

2.8.2. THE MADANG-ADELBERT RANGE SUB-PHYLUM

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2.8.2.0. INTRODUCTION

The Madang-Adelbert Range Sub-Phylum (MASP) languages are located in the central part of the Madang District in the north-eastern portion of the New Guinea mainland. Their linguistic neighbours are the Sepik-Ramu Phylum languages in the west, the Finisterre Stock languages in the east, and the East New Guinea Highlands Stock languages in the south. A number of Austronesian languages are located along its coastal areas. The Wasembo language in the Gusap Valley in the Morobe District is probably another member of the MASP group, though aberrant and geographically split off from the main body (see 2.15.4.2. in this volume).

The aim of this study is to give a brief account of attempts to group or classify the languages of the Madang District (for a more detailed study of the history of research in Papuan linguistics in general see part 2.1. in this volume). In 2.8.2.2. a tentative classification of the MASP languages has been presented. The division into dialects and languages is based on the informants' opinion and on the inspection of data. For a survey study such as this one, time was insufficient to conduct a systematic test on the mutual intelligibility of these languages. It must be kept in mind that observations alone can be quite misleading. The grouping into families or stocks is based on Swadesh' principles and further subdivisions such as super-stocks and sub-phyla are on the basis of suggestions by Wurm (see 2.2.5. in this volume). Since the present chapter had to be prepared shortly after my finishing fieldwork in November-December 1973, it was only possible to a limited extent to compare systematically all of the approximately 300 items collected and to

establish the percentages of shared basic vocabulary cognates by computer techniques. However, about sixty words from each language were compared by the inspection method, and a tentative series of cognates tabulated and evaluated. From this, the tentative classification as presented in 2.8.2.2. of this study emerged. In 2.8.2.3., the personal pronouns in their free forms will be given and compared with the pronoun sets in Papuan languages (see 2.3.3. in this volume). In part 2.8.2.4., a comparative wordlist of eight items will be given to illustrate the unity and diversity of this language group and to demonstrate its lexical links with the Trans-New Guinea languages in general.

Other sources have been studied carefully, but the classification as presented in this study is based on the author's own materials, as are the data presented in 2.8.2.3. and 2.8.2.4. As much as possible was retained of O. Claassen and K. McElhanon's (1970) classification of the eastern part of the Rai Coast languages and Z'graggen's (1971a) classification of the Madang and Adelbert Range languages. Changes and corrections were made wherever newly acquired data made this necessary.

The author¹ carried out his first linguistic research in the Madang District in the Mugil area, to the north-west of Madang town, from August 1964 to January 1966. The aim at that time was to obtain an adequate picture of the linguistic situation of the area for which he was responsible as a missionary of the Roman Catholic Church. The linguistically complex area awakened in him a special interest in survey and comparative studies, rather than in a study of an individual language from which he would have benefited only for a small part of the area of mission interest. Another stretch of fieldwork was undertaken under the auspices of the Australian National University from January 1967 to March 1968 and again another from July to October 1969. The aim at that time was to survey as much as possible of the Madang District. The results were tentatively presented in Z'graggen 1971a. Fieldwork in the Madang District was resumed again under the auspices of the Anthropos Institute and in collaboration with the Australian National University in January 1971, and was completed in November 1973. The aim then was to complete the surveying of the Madang District. Districts are becoming more and more political, economic and social units, and studies on a district level in fields such as linguistics should in the long run be advantageous for administrative and educational purposes. The author was in many ways assisted by the excellent work of Nora Umbricht who helped collect and organise data from January 1971 to December 1972. To facilitate the collecting of data, a comparative wordlist was programmed (Z'graggen 1971b) which contained the standard non-cultural vocabulary items together with a list of cultural vocabulary items and other items which were of

particular interest to the author. A comparison of cultural vocabulary items should be of interest, though they are not to be considered in a study of genetic relationships between language groups. The data were collected through New Guinea Pidgin. To avoid misunderstandings, elicitation was carried out in complete sentences, rather than through using single lexical items. For instance, the word *where* was also elicited in a sentence such as *where do you go?* For further information on the author's method of collecting his data, see Z'graggen 1971b. The words and word-stems were systematically compiled in Z'graggen forthcoming a-d. The linguistic survey of the Madang District has been presented in Z'graggen 1975.

2.8.2.1. HISTORY OF RESEARCH

In this part a short account of the main contributions to the study of the Madang-Adelbert Range languages will be given and attempts to classify these languages will be discussed briefly. A more complete study has been given in Z'graggen 1971a and 1975 (see also 2.1.1.4.2. in this volume).

2.8.2.1.1. MIKLUKHO-MAKLAĪ

The Russian scholar N.N. Miklukho-Maklaĭ (Miklucho-Maclay) (1951:157-85) was the first scholar to collect linguistic data in languages of the north coast of New Guinea. He collected wordlists in nine languages which are members of the MASP. Later, Zöllner (1891) published short wordlists from six member languages of the MASP. However, Zöllner failed to recognize the basic difference between Austronesian and Papuan languages and regarded all the languages with which he was concerned, i.e. Austronesian and Papuan languages, as constituting a unit. His attempts at proving this were, however, unsatisfactory (see (II) 4.2.3.). Schmidt (1900) incorporated six of the MASP languages into his summarizing studies of German New Guinea. He described in detail the basic difference between the Austronesian and Papuan languages on the north coast of New Guinea. Dempwolff (1905) published another eight wordlists in languages of the MASP. Hanke's (1909) study comprising a grammar and dictionary of the Bongu language is the only comprehensive study of a single language which has been published. Kaspruś (1942-45) contributed extensive wordlists and some sentence materials to four languages: Mugil (Saker), Garus (Em), Murupi (Ate) and Rempi (A'e). Schmitz (1960) adds a surprisingly large list of language or dialect names. Unfortunately, he does not make a clear difference between languages and language groups. Some of his names are merely village names, others are unidentifiable, unless his linguistic

data are made available. Loukotka (1957) and Salzner (1960), in their overall studies, list language names and group them mainly in geographical order. The same applies to Ray (1919:32), though he did publish a list of pronouns, numerals and twenty item wordlist.

2.8.2.1.2. CAPELL

Capell included the Madang District in his survey work carried out in 1950 and obtained valuable new field materials in a number of languages. But his notes on the interrelationships of his Bogia languages are ambiguous and apt to be misinterpreted (see below). First Capell (1952:205) mentions with regard to a possible interrelationship of the Bogia languages:

...; any relationships with other groups lie beyond the present possibility of elucidation. From the amount of material gathered, only indications even of the smaller set of relationships can be given. There are three main groups of languages from a structural point of which*, with which vocabulary in the main agrees: I. Monumbo-Ngaimbom-Lilau. II. The languages east of Lilau. III. The western and inland languages.

Thus a trichotomy of language groups is clearly stated, but they are "only indications". In his linguistic survey of the South-Western Pacific some years later, Capell ((1954), 1962a:49)² writes:

The languages seem to form two main groups, one embracing the Monumbo-Ngaimbom coastal people, and including Bogia station itself, and the other covering the remainder of the sub-district (see Map V). This does not imply complete homogeneity in the second area, but a relatively close connection between the languages as compared with those of the Monumbo-Ngaimbom group.

Capell (1962a:51) then gives a comparative wordlist of four items in nine languages located in the Bogia sub-district and comments:

This short word-list shows the groupings sufficiently clearly for it to appear that there is a certain amount of interrelationship throughout, but that the Monumbo-Ngaimbom languages stand apart, with a suggestion of linking with Gamia; Igom, Tanggum and Makarub are connected and through Makarub there is a bridge with Hubia-Bosngun. This Makarub connection holds further east till it gradually disappears in the Mugil region.

The Banara, Ulingan, Wanambre and Mugil languages "are also related in many ways to the Tangum-Makarub group" (Capell 1962a:52). These many ways were never substantiated by Capell. In inspecting his four-word lists, it is rather surprising to see that he suggests a link of Gamia (Game1) with Monumbo. The original three structurally different groups have now become two "main groups" or maybe even one. In his overall study of Oceanic linguistics, Capell (1962b:373) repeats the "tentative classification into three groups", but at the same time he calls them now the Bogia group and sees this group in a wider context when he writes:

*Present author's note: misprint: should read "view".

There is probably at any rate a phylum connection of the Bogia group with the Mugil languages (Kasprus 1942-45) and those in the hinterland of Madang, Nobonob, Amele etc.

Thus the original trichotomy becomes a subgrouping or is given up, as he takes more languages into consideration in the course of time.

Bogia Station is one of the linguistically most complex corners in New Guinea. Four structurally different language groups meet within ten miles of the Bogia District Office. These are: Group I: Torricelli languages; Group II: Adelbert Range languages; Group III: Ramu languages and finally, Sepa, an Austronesian language (see Z'graggen 1971a).

The Monumbo-Lilau (Ngaimbom) languages are members of the Torricelli Phylum. The author could, on his field trip in 1967-68, classify these two languages neither with languages to the west nor to the east of Lilau. Laycock, from an inspection of Vormann-Scharfenberger's (1914) and Z'graggen's materials of Lilau, identified Monumbo-Lilau finally as members of the Torricelli language group. A closer relationship of Monumbo with Valman was already suspected by Schmidt (1900:132). Kirschbaum (1926:277) also postulated a closer relationship of Monumbo with the Sepik languages, especially with Buna. Schebesta (1913:881) was however inclined to believe in a closer link between Monumbo and the Mikarew (Ramu) language. The Monumbo and Lilau languages are separated from each other by a fourth group of languages in the Bogia Sub-District area, the Sepa language, which is Austronesian and located closest to the Bogia station. The name of the Lilau-speaking tribe is Ngaimbom and Lilau is the name of a new settlement of the same tribe on the coast. The Ngaimbom or Lilau people are inland people with no special interest in the sea, but the Monumbo people are economically tied to it. Despite their difference in culture, their languages both belong lexically and structurally to the same language family.

The languages east of Lilau (Group II) are linked with the Madang-Adelbert Range Sub-Phylum and the languages west of Lilau (except Sepa and Monumbo) are linked with the Sepik-Ramu Phylum. Capell's wordlist of Atemptle (Atemble) belongs to the Anor language (Ramu Super-Stock) and the Moresada (Murusapa) language has been assigned to the Adelbert Range Super-Stock, Josephstaal Stock, because of structural similarities.

2.8.2.1.3. VOEGELIN C. AND F.

The Voegelins (1965:50-5) propose a Madang (Bogia) Phylum while referring to Capell:

Some relationship apparently exists among nearly all the languages of the Madang District from its north-western border with the Sepik District along the coast and immediately inland as far east as the northern side of Astrolabe Bay beyond Madang. The relationships

between neighboring languages in some of the sub-areas are close enough to be obvious, but the relationships between the languages of different areas are more remote and less certain.

The geographic groups of languages ... may actually be language families, or possibly branches of a single family to which a few language isolates are more distantly related.

The Voegelins (1965:51ff.) propose three language groups which differ to some extent from those of Capell (1952). The groups are: 1) western and inland Bogia Sub-District group, 2) East-of-Bogia Coastal Group and 3) Ramu River group. The establishment of the Ramu River group is a new development after Capell's grouping. The Monumbo and Lilau (Ngaimbom) languages and those of the Rai Coast and Astrolabe area are regarded as unclassified.

2.8.2.1.4. WURM

Wurm (1971:606ff.) proposes a Bogia Phylum which consists of A) the Western and Central Stock, which includes the Western Family and Central Family and the Makarub, Bunabun and Wanambre languages, B) Monumbo, C) Tangum, D) Annaberg, and E) Eastern families and fifteen not yet classified languages. Wurm has compared some of the available material systematically for the first time, and gives percentage figures of shared vocabulary. His percentage figures are astonishingly high, though they match to some extent Z'graggen's (1971a) classification despite the latter's lower percentages. There is a considerable overlap of vocabulary between the Adelbert Range and the Ramu languages which justifies to some extent Wurm's Bogia Phylum. On the basis of some typological characteristics, Wurm (1971:610) distinguishes three different types of languages within the Bogia Phylum. Wurm was able to incorporate into his findings Z'graggen's (1968) field report, which was prepared at the invitation of the Anthropos Institute before he completed his fieldwork. In March 1968, shortly after returning to the Australian National University, Z'graggen again made a modified list of language names available to Wurm.

Wurm incorporated these two sources into Wurm 1971 and this explains the appearance of some new language and language group names. Z'graggen (1971a) however adopted or dropped some of his earlier names. Z'graggen (1971a) also proposed the Ramu Phylum, whose western boundaries were at the time not yet known, and which is now part of the Sepik-Ramu Phylum (Laycock 1973). Regarding the languages east of Lilau, Z'graggen (1971a) proposed their inclusion into the Adelbert Range and Madang Phyla. The interrelationship between these two separate phyla was not yet established at that time, but a possible link between the Adelbert Range and Madang languages and their extension further east was suggested by Z'graggen (1971a:103).

2.8.2.1.5. GREENBERG

In his Indo-Pacific hypothesis, Greenberg (1971) proposes a Monumbo language group which combines Capell's groups I and III. This Monumbo group constitutes a part of his North New Guinea Stock, which extends to the Sepik and to Irian Jaya. But none of the cognate series which Greenberg gives for illustration, link the Monumbo-Lilau (Ngaimbom) languages with the rest of his Monumbo sub-group, and therefore, his material militates against the existence of this link. The languages east of Lilau, and including the languages of the Astrolabe Bay area, form in Greenberg's opinion the Northeastern or the Madang sub-group. Ray (1919) to whom Greenberg refers, proposed a Bongu or Astrolabe group, but this group did not include the westernmost part which Greenberg includes, nor does Capell's group include Bongu and the Astrolabe area. Greenberg gives only two words which link the Madang languages with the Adelbert Range languages. The word for *star* *boi* is very common in the Madang languages, but very rare in the Adelbert Range languages. The word for *to die* *uma*, however, links most of the Adelbert Range languages with the Rai Coast languages, but the forms in the Mabusio Stock area deviate. This is hardly enough evidence to justify the grouping. Greenberg (1971:821) states furthermore:

the Northern group which includes Capell's group I and III, extends far to the east where it encounters a sharp linguistic boundary with the Northeastern subfamily, a boundary already recognized by Capell in principle.

But Capell's (1962b) two basic groups are Monumbo and the rest, i.e. the groups east and west of Lilau.

2.8.2.1.6. CLAASSEN AND McELHANON

Claassen and McElhanon (1970) pioneered the linguistic survey of the Finisterre Range area which extends into the eastern portion of the Madang District. They established the western boundaries of the Finisterre language group in the Madang District and proposed for the first time a new language stock which they called the Rai Coast language stock. In 1969, Claassen kindly made available to Z'graggen a language map of the eastern part of the Madang District, upon the latter's request. McElhanon and the Summer Institute of Linguistics (S.I.L.) also kindly made available their field materials of the Madang District to Z'graggen for inspection in September 1972. These sources of the Summer Institute of Linguistics were studied by Z'graggen, and their pioneer work is herewith acknowledged. Z'graggen, however, subsequently proceeded to collecting his own material, mainly during 1973. Claassen's extensive contribution to the comparative linguistics of the eastern part of the Madang District came to an abrupt end when he tragically died in an air crash accident.

2.8.2.2. TENTATIVE CLASSIFICATION

The Madang-Adelbert Range Sub-Phylum languages are located in the Central part of the Madang District. Z'graggen (1971a) proposed two separate phyla, each with its special structural characteristics, such as prefixing in the Adelbert Range and suffixing in the Madang languages. An interphylic relationship between the two phyla was only suggested (Z'graggen 1971a:103). Wurm (personal communication) proposed that the two language groups constituted the Madang-Adelbert Range Sub-Phylum, which is a subgroup within the Trans-New Guinea Phylum. The pronouns and parts of the lexicon support such a combination, but the differences in structure may call for an explanation.

There were several gaps in Z'graggen's (1971a) survey involving the central part of the Adelbert Range and the southern part of the Upper Ramu area. Further gaps were discovered during the fieldwork period of 1971-73. In December 1973, still existing gaps were marked on the language map with "?". The languages of the Astrolabe Bay area and hinterland defied classification and the western boundary of Claassen and McElhanon's Rai Coast Stock was not yet established in 1971. Special care was taken to identify the linguistic affiliations of all the villages listed in the Village Directory 1973. This led to the discovery of some new languages. As much of the previous classification was retained as the inspection of materials justified. A few corrections became necessary as new materials were forthcoming and new languages were discovered. Family names which had been made up of the first syllables of language names were replaced by the names of rivers centrally located in the linguistic area, if new members of the respective families were discovered. Some language names were dropped, e.g. Bogadjim, where they proved to be names of dialects, or changed (e.g. Korapa) if they appeared to be unsuitable for language names.

The grouping of the MASP languages is shown in Table A. Most of the population figures are based on the 1973 census. The letters and numbers refer to the language map of the Madang District (Z'graggen 1973). The Bai language was identified only when work was well advanced, and is for this reason marked as Bx. The classification is based on an inspection of only a portion of the linguistic materials available and for this reason it is only tentative, but it should prove useful in organizing the data and in describing the linguistic situation. Undoubtedly, the classification as proposed now has yet to be confirmed or modified by a systematic comparison of more items.

The location of the language groups and languages is given on the accompanying map.

TABLE A: MADANG-ADELBERT RANGE SUB-PHYLUM 75,796

MADANG SUPER-STOCK 36,054		ADELBERT RANGE SUPER-STOCK 39,742			
RAI COAST STOCK 14,593	MABUSO STOCK 21,461	MUGIL STOCK 2,303	PIHOM STOCK 15,279	JOSEPHSTAAL STOCK 6,357	BRAHMAN 1,063
Evapia F. 1,969	Kare F. 384	D1 Mugil 2,303	Kaukonbaran F. 6,335	Sikan F. 3,393	I1 Isabi 280
B1 Sinsauru 476	C1 Kare 384		F1 Pay 769	G1 Sileibi 259	I2 Biyom 379
B2 Asas 261	Kokon F. 4,869		F2 Pila 669	G2 Katiati 3,134	I3 Tauya 347
B3 Sausi 437	C2 Girawa 3,568		F3 Saki 2,403	Osum F. 577	I4 Faita 57
B4 Kesawai 534	C3 Munit 345		F4 Tani 2,494	G3 Osum 577	
B5 Dampu 261	C4 Bemal 642	ISUMRUD STOCK	Kumilan F. 1,805	Pomoikan F. 1,841	
Kabenua F. 1,175	Gum F. 6,979	11,779	F5 Ulingan 1,692	G4 Pondoma 597	
B6 Arawum 75	C5 Sihan 314	Dimir F. 1,668	F6 Bepour 57	G5 Ikundun 1,047	
B7 Kolom 209	C6 Gumalu 271	El Dimir 1,668	F7 Moere 56	G6 Moresada 197	
B8 Suroi 600-700	C7 Isebe 845	Mabuan F. 800	Tiboran F. 2,335	Wadanganam F. 546	
B9 Lemio 175	C8 Amele 4,014	E2 Malas 302	F8 Kowaki 31	G7 Wadanganam 546	
B10 Pulabu 116	C9 Bau 1,716	E3 Bunabun 498	F9 Mawak 31		
Yaganon F. 1,148	C10 Panim 133	Kowan F. 9,311	F10 Hinhon 1,100		
B11 Yabong 368	Hansenan F. 9,229	E4 Korak 205	F11 Musar 684		
B12 Ganglau 154	C11 Rapting 348	E5 Waskia 9,106	F12 Wanambre 489	WANANG STOCK 2,961	
Bx Dumun (Bai) 42	C12 Wamas 135		Omosan F. 1,431	Atan F. 1,771	
B13 Saep 584	C13 Samosa 94		F13 Koguman 759	H1 Atempole 65	
Peka F. 5,418	C14 Murupi 308		F14 Abasakur 672	H2 Angaua 1,706	
B14 Usino 1,630	C15 Saruga 132		Numagenan F. 2,672	Emuan F. 1,040	
B15 Sumau 2,333	C16 Nake 187		F15 Wanuma 1,272	H3 Emerum 683	
B16 Urigna 1,340	C17 Mosimo 58		F16 Yaben 702	H4 Musak 357	
B17 Danaru 115	C18 Garus 2,081		F17 Yarawata 98	Paynamar F. 150	
Nuru F. 2,619	C19 Yoidik 266		F18 Bilakura 34	H5 Paynamar 150	
B18 Usu 93	C20 Rempi 592		F19 Parawen 432		
B19 Erima 264	C21 Bagupi 51		F20 Ukuriguma 134		
B20 Duduela 685	C22 Silopi 140		Amaimon F. 701		
B21 Kwato 753	C23 Utu 583		F21 Amaimon 701		
B22 Rerau 235	C24 Mawan 269				
B23 Jilim 409	C25 Baimak 441				
B24 Yangulam 180	C26 Matepi 238				
Mindjim F. 2,264	C27 Gal 224				
B25 Bom 1,130	C28 Garuh 2,193				
B26 Male 393	C29 Kamba 889				
B27 Bongu 415					
B28 Songum 326					

2.8.2.2.1. THE MADANG SUPER-STOCK

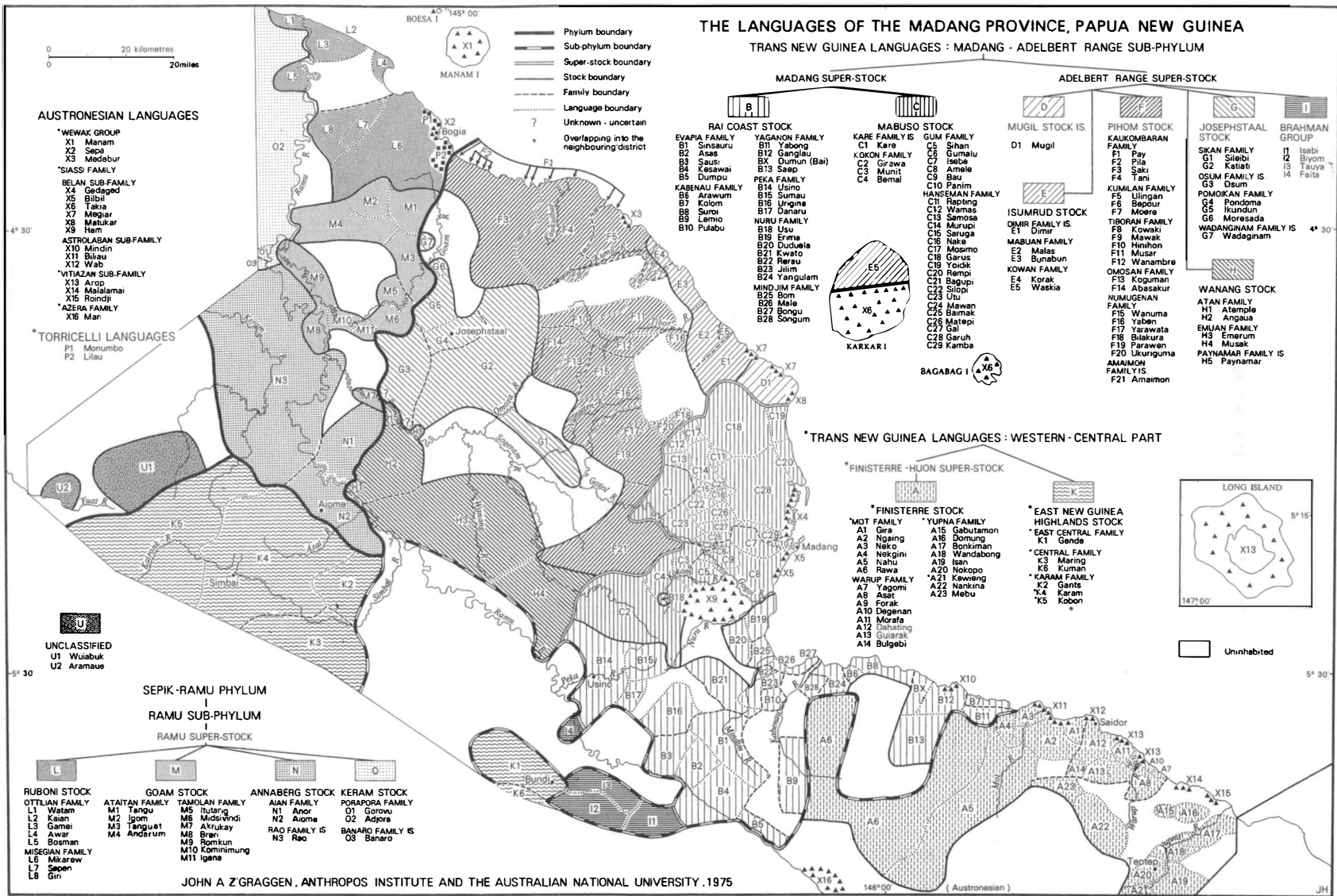
The Madang Super-Stock consists of two language stocks: the Mabusu Stock, extending east of the Lower and Middle Gogol River, and the Rai Coast Stock, extending in an easterly direction.

2.8.2.2.1.1. The Rai Coast Stock (B)

The Rai Coast Stock consists of six families: Evapia, Kabenau, Yaganon, Peka, Nuru and Mindjim. Claassen and McElhanon (1970) first proposed the Rai Coast Stock which comprised at that time only four families.

2.8.2.2.1.1.1. The Evapia Family, named after the Evapia River, consists of the following languages: Sinsauru, Asas, Sausi, Kesawai and Dumpu. The former name Koropa has been abandoned, because this village is bi-lingual, i.e. Asas and Sausi speaking. The Claassen and McElhanon wordlist for Koropa is of Asas. Kaikovu is not listed in the Village Directories for 1968 and 1973. The Claassen and McElhanon Kaikovu wordlist is Sinsauru. Another Kaikovu wordlist in the S.I.L. archives was collected in Kesawai village and is in the Kesawai language. The Claassen and McElhanon Taga wordlist was also collected in Kesawai village and is also in the Kesawai language. The name Watiwa is unknown to the informants and was for this reason replaced by Dumpu, a well-known name. Claassen and McElhanon (1970) link Dumpu (Watiwa) with the Kabenau Family, but a membership with Evapia seems more likely. Claassen and McElhanon (1970: 60) note with reference to Dumpu (Watiwa): "its inclusion in the Kabenau Family is tenuous and it may prove to be a language isolate".

2.8.2.2.1.1.2. The Kabenau Family as first proposed by Claassen and McElhanon (1970) consisted of disconnected sections on the Upper Ramu and the Middle Kabenau Rivers, and the coastal area. The newly proposed family still consists of three geographically separated sections. It consists of: Arawum, Kolom, Suroi, Lemio and Pulabu. Arawum and Pulabu are new members. Zöllner's (1891) wordlist of Kadda belongs to the Pulabu language. There must be a misunderstanding as far as Claassen and McElhanon's Gurumbu language is concerned. Claassen and McElhanon indicate a relationship of 71% between Gurumbu and Lemio. The present writer could not find a Gurumbu language wordlist in the S.I.L. archives. Informants finally assured the present writer that Gurumbu and Lemio were one language. A check with the help of data which the present writer collected himself at Gurumbu village confirmed this view. Suroi is referred to by earlier writers as the Rimba or Rumba language. Aufinger (in Kasprus 1942-45) published, under the name Rimba, a short wordlist of their everyday language and their secret language, and some sentence materials.



Schmitz (1960) lists Rimba (Suroi) incorrectly as Melanesian. As regards Kolom, Dempwolff (1905:240-3) published an extensive wordlist under the name Langtub (now spelled Lamtub).

2.8.2.2.1.1.3. The Yaganon Family consists of the languages Yabong, Ganglau, Saep and Bai, and was first posited by Claassen and McElhanon (1970). Only when his work was well in progress did the author identify Maklaï's (1951) wordlist of the Bai village language as a member of the Yaganon Family, and has for this reason marked it with Bx to avoid re-numbering. Tappenbeck (1901) gives the location of Bai village in the Kulilau and Dumun area, which constituted a gap in the author's linguistic survey. Bai village is not listed in the Village Directory of 1973. The Yaganon Family is aberrant within the Rai Coast languages.

2.8.2.2.1.1.4. The Peka Family consists of the Usino, Sumau, Urigina and Danaru languages. Z'graggen (1971a) refers to this group as the Usur language group. Since Danaru is a new member of the family, the river name Peka has been adopted. Claassen and McElhanon (1970) refer to this group as the Usino Family, and include in it also the Bagasin or Girawa language. The Claassen and McElhanon wordlist for Bagasin-Girawa was, however, collected in Sumau village and this list belongs to the Sumau village language as a comparison of the material reveals. Bagasin-Girawa belongs lexically and typologically to the Mabusos Stock.

2.8.2.2.1.1.5. The Nuru Family consists of the languages Usu, Erima, Duduela, Kwato, Rerau, Jilim and Yangulam. Usu was pushed further south from the remainder of the Nuru Family by the Ham people who are Austro-nesian.

2.8.2.2.1.1.6. The Mindjim Family consists of the languages Bom, Male, Bongu, Songum. Bom is referred to by other sources also as the Bogadjim language. Z'graggen (1971a) lists a Bom and Bogadjim language, but at a later stage of research he realized that the two formed one language.

2.8.2.2.1.2. The Mabusos Stock (C)

The Mabusos Stock comprises one family-level isolate: Kare, and three families: Kokon, Gum and Hanseman, and this language group appears to be uniform in lexicon and in structure.

2.8.2.2.1.2.1. The Kare family-level Isolate belongs basically to the Mabusos language group, though it is aberrant in some respects. This might be due to its close geographical proximity to the Adelbert Range languages.

2.8.2.2.1.2.2. The Kokon Family consists of the Girawa, Bemal and Sihan languages. This family is located east of the Upper Gogol River system and fills a gap found in Z'graggen 1971a.

2.8.2.2.1.2.3. The Gum Family consists of the languages Sihan, Gumalu, Isebe, Amele, Panim and Bau. The family is located in a compact area west of the Lower Gogol River area. Since Panim is a new member of the family, the original name Abaian has been changed to the river name Gum.

2.8.2.2.1.2.4. The Hanseman Family consists of nineteen members: Raptig, Wamas, Samosa, Murupi, Saruga, Nake, Mosimo, Garus, Yoidik, Rempi, Bagupi, Silopi, Utu, Mawan, Baimak, Matepi, Gal, Garuh and Kamba. Some of these languages may prove to be only dialects because there appears to be mutual intelligibility among several of these languages, though informants insisted repeatedly that they were different languages. The area was previously more densely populated, as earlier reports of missionaries indicate. See, for instance, Kaspruś' (1942-45) village and language map.

2.8.2.2.2. THE ADELBERT RANGE SUPER-STOCK

The Adelbert Range Super-Stock extends from the northern half of Karkar Island across the central part of the Adelbert Range to the Middle Ramu River and across the Upper Ramu River towards Goroka. It consists of six stocks: the Mugil stock-level Isolate, and the Isumrud, Pihom, Josephstaal, Wanang and Brahman Stocks. The Mugil-Isumrud-Pihom languages and the Josephstaal-Wanang languages form lexical subgroups.

2.8.2.2.2.1. The Mugil stock(-level Isolate) (D)

The Mugil stock-level Isolate belongs structurally to the Adelbert Range languages, but it has been lexically heavily influenced by the neighbouring Mabusu and Austronesian languages.

2.8.2.2.2.2. The Isumrud Stock (E)

The Isumrud Stock - named after the Isumrud Strait between Karkar Island and the New Guinea mainland - is located on the northern part of Karkar Island and in the coastal area of the mainland opposite Karkar Island. Though the speakers of Isumrud Stock languages live in a near-coastal area, those on the mainland have no special economic ties with the sea. The stock consists of one family-level isolate: Dimir, and two families: Kowan and Mabuan.

2.8.2.2.2.1. The Dimir family-level Isolate is located on the mainland. Dimir is characterized by its overt number marking on nouns, which is the only observed instance in the Mugil-Isumrud-Pihom languages.

2.8.2.2.2.2. The Mabuan Family consists of the Malas and Bunabun languages, both located on the mainland.

2.8.2.2.2.3. The Kowan Family consists of the languages Waskia and Korak. The Waskia language is located on the northern part of Karkar Island and in Tokain village on the mainland. Korak is spoken on the mainland west of Karkar Island. Both languages prefix the possessive pronoun to nouns denoting a body parts and relationship term which is in contrast to the remainder of the stock.

2.8.2.2.2.3. The Pihom Stock (F)

The Pihom Stock - named after one of the highest mountains in the Adelbert Range - extends from the immediate coastal area across the central part of the Adelbert Range towards the upper Gogol River and consists of the Kaukombaran, Kumilan, Tiboran, Omosan, Numagenan and Amaimon families. Z'graggen (1971a) distinguished five families. Further fieldwork in the central part which was at that time still unsurveyed, resulted in some changes and additions: now five families and one family-level isolate (Amaimon) are recognized.

2.8.2.2.2.3.1. The Kaukombaran Family consists of four closely related languages: Pay, Pila, Saki and Tani. The languages are named after the word *talk*, *word* in the vernacular. Some earlier writers refer to those Kaukombaran languages as the Banara or Hatzfeldhafen languages or dialects. The Pay and Pila people are sea-oriented, but the Saki and Tani people are inland people with no special economic interest in the sea.

2.8.2.2.2.3.2. The Kumilan Family consists of three languages: Ulingan, Bepour and Moere. Because of new membership the former name Ubean has been changed to Kumilan.

2.8.2.2.2.3.3. The Tiboran Family consists of five languages: Kowaki, Mawak, Hinhon, Musar and Wanambre. Because of new membership, the original name Mawamuan has been changed to Tiboran. The originally assumed geographical location of Mawak was found to be in need of correction.

2.8.2.2.2.3.4. The Omosan Family consists of two languages: Koguman and Abasakur. This family fills a gap in Z'graggen 1971a.

2.8.2.2.2.3.5. The Numagenan Family consists of six languages: Wanuma, Yaben, Yarawata, Bilakura, Parawen and Ukuriguma. Because of new entries, the original name Wayapan has been changed to the river name Numagenan. The linguistic identification of the villages in this area was extremely difficult, and the informants' opinion was not always supported by lexical evidence. This area needs further attention, especially as regards migrations. The language group, except for Wanuma, deviates from the remainder of the stock in that the object marker is, in part, suffixed to the verb root.

2.8.2.2.2.3.6. The Amaimon family-level Isolate is located at the southern end of the Pihom Stock in the neighbourhood of the Wanang and Mabusu languages and has been tentatively included in the Pihom Stock.

2.8.2.2.2.4. The Josephstaal Stock (G)

The Josephstaal Stock is named after the Patrol Station Josephstaal and located on the southern slopes of the Adelbert Range in the neighbourhood of the Ramu languages. The stock consists of two families: Sikan and Pomoikan, and two family-level isolates: Osum and Wadaginam.

2.8.2.2.2.4.1. The Sikan Family consists of the Katiati and Sileibi languages. Sileibi is a new entry, additional to those given in Z'graggen 1971a. In the Sikan languages, the object marking pronoun is not affixed to the verb root.

2.8.2.2.2.4.2. The Osum family-level Isolate extends south from Josephstaal Patrol Station towards the Sogeram River. The southern boundaries are still uncertain. Numbers are overtly marked with nouns in it.

2.8.2.2.2.4.3. The Pomoikan Family consists of three languages: Pondoma, Ikundun and Moresada. Capell (1952) listed Moresada or Murusapa with the Ramu languages or with his Group III. Structural comparisons support their inclusion with the Adelbert Range and Josephstaal languages. The Pomoikan languages are the only languages with a concordance class system involving nouns and adjectives (see Z'graggen 1971a:118ff.).

2.8.2.2.2.4.4. The Wadaginam family-level Isolate is separated from the remainder of the stock by the Goam River and its speakers are at present

socially and economically more associated with the Tangu people. But the structure of the languages of the family links with that of the Josephstaal Stock.

2.8.2.2.2.5. The Wanang Stock (H)

The Wanang Stock - named after the Wanang River - is located north of the Middle Ramu River area and consists of two families: Atan and Emuan, and a family-level isolate: Paynamar. Pronouns are not affixed to the noun or verb roots, except for Paynamar which prefixes the possessive pronoun to some nouns denoting terms for relatives.

2.8.2.2.2.5.1. The Atan Family consists of two languages: Atemptle and Angaua. Atemptle village is now disintegrating. Capell (1952:185ff.) inadvertently put his Anor wordlist under the name Atemptle.

2.8.2.2.2.5.2. The Emuan Family consists of two languages: Emerum and Musak. Tevari village is geographically separated from the Emerum speaking community.

2.8.2.2.2.5.3. The Paynamar family-level Isolate is spoken in just one small hamlet: Paynamar on the Sogeram River.

2.8.2.2.2.6. The Brahman Languages

The Brahman languages - named after the Brahman cattle station - are tentatively regarded as a family and included into the Adelbert Range languages. The Brahman Family consists of the following languages: Isabi (Maruhia), Biyom (Sasimo), Tauya (Inafosa) and Faita. Deibler of the Summer Institute of Linguistics first collected wordlists of three of the Brahman languages. His language names are put in brackets (see above) but they have not been adopted since the present writer's informants were not familiar with them. They are probably clan names. Z'graggen visited the area in May 1973 and collected his own materials. The languages appear to have belonged originally to the Adelbert Range area, though they have each, to a varying degree, been influenced by the Rai Coast and Highlands languages. Faita on the Ramu River has the closest links with the Adelbert Range languages and its mythology links them with the Wanang area. Biyom was originally believed to be linked with the Gende language and the East New Guinea Highlands Stock. The language appears to be tonal. Tauya is spoken in only two villages (Tauya and Kausi) at the foothills of the Bismarck Range. The Isabi speaking people had close social and economic ties with the Gahuku people of the East New Guinea Highlands

Stock. Isabi is heavily influenced by the East New Guinea Highlands Stock languages (Wurm, personal communication) and appears to be tonal.

In all Brahman languages, the possessive and object marking pronouns are prefixed to the stem, which is characteristic of the Adelbert Range languages. The singular pronoun forms are similar to the forms in the Adelbert Range, whereas the plural forms are similar to those found in the Rai Coast languages.

2.8.2.2.3. OVERALL CLASSIFICATION PROBLEMS

Claassen and McElhanon (1970:58) classified the Rai Coast and Finisterre languages as being

in different micro-phyla for a number of reasons. The lexico-statistical relationship is slight and within the range which could be attributed to chance or to the presence of unrecognized loans. The pronominal system differs as also do a number of vocabulary items which are generally stable throughout the Finisterre-Huon Micro-phylum.

The data collected by the present writer appear to support this view.

Wurm (1971:610f.) suggests "the existence of some very distant link" between the languages of his Bogia Phylum and the Central New Guinea Macro-Phylum. This is because of "some sporadic lexical correspondences" and "some typological agreements". Sentence medial verb forms are definitely present in Waskia, Wanuma and Mugil and other languages. Dual number in person is very common in the Madang languages, but rare in the Adelbert Range languages.

In 1970 McElhanon and Voorhoeve proposed their Trans-New Guinea Phylum and Wurm (personal communication) considering the linguistic situation in a wider perspective grouped the Madang-Adelbert Range as a sub-phylum in the Trans-New Guinea Phylum.

However, the present writer finds a comparison of languages with the Trans-New Guinea Phylum material as presented by McElhanon and Voorhoeve a very difficult task indeed. In their publication two formerly separate phyla are brought together and shown to be genetically related. These phyla are the Central and South New Guinea Phylum with 68 members and the Huon-Finisterre Phylum with 72 member languages, i.e. a total of 140 languages. For 25 languages, most of them at the south coast, none of the cognates are given, but they are apparently included on other grounds not presented in this publication, probably those constituted by the recognition of a reasonably close relationship between them and languages included in the comparison. Fifty-three words are presented which are manifested in 93 cognate series. At least twelve roots are of Austronesian origin (see 2.5.4.2.2. in this volume) and some more may not have been discovered yet. About half of the words are manifested in two, three

or four cognate series in free or merged form, e.g. *tongue*, or occurring simultaneously or in complementary distribution in individual languages, e.g. *nose*. Only half the words are found to occur in a single series of cognates, and these are frequently marked with a,b,c,d,x,? indicating unexplained elements which might be parts of an undiscovered root. Twenty-two cognate series are found in less than 5% of the languages compared, with the lowest number 3%, but these languages are widely scattered through the two phyla in most instances. Only ten cognate series are found in more than half of the languages, the highest number being 96 for the word for *I* - these are the pronouns and the words *eye*, *urine*, *mother*, *louse*, *eat*. The word for *louse* might be culturally conditioned and the word for *mother* might be partly child language. The word for *to eat* is one of the very widespread roots and links also with most of the Rai Coast and Adelbert Range languages. In the writer's opinion, the evidence listed may be inadequate for the postulation and illustration of a genetic relationship in the traditional way. The pronouns in the Madang-Adelbert Range languages differ from those commonly encountered in the Trans-New Guinea languages. Undoubtedly there are some Trans-New Guinea Phylum roots present in the Madang and Adelbert Range languages, but a comparison on wider grounds seems impossible before more material is made available.

2.8.2.3. THE PERSONAL PRONOUNS

In this section, the personal pronouns in their free forms are set out in Table II and subsequently compared with a number of Wurm's pronoun sets in non-Austronesian (or Papuan) languages (see 2.3.3. in this volume). The third person plural pronoun has not been included because of its complexity. Most of the pronoun forms contain a second element, which in most cases could be identified as a number marker, which is marked in Table II by a dash (-). No marking is made if forms are unrecognizably fused or doubtful. Unexplained elements are marked with "x" (not to be confused with Wurm's set x (see 2.3.3.6.) - members of that set occur in Madang-Adelbert Range languages in only some very few instances and are of no importance in them). The figures 1,2,3 etc. placed after the pronouns in Table II indicate to which of Wurm's sets I,II,III etc. (see 2.3.3. in this volume) a particular pronoun belongs.

The first and second persons singular pronoun forms in the MASP languages belong, with only a few exceptions, to set III (see 2.3.3.4. in this volume), whereas those in the majority of the Trans-New Guinea Phylum languages belong to set I (see 2.3.3.2.). In the Madang, Josephstaal, Wanang and Brahman languages the third person singular pronoun forms belong mostly to set III, whereas most of the Isumrud and

Pihom forms belong to set II (see 2.3.3.3.). The assignment of the form u[?]pa with its labio-velar point of articulation causes some trouble. This form could be assigned to set II or set III. The affixed forms of the possession and object marking forms belong to set I. It is possible that a demonstrative was given instead of the third person singular pronoun, though care was taken to avoid this error. Most of the Trans-New Guinea Phylum forms belong to set I and a few to set III. The first person plural forms belong mostly to set III, but the Josephstaal, Kowan and Numagenan languages, and a few others, belong to set I. The Trans-New Guinea Phylum forms belong to set I. The second person plural forms belong to set I in the Rai Coast languages, except for the Mindjim Family, and in most of the Brahman languages. The rest, with some exceptions, especially among the Wanang languages, belong to set III. The Trans-New Guinea Phylum language forms belong mainly to set I, though possibly a few of them belong to set II. Thus, there is a great difference between the pronoun sets of the Trans-New Guinea Phylum and the MASP languages, but the facts indicate in part a unity of Madang and Adelbert Range languages.

The pronouns have been studied in their free and emphatic forms as well as in their possessive and object marking forms. Space does not allow the inclusion of them all, and in a few cases some additional field enquiry has to be done. But a few notes on the occurrence of structural patterns of the affixed pronouns will be given. The occurrence of the structural patterns is displayed in Table I.

With regard to the expression of a possessive relationship, nouns are frequently divided into two classes (2C1): the class of terms for relatives (R) and parts of body (B), which form together the RB class, and the object class (O). The latter includes all exceptions to the RB class. In a one-possessive class system (1C1) this distinction is not made.

The markers expressing possessive relationship (PM) are immediately prefixed or suffixed to the noun base, but in the Kokon languages a ligative is inserted between them. In some languages, affixes are directly added only to some of the potential members of a class of nouns, with a common exception being the word for *blood*. Some of the noun bases change and the third person singular forms are frequently irregular in the Madang languages.

The prefixing pattern is typical of the Adelbert Range languages, and the suffixing of the Madang languages, but there are exceptions in the Rai Coast languages (see Table I). In some of them, the possessive marker is prefixed only to terms denoting relatives, and in the case of Danaru, only to terms indicating parts of the body. These variations are marked

in Table I by R or B respectively. Some of the Rai Coast and Adelbert Range languages have a 1C1 system. For illustrative material the reader is referred to Z'graggen 1971a:121-42.

In a number of languages the person or number of fillers of the object slot have to be in agreement with the verb, i.e. the object is related to the verb via the object marker (OM). The object marker is prefixed in most of the Adelbert Range languages. However, in the Numugenan languages, except Wanuma, the object marker is suffixed to some of the verbs. In all of the Mabusu languages the object marker is suffixed, as is the case in most of the Rai Coast languages, with the exception of Pulabu. In some of the Rai Coast languages, the OM is prefixed to some of the verbs while it is suffixed to others. For illustrative material see Z'graggen 1971a:159ff.

Table I illustrates the occurrence of the abovementioned structural characteristics. Presence is marked by +, absence by --, a class which includes only body parts by B, and only terms for relatives by R.

TABLE I: STRUCTURAL PATTERNS OF PERSONAL PRONOUNS:

		RAI COAST LANGUAGES				
LANGUAGE	1C1	2C1 pref.	2C1 suff.	OM pref.	OM suff.	
B1 Sinsauru	+	--	--	--	+	
B2 Asas	--	--	+	--	+	
B3 Sausi	+	--	--	--	+	
B4 Kesawai	+	--	--	--	+	
B5 Dumpu	+	--	--	--	+	
B6 Arawum	--	R	--	--	+	
B7 Kolom	+	--	--	--	+	
B8 Suroi	--	--	+	--	+	
B9 Lemio	--	R	--	--	+	
B10 Pulabu	--	R	--	--	--	
B11 Yabong	--	--	+	--	--	
B12 Ganglau	+	--	--	--	+	
B13 Saep	--	--	+	--	+	
B14 Usino	--	--	+	+	+	
B15 Sumau	--	--	+	--	+	
B16 Urigina	--	--	+	--	+	
B17 Danaru	--	R	?	+	+	
B18 Usu	--	--	+	+	+	
B19 Erima	--	--	+	+	+	
B20 Duduela	--	--	+	--	+	
B21 Kwato	+	--	--	--	+	
B22 Rerau	+	--	--	+	+	
B23 Jilim	--	R	--	--	+	
B24 Yangulam	+	--	--	--	+	
B25 Bom	+	--	--	--	+	
B26 Male	+	--	--	--	+	
B27 Bongu	+	--	--	--	+	
B28 Songum	+	--	--	--	+	

TABLE I (cont'd)

MABUSO LANGUAGES

LANGUAGE	1C1	2C1 pref.	2C1 suff.	OM pref.	OM suff.
C1 Kare	--	--	+	--	+
C2 Girawa	--	--	+	--	+
C3 Munit	--	--	+	--	+
C4 Bemal	--	--	+	--	+
C5 Sihan	--	--	+	--	+
C6 Gumalu	--	--	+	--	+
C7 Isebe	--	--	+	--	+
C8 Amele	--	--	+	--	+
C9 Bau	--	--	+	--	+
C10 Panim	--	--	+	--	+
C11 Raptang	--	--	+	--	+
C12 Wamas	--	--	+	--	+
C13 Samosa	--	--	+	--	+
C14 Murupi	--	--	+	--	+
C15 Saruga	--	--	+	--	+
C16 Nake	--	--	+	--	+
C17 Mosimo	--	--	+	--	+
C18 Garus	--	--	+	--	+
C19 Yoidik	--	--	+	--	+
C20 Rempi	--	--	+	--	+
C21 Bagupi	--	--	+	--	+
C22 Silopi	--	--	+	--	+
C23 Utu	--	--	+	--	+
C24 Mawan	--	--	+	--	+
C25 Baimak	--	--	+	--	+
C26 Matepi	--	--	+	--	+
C27 Gal	--	--	+	--	+
C28 Garuh	--	--	+	--	+
C29 Kamba	--	--	+	--	+

MUGIL-ISUMRUD-PIHOM LANGUAGES

LANGUAGE	1C1	2C1 pref.	2C1 suff.	OM pref.	OM suff.
D1 Mugil	--	+	--	+	--
E1 Dimir	+	--	--	+	--
E2 Malas	+	--	--	+	--
E3 Bunabun	+	--	--	+	--
E4 Korak	--	+	--	+	plural*
E5 Waskia	--	+	--	+	--
F1 Pay	--	+	--	+	--
F2 Pila	--	+	--	+	--
F3 Saki	--	+	--	+	--
F4 Tani	--	+	--	+	--
F5 Ulingan	--	R	--	+	--
F6 Bepour	+	--	--	+	--
F7 Moere	+	--	--	+	--
F8 Kowaki	--	+	--	+	--
F9 Mawak	+	--	--	+	--
F10 Hinihon	+	--	--	+	--
F11 Musar	+	--	--	+	--
F12 Wanambre	+	--	--	+	--
F13 Koguman	+	--	--	+	--
F14 Abasakur	+	--	--	+	--
F15 Wanuma	--	R	--	+	plural*
F16 Yaben	--	R	--	+	+
F17 Yarawata	--	R	--	+	+
F18 Bilakura	--	R	--	+	+
F19 Parawen	--	R	--	+	+
F20 Ukuriguma	--	R	--	+	+
F21 Amalmon	+	--	--	--	--

TABLE I (cont'd) JOSEPHSTAAL-WANANG-BRAHMAN LANGUAGES

LANGUAGE	1C1	2C1 pref.	2C1 suff.	OM pref.	OM suff.
G1 Sileibi	+?	--	--	--	--
G2 Katiati	--	R	--	--	--
G3 Osum	--	R	--	+	--
G4 Pondoma	--	R	--	--	--
G5 Ikundun	--	+	--	+	--
G6 Moresada	--	+	--	+	--
G7 Wadaginam	--	+	--	+	--
H1 Atempte	+ ' .	--	--	--	--
H2 Angaua	+	--	--	--	--
H3 Emerum	+	--	--	--	--
H4 Musak	+	--	--	--	--
H5 Paynamar	--	R?	--	+	--
I1 Isabi	--	+	--	+	--
I2 Biyom	--	+	--	+	--
I3 Tauya	--	+	--	+	--
I4 Faita	--	+	--	+	--

*"plural" (Mugil-Isumrud-Pihom Languages section of the table) indicates the presence of a single marker denoting plurality of object and not varying for person.

TABLE II: MADANG-ADELBERT RANGE PRONOUNS

PRONOUN: I

RAI COAST (A)		MABUSO (A)		MUGIL (B)		JOSEPHSTAAL (B)									
B1	Sinsauru	i:	3	C1	Kare	su	3	D1	Mugil	ya	3	G1	Sileibi	ya	3
B2	Asas	i:	3	C2	Girawa	ita	3					G2	Katiati	yi	3
B3	Sausi	i:	3	C3	Munit	isa	3		ISUMRUD (B)			G3	Osum	yi-g	3
B4	Kesawai	i:	3	C4	Bemal	is	3	E1	Dimir	yi-ŋ	3	G4	Pondoma	yi	3
B5	Dumpu	i:	3	C5	Sihan	isa	3	E2	Malas	i:	3	G5	Ikundun	yi	3
B6	Arawum	yi	3	C6	Gumalu	isa	3	E3	Bunabun	i-ñε	3	G6	Moresada	ye-g	3
B7	Kolom	i:	3	C7	Isebe	ise	3	E4	Korak	ŋa-m	2	G7	Wadaginam	ya-g	3
B8	Suroi	ye	3	C8	Amele	isa	3	E5	Waskia	ari	1				
B9	Lemio	yi	3	C9	Bau	isa	3						WANANG (B)		
B10	Pulabu	di	3	C10	Panim	ise	3		PIHOM (B)			H1	Atemple	api	R
B11	Yabong	na	1	C11	Rapting	da	3	F1	Pay	ε-maka	3	H2	Angaua	nse	x3
B12	Ganglau	na	1	C12	Wamas	sa	3	F2	Pila	yo	3	H3	Emerum	pia	R
B13	Saep	na	1	C13	Samosa	sa-ge	3	F3	Saki	yo	3	H4	Musak	ya	3
B14	Usino	ye	3	C14	Murupi	sa	3	F4	Tani	zo	3	H5	Paynamar	sa-wan	3
B15	Sumau	ye	3	C15	Saruga	sa-ga	3	F5	Ulingan	yo-s	3				
B16	Urigina	iyε	3	C16	Nake	sa-g	3	F6	Bepour	iyε	3		BRAHMAN (B)		
B17	Danaru	i:	3	C17	Mosimo	sa	3	F7	Moere	ε-ne	3	I1	Isabi	na(na)	1
B18	Usu	ja	3	C18	Garus	de	3	F8	Kowaki	ye	3	I2	Biyom	ya	3
B19	Erima	ji	3	C19	Yoidik	da-ʔ	3	F9	Mawak	ye	3	I3	Tauya	ya	3
B20	Duduela	ye	3	C20	Rempi	da	3	F10	Hinihon	ye	3	I4	Faita	ya	3
B21	Kwato	ji	3	C21	Bagupi	se-g	3	F11	Musar	ye	3				
B22	Rerau	yi	3	C22	Silopi	se-g	3	F12	Wanambre	ye	3				
B23	Jilim	yi	3	C23	Utu	se-k	3	F13	Koguman	ε-ŋ	3				
B24	Yangulam	yem	3+R	C24	Mawan	ha-g	3	F14	Abasakur	ŋa-ŋ	2				
B25	Bom	ε:	3	C25	Balmak	sa-k	3	F15	Wanuma	ye	3				
B26	Male	ja	3	C26	Matepi	se-g	3	F16	Yaben	ye	3				
B27	Bongu	aji	x3	C27	Gal	sa	3	F17	Yarawata	ya-na	3				
B28	Songum	sa	3	C28	Garuh	da	3	F18	Bilakura	ya-na	3				
				C29	Kamba	da	3	F19	Parawen	ya-na	3				
								F20	Ukuriguma	ε-na	3				
								F21	Amaimon	ε-ŋi	3				

(A) = MADANG SUPER-STOCK, (B) = ADELBERT RANGE SUPER-STOCK

TABLE II (cont'd)

PRONOUN: *thou*

RAI COAST (A)		MABUSO (A)		MUGIL (B)		JOSEPHSTAAL (B)									
B1	Sinsauru	ne	3	C1	Kare	nu	3	D1	Mugil	ni	3	G1	Sileibi	na	3
B2	Asas	ne	3	C2	Girawa	na	3					G2	Katiati	na	3
B3	Sausi	ne	3	C3	Munit	na	3		ISUMRUD (B)			G3	Osum	na-ge	3
B4	Kesawai	ne	3	C4	Bemal	na	3	E1	Dimir	ne-ŋ	3	G4	Pondoma	na	3
B5	Dumpu	ne	3	C5	Sihan	ina	3	E2	Malas	ne	3	G5	Ikundun	na	3
B6	Arawum	ne	3	C6	Gumalu	ina	3	E3	Bunabun	ne-ne	3	G6	Moresada	na-g	3
B7	Kolom	na	3	C7	Isebe	ine	3	E4	Korak	ni-m	3	G7	Wadaginam	na-g	3
B8	Suroi	ne	3	C8	Amele	ina	3	E5	Waskia	ni	3				
B9	Lemio	ne	3	C9	Bau	ina	3						WANANG (B)		
B10	Pulabu	ne	3	C10	Panim	ine	3		PIHOM (B)			H1	Atemple	ambe	2x
B11	Yabong	nom	3+2	C11	Raptng	na-g	3	F1	Pay	na-maka	3	H2	Angaua	am	2
B12	Ganglau	ma	2	C12	Wamas	na-ge	3	F2	Pila	no	3	H3	Emerum	nama	3+2
B13	Saep	na	3+2	C13	Samosa	na-ge	3	F3	Saki	no	3	H4	Musak	na	3
B14	Usino	na	3	C14	Murupi	na-ga	3	F4	Tani	no	3	H5	Paynamar	ama-wan	2
B15	Sumau	ne	3	C15	Saruga	na-ga	3	F5	Ulingan	no-s	3		BRAHMAN (B)		
B16	Urigina	ne	3	C16	Nake	na-g	3	F6	Bepour	ne	3	I1	Isabi	kia	1
B17	Danaru	ne	3	C17	Mosimo	na-ge	3	F7	Moere	ne-ne	3	I2	Biyom	na	3
B18	Usu	na	3	C18	Garus	ne-g	3	F8	Kowaki	ne	3	I3	Tauya	na	3
B19	Erima	ne	3	C19	Yoidik	na-g	3	F9	Mawak	ne	3	I4	Faita	na	3
B20	Duduela	ne	3	C20	Rempi	na-k	3	F10	Hinihon	ne	3				
B21	Kwato	ni	3	C21	Bagupi	ne-g	3	F11	Musar	ne	3				
B22	Rerau	ni	3	C22	Silopi	ne-g	3	F12	Wanambre	ne	3				
B23	Jilim	ni	3	C23	Utu	ne-k	3	F13	Koguman	no-ŋ	3				
B24	Yangulam	ni	3	C24	Mawan	na-k	3	F14	Abasakur	nu	3				
B25	Bom	ni	3	B25	Baimak	na-k	3	F15	Wanuma	ne	3				
B26	Male	ni	3	C26	Matepi	ne-g	3	F16	Yaben	ne	3				
B27	Bongu	ni	3	C27	Gal	na	3	F17	Yarawata	na-na	3				
B28	Songum	ni	3	C28	Garuh	na	3	F18	Bilakura	na-na	3				
				C29	Kamba	na	3	F19	Parawen	na-na	3				
								F20	Ukuriguma	ne-na	3				
								F21	Amalmon	ne-ŋi	3				

(A) = MADANG SUPER-STOCK, (B) = ADELBERT RANGE SUPER-STOCK

TABLE II (cont'd)

PRONOUN: *he*

RAI COAST (A)		MABUSO (A)		MUGIL (B)		JOSEPHSTAAL (B)	
B1	Sinsauru nu 3	C1	Kare nonga 3+1	D1	Mugil in 3	G1	Sileibi n'ŋa 3+1?
B2	Asas nene 3x	C2	Girawa e'ɪ 1			G2	Katiati nu 3
B3	Sausi nu 3	C3	Munit uge 1	ISUMRUD (B)		G3	Osum nɪ-gə 3
B4	Kesawai ni 3	C4	Bemal gue 1x	E1	Dimir wu-ŋ 2	G4	Pondoma nu 3
B5	Dumpu nu 3	C5	Sihan u'pa 3???	E2	Malas u 2	G5	Ikundun n'ŋ 3+1?
B6	Arawum nu 3	C6	Gumalu u'pa 3???	E3	Bunabun o-no 2	G6	Moresada nə-g 3
B7	Kolom no 3	C7	Isebe u'po 3???	E4	Korak nu-m 3	G7	Wadaginam ni-g 3
B8	Suroi nu 3	C8	Amele u'pa 3???	E5	Waskia nu 3		
B9	Lemio nu 3	C9	Bau u'pa 3???			WANANG (B)	
B10	Pulabu no 3	C10	Panim u'po 3???	PIHOM (B)		H1	Atemple nanga 3+1?
B11	Yabong nuŋ 3+1	C11	Rapting nu-g 3	F1	Pay a-maka ?	H2	Angau mbe 2
B12	Ganglau ŋgu 1	C12	Wamas nu-go 3	F2	Pila o 2	H3	Emerum nanga 3+1?
B13	Saep naŋgo 3+1	C13	Samcsa nu-go 3	F3	Saki wo 2	H4	Musak nu 3
B14	Usino nu 3	C14	Murupi nu-ga 3	F4	Tani o 2	H5	Paynamar mba 2
B15	Sumau nu 3	C15	Saruga nu-ga 3	F5	Ulingan o-s 2	BRAHMAN (B)	
B16	Urigina no 3	C16	Nake nu-g 3	F6	Bepour wo 2	I1	Isabi agea
B17	Danaru nu 3	C17	Mosimo nu-go 3	F7	Moere o-no 2		ix,ono 2+3
B18	Usu no 3	C18	Garus nu-g 3	F8	Kowaki wo 2	I2	Biyom ni 3
B19	Erima no 3	C19	Yoidik won 2+3	F9	Mawak o 2	I3	Tauya ni 3
B20	Duduela no 3	C20	Rempi nu-k 3	F10	Hinihon eye 1	I4	Faita nɪ 3
B21	Kwato nu 3	C21	Bagupi nu-g 3	F11	Musar wo 2		
B22	Rerau nu 3	C22	Silopi nu-g 3	F12	Wanambre wu-on 2		
B23	Jilim no 3	C23	Utu nu-k 3	F13	Koguman o-ŋ 2		
B24	Yangulam no 3	C24	Mawan nu-k 3	F14	Abasakur no 3		
B25	Bom ʌ 1?	C25	Baimak nu-k 3	F15	Wanuma wo 2		
B26	Male ʌro 1	C26	Matepi nu-g 3	F16	Yaben wua 2x		
B27	Bongu andu 1	C27	Gal nu-g 3	F17	Yarawata wa-na 2		
B28	Songum ʌdu 1	C28	Garuh nu-g 3	F18	Bilakura wo 2		
		C29	Kamba nu-g 3	F19	Parawen wa-na 2		
				F20	Ukuriguma wo-no 2		
				F21	Amaimon o-ŋu 2		

(A) = MADANG SUPER-STOCK, (B) = ADELBERT RANGE SUPER-STOCK

TABLE II (cont'd)

PRONOUN: *we* (yig or cognate: incl., ga or cognate: excl.)

RAI COAST (A)		MABUSO (A)		MUGIL (B)		JOSEPHSTAAL (B)	
B1	Sinsauru	se-ne	3	C1	Kare	ʒa	3
B2	Asas	se-ne	3	C2	Girawa	iʔe	3
B3	Sausi	se-ne	3	C3	Munit	ige	3
B4	Kesawai	se-ne	3	C4	Bemal	ig	3
B5	Dumpu	si	3	C5	Sihan	ike	3
B6	Arawum	si-ne	3	C6	Gumalu	ige	3
B7	Kolom	si-n	3	C7	Isebe	ige	3
B8	Suroi	si-ne	3	C8	Amele	eke	3
B9	Lemio	s-ne	3	C9	Bau	ike	3
B10	Pulabu	ige	3	C10	Panim	ige	3
B11	Yabong	si-ŋ	3	C11	Rapting	ik	3
B12	Ganglau	si-ga	3x	C12	Wamas	ʒogo	x3
B13	Saep	si-ga	3	C13	Samosa	zogo	x3
B14	Usino	si-n	3	C14	Murupi	iga	3
B15	Sumau	si-ni	3	C15	Saruga	iga	3
B16	Urigina	se-ne	3	C16	Nake	ig	3
B17	Danaru	se-n	3	C17	Mosimo	ʒogo	x3
B18	Usu	hi-n	3	C18	Garus	ig	3
B19	Erima	e-re	3	C19	Yoidik	yit	x3
B20	Duduela	si-ʔe	3	C20	Rempi	it	3
B21	Kwato	si-ni	3	C21	Bagupi	ig	3
B22	Rerau	si-ni	3	C22	Silopi	ig	3
B23	Jilim	si-gi	3	C23	Utu	ik	3
B24	Yangulam	se-ne	3	C24	Mawan	ik	3
B25	Bom	igʌ	3	C25	Baimak	ik	3
B26	Male	gʌ	3	C26	Matepi	ig	3
B27	Bongu	yig	x3	C27	Gal	ig	3
B28	Songum	gʌ	3	C28	Garuh	ig	3
				C29	Kamba	ig	3
				ISUMRUD (B)			
				E1	Dimir	yi-n	3
				E2	Malas	i-n	3
				E3	Bunabun	i-ŋo	3
				E4	Korak	ani-mtaŋ	1
				E5	Waskia	a-na	1?
				PIHOM (B)			
				F1	Pay	i-maka	3
				F2	Pila	ik	3
				F3	Saki	i	3
				F4	Tani	zi	3
				F5	Ulingan	i(s)	3
				F6	Bepour	i	3
				F7	Moere	i-kie	3x
				F8	Kowaki	l-ʔe	3
				F9	Mawak	i-ke	3
				F10	Hinhon	i-ke	3
				F11	Musar	yi-k	3
				F12	Wanambre	yi-k	3
				F13	Koguman	i-g	3
				F14	Abasakur	ga-g	3
				F15	Wanuma	in	1
				F16	Yaben	in	1
				F17	Yarawata	ina-na	1
				F18	Bilakura	eñi-na	1
				F19	Parawen	ina-na	1
				F20	Ukuriguma	ino	1
				F21	Amalmon	ini-ŋi	1
				WANANG (B)			
				H1	Atemple	arugu	lx
				H2	Angaua	are	lx
				H3	Emerum	a-raŋ	1
				H4	Musak	a-rʔ	3l
				H5	Paynamar	a-ra	3l
				BRAHMAN (B)			
				I1	Isabi	tara	3x
				I2	Biyom	sina	3x
				I3	Tauya	si(ni)	3x
				I4	Faita	a-ni	1

(A) = MADANG SUPER-STOCK, (B) = ADELBERT RANGE SUPER-STOCK

TABLE II (cont'd)

PRONOUN: *ye*

RAI COAST (A)		MABUSO (A)		MUGIL (B)		JOSEPHSTAAL (B)									
B1	Sinsauru	neye	3	C1	Kare	wu	2	D1	Mugil	ne	3	G1	Sileibi	na-ra	3
B2	Asas	te-ne	1	C2	Girawa	ʌʔʌ	3	ISUMRUD (B)				G2	Katiati	na-ra	3
B3	Sausi	te-ne	1	C3	Munit	age	3	E1	Dimir	ne-n	3	G3	Osum	na-ŋ	3
B4	Kesawai	te-ne	1	C4	Bemal	ʌg	3	E2	Malas	na-n	3	G4	Pondoma	na-ŋ	3
B5	Dumpu	se	1	C5	Sihan	ʌke	3	E3	Bunabun	a-ne	3	G5	Ikundun	na-ŋ	3
B6	Arawum	ta-ne	1	C6	Gumalu	age	3	E4	Korak	ni-mtaŋ	3	G6	Moresada	na-ŋeg	3
B7	Kolom	ta-ne	1	C7	Isebe	ʌge	3	E5	Waskia	ni-na	3	G7	Wadaginam	na-ŋ	3
B8	Suroi	ta-ne	1	C8	Amele	ake	3	PIHOM (B)				WANANG (B)			
B9	Lemio	ta-ne	1	C9	Bau	ake	3	F1	Pay	ni-maka	3	H1	Atemple	ambə	2
B10	Pulabu	ge	1?	C10	Panim	ʌge	3	F2	Pila	nai	3x	H2	Angaua	am	2
B11	Yabong	no-ŋ	3	C11	Rapting	ak	3	F3	Saki	nai	3x	H3	Emerum	nam-araŋ	3+2
B12	Ganglau	ŋga	1?	C12	Wamas	ʌge	3	F4	Tani	ni	3	H4	Musak	na-ri	3
B13	Saep	nanga	3	C13	Samosa	ʌge	3	F5	Ulingan	ni	3	H5	Paynamar	na-ra	3
B14	Usino	ni-n	3	C14	Murupi	aga	3	F6	Bepour	ni	3	BRAHMAN (B)			
B15	Sumau	ti-ni	1	C15	Saruga	ʌga	3	F7	Moere	niʔ	3	I1	Isabi	ti(ŋgara)	1
B16	Urigina	to-no	1	C16	Nake	ʌg	3	F8	Kowaki	ni-ʔe	3	I2	Biyom	si	1
B17	Danaru	te-n	1	C17	Mosimo	ʌge	3	F9	Mawak	ni-ŋge	3	I3	Tauya	ti(ni)	1
B18	Usu	te-n	1	C18	Garus	eg	3	F10	Hinhon	ni-ŋge	3	I4	Faita	nani	3
B19	Erima	te-re	1	C19	Yoidik	ʌg	3	F11	Musar	ni-k	3				
B20	Duduela	te-ʔe	1	C20	Rempi	hʌk	x3	F12	Wanambre	ni-k	3				
B21	Kwato	si-li	1	C21	Bagupi	eg	3	F13	Koguman	yo-g	1				
B22	Rerau	ta-ni	1	C22	Silopi	eg	3	F14	Abasakur	no-ŋot	3				
B23	Jilim	ti-gi	1	C23	Utu	ek	3	F15	Wanuma	an	3				
B24	Yangulam	ta-ne	1	C24	Mawan	ak	3	F16	Yaben	an	3				
B25	Bom	ningi	3	C25	Baimak	ak	3	F17	Yarawata	ana-na	3				
B26	Male	ningga	3	C26	Matepi	eg	3	F18	Bilakura	aŋi-na	3				
B27	Bongu	niji	3	C27	Gal	ʌg	3	F19	Parawen	ai-na	3				
B28	Songum	ŋingga	3	C28	Garuh	ʌg	3	F20	Ukuriguma	ani	3				
				C29	Kamba	ag	3	F21	Amaimon	ani-ŋi	3				

(A) = MADANG SUPER-STOCK, (B) = ADELBERT RANGE SUPER-STOCK

2.8.2.4. COMPARATIVE WORDLIST

In the following section a comparative wordlist of eight items will be given for illustration. Only brief comments will be made on the words, and they will be compared with the Trans-New Guinea Phylum languages and the Austronesian languages. Space does not allow the inclusion of more items, and these have been selected because of their comparability with the Trans-New Guinea Phylum languages and Wurm's proto-forms (see 2.4.1.5.5. in this volume). Cognate series (S) are marked with numerals, and subsets with some common phonetic features by letters. Unexplained elements are marked with an x and residues which are found only in very few instances are marked with R. The cognate series were identified with the help of Wurm's Trans-New Guinea Phylum proto-sound system (see 2.4.1. in this volume). In doubtful cases, the geographical location of the languages to which given words belonged was also taken into account.

A number of cognate series occur as free forms or as constituents of a combined form. Examples from the Trans-New Guinea Phylum languages are the words: *eye*, *tongue*, *hair*, *head*, *knee*. One can rightly assume that the combined, fuller form is the proto-form from which different elements have broken off in the course of development. The nature of the break-away process is obvious in many cases. On the other hand, one has also to take into account the possibility of the joining of two previously independent roots. For instance, the form *ŋamge eye* (Bongu) is such an example. A consonant sequence *m+g* indicates a morpheme boundary in Bongu. Thus, from the morpheme structure, one may assume the presence of two roots instead of one. In addition, the words for *tongue* and *head* in the Trans-New Guinea Phylum vocabulary (see McElhanon and Voorhoeve 1970) are in fact combinations of an Austronesian with a Trans-New Guinea Phylum root. The Austronesian proto-form has, of course, been adopted according to Trans-New Guinea Phylum rules. For these reasons the present writer has hesitated to trace some of the cognate series back to one origin. For inspection, some data are given in Table III.

TABLE III: MADANG-ADELBERT RANGE WORDLIST

WORD: arm

RAI COAST (A)		MABUSO (A)		MUGIL (B)		JOSEPHSTAAL (B)	
B1	Sinsauru wabi 3	C1	Kare pe 2	D1	Mugil ben 2	G1	Sileibi kuma 4
B2	Asas wabi 3	C2	Girawa ipo 2			G2	Katiati kuma 4
B3	Sausi wapi 3	C3	Munit barΛ 2		ISUMRUD (B)	G3	Osum epinamo 2
B4	Kesawai wapi 3	C4	Bemal ebe 2	E1	Dimdr aben 2	G4	Pondoma umbu-ngor 4
B5	Dumpu pΛ 3	C5	Sihan ebe 2	E2	Malas imben 2	G5	Ikundun gumbu-ngor 4
B6	Arawum wambi 3	C6	Gumalu depe 2	E3	Bunabun omben 2	G6	Moresada gombo-gor 4
B7	Kolom kulΛ 1	C7	Isebe ebe 2	E4	Korak ere 1	G7	Wadaginam umbi- 4
B8	Suroi wai 3	C8	Amele epe 2	E5	Waskia kutiq 1		
B9	Lemio wampi 3	C9	Bau ebe 2				WANANG (B)
B10	Pulabu yobu 2	C10	Panim ebe 2		PIHOM (B)	H1	Atempte nañe R
B11	Yabong lmo 3?	C11	Rapting awe 2	F1	Pay ba 2	H2	Angau uman 4
B12	Ganglau wam 3	C12	Wamas ave 2	F2	Pila ombo 2	H3	Emerum kuman 4
B13	Saep wam 3	C13	Samosa ave 2	F3	Saki eme 2	H4	Musak kumob 4x
B14	Usion kubo 4	C14	Murupi ava 2	F4	Tani wapo x2	H5	Paynamar bram 2x
B15	Sumau ubu 4	C15	Saruga avi 2	F5	Ulingan wapena x2		
B16	Urigina kombe 4	C16	Nake ivu 2	F6	Bepour wapen x2		BRAHMAN (B)
B17	Danaru gomp 4	C17	Mosimo abi 2	F7	Moere ampem 2	I1	Isabi ambia 2
B18	Usu ube 4	C18	Garus ive 2	F8	Kowaki ape 2	I2	Biyom ukubu R
B19	Erima owo 4	C19	Yoidik abe 2	F9	Mawak ape 2	I3	Tauya ?imo 4
B20	Duduela we 4	C20	Rempi ave 2	F10	Hinihon ape 2	I4	Faita koma 4
B21	Kwato upi 4	C21	Bagupi ebe 2	F11	Musar embe 2		
B22	Rerau kambiq 4	C22	Silopi dewu 2	F12	Wanambre ape 2		
B23	Jilim kaben 4	C23	Utu zevu 2	F13	Koguman abugum 2+4		
B24	Yangulam njei 1?	C24	Mawan debu 2	F14	Abasakur okak 1		
B25	Bom ban 2	C25	Balmak rebu 2	F15	Wanuma uben 2		
B26	Male bal 2	C26	Matepi levu 2	F16	Yaben ubatu 2		
B27	Bongu ibon 2	C27	Gal ewiu 2	F17	Yarawata ubata 2		
B28	Songum bal 2	C28	Garuh ebe 2	F18	Bilakura uban 2		
		C29	Kamba ewe 2	F19	Parawen ubutΛ 2		
				F20	Ukuriguma ubon 2		
				F21	Amalmon bene 2		

(A) = MADANG SUPER-STOCK, (B) = ADELBERT RANGE SUPER-STOCK

TABLE III (cont'd)

WORD: eye

RAI COAST (A)		MABUSO (A)		MUGIL (B)		JOSEPHSTAAL (B)									
B1	Sinsauru	amu	1	C1	Kare	omo	1	D1	Mugil	me	3	G1	Sileibi	tar-ma	4?+3
B2	Asas	amu	1	C2	Girawa	ame	1	ISUMRUD (B)				G2	Katiati	tam-ga	1+2
B3	Sausi	ami	1	C3	Munit	ame	1	E1	Dimir	mek-met	3	G3	Osum	gAM-ungA	1+2
B4	Kesawai	ami	1	C4	Bemal	ame	1	E2	Malas	musan	3a	G4	Pondoma	ngum	la
B5	Dumpu	yem	1	C5	Sihan	ame	1	E3	Bunabun	moan-sik	3+4	G5	Ikundun	ngum	la
B6	Arawum	Am	1	C6	Gumalu	ame	1	E4	Korak	mini-kan	3+4	G6	Moresada	ngumun	lax
B7	Kolom	Am	1	C7	Isebe	ame	1	E5	Waskia	motam	3x	G7	Wadaginam	ning-	R
B8	Suroi	am	1	C8	Amele	ame	1	PIHOM (B)				WANANG (B)			
B9	Lemio	anguam	la	C9	Bau	ame	1	F1	Pay	mutak	3a	H1	Atemple	ambra-men	6+3
B10	Pulabu	amu	1	C10	Panim	ame	1	F2	Pila	mundoa	3	H2	Angaua	amp+n	6
B11	Yabong	amA	1	C11	Rapting	ame	1	F3	Saki	munda	3	H3	Emerum	ta:m-ga	1+2
B12	Ganglauh	amu	1	C12	Wamas	ami	1	F4	Tani	muda	3	H4	Musak	ta:m	1
B13	Saep	aman	1	C13	Samosa	ame	1	F5	Ulingan	mokokA	3a	H5	Paynamar	am	1
B14	Usino	ogo	2	C14	Murupi	ama	1	F6	Bepour	mus?i	3+4	BRAHMAN (B)			
B15	Sumau	eki	2	C15	Saruga	amu	1	F7	Moere	monsi	3+4	I1	Isabi	kusa	4
B16	Urigina	AKi	2	C16	Nake	amu	1	F8	Kowaki	haruhA	5	I2	Biyom	Ati	4
B17	Danaru	ang	2	C17	Mosimo	amu	1	F9	Mawak	AruhA	5	I3	Tauya	na?e	R
B18	Usu	ege	2	C18	Garus	ame	1	F10	Hinihon	eleha	5	I4	Faita	tAmA	1
B19	Erima	age	2	C19	Yoidik	ama	1	F11	Musar	munda-ngumu	3+1a				
B20	Duduela	agi	2	C20	Rempi	ama	1	F12	Wanambre	mundu	3				
B21	Kwato	agemu	2+1a	C21	Bagupi	amu	1	F13	Koguman	musom	3x				
B22	Rerau	angim	la	C22	Silopi	amu	1	F14	Abasakur	musak	3				
B23	Jilim	agim	la	C23	Utu	amu	1	F15	Wanuma	mAg	3				
B24	Yangulam	gam	1	C24	Mawan	amu	1	F16	Yaben	magimo	3a				
B25	Bom	gam	1	C25	Baimak	Amu	1	F17	Yarawata	makita	3a				
B26	Male	gam	1	C26	Matepi	amu	1	F18	Bilakura	muog	3x				
B27	Bongu	gam-ge	1+2	C27	Gal	amu	1	F19	Parawen	makita	3a				
B28	Songum	gam-ge	1+2	C28	Garuh	ame	1	F20	Ukuriguma	mAg	3				
				C29	Kamba	ame	1	F21	Amaimon	mom	R				

(A) = MADANG SUPER-STOCK, (B) = ADELBERT RANGE SUPER-STOCK

TABLE III (cont'd)

WORD: ear

RAI COAST (A)		MABUSO (A)		MUGIL (B)		JOSEPHSTAAL (B)									
B1	Sinsauru	hagu	1	C1	Kare	domb	3	D1	Mugil	deksan	R	G1	Sileibi	kinziŋa	1+x
B2	Asas	hagu	1	C2	Girawa	dau	3	ISUMRUD (B)				G2	Katiati	kunsiŋi	1+x
B3	Sausi	kaɸere	2	C3	Munit	dahi	3	E1	Dimir	sanŋen	R	G3	Osum	kowu	52
B4	Kesawai	ahelɛ	2	C4	Bemal	dabu	3	E2	Malas	indɔn	4	G4	Pondoma	ginsegiw	1+x
B5	Dumpu	kur	1	C5	Sihan	dai	3	E3	Bunabun	induan	4	G5	Ikundun	gundegiw-	1+x
B6	Arawum	kablwanɛ	R	C6	Gumalu	tahi	3	E4	Korak	diwan	2	G6	Moresada	makɔtɔr	R
B7	Kolom	kunɟula	1	C7	Isebe	dahi	3	E5	Waskia	dogowa	R	G7	Wadaginam	makɔga-	R
B8	Suroi	lilba	1	C8	Amele	tahi	3	PIHOM (B)				WANANG (B)			
B9	Lemio	kliŋgu	1	C9	Bau	tahi	3	F1	Pay	suat	2	H1	Atemple	ciemun	5
B10	Pulabu	habna	R	C10	Panim	dahi	3	F2	Pila	nduat	2	H2	Angaua	njempin	5
B11	Yabong	side	R	C11	Rapting	dewu	3	F3	Saki	duwat	2	H3	Emerum	ginsi	1
B12	Ganglau	ib	1?	C12	Wamas	dav	3	F4	Tani	tiwa	2	H4	Musak	kisag	1+x
B13	Saep	yɛb	1?	C13	Samosa	dave	3	F5	Ulingan	ifana	2	H5	Paynamar	kub	1
B14	Usino	kagub	1	C14	Murupi	daw	3	F6	Bepour	ifan	2	BRAHMAN (B)			
B15	Sumau	akwu	1	C15	Saruga	dah	3	F7	Moere	iwān	2	I1	Isabi	garike	1
B16	Urigina	lɔgu	1	C16	Nake	dahu	3	F8	Kowaki	imament	5	I2	Biyom	ukwat	1
B17	Danaru	gəŋgu	1	C17	Mosimo	davi	3	F9	Mawak	iwament	5	I3	Tauya	wa'e	1
B18	Usu	ogu	1	C18	Garus	divu	3	F10	Hinihon	pika	6	I4	Faita	kind	1
B19	Erima	age	1	C19	Yoidik	debu	3	F11	Musar	imamen	5				
B20	Duduela	ag	1	C20	Rempi	dewu	3	F12	Wanambre	damen	2				
B21	Kwato	agiŋaw	1+3?	C21	Bagupi	dahu	3	F13	Koguman	atɔ:ndum	5				
B22	Rerau	kaŋ-sap	1+?	C22	Silopi	dahu	3	F14	Abasakur	pi:ga	6				
B23	Jilim	kasab	1	C23	Utu	dau	3	F15	Wanuma	i:rugos	7				
B24	Yangulam	alam	1	C24	Mawan	dahu	3	F16	Yaben	irasilu	7				
B25	Bom	dap	3	C25	Baimak	tafu	3	F17	Yarawata	kowania	1+2				
B26	Male	damui	3	C26	Matepi	dah	3	F18	Bilakura	edasilu	7				
B27	Bongu	dab	3	C27	Gal	dahu	3	F19	Parawen	kaŋwa:ni	1+2				
B28	Songum	damoy	3	C28	Garuh	dau	3	F20	Ukuriguma	kauni	1+2				
				C29	Kamba	dau	3	F21	Amaimon	zual	7x				

(A) = MADANG SUPER-STOCK, (B) = ADELBERT RANGE SUPER-STOCK

TABLE III (cont'd)

WORD: *fire*

RAI COAST (A)		MABUSO (A)		MUGIL (B)		JOSEPHSTAAL (B)									
B1	Sinsauru	hegeni	4	C1	Kare	onda	2	D1	Mugil	fa ^a R	G1	Sileibi	asik	2	
B2	Asas	hegeni	4	C2	Girawa	ep	1	ISUMRUD (B)			G2	Katiati	agu	1	
B3	Sausi	pegeni	4	C3	Munit	ebi	1	E1	Dimir	akuř	x2	G3	Osum	woguti	1+2
B4	Kesawai	hegeni	4	C4	Bemal	ab	1	E2	Malas	andup	2	G4	Pondoma	owus	3x
B5	Dumpu	pe	1	C5	Sihan	dAy	2	E3	Bunabun	mundub	3x	G5	Ikundur	obut	3x
B6	Arawum	piye	1	C6	Gumalu	ray	2	E4	Korak	tamako	5	G6	Moresada	uwisA	3x
B7	Kolon	pai	1	C7	Isebe	yai	2	E5	Waskia	tama	5	WANANG (B)			
B8	Suroi	pa	1	C8	Ample	za	2	PIHOM (B)			H1	Atemple	apir	3	
B9	Lemio	piye	1	C9	Bau	rai	2	F1	Pay	mud	3	H2	Angaua	pritam	3+5
B10	Pulabu	lamu	R	C10	Panin	zai	2	F2	Pila	owab	4	H3	Emerum	abuq	3x
B11	Yabong	fa	1	C11	Rapting	zale ^a	2x	F3	Saki	uwb	4	H4	Musak	ab	3x
B12	Ganglau	ipa	1	C12	Wamas	are	2	F4	Tani	ewab	4	H5	Paynamar	tate	2
B13	Saep	fah	1	C13	Samosa	ate	2	F5	Ulingan	mukuna	3x	BRAHMAN (B)			
B14	Usino	keb	1	C14	Murupi	ara	2	F6	Bepour	ipomin	1+3	I1	Isabi	tuu	1?
B15	Sumau	epi	1	C15	Saruga	upa	1	F7	Moere	pikin	1+4	I2	Biyom	ongati	1
B16	Urigina	embi	1	C16	Nake	arup	2	F8	Kowaki	munte	3	I3	Tauya	o'o	1
B17	Danaru	kembi	1	C17	Mosimo	are	2	F9	Mawak	mundu	3	I4	Faita	awu	1?
B18	Usu	waw	4	C18	Garus	ahal	2	F10	Hinihon	mundu	3				
B19	Erima	eya	2	C19	Yoidik	alah	2	F11	Musar	mundu	3				
B20	Duduela	eya	2	C20	Rempi	ala	2	F12	Wanambre	mundu	3				
B21	Kwato	epi	1	C21	Bagupi	imup	2?	F13	Koguman	mut	3				
B22	Rerau	kayaq	R	C22	Silopi	enap	2?	F14	Abasakur	mutu	3				
B23	Jilim	kim	1	C23	Utu	enap	2?	F15	Waruna	mut	3				
B24	Yangulam	be	1	C24	Mawan	aim	2x	F16	Yaben	muta	3				
B25	Bom	gam	1	C25	Baimak	aim	2x	F17	Yarawata	muru	3				
B26	Male	belaq	R	C26	Matepi	eim	2x	F18	Bilakura	mura	3				
B27	Bongu	bia	1	C27	Gal	aim	2x	F19	Parawen	muru	3				
B28	Songum	bala ^a	R	C28	Garuh	ařau	2	F20	Ukuriguma	muta	3				
				C29	Kamba	ar	2	F21	Amaimon	ore	2				

(A) = MADANG SUPER-STOCK, (B) = ADELBERT RANGE SUPER-STOCK

TABLE III (cont'd)

WORD: eat

RAI COAST (A)		MABUSO (A)		MUGIL (B)		JOSEPHSTAAL (B)									
B1	Sinsauru	ne	1	C1	Kare	za	2	D1	Mugil	ne	1	G1	Sileibi	ni	1
B2	Asas	ne	1	C2	Girawa	ze	2	ISUMRUD (B)				G2	Katiati	ni	1
B3	Sausi	ne	1	C3	Munit	de	2	E1	Dimir	na	1	G3	Osum	ni	1
B4	Kesawai	na	1	C4	Bemal	ze	2	E2	Malas	an	1	G4	Pondoma	ni	1
B5	Dumpu	na	1	C5	Sihan	de	2	E3	Bunabun	an	1	G5	Ikundun	n-	1
B6	Arawum	ni	1	C6	Gumalu	re	2	E4	Korak	na	1	G6	Moresada	ya	2
B7	Kolom	ni	1	C7	Isebe	zi	2	E5	Waskia	na	1	G7	Wadaginam	ni	1
B8	Suroi	na	1	C8	Amele	ye	2	PIHOM (B)				WANANG (B)			
B9	Lemio	ni	1	C9	Bau	le	2	F1	Pay	nim	la	H1	Atemple	nja	1
B10	Pulabu	ya	2	C10	Panim	ye	2	F2	Pila	ganim	la	H2	Angaua	na	1
B11	Yabong	u	3	C11	Rapting	zi	2	F3	Saki	nime	la	H3	Emerum	n	1
B12	Ganglau	wi	3	C12	Wamas	za	2	F4	Tani	im	la	H4	Musak	ni	1
B13	Saep	ø	3	C13	Samosa	zau	2x	F5	Ulingan	enim	la	H5	Paynamar	na	1
B14	Usino	n	1	C14	Murupi	da	2	F6	Bepour	en	1	BRAHMAN (B)			
B15	Sumau	ne	1	C15	Saruga	za	2x	F7	Moere	nem	la	I1	Isabi	ne	1
B16	Urigina	na	1	C16	Nake	za	2x	F8	Kowaki	in	1	I2	Biyom	n	1
B17	Danaru	ne	1	C17	Mosimo	ya	2	F9	Mawak	enem	la	I3	Tauya	ni	1
B18	Usu	ni	1	C18	Garus	ze	2	F10	Hinihon	onom	la	I4	Faita	n	1
B19	Erima	ni	1	C19	Yoidik	za	2	F11	Musar	en	1				
B20	Duduela	ni	1	C20	Rempi	za	2	F12	Wanambre	en	1				
B21	Kwato	ni	1	C21	Bagupi	za	2	F13	Koguman	nom	la				
B22	Rerau	ni	1	C22	Silopi	raun	2x	F14	Abasakur	ni	1				
B23	Jilim	ni	1	C23	Utu	zaun	2x	F15	Wanuma	ni	1				
B24	Yangulam	ni	1	C24	Mawan	da	2	F16	Yaben	nu	1				
B25	Bom	ui	3	C25	Baimak	da	2	F17	Yarawata	ni	1				
B26	Male	a,e	1?	C26	Matepi	lan	2x	F18	Bilakura	na	1				
B27	Bongu	we, uyo	3	C27	Gal	la	2	F19	Parawen	ni	1				
B28	Songum	he	R	C28	Garuh	la	2	F20	Ukuriguma	ne	1				
				C29	Kamba	le	2	F21	Amaimon	ni	1				

(A) = MADANG SUPER-STOCK, (B) = ADELBERT RANGE SUPER-STOCK

TABLE III (cont'd)

WORD: *sleep*

RAI COAST (A)		MABUSO (A)		MUGIL (B)		JOSEPHSTAAL (B)					
B1	Sinsauru	henε la	C1	Kare	ning lc	D1	Mugil	us lb	G1	Sileibi	auku R
B2	Asas	hen la	C2	Girawa	nino lc				G2	Katlati	kañ R
B3	Sausi	ene lb	C3	Munit	ni lb	ISUMRUD (B)			G3	Osum	guhi la
B4	Kesawai	ene lb	C4	Bemal	amesme R	E1	Dimir	in lb	G4	Pondoma	gi la
B5	Dumpu	kini la	C5	Sihan	ni lb	E2	Malas	in lb	G5	Ikundun	gun la
B6	Arawum	kiñi la	C6	Gumalu	huni la	E3	Bunabun	ini lb	G6	Moresada	gɨnɨ lb
B7	Kolom	kiña la	C7	Isebe	wahani 2+la	E4	Korak	ani lb			
B8	Suroi	kini la	C8	Amele	ni lb	E5	Waskia	ani lb			
B9	Lemio	kiñi la	C9	Bau	huni la				WANANG (B)		
B10	Pulabu	sina laR	C10	Panim	uhan 2+la	PIHOM (B)			H1	Atemple	ganjɨ la
B11	Yabong	sine laR	C11	Rapting	nina lc	F1	Pay	in lb	H2	Angaua	gañi la
B12	Ganglau	sina la	C12	Wamas	nig lc	F2	Pila	in lb	H3	Emerum	ani la
B13	Saep	sina la	C13	Samosa	nigu lc	F3	Saki	ine lb	H4	Musak	angin la
B14	Usino	kin la	C14	Murupi	nigi lc	F4	Tani	in lb	H5	Paynamar	mangañ R+la
B15	Sumau	ine lb	C15	Saruga	nag lc	F5	Ulingan	ini lb	BRAHMAN (B)		
B16	Urigina	kina la	C16	Nake	nene lc	F6	Bepour	in lb	I1	Isabi	one lb
B17	Danaru	kini la	C17	Mosimo	nig lc	F7	Moere	in lb	I2	Biyom	akin xla
B18	Usu	ini lb	C18	Garus	nig lc	F8	Kowaki	in lb	I3	Tauya	ini lb
B19	Erima	agorini x+lb	C19	Yoidik	nig lc	F9	Mawak	in lb	I4	Faita	akun xla
B20	Duduela	ini lb	C20	Rempi	neg lc	F10	Hinihon	in lb			
B21	Kwato	iñ lb	C21	Bagupi	nog lc	F11	Musar	in lb			
B22	Rerau	kin la	C22	Silopi	nog lc	F12	Wanambre	in lb			
B23	Jilim	kin la	C23	Utu	nog lc	F13	Koguman	in lb			
B24	Yangulam	kiñ la	C24	Mawan	nug lc	F14	Abasakur	nama R			
B25	Bom	ɨε lx	C25	Baimak	unug 2+lc	F15	Wanuma	in lb			
B26	Male	une lb	C26	Matepi	nig lc	F16	Yaben	in lb			
B27	Bongu	iñ, ñau lb	C27	Gal	nigi lc	F17	Yarawata	in lb			
B28	Songum	wi R	C28	Garuh	ni lb	F18	Bilakura	iñ lb			
			C29	Kamba	usni 2+lb	F19	Parawen	in lb			
						F20	Ukuriguma	in lb			
						F21	Amalmon	gekwa-in R+lb			

(A) = MADANG SUPER-STOCK, (B) = ADELBERT RANGE SUPER-STOCK

1. *ARM* Wurm *KÖS^(r)İ(u)Ĉ^MÜ

S1 in the Madang-Adelbert Range languages links with SII of the Trans-New Guinea Phylum languages as listed in McElhanon and Voorhoeve 1970 and matches the first part or all of the reconstructed form. S2 in the Madang-Adelbert Range languages links with SI of the Trans-New Guinea Phylum languages, but an additional initial vowel is found. Differences between *dewu* versus *bara* in the Mabusu languages can be explained by metathesis. S4 could be linked with S2 when postulating that in the S2 forms, the initial k- sound had been dropped. But S2 and S4 co-occur in Koguman *abu-gaum*, and this makes a one-root explanation doubtful.

2. *EYE* Wurm *(avu-)DAṢK^MA(-Pur⁽ⁿ⁾)

S1 and S2 are found in separation and in combination as in, for example *age-mu*. Subset 1a could be understood as an amalgamation of 2+1, but this would be in contrast to the Bongu form *ḡam-ge* 1+2. S2 links with SI of the Trans-New Guinea Phylum (McElhanon and Voorhoeve 1970) in a full or abbreviated form. S4 links with the SI of the Trans-New Guinea Phylum. S2 and S4 probably have the same root though the material provides no direct evidence. S6 links with the *pur* element in some of the Trans-New Guinea Phylum languages and with the *-Pur⁽ⁿ⁾ part of Wurm's reconstruction. This co-occurrence makes the same root possibility doubtful.

3. *SKIN* Wurm *KODOP^MIka

S1 links with *-P^MIka and S2 with *KODO- of the reconstructed form. S2 links with SI of the Trans-New Guinea Phylum languages as listed in McElhanon and Voorhoeve 1970. Both forms are found as variants in a few languages of the Hanseman language group. S2 may well have originated in the Oceanic proto-form *kuli(t). The form *kuli*, together with its variants, is common among Austronesian languages in the Madang area and this form is in contrast to *tini body*. The author has taken great care to elicit the forms for both *skin* and *body*, though subsequently he has had some doubts as to whether he always received the right forms. The form *tewen* (Amele) is another Austronesian form. S4 could be explained as a breakaway form of S1, but the writer has not found enough evidence for this.

4. *EAR* Wurm *(0)KAḌAM(a) ~ ((0)ĈADAM(a))

S1 links largely with the proto-form, mainly with its part *(0)KAḌ- and with Trans-New Guinea Phylum SII as listed in McElhanon and Voorhoeve 1970. S2 could be regarded as a subset of S1 with metathesis of Ḍ and Ṣ allowed for in many instances. S3 could perhaps also be regarded as a subset of S1, and reflecting the part *-ḌAM(a) of the proto-form, though

the final element -oy (damoy in Songum) would have to be explained (< *(a)?). As pointed out, S1, S2 and S3 could be traced back to Wurm's proto-form, but this proto-form would then have had to have undergone a complex history of changes and adaptations. This item illustrates a great complexity and diversity within this language group.

5. FIRE Wurm $*(\ddot{I})\text{D}\ddot{A}\left\{\begin{array}{l} -\text{De} \\ -\text{k}\text{aP}^{(M)}\ddot{A} \end{array}\right.$

S2 links largely with the Trans-New Guinea Phylum form SI as listed in McElhanon and Voorhoeve 1970 and matches Wurm's $*(\text{I})\text{D}\ddot{A}\text{-De}$ to a considerable extent. This proto-form suffered many changes in the Madang-Adelbert Range area. S1 links with Wurm's $*\text{-k}\text{aP}^{(M)}\ddot{A}$. This form might have its origin in the Austronesian root *api*. Forms such as *kemi* could be interpreted as an amalgamation of S2 + S1, i.e. Trans-New Guinea Phylum plus Austronesian. The final -p as in *enap* (Silopi) might be due to Austronesian influence. But *yab fire* is a common form for many Austronesian languages of the New Guinea mainland.

6. LOUSE Wurm $*\text{I}^n\text{Im}\ddot{A}\left\{\begin{array}{l} \text{N} \\ \text{O} \end{array}\right.$

S1 in its full and shortened form links with Trans-New Guinea Phylum SI as listed in McElhanon and Voorhoeve 1970, and with Wurm's proto-form, and is found almost universally in the Madang, Josephstaal, Wanang and Brahman languages. S2 is very common in the Isumrud and Pihom languages. S5 is an Austronesian loan.

7. EAT $*(\ddot{I})_n^{(d)}\text{A}(i) \sim *(\ddot{I})_N^{(d)}\text{A}(i)$

The full form in MASP appears to be *ɲanim*, and deviations may perhaps be regarded as breakaway forms. S1 links with the Trans-New Guinea Phylum SI as listed in McElhanon and Voorhoeve 1970 and with Wurm's proto-form, though for the Madang-Adelbert Range area an additional $*\text{-m}$ proto-sound would have to be postulated. For forms such as *za*, *da* another series S2 is postulated since a sound shift from $*_n$ to *z*, *d*, *r*, *l* is not for instance, paralleled by a similar change for the form *na* (*you*). The assignment of the root form *a*, *e* (Male) is difficult and it could conceivably be assigned to S1 or S3.

8. SLEEP $*\text{P}\ddot{A}\ddot{C}\ddot{A}(g)\text{O}$

S1 links with residue forms of the Trans-New Guinea Phylum languages as listed in McElhanon and Voorhoeve 1970. The initial consonant in S1a changes to *k-*, *s-* or *h-* and is dropped in S1b. S1c forms such as *nig* can be explained as the result of a metathesis of *g-* with *-n-*. This form seems to be based on the Austronesian form *eno*. The initial *kV-* syllable is also found in a number of Austronesian languages in the Madang District area. If this is the case one may wonder why such an everyday word would be borrowed over such a large area. S2 links with Trans-New Guinea Phylum forms such as *isi*, etc.

N O T E S

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2. The author was unable to check the 1954 edition.

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