2.6.2. CENTRAL AND WESTERN TRANS-NEW GUINEA PHYLUM LANGUAGES

C.L. Voorhoeve

2.6.2.1. INTRODUCTION

This chapter falls into two main parts. In the first part (2.6.2.2.) a survey is made of the languages which were already known to belong to the Trans-New Guinea Phylum (abbreviated: TNGP) or could be expected to belong to it, as in the case of the newly discovered languages in the Lake Plains (see 2.6.2.2.11.1.). Wherever possible, the following points will receive some attention: phonemic system (segmental and supra-segmental features), morphological processes, noun-morphology and noun classes, pronouns, verb morphology, and word order in verbal sentences. These points are of importance in the typology of these languages (see chapters 2.3.2. and 2.5.2. in this volume). In many languages however such detailed information is lacking, and we will have to be content with much less. Especially, this is the case with the majority of the languages in north Irian Jaya, at present known only through wordlists of varying size and reliability.

The second part (2.6.2.3.) deals with a number of languages which hitherto had escaped classification or had been classified as members of the West Papuan Phylum (abbreviated: WPP). In this part the main emphasis is on classificatory problems, the more so because very little information is available on the structure of those languages.

In both the first and the second parts significant additions to, and modifications of, previous classifications have been made. This would not have been possible if two important new sources of data had not been made available to the writer. (cont'd on page 351)
LEGEND TO THE FAMILY MAP OF PAPUAN LANGUAGES IN IRIAN JAYA AND PARTS OF WESTERN PAPUA NEW GUINEA

MAJOR PHYLA

TRANS-NEW GUINEA PHYLUM

5. Central and South New Guinea Stock
   a. Bosavi Family
   b. East Strickland Family
   c. Awin-Pa Family
   d. Duna Family
   e. Ok Family
   f. Awyu-Dumut Family
   g. Asmat-Kamoro Family
   h. Somahai family-level Isolate
   i. Mombum Family

7. Suki-Gogodala Stock
   a. Gogodala Family
   b. Suki family-level Isolate

8. Marind Stock
   a. Boazi Family
   b. Marind Family
   c. Yaqay Family

9. Kayagar stock-level Family

10. Sentani Stock
    a. Sentani Family
    b. Demta family-level Isolate

11. Dani-Kwerba Stock
    a. Dani Family
    b. Kwerba Family
    c. Samarokena family-level Isolate
    d. Saberi family-level Isolate

12. Dem stock-level Isolate

13. Wissel Lakes - Kemandoga Stock
    a. Uhunduni (or Amung) family-level Isolate
    b. Ekagi-Wodani-Moni Family

14. Mairasi - Tanah Merah Stock
    a. Mairasi Family
    b. Tanah Merah family-level Isolate

15. West Bomberai Stock
    a. West Bomberai Family
    b. Karas family-level Isolate
16. Mor stock-level Isolate
38. Trans-Fly sub-phylum-level Stock
   a. Kiwi Family
   b. Eastern Trans-Fly Family
   c. Pahoturi River Family
d. Tirio Family
e. Morehead and Upper Maro Rivers Family
39. Yelmek-Maklew (or Bulaka River) sub-phylum-level Family
40. Goliath sub-phylum-level Family
41. Oksapmin sub-phylum-level Isolate
42. Senagi sub-phylum-level Family
43. Pauwasi sub-phylum-level Stock
   a. Western Family
   b. Eastern Family
44. Border sub-phylum-level Stock
   a. Taikat Family
   b. Waris Family
c. Bewani Family
45. Tor-Lake Plain sub-phylum-level Stock
   a. Turu family-level Isolate
   b. Central Lake Plain Family
c. East Lake Plain Family
d. Tor Family
e. Mawes family-level Isolate
f. Uria family-level Isolate
46. Morwap sub-phylum-level Isolate
47. Molof sub-phylum-level Isolate
48. Usku sub-phylum-level Isolate
49. Tofamna sub-phylum-level Isolate
50. Nimboran sub-phylum-level Family
51. Kaure sub-phylum-level Stock
   a. Kaure Family
   b. Kapori family-level Isolate
c. Sause family-level Isolate
52. South Bird's Head sub-phylum-level Stock
   a. South Bird's Head Family
   b. Inanwatan Family
c. Konda-Yahadian Family
53. Kolopom (or Frederik Hendrik Island) sub-phylum-level Family
WEST PAPUAN PHYLUM

55. Central Bird's Head Stock
   a. North Bird's Head Family
   b. Central Bird's Head Family

56. West Bird's Head stock-level Family

57. Amberbaken stock-level Isolate

58. Borai-Hattam sub-phylum-level Family

MINOR PHYLA

90. Sko phylum-level Stock
   a. Sko Family
   b. Vanimo Family

91. Kwomtari phylum-level Stock

94. East Bird's Head phylum-level Stock
   a. Meax Family
   b. Mantion family-level Isolate

GEELVINK BAY PHYLUM

95. East Geelvink Bay stock-level Family

96. Yava stock-level Isolate

PHYLUM-LEVEL ISOLATES

97. Warenbori phylum-level Isolate

98. Taurap (or Borumeso) phylum-level Isolate

99. Yuri phylum-level Isolate

100. Busa phylum-level Isolate

101. Nagatman phylum-level Isolate

103. Porome (Kibiri) phylum-level Isolate
(text continued from page 345 above) Firstly, J.C. Anceaux kindly gave him access to the rich store of lexicographic data he collected in the Papuan languages of west and north Irian Jaya. These materials, wordlists in seventy languages, will in the following be referred to as Anceaux' lists. Secondly Myron Bromley generously put at the writer's disposal a number of new wordlists, collected by himself and various other missionaries in the languages of the Lake Plain (Meervlakte) and Van Rees Mountains in north Irian Jaya. These lists were a great help in filling up the gaps in our knowledge of the linguistic situation in those areas. They will be referred to as Bromley's lists. Cognition percentages will as a rule only be given to indicate the estimated degree of genetic relationship between languages in which little or no grammatical information is available. When they are given, they have to be taken as computed for a 100-item basic wordlist, unless stated otherwise.

2.6.2.2. ESTABLISHED TRANS-NEW GUINEA PHYLUM LANGUAGES

2.6.2.2.0. The order in which the languages are surveyed in this part is as follows: 1. the Suki-Gogodala Stock; 2. the Marind Stock; 3. the Yelmek-Maklew (or Bulaka River) sub-phylum-level Family; 4. the Kolopom (or Frederik Hendrik Island) sub-phylum-level Family; 5. the Kayagar stock-level Family; 6. the Central and South New Guinea Stock; 7. the Goliath sub-phylum-level Family; 8. the Dani-Kwerba Stock; 9. the Wissel Lakes-Kemandoga Stock; 10. the Northern (or Tor-Lake Plain) sub-phylum-level Super-Stock; 11. the Senagi sub-phylum-level Family; 12. the Pauwasi Sub-Phylum; 13. the Sentani Stock; 14. the Nimboran sub-phylum-level Family; 15. the Kaure Sub-Phylum; 16. stock and sub-phylum-level Isolates.

2.6.2.2.1. THE SUKI-GOGODALA STOCK

2.6.2.2.1.0. The languages of this stock are found in the Lower Fly River area in the Western District of Papua. They are the Suki family-level Isolate, and the Gogodala Family with two member languages, Gogodala and Waruna. The total number of speakers is about 11,500.

2.6.2.2.1.1. The Suki family-level Isolate

Suki is spoken by about 1,000 people living around Suki lagoon, near the southern bank of the Lower Fly River. The language has been studied in detail by members of the Asia Pacific Christian Mission (A.P.C.M.),
but solely for missionary use. Some parts of their work have been published; these are: the Gospels of St Mark and St John, and the Acts (A.P.C.M. 1952a, 1956a). Other published sources are: Papua Annual Report 1919/20 (contains a wordlist of Suki, called 'Nausaku'); Capell 1962 (survey); Voorhoeve 1970b (grammatical notes); and Wurm 1977 (survey).

Suki has been classified as a family-level Isolate within the Suki-Gogodala Stock (Voorhoeve 1970b), but Wurm (1977) is of the opinion that it might possibly belong in one family with Gogodala and Waruna in view of the close structural affinities between Suki and Gogodala.

Phonemes: Suki has three voiceless stops: p, t, k [k, kʰ], six voiced stops: b [b, β], d, g [g, y], two nasals: m and n, two sibilants: s [s, ts], and z [z, dz], one liquid: r [ɭ, l], two semivowels: w[w] and y [j], and five vowels: i [i, i, e], e [ɛ, a], o [o, o], and u [u, u]. There are no phonemic tones; placement of the main stress (i) is generally (but not always) on the first syllable of a word. Stress could therefore be phonemic, but to date no cases of phonemic stress contrast have been recorded.

Morphological processes are addition (almost exclusively sufffixing; some prefixing) and reduplication.

Sufffixing occurs mainly with verbs, which can have strings of up to five suffixes following the stem, indicating e.g. causative, person-object, transitive, tense, and person-subject, in this order. Example: wapa-wa-de-m-nat-eru he will cause them to be dry. A number of verbs have two different stems depending on the plurality or singularity of the subject: cōme, rugie- (sing. subject), gie- (plur. subject). Interesting are the 'stative' forms, which indicate whether the actor is close by or at a distance from the speaker: u raprītka he is asleep (over here), u raprītka he is asleep (over there).

Prefixing was found with only two verbs, ti see, and ata give, which take the object marker before instead of after the verb stem: n-ata give to me; d-ata give to you (pl.), give to them; ata give to him.

Information on sentence-medial forms is lacking.

Sufffixes also occur with nouns and pronouns, indicating a variety of syntactic relations: object (-k), possessive (-te), instrumental (-gu) and others.

Reduplication seems to be a non-productive process, occurring only with a few nouns to indicate plurality, for example: būdu bone, būdūdū bones.

The free pronouns distinguish between 1st, 2nd and 3rd person in singular and plural:
The 1st person plural and 2nd person singular pronouns are homophonous, but take different possessive suffixes: abane our; ate your.

The basic word order in the verbal sentence is: subject-object-verb. The indirect object seems free to precede or follow the object, e.g.:

nàat puimanîtm̐a nè mem kwâin-kabû été
I(emphatic) am desiring I this pig's-meat your

àbi-tibe tînimatu
father-to to give I want to give this (piece of) pork to your father

which can be rephrased as follows: nàat puimanîtm̐a ne ète àbi-tibe kwâinkabû tînimatu.

2.6.2.2.1.2. The Gogodala Family

2.6.2.2.1.2.0. The Gogodala Family has two member languages, Gogodala and Waruna. Gogodala is spoken by approximately 7,000 people living between the Aramia and Lower Fly Rivers. Waruna is spoken by an estimated 3,500 people living west of the Gogodala people near the northern bank of the Fly River. Gogodala has been studied in detail for missionary use by members of the A.P.C.M. and a phonemic statement and a grammar have been prepared by A.K. Neuendorf (undated) but have not been published. Translations of the four Gospels and the Acts have been published by the Bible Society (A.P.C.M. 1952b, 1964, 1965a,b). Capell 1962 contains a short note on the language, and an old wordlist in Gogodala can be found in Riley and Ray 1930. The present writer collected some data in Gogodala, some of which have been published (Voorhoeve 1970b).

The only source of information on Waruna is a wordlist published by Riley (and Ray) (1930-31).

2.6.2.2.1.2.1. Gogodala

The phoneme inventory of Gogodala is only slightly different from the one in Suki: it lacks a voiced sibilant, and has three front vowels instead of two. The allophonic ranges are also slightly different. There are three voiceless stops: p, t, k [k, x]; three voiced stops: b, d, g; two nasals: m, n; one sibilant: s [s, ts]; one liquid: l [l,
1, ŋ, ŋ]; two semi-vowels: w, y [j]; and six vowels: i, e, a, [e, o, a], o [o, o], and u. There are no tones, and stress is phonemic, as shown by ùmìna buttress versus ùmìna wind.

Morphological processes are addition (almost exclusively suffixing, and some prefixing, as in Suki) and reduplication.

Verbs can have strings of up to four suffixes following the stem, as in awa-de-mu-nama-lelo he will call them in which the sequence is: verb stem - person-object - transitive - tense - subject. Prefixes occur only with the verbs give, tell, and kill, in which they indicate the person-object.

Reduplication of the verb stem occurs in a number of verbs to indicate plurality of object; on the other hand, at least one verb, give, has a suppletive stem to indicate this.

A variety of sentence-medial verb forms occurs, expressing amongst others relations of time, purpose and concession between clauses, as well as sameness or non-sameness of subject in the conjoined clauses.

Noun suffixes indicate syntactic relations of possession, instrument, accompaniment, and subject; in addition a small number of nouns has a singularizer suffix which is dropped in the plural. A small number of nouns form plurals by means of reduplication, but most nouns have no separate plural form.

Personal pronouns distinguish three persons in singular and plural:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>na:</td>
<td>a:</td>
<td>oba</td>
</tr>
<tr>
<td>plur.</td>
<td>sa:</td>
<td>da:</td>
<td>obai, ubi</td>
</tr>
</tbody>
</table>

They take suffixes marking possession, accompaniment, and subject.

The basic word order in the verbal sentence is subject-object-verb. However, the order can also be object-subject-verb; in this case the subject has the subject marker -te suffixed to it:

oba dalagi tiliyana he-man-he saw: he saw the man
oba dalagi-te tiliyana him-man-saw: the man saw him.

A text sample in Gogodala:

àmatagèla amìna b) sa:ki ubi-te c) wa debe-laleyala c)
long ago girls two they day late afternoon-while it was
ùbi-munu d) inibisa alâ-la:te e) gawa d:te e)
their fishing nets took-and canoe climb-and
òrù-ma f) nà:-yanè g)
lake-to go-they (past tense).

Long ago, on a late afternoon, two girls took their fishing nets, boarded a canoe, and went to the lake.
2.6.2. CENTRAL AND WESTERN TRANS–NEW GUINEA PHYLUM LANGUAGES

a) amîna: plural with amînagi girl; b) -te: subject marker; c) debe-
laleya句 sentence-medial form, 3rd person singular, distant past, indicat-
ing that the action expressed by the verb is concurrent with the action
expressed by the verb in the next clause, but that the two verbs have
different subjects; d) -mumu: plural form of the possessive suffix;
e) ala:la:-te, di-te: sentence-medial forms indicating that the action
expressed by the verb precedes the action expressed by the verb in the
next clause, and that the two verbs have the same subject; f) -ma:
directional suffix; g) -yana: ending of the 3rd person (singular, dual,
or plural), distant past tense.

2.6.2.1.2.2. Waruna

Wurm (1977) tentatively classifies Waruna as a separate language,
closely related to Gogodala; the present writer would rather classify
it as a dialect of Gogodala. Since the only source at hand is Riley's
wordlist, which contains obvious errors, a definite assessment will
have to wait till more data has become available.

2.6.2.2. THE MARIND STOCK

2.6.2.2.0. The Marind Stock stretches over a large part of the low-
lands in south-east Irian Jaya, as well as the area around Lake Murray
in the Western District of Papua New Guinea. There are three language
families in the stock: the Boazi Family, the Marind Family, and the
Yaqay Family. Typologically the languages of the Marind Stock contrast
with languages of other stocks within the TNGP by two main character-
istics: 1. the presence of noun classes which manifest themselves by
a concord system based on vowel change; 2. prefixing of most of the
verbal affixes including the subject marker. The number of speakers
of languages of the Stock is about 21,000.

2.6.2.2.2.1. The Boazi Family

2.2.1.0. The Boazi Family has two member languages, Boazi and Zimakani.
Boazi, with a total of almost 2,000 speakers, is spoken in the Western
District of Papua New Guinea, between the Irian Jaya border and Lake
Murray and also around the northern half of the lake. There are three
dialects, South Boazi, North Boazi, and Kuini. The data presented in
2.6.2.2.2.1.2. are in the South Boazi dialect.
Zimakani is spoken between the southern tip of Lake Murray and the confluence of the Fly and the Strickland Rivers. There are two dialects, a northern, Begua, and a southern, Zimakani. The total number of speakers is about 1,500.

An early wordlist in the Boazi language was published in the Papua Annual Report 1921-22; the language near the Roman Catholic Mission station Boset (South Boazi) was studied by the Dutch missionary P. Drabbe who published some notes on its grammar (1954). An English abstract of Drabbe's field notes can be found in Boelaars 1950. The present writer made a survey of the languages of the Lake Murray area, including Boazi (Voorhoeve 1970a). Early wordlists in Zimakani can be found in the Papua Annual Reports of 1916-17 and 1921-22, and a short note on the language (called Dea) can be found in Capell 1962. The survey of the Lake Murray languages mentioned above also included Zimakani. The language has been studied by the A.P.C.M., and parts of the New Testament have been translated in it (A.P.C.M. 1956b, 1966).

2.6.2.2.1.1. Boazi

Phonemes: Boazi has four voiceless stops: p, t, k, q [k]; three voiced stops: b, d, g; four prenasalized stops: mb, nd, ng, əŋ [ŋ]; two nasals: m and n; two voiceless and three voiced fricatives: f [f, pf], s [s, ts], v, z [z, dz], and ɣ [ɣ, ɣ]; one lateral: ɬ; two semi-vowels: w, ɣ [j]; and six vowels: i [i, ɨ], e, ɛ [ɛ, ə], a [a, ə, ɔ], o [o, ɔ, ɔ], and u [u, ɨ]. The language is non-tonal; stress seems to be non-phonemic.

Morphological processes include addition (prefixing and suffixing) and internal modification (vowel change).

Verbs can take prefixes marking aspect or mode, subject, and object (in this order) and suffixes marking plural number of subject, durative aspect, and tense (in this order). Some verbs have suppletive roots indicating plurality of subject or object: no-ye I am going, yo-ye you (sing.) are going, zo-apet we are going, zo-apet you (plur.) are going; etawam give (one thing), ndap give (many things); ɣa ya ma-ta-ya-etawam tobacco (perfective) aspect-I-you-give, I have given you the tobacco.

Sentence-medial forms do occur, e.g. in conditional clauses, but information on this subject is lacking. Indication of identity or non-identity of subject seems to be absent.

Nouns fall into three gender classes which manifest themselves in vowel changes in the possessive post-position gV and the demonstrative pronoun ngVnV (these are the only examples given by Drabbe). V stands
for the vowels e (concord with a masculine singular noun), u (concord with a feminine singular noun), a (concord with a neuter noun, singular or plural) and i (concord with masculine or feminine plural noun). Examples: no ge ta t my father; no gu ne my mother; no gi naqais my children; no ya ven my house(s). The demonstrative pronoun has the concord forms ηgene, ηgunu, ηgini, and ηgane. The distinction masculine-feminine is neutralized in the plural. Number is usually not expressed in the noun itself; there is only a small category of nouns which take a pluralizing suffix.

Personal pronouns distinguish three persons in singular and plural, with a masculine-feminine distinction in the 3rd person singular:

\[
\begin{array}{ccc}
1 & 2 & 3 \\
\text{sing.} & \text{no} & \text{γo} & \text{ndene/ndunu} \\
\text{plur.} & \text{ni} & \text{zo} & \text{ndini}
\end{array}
\]

The three-way gender distinction has here been replaced by a two-way distinction. It is not clear from Drabbe's description how the two-class system relates to the three-class system.

The basic word order in the verbal sentence is subject-object-verb.

2.6.2.2.2.1. Zimakani

The sound system of Zimakani lacks phonemic back-velar stops (q, ηq); these occur as allophones of k and ηg respectively when followed by a or o. Otherwise the sound system is identical to the sound system of Boazi with some minor differences on the allophonic level. Stress seems to be non-phonemic.

The very few verb forms collected by the writer show a structure parallel to Boazi verb structure, with aspect/mode, subject, and object prefixes, in this order. ta-γa-tawa I-you-give, I give it to you (sing.); noko kagua me-te-o-meanda I canoe perfect-I-it-looking at, I have been looking at the canoe.

As in Boazi, nouns fall into three gender classes which manifest themselves in the concord of demonstratives: meg u zoγa-εme this fish; moagu ato-εmo this woman; meg u kagua this canoe/these canoes; miγu ato/zoγa these women/fish. These examples also show the singularizing suffix -εme (masculine), -εmo (feminine) which occurs with a restricted number of animate nouns. The personal pronouns distinguish between three persons in singular and plural. A two-way gender distinction is present in the 3rd person singular:
2.6.2.2.2.2. The Marind Family

2.6.2.2.2.0. The Marind Family consists of two languages, Marind and Bian Marind. Marind is spoken by about 7,000 people living in the coastal area between Kolopom Island and the Papua New Guinea border. There are four dialects: The Ngawir, or Eastern dialect, the Western dialect, the Atih dialect and the Upper Kumbe dialect. Bian Marind is spoken by about 900 people living along the upper Bian River. Marind is the most thoroughly studied language of the Marind Stock. It became initially known through a few short word lists (Ray 1895, Seijne Kok 1908) and a paper by Adriani (1908); the detailed study of the language, begun in the early 20th century was the work of Dutch Roman Catholic missionaries, resulting in publications by Kolk and Vertenten (1922: dictionary), Geurtjens (1926: grammar; 1933: dictionary), Boelaars (1950: grammatical notes), and Drabbe (1955: grammar, texts). They all studied the Ngawir dialect, spoken round Merauke, the main government and mission station in the area.

The only published data in Bian Marind are Drabbe’s notes on the Bian verbs (1954) and a Bian Marind wordlist which can be found among the comparative lists of Marind dialects in Drabbe 1955, pp.148-51.

2.6.2.2.2.1. Marind

The Marind sound system contains three voiceless, three voiced, and three prenasalized stops: p, t, k, b, d, g, mb, nd, ng; two nasals: m, n; four fricatives: v [v, f], s, z, h; one vibrant: r [R]; two semi-vowels: w, y [j]; and five vowels: i, e [e, ē], a [a, o], o [o, ā], u [u, ū]. The language has a pitch-accent which in monomorphemic words is carried by the last syllable. At least one case of phonemic stress contrast has been recorded (Drabbe 1955, p.123).
Morphological processes in Marind are addition (suffixed and prefixing), and internal modification (vowel change).

Verbs can take prefixes as well as suffixes. Prefixed are the markers of subject, indirect object, tense, and some aspects and modes. Suffixed are some aspect and mode markers, object markers, and transitivity markers. Some examples: mend-ano-d-izig perf.-subj. 1st pers. sing.-durative-verb stem I have been sharpening (it); m-a-o-og fut.-I-him-give I shall give it to him; no-kib-ah-ib I-turn over-you-trans. marker (animate object), I turned you over; no-kib-an-ib I turned myself over.

With a small category of verbs, the object marker is prefixed to the stem, e.g. n-akov feed me, h-akov feed you, o-akov feed him. Verb stems often have separate forms indicating number of subject or object by means of vowel change: push away with a finger atetok (singular object), atituk (plural object).

An interesting feature of the verb is that the prefix complex can occur by itself without a verb stem, preceding a personal pronoun, e.g. m-ano nok I shall be present; mend-ano-d nok I was present.

Nouns fall into four classes which manifest themselves through concord (by means of vowel change) in demonstrative pronouns and some adjectives: light of weight akek (masc. sing.) akuk (fem. sing.), akak (neuter I, sing. and plur.), akik (neuter II, and masc./fem. plur.). In a number of nouns, vowel change serves to indicate whether they refer to a male or a female being, or a thing, as well as to distinguish plural from singular forms: anem male person, anum female person, anim person; namakud animal, namakid animals, namakad thing, things.

In the personal pronouns, three persons are distinguished in singular and plural, with a masculine-feminine gender distinction in the 3rd person singular:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>nok</td>
<td>oh</td>
<td>epe (masc.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>upe (fem.)</td>
</tr>
<tr>
<td>plur.</td>
<td>nok(ke)</td>
<td>eoh</td>
<td>ipe</td>
</tr>
</tbody>
</table>

The third person singular pronoun shows concord with nouns of masculine and feminine gender, but it is not clear from the descriptions whether they refer to nouns of the neuter classes as well.

The word order in the verbal sentence is generally subject-object-verb; but the order subject-verb-object is not uncommon: kivasom upe akiparud ongat girl-she-bound-coconuts, the girl bound (tied together) the coconuts.
The choice of this order is, according to Drabbe, subject to certain rules, but he does not give further details.

2.6.2.2.2.2. Bian Marind

The sound system of Bian Marind seems to be quite similar to the one of Marind; the only differences noted by Drabbe are the presence of a lateral, l, instead of a vibrant r, and of an additional fricative, the voiced velar fricative y.

The same morphological processes as in Marind are found: prefixing, suffixing, and vowel change.

Verbs take prefixes as well as suffixes. Aspect, mode, and some tense markers are suffixed to the verb stem; subject, object, some tense and mode markers, and number markers are prefixed. Some examples: eben-y-idih they two-you-see, the two of them saw you.
ebo-na-ʃ-ketad you-me-sing.-follow, you (sing.) followed me.
ebo-na-e-ketad you-me-plur.-follow, you (plur.) followed me.

Verb stems often change for number of subject or object, sometimes by means of derivation, sometimes by stem suppletion, e.g. *small: umatoka* (singular object), *umasuk-mad* (plural object); *stand: itala* (singular subject), *lemed* (plural subject), *waymat* (dual subject). Note the presence of a dual number which is absent in Marind. A dual number also occurs with the third person subject markers. Sentence-medial forms occur, expressing the following relations between clauses: a) irreal condition; b) "thwarted desire" (e.g. *I wanted to ...*, but he...).

The personal pronouns are:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>nok</td>
<td>oy</td>
<td>anep, anup</td>
</tr>
<tr>
<td>plur.</td>
<td>nokke</td>
<td>eoy</td>
<td>anip</td>
</tr>
</tbody>
</table>

They lack the dual number distinction present in the verbal system. Examples of sentences are not available.

2.6.2.2.2.3. The Yaqay Family

2.6.2.2.2.3.0. The Yaqay Family has two member languages, Yaqay, and Warkai-Bipim, sharing about 30% cognates. Yaqay is spoken by about 9,000 people in the Mapi (Mappi) River area, north of the delta of the Digul River. There are two dialects; one is spoken on the Mapi and Qobâmarao Rivers, the other on the Mambèmôn, Mâburamara, and Bapai Rivers. Warkai-Bipim is spoken by a few hundred people living in two
small villages, Warkai and Bipim, near the southern border of the Asmat language area. It is separated from Yaqay by languages of the Aywu and Kayagar Families (see section 2.6.2.2.5. and 2.6.2.2.6.2. below).

The Mapi River dialect of Yaqay was studied by Drabbe, who published his grammatical notes (1954); an English abstract of his field notes can be found in Boelaars 1950. The present writer collected wordlists in Warkai and Bipim and published some notes on the Warkai-Bipim language (Voorhoeve 1971).

2.6.2.2.3.1. Yaqay

The sound system of Yaqay seems to contain the following phonemes: four voiceless stops: p [p, pʰ, pɬ] t [t, tʰ, ts], k, q [k, kʰ, x] (only preceding a and o); three voiced stops: b, d, g; three nasals: m, n, ŋ; one vibrant or flap r [r]; two semi-vowels: w, y [j]; and seven vowels: i, é [ɛ̃, e, i], e [ɛ], a [a, ə], o [o, ə], u, and ŋ [ŋ]. Drabbe describes stress in Yaqay as a kind of pitch accent; he does not indicate whether it is phonemic or not.

The morphological processes are the same as in Marind: prefixing, suffixing, and internal modification.

Verbs: the markers of subject, indirect object, tense, and some mode markers are prefixed to the stem; the markers of habitual action and irrealis are suffixed. Some examples:
oko-r-ponokon subject-tense-verb stem I give (it);
nana-aqa-ene-ponokon tense-subject-ind.object-verb stem You will give (it) to us.

With many verbs, the number of the subject or object is indicated by a derivative suffix; others have suppletive stems: omadaq/omadaq-mak to be full (with singular and plural subject respectively); pitik/pitiki-mak to hold (with singular and plural object respectively); tak to go (singular subject), eedek to go (plural subject).

In addition, some verbs have suppletive stems which indicate animate or inanimate object: boamek, boamuk, boamok to make, with singular object masc., fem., and neuter; beandi to make, plural object, animate; boondodo to make (inanimate object, plural).

Irrealis forms are the only sentence medial forms mentioned by Drabbe: arep apindok-emaq, ... if he had been sitting here, .... Nouns fall into three gender classes, masculine, feminine, and neuter, manifesting themselves through concord, by means of vowel change, in verbs, pronouns, adjectives, adverbs, and 'connectives'. In a number of cases, vowel change serves to distinguish between nouns belonging to different
classes, e.g. nekem husband, nukum wife.

The personal pronouns are:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>anok</td>
<td>aq</td>
<td>arep, arup, arop</td>
</tr>
<tr>
<td>plur.</td>
<td>indok</td>
<td>aeok</td>
<td>arip</td>
</tr>
</tbody>
</table>

There is no information on verbal affixes marking the direct object, nor on word order in the verbal sentence.

2.6.2.2.3.2. Warkai-Bipim

Tentatively the following phonemes could be identified in Warkai-Bipim: p, t, k [k, ʁ, g, ʁ], ?, b, d; f [ʃ, f], s [ts, s], x [x, ʁ], y, j, h; w, y [j, ʃ]; r [ʃ]; i, e [e, ɛ], õ [o, ɔ], a [a, ɔ], and perhaps ê. The wordlists do not reveal any grammatical information.

2.6.2.2.3. THE YELMEK-MAKLEW SUB-PHYLUM-LEVEL FAMILY

2.6.2.2.3.0. The Family consists of two languages, Yelmek and Maklew, spoken on the mainland opposite Kolopom (Frederik Hendrik) Island. Yelmek occupies the western half of the language area, Maklew the eastern; this language borders in the east on Marind.

Yelmek is spoken in two slightly different dialects. In 1950, the language was spoken by about 350 people, Maklew by little more than 100. The two languages have been studied by Drabbe who published short notes on them (1950b); an English abstract of these can be found in Boelaars 1950.

2.6.2.2.3.1. Yelmek

Yelmek has the following consonants and vowels: p, t, k, b, d, g, m, n, o, w, y, ʃ; i, e, ɛ, a, ɔ, u, ʊ, ʁ. The inventory is only tentative, based on a very short description containing little phonetic detail. Suprasegmentals: stress; details are not available. Verbs: the majority of verbs take person and tense suffixes. In many verb forms these suffixes are portmanteau morphemes indicating both person and tense. Only in the past tense it is possible to discern a sequence of tense marker + person marker. Examples: break a rope, present tense: 1st pers.sing. me-ma, 2nd pers.plur. me-ga; past tense: 1st pers.sing. me-p-ma, 2nd pers.sing. me-p-we.
A few verbs take a prefix as well as a suffix. In the future tense forms these can be analysed as a tense prefix and a person suffix; in the other tenses (present, past), the two affixes act as an indivisible unit in the marking of tense and person. Examples: 1: to ask for, future tense: 1st pers.sing. aik, 2nd pers.sing. aI, 1st pers.plur. aipa, 2nd pers.plur. aigo; past tense: 1st pers.sing. wolfma, 2nd pers.sing. nölipa, 3rd pers.sing. wali, 1st pers.plur. wolipu, 2nd pers.plur. wolipa, 3rd pers.plur. qalipa.

There is no information on object marking and on sentence medial forms.

Nouns do not seem to take any affixes.

With the personal pronouns, three persons are distinguished in singular and plural. There are two series; pronouns of the first function as subject, those of the second as object or indirect object. They are:

<table>
<thead>
<tr>
<th>I</th>
<th>II</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>sing.</td>
<td></td>
</tr>
<tr>
<td>qöel</td>
<td>sing.</td>
</tr>
<tr>
<td>aw</td>
<td>qölél</td>
</tr>
<tr>
<td>ew</td>
<td>awol</td>
</tr>
<tr>
<td>plur.</td>
<td></td>
</tr>
<tr>
<td>qag</td>
<td>plur.</td>
</tr>
<tr>
<td>el</td>
<td>qagol</td>
</tr>
<tr>
<td>em</td>
<td>elel</td>
</tr>
<tr>
<td></td>
<td>emi</td>
</tr>
</tbody>
</table>

A parallel division into two series is also found with the possessive pronouns which are derived from the forms in series I above by suffixing -aw (1st series) or -awk (2nd series).

In verbal sentences the object is reported to generally precede the verb, but occasionally to follow it. No examples are available.

2.6.2.2.3.2. Makew

As in Yelmek, the phoneme inventory can only be given tentatively. The following consonants and vowels have been listed: p, t, k, b, d, g, m, n, ŋ, f, s, h, w, y, l; i, e, é [ɛ], a, o, u, ö [ɔ], ü. Suprasegmentals: stress; no details are available.

Verbs: verbs take prefixes and/or suffixes to mark person, number (singular, plural, and dual in all persons, in all tenses except the near past which lacks the dual-plural distinction), gender (masculine, feminine in the 3rd person singular in all tenses), tense (present, near past, far past, future), aspect (momentaneous, continuative) and mode (imperative).

The structure of the verbal affix complexes is in many cases unclear. However, where specific affixes are identifiable, it appears that subject markers follow the verb stem and tense/aspect and mode markers
precede it. A few verbs have object markers; these are prefixed directly to the verb stem, examples: ep-pōs-oma (tense-VS-subject) I jump; bema-pōs-ka (idem) I shall jump; beba-n-ha-p (tense-object-VS-subject) he will see me; ya-pōs (mode-Vs) jump!

Nouns: there is evidence of a two-gender system which manifests itself in the subject markers with the verb (see above). The only nominal affixes mentioned by Drabbe are found with kinship terms in possessive constructions: awan/alan ̣nima-he your (sing.,plur.) father; iban/iman ̣nima-be his/their father; ̣nolol/̣naaalan ̣nima my/our father.

As in Yelmek the pronouns fall into two groups according to their function as subject or non-subject, but there is no parallel division in the possessive pronouns. The personal pronouns are:

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>sing.</td>
<td>̣nolol</td>
<td>obe</td>
</tr>
<tr>
<td>plur.</td>
<td>̣nag</td>
<td>omle</td>
</tr>
<tr>
<td></td>
<td></td>
<td>imel</td>
</tr>
<tr>
<td></td>
<td>sing.</td>
<td>gōlel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>awol</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ibel</td>
</tr>
<tr>
<td></td>
<td>plur.</td>
<td>̣nagol</td>
</tr>
<tr>
<td></td>
<td></td>
<td>alel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>imlel</td>
</tr>
</tbody>
</table>

Regarding word order in the verbal sentence, the same is reported for Maklew as for Yelmek: in general the object precedes the verb, but occasionally the reverse order does occur.

2.6.2.2.4. THE KOLOPON (OR FREDERIK HENDRIK) ISLAND
SUB-PHYLUM-LEVEL FAMILY

2.6.2.2.4.0. The languages of this family are spoken on Kolopom Island, separated from the mainland by the Marianne Strait which is at its narrowest less than a mile wide. There are three member languages, Kimaghana, Riantana, and Ndom. Kimaghana is spoken by about 2,000 people living in the eastern and southern half of the island. This language has at least two dialects. Riantana is spoken by about 1,000 people in the north and north-west of the island, and Ndom, west of Riantana, has only about 300 speakers.

Typologically the three languages contrast with almost all other languages of the TNGP by their near-complete lack of verb morphology.

The only published data in Kimaghana, Riantana, and Ndom are the notes collected by Drabbe (1949), an English abstract of which appeared in Boelaars 1950.
2.6.2. CENTRAL AND WESTERN TRANS-NEW GUINEA PHYLM LANGUAGES

2.6.2.2.4.1. Kimaghama

The following tentative phoneme inventory can be given on the basis of Drabbe's notes: p, t, k, tj [č], b, d, g, dj [ţ], m, n, ŋ, v [w], gh [γ], r, w, y; i, é [e], e [ε], a [a, a, a], o [o, o], u, ō. Suprasegmentals: stress, the occurrence of which seems unpredictable. (Stress is therefore potentially phonemic, but no cases of phonemic stress contrast have been recorded.)

Verbs do not take any affixes. Tense (present, past, future), aspect (progressive, perfective), and the habitual mode are indicated by separate markers which generally follow the verb. The imperative marker precedes the verb, and tense markers precede it in question sentences containing a question word.

The only morphological process in the language apart from compounding is reduplication which occurs with verbs when they are followed by a prohibitive or habitual-action marker, and otherwise to express a repetitive action: awra hit once, awrawa hit several times; avu see, avavu de see regularly, habitually (a similar construction is found in the Iha language, see 2.6.2.2.3.1.1.).

There are two series of personal pronouns; those of the first series function as subject, those of the second series as (indirect) object. The prbnouns are:

| I     | II
|-------|-----|
| 1 2 3 | 1 2 3
| sing. | sing. nie aŋga anda |
|  nō   | aŋge   anda   |
| plur. | plur. nire aŋge andé |
| ni iŋgi lì |                  |

Word order in the verbal sentence is subject-object-verb, e.g. nō nie awra aghatj (he-me-beat-future): he will beat me.

2.6.2.2.4.2. Riantana

The phoneme inventory of Riantana is almost the same as the one of Kimaghama. There is no velar fricative among the consonants, and the only difference in the vowels is the phonetic quality of ō which in Riantana is a rounded central vowel [ą]. Suprasegmentals: as in Kimaghama.

The only morphological process in the language, apart from compounding, is reduplication which occurs with verbs when they are preceded by the prohibitive mode marker. As in Kimaghama, tense (present, near past, past, future) and mode are indicated by separate markers some of
which precede and some of which follow the verb.

Personal pronouns again fall into a subject and a non-subject series:

\[
\begin{array}{ccc|ccc}
1 & 2 & 3 & 1 & 2 & 3 \\
\text{sing.} & na(r) & ngō(r) & yo(n) & \text{sing.} & nee & ngee & enta \\
\text{plur.} & ni(r) & ntjō(r) & yakwo & \text{plur.} & niee & ntjīee & yakwōta \\
\end{array}
\]

(The forms with final r or n in series I occur when the pronoun precedes a word with an initial vowel.)

The basic word order in the verbal sentence is subject-object-verb.

2.6.2.2.4.3. Ndom

Drabee lists the following consonants and vowels: t, k, b, d, g, m, n, f, th ([θ] or [tʰ] this is not clear from Drabee's description), s, gh [x, γ], w, y, r; i, é [i, e], e [e], a [a, a, ə], o [o, ɔ], u, ő [ğ]. Suprasegmentals: the main stress is generally on the word-final syllable.

Details are not available.

Ndom is the only one of the three languages which has affixation as a morphological process, but it occurs only with some personal pronouns, a few verbs, and the free tense markers. Nouns do not take affixes.

Most verbs do not take affixes, but ome and gor have prefixed tense markers: aman ome (past), gh-aman ome (near past), ghār-aman ome (present), ntagh-aman ome (future). The same prefixes occur with the free tense markers. There are three series of these, and the verbs fall into three classes according to the series of tense markers with which they combine. The present tense marker in series I has two forms, distinguishing 1st person from non-1st person:

- Series I: atōn (past), gh-atōn (near past), ghār-ate (present, 1st p.), ghā-tē (present, 2nd, 3rd p.), ntagh-atōn (future). e.g. tom atōn steal-past, stole.

- Series II: aten, gh-aten, asrāhatere, ntagh-aten;

- Series III: ran, gh-ran, ghār-erare, ntagha-ran.

The basic word order in the verbal sentence is subject-object-verb.

2.6.2.2.5. THE KAYAGAR STOCK-LEVEL FAMILY

2.6.2.2.5.0. To the north-west of the Yaqay language, in the basins of the Gonde and Cook Rivers, three languages are found which together constitute the Kayagar Family. They are, from west to east: Kaugat, with about 700 speakers, Kaygir with approximately 3,000 speakers, and
Tamagário with some 3,500 speakers. Kaugat and Tamagário are both spoken in two dialects; the dialect situation in Kaygir is not known. Tamagário and Kaygir are closely related languages, sharing over 70% of basic vocabulary. Both share about 55% basic vocabulary with Kaugat.

The only published materials in these languages are some notes by the present writer (Voorhoeve 1971), collected during a fieldtrip in 1970. Manuscripts of short grammars of Kaygir and Tamagário are in the possession of the Catholic Mission in the area.

2.6.2.2.5.1. Tamagário

The sound system of Tamagário contains the following consonants and vowels: \( p, \ p, \ t, \ t, \ d, \ s, \ s, \ k, \ g, \ kx, \ x, \ y \) (all these are backed when contiguous to a, o, or u); \( m, \ m, \ n, \ n, \ d, \ w, \ y, \ r, \ r, \ i, \ e, \ a, \ m, \ a, \ o, \ o, \ u, \ u \), and perhaps \( a \). The language is non-tonal; in bisyllabic words the final syllable is stressed.

Tamagário is a suffixing language; other morphological processes have not come to the attention of the present writer.

Nouns do not seem to take any suffixes.

Pronouns: personal pronouns appear in three series. Those of the first series function as subject in nominal sentences, and with intransitive verbs, and as object with transitive verbs. They are:

\[
\begin{array}{ccc}
1 & 2 & 3 \\
\text{sing.} & \text{nak} & \text{ak} & \text{ek} \\
\text{plur.} & \text{nep} & \text{akanek} & \text{wep}
\end{array}
\]

Those of the second series are absolute forms: nak-ar it's me etc; and they also function as subject with transitive verbs. Those of the third series function as indirect object: nak-ere etc.

Verbs take suffixes; they vary for tense, mood, aspect, person and number. There are five tenses: present, recent past (today's past), past (yesterday and earlier), distant past, and future. The aspects are punctiliar and durative-repetitive. The order of the suffixes is aspect-tense-person/number. A suffix marking plurality of actor occurs only in the punctiliar forms of some verbs. Otherwise number is not indicated (as in the 2nd and 3rd person).

Examples: urok parm- to talk, urok parm-o-m-e (verb root-durative aspect-present tense-1st person) I am/we are talking; kere-m-e I hit it (present tense punctiliar), kere-aka-m-e we hit it (present tense punctiliar, with plural suffix -aka).
There are sentence-medial forms indicating that the action expressed by the verb is to be followed by another action. They vary for identity and non-identity of subject. The sentence-medial forms are compounds in which the second constituent is a form of the verb to cease: verb root + tem (identity of subject)/verb root + tema/temariki (non-identity of subject).

The basic word order in a verbal sentence is subject-object-verb.

2.6.2.2.5.2. Kaygir

Kaygir has the following consonants and vowel phonemes: p [p, b], t [t, d], k [k, g], f [pf, f], s [ts, s], x [kx, x, γ] (these allophones are backed when contiguous to a, o, or u), m [m, b], n [n, d], w, y, r [r̩, ř]; i, e, a, o, u, with the same allophonic range as in Tamagáro, and perhaps e. In bi-syllabic words the final syllable is stressed.

The pronoun system is very similar to the system of Tamagáro; the three series seem to have the same functions. The personal pronouns of series I are:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>nax</td>
<td>ax</td>
<td>ekam</td>
</tr>
<tr>
<td>plur.</td>
<td>nep</td>
<td>axam</td>
<td>ene</td>
</tr>
</tbody>
</table>

Series II and III are derived from I by the adding of the suffixes -are and -eru respectively.

Further grammatical information is lacking.

2.6.2.2.5.3. Kaugat

The sound system of Kaugat contains the following consonants and vowels: p [p, b], t [t, d], k [k, g], c [č], ?, m [m, b], n [n, d], f [pf, f], s [ts, s], x [kx, x, γ] (these are backed when contiguous to a, o, or u), w, y, r [r̩, ř]; i [i, ř], e [e, e], ü, ö, [œ, ɣ], u [u, ř], o [o, ř], and a [a, m, a]. In bi-syllabic words the final syllable is stressed.

The following personal pronouns have been noted:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>Absolute forms:</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>naxa</td>
<td>axa</td>
<td>na?ar</td>
<td>a?ar</td>
<td></td>
</tr>
<tr>
<td>plur.</td>
<td>nipi</td>
<td>a'ani</td>
<td>nipir</td>
<td>a?aner</td>
<td></td>
</tr>
</tbody>
</table>

Some examples of verbal sentences (the few verb forms noted do not allow a complete analysis of the suffix complexes with the verb):
ay sep-maxame  father is walking
ay ma?an owp-taxame  father ate the sago
naxa ma?am owp-taxap  I ate the sago.

They show the word order subject-verb.

2.6.2.2.6. THE CENTRAL AND SOUTH NEW GUINEA STOCK

2.6.2.2.6.0. The Central and South New Guinea Stock is one of the largest stocks of the Trans-New Guinea Phylum: it stretches from the eastern part of the Bomberai Peninsula in the west over the greater part of the southern lowlands of Irian Jaya into the northern half of the Western District of Papua New Guinea and into the mountain ranges on both sides of the international border. The stock consists of eight language families. They are: the Asmat-Kamoro Family, the Awyu Family, the Ok Family, the Awin-Pa Family, the East Strickland Family, the Bosavi Family, the Duna-Bogaya Family, and the Mombum Family.

The Central and South New Guinea Stock had its origin as one of the stocks of the Central and South New Guinea Phylum, proposed by Voorhoeve (1968). The stock originally also included a few language groups which since have been reclassified as separate stocks: the Trans-Fly, Suki-Gogodala, and Marind Stocks (Wurm 1971, late 1969 supplement).

The total number of speakers of languages of the stock is estimated at 158,000.

2.6.2.2.6.1. The Asmat-Kamoro Family

2.6.2.2.6.1.0. The family has five member languages: Iria, Asienara, Kamoro, Sempan, and Asmat; Iria and Asienara share nearly 80% cognates, the other percentages within the family range from 50% to 70%. There is no clear subgrouping; Iria and Asienara seem to be somewhat closer related to Asmat than to Kamoro. The total number of speakers in the family is perhaps near 52,000.

2.6.2.2.6.1.1. Iria and Asienara

Iria and Asienara are spoken by a total of about 1,600 people living in the eastern plain of the Bomberai Peninsula and on both sides of the southern half of Kamrau Bay. The two languages are very closely related and when more data come to hand they may well turn out to be dialects of one language. A few general notes on them have been published by Anceaux (1958); they contain a detailed survey of the dialects and the villages where they are spoken. Language materials are restricted to the lexical data in Anceaux' lists.
The phoneme inventory, as far as it could be ascertained from the wordlists, is: six stops: p, t, k (Asienara) or ? (Iria), b, d, g; two nasals: m, and n; two, possibly three fricatives: s, h or f, and perhaps v; one vibrant, r; two semi-vowels, w, and y; five or perhaps six vowels: i, e, a, o, u, (e).

The pronouns are:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>noa</td>
<td>ora</td>
<td>ara</td>
</tr>
<tr>
<td>plur.</td>
<td>na</td>
<td>eria</td>
<td>?12</td>
</tr>
</tbody>
</table>

They correspond closely to the pronouns in the other languages of the family. Further grammatical information is at present not available.

2.6.2.2.6.1.2. Kamoro

Kamoro is spoken around Yamur Lake in the 'neck' of the Bird's Head and along about 300 kilometers of the south coast, from Etna Bay to the Mukumuga River. Drabbe (1953) gives 7,000-8,000 as the estimated number of Kamoro speakers, but this figure does not include the speakers around Etna Bay and Yamur Lake. At present an estimate of 9,000 speakers may be nearer to the mark.

In the plains Drabbe distinguishes six dialects: Western (450 speakers), Tarya (500 speakers), Central (4,300 speakers), Kamora (400 speakers), Wania (1,300 speakers), and Mukumuga (800 speakers). In the western tip of the language area, around Etna Bay and Yamur Lake, at least one more dialect is spoken. The earliest wordlist in the language which was also the second vocabulary of a Papuan language to be recorded, dates from 1828 (Modern 1830). Between this date and 1912 when Ray published his comparative notes on the "Angadi-Mimika' group of languages, several wordlists compiled by early explorers were published (for details see chapter 2.1.2. in this volume). The detailed study of the language was begun in the late thirties by P. Drabbe who published a collection of folk tales (1947-50) and a grammar (1953). His unpublished manuscripts include a Kamoro-Dutch dictionary and some grammatical notes on the Mukumuga dialect. Capell (1962) contains some notes on Kamoro sentence and verb structure, based on Drabbe's work.

Kamoro has a very simple sound system. It has only three stops, p, t, k [k, g, x] or ? (Kamora dialect); two nasals m [m], n [n, n̪]; one vibrant r; two semi-vowels, w, and y; and five, perhaps six, vowel phonemes: i, e [i, e], a, o [o, ɔ], u, (e). Stress is indicated by Drabbe on individual words, but no rules of stress placement are given.
Morphological processes are prefixing and suffixing, and compounding which in this language is not restricted to nouns, but occurs with verbs as well, leading to the formation of polymorphemic verb stems of a very complex structure.

Verbs take prefixes as well as suffixes. Suffixes indicate mode or aspect, tense, object, and subject, in this order. The function of the prefixes is much less clear; sometimes they seem to form discontinuous morphemes with tense suffixes, sometimes they seem to indicate aspect, or mode, or mark a verb form as negative or sentence-medial (as in the case of conditional and unreal-condition forms). Examples: a-neker-aymi-n-umu pref.-verb stem-future-you(sing.)-we(two): the two of us will carry you; kapaki aka-naak-ako-more, apa-kem-ako-ma-n-em tobacoo pref.-verb stem-mode-tense-persons, pref.-verb stem-mode-tense-object-subject: if there were (any) tobacoo, you would give me it! A special feature of verb stems is their often very complex morphological structure. This structure will not be described here since it is very similar to the verb stem structure in Asmat, which will be described in some detail in the next section. Some Kamoro examples can be found in Capell 1962.

Nouns: Drabbe mentions three derivational processes by which nouns are derived from nouns (by suffixing -tya), or verb stems (by prefixing ma-, and suffixing -tya, or -kay): atiri thigh, atiri-tya trousers; wonao ascends, ma-wonao-tya ladder; utu-mari-m fall-float-causative: cause to fall over and float, ma-utumari-kae driftwood.

Personal pronouns: 1st, 2nd, and 3rd person singular and plural are distinguished; in addition there is one dual form indicating non-first person:14

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>noro</td>
<td>oro</td>
<td>are</td>
</tr>
<tr>
<td>plur.</td>
<td>nare</td>
<td>kare</td>
<td>are</td>
</tr>
<tr>
<td>dual</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Drabbe further mentions a series of 'genitive', 'dative', and 'accusative' forms: nataya, nataya, oratya, khatya, khatya, my etc.; nomo, nama, oma, kama, ama to me etc.; noa, naba, oo, kaa, a me (obj.) etc. The 'genitive' series corresponds to the Asmat forms nor-as my-thing, mine etc.; the 'dative' series most probably is a series of emphatic forms, as in Asmat (see 2.6.2.2.6.1.4.).

The basic word order in the verbal sentence is subject-object-verb, e.g. koaka ereka makeamaona woman-fish-she gives it to you: the woman gives the fish to you.
2.6.2.2.6.1.3. Sempan

Sempan is spoken by about 1,000 people living on the Otakwa, Inawka, and Omawka Rivers east of the Kamoro area. Drabbe (1953) presents some notes on the Sempan verb system, compared with Kamoro. A Sempan word-list of 378 items can be found in appendix III of Drabbe 1953. Drabbe also compiled a Sempan-Dutch dictionary which has not been published.

The only difference between the Kamoro and Sempan sound systems is the presence of two fricatives in Sempan: h or s, and f, which are lacking in Kamoro.

The verb takes prefixes and suffixes. Suffixes mark tense or mode, object, subject, in this order. A habitual aspect marker is prefixed; the functions of the other prefixes are not clear. Examples: ma-tafo-mà-n-i pref.-verb stem-tense-obj.-subj.: I am beating you; mà-tafo-fì-n-i I beat you (past), ma-tafo-n-i I just beat you (near past); a-tafo-rama-n-i I shall beat you; ahama-tafo-n-i I usually/habitually beat him.

The personal pronouns are:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>noro</td>
<td>oro</td>
<td>aro</td>
</tr>
<tr>
<td>plur.</td>
<td>naro</td>
<td>taro</td>
<td>aro</td>
</tr>
</tbody>
</table>

Dual forms are entirely lacking. However, the person-number suffixes of the verb distinguish between three persons in singular, plural and dual.

2.6.2.2.6.1.4. Asmat

The Asmat language area begins about 60 kilometers west of Sempan, where the Jac River forms its western boundary. Between the Jac and the Sirac (Eilanden) River, Asmat occupies almost the whole coastal plain. Its eastern and southern border runs roughly parallel with the Sirac at a distance of 30-40 kilometers east and south from it. Only near and along the coast has the language area an extension further south: in a gradually narrowing strip it extends as far as the northern entrance of the Digul River. Drabbe distinguishes five main dialects within Asmat: a Northern dialect on the upper Lorentz and Noord Rivers; a Central-Coast dialect; a Southern or Casuarina Coast dialect; a Central dialect on the lower Sirac and As (Kampong) Rivers; and the Citak dialect east of the confluence of the Wildeman and Sirac Rivers. This is a very global division, still in need of much refinement. The total number of Asmat speakers is estimated at 40,000.
An early wordlist of Asmat can be found in Drabbe 1953, Appendix III. Later Drabbe made a detailed study of the language, mainly of the Central-Coast dialect, and published a grammar and dictionary (1959b, c), and a comparative study of three of the dialects (1963). The present writer studied the Flamingo Bay sub-dialect of the Central-Coast dialect, and published a phonology, morphology, and texts (Voorhoeve 1965). The Central-Coast and Casuarina Coast dialects are being studied by missionaries of the Evangelical Alliance Mission, but the results of their work are not published. The following notes are based on the writer's own description of the language.

The sound system of Asmat contains eleven consonant and six vowel phonemes: p [p, pˈ], t, k [k, kˈ], x, c [č, čˈ], m [m, mb, b], n [n, nd, d], f, s [s, sˈ, θ], r [r, rˈ], w, y [j, jˈ]; i [i, ü, iˈ], e [e, eˈ, ö], a [a, aˈ, ã], o [o, oˈ, õ], u [u, w], and ə. The language is non-tonal and has a stress system of alternating stressed and unstressed syllables.

Morphological processes in Asmat are addition (prefixing, infixing, suffixing), internal modification, (re)duplication, and compounding. Of these, infixing and modification (vowel change) are non-productive processes, restricted to only a few verb roots. Verbs take suffixes and prefixes; a few verb roots also take infixes. Suffixes mark aspect or mode, tense, question, object, and subject, generally in this order. Prefixes express a variety of aspects and modes (prioritive, completive, explicative, prohibitive, interrogative, requisitive) and tense (postponed, or non-immediate imperative). Examples: por see; a-por-kom you (plur.) saw it, eme-por-kom you already saw it; tepa-por-kom why didn't you see it? a-por-n-okom you saw me; a-por-ane-n-okom did you see me?; a-por-m-okom you (plur.) see it.

Reduplication, marking repetitive aspect, is found with verb roots: erem to tear, ererem tear to pieces.

Asmat shares with Kamoro and Sempan the possibility of the forming of verb stems of considerable morphological complexity. A verb stem can consist of several roots, or one or more roots plus a number of formatives expressing voice (benefactive, causative, transitive), mode (tentative), or aspect (completive, comitative). Some examples: yik tie up, yik-tam tie up for someone, yik-tam-por try to tie up for someone. Compounding, reduplication and suffixing are all present in the following stem: si-si-m-kami-m-tiw to wash ashore many objects (si = root si plus transitiveizer m: to push something; sisim to push repeatedly; in the same way, kakanim means to deposit repeatedly; tiw indicates that the object belongs to the lying class of objects.
Nouns take derivative suffixes forming diminutives; a few kinship nouns take a pluralizer suffix.

The personal pronouns are:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>no/nor</td>
<td>o/or</td>
<td>a/ar</td>
</tr>
<tr>
<td>plur.</td>
<td>na/nar</td>
<td>ca/car</td>
<td></td>
</tr>
</tbody>
</table>

The forms with -r are absolute or emphatic forms. The pronouns take a number of derivative suffixes indicating such relations as exclusion, opposition and inclusion, as in: norpa I only; norma I myself, nam, noram I too. In their underived form the pronouns also function as possessive pronouns: no cem my house; nor amas my sago.

As in Sempan, dual number is not expressed in the pronouns; in the verb system dual number is expressed only in archaic forms used in formal story telling.

The basic word order in the verbal sentence is subject-object-verb: yiwi yisin kokomtawmes the children are picking coconuts.

2.6.2.2.6.2. The Awyu-Dumut Family

The languages of this family occupy an area of irregular shape, filling up the gap between the Asmat-Kamoro Family in the west, the Kayagar and Marind Stocks in the south, and the Ok Family in the east. The northern border of the family has not yet been determined with certainty, but it runs probably near the foothills of the central ranges. At present there are three known sub-families: 1) the Sawuy sub-family-level Isolate, 2) the Awyu Sub-Family with three, possibly four, member languages: Syiagha-Yenimu, Pisa, Aghu, and Airo-Sunagaghe (?), 3) the Dumut Sub-Family with three member languages: Kaeti, Wambon, and Wangom. One more language, Kotogüt, also seems to belong to the family but its affiliation to the sub-families is not known. The total number of speakers in the three sub-families is estimated at 20,500. To this number have to be added an estimated 8,000-9,000 speakers of as yet unidentified Awyu languages living in 44 villages in the area separating the Pisa and Syiagha-Yenimu languages from Aghu and Kotogüt. An early classification of the Awyu-Dumut languages as a family was presented by Voorhoeve (1968).

Healey, in his study of the proto-Awyu-Dumut phonology (1970) established the infra-structure of the group, to which Sawuy was later added by Voorhoeve (1971).

Although the cognition percentages between the languages of the family do not exceed 66% (Healey, 1970) their grammatical structure is very similar, as will become clear in the following survey.
2.6.2. CENTRAL AND WESTERN TRANS-NEW GUINEA PHYLUM LANGUAGES

2.6.2.2.6.2.1. Sawuy

The Sawuy language is spoken by an estimated 2,000 people living on the middle and upper Ayip River, the upper Fayit River, and on the middle Kronkel River. The language borders in the west and north on Asmat, and in the south on Kaugat, of the Kayagar Stock. There are at least two dialects, the Ayip River dialect and the Fayit-Kronkel River dialect. The only published data in the language are the wordlist and grammatical notes collected by the present writer (Voorhoeve 1971).

The consonant and vowel phonemes of Sawuy are: p, t, k [k, ð], b [b, ð], g [g, ñ], d, f [pf, f], s [s, z], x [ks, x, ð], n, ñ [n, ñ], r [l, ð, ñ], w, y [j]; i [i, ï], e [e, ð], a [a, ñ], o [o, ñ], and u. Suprasegmentals: the last syllable of a word usually carries the main stress. However, there is a possibility that the language is at least marginally tonal.

The few verb forms collected show that tense, voice, and person markers are suffixed to the stem. They show formal similarities to corresponding verb forms in Syiagha.

The following pronouns have been noted:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>nogo/nogop</td>
<td>go, gop</td>
<td>e, ep</td>
</tr>
<tr>
<td>blur.</td>
<td>nig/nigip</td>
<td>gi</td>
<td>-</td>
</tr>
</tbody>
</table>

The change from back to front vowel to indicate plural seems to be an old feature, common to many languages in the TNGP, but which was lost in the other Awyu languages, as we shall see below.

2.6.2.2.6.2.2. Syiagha-Yenimu

Syiagha-Yenimu is spoken by approximately 3,000 people living on the Syiagha and Yenimu Rivers, north of the Digul River near its delta and immediately south of the Digul River in the same area, where the language is known as Oser. There are two dialects, Syiagha, and Yenimu. The data presented below represent the Syiagha dialect. A short Oser wordlist was published by Nevermann (1939). Drabbe (1950a) published a grammatical sketch of Syiagha-Yenimu, including a wordlist of 408 items.

The only difference between the sound systems of Syiagha-Yenimu and Sawuy is the probable presence of a sixth vowel, ñ, in Syiagha-Yenimu. Minor differences on the allophonic level may exist, but the very global phonetic description by Drabbe does not allow to go into details. Suprasegmentals: stress, but no rules of stress placement have been given.
The only morphological processes described in the language, apart from the usual compounding of nouns, are suffixing and (re)duplication, which seem to be restricted to verbs. Verbs take tense and person/number suffixes, in this order, but in some tenses the whole ending acts as an undivisible whole. Other suffixes denote voice (imperative) and voice/person/number (optative). Some verbs have suppletive stems indicating singularity and plurality of subject or object, e.g. kund- to die (sing. subj.), xorsi to die (plur. subj.). Reduplication or duplication of verb stems marks the verb as repetitive or expressing a habitual action. (In bi- and tri-syllabic stems it is the second syllable which is repeated: rafumid- to close; rafufumid to close repeatedly).

There are two 'participial' forms, expressing that the action is either simultaneous with or followed by another action by the same actor. They are the only sentence-medial verbs reported for this language. One form is used in the present and past tenses, the other in the future tense. With subject markers in the verb, distinction is made between first and non-first person in singular and plural; with the personal pronouns however, three persons are distinguished in singular and plural. The personal pronouns are:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>no</td>
<td>go</td>
<td>ewe, ege</td>
</tr>
<tr>
<td>plur.</td>
<td>noxo</td>
<td>goxo</td>
<td>yoxo</td>
</tr>
</tbody>
</table>

There is a separate series of possessive pronouns, na, naxa; ga, gaxa; wa, yaxa.

The basic word order in the verbal sentence is subject-object-verb.

2.6.2.2.6.2.3. Pisa

Pisa is spoken by about 3,500 people living on the small tributaries of the Wildeman and Kampong Rivers. The only published source of information on the language are grammatical notes by Drabbe (1950a) to which he added a wordlist of 408 items.

The Pisa sound system is nearly identical to the sound systems of Syiagha-Yenimu and Sawuy: p, t, k, b, d, g, f [Pf, f, v], /s, s/, x [x, y, h], m, n [n, ŋ], r [r], w, y; i [i, i], e, ê, a [a, ə], o [o, o, ɔ], u, ʊ. The main difference is in the vowel system. Suprasegmentals: stress; no rules of stress placement have been given.

Morphological processes recorded in Pisa are prefixing, suffixing, reduplication and duplication.
2.6.2. CENTRAL AND WESTERN TRANS-NEW GUINEA PHYLM LANGUAGES

Verbs take suffixes marking tense, person/number, mode, and aspect. Tense markers precede subject markers except in the near-past forms in which the order is reversed. Prefixes are: a future tense marker which occurs with many but not all verbs, and an imperative marker, also of restricted occurrence.

There is only one sentence-medial verb, a 'participial' form which indicates simultaneity of action as well as identity of subject. Some verbs have suppletive stems indicating singularity and plurality of subject or object, e.g. ra-/kirimo- to take with singular and plural object respectively. Reduplication or duplication of the verb stem marks the action as repetitive.

By the addition of a derivative suffix to the verb stem verbal nouns are formed which indicate the instrument with which, or the place where, an action is performed. A few nouns, i.e. a few kinship terms, can take a pluralizer suffix; some nouns have a plural which is formed by duplication, but most nouns do not vary for number.

Three persons are distinguished in the pronouns in singular and plural in contrast to the subject markers with the verbs with which only 1st and non-1st person are distinguished in singular and plural. There are two series of pronouns:

<table>
<thead>
<tr>
<th>I</th>
<th>II</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>nu    gu    eki</td>
</tr>
<tr>
<td>1</td>
<td>na    ga    ena/ewa</td>
</tr>
<tr>
<td>2</td>
<td>nuna  guna  yoxona</td>
</tr>
</tbody>
</table>

The forms of series I function as subject; those of series II function as object, indirect object, and as possessive pronouns.

The basic word order in the verbal sentence is subject-object-verb.

2.6.2.2.6.2.4. Agku

Agku (or Axu) is spoken by perhaps 3,000 people living between the Digul and Mappi Rivers, west and south of the township Tanah Merah. A grammar of Axu, and some texts have been published by Drabbe (1957).

The sound system is very similar to the sound systems of Sylaht-Yenimu and Pisa; the main differences are the absence of phonemic r and of a third unrounded front vowel. Axu also has a rounded front vowel ü, like Pisa. The phonemes are: p, t, k, b, d [d, ð], g, f, s [s, ñ], x [x, ɣ], m, n [n, ŋ, ɾ] (see note 15), w, y; a, e, e, i, o, u, and ü. Suprasegmentals: weak stress on the last syllable of monomorphemic words; otherwise no rules of stress placement have been given in the source.
Morphological processes in the language are suffixing, prefacing, reduplication and duplication.

Verbs take suffixes marking tense, aspect, mode, person, and number (or sometimes person-number in one). Tense, person, number, and aspect or mode markers can follow each other in this order.

Prefixes mark future or past tense with some verbs, and imperative. As in the other languages of the Awyu sub-family, only first and non-first person are distinguished by different subject markers in singular and plural. Some verbs have two suppletive stems, one occurring in the present and past tense, the other in the future tense, and some modes.

Examples: da- hear: da-k-enä (verb stem-tense-person/number) you (plur.)/they heard it; da-dia-nä you(plur.)/they will hear it. da- go, future stem ad-: ad-oä (verb stem-person/number) let us go; ad-oän-e we shall go.

Reduplication or duplication of the verb stem serves to mark repetitive aspect; another way in which repetitive action is marked is by the combining of the verb stem with a repetitive-aspect marking formative.

There are sentence-medial forms indicating simultaneous action and identity of subject (they vary for tense but not for person-number); and consecutive action and identity or non-identity of subject. Some of these vary for tense and person-number, others vary only for tense.

Nouns: A few nouns have plural forms, either through reduplication (axaxu men from axu man) or through duplication (pesopeso many wounds).

The pronouns, also very similar to those in Pisa and Syigaha-Yenimu, are:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>nu</td>
<td>gu</td>
<td>ege</td>
</tr>
<tr>
<td>plur.</td>
<td>nügu</td>
<td>gügu</td>
<td>yo xo</td>
</tr>
</tbody>
</table>

They function as subject, object, and indirect object; the 1st and 2nd person plural and the 3rd person singular and plural pronouns also function as possessive pronouns. In the 1st and 2nd person singular separate possessive pronouns occur: na, ga.

The basic word order in the verbal sentence is subject-object-verb.

2.6.2.2.6.2.5. Airo-Sumagaxe

This language is reported to be spoken by about 2,000 people living on the Peru River, north of the Kayagar languages. The only source, giving location and village names, is Simmons et al. 1967. To date no language data have become available.
2.6.2.2.6.2.6. Wambon

Wambon is spoken by approximately 1,000 people living on the headwaters of the Mandobo River as far north as Mount Koreom. A grammatical sketch of the language, containing some texts, has been published by Drabbe (1959d).

The phonemes in Wambon are: p [p, ŋ], t [t, ŋ], k [k, g, ŋk], b [mb], d [nd], g [ng], m, n, q, s [s, h], r, w, y; i, e [ɛ, ę], a, o, u. Suprasegmentals: weak stress on the final syllable of monomorphemic words; otherwise no rules of stress placement have been given.

Morphological processes in Wambon are suffixing, reduplication and duplication.

Verbs take suffixes marking tense, mode, person and number; tense or mode suffixes usually precede person and number suffixes. Examples: tami-w-an-in verb root: make a canoe-1st pers.-plur.-fut.: we shall make a canoe; ba-ken-ew-an verb root: sit-present-tense-1st pers.-plur.: we are sitting. As in other languages of the family, only first and non-first person are distinguished by different subject suffixes.

There are a few sentence-medial forms, indicating simultaneous and consecutive action as well as identity of subject or part-identity of subject (i.e. if the subject of the following verb includes the subject of the first verb). They do not vary for tense, person or number.

Repetitive action is marked by reduplication or duplication of the verb stem and the suffixing of -mo: roko, rorokomayayepeatedly; ri, ririmoutdown repeatedly.

Nouns: only a few kinship terms take a pluralizing suffix; some other nouns have duplicated forms indicating plural: kagupkagupmen, but most nouns have no number marking.

With the personal pronouns, three persons are distinguished in singular and plural; there are several series: I absolute forms, II subject forms, III non-subject forms, IV, V emphatic forms. Only series I-III are given below.

<table>
<thead>
<tr>
<th>I</th>
<th>II</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>sing. nup</td>
<td>gup</td>
</tr>
<tr>
<td>gup</td>
<td>ne</td>
</tr>
<tr>
<td>yup</td>
<td>ge</td>
</tr>
<tr>
<td>plur. nagup</td>
<td>gagup</td>
</tr>
<tr>
<td>gagup</td>
<td>nage</td>
</tr>
<tr>
<td>yagup</td>
<td>gage</td>
</tr>
<tr>
<td></td>
<td>yage</td>
</tr>
</tbody>
</table>

III: The forms of series I less the final p: nuj, etc.
Possessive pronouns are: na(n), ga(n), ya(n), nago(n), gago(n), yago(n). The forms with final n occur when the possessed noun, which follows the possessive pronoun, has an initial vowel.

The basic word order in the verbal sentence is subject-object-verb, as in kakuwe taket yokonin the men gave kauri shells.

2.6.2.2.6.2.7. Kaeti

Kaeti is spoken by approximately 4,000 people living in the basin of the Mandobo River. There are two dialects, Kambom on the lower Mandobo and Runogwanyap on the middle Mandobo. A small group of about 200 Kaeti speakers is now living on the east bank of the Fly River, north of Lake Murray; they call themselves Kwem.

Drabbe (1959d) published texts with explanatory notes in Kaeti.

The sound system of Kaeti is similar to the sound system of Wambon; it lacks a velar nasal (ŋ), and has two additional vowel phonemes, Û and Š.

It is difficult to get a clear picture of the grammatical structure of Kaeti from Drabbe's notes. It seems that it is very similar to the grammatical structure of Wambon, so much so that one would expect Kaeti to be a dialect of Wambon rather than a separate language. For these reasons no survey of its grammatical features will be given.

2.6.2.2.6.2.8. Wangom

Wangom is spoken by possibly 1,000 people living between the Digul River and Mt Koreom. The language probably belongs to the Dumut sub-family. There are no data available in this language. Its location and affiliation are indicated by Drabbe (1959d, p.5).

2.6.2.2.6.2.9. Kotogût

This language is spoken north of Mt Koreom by over 1,000 people. Its location is mentioned by Drabbe (1959d, p.5) but its affiliation to the sub-families of Awyu-Dumut is not known.

2.6.2.2.6.3. The Ok Family

2.6.2.2.6.3.0. The territory of the Ok Family stretches over a large part of the central mountain ranges on both sides of the Indonesian-Papua New Guinea border, and has a long narrow extension into the southern lowlands, also straddling the border. The total number of speakers
of the languages of the family is about 52,000.

The Ok Family is divided into two sub-families: Lowland Ok, with the member languages Southern Kati, Northern Kati, Yoqogom, Ningirum, and Iwur, and Mountain Ok with the member languages Telefol, Tifal, Kauwol, Faiwol, Setaman, Bimin, Mianmin, Wagarabai, and Ngalum. The family was established by A. Healey whose Ph.D. thesis includes a detailed survey of the languages of the Ok Family, a comparative study of the main phonological and grammatical features of these languages, and a reconstruction of a large number of proto-Ok words (Healey 1964b).

The linguistic situation as it is known today differs from the one described by Healey in only a few minor details. These will be mentioned in their appropriate place in this section.

The following survey is based on Healey's work, supplemented by data in Yoqogom, Ningirum, Faiwol and Ngalum collected by the present writer. It unavoidably lacks a lot of the detail found in Healey's thesis, and those interested will have to turn to that work for further information.

2.6.2.2.6.3.1. Southern Kati

Southern Kati is spoken by approximately 4,000 people living on the lower Muyu River in Irian Jaya. The language was studied by Drabbe who called it the Metomka dialect of Kati. He published a contrastive grammar of southern and northern Kati in the series Micro-Bibliotheca Anthropos (Drabbe 1954). To this grammar he added 420-item wordlists which were later also added to his study of Kaeti and Wambon (1959d). An early wordlist from Southern Kati, called 'Digoeleesch', can be found in Geurtjens 1933.

The sound system contains the following consonant and vowel phonemes: p [p, b], t [t, d], k [k, g], b [mb, b], d [nd, d, r], m, n, ŋ, w, y [j, ɬ], ə, ɨ]; i, e [i, e, ɛ], a, o [ɔ], u [u, ʊ]. b occurs only word-initially; [r] is the word-medial allophone of /d/. Suprasegmentals: in monomorphemic words the stress occurs on the last syllable, in compounds on the last syllable of the first constituent; stress is probably non-phonemic. However, Healey (1964b, p.61) does not want to exclude the possibility that pitch is phonemic.

Morphological processes are suffixing, prefixing, and duplication.

Verbs generally take only suffixes; only a few verbs take a prefixed object marker. With the majority of verbs the stem is followed by an object or indirect object marker (if any), a tense, aspect or mode marker (if any) and a subject marker. Markers of perfective aspect and optative mode follow the subject marker. Subject and tense are sometimes indicated by a portmanteau morpheme. There are sentence medial verbs indicating
that the action is followed by another action by the same actor; they
vary for person-number and tense. Other sentence-medial verbs ('parti-
cipal' forms in Drabbe) indicate that the action is simultaneous with
another action by the same actor; they vary only for tense.
Verb stems: a few verbs have suppletive stems, indicating singularity
and plurality of object. Others have a derived stem if the object is
plural. One verb, to beat, has a zero stem.
Nouns: they show two gender classes which manifest themselves in the
concord of personal pronouns, and of subject and object affixes of verbs.
Duplication of nouns occurs occasionally to indicate plural number.
Pronouns: with the personal pronouns three persons are distinguished
in singular and plural, there is a two-gender distinction in the first
and second person singular. They are:

1

sing.

ne

2

ep (masc.)

3

ye (masc.)

kup (fem.)

yu (fem.)

plur.

nup

kip

yi

(With the subject suffixes of the verbs, only first and non-first person
are distinguished in the plural, and gender is only marked in the 3rd
person singular.)

The basic word order in the verbal sentence is subject-object-verb.

2.6.2.2.6.3.2. Northern Kati

Northern Kati (Drabbe's Niinati dialect of Kati) is spoken by about
8,000 people living on the upper Muyu River. There are several dialects
but detailed information is not at hand. Information on the grammar and
phonology, and a 420-item wordlist can be found in Drabbe 1954, already
mentioned above in 2.6.3.1. The wordlist was also included in Drabbe
1959d. Schoorl (1957) published a list of 160 anthropological terms in
Northern Kati.

The phonological and grammatical structures of Southern and Northern
Kati are very similar. Phonologically there are only minor differences
on the allophonic level. Grammatically the main difference is the occur-
rence of sentence-medial verbs which indicate identity or non-identity of
subject. (This is indicated only for the first and third person singular
and only when the following verb is in the future tense.) A minor dif-
ference occurs in the form of the second person pronouns; they all have
initial t: tep, tup, tip.
2.6.2. CENTRAL AND WESTERN TRANS-NEW GUINEA PHYLM LANGUAGES

The basic word order in the verbal sentence is again subject-object-verb.

2.6.2.2.6.3.3. Yongom

Yongom is spoken along the Fly and Tedi (Alice) Rivers as well as in two villages on the northern shore of Lake Murray. The number of speakers is estimated to be slightly more than 2,000. The only published materials in Yongom are three wordlists compiled by Leo Austen, two of which appeared in the Papua Annual Report 1921/22 and one in the Papua Annual Report 1924/25. The present writer collected a wordlist at Lake Murray. The language seems to be very similar to Southern and Northern Kati, and may even turn out to be a dialect of one of the two. Healey (1964b) reports a fair degree of mutual intelligibility between Yongom and Northern Kati, and similar information was obtained by the present writer regarding Yongom and Southern Kati.

At present only a tentative list of phonemes, and three pronouns can be given. The phonemes are: r [p, f, b, β], t [t, t], k [k, k, x, y], d [q, f, l], m, n, o, w [w, β], y [j, j, j]; i, e [e, e], a [a, a], o [o, o], and u. The language seems to have contrasting pitch (Healey 1964, p. 61).

The pronouns are: me I, nup we and e you(r).

2.6.2.2.6.3.4. Iwur

Iwur is spoken on the south side of the central ranges in the valley of the Iwur River and eastwards almost to the Ok Denom. The only indication of its affiliation are a few remarks in Brongersma and Venema19 to the effect that Muyu (Northern Kati) is understood by the Iwur ("Kate") but not the language of the Sibil valley (Ngalum). This would place Iwur in the Lowland Ok sub-family. Healey (1964b) gives as his impression that the number of speakers is unlikely to exceed 1,000. There are no language data available.

2.6.2.2.6.3.5. Ningirum

Ningirum is spoken between the Ok Birim and the Ok Tedi (Alice River); its western neighbour is Northern Kati, its northern neighbours are Iwur, Kauwol and Tifal, and its western and southern neighbours are Paiwol, Awin, and Yongom. The largest part of the language area is on the eastern side of the Indonesian-Papua New Guinean border. The language has three dialects, from south to north: Ningirum proper, Kasuwa, and Daupka.
(this last dialect was tentatively classified as a separate language, Upper Tedi, by Healey (1964b) but later information obtained by the present writer shows that it is a dialect of Ngirum). The total number of speakers of Ngirum is about 4,000; approximately 1,000 of these live in Irian Jaya.

The only published material in Ngirum to date is a short wordlist in the Daupka dialect compiled by Leo Austen (Papua Annual Report 1925/26, p.75). Healey had at his disposal a short grammar and some wordlists; the present writer collected three wordlists, all in the Ngirum dialect.

The sound system of Ngirum contains the following consonant and vowel phonemes: p [p, b, β, mÎ£], t [t, Ê, Êh, Êh, s], k [k, kÎ£, kÎ£, x, y, g], d [d, Ï, Ï, Ï], g [g, øg], m, n [n, õ], ñ [ç, ñ], w [β], y, h; i [i, ã], e [ã, ã], a [a, a], o [o, ò, ò], u [u, u]. Stops are unreleased in word-final position; vowels are sometimes nasalized if they are contiguous to a nasal consonant or h.

Suprasegmentals: a primary stress seems to occur always on the last syllable of a word. No cases of contrastive pitch have been reported.

Verbs take suffixes as well as prefixes, of these only the suffixed subject markers have been identified. They show the same semantic distinctions as in the other Lowland Ok languages: 1st, 2nd, 3rd person singular, with a feminine-masculine distinction in the 3rd person; first and non-first person plural.

Nouns fall into two gender classes, manifested (at least) by masculine and feminine forms of the 2nd and 3rd person singular pronouns. Personal pronouns: in addition to the gender distinction in the 2nd and 3rd person singular there is a distinction between inclusive and exclusive in the 1st person plural. This is a feature not shared by the other Ok languages. The pronouns are:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>ne</td>
<td>kep (masc.)</td>
<td>de (masc.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>kup (fem.)</td>
<td>du (fem.)</td>
</tr>
<tr>
<td>plur.</td>
<td>ni (incl.)</td>
<td>dip</td>
<td>di</td>
</tr>
<tr>
<td></td>
<td>nip (excl.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The basic word order in the verbal sentence is subject-object-verb.

2.6.2.6.3.6. Telefol

Telefol is spoken by about 4,000 people living on the headwaters of the Sepik, around the government station Telefomin, and on the headwaters of the Nina River, north of the station. There are two main dialects, the Feramin dialect and the Telefolmin dialect.
The language is the most thoroughly studied of the Ok languages; A. and P.M. Healey of the Summer Institute of Linguistics worked for more than five years in the area. They completed a phonological and morphological analysis, did significant work in the syntactical analysis of the language, and compiled a dictionary. Their publications are A. Healey 1962, 1964a, 1964b; P.M. Healey 1964, 1965a, b, c, 1966.

The consonant and vowel phonemes in Telefol are: b [b, β, p], d, t [t, tʰ], k [k, kʰ, γ], kʷ, m, n, ɬ, s, f [Φ, f], l [ɾ, l]; a [a, ʌ], e [e, ə], i [i, ɨ], o [o, ɔ], u [u, ʊ].

Suprasegmentals: Telefol is a tonal language; its tonal system has been described in terms of two step tonemes: up, and down, occurring alone and in combination.

Morphological processes are suffixing, prefixing and duplication. Verbs: indirect object or object, tense or aspect, negation, and subject are indicated by suffixes in this order. Some verbs take object prefixes. With the object prefixes a distinction is made between 1st person singular, 2nd person singular, 3rd person singular masculine and feminine, and plural; the subject suffixes show one additional distinction, i.e. between 1st person plural and 2nd/3rd person plural. The object/indirect object suffixes show only three distinctions: 1st person singular, 2nd person singular, versus all others. Most verbs have one punctiliar stem and one continuative stem; the continuative stem is mostly marked by an aspect suffix, but some verbs have suppletive stems.

There is a variety of medial verbs, expressing sameness or non-sameness of subject, and different temporal and logical relationships between the clauses.

Nouns fall into two gender classes, manifested by concord of personal pronouns, and of the subject and object affixes of the verb. A few kinship terms take a pluralizer suffix; with other nouns occasionally duplication occurs to mark plurality.

The personal pronouns show a distinction between three persons in singular and plural, with an additional gender distinction in the 2nd and 3rd person singular. In Telefol, personal pronouns are bound forms which never occur without a suffix. The majority of these suffixes are syntactic markers of one kind or another. The pronoun roots all have an emphatic and a non-emphatic form; they are:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>non-emph.</td>
<td>emph.</td>
<td>non-emph.</td>
</tr>
<tr>
<td>sing. na-, ni-</td>
<td>nala-</td>
<td>kab-</td>
</tr>
<tr>
<td>plur. no-, nu-</td>
<td>nulu-</td>
<td>ib-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The basic word order in the verbal sentence is subject-object-verb.

2.6.2.2.6.3.7. *Tifal*

Tifal is spoken by over 2,500 people living in the valley of the Ilam River west of Telefomin, on the southern tributaries of the upper Sepik River, and on the headwaters of the Ok Tedi south of the main watershed. There are at least three main dialects: Tifalmin-Urapmin, Atbalmin, and Wopkeimin. The language is being studied by members of the Summer Institute of Linguistics. Published sources of information on Tifal are Healey 1964b, Steinkrauss 1969, and P. Healey and Steinkrauss 1972.

The sound systems of Tifal and Telefol differ only on the allophonic level (except the Wopkeimin dialect which lacks kʷ, but has g, not present in Telefol). Tifal is also a tonal language; it has two register tones, high, and low.

Morphologically the two languages are also very similar and therefore no details will be given. The pronoun roots are: na-/ni-/la-; nu-/∅; kəb-/kuləb-; kub-/kuləb-; la-∅∅; a-/ala-; u-/ulu-; i-/ili-.

The basic word order in the verbal sentence is subject-object-verb.

2.6.2.2.6.3.8. *Kauwol*

Kauwol is spoken by an estimated 500 people living in the upper Kauwol valley on both sides of the Indonesian-Papua New Guinean border. The only published source of information on Kauwol is Healey 1964b.

The sound system shows only allophonic differences with the phonemic system of Telefol. The language has contrastive pitch, but no analysis of the tonemic system has been undertaken. Grammatical data are not available.

2.6.2.2.6.3.9. *Faiwol*

Faiwol is spoken in a number of dialects by the people living on the headwaters of the Fly River (Wok Feneq), the Palmer River (Wok Luap), and the Murray River. The total number of speakers may exceed 3,000. Faiwol is being studied by members of the Summer Institute of Linguistics. To date the only source of information on the language is Healey 1964b.

The only difference between the phonemic systems of Faiwol and Telefol on the phonemic level is the presence in Faiwol of a voiced velar stop g. The language has contrastive lexical pitch.
Morphologically Paiwol is very similar to Telefol, and therefore no details will be given. The pronoun roots are: na-, nu-, kab-, kub-, ib-, u-, a-, i-; only two emphatic forms have been noted, nala-, and nulu-.

The basic word order in the verbal sentence is subject-object-verb.

### 2.6.2.2.6.3.10. Setaman

Setaman is spoken by a small group of people living on the upper reaches of the Palmer River. Its status as a separate language has yet to be confirmed. The only source of information on the language is Healey 1964b.

### 2.6.2.2.6.3.11. Bimin

This language is spoken by an estimated 1,000 people in the valley of the Wongop River, a tributary of the Strickland River. The only published source of information on the language is Healey 1964b. The consonant and vowel phonemes are: b, t [t, th], r [d, f, l], g, k [k, kh, h, y], kw, gw, m, n, ə, w, y, f, s; i, e, a, o, u. The language has contrastive pitch.

Morphologically Bimin is very similar to Telefol, and therefore no details will be given.

Most of the personal pronouns are free forms:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>ne</td>
<td>kab-, koo- (masc.)</td>
<td>e</td>
</tr>
<tr>
<td></td>
<td>ku, koo- (fem.)</td>
<td>u</td>
<td></td>
</tr>
<tr>
<td>plur.</td>
<td>nuu</td>
<td>yuu, yoo-</td>
<td>i</td>
</tr>
</tbody>
</table>

The basic word order in the verbal sentence is subject-object-verb.

### 2.6.2.2.6.3.12. Mianmin

Mianmin is spoken by about 1,500 people living on the headwaters of the August and May Rivers north of Tifal and Telefol. Published sources of information on the language are Healey 1964b, and Smith and Weston 1974a, 1974b.

The phonemic system contains the following consonants and vowels: p [b, p], t [t, th], k [k, kh, y], r [d, l, f], g, kw, gw, m, n, ə, f, h, s, w, y; i, e, a, o, u, ə. There seem to be three contrastive pitch patterns: high, low-falling, and low-rising.

Morphologically Mianmin is very similar to Telefol; therefore no details will be given.
The pronoun roots are: ne-/nere-; ni-/niri-; kep-/kerep-, op-/orop-; 
ip-/irip-; e-/ere-; o-/oro-; i-/iri-.
The basic word order in the verbal sentence is subject-object-verb.

2.6.2.2.6.3.13. Wagarabai

The phonemic system contains the following consonants and vowels:
p [p, b], t, k, d, l, m, n, ŋ, s, h, w, y; i, e, a, o, u. The language has contrastive pitch.

The estimated number of speakers is 500 or more. Healey 1964b is the only published source of data on the language.

Wagarabai is spoken on the Wagarabai River, a tributary of the August River, north-west of Mianmin. The phonemic system contains the following consonants and vowels:

Verbs have punctiliar and continuative stems as in Telefol. Further grammatical data are not available.

2.6.2.2.6.3.14. Ngalum

Ngalum is spoken in and around the valley of the Nangul River in Irian Jaya, and also on the headwaters of the Ok Sibil, Ok Bon, and the Sobger River. There are several dialects, but detailed information is not available. The number of speakers is estimated at 18,000. The only published sources of information on Ngalum are Healey 1964b and a translation of the four Gospels in the Apmi Sibil dialect by the Catholic Mission (Roman Catholic Mission 1970).

The present writer collected a wordlist and some grammatical notes in the Apmi Sibil dialect.

2.6.2.2.6.4. The Awin-Pa Family

2.6.2.2.6.4.0. Between the Strickland River in the east, and the Yongom and Ningirum languages in the west the Awin-Pa Family is found. The family has only two member languages, Awin and Pa, with a total of about 7,500 speakers.

Awin-Pa was tentatively identified as a family by Healey (1964b); his classification was later confirmed by the present writer, who collected lexical data and grammatical notes in these languages (Voorhoeve 1968).
Both Awin and Fa are being studied by members of the A.P.C.M., but the results of their work have not been published.

2.6.2.2.6.4.1. Awin

Awin, or Ækyom as it is locally called, is spoken by an estimated 6,000 people living in an area stretching east from the Ok Tedi across the Fly River into the hilly country north of the Elevals River. In the north the language borders on Faiwol. The easternmost Awin speaking people known today are those of the Minumin tribe living on the Upper Palmer River (Wok Luap) and Black River. There are perhaps three main dialects in Awin, roughly covering the western, central-northern, and eastern part of the language area. Details of the dialect situation are not yet available. The data presented below represent Awin as spoken between Kiunga and Rumginae, in the south-west of the area.

A preliminary analysis of the phonemic system of Awin yielded the following tentative list of phonemes: $p^h$, $t^h$, $k^h$, $p$, $t$, $k$, $b$ [b, β], $d$, $g$ [g, 0g], $m$, $n$, ($n$), $s$ [$s$, $s$], $h$, $r$ [$r$], $w$, $y$; $i$, $e$, $ε$ [ε, ə], $a$ [a, ə], $o$ [o, o], $u$ [u, u], (ü). There is some evidence that the language has contrastive pitch.

Verbs take only suffixes. They do not vary for person, only for number (singular versus plural), and tense, mode, or aspect. Number and tense, mode or aspect are mostly expressed by one portmanteau suffix. Some examples: *sit* $p^h$-; present tense, singular $p^h$ra, plural $p^h$rae; future singular $p^h$i, plural $p^h$riki; perfective singular $p^h$rei, plural $p^h$rei, desiderative singular $p^h$era, plural $p^h$uera. There are sentence-medial verbs indicating a temporal relationship between two clauses (simultaneous or consecutive action), or a conditional relationship between them.

Nouns do not vary for number; there are no noun classes.

The personal pronouns are:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>no</td>
<td>gu</td>
<td>yo</td>
</tr>
<tr>
<td>plur.</td>
<td>kūo</td>
<td>guo</td>
<td>ka</td>
</tr>
<tr>
<td>dual</td>
<td>ki</td>
<td>gi</td>
<td>?</td>
</tr>
</tbody>
</table>

A 3rd person dual form was not obtained, but there is no certainty that it does not exist in the language.

The corresponding dependent and independent forms of the possessive pronouns are:
The basic word order in the verbal sentence is subject-object-verb. Some examples: eme da hmin k-ra (mother sago cooking is-doing): mother is cooking the sago; n-ae ya mina soae butmen de (my-father his pig sweet potato all ate): my father's pig ate all the sweet potatoes.

2.6.2.2.6.4.2. Pa

Pa (also known as Pare) is spoken by about 1,500 people living between the Eleva River and Lake Murray, west of the Strickland River. There seem to be five slightly different dialects, but considerable population movements since the establishment of Mission and Government have blurred the dialect boundaries.

In a preliminary analysis of the sound system the following phonemes have been tentatively identified: p, t, k, b [b, ð], d [n̩d, d], g [g, γ], (f [ϕ, φ]), s [z, s], h, m, n, (ŋ), r [ɾ], w, y; i [i, ɨ], e [e, e'], ə [e, a], a [i, a], o [o, ɔ], u [u, ʊ], (ə). Five of the eight vowels also occur nasalized, but the phonemic status of the nasalized vowels is still uncertain.

There is some evidence that the language has contrastive pitch, possibly a high and a low tone.

Verbs take suffixes indicating tense, aspect or mode, and number. Some examples: eat, present tense sg/pl da/dego; recent past sg/pl di/dogo; intended action sg/pl dika/dake; habitual action in the past sg/pl dima/dimawi; habitual action in the present sg/pl dêniâ/dêniə.

The only clearly sentence-medial verbs noted are conditional forms. Nouns do not vary for number; there seem to be no noun classes.

The following personal pronouns have been noted:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>na, nana</td>
<td>goa, goana</td>
</tr>
<tr>
<td>plur.</td>
<td>kua, kuana</td>
<td>gua, guana</td>
</tr>
<tr>
<td>dual</td>
<td>kia, kiana</td>
<td>gia, giana</td>
</tr>
</tbody>
</table>

They show the same semantic distinctions as the pronouns in Awin.

The pronouns in this series function as subject; object/indirect object pronouns are formed by suffixing -â: nââ, nekâ, nîgâ, goâ, gekâ, gîâ; possessive pronouns have the same form when in attributive position; when in predicative position, a suffix -re is added to them: nââre (it's) mine, a nââre it is my house.
The basic word order in the verbal sentence is subject-object-verb. One example: pe ni mufē me nasi me dagi (tomorrow we fish and rice and shall eat): Tomorrow we shall eat fish and rice.

2.6.2.2.6.5. The East Strickland Family

2.6.2.2.6.5.0. The family extends over an area of approximately 150 kilometers from north to south and 30 kilometers from west to east, mainly on the eastern side of the Strickland River. There are three member languages, Nomad, Agala, and Konal, with a total of about 3,500 speakers. The family was first classified as a member of the Central and South New Guinea Stock by the present writer (Voorhoeve 1968), who collected lexical and grammatical data in several dialects of the Nomad language. The only other published sources of information on these languages are the classificatory study by R.D. Shaw (Shaw 1973) and some grammatical notes by K. Shaw (Shaw, K. 1973), both in Franklin, ed. 1973. That volume contains also comparative wordlists in several Nomad dialects, and Agala (App.D).

2.6.2.2.6.5.1. Nomad

The Nomad language consists of four clearly separate dialects:

a) Kubo (± 1,000 speakers), spoken from the Carrington River in the north to the middle Nomad River in the south;
b) Samo (± 650 speakers), spoken directly east of the Strickland River between the Cecilia River and the Lower Nomad and Rentoul Rivers;
c) Honibu (± 700 speakers) living in an undetermined area south of the Lower Nomad and Rentoul Rivers;
d) Bibo (± 400 speakers) spoken between the Nomad and Rentoul Rivers.

The data presented here are in the Samo dialect.

The sound system contains the following consonant and vowel phonemes: t, k, b, d, g, m, l [n, l, ñ], f [φ], s, h, w, y; i, e [e, e], a [a, o], o, o, u. All vowels have nasalized counterparts; nasalization is phonemic. There is some evidence that the language has contrastive pitch.

Verbs take suffixes indicating voice (causative), number (action as a group, with a restricted number of verbs), tense, mood, and aspect. Some examples: huga- come; huga-la will come, huga-bo came, huga-ye come!, dugū mū-di-la (clothes wear-causative-will) will cause to wear clothes.

There are a number of dependent (sentence-medial) verbs, indicating simultaneous action, condition and unreal condition; in the first case there is also distinction between same and different subject.
Personal pronouns: there are two series of pronouns; those of series I occur as subject or object, those of series II occur only as subject. Three persons are distinguished in singular, dual, and plural, and there is an exclusive-inclusive distinction in the 1st person dual.

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>II</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>sing.</td>
<td>ā</td>
<td>nō</td>
</tr>
<tr>
<td>plur.</td>
<td>ɔi</td>
<td>nī</td>
</tr>
<tr>
<td>dual</td>
<td>ɔli (excl.)</td>
<td>nīli</td>
</tr>
<tr>
<td></td>
<td>ala (incl.)</td>
<td>ala</td>
</tr>
</tbody>
</table>

The possessive pronouns are identical with the pronouns of series II, except for the singular forms. These are: mo, nē, and ē. They precede the possessed noun.

The usual word order in the verbal sentence is subject-object-verb; but the order object-subject-verb can occur if the object is in focus. Example: yē boi nā-bo he ate the snake; yō boi nā-bo the pig ate him/it.

2.6.2.2.6.5.2. Agala

Agala is spoken by perhaps 300 people living on the upper reaches of the Burnett and Liddle Rivers. The only material available in this language is a short wordlist (unpublished) which shows that it is fairly closely related to Nomad. The pronouns found in this list are: I ame, you (sing.) name, we (plur.) abe, we two da, you two nele, they two ele.

2.6.2.2.6.5.3. Konai

Konai (or Kanai) is spoken by about 400 people living on both banks of the Strickland River and on the lower Murray River. The language is closely related to Agala.

2.6.2.2.6.6. The Bosavi Family

2.6.2.2.6.6.0. The Bosavi Family extends from the eastern border of the East Strickland Family eastwards to the edge of the Southern Highlands and southwards as far as the headwaters of the Wawoi and Bamu Rivers on the southern slopes of Mount Bosavi. There are five languages in the family: Beaml, Onabasulu, Kaluli, Kasua, and Kware. The total number of speakers is perhaps about 6,500.
The only published source of information on these languages is Franklin (ed.) 1973, which contains Shaw's survey of the Bosavi languages (Chapter 5) (R. Shaw 1973) and a hundred-item wordlist of Beami in Appendix D. The present writer collected lexical data and some grammatical notes in Beami.

2.6.2.2.6.6.1. Beami

Beami (or Bedamini) is spoken by an estimated 4,000 people living on the Papuan Plateau east of the Nomad language area. There are two main dialects, Beami and Etoro; the latter is spoken on the southern slopes of Mount Sisa. Details of the dialect situation are not yet available.

A preliminary phonemic analysis has led to the tentative identification of the following consonant and vowel phonemes: b [p, b, β], d [t, d], g [k, g], m, n, f [f, v], s [s, z], h, r [r, ɾ], w, y; i, e [e, e], a [a, o], o [o, ø], u [u, ū]. All vowels also occur nasalized. The language is probably tonal.

Verbs take suffixes indicating tense, mode, and aspect; person and number are not expressed by verb suffixes. Only a few of the verb suffixes have been identified, e.g. -ma imperative: m-ma give!; -i past tense: habe-i broke; -be progressive: ahu-i be walking. Some dependent verbs have been noted; e.g. verbs with -ri: gagu- hold, gagu-ri ma-(holding-come) bring; firi-ri ma- (leaving behind-come) come without.

There is a category of verbal nouns, marked by a suffix -su: gora-sleep, gora-su sleeping place.

The personal pronouns distinguish between three persons in singular, plural and dual:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>na</td>
<td>di</td>
<td>ya</td>
</tr>
<tr>
<td>plur.</td>
<td>nini</td>
<td>diri</td>
<td>iri</td>
</tr>
<tr>
<td>dual</td>
<td>ani</td>
<td>ari</td>
<td>ere</td>
</tr>
</tbody>
</table>

In verbal sentences, the object precedes the verbs but it can either follow or precede the subject:
ani kai gobe-ra mosu-nu (we two banana roast-to go-shall) we two shall go to roast the bananas.
gasida wida na b-e-i (yesterday cassowary I see-past tense) yesterday I saw a cassowary.
2.6.2.2.6.2. Onabasulu

Onabasulu is spoken by about 300 people living midway between Mount Sisa and Mount Bosavi. Except for a short wordlist which shows that the language belongs in one family with Beami no data are available.

2.6.2.2.6.3. Kaluli

Kaluli is spoken by approximately 1,500 people living on the northern slopes of Mount Bosavi. The language has been studied by W.M. Rule of the A.P.C.M. who wrote a short grammar (Rule 1964).

The phonemic system has the following consonant and vowel phonemes: t [tʰ], k [kʰ], b [b], p, d [t], d, g [k], g, y], f, s [s], h, m, n, l [l̩], w, y; i, e, e [e], a, o, o, u. All vowels also occur nasalized; nasalization is phonemic.

Kaluli is a tonal language with three tones, high, mid, and low.

Verbs take suffixes indicating person (first versus non-first person), tense, mode, or aspect. Combinations of suffixes do not seem to occur; person and tense or mode are expressed by portmanteau morphemes. Examples: dolo-ma! sharpen it!, dolo-menwa I/we shall sharpen it; dolo-me: b you/he/they will sharpen it; dolo-man sharpen habitually. There are dependent verbs expressing simultaneous or consecutive action, purpose, condition, and reason.

Personal pronouns have two forms: a focussed form and a non-focussed form. The focussed forms function only as subject, the non-focussed forms function as subject and as object. The two series are:

<table>
<thead>
<tr>
<th>non-focussed:</th>
<th>focussed:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>sing. ne</td>
<td>go</td>
</tr>
<tr>
<td>plur. niyo</td>
<td>giyo</td>
</tr>
<tr>
<td>dual neko</td>
<td>gegeo</td>
</tr>
<tr>
<td></td>
<td>nisa</td>
</tr>
<tr>
<td></td>
<td>niliyo</td>
</tr>
<tr>
<td></td>
<td>nain</td>
</tr>
</tbody>
</table>

The word order in the verbal sentence is subject-object-verb if the subject is not focussed, and object-subject-verb if the subject is in focus.

2.6.2.2.6.4. Kasua

Kasua is spoken by perhaps a few hundred people living on the southern slopes of Mount Bosavi. The classification of the language is based on a short unpublished wordlist.
2.6.2.2.6.6.5. Kware

Kware is spoken between the headwaters of the Wawoi and Bamu Rivers on the southern slopes of Mount Bosavi. The number of speakers is unknown, but probably will not exceed a few hundred. The classification of the language is based on a short unpublished wordlist.

2.6.2.2.6.7. The Duna-Bogaya Family

2.6.2.2.6.7.0. The Duna-Bogaya Family consists of two geographically separated languages: Duna, spoken by about 6,000 people living in the river valleys to the south, west, and north of Lake Kopiago in the Southern Highlands District, and Bogaya, spoken by an unknown number of people living on the southern slopes of the Müller Range in the Western District. Since this area is very thinly populated one can expect the number of Bogaya speakers to be only a few hundred. Duna and Bogaya have been treated as family-level isolates by R. Shaw (1973), but in the opinion of the present writer the two languages constitute one family. Their cognition percentage which is just over 30% has probably been deflated by heavy borrowing of vocabulary by Duna from its eastern neighbour, the Huli language. Lexicostatistically Duna forms a link between the Central and South New Guinea Stock and the East New Guinea Highlands Stock; structurally it ties in more closely with the languages of the Awin-Pa Family, the East Strickland Family, and the Bosavi Family of the Central and South New Guinea Stock than with the languages of the ENGH Stock.

2.6.2.2.6.7.1. Duna

There are no published sources of information on the phonological and grammatical structure of Duna. The present writer had at his disposal a short grammatical statement prepared by members of the Summer Institute of Linguistics\textsuperscript{20} and two wordlists. There seem to be several dialects in Duna, but details are not available.

The consonant and vowel phonemes in Duna are: p \([\textit{p\textsuperscript{h}}]\), t \([\textit{t\textsuperscript{h}}]\), k \([\textit{k\textsuperscript{h}}]\), b \([\textit{b}, \textit{p}, \textit{b}]\), d \([\textit{d}, \textit{t}, \textit{r}]\), g \([\textit{h}, \textit{g}, \textit{y}]\), m, n, r \([\textit{r}, \textit{t}]\), l, w, y, h; i, e \([\textit{e}, \textit{i}]\), a, o \([\textit{o}]\), u. The language is probably tonal.

Verbs take suffixes indicating negative, tense/aspect, and mode, in this order. In some forms negation is marked by a prefix. There are no affixed person or number markers.
Non-final verbs have suffixes marking consecutive action, sequence action, and simultaneous action.

Verb stems can be compounds, consisting of two verb roots.

Nouns: verbal nouns can be derived from nouns by the addition of a tense/aspect suffix to them. The category of locative nouns shows suffixes marking singular, plural, and proximity.

The personal pronouns are:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>no</td>
<td>go</td>
<td>ko</td>
</tr>
<tr>
<td>plur.</td>
<td>inu</td>
<td>inu</td>
<td>kunu</td>
</tr>
<tr>
<td>dual</td>
<td>gena</td>
<td>nego</td>
<td>kena</td>
</tr>
</tbody>
</table>

They also seem to function as possessive pronouns, preceding the possessed noun.

The basic word order in the verbal sentence is subject-object-verb, e.g. Hedawi-ga hinandu no-da ngu *(Hedawi-subj.marker sw.potato me-to gave)* Hedawi gave me a sweet potato.

2.6.2.2.6.7.2. Bogaya

Two wordlists were the only data available to the writer; they show that the grammatical structures of Bogaya and Duna are probably very similar. For example, Bogaya no, Duna no *ate*; Bogaya no-si, Duna ne-yana *eating*; Bogaya na, Duna ne-nda *will eat*.

The personal pronouns are:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>no</td>
<td>ko</td>
<td>ho</td>
</tr>
<tr>
<td>plur.</td>
<td>inu</td>
<td>g elo</td>
<td>h inu</td>
</tr>
<tr>
<td>dual</td>
<td>g ina</td>
<td>g ela</td>
<td>ane</td>
</tr>
</tbody>
</table>

The few examples of verbal sentences show the usual order of subject-object-verb: ami moso yuku nosi *(man one yam eating)* one man is eating a yam.

2.6.2.2.6.8. The Mombum Family

2.6.2.2.6.8.0. This family is found along the south-eastern edge of Kolopom (Frederik Hendrik) Island. There are two member languages, Mombum and Koneraw; the total number of speakers may not exceed 500.
2.6.2. CENTRAL AND WESTERN TRANS-NEW GUINEA PHYLM LANGUAGES

2.6.2.2.6.8.1. Koneraw

Koneraw is spoken by an unknown number of speakers living in one village on the south coast of Kolopom Island. The only data in this language which have been published, is a wordlist of about 450 items (Geurtjens 1933, pp.398-433). A basic wordlist of 160 items, based on the list in Geurtjens, showed about 50 cognates with Mombum. The list does not contain any information on the grammatical structure of Koneraw; only the pronouns can be given here:

1         2         3
sing.    no       yu       uqumi
plur.    ni       imu      tonle

2.6.2.2.6.8.2. Mombum

Mombum is spoken by over 200 people living in one small village on Komolom Island at the south-eastern tip of Kolopom Island. A 450-item wordlist of the language (called Komelom) can be found in Geurtjens 1933. Drabbe published some grammatical notes on Mombum together with a wordlist of 422 items (Drabbe 1950b).

Mombum seems to have the following consonant and vowel phonemes: p, t, k, b, d, g, m, n, ŋ, f, s [s, ñ], (z), gh [x, ɣ], r, w, y; i, e, ü, ǿ, a, u, o.

Suprasegmentals: stress; no rules of stress placement have been given.

Verbs take suffixes expressing tense, aspect, or mode, and person/number of subject; e.g. nuku eat, nuku-numur-i (eat-pres.tense-3rd pers. sing.) he is eating. With subject suffixes, the following semantic distinctions are made: 1st, 2nd, 3rd person singular, 3rd, non-3rd person plural. A negativizer suffix can follow the tense suffix in present tense forms, or precede it in distant past tense forms. Verbs with plural object take a plurality-of-object marker directly after the stem: irów-esir-u (beat-fut-1st pers.sing.) I shall beat him; irów-ghebw-esir-u (beat-plur.obj.-fut.-1st pers.sing.) I shall beat them.

Personal pronouns have two forms, one functioning as subject, the other as object or indirect object:

Pronouns: as subject as object:

1         2         3         1         2         3
sing.    nu       yu       aangib     ney       iwey      ewey
plur.    num      yum      anemre     numwey    imwey      anemrey
The possessive pronouns are: *ne*, *numa*, *iwe*, *ima*, *ewe*, *anemre*; they precede the possessed noun.

The basic word order in the verbal sentence is subject-object-verb, e.g. *nagha wienk kemu-numuri* (my) brother is making a canoe.

2.6.2.2.6.9. Somahai family-level Isolate

Somahai is the language spoken by the recently contacted Somahai tribe living in the Bim River area. The Bim is an eastern tributary of the Balim River in the foothills of the central ranges. The same language is also spoken on the upper reaches of the Catalina River. Two wordlists, one collected by John Wilson (R.B.M.U.) and one by Bob Leland (T.E.A.M.) show that Somahai belongs to the Central and South New Guinea Stock; its closest relationships appear to be with the Ok languages and the languages of the Dumut sub-family of the Awyu-Dumut family.

2.6.2.2.7. THE GOLIATH SUB-PHYLUM LEVEL FAMILY

2.6.2.2.7.0. The languages of the Goliath Family extend over a large part of the central highlands in eastern Irian Jaya, also taking in small parts of the lowlands south and north of the ranges. In the west, the family borders on the Dani language (Dani Family), and in the east on Ngalum (Ok Family). Bromley\(^\text{21}\) describes the area of the Goliath languages as follows:

"On the north side of the range, the boundary between the Dani and this family follows the Obagak river in the Jalousia area of the Hablifoeri headwaters, then runs northward to include the Usagek 'valley of the seventy' (...).\(^\text{22}\) South of the range, this boundary is between the Seng valley and the Erok valley. From these boundaries with Dani, this language family stretches eastward and includes all the valleys of the Marijke or A river system on the north side of the range, including Ok Bi, the easternmost valley in this system, where Kupel is spoken. Kupel is also spoken in a few villages south of the range on the upper Ok Tyop, just north of Ok Sibil (...). From there westward languages of this family, including that early reported for Goliath mountain 'pygmy' (...), are spoken as far as the boundary with Dani. In contrast with the Dani languages, so far as is known, these languages are reported to be spoken..."
both north and south of the range down to very low
altitudes where sago is commonly eaten and canoes are
used (...)."

At present it is still unknown how many languages are members of the
family, but at least six of them are now more or less known. They are:
Yaly, Wanam, Naltya, Korapun (Erok valley), Mt Goliath, and Kupel. The
total number of speakers of Goliath languages is roughly estimated at
50,000.

There are only a few published sources of information on the Goliath
languages: the earliest is a short wordlist of the language of the Mount
Goliath Papuans, first published in 1912 (De Kock 1912) and reprinted
in le Roux 1950, pp.902-13. Bromley (1967) presented the first classi-

cification of the language as a family; Voorhoeve (1968) included the
family in the TNGP (then Central and South New Guinea Phylum).

At present several of the Goliath languages are being studied by
missionaries of the A.P.C.M. (Asia Pacific Christian Mission) and the
RBMU (Regions Beyond Missionary Union), but no results of their work have
been published. The present writer had at his disposal wordlists in
Yaly, Wanam, Naltya, and Korapun, and a phonological statement on Naltya
by M. Bromley, kindly made available to him by the latter.

2.6.2.2.7.1. Naltya

The Naltya language is spoken in the T River Valley area about 50
kilometers east of the Dani language border. The number of speakers is
not known. Naltya has the following consonant and vowel phonemes: p
\([p^h]\), t \([t^h]\), k \([k^h]\), b \([b, β, p]\), d \([d, R, r, t]\), g \([g, γ, k]\), ?, s, h,
m, n, ŋ, l, w, y; i, ñ, e, a \([a, a]\), o, u, u. The language is tonal and
has two tonemes, low-rising, and high-falling.

Pronouns: only three forms have been noted: 1st person singular na, 1st
person plural nun, and 2nd person singular an.

No further grammatical information is available.

2.6.2.2.7.2. Yaly

Yaly is spoken in the Yaly area east of Angguruk, i.e. close to the
Dani language border. The cognition percentage with Naltya is about 65%.
The following pronouns have been noted: 1st person singular na, 1st per-
son plural nu, 2nd person singular an.

No further data are available.
2.6.2.2.7.3. Wanam

Wanam is spoken near the Dani language border, not far north of Angguruk. Wanam also has about 65% cognition with Nalitya. The following pronouns have been noted: 1st person singular na, 1st person plural nu, 2nd person singular an.

No further data are available.

2.6.2.2.7.4. Korapun

Korapun is spoken in the Erek Valley on the southern side of the range, not far from the Dani language border. The cognition percentages with Wanam and Nalitya are 46% and 53% respectively. The language is reported to be tonal. No further data are available.

2.6.2.2.7.5. Mount Goliath

Mt Goliath is spoken on the southern slopes of Mount Goliath to the south-east of Erek valley. The wordlist of De Kock, although sufficient to identify the language as a member of the Goliath family, is too short to compute meaningful cognition percentages.

2.6.2.2.7.6. Kupel

Kupel, earlier thought to be a dialect of Ngalum (Healey 1964b), has recently been identified as a Goliath language. No further data are available.

2.6.2.2.8. THE DANI-KWERBA STOCK

2.6.2.2.8.0. The Dani-Kwerba Stock can be divided into two geographically separated parts, a southern division, consisting of the Great Dani Family, and a northern division containing the Kwerba Family and two family-level isolates, Saberi and Samarokena. The four families have been tentatively united into one stock upon the recent discovery of stock-level relationships between the Kwerba language and Grand Valley Dani. The Great Dani Family has earlier been classified as a stock-level family (Bromley 1967, Wurm 1972). The total number of speakers within the stock is estimated at about 225,000.
2.6.2. CENTRAL AND WESTERN TRANS-NEW GUINEA PHYLUM LANGUAGES

2.6.2.2.8.1. Southern Division: The Great Dani Family

2.6.2.2.8.1.0. The Great Dani Family centres round the valley of the Balim River in the central highlands of Irian Jaya. In the east the family borders on the Goliath languages, in the west on the languages of the Wissel Lakes-Kemandoga Stock. There are three sub-families within the Great Dani Family: Dani, with the member languages Western Dani and Grand Valley Dani, Ngalik-Nduga with North Ngalik, South Ngalik and Nduga as member languages and Wano, a sub-family-level isolate. The languages of the family are spoken by a total of about 220,000 people.

The best known language of the family undoubtedly is Grand Valley Dani, which has been the subject of detailed study by two eminent linguists, M. Bromley and P. van der Stap. Bromley published a detailed phonological analysis (1961) and recently completed an extensive grammatical study entitled "The Grammar of Lower Grand Valley Dani in Discourse Perspective" (Bromley 1972). Van der Stap published a morphology of Grand Valley Dani as spoken near the government station Wamena (Van der Stap 1966). Other sources of information on languages of the family are Bromley's classificatory study of the Dani languages (1967) and two early wordlists of northern dialects of Western Dani, reprinted in le Roux 1950. Unpublished materials include a Dani-Dutch and Dutch-Dani dictionary, a short pedagogical grammar of the Ilaga Valley dialect of Western Dani, both by Van der Stap, and an outline of the grammar of the Bokondini dialect of Western Dani by Charles Horne (1959).

2.6.2.2.8.1.1. Grand Valley Dani

Grand Valley Dani consists of a chain of dialects stretching from the Pyramid Mountain area in the upper Grand Valley to the Samenage River on the south-west side of the Balim gorge, and the Wet River on the north-east side of the gorge. Grand Valley Dani dialects are also spoken in enclaves between Grand Valley and Archbold Lake and between Grand Valley and some North Ngalik populations.

The phonemic system of Lower Grand Valley Dani, described by Bromley, contains the following consonants and vowels: p [p, β, β], t [t, r, t], k [k, γ, ḳ], kw [kw, γw], s, h [m, η, ɵ, ι], m, n, ɵ, l, w, j; i, y [i], u, v, e, o, a.

This dialect lacks the double series of stops and the implosives present in most other dialects, as for instance in the Mugogo dialect described by Van der Stap:
Dani (Mugogo dialect): b, d, g, ? : voiceless unaspirated stops
   [p, t, k, ?];

   p, t, k : voiceless (aspirated) stops
      fricatives [ph, th, kh],
      [p, t, k], [f, f, y];

   bp, dl : implosives [b, d]

Grand Valley Dani is non-tonal; phonological words have a primary stress on the word-final syllable.

Morphological processes found in Grand Valley Dani are addition (suffixing, prefixing, infixing), modification (vowel change), reduplication, and compounding.

Verbs take suffixes and infixes indicating tense, aspect, mode, voice, subject, and object. The order of the suffixes is generally: voice or object (if any); tense, aspect or mode; subject. The habitual-aspect marker follows the subject in some forms and can take an infixed tense marker. Some examples: bal-i-kin will cut (one actor), bal-ukun will cut (plural actor); bal-hy-tek (verb root-subject-aspect) I cut habitually; bal-hy-te-si-k (with tense infix si, and aspect indicated by a discontinuous morpheme te-k) I used to cut. There are several voice categories: energetic, causative, medial, reciprocal (with reduplication of the verb root), and three object-voice categories. Examples: gok large, causative: gok-o-than- to enlarge; idas-in to give birth, medial: idat-las-in to be born; dal-in to stab, reciprocal: dal-dal-ok we stab each other; isas-in to cook, object 1, benefactive: isat-nes-in to cook for me; sal-in to cover, object 2: sal-nap-in to cover me; object 3: isak-han-in to urge me to cook, force me to cook.

There are sentence medial forms expressing two kinds of consecutive action by the same actor(s): a) unrelated actions, b) actions which follow logically, have something to do with each other.

Verb stems can be compounds, consisting of a verb root plus a verb root meaning to come, to go or to stay. There is a separate category of existential verbs.

Nouns take possessive prefixes; generally number is not expressed in nouns except in a few kinship terms which have distinct singular and plural forms.

The personal pronouns distinguish between three persons in singular and plural. They are:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>an</td>
<td>hat</td>
<td>at</td>
</tr>
<tr>
<td>plur.</td>
<td>nit</td>
<td>hit</td>
<td>it</td>
</tr>
</tbody>
</table>
At present no information is available on the word order in verbal sentences.\textsuperscript{25}

2.6.2.2.8.1.2. Western Dani

Western Dani, locally known as Laany, is spoken in all the North Balim, the Swart Valley system, most of the Sinak and upper Yamo, most of the Ilaga, in enclaves in the Beoga, Dugindoga and Kemandoga valleys, in the extreme upper Hablifuri watershed around Bokondini, the top of Grand Valley, and in enclaves in the upper Kimbin and Bele valleys.\textsuperscript{26}

The following notes are based on Van der Stap's description of the Ilaga valley dialect.

The sound system contains the following consonant and vowel phonemes: \( p^h, t^h, k^h, p, t, k, x, mb, mb, nd, nt, ng, ng, \) \( k^w, g^w, m, n, l, w, j, i, y, e, e, a, a, o, o, v, v, u \), and \( u \). The language is not tonal; no rules of stress placement have been given.

Verbs take suffixes marking tense, aspect, mode, subject, object (there is no information on voice marking). Durative aspect and future tense forms distinguish only between singular and plural; they lack person marking. Three different kinds of object markers are distinguished: benefactive, object, and 'object of an enforced action'. These object markers always directly follow the verb stem. A few verbs however take prefixed object markers. Some examples: verb stem (VS)-tense-subject-aspect: mban-e-ky-tak I have cut \( \textit{it} \) long ago; VS-object-subject-tense: yokot-ne-he-tak he told \( \textit{it} \) me long ago; n-ootiak- beat me, k-ootiak- beat you.

The personal pronouns are:

\[
\begin{array}{ccc}
\text{sing.} & \text{1} & \text{2} & \text{3} \\
\text{plur.} & \text{an} & \text{kat} & \text{at} \\
& \text{nit} & \text{kit} & \text{it} \\
\end{array}
\]

The possessive forms are n(a)-, k(a)-, nin(a)-, kin(a)-, in(a)-; they are prefixed to the possessed noun.

The basic word order in the verbal sentence is subject-object-verb as in: an tu nak-ky \( (I \textit{door closed-1}) \) I closed the door; wuloke lytv mbanekwatak the boys have broken the needle \( \textit{long ago} \).

2.6.2.2.8.1.3. North Ngalik

North Ngalik is spoken to the north, east and south of Grand Valley Dani, separating this language from the Goliath languages. There are between
30,000 and 35,000 speakers of the language. The Dani call this language Yaly; the North Ngalik speakers themselves use this name to refer to the language of the Goliath Family spoken to the east of them (see above, 2.6.2.2.7.2.).

General information on North Ngalik can be found in Bromley 1967; actual language data are not available.

2.6.2.2.8.1.4. South Ngalik

South Ngalik is a provisional name to refer to a group of dialects or languages spoken by about 5,000 people living on the western side of the Balim gorge, south of the Grand Valley Dani language area. These dialects or languages are not yet adequately known. General information on South Ngalik can be found in Bromley 1967.

2.6.2.2.8.1.5. Nduga

Nduga, or Ndugwa, is spoken by about 10,000 people living on the southern slopes of the ranges to the south of the Western Dani language area, and in a few small enclaves on the Dugindoga, Sinak, and Uwe Rivers in the Western and Grand Valley Dani language areas. General information on the language can be found in Bromley 1967.

2.6.2.2.8.1.6. Wano

Wano is spoken by about 1,500 people living on the north side of the Yamo River valley. Bromley (1967) classified the language as a subfamily-level isolate of the Great Dani Family, but later (1970)27 gave as his opinion that further study might put it within the Dani subfamily.

2.6.2.2.8.2. Northern Division: The Kwerba Family, Saberi, Samarokena

2.6.2.2.8.2.0. The languages of the northern division extend along the north coast of Irian Jaya from near the mouth of the Apauwar River to the mouth of the Woske River, and from these points inland in a southwesterly direction until the Mamberamo River has been reached. The southernmost point of the division is just inside the Lake Plain. The classification of the languages in this division as members of one stock rests partly on the few lexical data on hand, partly on the account of the linguistic situation in the area by Van der Leeden (1955), and is highly tentative for at least two of the languages, Saberi and Samarokena.
The total number of speakers of languages within the division may not exceed 3,000. No figures are available for most of the individual languages.

2.6.2.2.8.2.1. The Kwerba Family

The Kwerba Family takes up about the whole western and southern half of the area. There are three member languages: Kwerba, Airoran, and Sasawa.

Kwerba is spoken between the middle Mamberamo and the Apauwar River, and on the headwaters of the Apauwar, Waim, Perkam, and Woske Rivers. There seem to be several dialects, but the scanty data do not allow a clear picture of the situation. The published data are 1) a wordlist of a north-western dialect of Kwerba, named Koassa, near Rombebai Lake (Anonymous 1913), 2) a wordlist of the north-eastern dialect spoken by the Airmati tribe, or Naydbej (Oosterwal 1961), and 3) a wordlist of about 500 words and a collection of sentences in the language of the Kaowerawej tribe near Pioniersbivak on the Mamberamo River, by Van Eechoud (1962). Unpublished data available to the writer were Anceaux' lists in Kaowerawej, Airmati, and Kwerba, and a Kwerba list collected by Bromley.

The contents of all these lists are sufficiently similar to assume that they represent different dialects of the same language. They also show quite a few striking correspondences with Grand Valley Dani, enough to posit a stock-level relationship between the two languages. It is on this basis that the languages of this division have been united into one stock with the Great Dani Family.

Airoran is spoken on both sides of the lower Apauwar River, with a western extension reaching the Mamberamo just downstream of Rombebai Lake. The inclusion of Airoran in one family with Kwerba rests on the account given by Van der Leeden, who reports that the Kwerba, Airoran, and Sasawa languages link up closely, at least on the lexical level (Van der Leeden 1955, p.17).

Sasawa is spoken in a small area on the western side of the middle Apauwar River. Its inclusion in the Kwerba Family rests on the same argument as the inclusion of Airoran.

2.6.2.2.8.2.2. The Samarokena and Saberi family-level Isolates

Samarokena is spoken east of Airoran between the Apauwar and Waim Rivers; Saberi, locally also known as Isirawa, is spoken in the coastal area east of Samarokena. The number of Saberi speakers is estimated at 1,500.
Van der Leeden reports that the Samarokena and Saberi languages are related to Kwerba, but less closely than Sasawa and Airoran. The very short wordlists available (less than 20 items) do allow only a guess at the relationships. Their classification as family-level isolates is therefore highly tentative.

2.6.2.2.9. **THE DEM STOCK-LEVEL ISOLATE**

Dem is spoken by some 500 people living on the north side of the Jamo branch of the upper Rouffaer River. The language has its closest relationship - + 14% of shared cognates - with the Damal dialect of Uhunduni (quoted by Bromley, see note 21). The only published data in Dem is a list of 673 words and some sentences collected by Le Roux (Le Roux 1950) and a list of a few words in Galis' survey (Galis 1955). Some remarks on the classification of Dem can be found in Bromley 1967.

2.6.2.2.10. **THE WISSEL LAKES-KEMANDOGA STOCK**

2.6.2.2.10.0. The languages of this stock extend over the central highlands and the northern and southern slopes of the ranges from the Dani territory in the east to beyond the Weyland Mountains in the west. The stock consists of the Ekagi-Wodani-Moni Family and the Amuŋ family-level Isolate. The total number of speakers of languages within the stock is estimated at 92,000.

2.6.2.2.10.1. **The Ekagi-Wodani-Moni Family**

2.6.2.2.10.1.0. The family takes up the western and northern parts of the territory of the stock. There are three member languages: Ekagi, Wodani, and Moni. A lexicostatistical study of the interrelationships of the three languages was published by Larson and Larson (1972).

2.6.2.2.10.1.1. **Ekagi**

Ekagi (Kapauku) is spoken by over 60,000 people living in the valleys surrounding the Paniai and Tigi Lakes (Wissel Lakes) and on the headwaters of the Siriwo River to the north-west. There are numerous dialects in the language; of these, the Tigi dialect spoken round the government and mission station Enarotali is the best known. Three early wordlists of dialects of Ekagi were published in Le Roux 1950; grammatical notes on the language were first published by Drabbe (1949b). An English abstract of these appeared in Boelaars 1950. Drabbe later published a grammar
(1952) which has been superseded by the more modern oriented pedagogical grammar by Steltenpool and Van der Stap (1959). Marion Dole of the Christian and Missionary Alliance (C.A.M.A.) published a paper on transliteration in Kapauku (Ekagi) (1950), a Kapauku-Malayan-Dutch-English dictionary (1960) and essays on Kapauku Grammar (1962). Finally, in 1969, Steltenpool published a large Ekagi-Dutch-English-Indonesian dictionary. The notes presented below are based on Steltenpool and Van der Stap.

The phonemic system of Ekagi has the following consonant and vowel phonemes: \( p, t, k [k, k^w, x], b, d, g [g^l], m, n, w [w, ß], y; i, e [ɛ], a [a, ə], o [ɔ], u \). The language is tonal; there are three step tonemes, high, mid, and low.

Morphological processes found in Ekagi are affixing (prefixing, suffixing), modification (vowel change), and compounding.

Verbs take suffixes marking aspect, tense, and subject in this order, e.g. ani-maki-to-omeg-i (sit-down-durative aspect-past tense-3rd pers. sing., masc.) He sat down (and stayed there, long ago).

Verbs take prefixes marking reciprocal action, dual number of subject, or object. Two kinds of object are distinguished: object I is closely associated with the action (direct object) and object II is loosely associated with the action (indirect object, benefactive, the person on whose behalf the action is executed). The order is: dual marker (if any)-object II (if any)-object I. The sequence object II + object II can also occur. Some examples: na-do-og-i (me-see-today's past-he) he saw me today [as you know]. na-do-p-i (me-see-today's past-he) he saw me today [as you didn't know]. (The first sentence does not convey new information to the addressee, the second does.) naa-ya-mene-i (for me-to him-take-imp.) take it to him on my behalf!

There is a variety of dependent verbs, some of which express consecutive or simultaneous action by the same or a different subject.

Nouns can be simple, compound, or derived from adjective or verb roots. They show two gender classes which are manifested in the concord of personal pronouns, demonstratives, and the 3rd person singular subject marker of the verb. They take case marking suffixes in the 'inert' and 'energetic' cases (see below).

Personal pronouns all have four case forms:

a) 'inert' case forms, occurring as subject of intransitive verbs and as object of transitive verbs;

b) 'energetic' case forms, occurring as subject of transitive verbs;

c) 'neutral' case forms which can substitute for those of a) and b) above;

d) 'locative' case forms.
The neutral forms of the pronouns are:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>ani</td>
<td>aki</td>
<td>okai</td>
</tr>
<tr>
<td>dual</td>
<td>inai</td>
<td>ikai</td>
<td>okeiyyai</td>
</tr>
<tr>
<td>plur.</td>
<td>ini</td>
<td>ikii</td>
<td>okii</td>
</tr>
</tbody>
</table>

Gender distinction is found only in the non-neutral case forms, e.g. in the 'inert' case: I ani ki (masc.), ani ko (fem.); you (sg.) aki ki (masc.), aki ko (fem.); he okai ki (masc.), okai ko (fem.); we anii ke (masc.), ini ko (fem.), etc.

Word order in verbal sentences: generally the verb is sentence-final; the relative position of subject and object is free, thus both subject-object-verb and object-subject-verb sentences can occur.

2.6.2.2.10.1.2. Wodani

Wodani is spoken by about 3,000 people living in the lower Mbiyandoga and Kemandoga valleys. There are three dialects in the language; upper Mbiyandoga, lower Mbiyandoga, and mid-Kemandoga. Wodani shares between 50% and 52% cognates with Ekagi. A short wordlist on Wodani (Wolani) appeared in Le Roux 1950. The only other published source of information on the language seems to be Larson and Larson 1972; their paper contains only phonological data.

The Wodani sound system is: p [pʰ], t [tʰ, t̚], d [d, d̚], s [s], k [kʰ], γ, b, d [d, d̚, d̚], g [g], m, n, w [w, β], y [s, s, y], h; i, e [e, e], a, o, u. Vowel nasalization is distinctive; the language is tonal.

2.6.2.2.10.1.3. Moni

Moni is spoken mainly in the Kemandoga and Dugindoga valleys and in the upper Hegenagi valley, to the east of the lakes. There are about 12,000 Moni speakers. No information is available on the dialect situation in the language.

An extensive Dutch-Moni glossary, compiled from wordlists collected between 1926 and 1938, can be found in Le Roux 1950. In 1958, preliminary studies in the Moni language by M.O. and G.F. Larson became available, but to date no further data in the language have been published. The present writer was able to use of an unpublished grammar and dictionary by Van der Stap.
The sound system contains the following consonant and vowel phonemes: p [pʰ], t [tʰ], k [kh, g], b, d [d, l, dl, ḍ], s [s, ʂ], h, mb, nd, ng, m, n, w [w, ŋ], y [j, z, ḋ]; i, e [e, ɛ], a, o, u. Vowel nasalization is distinctive; the language is tonal but no details of the tonemic system are available.

Morphological processes in the language are affixing (almost exclusively suffixing), and modification (vowel change).

Verbs take suffixes marking aspect, tense, subject (in this order), and mode. The only prefixes of verbs are the negation marker, the reciprocal action marker, and object prefixes. The object prefixes (for 1st, 2nd, and 3rd person singular only) are restricted to a few verbs. There is a large variety of dependent verbs, some of these expressing consecutive or simultaneous action by the same subject.

There is a weak system of two noun classes, manifested only by agreement of the 3rd person singular pronoun. Nouns do not vary for number or case.

With the personal pronouns, three persons are distinguished in singular, dual, and plural.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>a</td>
<td>aga</td>
<td>ogo (masc.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dual</td>
<td>ena</td>
<td>iya</td>
<td>uiya</td>
</tr>
<tr>
<td>plur.</td>
<td>i</td>
<td>igi</td>
<td>ui</td>
</tr>
</tbody>
</table>

Forms of this series function as subject, object, indirect object, and as possessive pronouns. From these pronouns two more series can be derived: 1) by suffixing -ti/ndi: pronouns which function mainly as subject of transitive verbs; 2) by suffixing -go: pronouns which function as subject of intransitive verbs, object of transitive verbs, and as subject in nominal sentences.

In verbal sentences the word order usually is subject-object-verb, but the order object-subject-verb also occurs.

2.6.2.10.2. Uhunduni

Uhunduni, also known as Damal, Amuq or Enggipilu, is spoken by perhaps 12,000 people living to the north-east and the south-west of the Carstensz massif. The language borders in the east on Western Dani and in the west on Moni and Ekagi. Two early wordlists, of different dialects of the language were reprinted in Le Roux 1950. Otherwise no language materials in Uhunduni have been published. The present writer was able to make
use of an unpublished grammar and dictionary of the Amuŋ dialect by Van der Stap.

The sound system of Uhunduni (Amuŋ dialect) contains the following consonant and vowel phonemes: p [p, p̄, mp, b, w], t [t, ts, s, nt, Ɂ, r̃, r̪, j], k [k, k̆, ːk, x, ɡ], m [mb, b], n [n, nd, d, Ɂ], Ʌ [g, Ʌg], l [l, Ɇ], w, y; i, e, a [w], o, u. The language has contrastive vowel nasalization and three tonemes: high, mid, and low.

Morphological processes found in Uhunduni are affixing (prefixing, suffixing), compounding and (re) duplication.

Verbs take suffixes marking object, mode, tense, aspect, and subject. Subject markers follow tense or aspect markers; sometimes they are fused with them to combined tense/subject or aspect/subject markers. There is only one object suffix, marking a 1st or 2nd person singular or plural object.

There is a variety of dependent verbs some of which express simultaneous action by the same subject [a) contrastive, b) non-contrastive], or consecutive action by the same subject.

Nouns do not vary for number, except for the members of a closed set of kinship terms which take a pluralizer suffix. A kind of collective plural is formed by duplication of a noun with simultaneous insertion of -ak- between the noun and its duplicate; buk mountain bugakbuk high-lands.

A typical feature of Uhunduni nouns is that they have a 'status absolutus' and a 'status constructus' form; the last one is used when the noun expresses a semantic relation to something or somebody, e.g. puŋ iron nail; na-puŋ nail in relation to somebody, something; koł widow, nakol somebody's widow; kam chest, nao nakam my chest (the relation is not necessarily possessive, e.g. in: n-ikak nao bogoen (brother-him-follow) the brother who comes after him (in age).

Nouns can take a suffix marking case; there are four of these: -ao 'energetic case' (subject of transitive verb; instrument), -o 'inert case' (subject of intransitive verb, object of transitive verb), -a 'locative', and -et 'comitative'.

Personal pronouns can be marked for the following cases: inert, energetic, comitative, locative, personal (I myself etc.). The unmarked forms, which also function as possessive pronouns, are:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>na</td>
<td>a</td>
<td>na</td>
</tr>
<tr>
<td>dual</td>
<td>iru (incl.)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>plur.</td>
<td>enoŋ</td>
<td>erop</td>
<td>nuŋ</td>
</tr>
</tbody>
</table>
The word order in the verbal sentence can be subject-object-verb, or object-subject-verb. In the last case the object is marked for the inert case.

2.6.2.2.11. **THE NORTHERN SUB-PHYLUM-LEVEL SUPER-STOCK**

2.6.2.2.11.0. The Northern Super-Stock consists of two geographically separated stocks, the Tor-Lake Plain Stock, and the Border Stock. The two stocks have a closer relationship with each other than with other stocks within the Trans-New Guinea Phylum, but these relationships are not close enough to unite them into one stock. The qualification 'sub-phylum-level' indicates that the status of the super-stock as a member of the Trans-New Guinea Phylum is still open to doubt, since its member languages contain typological features which are not shared by the 'established' TNGP languages.

2.6.2.2.11.1. **The Tor-Lake Plain Stock**

2.6.2.2.11.1.0. The Tor-Lake Plain Stock extends over the western and central part of the Lake Plain and the adjoining area to the north, from the Kwerba Family in the west to the Nimboran Family 150 kilometers further east.

The stock consists of three families and three family-level isolates; they are, roughly from west to east: the Turu family-level Isolate, the Central Lake Plain Family, the East Lake Plain Family, the Tor Family, the Mawes family-level Isolate, and the Uria family-level Isolate.

Very little is known about the languages of the stock; the only data available are wordlists of at most 150 items, and only few of these have been published, viz. some wordlists of the Tor languages (Oosterwal 1961) and a wordlist of Tori Aikwakai (Feuillleteau de Bruyn 1952). In addition, the writer relied on unpublished lists from Anceaux' collection (Tor River languages, Mawes, Uria, Taworta-Aero), and on a number of lists in the Lake Plain languages made available to him by M. Bromley. It goes without saying that the present sub-grouping of the languages of the stock is only tentative.

2.6.2.2.11.1.1. **The Turu family-level Isolate**

Four wordlists from different points in the western tip of the Lake Plain show that in the area of the upper Rouffaer and Van Daalen Rivers one single language is spoken. At present this language, provisionally named the Turu language seems to constitute a family-level isolate by itself.
2.6.2.2.11.1.2. The Central Lake Plain Family

This family extends from the Middle Rouffaer as far east as the north-south stretch in the Idenburg River not far from its junction with the Rouffaer River; northward it reaches to near Lake Holmes in the centre of the Van Rees Mountains. There are nine wordlists from different points in the area representing seven closely related languages, or dialects. They are:
Baburiwa spoken in the mountains south of Lake Holmes;
Taqwe, formerly spoken at Kwerisa downstream of Bareri; the speakers of this language recently moved to Kei on the lower Rouffaer River;
Tàori-Kei, spoken at Kei on the lower Rouffaer River;
Torii Aikwakai, spoken on both sides of the Mamberamo River just north of the junction of the Rouffaer and Idenburg Rivers;
Papasena on the lower Idenburg River, near the Idenburg-Rouffaer junction;
Weretai, spoken round Taive mission station at some distance south of the Idenburg-Rouffaer junction;
Tàori-So, originally spoken on the lower So (Swart) River; the speakers of this language have now settled at Taive.

2.6.2.2.11.1.3. The East Lake Plain Family

Four wordlists from different points in the area represent three or perhaps two closely related languages.
They are:
Taworta-Aero, not far east of Taive on the south bank of the Idenburg River;
Dabra, spoken at Magambilis in the foothills south of the middle Idenburg River. (Taworta-Aero and Dabra are very closely related, and perhaps dialects of one language.)
Foau at some distance north of the middle Idenburg River.

2.6.2.2.11.1.4. Notes on the East Lake Plain and Central Lake Plain Families

Bromley notes that Dabra seems to be tonal; it further appears that all the Lake Plain languages except Dabra and Baburiwa have implosive stops. Baburiwa has nasal vowels.
All the wordlists contains only three personal pronouns: I, we, and you (sing.). A survey of these pronouns is given below.
### 2.6.2. Central and Western Trans-New Guinea Phylum Languages

<table>
<thead>
<tr>
<th>dialects of:</th>
<th>Baburiwa</th>
<th>Taogwe</th>
<th>Kei</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Lake Plain</td>
<td>i, i</td>
<td>?i</td>
<td>?i</td>
</tr>
<tr>
<td>I</td>
<td>aaboai, abui</td>
<td></td>
<td></td>
</tr>
<tr>
<td>We</td>
<td>naaboai, ifafu, ifafu</td>
<td></td>
<td></td>
</tr>
<tr>
<td>You(sing.)</td>
<td>diaboai, divai, diwarevi</td>
<td>do, di</td>
<td>di</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Papasena</th>
<th>Weretai</th>
<th>So</th>
<th>Dabra</th>
<th>Fosau</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>ioke</td>
<td>i</td>
<td>a</td>
<td>adu</td>
<td></td>
</tr>
<tr>
<td>We</td>
<td>pepepa</td>
<td>?a</td>
<td>a</td>
<td>yi</td>
<td>edu</td>
</tr>
<tr>
<td>You(sing.)</td>
<td>di</td>
<td>ioko(?)</td>
<td>di</td>
<td>doa</td>
<td>doba</td>
</tr>
</tbody>
</table>

#### 2.6.2.2.11.1.5. The Tor Family

The languages of the Tor Family are spoken in the basin of the Tor River and on the western tributaries of the Biri River.

The family has at least six member languages: Berik, Bonerif, Mander, Itik, Kwesten, and Maremgi. A possible seventh member is the language of the Wares tribe, east of the Biri River, but no data in this language are available. The Wares belong culturally to the Tor River tribes (Oosterwal 1961, p.46). The total number of speakers within the family is perhaps a little more than 1,000.

Berik is spoken on both sides of the middle Tor River, and on the southern tributaries of the upper Tor River;
Bonerif is spoken on an eastern tributary of the middle Tor River;
Mander is spoken to the south of Bonerif;
Itik is spoken to the east of Bonerif;
Kwesten is spoken along the coast and the immediate hinterland;
Maremgi is spoken to the east of Kwesten, inland of Mawes (see below).

#### 2.6.2.2.11.1.6. The Mawes family-level Isolate

Mawes is spoken in two coastal villages east of Kwesten. The number of speakers is not known.
2.6.2.2.11.1.7. The Uria family-level Isolate

Uria is spoken by at least 1,000 people living between the middle Wiru River and the Sermo River. In the north-east the language borders on the Nimboran Family.

2.6.2.2.11.1.8. Pronouns in the Tor Family Languages, Mawes, and Uria

The following chart gives an overview of the pronouns found in the wordlists. The reliability of the lists could not be assessed; it is possible that they contain errors.

<table>
<thead>
<tr>
<th></th>
<th>Berik</th>
<th>Bonerif</th>
<th>Mander</th>
<th>Itik</th>
<th>Kwesten</th>
<th>Mawes</th>
<th>Uria</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>ai</td>
<td>ai</td>
<td>ai</td>
<td>ai</td>
<td>akref</td>
<td>kidam</td>
<td>hey, ae</td>
</tr>
<tr>
<td>we</td>
<td></td>
<td>imenansa</td>
<td>diere</td>
<td>ne</td>
<td>anma, ana</td>
<td>inem</td>
<td>nen</td>
</tr>
<tr>
<td>you(sing.)</td>
<td>a(?)</td>
<td>eme</td>
<td>eme</td>
<td>emi</td>
<td>imi, ini</td>
<td>nam</td>
<td>em</td>
</tr>
<tr>
<td>you(plur.)</td>
<td></td>
<td>jire</td>
<td>egi</td>
<td>die</td>
<td>de</td>
<td>nem</td>
<td>enem(?)</td>
</tr>
<tr>
<td>he</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>enem(?)</td>
<td>jen</td>
</tr>
</tbody>
</table>

2.6.2.2.11.2. The Border Stock

2.6.2.2.11.2.0. The Border Stock extends over a sizeable area on both sides of the Indonesian-Papua New Guinean border. On the Indonesian side, the languages of the stock occupy a crescent-shaped area stretching from the Sekanto River south-east toward the border and back to the south-west along the Pai River. On the Papua New Guinean side they occupy a strip of about 35 kilometers wide from the upper Bapi River area in the south to the headwaters of the Tami River in the north, with a narrow extension reaching north-east toward the coast.

There are three language families in the stock: the Waris Family, the Taikat Family, and the Bewani Family. The languages of the stock are spoken by a total of about 12,700 people.

On the Indonesian side of the border, the languages of the stock became first known as the Tami languages through Cowan's survey (1953) and his classificatory study in which he united the Tor River languages and the Tami languages together with Sentani and Nimboran into the North Papuan Phylum (Cowan 1957b). In a later survey the present writer classified the Tami languages as a stock, and pointed out that the closest
relative of the Tami Stock appears to be the Tor Family: the cognition percentages between the Tor and the Tami languages partly fall within the stock-level range (Voorhoeve 1971). In the present study, the Border and Tor–Lake Plain Stocks have been united into one Super-Stock.

On the Papua New Guinean side of the border the languages of the Waris family have been surveyed by Loving and Bass (1964) and those of the Waris and Bewani Families by Laycock (1973) who gave the stock its present name.

2.6.2.2.11.2.1. The Waris Family

2.6.2.2.11.2.1.0. The Waris Family extends over the whole area of the stock except for the north-eastern and north-western corners, where the Taikit and Bewani families are located. There are seven member languages: Waris, Manem, Sengi, Waina, Daonda, Simog, and Amanab.

Some lexical data in Waris and Manem have been published by Galis (1955) and Cowan (1957b). Voorhoeve 1971 contains wordlists in Waris, Manem, Sengi and Waina, and some grammatical notes on Waris and Manem. Waina, Daonda, Simog, and Amanab have been surveyed by Loving and Bass (1964), and general information on all the languages has been given by Laycock (1973).

2.6.2.2.11.2.1.1. Waris

Waris is spoken by about 3,200 people on the headwaters of the Pai and Bapi Rivers; most of them live on the New Guinean side of the border. Dialects: in the east of the language area the distinct dialect of Imonda is spoken; no information is available on the dialect situation in the rest of the area.

Waris has the following consonant and vowel phonemes: p, t, k, b [b, m_b], d [d, 0_d], g [g, 0_g], m, n, 9, f, s, x [x, h], l [l, 7], w, y; i, e, (e), a, o, u, æ. Verbs take suffixes marking tense and person; there is no information on prefixes. Nouns can take directional suffixes and suffixes marking them as subject or object. The personal pronouns are:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>ka</td>
<td>di_e</td>
<td>i_e</td>
</tr>
<tr>
<td>plur.</td>
<td>pi</td>
<td>di_e_te</td>
<td>?</td>
</tr>
</tbody>
</table>

Object forms noted are kam (1st pers.sing.), jem (2nd pers.sing.); possessive pronouns have a suffix -nan: kanan etc.

In the few sentences collected the word order is object-subject-verb.
2.6.2.2.11.2.1.2. Manem

Manem (or Wembi) is spoken by about 400 people living in the upper Tami River area, north of the watershed between the Tami and Pai Rivers.

The consonant systems of Manem and Waris are very similar; in Manem ƞ has two allophones [ŋ⁰, ƞ]; a velar fricative [x] does not seem to occur, and instead of Ɂ, Manem has r [Ɂ]. The vowels are i, e, a, o, u, ø, and possibly ū and ü.

Verbs take suffixes marking person and tense, and prefixes marking aspect and perhaps object. Suppletive roots occur with some transitive verbs if they have a plural object. Nouns take instrumental, locative, and directional suffixes. The personal pronouns are:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>ga</td>
<td>sa</td>
<td>aŋk</td>
</tr>
<tr>
<td>plur.</td>
<td>kiŋ ta</td>
<td>kiŋ sa</td>
<td>kiŋ aŋk</td>
</tr>
</tbody>
</table>

Object forms noted: gam (1st pers. sing.), sam (2nd pers. sing.); possessive forms noted: gaf, sef, tef (3rd pers. sing.).

The basic word order in the verbal sentence is subject–object–verb.

2.6.2.2.11.2.1.3. Remaining languages: Sengi, Waina, Daonda, Simog,

Amanab

Sengi was, in 1956, spoken by about 120 people living on the middle Pai River. More up-to-date information is not available.

Waina is spoken by about 1,100 people living between the border and the upper Bapi River, south of the Waris area.

Daonda is spoken by 135 people living in one village to the north-east of Imonda airstrip. The language is most similar to the Imonda dialect of Waris.

Simog is spoken by about 270 people living in two villages due east of Imonda airstrip.

Amanab is spoken by about 3,400 people living between the border and the middle Bapi River, south of the Waina area.

2.6.2.2.11.2.2. The Taikat Family

2.6.2.2.11.2.2.0. The Taikat Family occupies the area between the upper Sekanto River and the western branch of the Tami River. There are two member languages: Awyi and Taikat. Some lexical data in Awyi and Taikat have been published by Galis (1955) and Cowan (1957b). Voorhoeve 1971 contains wordlists in both languages and some grammatical notes.
2.6.2. CENTRAL AND WESTERN TRANS-NEW GUINEA PHYLM LANGUAGES

2.6.2.2.11.2.2.1. Awyi

Awyi is spoken by some 250 people living in four villages in the upper Sekanto area. In earlier publications the language has been called Njao.

Awyi has the following consonant and vowel phonemes: p [ph], t [th], k [kh], b [mb, b], d [nd, d], g [ng, g], m, n, ñ, f, s, l [l], w, y;
i, e, (e), a, o, u, ø [ø, ð, ð].

Verbs take suffixes marking tense, mode, and prefixes marking aspect and perhaps person. Some verbs have suppletive roots if they have a plural object.

Only three personal pronouns have been noted: ku I, kebe thou, and ye he. Corresponding possessive pronouns are: kayap, kebap, yap.

The few examples of verbal sentences on hand all show the word order subject-object-verb.

2.6.2.2.11.2.2.2. Taikat

Taikat is spoken by about 800 people living to the east of the Awyi language area. The language was called Arso by Cowan.

The phonemic systems of Awyi and Taikat are practically identical; in Taikat the voiced stops do not seem to have prenasalized allophones; instead of a lateral l, there is a flapped r. There is possibly a uvular fricative h.

2.6.2.2.11.2.3. The Bewani Family

The Bewani Family takes up the north-eastern corner of the territory of the stock. There are three major languages: Pagi spoken by about 1,000 people in the Bewani Mountains south of the Pual River; Kilmeri with about 1,800 speakers on the northern slopes of the Bewani Mountains and in a narrow strip extending from there to the north coast, and Nigera with about 200 speakers in one village at the mouth of the Pual River.

2.6.2.2.12. THE SENAGI STOCK-LEVEL FAMILY

2.6.2.2.12.0. The Senagi Family is the southern neighbour of the Waris Family; the greater part of it is on the Papua New Guinean side of the border. There are two member languages: Angor (Watapor) and Dera with a total of about 4,300 speakers.
2.6.2.12.1. Angor

Angor is spoken by about 2,600 people living south of Amanab between the junction of the Bapi and Horden Rivers in the east, the Faringi River in the west, and Green River station in the south. The language was first classified by Loving and Bass (1964) and later by Laycock (1973). R.L. and S. Litteral of the Summer Institute of Linguistics published a few papers on the language (Litteral, R. 1972, 1973; Litteral, S. 1972).

The phonemes of Angor are: p, t, k, b, d, g, mb, nd, ng, m, n, ñ, f, s, h, r, w, y; i, e, ï, a, o, u. Verbs seem to take prefixes as well as suffixes; the suffixes marking person and number, the prefixes tense.

2.6.2.12.2. Dera

Dera is spoken on the headwaters of the Faringi River in Papua New Guinea and in the environments of Amgotro mission station in Irian Jaya. The number of speakers is about 1,500. The language was first classified by Loving and Bass (1964), and further data were added by Voorhove (1971).

Dera has eleven consonant and six vowel phonemes: p [p, p' , f], t, k [k, k' , x], b [b, m' b, ß, v], d [d, m' d, ß, ß], g [g' , g, y], m, n, ñ, w, y; i [i, ï], e [e, e'], a [a, ë, a'], o [o, ë, ï], u [u, u, ü], ë [ø, ë].

Suprasegmentals: stress, which may be phonemic.

Verbs take suffixes marking tense, aspect, mode, subject and object; there is a sentence-medial verb form indicating consecutive action by the same subject.

Nouns take a suffix -mbo when functioning as object; the same suffix is found with personal pronouns. These are:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>ewo</td>
<td>te</td>
<td>ea</td>
</tr>
<tr>
<td>plur.</td>
<td>igoa</td>
<td>te</td>
<td>namada</td>
</tr>
</tbody>
</table>

And the corresponding possessive pronouns:

- wanda
- tagaba
- aganda
- igoaba
- tagae
- namadanda

The word order in declarative verbal sentences is subject-object-verb; in interrogative sentences however the order is object-subject-verb.

2.6.2.13. THE PAUWASI STOCK

The stock is located on the headwaters of the Pauwasi River to the west of the Senagi Family, reaching north till just south of the Pai
River. The stock consists of two language families, each with two member languages: the Western Family, with Dubu and Toweï, and the Eastern Family with Yafi and Emumu. The only published source of information is Voorhoeve 1971; the data on hand is restricted to wordlists. Dubu is spoken by about 130 people living south of the middle Apauwar River; to the south of these, about 115 people speak the Toweï language. Yafi is spoken just south of the Pai River to the east of Sengi (2.11.2.1.3.) by about 170 people. South of Yafi, and bordering on Dora, Emumu is spoken by about 1,100 people.

2.6.2.2.14. THE SENTANI STOCK

2.6.2.2.14.0. The Sentani Stock is located in two geographically separate areas: in the east it takes up the area round Lake Sentani, including the southern shore of Yotefa Bay; in the north-west it stretches along the north coast from Tanah Merah Bay westward to Cape Kandara. The stock consists of the Sentani Family and the Demta family-level Isolate. Languages of the stock are spoken by a total of about 10,500 people.

2.6.2.2.14.1. The Sentani Family

The Sentani Family has three member languages: Sentani, Nafri, and Tanah Merah. The best known of these is Sentani.

2.6.2.2.14.1.1. Sentani

Sentani is spoken by about 6,000 people living on the islands in Lake Sentani and in its immediate environments. There are three main dialects: the Western dialect, the Central dialect, and the Eastern dialect.

The first grammatical data in Sentani were published by Wirz (1922); they are now outdated by the work of Cowan, who published grammatical notes (1951-52), texts (1950, 1952) and a short grammar, including texts and a glossary (1965). Cowan classified Sentani as a member of the North Papuan Phylum (1957b), and Voorhoeve (1969) showed that genetic relationships existed between Sentani and Asmat, which made Sentani a member of the Central and South New Guinea Phylum (which later became part of the Trans-New Guinea Phylum).

The sound system of Sentani contains the following consonant and vowel phonemes: b [b, p], d [d, t,[c, l], k [k, k, x], m, n, f [f, f], h [h, s], i [i], w, y [j, j]; i, e, e, a, o [o, o], u, o [ö, ø].

The language is non-tonal; as a rule the penultimate syllable has the main stress in a word.
Morphological processes are: affixing, internal modification, (re)-duplication, and compounding.

Verbs take suffixes marking tense, aspect, mode, object and subject, and only one prefix, which is a negativizer. As a rule the relative order of the suffixes is: aspect, tense, object, subject. Cowan divides verbs into two categories: primary and secondary verbs. A secondary verb contains a suffix marking the form as directional, transitive, medial, or reflexive.

On the basis of the morphological structure of the stem, verbs can be divided into simple verbs and compound verbs. Compound stems consist of two verb roots of which the first can take a tense marker, and sometimes an object marker as well. The first root in these compound stems is always a directional verb root.

Duplicated verb stems occur in the gerund form of the verb.

The absolute forms of the personal pronouns are:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>daŋe</td>
<td>waŋe</td>
<td>naŋe</td>
</tr>
<tr>
<td>plur.</td>
<td>meŋe (excl.)</td>
<td>meŋe</td>
<td>neŋe</td>
</tr>
<tr>
<td></td>
<td>eŋe (incl.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

No distinction between dual and plural is present with them, though subject markers of the verb have this distinction. The possessive pronouns are: da, wa, na (singular); me, (e), ma, na (plural).

The basic word order in the verbal sentence is subject-object-verb.

2.6.2.2.14.1.2. Nafrî

Nafrî is spoken in one village on the southern shore of Yotefa Bay. The number of speakers is not known. The only data on hand is a list of Anceaux' collection. The cognition percentage with Sentani is about 60%.

2.6.2.2.14.1.3. Tanah Merah

Tanah Merah is spoken by about 3,200 people living on the north coast to the east and west of Tanah Merah Bay. There are three dialects, Yakari, in the west, Topora in the middle, and Yawona in the east. The only data on hand are a wordlist of Anceaux' collection, and a wordlist and some notes collected by the present writer.

The following pronouns have been noted:
The possessive pronouns have a possessive marker -na: déna, wana, nena.

2.6.2.2.14.2. The Demta family-level Isolate

Demta is spoken in four villages on the north coast between Cape Kamdara and the Tanah Merah language area. The number of speakers is estimated at 700. A few Demta words can be found in Cowan 1957b; otherwise no language data have appeared in print. The classification of the language is based on a wordlist of Anceaux' collection. Demta shares 18%-19% cognates with the languages of the Sentani Family.

2.6.2.2.15. THE NIMBORAN SUB-PHYLUM LEVEL FAMILY

2.6.2.2.15.0. The languages of the Nimboran Family are found in the basin of the Ngremi River to the west of Lake Senani, and also between the western tip of the lake and Tanah Merah Bay. There are five member languages: Mekwe, between the lake and Tanah Merah Bay; Kamtuk, between Lake Sentani and the Ngremi River; Gresik, opposite Kamtuk on the western side of the Ngremi River; Nimboran to the west of Gresik; and Kwansu on the northern bank of the Ngremi, north of Gresik. All these languages are closely related (cognition percentages range from 60% to 75%). The only relatively well known language in the family is Nimboran, studied by Anceaux who published a detailed phonology and morphology (1965). Some lexical data in Nimboran can further be found in Cowan 1957b, and in the now dated publication of Schneider (1928). For the other languages in the family the only data at hand are wordlists of Anceaux' collection.

The number of speakers of Nimboran is about 3,000; no figures are available for the other languages.

2.6.2.2.15.1. Nimboran

The sound system of Nimboran contains the following consonant and vowel phonemes: p [p], t [t], t' [t'], t' [t'], k, b [b, b'], d [d, d'], g, m, n, n, r [r, r'], r, s [s, s'], h [h, h, h]; i, e [e, e, e], a [a, a], y [i], o [o, o, o], u.
The language is non-tonal; stress is phonemic.

Verbs take almost exclusively suffixes; they mark object, position, aspect, tense, and subject (in this order), and mode. A remarkable feature of the Nimboran verbs is that the place where the action takes place, or the direction in which the action takes place, is always explicitly identified by a separate marker. Thus:

\[\text{ŋgua-}k-u \quad \text{(verb root-tense-subject) I bit (it) here;}
\text{ŋgua-}ba-k-u \quad \text{I bit (it) above; ŋgua-}a-k-u \quad \text{I bit (it) below;}
\text{ŋgua-}sa-k-u \quad \text{I bit there; ŋgua-na-k-u I bit far away; prib-be-d-u}
\quad \text{I will throw from here to above; prip-se-d-u I will throw from here to there; prip-san-d-u I will throw from there to here, etc.}
\]

With an object: prib-re-be-d-u I will throw him from here to up there.

There is a category of verb forms consisting of a reduplicated root without suffixes occurring as sentence medial verbs indicating a purposive relation between clauses (\textit{in order to...}).

A rudimentary masculine-feminine distinction is present in the marking of the person of the object with the verb.

Prefixing: only three verb roots can take a prefixed dual marker; otherwise no prefixes occur in the verb system.

Nouns do not take any affixes, except for a few kinship terms which always have a prefixed possessor-morpheme.

The pronouns do not distinguish systematically between singular and plural. They are \textit{ŋa I, we; ko you, no he, she, it, they.}

There is one 'inclusive plural' pronoun \textit{io you and me/we and you.} The pronouns take suffixes marking emphasis, possession, or direction.

\[\text{2.6.2.2.16. THE KAURE SUB-PHYLUM-LEVEL STOCK}\]

The languages of the Kaure Stock occupy the hilly country in the east of the Lake Plain, between the Tolu and Nawa Rivers. The total number of speakers is estimated to exceed 2,000. The stock has three known members: The Kaure Family, the Sause family-level Isolate, and the Kaporai family-level Isolate. The classification is very tentative, as it is based on short wordlists only.

The Kaure Family has two member languages: Narau and Kaure. They take up the central part of the stock's territory. In the north, near the mission station of Lereh, and close to the Uria border, Sause is located. Kaporai is spoken at a location called Pagai on the north bank of the Idenburg River. A wordlist of Kaure has been published in Voorhoeve 1971.
2.6.2. CENTRAL AND WESTERN TRANS-NEW GUI娜 PHYLUM LANGUAGES

Outside the stock, the closest relative of the Kaure language seems to be Kwerba, of the Dani-Kwerba Stock, but the position of the stock within the TNGP will remain obscure till more data have become available.

2.6.2.2.17. SUB-PHYLUM-LEVEL ISOLATES

There are still four languages within the TNGP which on the basis of our present knowledge cannot be included in any of the known stocks. Very little is known of these languages, and at present little more can be done than enumerate them. They are:

- **Molof**, spoken on the south bank of the Pai River just west of Segi1 (see 2.6.2.2.11.2.1.3. above) by about 200 people.
- **Usku**, spoken by a small group of people living south of the Pauwasi River to the west of Dubu (see 2.6.2.2.12. above).
- **Tofamna**, spoken by an unknown number of people living near the Nawa River, to the east of Usku.

Wordlists in these three languages have been published in Voorhoeve 1971.

**Morwap** (formerly called Sawa, or Tabu) is spoken by a few hundred people living in five villages at some distance south-west of the Awyi language area (see 2.11.2.2.1. above). A wordlist, and a few grammatical notes on this language can be found in Voorhoeve 1971.

A tentative analysis of the sound system yielded thirteen consonant and eight vowel phonemes: \( p, t, k, b [b, \beta], g, m, n, œ, f [f, \theta], s \) \([s, s], w, y, l [l, \ell, d]; i, e, e, a, o, u, \) and œ. Nasalization of vowels occurs and seems to be contrastive. Verbs take suffixes; the word order in the verbal sentence is subject-object-verb.

2.6.2.3. NEW MEMBERS OF THE TRANS-NEW GUI娜 PHYLUM

2.6.2.3.0. This part deals with a number of languages which hitherto had escaped classification or had been classified as members of the West Papuan Phylum (WPP). They are the languages of the Mairasi-Tanah Merah Stock, the West Bomberal Stock, the South Bird's Head (or Vogelkop) Sub-Phylum, and the Mor stock-level Isolate. The present classification of these languages rests mainly on lexical evidence furnished by Anceaux' lists. Unfortunately these wordlists are almost the sole source of information on the languages and very little can therefore be said about their grammatical structure.
2.6.2.3.1. THE MAIRASI-TANAH MERAH STOCK

2.6.2.3.1.0. The members of this stock are found in the 'neck' of the Bird's Head (Vogelkop) and in the north of the Bomberai Peninsula. They are the Mairasi Family and the Tanah Merah family-level Isolate. The case for uniting the two families into one stock within the TNGP will be argued after the individual languages have been discussed.

2.6.2.3.1.1. The Mairasi Family

The Mairasi Family occupies the main part of the neck of the Bird's Head between Etna Bay and Kamrau Bay. Although the territory of the family is well defined it is not known exactly how many languages are spoken in the area. The wordlists on hand all come from the southern and western parts of the region. They show the presence of two closely related languages, Semimi in the south-east and Mairasi in the west. The two languages share more than 70% cognates; the total number of speakers probably does not exceed 3,000. Mairasi has in earlier publications also been called Paranjao; an earlier name for Semimi is Etna Bay.

Very little information on the languages has been published. Some short notes on Mairasi are given in Cowan 1953; Ancaux 1958 contains some general information on Mairasi and Semimi, and a short comparative wordlist of the Bomberai Peninsula languages, including Mairasi and Semimi. Further lexical data are presented in Greenberg 1971.

Mairasi and Semimi appear to have a suffixing verb morphology, as is shown by such verb forms as Mairasi oso-ano walk, ufw-ano awim, Semimi tevi-kano lie down, oso-kano walk. However, two verbs, give and see, possibly contain prefixes t- and n-: give Mairasi nomboi, tomna, ofni, nomdefjana; Semimi tomwel; see Mairasi nendara, tadyara, tonom-ano, otomo; Semimi nodome, nandome. 29

This is strongly reminiscent of some suffixing languages within the TNGP which have a few verbs that take object prefixes, especially Suki which displays this characteristic in exactly the same verbs (see 2.6.2.2.1.1.).

With the personal pronouns, three persons are distinguished in singular and plural, and an exclusive-inclusive distinction is found in the first person plural:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semimi</td>
<td>sing. omo</td>
<td>nemi</td>
<td>yen'i</td>
<td>3</td>
<td>1</td>
<td>nene</td>
<td>nina, inai</td>
</tr>
<tr>
<td></td>
<td>plur. eme(incl.)</td>
<td>keme</td>
<td>nengi</td>
<td>eme(excl.)</td>
<td>keme</td>
<td>nii'i</td>
<td>etmaya(incl.)</td>
</tr>
<tr>
<td></td>
<td>etumaka(excl.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Possessive prefixes: many names of body parts show a possessive prefix n-, ne-, interpreted by Cowan (1953) and Anceaux (1958) as the 2nd person singular your. Greenberg (1971, p.821) notes that in Mairasi a 2nd person singular possessive prefix ka- has been recorded and, in his list of etymologies, interprets n-, ne- as the 1st person singular my.

2.6.2.3.1.2. Tanah Merah

Tanah Merah is spoken by about 500 people living on the north coast of the Bomberai Peninsula. There are two dialects, Tanah Merah and Yago, the latter spoken in only one village. The closest relatives of Tanah Merah seem to be Mairasi and Semimi, with which it shares about 19% cognates.

A few general data on the language can be found in Anceaux' (1958) survey of the Bomberai Peninsula languages. Anceaux notes that the language seems to have an intricate morphology and that the verb varies for tense. The lexical data contained in the wordlists are unclear on this point. Verb forms do not show any unambiguous cases of affixation and only in some names of body parts is it possible to discern a possessive prefix (presumably of the 2nd person singular) k-, ka-.

The personal pronouns show three persons in singular and plural, and an exclusive–inclusive distinction in the first person plural:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>nafa</td>
<td>kafa</td>
<td>fonera, vata³⁰</td>
</tr>
<tr>
<td>plur.</td>
<td>kigokomaka(incl.)</td>
<td>kifia</td>
<td>funurure, vanera³⁰</td>
</tr>
<tr>
<td></td>
<td>kiri (excl.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.6.2.3.1.3. Classification

The Mairasi Family and Tanah Merah are classified here as members of the TNGP. The Tanah Merah language has not been classified before, but there have been two earlier attempts to assign to the languages of the Mairasi Family a place in an overall classification and both included them in the West Papuan Phylum (see part 2.10. in this volume) although to different parts of it: Wurm (1971) provisionally included Mairasi and Semimi in the Bomberai Stock of the West Papuan Phylum on the basis of the evidence found in the very short comparative wordlist of ten items in Anceaux 1958. At the same time Greenberg (1971) included the two languages in the eastern subgroup of his Western Group (basically the West Papuan Phylum) together with languages which in this chapter and in chapter 2.14.3. have been classified as members of the South Bird's
Head Stock (TNGP) and East Bird’s Head phylum-level Stock respectively.

Greenberg’s classification is based on an examination of the same materials as were available to the present writer, i.e. the wordlists collected by J.C. Anceaux. It seems therefore worthwhile to review some of the evidence he presents and to contrast it with the evidence which led to the altogether different classification given in this chapter.

Regarding the affiliation of Mairasi and Semimi to the other languages of the eastern subgroup, Greenberg notes that they seem most closely related to Mantion and Manikion to the north-west of Mairasi, but separated from it by intrusive Austronesian languages. In support he presents the following etymologies:

1. cold: Mairasi argiri, arjeri – Manikion tukurid
2. dog: Mairasi asi, Semimi ansi – Mantion (m)ih
3. dry: Mairasi əoa – Mantion ef
4. eat: Mairasi oru – Manikion b-it
5. go away: Mairasi ɪta! – Mantion b-eta! Manikion b-ita!
6. stand: Mairasi isai – Manikion esa
7. tail: Semimi nasuru – Manikion, Mantion (me)sera

To these could be added:

8. to fly: Semimi fi, Mairasi wene – Manikion, Mantion ohu (Greenberg links fi, wene with Meax ofu, Menloango ofo which are cognates of ohu)
9. foot: Mairasi (ne)?oru – Manikion, Mantion (m)ohora.

The first of the etymologies looks possible provided one assumes that Mairasi r corresponds to Manikion t in some cases, and to Manikion r in others. More likely cognates however are found in the languages of the central highlands: Ekagi kinta, Moni kini, Dem agilye, Mianmin gir, Telefol diil, all languages which belong to the TNGP.

No. 2 could be valid. Supporting evidence is Meax (m)es, but its validity depends on the correctness of the analysis of the initial m in mihi, mes as a prefix, and this is by no means certain (see 2.14.3.1.1. in this volume).

No. 3 is not convincing because of the shortness of the word involved.

No. 4 is not valid. The verb stem eat, both in Semimi and in Mairasi is nenem.

No. 5 seems to be valid, as is No. 6.

No. 7 is not valid. Semimi nasuru means hair; tail in this language is naba (Mairasi navatu).
No. 8 is open to doubt. Semimi fi could be a loan from the neighbour-
ing Kamoro language which has pi. Wene has probable cognates in the Ok
and Awyu languages of the Central and South New Guinea Stock: Kati won
wene-, Kaei berene, but in the same families we find forms with back
vowels: Telefol fululu, Wambon ururuk, Pisa burū. Similar forms are
found in many languages in West New Guinea, e.g. Dani put-luk, Ekagi
wuduwdud, Baham poro, Iha buru, Brat fru. Ohu, ofu, and ofo seem to
belong to this group of cognates rather than with Mairasi wene etc., but
it seems possible that the forms of both series are all cognate.

No. 9 is valid subject to the same proviso as No. 2. The Mairasi and
Manikion/Mantion forms then belong to a large series of cognates which
includes words from many TNGP languages, e.g. Sentani Family oro, oto,
Ok Family kono, kondo, Dani okut, akut, Awyu Family kito, kondok, Kolopom
Family kura, tur, Semimi okoranda, Karas kor, Baham kwek, South Bird's
Head languages oto, otona, e'oru; Madik gnes, Karon kwes, Meax (m)ukueda.

Thus we see that Mairasi and Manikion share at most six cognates in the
above list, and that three of these can also be used to argue for an
affiliation with TNGP languages.

The languages in the centre, north, and west of the Bird's Head show
only a sprinkling of probable cognates with Mairasi and Semimi; the
maximum is 4%.

Greenberg further notes the resemblance of the second person singular
pronouns in Mairasi and Semimi (nemi, neme) to those in the languages of
the central, north, and west Bird's Head (nem, nin, nene, nyo, nyo), but
in Manikion/Mantion where this could be meaningful in view of the support-
ing lexical evidence, the 2nd person singular pronouns have Initial b.
Mairasi and Semimi have 3rd person pronouns in n, a feature shared by a
number of Bird's Head languages, but the forms are generally too short to
carry much weight as evidence of genetic relationship. Only the 3rd person
pronouns in Mantion/Manikion show enough resemblance to the Mairasi and
Semimi forms to be counted as possible cognates:

<table>
<thead>
<tr>
<th></th>
<th>Semimi</th>
<th>Mairasi</th>
<th>Mantion</th>
<th>Manikion</th>
</tr>
</thead>
<tbody>
<tr>
<td>he</td>
<td>yeni</td>
<td>nina</td>
<td>eni</td>
<td>ena</td>
</tr>
<tr>
<td>they</td>
<td>nengi</td>
<td>ni?i</td>
<td>reni</td>
<td>rengafa</td>
</tr>
</tbody>
</table>

Mairasi and Mantion/Manikion are now separated by a block of Austro-
nesian languages, but it is likely that at some point in the past they
were neighbours and that at least part of the resemblances noted have to
be attributed to borrowing.

Let us now turn to the evidence on which the present classification
is based. First the structural evidence: what little is known about
Mairasi and Semimi verb morphology seems to tie in with what is known of TNGP languages. The personal pronoun system is aberrant, but if Greenberg's analysis is right, we find TNGP forms as possessive prefixes 1st, 2nd person singular. Tanah Merah on the other hand has personal pronouns which follow the TNGP pattern.32

The lexical evidence which ties the languages of the stock in with the TNGP is clearest when they are compared with the highland languages to the east. Of these, Ekagi shows the highest percentage of probable cognates but here as with Mantion/Manikion one can expect influence of borrowing. The cognition percentages with Ekagi, Moni, Dani, Telefol, and Kati are:

<table>
<thead>
<tr>
<th></th>
<th>Ekagi</th>
<th>Moni</th>
<th>Dani</th>
<th>Telefol</th>
<th>Kati</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semimi</td>
<td>16</td>
<td>11</td>
<td>9</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Mairasi</td>
<td>15</td>
<td>11</td>
<td>8</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Tanah Merah</td>
<td>10</td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

The full evidence, including the etymologies linking Tanah Merah with the Mairasi Family, will now be given. Abbreviations of language names are given in capitals, as follows: TM Tanah Merah, MA Mairasi, SE Semimi, EK Ekagi, MO Moni, DA Dani, TF Telefol, KA Kati.

1. **belly**: SE vuru-kara, (MA vuru), EK puto entrails, DA -aput, TF mat. MA vuru is found only in one list; other lists have tuara or fa (Greenberg -we). TF mat is supported by Bimin muut.

2. **big**: TM tibi, MO tope

3. **bird**: TM finanaburu, penaburu; EK bedo, MO bega. Baham, of the West Bomberai Stock, has parubaru. The etymology rests upon the assumption that the long words are compounds: finana-buru, pena-buru, paru-baru and that the first constituent is cognate with the EK and MO forms.

4. **blood**: MA isere, TF is-ak. Supporting evidence in Kamoro ete, Asmat es, ese, Tamagario yet, Ndom eth. TF -ak is a bound form of ok water, fluid.

5. **bone**: TM naso, MA, SE natura

6. **breast**: SE yoku, MA joku, DA e8ak, elak
7. burn (v) : SE yow, EK yow
8. cold : MA argiri, arjeri; EK kinita, MO kini, TF diil, KA ngit (see also Greenberg's etymologies above).
9. come : TM amo, MA amui, EK mei, MO me, DA eme, KA mene
10. dry : SE kenge, MA enge, EK geegee. The majority of MA lists has enge; two have foa (see Greenberg's list) and two give both foa and enge.
11. ear : TM (k)afuni, MA ovira, SE ofira
12. earth : SE makoro, EK magi, MO mayi, TF bakar, KA ambukin:
13. eat : SE, MA nenem, EK naio, MO nundia, DA naman, TF in, KA ane.
14. egg : SE ate, MA ete, DA gen, egen (?);
        TM no perhaps belongs to the same series of cognates as Baham un, Iha wun, Ok Family win, un, Goliath Family won, wana.
15. eye : TM -bita, MA -mbutu, SE -mbiato, EK peka
16. fire : MA ivoro, SE Iboro, EK bodia, KA amot
17. fly (v) : TM fena, MA wene, SE fi, EK wuduvudu (?), MO puya (?), TF fululu (?), KA won wene.
        See the notes on Greenberg's etymologies.
18. foot : MA ?oro, o?oro; SE okoranda, DA -akut, -okut, KA kondo. See the notes on Greenberg's etymologies.
19. fruit : MA atu, SE katu, EK uta, MO uga (?)
20. grease : SE natomo, MO tomo
21. hair : MA, SE (n)asuru, TM (n)isa, EK iso, DA esi, asi, otuk
22. hand : SE eva-kanda, ova-kara; MA orwa-tara, (n)ef-sa;
        TM (ka)-ta, EK gane, MO hane, TF teeg
23. I : TM nafea, EK ani, MO andi, DA an, TF na, KA ne
24. mouth : TM abo, EK ebe, MO bai lip, mouth, DA ahe, TF boon lip, mouth; SE mongoro, MA (ne)m?ara, MO mangaga, TF mankat, KA mongot
25. man : SE tatakovo, MA ofo, tatofo, tatofo; TM maopa, maupa
26. meat : SE sase, MA sasi, TM -nate, neti (?)
27. nail : TM (ka)tana-gisiri, (ka)teisina; SE kasa-fura, MA (one list) kasa-bura. Other forms, found in the Bomberai Peninsula are Mor idar-ges, Asienara kasaru.
28. name : TM nigia, -inigi (neighbouring Mor has inagenena), MA negwata, SE nawata
29. neck : TM egorage, igeroso; MA ongo, ongarugui, SE gongorovu, EK ogo, MO ogo, ogo tagi
30. nose : SE, MA embi, MO amu (cognates in several languages of the Central and South New Guinea Stock: Asmat mi, Samo mini, Beami mi)
31. one : SE tana, MA tangau, MO hago
32. path : TM aetu, MA ae, ite, SE kae, EK ita
33. rain : TM moa, MA jamu, SE yamu
34. red : TM suri, MA susu
35. sand : SE, MA firi, EK ii (?), DA bini, bili
36. see : SE n-andome, n-odombe; MA otomo, onom-; EK doo, domakai; TF utam
37. skin : SE kakia, MA ai?a, TM katane, EK kado, MO ara, DA katdo, TF kaal, KA kat (Gogodala: kaka).
38. stand : SE jambiri, MA yambiri, TM minifera, DA mel-asin (?)
39. stone : TM kenade, MO ṣgela, DA kelek, helep
40. sun : SE, MA tende, EK tani, MO dani, TF ataan, KA aton
41. spittle : TM tofe-genete, SE tuafa
42. tail : TM nifoda, MA navatu, SE naba
43. swim : SE wai, TM wene
44. tongue : TM kasiesana, gasesani; MA (n)esafi?a, SE (n)savla could perhaps be compounds containing a morpheme esa, cognate with EK eta, Tarungare (Geelvink Bay Phylum) isa.
45. tooth : SE, MA erasi; EK ero, ego
46. wood : TM awo, SE ivere, MA iwo, iwere
47. you(sing.) : TM kafea, EK aki, MO -ka-, DA kat, TF kub, KA tup
48. back of body : TM (k)abuto-naso, DA abot (TM naso =
    bone)
49. pig : SE pembe, MA bembe, DA wam (Goliath
    Family: pham)
50. housefly : MA matambura, MO tambuni
51. walk : TM eiutu, MA oso-, usa-, asto; SE oso
52. wet : TM toretore, MA atoro, SE kekatoro
53. you(plur.) : TM kifia, MA ?eme, SE keme, EK ikii,
    MO igi, DA kit, TF ip, KA kip, tip

2.6.2.3.1.4. Conclusion

The lexical evidence presented above definitely warrants inclusion of
the stock into the TNGP. What little there is of structural evidence is
ambiguous and it seems that in their pronominal systems, Mairasi and
Semimi harbour elements foreign to the TNGP. This may be due to early
contact between the Mairasi-Semimi proto-language and languages of the
east Bird's Head. The fact that a few cognate series run through many
languages of the TNGP as well as the WPP still needs explanation.

2.6.2.3.2. THE MOR STOCK-LEVEL ISOLATE

Mor is the language spoken in the village of Mor, in the north of the
Bomberai Peninsula between the Iha and Tanah Merah languages. In 1958
it was spoken by only sixty-odd people. Anceaux (1958) mentions that
the language has a very intricate verbal system but apparently without
tenses.

The pronouns are:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>naya</td>
<td>aya</td>
</tr>
<tr>
<td>plur.</td>
<td>nea</td>
<td>omase</td>
</tr>
</tbody>
</table>

The system is similar to the pronoun system found in the languages of
the South Bird's Head Stock in that the pronouns 1st person sing./plur.
and 2nd person sing. have corresponding forms in those languages.

Mor shares 9%-12% cognates with other languages in the Bomberai
Peninsula. These percentages probably are inflated by borrowing, but
since counter-indications are almost completely lacking, Mor has been
 provisionally classified as a member of the TNGP.
2.6.2.3.3. THE WEST BOMBERAI STOCK (WB STOCK)

2.6.2.3.3.0. The languages of this stock are found in the north-western part of the Bomberai Peninsula and on the small island of Karas to the west of the peninsula. There are two sub-groups, the West Bomberai Family (+ 6,000 speakers) and the Karas family-level Isolate (+ 200 speakers), with an average cognation percentage of 23%. Cowan (1960) classified the languages of the stock as members of his West Papuan Phylum. A re-examination of the data however has led to their inclusion in the TNGP. More will be said about this after the individual languages have been surveyed.

2.6.2.3.3.1. The West Bomberai Family (WB Family)

2.6.2.3.3.1.0. The family consists of two languages, Iha and Baham which share approximately 60% cognates. Iha is spoken by nearly 5,500 people living in the north-western extremity of the peninsula. The language has several dialects, but details are not known. The coastal dialect is called Kapaur and it was under this name that the language became first known (e.g. Cocq d'Armandville 1903). Baham, also known as Patimuni, is spoken by about 450 people living to the east of the Iha territory. Some notes on Iha and Baham can be found in Cowan 1953, 1960, and in Anceaux 1958. For Iha the present writer had at his disposal a short grammar and a 600-item wordlist in manuscript written by the Dutch Catholic missionary J. Coenen in 1954.

2.6.2.3.3.1.1. Iha

The sound system contains the following vowels and consonants: i, e, a, o, u, ø; p, t, k, (ξ); kp; b, d, g, j, gb; m, n, ñ, (n); (f), x, h; w, r, (l). The phonemic status of the bracketed sounds is uncertain. kp and gb are labiovelar consonants. Suprasegmentals: the language seems to be non-tonal. Some words carry stress on the last syllable, others on the penultimate; stress may therefore be phonemic. Morphological processes described by Coenen are prefixing and suffixing, duplication and reduplication. The nouns are subdivided into seven classes manifested by concord in adjectives, deictics, and numerals, which take prefixed class markers: ix- class of fruit, kix- class of everything connected with the house, pan- flat objects, mur- wooden objects, tiem- rifles and a few other (modern) objects, du, ju animate, kwe inanimate. Semantically these
classes seem to overlap extensively and one would expect multiple class membership of nouns. Unfortunately further information is lacking.

Nouns indicate plural number by duplication or reduplication, or alternatively by adding a pluralizing suffix: je bird, jeje birds; tor woman, totor woman; heir fish, heir-pewe fish (plur.).

The personal pronouns are:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>on</td>
<td>ko</td>
<td>mi</td>
</tr>
<tr>
<td>plur.</td>
<td>in (incl.)</td>
<td>ki</td>
<td>mi(a)</td>
</tr>
<tr>
<td></td>
<td>bi (excl.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

They have emphatic forms marked by a suffix -ke/ge: onke, inke, bige, koge, kige, mige. Bound forms of the non-emphatic pronouns occur as possessive suffixes with nouns: adop-on, adop-ko my, your tree etc.

The verb takes suffixes and varies for tense, person/number, and mode. Tenses are: present, near past (what happened today), medial past (what happened yesterday), near future (what is going to happen today), and future (what is going to happen after today). These future forms are at the same time mode forms, expressing a desire or intention on the part of the speaker. Examples are: wex-w-edob we are going, weh-ŋ-ewob we just went, woh-omb-ob we went (yesterday), woh-onon-ob we went (before yesterday), weh-ent-ep we want to go (today), weh-eni-ep we want to go (after today).

There is no information on sentence medial forms. The way in which habitual action is marked is interesting. It is indicated by duplication of the verb root, followed by a separate aspect marker: hur-hur gom habitually to go down. The same formation is found in Kimaghama of the Kolopom Island stock-level Family (see 2.6.2.2.4.) and this group as we shall see seems to be one of the closest relatives of the West Bomberai Stock.

The word order in a verbal sentence is subject-object-indirect object-adjuncts of place and time-verb, as in:

<table>
<thead>
<tr>
<th>on</th>
<th>were-rik na-mada wehat Pakpak-na redredage here-noŋ-on</th>
</tr>
</thead>
<tbody>
<tr>
<td>I tree-two my-child for Pakfak-in morning buy-&quot;past&quot;-I</td>
<td></td>
</tr>
<tr>
<td>In the morning I bought two trees in Pakfak for my child.</td>
<td></td>
</tr>
</tbody>
</table>

2.6.2.3.3.1.2. Baham

The sound system is very similar to that of Iha. The main difference is that h seems to be an inter-vocalic allophone of s, a phoneme missing in Iha. (Baham s corresponds regularly to Iha h). č was not found in the data, and the phonemic status of ŋ is uncertain, as in Iha.
The personal pronouns are:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>andu</td>
<td>tau</td>
</tr>
<tr>
<td>plur.</td>
<td>undu</td>
<td>kuyu</td>
</tr>
</tbody>
</table>

Verbs seem to take suffixes; further grammatical information is lacking.

2.6.2.3.3.2. The Karas family-level Isolate

Karas is spoken in two small villages on Karas Island off the west coast of the Bomberai Peninsula. The number of speakers may be about 200. Its sound system seems to be the same as the Baham system except for the absence of labiovelar stops (which can easily have escaped the attention of the wordlist compilers) and the presence of r, which could be an allophone of r.

The personal pronouns are:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sing.</td>
<td>an</td>
<td>ka(me)</td>
</tr>
<tr>
<td>plur.</td>
<td>pir (excl.)</td>
<td>kiumene</td>
</tr>
<tr>
<td></td>
<td>prami(n) (incl.)</td>
<td></td>
</tr>
</tbody>
</table>

Verbs: the only affix clearly discernible in the verb forms in the wordlists is the imperative suffix -et.

2.6.2.3.3.3. Classification

The first classification of the languages of the West Bomberai Stock has been as members of the West Papuan Phylum, the large group of related languages established by Cowan in a series of articles beginning in 1957 (1957a, 1958, 1960, 1963, 1965). On the New Guinea mainland this phylum was divided into two structurally different subgroups: a group of prefixing languages found in the whole of the Bird's Head except in the lowlands of its southern coast, and a group of suffixing languages along the south coast and in the Bomberai Peninsula.

Within the group of prefixing languages one could discern three further subgroups according to the characteristic initial consonants of the first and second person singular pronouns: a western group with t, n in the 1st and 2nd person singular respectively, a northern group with n and n, and an eastern group with t and b.
Within the group of suffixing languages one could distinguish a group with \( n \) and \( k \) in the 1st and 2nd person singular respectively (our West Bomberai Stock), and a group with \( n \) in the 1st person singular and in the 2nd person singular an initial vowel (our South Bird's Head Stock).

Cowan's argument for uniting these languages into one group was based on the fact that they showed more lexical correspondences than could be attributed to pure chance (see Cowan 1957a, b for the discussion of his lexicostatistical method). For the Bomberai languages he showed that they shared a total of fifteen cognates with languages in the Bird's Head; nine of these were found in the group of prefixing languages and five of these were common to Moi (of his Western Group) and Iha. For Cowan this number was more than sufficient to rule out chance.

The renewed examination of the data does not refute Cowan's conclusion that chance must be ruled out, but it casts doubt on the validity of his interpretation of this fact as proof of genetic relationship. A lexicostatistical comparison of the West Bomberai Stock languages with most of the known languages in West New Guinea reveals that they show much higher cognition percentages with the languages of the TNGP than with the prefixing languages of the WPP. Their cognition percentages with the South Bird's Head languages are on a par with their cognition percentages with the TNGP languages — but, as we shall see, the South Bird's Head languages are members of the TNGP, not the WPP.

The chart on the following page gives a survey of the average cognition percentages found when comparing the WB Stock with other language groups, both in the WPP and in the TNGP. The first column gives the name of the group; the second the number of languages in that group compared with languages in the WB Stock; the third the average cognition percentage, and the last column gives the lowest and highest cognition percentage found.

The cognition percentages with the TNGP languages are on the whole sufficiently high to postulate a phylum-level relationship, i.e. to warrant the inclusion of the WB Stock in the TNGP. This is generally supported by the grammatical structure of Iha: the 1st and 2nd person personal pronouns have the basic TNGP forms and the verb inflection conforms to the pattern found in the majority of TNGP languages (see chapters 2.3.3. and 2.5.2.3. in this volume). Only the seven-class system of the nouns would be unusual for a TNGP language.
Chart: West Bomberai Stock compared with other groups in West New Guinea.

<table>
<thead>
<tr>
<th>Name of group/language</th>
<th>number of languages</th>
<th>average c.p.</th>
<th>range of c.p.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kolopom Family</td>
<td>3</td>
<td>10.6</td>
<td>8-14</td>
</tr>
<tr>
<td>Ok Family</td>
<td>2(^a)</td>
<td>10.1</td>
<td>6-14</td>
</tr>
<tr>
<td>Ekagi-Moni Family</td>
<td>2</td>
<td>9.8</td>
<td>8-13</td>
</tr>
<tr>
<td>Mairasi-Tanah Merah Family</td>
<td>3</td>
<td>9.1</td>
<td>6-13</td>
</tr>
<tr>
<td>Dani</td>
<td>1</td>
<td>9</td>
<td>7-10</td>
</tr>
<tr>
<td>Awyu Family</td>
<td>2(^a)</td>
<td>8.1</td>
<td>6-11</td>
</tr>
<tr>
<td>Asmat-Kamoro Family</td>
<td>2(^a)</td>
<td>8</td>
<td>5-10</td>
</tr>
<tr>
<td>Sentani Family</td>
<td>3</td>
<td>7.4</td>
<td>5-10</td>
</tr>
<tr>
<td>Marind</td>
<td>1(^a)</td>
<td>4.6</td>
<td>4-5</td>
</tr>
<tr>
<td>South Bird's Head Stock</td>
<td>12</td>
<td>10.1</td>
<td>6-14</td>
</tr>
<tr>
<td>West Bird's Head Family</td>
<td>6</td>
<td>6</td>
<td>3-9</td>
</tr>
<tr>
<td>North Bird's Head Family</td>
<td>2</td>
<td>4</td>
<td>1-7</td>
</tr>
<tr>
<td>Central Bird's Head Family</td>
<td>2</td>
<td>4.8</td>
<td>3-6</td>
</tr>
<tr>
<td>Amberbaken Family</td>
<td>1(^b)</td>
<td>4.3</td>
<td>4-5</td>
</tr>
<tr>
<td>Borai-Hattam Family(^c)</td>
<td>2</td>
<td>2.6</td>
<td>2-3</td>
</tr>
<tr>
<td>East Bird's Head Stock(^c)</td>
<td>3</td>
<td>less than 1</td>
<td>0-1</td>
</tr>
</tbody>
</table>

Notes to chart:

a: Language families with several member languages have been represented by only two of their languages: Ok by Telefol and Kati; Awyu by Kasti and Aghu; Asmat-Kamoro by Asmat and Iria-Asienara. Marind was not originally included but later added to round off the picture.

b: Kebar, the second language in this family is not included because of the shortness of the available wordlist.

c: Borai and Hattam were not included in Cowan's West Papuan Phylum because at that time no data were available in these languages. The present writer included them in one phylum with the languages in the north, west and central Bird's Head (see 2.10.2.4.); Cowan's Eastern Group, here called East Bird's Head Stock, however has been reclassified as a separate phylum (see 2.14.3.1.).
The percentages with Cowan's WPP languages fall into three groups:

1. Those with the South Bird's Head (SBH) Stock languages. They are of the same order as those with the TNCP languages. In the next section we shall see that there are good grounds to include this stock in the TNCP.

2. Those with the Western, Northern, and Central Bird's Head Families. The languages of these families, which together form the Bird's Head Super-Stock (see chapter 2.10.2.2.) have cognition percentages with the WB Stock languages which fall partly within phylum-level range and are generally too high to be attributed to chance, as was already pointed out by Cowan (1960). However, the most likely alternative if chance has to be ruled out is not genetic relationship but borrowing, by languages of the Super-Stock from languages of the South Bird's Head Stock, of vocabulary items having cognates in the languages of the West Bomberai Stock. The BH Super-Stock and the WB Stock share a total of 22 cognates. Of these, 11 are also shared by languages of the SBH Stock. If they are discounted as possible loans, then the highest number of cognates shared by a language of the WB Stock and one of the Super-Stock is only 4.

In the next section we shall see that there is fair reason to assume such a borrowing relationship between the SBH Stock and the BH Super-Stock. On the other hand, a few cognates shared exclusively by languages of the WB Stock and Moi and Karon Pantai on the west and north-west coast of the Bird's Head suggest that there has been direct contact between the languages, possibly via trade or slave expeditions by sea. 34

3. The percentages with the Amberbaken and Borai-Hattam families, and with the East Bird's Head Stock. They are below the phylum-level and do not present problems for the delineation of the TNCP and WPP.

2.6.2.3.4. THE SOUTH BIRD'S HEAD SUB-PHYLUM-LEVEL STOCK (SBH STOCK)

2.6.2.3.4.0. The languages belonging to this stock are found along the south coast of the Bird's Head, on the north coast of the Bomberai Peninsula and on the small island of Duriankere in the southern entrance of Seleh Strait. There are three families, from east to west: the South Bird's Head Family, the Inanwatan Family, and the Konda-Yahadian Family. The average cognition percentages between the families are:

- SBH Family to Inanwatan Family: 22% range: 16-32
- SBH Family to Konda-Yahadian Family: 16% range: 13-18
- Inanwatan Family to Konda-Yahadian Family: 19% range: 17-19
The total number of speakers of languages of the stock is estimated at 9,000-odd; about 5,000 of these speak languages belonging to the SBH Family. Further details are not available, except for the Barau language.

2.6.2.3.4.1. The South Bird's Head Family (SBH Family)

The family has six member languages: Barau, Arandai, Tarof, Kasuweri, Puragi, and Kampong Baru. They group into three sub-families: an eastern, with Barau and Arandai, a central with Tarof and Kasuweri, and a western with Puragi and Kampong Baru. Barau and Arandai share 65% cognates; the languages of the central sub-family form a close-knit group, sharing well over 70% cognates. Puragi and Kampong Baru share over 50% cognates. The average cognition percentages between the groups is 55% between east and central, and about 40% between the east and west, and central and west.

Some notes on Barau have been published by Anceaux (1958). A few notes on Puragi and Kampong Baru can be found in Cowan 1953; additional lexical data in these two languages appeared in his articles of 1957a, 1960, and 1963.

Barau is the only member of the family situated in the Bomberai Peninsula. It is spoken by over 150 people. Anceaux reports that it has an intricate verb morphology, but without indication of tense. A striking feature of the sound system is a strong bilabial fricative; the accent is a high-pitch accent.

Arandai is spoken in Arandai village on the Sebyar River.

Tarof is spoken in the coastal village of the same name west of the mouth of the Kamundan River.

Kasuweri is spoken in the coastal village of this name, west of Tarof, and in the village of Negeri Besar about ten miles inland from Kasuweri. There are small dialectal differences between the two villages.

Puragi is the language of Puragi village on the Metamani River.

Kampong Baru is spoken in the village Kampong Baru, north of Puragi on the Kais River.

There is almost no grammatical information on all these languages. They have personal pronouns in the 1st, 2nd, and 3rd person singular and plural, and all languages except Barau have an inclusive-exclusive distinction in the 1st person plural. Many of the forms listed have a suffix -go, -ge, or -go perhaps marking them as emphatic or absolute. The chart below gives a survey of the personal pronouns in the six languages.
<table>
<thead>
<tr>
<th></th>
<th>Barau</th>
<th>Arandai</th>
<th>Tarof</th>
<th>Kasuweri</th>
<th>Puragi</th>
<th>Kampong Baru</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 sing.</td>
<td>nao</td>
<td>nentigo</td>
<td>neiga</td>
<td>neiga</td>
<td>nedi</td>
<td>neri</td>
</tr>
<tr>
<td>1 plur. (incl.)</td>
<td>neri</td>
<td>yenaga</td>
<td>iga</td>
<td>iga</td>
<td>ididi</td>
<td>ndi</td>
</tr>
<tr>
<td>1 plur. (excl.)</td>
<td>indigo</td>
<td>idi</td>
<td>nidi</td>
<td>nidi</td>
<td>mi</td>
<td></td>
</tr>
<tr>
<td>2 sing.</td>
<td>ari</td>
<td>andigo</td>
<td>aiga</td>
<td>aiga</td>
<td>edidi</td>
<td>eri</td>
</tr>
<tr>
<td>2 plur.</td>
<td>eri</td>
<td>umogo</td>
<td>edi</td>
<td>eiga</td>
<td>ididi</td>
<td>ideri</td>
</tr>
<tr>
<td>3 sing.</td>
<td>?</td>
<td>umaige</td>
<td>nigera</td>
<td>nigera</td>
<td>nide(^1)</td>
<td>nde</td>
</tr>
<tr>
<td>3 plur.</td>
<td>ari</td>
<td>nendegomo</td>
<td>nigaomo</td>
<td>eiga</td>
<td>nidaun</td>
<td>nde</td>
</tr>
</tbody>
</table>

\(^1\)Puragi seems to have a two-gender distinction in the 3rd person singular: nide he, nindo she, but Cowan (1953) has doubts about the reliability of this bit of information.
Names of body parts take possessive prefixes, but not all of them have been identified. There are n- (1st person singular), w- (3rd person singular in Puragi, Kampong Baru), m- (perhaps an allomorph of w-); y- or j-, and zero (unidentified).

Verbs: the majority of the verb forms in the wordlists contain a verb root followed by one or perhaps more suffixes – the paucity of data does not allow a detailed morphological analysis of the forms. Only two of the twelve verbs listed seem to have prefixes, possibly marking the subject. They are the verbs give and walk. Some examples: *see* Barau ete-pe (imperative form), ete-riwo, Tarof ete-ai, Kasuweri ete-paena, ete-pel; *walk* Barau n-otu-awe, Arandai oto-tal, Kasuweri n-ata, w-atae, n-oto-araba; *give* Tarof y-abe, Kasuweri n-abe, m-abe. Note the formal similarity of the verbal prefixes to the possessive prefixes.

In verbal sentences the object precedes the verb. Cowan (1953) gives amongst others the following examples: (Kampong Baru) wa-kabo ma siko-we chop his head off! (the function of ma is not clear). (Puragi) bibia kao-weira fry the fish!

2.6.2.3.4.2. The Inanwatan Family

Two languages belong to the family: Inanwatan and Duriankere. They share 38% cognates.

Inanwatan is spoken in three villages, Inanwatan, Solowat, and Itigo, near the coast east of the Metamani River. There are small dialect differences between the villages.

Duriankere is spoken on the island of Duriankere in Seleh Strait.

Grammatical information is here, as in the SBH Family, restricted to the pronouns and a few verb forms. The pronouns of Inanwatan are very similar to those of the languages of the SBH Family; the Duriankere pronouns are aberrant in the first person plural. They are:

<table>
<thead>
<tr>
<th>Inanwatan</th>
<th>Duriankere</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 sing.</td>
<td>naiti</td>
</tr>
<tr>
<td>1 plur.(incl.)</td>
<td>daiti</td>
</tr>
<tr>
<td>1 plur.(excl.)</td>
<td>niti</td>
</tr>
<tr>
<td>2 sing.</td>
<td>aiti</td>
</tr>
<tr>
<td>2 plur.</td>
<td>itire</td>
</tr>
<tr>
<td>3 sing.</td>
<td>itigi</td>
</tr>
<tr>
<td>3 plur.</td>
<td>itiga</td>
</tr>
</tbody>
</table>
2.6.2. CENTRAL AND WESTERN TRANS-NEW GUINEA PHYLM LANGUAGES

Verbs can have suffixes as well as prefixes. The prefixes, probably subject markers, are: n/-ne-, m/-me-, e-, nebe-, her-; n/-ne could be marker of the first person singular, m/-me- of the third person singular; the identification is only tentative. The other prefixes have not been identified. Some examples: stand Inanwatan idi-ra, idi-de, idi-rita; come Inanwatan mo-ra, mewo-rita, mowo-bi, Duriankere mo-na; walk Inanwatan me-se-rita, ne-se-be, se-ra, ne-se-rita; cry Inanwatan m-era-rita, era-be, n-era-sa, neb-eru-bido, w-era-ritabi; lie down Inanwatan ne-ebare-rita, me-ebare-rita, e-ebare-ra.

2.6.2.3.4.3. The Konda-Yahadian Family

The family has two member languages, Konda and Yahadian, sharing 68% cognates. Cowan (1953) published some notes on the two languages, and further lexical data can be found in his later articles (1957a, 1960, 1963).

Konda is spoken on the lower Kaibus River.

Yahadian is spoken in two villages, Yahadian and Mugim near the mouth of the Kais River. Each village has its own dialect.

The personal pronouns 1st and 2nd person are similar to those found in the other languages of the stock, except for the 1st person plural pronoun in Konda which has an aberrant form, and no inclusive/exclusive distinction. The 3rd person forms are characterized by a bilabial consonant. All pronouns have a suffix (-gi), perhaps similar in function to -ge, -ga, -go with the pronouns in the SBH Family. The list of pronouns is:

<table>
<thead>
<tr>
<th>Konda</th>
<th>Yahadian</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 sing.</td>
<td>neygi</td>
</tr>
<tr>
<td>1 plur.</td>
<td>madigi</td>
</tr>
<tr>
<td>2 sing.</td>
<td>egi</td>
</tr>
<tr>
<td>2 plur.</td>
<td>adigi</td>
</tr>
<tr>
<td>3 sing.</td>
<td>boigi</td>
</tr>
<tr>
<td>3 plur.</td>
<td>woigi</td>
</tr>
</tbody>
</table>

Forms without -gi occur as possessive pronouns: Konda ne-wawo my father, e-wawo your father, migi-wawo his father; Yahadian nere dei my father, ere dei your father.

Verbs can have suffixes as well as prefixes, but here too it is impossible to go beyond this first observation because of the lack of data. Some examples are: sat Yahadian no, bera-no, ba-no, da-no, da-no-me; Konda da-no-menio; give Yahadian re-bunu, n-ere-mo; switm Yahadian hu-ta, a-hu,
huhu-rarome; Konda su-ro; lie down Yahadian ba-urun-ta, neba-urur-ta, na-ru; Konda na-re.

Cowan (1953) gives a few examples of short sentences in which the object precedes the verb: Yahadian bano a-tu-nu, Konda bano-cu-nu fry fish!

2.6.2.3.4.4. Classification

In the previous section it was shown that the West Bomberai Stock belongs to the TNGP rather than to the WPP as was posited by Cowan; both lexical and structural data support this view.

The fact that a considerable amount of cognates is shared by the languages of the WB Stock and the Bird's Head Super-Stock, while needing an explanation, does not endanger the new status of the WB Stock.

The SBH Stock is in a slightly different position vis-à-vis the WPP. Cowan (1957a) classified the then known languages of the SBH Stock (Puragi, Kampong Baru, Yahadian, and Konda) as members of his West Papuan Phylum, but, as with the WB Stock, a good case can be made for inclusion of the stock in the TNGP. The problem which is here much more acute than in the previous case is the relationship between the SBH Stock and the BH Super-Stock. Is it a borrowing relationship, or a genetic relationship, or perhaps both? These questions will be dealt with in some detail after the argument for inclusion of the SBH Stock in the TNGP has been presented.

The established TNGP languages show much higher cognation percentages with the SBH Stock than with Greenberg's "Western Group". (see 2.6.2.3.1.3.). The chart opposite contrasts the two groups of percentages; the TNGP languages included in the chart are the same as those in the chart in section 2.6.2.3.3.3. except for those of the Mairasi-Tanah Merah Family.

The percentages of the TPNG languages with the SBH Stock are of the same order as those which they share with the West Bomberai Stock (see the chart in section 2.6.2.3.3.3.). They are generally well above the lower limit of phylum-level relationships (5-6%), and seem to warrant the inclusion of the stock in the TNGP. In part, this finds support in what is known of the typological features of the languages of the stock. The characteristic pattern of the personal pronouns 1st and 2nd person is: initial n in 1st person, initial vowel in 2nd person; plural forms have vowels either more fronted or higher than those of the singular forms.
Chart: TNGP languages compared with languages of the SBH Stock and BH Super-Stock. Average cognation percentages and range of variation.

<table>
<thead>
<tr>
<th></th>
<th>South Bird's Head F.</th>
<th>Inarwatian F.</th>
<th>Konda-Yahadian F.</th>
<th>SBH Stock: total average</th>
<th>West Bird's Head F.</th>
<th>Central Bird's Head F.</th>
<th>North Bird's Head F.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ekagi-Moni F.</td>
<td>8.5 7-10</td>
<td>5.2 4-7</td>
<td>9.5 9-10</td>
<td>7.7%</td>
<td>3.7 3-5</td>
<td>4.5 3-6</td>
<td>3 3-4</td>
</tr>
<tr>
<td>Dani</td>
<td>9.2 8-11</td>
<td>5.5 3-8</td>
<td>6.5 6-7</td>
<td>7%</td>
<td>3.8 2-6</td>
<td>3.5 3-4</td>
<td>2 2</td>
</tr>
<tr>
<td>Ok F.</td>
<td>12.3 9-15</td>
<td>7.7 6-10</td>
<td>9 8-10</td>
<td>9.6%</td>
<td>3 1-5</td>
<td>5.7 4-8</td>
<td>3 2-4</td>
</tr>
<tr>
<td>Awyu F.</td>
<td>11.1 8-12</td>
<td>7.2 5-9</td>
<td>6.5 6-7</td>
<td>8.2%</td>
<td>2 0-5</td>
<td>3.2 2-4</td>
<td>1.5 1-2</td>
</tr>
<tr>
<td>Kolopon F.</td>
<td>10 6-15</td>
<td>8.5 5-11</td>
<td>9.5 8-11</td>
<td>9.3%</td>
<td>2.1 1-4</td>
<td>3.3 3-4</td>
<td>2.8 2-4</td>
</tr>
<tr>
<td>Marind</td>
<td>9.3 8-10</td>
<td>7.5 7-8</td>
<td>5 5</td>
<td>7.2%</td>
<td>1.6 0-3</td>
<td>3 3</td>
<td>1 1</td>
</tr>
<tr>
<td>Asmat-Kamoro F.</td>
<td>9.2 6-11</td>
<td>7.5 4-9</td>
<td>9.8 6-13</td>
<td>8.8%</td>
<td>1.4 0-4</td>
<td>2 0-4</td>
<td>0.5 0-1</td>
</tr>
<tr>
<td>Sentani F.</td>
<td>7.5 5-10</td>
<td>4.3 3-6</td>
<td>6.5 4-9</td>
<td>6.1%</td>
<td>2 0-4</td>
<td>3.5 1-6</td>
<td>3 1-5</td>
</tr>
</tbody>
</table>
This system is similar to the basic TNGP pattern na, ka, ni, ki, (see 2.3.3.2.), the difference being the absence of initial k in the 2nd person pronouns. Pronoun systems which have an initial vowel in one or both 2nd person forms are found in several languages in the lowlands of South-West New Guinea as well as in the western highlands: in Iria-Asienara, Kamoro, Asmat, Marind, Yaqay, Yelmek, Maklew, Kimagharma, Suki, Gogodala, Ekagi, Moni, and Uhunduni. Both types of pronoun systems appear to belong to the Trans-New Guinea Phylum.

However, the languages of the stock do not present such a uniform picture with regard to their verb morphology. The languages of the SBH Family seem to be predominantly suffixing, and only very weak evidence of prefixing is found (see above, 2.6.2.3.4.1.). On the other hand, the languages of the two other families yield a good measure of evidence that subject markers are prefixed to the verb stem whereas other markers are suffixed. Thus the Inanwatan and Konda-Yahadian families have in this respect much more in common with the BH Super-Stock languages, which prefix the subject marker to the verb, than with the TNGP languages, where this is uncommon.35

On the grammatical level, it looks as if the languages of the SBH Stock have been influenced by their northern neighbours of the West Papuan Phylum (WPP) and that this influence is strongest in the Inanwatan and Konda-Yahadian families.

The same picture is presented on the lexical level. Cognition percentages between the SBH Stock language and WPP languages are generally higher than those between the TNGP and the Greenberg's "Western Group", and are highest between the SBH Stock and the West Bird's Head (WBH) Family, raising from an average of nearly 7% between the SBH Family and the WBH Family to nearly 11% between Konda-Yahadian and the WBH Family. Brat, of the Central Bird's Head (CBH) Family, shares 7-9 cognates with its southern neighbours Puragi, Konda, and Yahadian. Thus, the highest average percentages are found between language groups which border on each other.

The chart opposite presents the average cognition percentages and their range of variation for the families of the SBH Stock and the BH Super Stock.

That borrowing could account for a considerable inflation of the cognition percentages is most clearly seen in the Inanwatan and Konda-Yahadian Families. They share with the languages of the WBH Family, quite a few cognates which because of their highly localized occurrence with the SBH Stock, probably have been borrowed from the WBH Family.
2.6.2. CENTRAL AND WESTERN TRANS-NEW GUINEA PHYLM LANGUAGES

Chart: SBH Stock languages compared with languages of the BH Super-Stock
(WBH = West Bird's Head, NBH = North Bird's Head, CBH = Central Bird's Head). Average cognition percentages and range of variation.

<table>
<thead>
<tr>
<th></th>
<th>SBH F.</th>
<th>Inanwatan F.</th>
<th>Konda-Yahadian F.</th>
<th>Total average</th>
</tr>
</thead>
<tbody>
<tr>
<td>WBH F.</td>
<td>6.8</td>
<td>8.1</td>
<td>10.7</td>
<td>7.8%</td>
</tr>
<tr>
<td>NBH F.</td>
<td>4.6</td>
<td>5.5</td>
<td>4.2</td>
<td>4.7%</td>
</tr>
<tr>
<td>CBH F.</td>
<td>4.7</td>
<td>4.7</td>
<td>6.7</td>
<td>5%</td>
</tr>
</tbody>
</table>

The chart on the following page shows the numbers of cognates shared by four languages of the SBH Stock and the languages of the BH Super-Stock, broken down into three categories. Those of category A have etyma in established TNGP languages; those of category B have no such etyma, but etyma are found in most or all of the SBH Stock languages. Those of category C are found only in one language within the SBH Stock, or in two, or at most three, adjoining languages. It is this category, most strongly represented in the Inanwatan and Konda-Yahadian Families, which contains probable borrowings from the BH Super-Stock. Borrowing, but then in the reverse direction, can also be expected in categories A and B, but the situation here is much less clear and only in a few cases borrowing from the SBH Stock seems evident.36

In this connection it should be pointed out that the languages of the BH Super-Stock have average cognition percentages of up to 5% with some TNGP families, as was shown in the first chart in this section. The majority of the shared cognates belong to series also found in the SBH Stock, and may therefore reflect a borrowing rather than a genetic relationship. A few probable cognates however are not shared by SBH languages, for instance fire Madik but, Karon bot, Brat ta-fox, Ekagi bodia, Kati amot; woman Brat finya, Syagha (Awyu Family) finigi, Ok Family: wonoŋ, uŋaŋ, wanaŋ, waniŋ.
### 2.6.2.3.4.5. Conclusion

The languages of the South Bird's Head Stock have to be classified as members of the TNGP rather than as members of the West Papuan Phylum. Typologically as well as lexically they show considerable influence of the languages of the BH Super-Stock of the West Papuan Phylum; this influence is strongest in the Konda-Yahadian Family and diminishes towards the east. In the light of this, the SBH Stock has been assigned sub-phylic status within the TNGP. At the same time, the languages of the BH Super-Stock appear to contain a very small amount of vocabulary which ties in with the TNGP and which is difficult to explain by borrowing. Whether this is a sign of a very remote genetic relationship, or of an old TNGP substratum present in the BH Super-Stock, is at present impossible to say.
2.6.2. CENTRAL AND WESTERN TRANS-NEW GUINEA PHYLM LANGUAGES

NOTES

1. These are composition (compounding), addition (affixation), repetition (reduplication and complete duplication) and modification. See E.M. Uhlenbeck: "Limitations of morphological processes, some preliminary remarks", Lingua 11, 1962, 426-32. Compounding as a process to form nouns, which is common to all the languages surveyed in this chapter, and of the type specifier-specified ("tree-trunk") will not be included here to avoid excessive repetitiveness.

2. That is, an adapted version of the Swadesh 100-item list. The need for adaptation of this list to New Guinean circumstances has been set out clearly by Bromley (1967). The problems connected with different practices in adaption have been ably discussed by McElhanon (1970, Chapter 2.). An evaluation of the wordlists used for survey purposes has been made by Laycock 1970. The list used by the present writer consists of the following items: ashes, belly, big, bird, black, blood, bone, breast, burn, cloud, cold, come, die, dog, dry, ear, earth, eat, egg, eye, fire, fish, to fly, foot, fruit, give, green, grease, good, hair, hand, head, I, leaf, lie down, knee, long, louse, man, many, meat, moon, mountain, mouth, nail, name, nape, new, night, nose, one, path, navel, rain, red, root, sand, say, see, snake, sit, skin, small, smoke, stand, star, stone, sun, swim, tail, that, this, tongue, tooth, tree, two, walk, warm, water, we, what, white, who, woman, yellow, you (sing.), back of body, he, heavy, near, old (things), old (people), hole, to cry, rope, short, sky, housefly, spittle, three, wet, wind, wing, you (plur.), vein.

3. Throughout this chapter short introductory paragraphs have been assigned the digit 0 as number of reference.

4. Formerly the Unevangelized Field Mission (U.F.M.).

6. To avoid cumbersome repetition in the paragraphs on phonology in this chapter, the phonetic transcriptions of phonemic symbols has been omitted if it would not introduce any new symbols, i.e. to avoid phonetic transcriptions like p [p], m [m], etc.

7. To conform to the spelling in Neuendorf's grammar. Older publications use the symbol ə.

8. Drabbe (1955) mentions Upper Bian as the fifth dialect of Marind, but both their cognition percentage (67%) and the differences in grammatical structure are in favour of treating Bian as a separate language.

9. Lexicostatistically the group is a stock-level Family; structurally, however, it is an aberrant member of the TNGP, and therefore classified as a sub-phylum, (see 2.5.3.3.2. in this volume).

10. Nevermann, who visited the area in 1934, still gave 600 as the approximate total number of Yelmek and Maklew people (Nevermann 1952).

11. For the rules governing the rich allomorphic variation of Tamagário phonemes, see the notes mentioned above.

12. Different forms in different lists; the information does not look reliable, since all the other languages in the family do not distinguish between singular and plural in the 3rd person. The lists give the following forms: ariŋa, eria, eda, arofa.

13. An early English abstract of Drabbe's field notes, now superseded by Drabbe's subsequent work, can be found in Boelaars 1950.

14. The singular-dual-plural distinction which is defective in the personal pronouns is complete in the verbal system of Kamoro.

15. The tilda symbolizes the compensatory nasalisation of the last vowel in a word when a word-final consonant is dropped.

16. The allomorphic variations were noted in a Pisa wordlist collected by the present writer. The informant came from Keru village on the Kampong River.

17. Healey (1970) places Kotogüt in the Awyu sub-family giving Drabbe as his source. But Drabbe does not give any indication of the sub-family affiliation of the language.


22. Source references omitted by the present writer.


25. Bromley's Ph.D. thesis was not yet available to the writer at the time of his writing the present chapter.


27. See note 21.


29. The verb forms given do not form a paradigm but come from different wordlists representing separate points in the Mairasi/Semimi language area. The forms with -ano/kano are imperatives.

30. fonera, funurure are given in one list, vata and vanera in another. Vata is a demonstrative pronoun that (one).

31. Mantion and Manikion are now classified as two dialects of the same language, but here we will follow Greenberg in keeping them apart.

32. The basic TNGP pattern of personal pronouns is: Sing.1. na, 2.ka, 3.ya; plur.1. ni, 2.ki; see 2.3.3.2. in this volume.

33. The only probable cognates shared exclusively with non-TNGP languages in the Bird's Head are grease (with Karon Dori, Brat), moon (with Meax, Mantion, Hattam) and two (with Amberbaken).

34. J. Coenen reports that the sea-faring tribes of the Iha Papuans went on expeditions as far as the Kei and Tanimbar Islands to get slaves. Contact with the western coast of the Bird's Head therefore lay well within their capacity.

Their expeditions into the East Indonesian Archipelago must have carried the Iha Papuans much further than the Kei and Tanimbar Islands. Lexical data which only just have come to hand point unequivocally to a close connection between the Papuan languages of Timor, Alor, and Pantar, and the languages of the West Bomberai Stock (see 2.10.1.1.1.5.2. in this volume).
35. It is one of the aberrant features of the languages of the Marind Stock (see 2.6.2.2.2.).

36. Thus, in the case of louse (in all the SBH languages and in Kuwani, Tehit, and Kalabra), fruit (SBH and Inanwatan Families, further in Seget, Moraid, and Madik), near (Puragi, K. Baru, Inanwatan F. Konda-Yahadian F., but also Sempan and Kamoro of the TNGP languages, and further in Kalabra, Moraid, and Moi), and egg (all languages of the SBH Stock, as well as Asmat and Kamoro versus Kalabra and Moraid).
BIBLIOGRAPHY

ADRIANI, N.

ANCEAUX, J.C.
1965 *The Nimboran language*. VKI 44.

ANONYMOUS

A.P.C.M.
1952b *Saelenapa Gilala Aenaepi Marktae, Johntae Alilijana*. British and Foreign Bible Society in Australia, 1952b.
1956b *Jesu'ba woituwoituda, Unevangelized Field Mission*, Papua, 1956.


BOELAARS, J.H.M.C.

BROMLEY, H. MYRON
1961 The phonology of Lower Grand Valley Dani. VKI 34.


BRONGERSMA, L.D. and G.F. VENEMA

CAPELL, A.

COCQ D'ARMANDVILLE, C.F.J. LE
1903 'Woordenlijst der taal die gesproken wordt in het gebergte van Kapaur tot aan Sëkar'. TBG 46.1-70.

COWAN, H.K.J.


1952 'Drie verhalen in de Sentani taal'. BijdrTLV 108.347-64.

1957a  'Prospects of a "Papuan" comparative linguistics'. BijdrTLV 113.70-92.


1960  'Nadere gegevens betreffende de verbreiding der West-Papoease taal-groep (Vogelkop; Nieuw-Guinea)'. BijdrTLV 116.350-65.

1963  'Le Buna' de Timor: une langue "Ouest-Papoue"'. BijdrTLV 119.387-400.

1965  Grammar of the Sentani language. VKI 47.

DE KOCK, M.A.


DOBLE, MARION L.


DRABBE, P.


1949b  'Aantekeningen over twee talen in het Centraal-gebergte van Nederlands Nieuw-Guinea'. BijdrTLV 105.423-44.

1950a  'Twee dialecten van de Awju-taal'. BijdrTLV 105.93-147.

1950b  'Talen en dialecten van Zuid-West Nieuw-Guinea'. Anthropos 45.545-74.
1954 Talen en dialecten van Zuid-West Nieuw-Guinea. MBA 11.
1963 Drie Asmat-dialecten. VKI 42.

EECHOUD, J.P.K. VAN

FEUILLETAU DE BRUYN, H.

FRANKLIN, KARL, ed.

GALIS, K.W.

GEURTJENS, H.
1926 Spraakleer der Marindineesche taal. VBG 68/2.
GREENBERG, JOSEPH H.


HEALEY, ALAN


1964a Telefol Phonology. PL, B.3.


HEALEY, P.M.

1964 "Telefol Quotative clauses". PL, A.3:27-34.


1965c Telefol noun phrases. PL, B.4.

1966 Levels and chaining in Telefol sentences. PL, B.5.

HEALEY, P.M. and W. STEINKRAUS

1974 A preliminary vocabulary of Tifal, with grammar notes. LDM, AP2.

KOLK, J. VAN DE and P. VERTENTEN


LARSON, G.F. and MILDRED O. LARSON


1972 'The Eka-gl-Wodani-Moni language family of West Irian'. Irian 1/3.80-95.

LAYCOCK, DONALD C.


LEEDEN, A.C. VAN DER

LE ROUX, C.C.F.M.

LITTERAL, ROBERT
1973  "Rhetorical predicates and time typology in Anggor", Foundations of Language. 8.391-410

LITTERAL, SHIRLEY
1972  "Orientation to space and participants in Anggor", PI, A.31.23-44.

LOVING, RICHARD and JACK BASS
1964  Languages of the Amanab Sub-District. Department of Information and Extension Services, Port Moresby.

McELHANON, K.A. and C.L. VOORHOEVE

MODERA, J.

NEVERMANN, H.

OOSTERWAL, G.
1961  People of the Tor. Assen. Van Gorcum.

PAPUA ANNUAL REPORT
1916/17  (Zimakani vocabulary)
1919/20  (Nausaku vocabulary)
1921/22  (Boazi, Zimakani and Yonggom vocabularies)
1924/25  (Yonggom vocabulary)
1925/26  (Ninggirum vocabulary)
RAY, SIDNEY H.


RILEY, E.B. (and S.H. RAY)

ROMAN CATHOLIC MISSION

RULE, WILLIAM MURRAY

SCHNEIDER, G.
1928 'Proben der Nimboran-Sprache (Niederländisch-Neuguinea)'. ZES 18.128-40.

SCHOORL, J.W.

SEBEOK, T.A., ed.

SEIJNE KOK, J.

SHAW, R.D.

SHAW, K.
SIMMONS, R.T., D.C. GAJDUSEK and M.K. NICHOLSON

SMITH, J. and P. WESTON
1974a 'Mianmin phonemes and tonemes'. WPNGL7.5-34.
1974b 'Notes on Mianmin grammar'. WPNGL7.35-142.

STAP, P.A.M. VAN DER

STEINKRAUS, W.
1969 'Tifal phonology showing vowel and tone neutralization'. Kivung 2.57-66.

STELTENPOOL, J.
1969 Ekagi dictionary. VKI 56.

STELTENPOOL, J. and P.A.M. VAN DER STAP

UHLENBECK, E.M.

VOORHOEVE, C.L.
1965 The Flamingo Bay dialect of the Asmat language. VKI 46.
1969 'Some notes on the linguistic relations between the Sentani and Asmat languages of New Guinea'. BijdrTLV 125.466-86.

WIRZ, P.
1922 'Beiträge zur Sprachkenntnis der Sentanier'. TSG 61.340-69.

WURM, S.A.

1972 'The classification of Papuan languages and its problems'. Linguistic Communications 6:118-78.


WURM, STEPHEN A. and DONALD C. LAYCOCK, eds

p. 460 blank.