and then by Capell under the name Boskien. Since Boskien or Bosiken is only a small, 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	-	Malass	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 not incorporated into the verb.
- 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/, /ɲ/, /ɕ/, /h/, and /ɬ/ - 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

<u>Ko</u>	<u>Ws</u>	<u>Ml</u>	<u>Bu</u>	<u>Di</u>
<u>Ko</u>	36	14	17	12
	<u>Ws</u>	12	11	15
		<u>Ml</u>	39	27
			<u>Bu</u>	21
				<u>Di</u>

2.22.2. The Pihom Stock (11,635)

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 (5690)

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 (600)

Villages: Aidibal, Busip, Dagbi, 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 phonology. Zöllner (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, 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 (2240)

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

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

2.22.21.14. Tani 25/Ta (2270)

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

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%
"	-	Saki	50%
"	-	Tani	61%
Pila	-	Saki	58%
"	-	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.¹³

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.

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

¹³Hollrung (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" (idsids, edsids), "t", "ts" und "tsch" (kuat, kuats, kuatsch).'

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.¹⁴ Schebesta (1942:885) also points out the geographically far-flung relationship of Kaukombaran to 'Biramur'. From the layout of the article, one

¹⁴ 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'.

would expect the location of Biramur to be in the Yaben (32) language area; but it may also refer to the Birima 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 language¹⁵ while observing at the same time a marked difference between Pay and Pila in Schebesta's wordlist of terms of relationship.¹⁶ 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.

Capell (1962) generally refers to Kaukombar as the Banara Dialects, while at the same time pointing out the existence of a considerable

¹⁵Höltker (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.'

¹⁶'...stark divergierenden Dialekten von Dagoi und Bonaputa-Mopu' in Tranel (1952:455).

difference between Pay and Pila in a short wordlist in Schebesta's terms of relationship, like Höltker before him.

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 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 (1305)

2.22.22.1. Member Languages

2.22.22.11. Ulingan 26/U1 (1210)

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

Ulingan is first listed as a language by Hölzker (1937b:467 fn.20); Capell (1952:188) gives a phoneme chart, notes on grammar and a wordlist. 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 (95)

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 (1960)

2.22.23.1. Member Languages

2.22.23.11. Mawak 28/Mk (1020)

Villages: Hininon, Mawak, Mesekor, Narahek, Perene, Yaure.

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 (2400ft).

2.22.23.13. Wanambre 30/Wa (440)

Villages: Wanambre, Mabet, Katekat, 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 (2310)

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,¹³ and the group appears to be aberrant within the

¹³I 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.

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 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 (1210)

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

2.22.23.12. Yaben 32/Ya (600)

Villages: Idimakuma, Komiarum, Gulkrubrana, Barata, Abaiya, Magilan.
First listed by Kaspruś (1942).

2.22.24.13. Parawen 33/Pr (500)

Villages: Parawen, Ebenan, Tarina, Yarawata, Ilima, Ilimamkutu, Ilebeguma, Kosilanta, Magila.
First listed by Kaspruś (1942).

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 /ɲ/ phoneme is found in Yaben; the /ŋ/ phoneme only in Wanuma.

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

4) No /h/ phoneme has been observed.

5) /r/ and /l/ seem to be in phonemic contrast. In Wanuma and Parawen [l] and [r] seem to be allophones.

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.

2.22.25.1. The Amaimon Family-Type Isolate

Amaimon 34/Ama

Villages: Amaimon, Karamsarik, Tenbinsarik, Wabusarik.

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 and south-easterly direction from Amaimon might prove to be crucial for a proper classification of Amaimon.

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

Amaimon	-	Yaben	12%
"	-	Wanuma	12%
"	-	Wanambre	11%
"	-	Musar	11%
"	-	Parawen	9%
"	-	Pay	9%
"	-	Pila	5%
"	-	Saki	5%
"	-	Tani	6%
"	-	Ulingan	5%
"	-	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 only 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

2.22.3. The Josephstaal Stock (4690)

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 (1360)

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 (150)

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.¹⁷ '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 Family¹⁸ (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.

¹⁷Capell (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'.

¹⁸This 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.'

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; the prefixing Two Possessive Class system is present. All these features are in contrast to the Ramu Phylum. There are no indications - as already Capell has 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 (880)

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

Previously unrecorded.

2.22.31.13. Pondoma 39/Po (330)

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.

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

2.22.33. The Katiati Language

Katiati 40/Kt (2300)

Villages: Tevari, Maranget, Kaibugu, Maumiaku, Turagere, Monimbugor, Kimbugor, Kundegende, Usimbugor, Simba, Mavundi, Maumikau, Amjaibibu, Sangurup, Amingari, Sangarip, Katiati, Negiadzabai, Iabtangu, Imunamgaim, Angasa, Iamamuk, Simba, 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 (570)

Villages: Yigebuguar, Avansi, 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 (ɲ) 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; Katiati is, however, doubtful in this respect.
- 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 6Percentages of Shared Cognates in the JosephstaalStock

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

2.22.4. The Wanang Stock (2910)

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.

2.22.41. The Atan Family (2060)

2.22.41.1. Member Languages

2.22.41.11. Atemple 41/At (70)

Village: Atemple.

Father Ziegler S.V.D. was one of the first Catholic Missionaries to study the Atemple Language, but all his material was lost. 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 on Anor (64) under the name Atemple.

2.22.41.12. Angaua 42/Ang (1990)

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

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 (700)

2.22.42.1. Member Languages

2.22.42.11. Emerum 43/Em (460)

Villages: Wabu, Urangere, Emerum, Siniap,
Sumasaru, Galisikan, Mange, Sambaku.

Kaspruś (unpublished) collected the first
wordlist from the village of Sumasuru, which name he
gave to the language. However, I chose the village
name Emerum, because in contrast to Sumasuru, 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 word-
lists, from the Musak and Sepu villages. A comparison
of Kaspruś' 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 Emuan

- 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% 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 Atemptle, 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 /ɲ/ 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 Atemptle.

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

<u>At</u>	<u>Ang</u>	<u>Em</u>	<u>Mu</u>	<u>Pn</u>
<u>At</u>	47	14	11	12
	<u>Ang</u>	15	11	17
		<u>Em</u>	36	12
			<u>Mu</u>	10
				<u>Pn</u>

2.22.5. The Mugil Stock-Type Isolate

2.22.51. Mugil 46/Mg (1700)

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 to 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.	<u>Pihom Stock</u>	-	<u>Isumrud Stock</u>	
	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.	<u>Pihom Stock</u>	-	<u>Josephstaal Stock</u>	
	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 STOCKa. 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.	<u>Wanang Stock</u>	-	<u>Pihom Stock</u>	
	Emerum	-	Saki	8%
	"	-	Wanambre	6%
	"	-	Amaimon	6%
	"	-	Ulingan	2%
	"	-	Wanuma	2%
	Angaua	-	Saki	5%
	"	-	Tani	5%
	"	-	Ulingan	2%
	"	-	Wanambre	2%
	"	-	Wanuma	2%
c.	<u>Wanang Stock</u>	-	<u>Isumrud Stock</u>	
	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.	<u>Mugil</u>	-	<u>Isumrud Stock</u>	
	Mugil	-	Dimir	17%
	"	-	Waskia	7%
	"	-	Bunabun	13%
b.	<u>Mugil</u>	-	<u>Pihom Stock</u>	
	Mugil	-	Pila	12%
	"	-	Ulingan	10%
	"	-	Musar	7%
	"	-	Yaben	5%
	"	-	Amaimon	3%
c.	<u>Mugil</u>	-	<u>Josephstaal Stock</u>	
	Mugil	-	Wadaginam	5%
	"	-	Moresada	4%
	"	-	Katiati	0%
	"	-	Osum	0%
d.	<u>Mugil</u>	-	<u>Wanang Stock</u>	
	Mugil	-	Musak	5%
	"	-	Angaua	0%
e.	<u>Mugil</u>	-	<u>Madang Phylum</u>	
	Mugil	-	Amele	8%
	"	-	Garus	10%
	"	-	Foran	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 3Illustrative List of Cognates: Isumrud-Pihom

	<u>man</u>	<u>father</u>	<u>father</u>	<u>mother</u>	<u>mother</u>	<u>older brother</u>
Ko	---	-be	---	---	---	-pap(no)
Ws	---	---	tata	ina	---	bawa
Ml	munu	---	ta	na	---	pa
Bu	(mumdien)	avi	---	nan	---	mbab
Di	---	---	ta-	na-	---	pa-
Pa	moando	-nabi	---	-nan		-mbab
Pi	moando	-nabi	---	---	-nia	
Sa	moande	-nabi	---	-nan	-namo	-baba
Ta	moado	-anave	---	---	-namu	-papa
Ul	moa	-niawi	---	-nene	---	-papa
Be	moa	---	eta	---	---	apap
Mk	mande	---	itamant	unent	---	apa
Mr	mande	'avi	ita			imbab
Wa	mune	---	yeta	---	yemi	poba
Wn	mune	---	-tayn	-nani	---	-bayn
Ya	munanu	---	-ta	-na	---	-pabu
Par	munama	---	-ta	-nan	---	-paba
Ama	(uma)	---	---	naniya	---	avata
Mg	mat	---	---	-nen	---	-bab

Wordlist 3 (continued)

	<u>I</u>	<u>You sg</u>	<u>You pl</u>	<u>hand</u>	<u>name</u>
Ko	---	ni-m	ni-mtaŋ	---	---
Ws	---	ni	ni-na	---	---
Ml	yi	ne	nan	imben	unim
Bu	---	nene	ane	omben	unim
Di	yiŋ	neŋ	nen	aven	
Pa	ε-	na-	-nai	-nambe	-unum
Pi	-yo	-no	-nai	-mbo	-nim
Sa	yo	no	-nai	-me	-nim
Ta	tso	no	-ni	-apo	-unum
Ul	yo	no	ni	wapena	unuma
Be	i	ne	nini	wapen	onimp
Mk	je	ne	ninge	ape	unim
Mr	ye	nik	---	embe	unim
Wa	ye	ne	nik	ape	unim
Wn	ye	ne	(an)	uben	unum
Ya	ya	na	(an)	ubatu	añimu
Par	yana	nan	(an)	ubatu	uñimu
Ama	ε-	ne-ŋi	---	---	(unin)
Mg	ya	ni	ni	-ben	---

Wordlist 3 (continued)

	breast	bird	egg	egg	dog
Ko	am	---	no	---	kuad
Ws	amin	---	niŋo	---	kausik
Ml	---	---	nau	---	kakas
Bu	---	muŋguan	na	---	xka
Di	---	---	---	---	kaŋap-
Pa	mek	muka	---	---	kε
Pi	---	muŋgua	---	---	kaβun
Sa	mεg	muŋgua	---	---	kawuŋ
Ta	ame	muka	unam	---	---
Ul	---	---	---	munεka	---
Be	---	---	---	munoʔ	---
Mk	mε	muŋga	---	munan̄k	---
Mr		muŋga	---	minan̄	---
Wa	emi	muka	---	munak	---
Wn	---	(murugan)	inaw	---	---
Ya	---	(malan̄wan)	ñaw	---	(ʔiʔo)
Par	---	---	nia	---	(ika)
Ama	---	---	---	---	(sika)
Mg	---	---	---	---	(goun)

Wordlist 3 (continued)

	<u>banana</u>	<u>tree</u>	<u>taro</u>	<u>louse</u>
Ko	kud	---	(nam)	---
Ws	---	---	---	---
Ml	kuntsu	---	mamu	gunu
Bu	kundi	---	mam	gunu
Di	---	(nom)	mom	igun
Pa	(ngi)	nanam	mam	---
Pi	kindi	nanam	mam	---
Sa	kidi	nanam	mam	---
Ta	uti	nam	mam	---
Ul	(akia)	nomo	moma	---
Be	(ε'i)	nama	ima	(una)
Mk	---	na	ma	---
Mr	(εngi)	na	ma	---
Wa	---	na	(mana)	---
Wn	---	nam	---	gun
Ya	---	namu	mamu	gunu
Par	kodia	nama	mama	gunua
Ama	---	(nam)	mam	gunu
Mg	---		ma	(gaw)

Wordlist 4Illustrative List of Cognates: Josephstaal and WanangStocks

	<u>man</u>	<u>father</u>	<u>mother</u>	<u>older brother</u>
Mo	uramp	-baŋɛn	-may	sasay
Ik	uramp	-avɿŋgɿn	ʷzam	(-tɿmɿŋk)
Po	uraŋɿ	-bna	-mna	(-simga)
Wad	uramp	-vugam	-may	tatay
Kt	kuru	-ba	-maka	
Os	uromɿnt	-vɿŋ	-mak	tsasay
At	kuram	---	ŋam	(asaŋ)
Ang	(rom)	---	ŋam	tat-
Em	kuraŋ	yabaŋ	yam	(isaŋ)
Mu	kur	---	yama	(isam)
Pn	(rum)	awaŋ	amɿŋ	tasasay

Wordlist 4 (continued)

	<u>I</u>	<u>You sg</u>	<u>he</u>	<u>we</u>	<u>we</u>
Mo	yɛ(ɣ)	na(ɣ)	nə(ɣ)	aŋə(ɣ)	---
Ik	yi	na	---	aŋ	---
Po	yi	na	nɪ	aŋɪ	---
Wad	yaɣ	nag	nɪɣ	ɣaŋ	---
Kt	yi	na	nu	---	ara
Os	yig	nag	nugo	aŋ	---
At	---	na	(naŋə)	---	aruɣu
Ang	---	nama	---	---	arɪ
Em	---	---	numa	---	araŋ
Mu	ya	---	nu	---	arɪ
Pn	---	---	---	---	ara

Wordlist 4 (continued)

	<u>hand</u>	<u>hand</u>	<u>breast</u>	<u>name</u>
Mo	- ~~g~~ umbugar	---	amamp	-imbe(p)
Ik	- ~~g~~ umbun ~~g~~ er	---	amamba	-n ~~i~~ mbep
Po	umpun ~~g~~ ri	---	ama ~~n~~ u	n ~~i~~ mbi
Wad	(-numbunamp)	---	amanamp	-nimbimp
Kt	---	kuma	ama	ñimbi
Os	(ipunam ~~i~~ nt)	---	amam ~~i~~ nt	---
At	---	oman	a ~~m~~ en	---
Ang	---	oman	man	empiya
Em	---	kuman	ama ~~n~~	imbi
Mu	---	kumob	am ~~i~~	---
Pn	---	---	---	(a ~~b~~ i)

Wordlist 4 (continued)

	<u>tongue</u>	<u>bird</u>	<u>banana</u>	<u>egg</u>
Mo	-merəp	---	manəŋamp	mukunəŋk
Ik	-mirɿp	---	manuŋamp	mɿkuŋu
Po	mirɿ	kawaŋu	manɿŋ	mukuŋ
Wad	---	---	---	---
Kt	mir	kəbə	man	mukɿ
Os	mirgab	---	manumɿnt	makəka
At	---	ap	---	(-akə)
Ang	---	apa	(anɿŋ)	(-aŋk)
Em	---	kabaŋ	man	maŋgɿ
Mu	---	kapɿ	maŋ	---
Pn	mirgab	---	---	muku

Wordlist 4 (continued)

	~~l~~ louse	tree
Mo	imamp	arap
Ik	n ~~i~~ mamp	ar ~~i~~ pa
Po	n ~~i~~ maŋ	ar ~~i~~
Wad	nimanamp	---
Kt	ñima	---
Os	-nim ~~i~~ nde	---
At	εman	---
Ang	εman	ale
Em	iman	tari
Mu	(im ~~i~~)	tar
Pn	---	---

2.22.8.1. 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.

2.22.8.2. 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 (28,648) .

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 (11) and Aion (70)), have also been tentatively included in it.

2.23.1. The Ruboni Stock (12,330)

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 (4260)

'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 (600)

Villages: Watam, Marangis¹⁹

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 the 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

¹⁹Haberland (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: 'Wáγγan spricht mit den Dörfern Kópar und Sígriη am unteren Sepik die gleiche Sprache, die von der Watam-Sprache ganz verschieden ist.' My field notes support Höltker's observation.

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.

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.

Awar is also named Nubia. 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 (2000)

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 reflects the proper original pronunciation of the place 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%
"	-	Gamei	72%
"	-	Awar	38%
"	-	Bosman	41%
Kaian	-	Gamei	77%
"	-	Awar	39%
"	-	Bosman	42%
Gamei	-	Awar	41%
"	-	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 all²⁰ 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 (8070)

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

²⁰Pöch (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'.

2.23.12.1. Member Languages2.23.12.11. Mikarew 52/Mi (5660)

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

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 word-list.

2.23.12.12. Sepen 53/Se (870)

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 (1540)

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 /ɬ/ and by the absence of the following phonemes: /c/, /ʔ/, /ɳ/, /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 System²¹ is present.

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

²¹There is no indication of a class system; nouns and adjectives have a number marker affixed to them, i.e. /-mə/ or /-m/ for singular and /-pa/ 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.'

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 alveopalatal 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. alveopalatal, 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.

CHART 8Percentages of Shared Cognates in the Ruboni Stock

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

2.23.2. The Goam Stock (7250)

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 (4750)

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 (2430)

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 (730)

Villages: Arep, Aber, Igamuk, Isingin.

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 (570)

Villages: Tanguat, Gutepek, Ambok.

Previously unrecorded.

2.23.21.14. Andarum 58/And (1020)

Villages: Reng, Barit, Andarum, Sokumu, Umbo, Dakit, Avunkum, Zukin, Raptu.

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 (2500)

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 (370)

Villages: Itutang, Iangere, Isariuan.

Previously unrecorded.

2.23.22.12. Midsivindi 60/Mid (910)

Villages: Matungu, 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	36%
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 Midsivindi and Arkukay.
- 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.

2.23.3. The Annaberg Group (4730)

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, but the cognation of Banaro (61) falls even below that level. (see Chartlo). In view of the existence of many unsurveyed parts in the area and the uncertainty of language boundaries, the term 'group' is favoured for the time being.

2.23.31. The Aian Family (?)

2.23.31.1. Member Languages

2.23.31.11. Anor 64/Ar (390)

Villages: Iwam, Diugumbi, Asapi, Atsuvatapi, Ivagripi, Ulia-langupi, Ivarapi, Vavapi.

Kaspruś (unpublished) collected a first wordlist of Anor. Capell (1952:185), under the name Atemptle, gave a phoneme chart, grammar notes, a text and a wordlist. This linguistic material belongs

definitely to the Anor language and not to the Atempole language (41) spoken at Atempole village.

2.23.31.12. Aiome 65/Ai (?)

Its language boundary is uncertain.

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 situated 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 2.23.35.

2.23.32. The Rao Language (3340)

Rao 66/Ra (3340)

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. 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,²² 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.

²²Capell (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'.

Capell's notes on the verb structure²³ 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 2.23.3^{4/5}.

²³Capell (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....'.

2.23.33. The Banaro Language (?)

Banaro 67/Ba (?)

Villages: Yar, Bugaram, Kevim, Angisi, Rongwik, 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.

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

<u>Ar</u>	<u>Ai</u>	<u>Ra</u>	<u>Ba</u>
<u>Ar</u>	58	13	9
	<u>Ai</u>	10	5
		<u>Ra</u>	11
			<u>Ba</u>

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 (415)

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 (370)

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

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 (45)

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 (540)

Aion 70/An (540)

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

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 (4383)

Kambot 71/km (4383)

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 language 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)	<u>Ruboni Stock</u>	
	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 5List of Cognates: Ramu Phylum

	<u>I</u>	<u>You sg</u>	<u>he</u>	<u>he</u>	<u>we</u>	<u>we</u>
Wt	--	(u)	maʔ	--	ai	--
Ka	--	--	ma	--	ai	--
Ga	--	(un)	man	--	ai	--
Aw	ŋgo	--	--	nə	ai	--
Bo	ŋgo	--	--	nəna	ei(t)	--
Mi	ko	no	--	(a)	eya	--
Se	kɿ	nɿ	--	ana	(ɛ)	--
Gi	gu	ndu	--	ana	(ʒa)	--
Tn	kuaɓ	nuaɓ	man	--	(nay)	--
Ig	ko	nu	mane	--	(ne)	--
Tg	ku	nu	man	--	--	ani
And	ko	no	ma	--	--	ɛn
It	gai	ndu	--	anɿ	--	añi
Md	gai	nuŋ	--	--	--	añi
Ak	ku	nu	--	an	--	añi
Br	--	unu	--	ana	--	ɛñɛ
Ro	--	unu	--	ana	--	ñe
Ay	ŋgu	nu	man	--	--	añe
Ar	ŋgu	nɿ	man	--	--	añɿ--
Ra	ŋgu	nə-	mo	--	--	(ni-)
Ba	ŋgu	(u)	ma	--	(a-bat)	--
Gv	ŋgə	--	mə	--	--	añi
Adj	--	--	mə	--	--	añi

Wordlist 5 (continued)

	<u>You pl</u>	<u>they</u>	<u>father</u>	<u>father</u>	<u>banana</u>	<u>banana</u>
Wt	ne	min	ase	--	naŋas	--
Ka	ne	mi	ais	--	ŋas	--
Ga	nen	min	ait	--	ŋat	--
Aw	ni	mɛ	sat	--	ŋas	--
Bo	ni(t)	mɛ(t)	sat	--	ŋas	--
Mi		mɛya	--	--	--	akɪnim
Se	--	mɛ	--	--	--	akɪn
Gi	--	(mbɛ)	--	--	--	kɪn
Tn	niab	(mandar)	--	yabay	--	gɪan
Ig	ni	(maŋgere)	--	yap	--	gɪən
Tg	nig	mig	--	apɛk	--	aŋgɪnaŋk
And	--	me	--	--	--	ŋgon
It	ñu	--	--	apɛki	--	aŋkɛra
Md	ñɪ	--	--	apɪŋa	--	akɪna
Ak	--	--	--	api	--	aŋgɪn
Br	iñi	məŋg	--	əpuŋɛ	--	ɛŋɛnɛ
Ro	iñe	oməŋgə	--	apia	--	(ɛŋgrɪ)
Ay	uñe	mañ	--	--	--	--
Ar	uñe	me	--	--	--	--
Ra	no-bɛ	mɛ-bɛ	--	--	--	--
Ba	--	--	ceca	--	--	akun
Gv	uñi	--	tsesi	--	--	--
Adj	uñi	--	cas	--	--	ekɪ

Wordlist 5 (continued)

	mouth	bird	ear	name	dog	dog
Wt	--	gora	koar	--	piraŋ	--
Ka	--	ŋgoraʔ	koar	--	piraŋ	--
Ga	--	ŋgoraʔ	koar	--	piraŋ	--
Aw	--	kuarak	kur	--	pɛraŋ	--
Bo	--	kuarak	kur	zi	pɛraŋ	--
Mi	akam	kuarasim	kuarim	iziam	--	--
Se	akamtoŋ	kuarak	koar	izi	--	--
Gi	kamtoŋ	kuarak	koat	zi	--	--
Tn	akam	ŋguarak	ukuar	--	--	ariɛy
Ig	kamtsik-	ŋguarak	gukuar	--	--	yariaŋ
Tg	akamak	oŋguarak	--	--	--	ariak
And	agamtsiaŋ	ŋguara	kuaram	--	--	ri
It	akama	oŋguaraka	kuara	izi	--	ariga
Md	akama	okariika	ukuara	ize	--	ariya
Ak	--	ŋgarag	kuari	--	--	ari
Br	kam	(kaga)	--	izigi	--	ɛri
Ro	--	aŋka	okro	izuʔ	--	ɛri
Ay	--	ukər	kurmin	zi	--	--
Ar	--	ukra	krupi	zi	--	--
Ra	--	kuro	--	(ntsi)	--	--
Ba	--	ŋgoraʔ	--	--	--	--
Gv	agam	agriŋ	kur	--	--	--
Adj	kamaŋku	uŋkara	kur	--	--	--

Wordlist 5 (continued)

	hand	hand	bone	bone	tree
Wt	par	--	gagar	--	--
Ka	par	--	gagar	--	--
Ga	par	--	gagar	--	--
Aw	paraʔ	--	--	--	kan
Bo	par	--	gar	--	kan
Mi	--	agarimə	agarim	--	--
Se	--	agat	agar	--	kɪ
Gi	--	ahat	ahad	--	ka
Tn	--	--	--	gavan	--
Ig	--	--	--	gavan	--
Tg	--	akurok	--	(awanak)	--
And	(ŋgoapar)	--	--	--	--
It	--	akura	--	aʔa	ka
Md	--	akura	--	aʔa	ka
Ak	apar	--	--	avan	kantmə
Br	--	--	--	aʔa	--
Ro	--	--	--	aʔa	--
Ay	(afrɪŋgɪn)	--	--	afu	--
Ar	--	--	--	--	--
Ra	--	--	(grate)	--	--
Ba	--	--	--	--	--
Gv	(afə)	--	aga	--	kə
Adj	--	--	gaar	--	kɪ

Wordlist 5 (continued)

	<u>breast</u>	<u>breast</u>
Wt	--	mur
Ka	--	mur
Ga	--	mīr
Aw	--	mər
Bo	--	mīr
Mi	otem	--
Se	tī	--
Gi	ta	--
Tn	--	--
Ig	--	--
Tg	--	--
And	--	--
It	untsī	--
Md	otsī	--
Ak	ntsīgu	--
Br	untsugu	--
Ro	intsu	--
Ay	--	--
Ar	--	--
Ra	t sa	--
Ba	enjo	--
Gv	užip	--
Adj	once	--

2.23.9. Typological Characteristics of the Ramu Phylum

1) Stops are found at least at 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. λ

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. x

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

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 postulat 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 language²⁴.

²⁴ 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), Sani (24), and Tani (25), Nanubun is unknown to me unless it refers to Lilau (Ngaimbom).

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 in the Madang District

2.24.21. Monumbo 72/Mon (180)

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

Some linguistic material concerning the Monumbo Language has been published by Pösch (1905: 23off), Schmidt (1900:63-70), Schebesta (1932:249-262), Reschke (1935), and Hölzker (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

Villages: Ambana, Babangaua, Kwongam, Lilau.
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 (1960,61,64), overlap on the northern slopes of the Schrader and Bismark Ranges into the Madan District, i.e. Karam (84) and Gantj (86).

2.25.1. Member Languages - the Madang District

2.25.11. Karam²⁵ 84/Km

Villages: Apinak, Kombungabara, Kanain, Glomante, Kuiberau, Gumbedul, Yembunglin, Marengar, Giringiri, Tinam, Arunk, Kandum, Kampanying, Miami, Sauguvak, Kurumdek, Muriki, Kuib, Koromen, Gaban, Simbai, Fundun, Bobaimp, Kumbruf, Kakopi, Nugunt. These were the villages given to me. Biggs (1963:13) describes the Karam boundaries as follows:

'Their territory includes the upper reaches of Asai and Simbai valleys on the Ramu side of the Bismarck-Schrader Ranges, and the upper reaches

²⁵For the name see section 2.23.31.12.

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

Villages: Aingoai, Tungaga, Manyinbai, Komaraga, Sangam, Bank, Kinimbong, Gunts, 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 (16,245)

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, and Wurn stated similar views in 1957 and termed these languages 'New Guinea Melanesian or Papuo-Melanesian'.

2.26.1. The Meseman Family (5,560)

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 neighboring 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 Pösch (1907:150; 1908:149f) and Werner (1909:111-3; 1911:241; 300-5), and Capell (1962:73) refers to miscellaneous notes collected by Wedgwood and 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.

2.26.41.2. Sepa 75/Sp (130)

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

2.26.11.3. Medebur 76/Me (360)

Villages: Medebur, Agua, Toto. All these villages are situated west of Ulingan Harbour. Höltker (1937b:964 ft20), 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 (10 685)

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 Zöllner'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 (1 840)

Villages: Sek, Riwo, Siar Kranket,

Some linguistic materials on Gedaged is given by Maclay (1951: 174ff) from Tiara (Siar) and Rio (Riwo), by Bergmann-Kunze (1893: 57) from Siar, by Zöllner (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). Dempwofff 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 Zöllner (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 (7 400)

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/Mg (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 (215)

Villages: Matukar, Surumurang.

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

2.23.22. 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 11Percentages of Shared Cognates in MelanesianLanguages

Ma	Sp	Me	Ge	Bi	Tk	Meg	Mt
<u>Ma</u>	72	40	33	28	27	31	33
	<u>Sp</u>	50	33	29	27	33	35
		<u>M3</u>	33	34	28	34	34
			<u>Ge</u>	73	67	71	67
				<u>Bi</u>	65	65	57
					<u>Tk</u>	80	67
						<u>Meg</u>	77
							<u>Mt</u>

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 Vb²⁶.
- 6) The negation marker is an enclitic preceding to the verb.

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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's note (1942:739): '...the object, however, is suffixed...'. Magers' - (1952: ix f) 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 in clear differentiation to the Mugil (Saker) language and the Adelbert Range Phylum. The object precedes the verb in Papuan and Melanesian languages as well.

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

- 1) The presence of /ɬ/ in Gedaged²⁷.
- 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 only in Manam (see 3.56.3.2.)

²⁷See Capell (1948: 193; 1962a: 52).

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 farther 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.

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)²⁸. He also assumes that the relationship extends further east towards the Madang Subdistrict²⁹. 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.

²⁸ 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.'

²⁹ 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.

2.4.2. Höltker (1937:96⁴ fn.20) at a relatively early date of his field work period, mentions a relationship of Kaukombaran (Moanda) 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.

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

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

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.'.

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

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 three types typologically, 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'.

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. 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 RPL. 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 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 a 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.

PART III

Typological Comparisons

3. In Part III 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 (if any, 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, however, 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 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 (NumbM) 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.
- r Suffixed to the base form to indicate the singular, dual and plural 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 1Number Marking in Mikarew (52)

<u>+Nb</u>	<u>+NumbM</u>	<u>Translation</u>
gumasi-	-m	man
gumasi-	-m-ni	men (two)
gumasi-	-ba	men
ameba-	-m	woman
ameba-	-m-ni	women (two)
ameba-	-ba	women
sue-	-m	leg
sue-	-m-ni	legs (two)
sue-	-ba	legs
ite-	-m	tree
ite-	-m-ni	trees (two)
ite-	-ba	trees
kuarasi-	-m	bird
kuarasi-	-m-ni	birds (two)
kuarasi-	-ba	birds
dagia-	-m	stone
dagia-	-m-ni	stones (two)
dagia-	-ba	stones

Nb	NumbM	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
tɪpen-	-r	ekia-	-m	big house
tɪpen-	-r	ekia-	-m-ni	big houses (two)
tɪpen-	-r	ekia-	-ba	big houses
akɪni-	-r	ekia-	-m	big banana
akɪni-	-r	ekia-	-m-ni	big bananas (two)
akɪni-	-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

<u>Noun sg/pl</u>	<u>Suffix dl/pc</u>	<u>Translation</u>
aim		mother
aim	-ni	mothers (two)
amer		mothers
amer	-paʔ	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 3.12.1.: 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, ʌ -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; whereas /-gar/ has been
observed 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/ become /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 correspondences. 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

	<u>English</u>	<u>Kaian</u>	<u>Rules applied</u>	<u>Suffixes</u>	<u>Irregular phoneme correspondences</u>
1	man	namot namtair	R1+R2	-air	
2	woman	meaz mik	R6, R9		
3	child	ɲandamuɲ ɲadabur	R7		-m- -ŋ -b- -r
4	father	ʌis ʌs-er	R1+R2	-er	
5	mother	ʌbo ʌbo-ar	R1	-ar	
6	husband	kangait kagt-er	R1+R2	-er	-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 am-er	R1+R2	-er	
11	hand	par pair	R4		
12	back	kupik kupk-ar	R1+R2	-ar	
13	belly	ni:k ni:k-emp		-emp	

Table 1 (continued)

	English	Kaian	Rules applied	Suffixes	Irregular phonem correspondences
14	stomach	mimoŋ ming-ur	R1+R2	-ur	-ŋ- -g-
15	bone	gagar gagr-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	rameak ramik-ur	R1, R6	-ur	
21	fat	waipak waipk-ar	R1+R2	-ar	
22	(finger) nail	- amboum - ambam-ur	R1+R2	-ur	-o- -a-
23	forehead	rambangut rambangut-ar	R1	-ar	
24	hair	-tsaprit -tsaprir	R8		
25	body hair	dibrat dibrar	R8		
26	head	paŋan paŋain-t	R1, R4	-t	
27	heart	rukut rukt-ar	R1+R2	-ar	

Table 1 (continued)

	<u>English</u>	<u>Kaian</u>	<u>Rules applied</u>	<u>Suffixes</u>	<u>Irregular phoneme correspondences</u>
28	knee	- tutup - tutp-amp	R1+R2	-amp	
29	leg	or op-air	R1	-air	-r -p-
30	liver	bebək bebək-ar	R1+R2	-ar	
31	mouth	up up-emp	R1	-emp	
32	name	wi wi-remp	R1	-remp	
33	navel	ten ten-ar	R1	-ar	
34	nose	i:ndup i:ndp-ar	R1+R2	-ar	
35	palm	-ukut -ukt-ar	R1+R2		
36	shoulder	nakep naikp-ar	R1+R2, R4	-ar	
37	skin	si:k si:k-emp	R1	-emp	
38	sole	tagir taigr-emp	R1+R2, R4	-emp	
39	sore	pis pis-ir	R1	-ir	
40	thigh	-bis -bis-ir	R1	-ir	
41	throat	yokot yokt-emp	R1+R2	-emp	

Table 1 (continued)

	English	Kaian	Rules applied	Suffixes	Irregular Phoneme correspondences
42	tongue	memraŋ memraŋ-gar	R1	-gar	
43	tooth	nadagai nadagair	R1	-r	
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-emp	R1	-emp	
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	numket numker	R8		
53	fish	siŋ siŋ-k	R1	-k	
54	mosquito	naŋgit naŋgir	R8		
55	pig	markum markum-p	R1	-p	

Table 1 (continued)

	<u>English</u>	<u>Kaian</u>	<u>Rules applied</u>	<u>Suffixes</u>	<u>Irregular Phoneme correspondences</u>
56	snake	mindop mindp-or	R1+R2	-or	
57	bamboo	za za-r	R1	-r	
58	banana	ɲas ɲais	R4		
59	betelnut	mboʔ mbuk	R5, R9		
60	food	amɲagain amɲagain-t	R1	-t	
61	grass- land	ndain ndan-emp	R1+R2	-emp	
62	pandanus	nuŋgup nuŋp-ar	R1+R2	-ar	-g- -Ø-
63	pandanus	wi wi-remɲ	R1	-remɲ	
64	rope	naŋtik naŋg-air	R1+R2+R5	-air	t Ø
65	salt	serem serem-p	R1	-p	
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		

Table 1 (continued)

	English	Kaian	Rules applied	Suffixes	Irregular Phoneme correspondences
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-emp	R1+R2, R4	-emp	
75	piece of wood	-ait -ait-er	R1	-er	
76	yam	im im-er	R1	-er	
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	otea' oteik	R9		-a- -i-
81	bow	warkam warkaim-p	R1, R4	-p	
82	woods	raŋ raŋ-gair	R1	-gair	
83	grass skirt	ka gum kagup	R7, R10		

Table 1 (continued)

	English	Kaian	Rules applied	Suffixes	Irregular Phoneme Correspondences
84	fence	goaʔ goaik	R4, R9		
85	fire	sa:k sa:g-air	R1+R3	-air	
86	fog	wau wau-rɛmp	R1	-rɛmp	
87	ground	wagapaʔ wagapag-air	R1+R3, R9	-air	
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 bag	mendzai mendzai-r	R1	-r	
95	path	raup raup-ɛmp	R1	-ɛmp	
96	river	ok uk-ɛr	R1, R5	-ɛr	
97	ship	yangum yagup	R7, R10		

Table 1 (continued)

	English	Kaian	Rules applied	Suffixes	Irregular Phoneme correspondences
98	canoe	ko:r kuour			-o:- -uou-
99	voice	ŋap ŋaip	R4		
100	dancing	ueta uɛwɛar			-ta -wɛar
101	smoke	sakor sagr-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	yaun yaun-k	R1	-k	
108	bad	ŋgoreɛa? ŋgurik	R5, R6, R9		
109	big	aneɛa? anik	R6, R9		
110	small	ino? inuk	R5, R9		
111	red	yaup yaup-emp	R1	-emp	

Table 1 (continued)

	English	Kaian	Rules applied	Suffixes	Irregular Phoneme correspondences
112	white	gogouk gogog-or	R1+R2+R3	-or	
113	yellow	ɲorɲor ɲorɲor-or	R1	-or	
114	heavy	makuk makuk-ur	R1	-ur	
115	new	ɲgəm ɲgaip	R4, R10		
116	old	bagar bagr-ir	R1+R2	-ir	
117	sharp	wiwir wiwir-ar	R1	-ar	
118	short	ait ait-er	R1	-er	
119	trousers	traʊsɪs ³⁰ traʊsɪs-ar	R1	-ar	
120	pencil	pentsɪr ³⁰ pentsɪr-ar	R1	-ar	

³⁰ New Melanesian Loanwords.

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, and 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.

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

$\begin{smallmatrix} + \\ - \end{smallmatrix}$ 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 4Absence of CC in Transitive Verbs
in Moresada

$\pm$ S	$\pm$ O	+O _m	+V _b	+TS _m	Translation
yε	uramp	nu-	-ku-	-i	I give a man
yε	yanamp	nu-	-ku-	-i	I give my wife

Table 2
Concordance System in Moresada

<u>±N</u>	<u>+Adjb</u>	<u>+CM</u>	<u>+NumM</u>	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-	-mæk	Ø	
animal pl	ave-	-mk-	-aŋ	
object sg	ave-	-aŋk	Ø	Adjective base 'big'
object pl	ave-	-aŋg-	-aŋ	
male sg	aro-	-kur	Ø	
male pl	aro-	-gab-	-aŋ	
female sg	aro-	-nant	Ø	
female pl	aro-	-br-	-aŋ	
animal sg	aro-	-mæk	Ø	Adjective base 'black'
animal pl	aro-	-mk-	-aŋ	
object sg	aro-	-k	Ø	
object pl	aro-	-k-	-iŋ	
male sg	ruŋgru-	-gak	Ø	
male pl	ruŋgru-	-gab-	-aŋ	
female sg	ruŋgru-	-bər	Ø	Adjective base 'black'
female pl	ruŋgru-	-br-	-aŋ	
animal sg	ruŋgru-	-mæk	Ø	
animal pl	ruŋgru-	-mk-	-aŋ	
object sg	ru gru-	-dər	Ø	
object pl	ru gru-	-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 languages 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:

IPC: 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 subtypes of possessive phrase 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 Systems 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 characterised 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.

PM_p : occurs with Pd members of the P 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 MPS 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 tagmem arrangements are observable in any possessive phrase,

Sequence A: +Pr +Pd

Sequence Z: +Pd +Pr

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, 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 noticable

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	+	+	+	-	-(+) ³¹	-	-	-
	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	-	+	+	-	-	-	+	+

³¹Note (+) indicates rare occurrence.

However, in a few languages - all of them in phyllic border areas - there is free variation; it was found that the sequences were frequently freely interchanged by the same informant within the same paradigm.

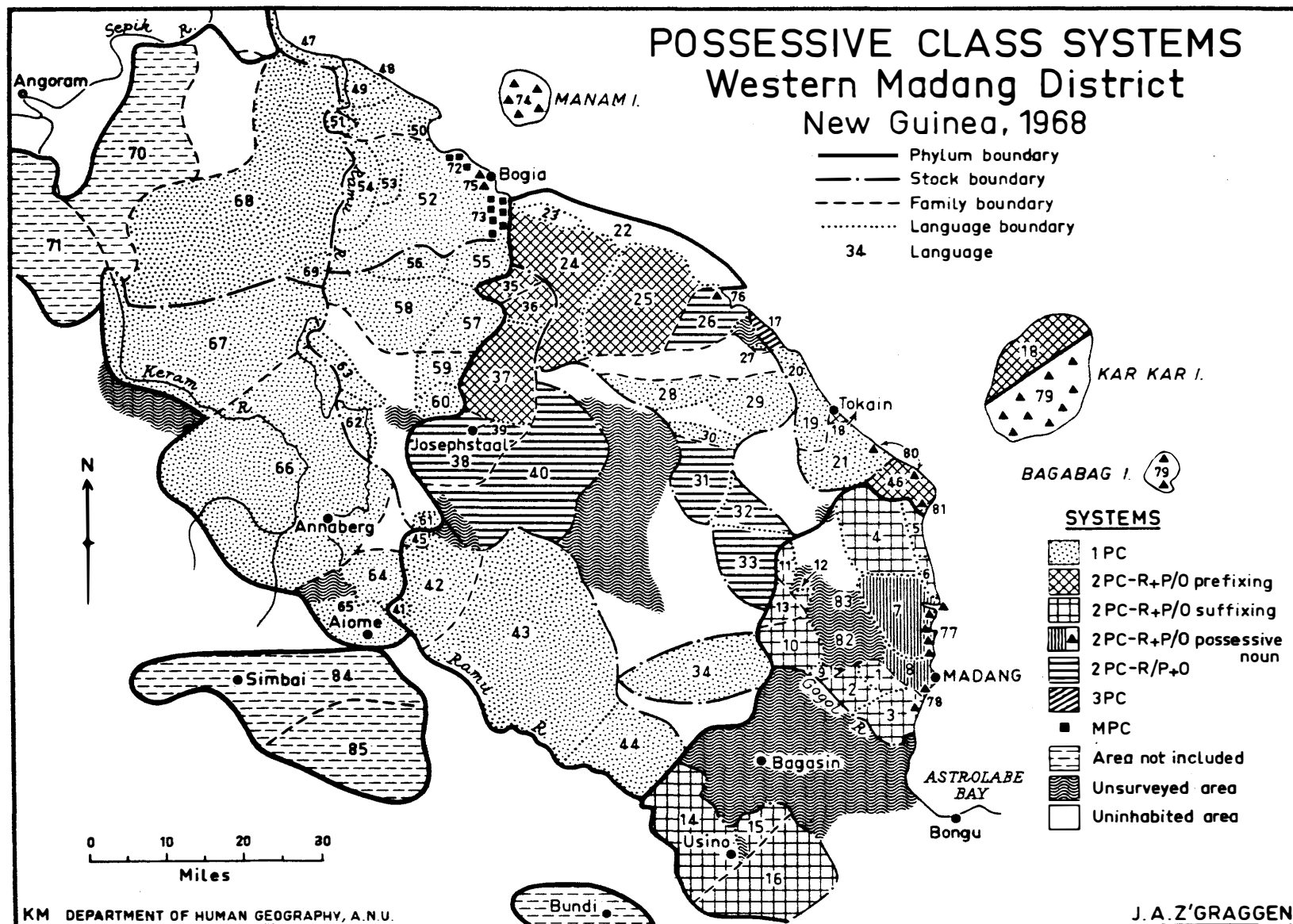
Sequence A has been observed in Melanesian languages, in all languages of the Ramu Phylum except Aiome (65), in all languages of the Isumrud, Pihom (except Amaimon) and Josephstaal stocks and in the Paynamar language of the Wanang stock (these are all languages of the Adelbert Range Phylum) and in addition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

The sequence Z has been observed in all languages of the Mabusu 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.

POSSESSIVE CLASS SYSTEMS Western Madang District New Guinea, 1968



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

Illustration 5

Possessive Phrase : Kaian (48)

	+Pr	+PM _O ³²	+Pd	Translation
1sg	ʌ ³³	-na	yakay	my brother
2sg	go-	-na	yakay	your brother
3sg	mʌ	-na	yakay	his brother
1pl	ε	-na	yakay	our brother
2pl	ne	-na	yakay	your brother
3pl	mi	-na	yakay	their brother
1dl	ʌŋ-	-na	yakay	our brother
2dl	oŋ-	-na	yakay	your brother
3dl	maniŋ-	-na	yakay	their brother
1pc	apea?	-na	yakay	our brother
2pc	nepa?	-na	yakay	your brother
3pc	minpa?	-na	yakay	their brother

³²In 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.

³³To 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.

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	a-ru	-nt	our pig
2pl	iŋam	na-ru	-nt	your pig
3pl	iŋam	nu-ru	-nt	their pig

Illustration 8

	+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	a-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), Moresade (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)³⁴

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
2sg	in	a-	-ben	his hand
1pl	iy	gi-	-ben	our hand
2pl	ne	gi-	-ben	your hand
3pl	in	gi-	-ben	their hand

³⁴See 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.

	<u>+Pr</u>	<u>+PM_O</u>	<u>+PM_P</u>	<u>+Pd</u>	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	ε-	-mbar	our mouth
2pl	nai-	-ŋor	nε-	-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	ε-	-muak	our head
2pl	nai-	-ŋor	nε-	-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 Foran (8). This system is absent from the other phyla under consideration. The system is, however, only partly realised in two languages in the phyllic border area, i.e. in Kare (13) 12 out of 35 R+P class nouns have no PM_P suffix, and in Usino (14) 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 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 / $\emptyset$ / nouns, i.e. those suffixing PM_p without an intervening phoneme (immediate suffixing type). The /m/, /n/ phonemes and / $\emptyset$ / 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 $\emptyset$ class members is added.

Illustration 11Possessive Phrase : Garus (4)

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

	+Pr	+PM _O	+Pd	Translation
1sg	d-	-eh	muk	my banana
2sg	nag	-eh	muk	your banana
3sg	nug	-eh	muk	his banana
1pl	ig	-eh	muk	our banana
2pl	ag	-eh	muk	your banana
3pl	inag	-eh	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-	-a'	his skin
1pl	ig	gale-	-k	our skin
2pl	ag	gal-	-yak	your skin
3pl	inag	gal-	-yak	their skin

Illustration 12Possessive 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	nunŋ-	-aŋgu	his egg
1pl	tsombaga	yey-	-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	+Pd	+PM _O	Translation
1sg	pε-	-ya	tsut-	-aŋgu	my arm
2sg	pε-	-na	nun-	-aŋgu	your arm
3sg	pε-	-∅	nunŋ-	-aŋgu	his arm
1pl	pε-	-inda	yey-	-aŋgu	our arm
2pl	pε-	-a	wu-	-aŋgu	your arm
3pl	pε-	-a	aŋg-	-aŋgu	their arm

Illustration 13Possessive 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

	+Pr	+Pd	+PM _p	Translation
1sg	isa	vav-	-i	my belly
2sg	ina	vav-	-in	your belly
3sg	u'pa	vavu-	-∅	his belly
1pl	ike	vav-	-ike	our belly
2pl	ake	vav-	-a	your belly
3pl	hoake	vav-	-a	their belly

the ∅ Class Member

ame- eye
vavu- belly

c) the Pd slot is filled by a R+P class, M subclass member

	<u>+Pr</u>	+Pd	+{-m-}	+PM _p	Translation
1sg	isa	metε-	-m-	-i	my nose
2sg	ina	metε-	-m-	-in	your nose
3sg	u'pa	meto	∅	∅	his nose
1pl	ike	metε-	-m-	-ike	our nose
2pl	ake	metε-	-m-	-a	your nose
3pl	hoake	metε-	-m-	-a	their nose

M class members

kokoto-	back
fəhiri-	bone
pio'to-	buttocks
muku-	chest
hipe-	chin
reni-	name
kapara-	shoulder
use-	thigh

d) the Pd slot is filled by a R+P, N subclass member

	<u>+Pr</u>	+Pd	+{-n-}	+PM _p	Translation
1sg	isa	εpe-	-n-	-i	my hand
2sg	ina	εpe-	-n-	-in	your hand
3sg	u'pa	εpen	∅	∅	his hand
1pl	ike	εpe-	-n-	-ike	our hand
2pl	ake	εpe-	-n-	-a	your hand
3pl	hoake	εpe-	-n-	-a	their hand

N class members

roka-	blood
ta'hi	ear
munahu-	fat
ʔo-	mouth
pe-	throat
peria-	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 tagname 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 Foran (8), both of which are members of the Mabusio 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 /ne-/, or just an object to keep, referred to by the PN /kana-/, 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 Foran 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 Foran languages; for Gedaged see also Mager (1952: ix).

Illustration 14Possessive Nouns in Manam (74)

<u>+Pr</u>	+Pd	+PN	+PM _p	Translation	Relationship
ηau	udi	ne-	-gu	my banana	food
ηau	udi	kana-	-gu	my banana	object to keep
ηau	udi	ηa-	-gu	my banana	poisonous for me

Illustration 15

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

	<u>+Pr</u>	+Pd	+PM _p	Translation
1sg	ηau	tama-	-gu	my father
2sg	kaiko	tama-	-m	your father
3sg	ai	tama-	-∅	his father
1pl incl	kita	tama-	-da	our father
1pl excl	keka	tama-	-ma	our father
2pl	kam	tama-	-miη	your father
3pl	di	tama-	-di	their father
1d1 incl	kita-ru	tama-	-da-ru	our father
1d1 excl	keta-ru	tama-	-ma-ru	our father
2d1	kam-ru	tama-	-miη-ru	your father
3d1	di-arū	tama-	-di-arū	their father

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

		<u>+Pr</u>	+Pd	+PN	+PM _p	Translation
1sg		ŋau	baŋ	ne-	-gu	my taro
2sg		kaiko	baŋ	ne-	-m	your taro
3sg		ŋai	baŋ	ne-	-Ø	his taro
1pl	incl	kita	baŋ	ne-	-da	our taro
1pl	excl	keka	baŋ	ne-	-ma	our taro
2pl		kam	baŋ	ne-	-miŋ	your taro
3pl		di	baŋ	ne-	-di	their taro
1dl	incl	kita-ru	baŋ	ne-	-da-ru	our (two) taro
1dl	excl	keka-ru	baŋ	ne-	-ma-ru	our (two) taro
2dl		kam-ru	baŋ	ne-	-miŋ-ru	your (two) taro
3dl		di-arū	baŋ	ne-	-di-arū	their (two) taro

		<u>+Pr</u>	+Pd	+PN	+PM _p	Translation
1sg		ŋau	ogi	kaan-	-gu	my axe
2sg		kaiko	ogi	kana-	-m	your axe
3sg		ŋai	ogi	kana-	-Ø	his axe
1pl	incl	kita	ogi	kana-	-da	our axe
1pl	excl	keka	ogi	kana-	-ma	our axe
2pl		kam	ogi	kana-	-miŋ	your axe
3pl		di	ogi	kana-	-di	their axe

Illustration 16

Possessive Phrase : Matukar (81)

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

		<u>+Pr</u>	+Pd	+PM _p	Translation
1sg		ŋau	mata-	-w	my eye
2sg		oŋ	mata-	-m	your eye
3sg		mein	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		mein	mata-	-di	their eye

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

		<u>+Pr</u>	+PN	+PM _p	+Pd	Translation
1sg		ḡau	ha-	-ḡ	palagis	my axe
2sg		oḡ	ha-	-m	palagis	your axe
3sg		mein	ha-	-n	palagis	his axe
1pl	incl	it	ha-	-t	palagis	our axe
1pl	excl	ḡam	ha-	-mam	palagis	our axe
2pl		aḡ	ha-	-mim	palagis	your axe
3pl		mein	ha-	-di	palagis	your axe

Illustration 17

Possessive Phrase : Foran (8)

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

		<u>+Pr</u>	+Pd	+PM _p	Translation
1sg		da	ani-	-l ³⁵	my mother
2sg		na	ani-	-n ³⁵	your mother
3sg		nug	ani-	-k	his mother
1pl	ig	ani-		-nig	our mother
2pl	ag	an-		-lag	your mother
3pl	pε	an-		-lag	their mother

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

		<u>+Pd</u>	<u>+Pr</u>	+PN	+PM _p	Translation
1sg		fo	da	si-	-l ³⁵	my pig
2sg		fo	na	si-	-p ³⁵	your pig
3sg		fo	nu	si-	-k	his pig
1pl	fo		i-	sa-	-nig	our pig
2pl	fo		a-	si-	-lag	your pig
3pl	fo		pε	si-	-lag	their pig

³⁵/-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 18Possessive Phrase : Ulingan (26)

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

	+Pr	+PM _O	+Pd	Translation
1sg	yε-	-na	unuma	my name
2sg	nε-	-na	unuma	your name
3sg	o	-na	unuma	his name
1pl	iyε-	-na	unuma	our name
2pl	niε-	-na	unuma	your name
3pl	wiε-	-na	unuma	their name

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

	+Pr	+PM _O	+{PM _r	+Pd}	Translation
1sg	yε-	-na	Ø	-awa	my father
2sg	nε-	-na	ni-	-awi	your father
3sg	o	-na	wi-	-awi	his father
1pl	iyε-	-na	Ø	-awa	our father
2pl	niε-	-na	ni-	-awi	your father
3pl	wiε-	-na	wi-	-awi	their father

	+Pr	+PM _O	+{PM _r + Pd}	Translation
1sg	yε-	-na	ayte	my mother
2sg	nε-	-na	nene	your mother
3sg	o	-na	nak	his mother
1pl	iyε-	-na	ayte	our mother
2pl	niε-	-na	nene	your mother
3pl	wiε-	-na	nak	their mother

Illustration 19Possessive Phrase : Yaben (32)

a) the Pd slot is filled with a P+O class member

	+Pd	+Pr	+PM _O	Translation
1sg	ubatu	ya	-nalū	my hand
2sg	ubatu	na	-nalū	your hand
3sg	ubatu	wa-	-nalū	his hand
1pl	ubatu	ini-	-nalū	our hand
2pl	ubatu	ani-	-nalū	your hand
3pl	ubatu	waji-	-nalū	their hand

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

	+Pr	+PM _O	+{PM _R + Pd}	Translation
1sg	ya	-nalū	tʌ	my father
2sg	na	-nalū	tiña	your father
3sg	wa-	-nalū	uda	his father
1pl	ini-	-nalū	tʌ	our father
2pl	ani-	-nalū	tiña	your father
3pl	waji-	-nalū	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-	-ŋkate	wa	my fish
2sg	ni	-ŋkate	wa	your fish
3sg	nu-	-ŋkate	wa	his fish
1pl	ani-	-ŋkate	wa	our fish
2pl	nimta-	-ŋkate	wa	your fish
3pl	numta-	-ŋkate	wa	their fish

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

	+Pr	+ PM_O	+ PM_p	+Pd	Translation
1sg	ŋa-	-ŋkate	ŋ-	-kusen	my bone
2sg	ni-	-ŋkate	nu-	-kusen	your bone
3sg	nu-	-ŋkate	Ø	-kusen	his bone
1pl	ani-	-ŋkate	a-	-kusen	our bone
2pl	nimta-	-ŋkate	nu-	-kusen	your bone
3pl	numta-	-ŋkate	Ø	-kusen	their bone

c) the Pd slot is filled by a R class member

	$\pm\text{Pr}$	$\pm\text{PM}_\text{O}$	$\pm\{\text{PM}_\text{r}$	$\pm\text{Pd}\}$	Translation
1sg	a-	-ŋkate	Ø-	-awe	my father
2sg	ni-	-ŋkate	ni-	-kue	your father
3sg	nu-	-ŋkate	nu-	-kue	his father
1pl	ani-	-ŋkate	Ø-	-awe	our father
2pl	nimta-	-ŋkate	ni-	-kue	your father
3pl	numta-	-ŋkate	nu-	-kue	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 and 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 Pd 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 21Possessive 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
ab	ak-	-unuŋgina	my bird
ab-aŋ	ak-	-ikini	my birds
nakur	ak-	-unini	my bird
nakur-i	ak-	-ikini	my birds

Illustration 22Possessive Phrase : Lilau (73)

a) the Pd slot is filled by a R class member

	+PM _m	+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	boad-	-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- ³⁶	-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

³⁶The Pr pronoun of 1sg and 3sg male differ somewhat when referring to sg and pl Pd nouns.

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		

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	tingin
string bag	manday
water	suya

3.35.1. Vormann and Schafrenberger (1914:20-23) 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 tsinger/ "my house"

in the sequence +Pd +PM₀ +Pd; PM₀ 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 it³⁷. 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/.

³⁷-----They say (.22): "Ich habe viel über diese Vornen 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.

3.35.2. 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.

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 Phyllic border area, i.e. in Usino (14), Musak (44), Amaimon (34), Kare (13) and Wamas (11).³⁸ 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, shoulders or parts of the head, 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

³⁸See Kasprus' (1942:726).

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	gemem
two	arer
three	arer-gemem
four	arer-arer
five	arer-arer-gemem
ten	arer-arer-arer-arer

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	mitsaka
two	anigay
three	anigay-mitsaka
four	anigay-anigay
five	anigay-anigay-mitsaka

d) Pair Counting System in Mikarew (52)

one	wamera
two	pumuni
three	pumuni-ko-kesem
four	pumuni-ko-pumuni
five	pumuni-ko-pumuni-kesem

e) Pair Counting System in Igom (56)

one	gunuaŋaŋga
two	mukupe
three	mukupe-gunuaŋaŋga
four	mukupe-mukupe
five	mukupe-mukupe-gunuaŋaŋga

Illustration 24

Quinary Counting System

a) Quinary Counting System in Pay (22)

one	unduaka
two	ηer
three	karop
four	arambam
five	iηgur
six	iηgur-unduaka
seven	iηgur-ηer

b) Quinary Counting System in Ulingan (26)

one	kusov
two	εrup
three	arov
four	εrepam
five	ikur
six	wapena-kusov
seven	wapena-εrup

c) Quinary Counting System in Kaian (48)

one	kaku
two	mbuniη
three	geramaut
four	paureik
five	rapauη
six	mbut-kaku
seven	mbut-mbuniη
eight	mbut-geramaut

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.

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 as e.g. in all languages of the Madang and Adelbert Range Phyla, or is to them prefixed as in the Melanesian languages and in Monubo 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 inadequate 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

/-gagiva ~- egagiva/ : 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	ye	gar-	-i	you watch
3pl	me	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 T7. 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) <u>Vb_{pr} ≠ Vb_{p,f}</u>		
<u>Tense</u>	<u>Vb</u>	<u>Translation</u>
pr	va-	to blow
p,f	veŋ-	
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) <u>Vb_{pr,p} ≠ Vb_f</u>		
<u>Tense</u>	<u>Vb</u>	<u>Translation</u>
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) <u>Vb</u>		
<u>Tense</u>	<u>Vb</u>	<u>Translation</u>
pr, p, f	oveŋ-	to die
pr, p, f	mɨg-	to fly
pr, p, f	dɨkav-	to stand

3.56.2. Tense and subject markers (T_{Sm}) 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 T_{Sm} 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 past and future tense, but there are four sets of T_pSm markers 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 26Verb Structure in Mugil (46)

a) Present Tense

Pers	$\pm$ S	+Vb	+TpSm	Translation
1sg	ya	leh-	-ay	I go
2sg	ni	leh-	-aʔ	you go
3sg	in	leh-	-aʔ	he goes
1pl	iy	leh-	-auʔ	we go
2pl	ne	leh-	-ay	you go
3pl	ni	leh-	-ay	they go

b) Future Tense

Pers	$\pm$ S	+Vb	+T _f Sm	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-	-auʔ	we will go
2pl	ne	leh-	-da	you will go
3pl	ni	leh-	-da	they will go

1) Past Tense: VC - T_pSm set

Pers	$\pm$ S	$\pm$ [tu]	+Vb	+T _p Sm	Translation
1sg	ya	tu- ³⁹	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

³⁹[ti] ~ [tu] are morphologically conditioned allomorphs.

List of VC Verbs

-sisimun-	⁴⁰	to ask
-isih-		to cover
-sor-		to carry
-orot-		to cut
-bay-		to bend
-oy-		to cook
ulam-		to smoke
-waz-		to hold

2) Past Tense: EC - T_pSm set

Pers	±S	± [tu]	+Vb	+T _p Sm	Translation
1sg	ya	ti-	leh ⁴¹	-Ø	I went
2sg	ni	ti-	lah		you went
3sg	in	ti-	lah		he went
1 pl	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

⁴⁰The hyphen preceding the Vb indicates obligatory prefixing of the object marker.

⁴¹T_pSm indication through changing the Vb.

Past Tense: V-T_pSm Set

Pers	+S	±[tu]	+Vb	+T _p Sm	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

Past Tense: E - T_pSm Set

Pers	+S	± [ti]	+Vb	+T _p Sm	Translation
1sg	ya	ti-	ne-	-y	I ate
2sg	ni	ti-	na-	-m	you ate
3sg	in	ti-	na-	-m	he ate
1 pl	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

$\pm$ S	$\pm$ Neg	+Vb	+TSm	Translation
ya	ahi-	leh-	-ay	I do not go
iy	ahi-	leh-	-auʔ	we do not go
in	ahi-	leh-	-da	he will not go
in	ahi-	bol-	-daay	they will not come
ya	ahi-	bol-	Ø	I did not come
amun	ahi-	ga-	-m	the child did not cry
in	ahi-	mo-	-m	he did not die

3,46.2.2 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 /ŋon, 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 ⁴²	Translation
1sg	yin	in-	-εm	I sleep
2sg	neŋ	in-	-ŋεŋ	you sleep
3 sg	wuŋ	in-	-ŋεr	he sleeps
1pl	yin	in-	-εmin	we sleep
2pl	nen	in-	-εmεn	you sleep
3pl	wun	in-	-εmit	they sleep
1sg	yin	in-	-um	I slept
2sg	neŋ	in-	-εŋ	you slept
3sg	wuŋ	in-	-εr	he slept
1pl	yin	in-	-min	we slept
2pl	nen	in-	-mεn	you slept
3pl	wun	in-	-mit	they slept
1sg	yin	in-	-am	I will sleep
2sg	neŋ	in-	-aŋ	you will sleep
3sg	wuŋ	in-	-ar	he will sleep
1pl	yin	in-	-amin	we will sleep
2pl	nen	in-	-amεn	you will sleep
3pl	wun	in-	-amit	they will sleep

⁴²It 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	ε->	u->	a-
2,3sg	ŋε->	ε->	a-
pl	ε->	∅->	a-

B. The Vb ends in a vowel

Pers	+S	+Vb	+TSM	Translation
1sg	yin	sawra-	-em	I laugh
2sg	nen	sawra-	-nen	you laugh
3sg	wun	sawra	-ner	he laughs
1pl	yin	sawr-	-emin	we laugh
2pl	nen	sawr-	-emen	you laugh
3pl	wun	sawr-	-emit	they laugh
1sg	yin	sawr-	-um	I laughed
2sg	nen	sawr-	-en	you laughed
3sg	wun	sawr-	-er	he laughed
1pl	yin	sawra-	-min	we laughed
2pl	nen	sawra-	-men	you laughed
3pl	wun	sawra-	-mit	they laughed
1sg	yin	sawr-	-am	I will laugh
2sg	nen	sawr-	-an	you will laugh
3sg	wun	sawr-	-ar	he will laugh
1pl	yin	sawr-	-amin	we will laugh
2pl	nen	sawr-	-amen	you will laugh
3pl	wun	sawr-	-amit	they will laugh

C. Negation Marking

+S	+neg	+Vb	+TSM	Translation
yi	kun	sawr-	-em	I do not laugh
wu	kun	sawra-	-ner	he does not laugh
yin	kun	sawra-	-min	we will not laugh
wun	kun	sawra-	-mit	they did not laugh
yin	kun	in-	-min	we did not sleep
wun	kun	in-	-amit	they will not sleep

3.56.2.3. The TSm's in Garus (4) and Utu (10) w:
 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. one /-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 [TfSm].

Illustration 28

Verb Structure in Garus (4)

Pers	±S	+Vb	+T _{pr}	+Sm	Translation
1sg	dε	nig-	-d-	-im	I sleep
2sg	nεg	nig-	-d-	-em	you sleep
3sg	nug	nig-	-d-	-a	he sleeps
1pl	ig	nig-	-d-	-um	we sleep
2pl	εg	nig-	-d-	-ip	you sleep
3pl	inεg	nig-	-d-	-ip	they sleep
1sg	dε	nig-	-Ø-	-im	I slept
2sg	nεg	nig-	-Ø-	-em	you slept
3sg	nug	nig-	-Ø-	-e:	he slept
1pl	ig	nig-	-Ø-	-um	we slept
2pl	εg	nig-	-Ø-	-ip	you slept
3pl	inεg	nig-	-Ø-	-ip	they slept

Pers	$\pm$ S	+Vb	+{TpSm}	Translation
1sg	dε	nig-	-i	I will sleep
2sg	nεg	nig-	-am	you will sleep
3sg	nug	nig-	-oun	he will sleep
1 pl	ig	nig-	-du	we will sleep
2pl	εg	nig-	-eip	you will sleep
3pl	inεg	nig-	-eip	they will sleep

	$\pm$ S	$\pm$ Neg	+Vb	+TSM	Translation
	nug	pi	nig-	-da	he does not sleep
	ig	pi	nig-	-dum	we do not sleep
	dε	pi	nig-	-dε	I will not sleep
	inεg	pi	nig-	-eip	they will not sleep
	nug	pi	nig-	-e:	he did not sleep

Illustration 29

Verb Structure in Utu (10)

Pers	S	+Vb	+T	+Sm	Translation

a) Present

1sg	sek	da-	-una	-min	I am
2sg	nek	da-	-una-	-mun	you are
3sg	nuk	da-	-una-	-m	he is
1pl	ik	da-	-una-	-mun	we are
2pl	εk	da-	-una-	-vi	you are
3pl	εsa	da-	-una-	-vi	they are
1dl	i	da-	-una-	-mur	we(two) are
2dl	εv	da-	-una-	-vir	you (two) are
3dl	εra	da-	-una-	-vir	they (two) are

Pers	⁺ S	+Vb	+T _{pr}	+Sm	Translation
b) Past					
1sg	sək	da-	-Ø-	-min	I was
2sg	nək	da-	-Ø-	-mun	you were
3sg	nuk	da-	-Ø-	-um	he was
1pl	ik	da-	-Ø-	-mun	we were
2pl	ək	da-	-Ø-	-vi	you were
3pl	esa	da-	-Ø-	-vi	they were
1dl	i	da-	-Ø-	-mur	we(two) were
2dl	ev	da-	-Ø-	-vir	you (two) were
3dl	era	da-	-Ø-	-vir	they (two) were

c) Future

1sg	sək	da-	-nako-	-min	I will be
2sg	nək	da-	-nako-	-mun	you will be
3sg	nuk	da-	-nako-	-um	he will be
1pl	ik	da-	-nako-	-mun	we will be
2pl	ək	da-	-nako-	-vi	you will be
3pl	esa	da-	-nako-	-vi	they will be
1dl	i	da-	-nako-	-mur	we (two) will be
2dl	ev	da-	-nako-	-vir	you (two) will be
3dl	era	da-	-nako	-vir	they (two) were

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 8Subject Markers in Matukar (81)

Pers	Sml	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 Sml Verbs

-soŋ-	to go
-naniŋ-	to light
-nei-	to cook
-ur-	to follow
-ro-	to fly
-sel-	to laugh

List of Sm2 Verbs

-pa-	to sleep
-p-	to watch

Illustration 30Verb Structure in Matukar (81)

Pers	⁺ S	+Sm	+Vb	+T	Translation

Present

1sg	ηau	ηa-	-soη-	-go	I go
2sg	oη	∅-	-soη-	-go	you go
3sg	mεin	∅-	-soη-	-go	he goes
1pl incl	it	ta-	-soη-	-go	we go
1pl excl	ηam	ηama-	-soη-	-go	we go
2pl	aη	a-	-soη-	-go	you go
3pl	mεin	di-	-soη-	-go	they go

Past

1sg	ηau	ηa-	-soη-	-aba	I will go
2sg	oη	∅-	-soη-	-aba	you will go
3sg	mεin	∅-	-soη-	-aba	he will go
1pl incl	it	ta-	-soη-	-aba	we will go
1pl excl	ηam	ηama-	-soη-	-aba	we will go
2pl	aη	a-	-soη-	-aba	you will go
3pl	mεin	di-	-soη-	-aba	you will go

Present

1sg	ηau	ηai-	-na-	-go	I sleep
2sg	oη	we-	-na-	-go	you sleep
3sg	mεin	ye-	-na-	-go	he sleeps
1pl incl	it	tai-	-na-	-go	we sleep
1pl excl	ηam	ηamai-	-na-	-go	we sleep
2pl	aη	ai-	-na-	-go	you sleep
3pl	mεin	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 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, the 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 1pl incl. 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)

<u>Sm set for</u> <u>present and past</u>			<u>Sm set for</u> <u>future</u>		
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)

<u>±S</u>	<u>±Time</u> <u>Adv</u>	<u>+Sm</u>	<u>+Vb</u>	<u>(+T)</u>	<u>+Sm/</u> <u>Numb</u>	<u>Translation</u>
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	nora	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; 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 11Verb 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 32Object Marker Incorporation in Mugil (46)

±S	±O	+Om	+Vb	+TSm	Translation
mat	ya	i-	-hurit-	-aʔ	the man hears me
mat	ni	ni-	-hurit-	-aʔ	the man hears you (sg)
mat	in	Ø-	-hurit-	-aʔ	the man hears him
mat	iy	gi-	-hurit-	-aʔ	the man hears us
mat	ne	gi-	-hurit-	-aʔ	the man hears you (pl)
mat	in	gi-	-hurit-	-aʔ	the man hears them
aw	ya	ya-	-g-	-aʔ	the woman gives me
aw	ni	ni-	-g-	-aʔ	the woman gives you (sg)
aw	in	Ø	-ug-	-aʔ	the woman gives him
aw	iy	iy-	-g-	-aʔ	the woman gives us
aw	ne	ne-	-g-	-aʔ	the woman gives you (pl)
aw	in	ne-	-g-	-aʔ	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 identified. 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)

<u>±S</u>	+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

<u>±S</u>	<u>±O</u>	+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 T. 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 34Object Marker Incorporation in Matukar (81)

$\pm$ 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-	-ad-	-ago	the women give us (incl)
peinim	di-	-pan-	-amam-	-ago	the women give us (excl)
peinim	di-	-pan-	-aŋ-	-ago	the women give you (pl)
peinim	di-	-pan-	-din-	-ago	the women give them

Illustration 35Object Marker Incorporation in Manam (74)

$\pm$ S	($\pm$ O)	+Sm	+Vb	+Om	⁴³ (+T) 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
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)

3.56.4.4. Direct Object markers are immediately suffixed to the Vb followed by the TSm in all languages of the

⁴³The O and T slots are seldom filled and for this reason have been left empty.

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)

$\pm$ S	+Vb	+Om	+Tsm	Translation
dal ul-	-el-	-da	the man hits me	
dal ul-	-ir-	-da	the man hits you (sg)	
dal ul-	-Ø-	-da	the man hits him	
dal ul-	-eg-	-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)

$\pm$ S	Vb	+Om	+Tsm	Translation
mem of-	-it-	-ana	the father	saw me
mem of-	-is-	-ana	the father	saw you (sg)
mem of-	-is-	-ana	the father	saw him
mem of-	-ik-	-ana	the father	saw us
mem of-	-at	-ana	the father	saw you (pl)
mem of-	-at-	-ana	the father	saw them
mem of-	-ir-	-ana	the father	saw us (two)
mem of-	-ar-	-ana	the father	saw you (two)
mem 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 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 14List 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	ganiŋ-	Present
	Noun		Past
	Pronoun Noun sg Noun dl	daniŋ-	Future
	Noun pl	raniŋ-	Future
to see	Pronoun Noun sg Noun dl	nɨgar-	Present Past
	Noun pl	rɨgar-	Present Past
	Pronoun Noun sg Noun pl	nɨgan-	Future
	Noun pl	rɨgan-	Future
to talk	Pronoun Noun sg Noun dl	muge-	Present
	Noun pl	wuge-	Present
	Pronoun Noun sg Noun dl	mukemi-	Past Future
	Noun pl	wukemi-	Past Future

Verb	Object	Verb base	Tense
to hear	Pronoun Noun sg Noun dl	barav-	Present
	Noun pl	warav-	Present
	Pronoun Noun sg Noun dl	bare-	Past
	Noun pl	ware-	Past
	Pronoun Noun sg Noun pl	barag-	Future
	Noun dl	warag-	Future

CHART CTypological 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
Is 1	-	-	-	+	-	-	-	-	-
B 2	-	-	-	+	-	-	-	-	-
Al 3	-	-	-	+	-	-	-	-	-
Gs 4	-	-	-	+	-	-	-	-	-
Yo 5	-	-	-	+	-	-	-	-	-
Re 6	-	-	-	+	-	-	-	-	-
Gh 7	-	-	-	-	-	+	-	-	-
Fr 8	-	-	-	-	-	+	-	-	-
Mw 9	-	-	-	+	-	-	-	-	-
Ut 10	-	-	-	+	-	-	-	-	-
Wm 11									
Sr 12	-	-	-	+	-	-	-	-	-
Kr 13	-	-	-	+	-	-	-	-	-
Us 14	-	-	-	+	-	-	-	-	-
Su 15	-	-	-	+	-	-	-	-	-
Ur 16	-	-	-	+	-	-	-	-	-

Chart C (continued)

A. Madang Phylum									
Lg	Counting Systems			Tense		Sm		Om	
	2	5	BC ⁴⁴	pref.	suff.	pref.	suff.	pref.	suff.
Is 1	-	+	-	-	+	-	+	-	+
B 2	-	+	-	-	+	-	+	-	+
Al 3	-	+	-	-	+	-	+	-	+
Gs 4				-	+	-	+	-	+
Yo 5				-	+	-	+	-	+
Re 6	-	+	-	-	+	-	+	-	+
Gh 7				-	+	-	+	-	+
Fr 8	-	+	-	-	+	-	+	-	+
Mw 9	-			-	+	-	+	-	+
Ut 10	-			-	+	-	+	-	+
Wm 11	-	-	+						
Sr 12				-	+	-	+	-	+
Kr 13	-	-	+	-	+	-	+	-	+
Us 14	-	-	+	-	+	-	+	-	+
Su 15	-			-	+	-	+	-	+
Ur 16	-			-	+	-	+	-	+

⁴⁴ Body counting system

Chart C (continued)

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
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 (continued)

B. Adelbert Range Phylum										
Lg		Counting System		Tense		Sm		Om		
		2	5	BC	pref.	suff.	pref.	suff.	pref.	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 (continued)

C. Ramu Phylum							
Lg		Numb	CC	IPC	2PC	3PC	MPC
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	50		-	+	-	-	-
Mid	60	+	-	+	-	-	-
Ak	61		-	+	-	-	-
Br	62	+	-	+	-	-	-
Ro	63	+	-	+	-	-	-
Ar	64	-	-	+	-	-	-
Al	65	-	-	+	-	-	-
Ra	66	-	-	+	-	-	-
Ba	67	-	-	+	-	-	-
Adj	68	+	-	+	-	-	-
Gv	69	+	-	+	-	-	-

Chart C (continued)

C. Ramu Phylum									
Lg	Counting Systems			Tense		Sm		Om	
	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 (continued)

D. Melanesian Languages							
Lg		Numb	CC	IPC	2PC-R+P/O Poss. Noun	3PC	MPC
Ma	74	-	-	-	+	-	-
Sp	75	-	-	-	+	-	-
Me	76	-	-	-	+	-	-
Ge	77	-	-	-	+	-	-
Bi	78	-	-	-	+	-	-
Tk	79	-	-	-	+	-	-
Meg	80	-	-	-	+	-	-
Mt	81	-	-	-	+	-	-

Chart C (continued)

D. Melanesian Languages									
	Counting Systems			Tense		Sm		Om	
Lg	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	-	+	-	-	+	+	-	-	+

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CORRIGENDA

- p. 3, Line 11 Change 'ot' to 'to'.
- p. 7, Line 8 Change 'isn' to 'is'.
- p. 9, Line, 16, 17 Change 'universally in' to
'universally present in'.
- p. 12, Line 9 Change 'fmailly' to 'family'.
- p. 42, Last line Change 'homorganic' to 'simultaneous'.
- p. 43, Line 14 Change '2.21.16.' to '2.21.17'.
- p. 46, Line 4 Change '2.21.12.4.' to '2.21.12.14'.
- p. 49, Last line Change '2.21.16.' to '2.21.17'.
- p. 93, Line 10 Change '2.22.25.1.' to '2.22.25.'.
- p. 160, Line 15 Change '2.23.35.' to '2.23.34.'.
- p. 162, Line 12 Change '2.23.34.' to '2.23.35.'.
- p. 184, Line 6 Change 'Madan' to 'Madang'.
- p. 188, Fifth last line Change '2.26.41.2.' to '2.26.11.2.'.
- p. 199, Lines 1, 10, 16 Change '2.4...' to '2.3...'.
- p. 223, Last line Change 'New Melanesian' to 'Neo-Melanesian'.
- p. 229, Line 16 Change 'denoting languages Pd' to 'denoting Pd'.
- p. 232, Line 9 Change 'the P class' to 'the P class and R class'.
- p. 233, Line 2 Change 'MPS' to 'MPC'.
- p. 233, Line 15 Delete '2PC-R/P+O'.
- p. 238, Footnotes Change footnote '32' to ;; footnote '33' and change footnote '33' to footnote '32'.
- p. 239, Illustration 8: Insert 'Possessive Phrase: Emerum (43)'.
- p. 247, Line 8 from bottom Change ' +Pd + PM_o ' to ' +Pr + PM_o '.
- p. 248, Line 11 Change 'R+P' to 'R+P,∅ subclass member'.
- p. 252, Illustration 15: Insert 'Possessive Phrase: Manam (74)'.
- p. 258, Line 19 Change 'si' to 'is'.
- p. 259, Line 11 Change 'Pd slot' to 'Pr slot'.
- p. 261, Lines 8,9 Change 'ab-aŋ' to 'ab-aŋ'; 'unungina' to 'unangina'; 'my bird' to 'my arm' and 'my birds' to 'my arms'.
- p. 261, Line 15 Change '+PM_m' to '+Pr +{Pr+PM_p}'.

- p. 266, Line 1 Change '+Pd +PM_o +Pd' to +Pr +
PM_o +Pd'.
- p. 271, Line 9 Change 'ar~~er~~-ar~~er~~-ar~~er~~-ar~~er~~' to
'ar~~er~~-ar~~er~~-ar~~er~~-ar~~er~~-ar~~er~~'.
- p. 274, Line 9 Change 'Monubo' to 'Monumbo'.
- p. 277, Line 10 Change 'Table T7' to 'Table 7'.
- p. 284, Line 10 Change '3.46.2.2.' to '3.56.2.2.'
- p. 287, Line 12 Change '+T_{pr}' to '+T'.
- p. 292, Line 12 Change 'Past' to 'Future'.
- p. 297, Illustration 32: Translate the Vb '-hurit-' by 'to
hear' and not by 'to give',
throughout.
- p. 301, Line 20 Change 'Vb' to '+Vb'.