

2.7. EASTERN CENTRAL TRANS-NEW GUINEA PHYLUM LANGUAGES

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2.7.1. INTRODUCTORY REMARKS

The languages dealt with in this chapter are members of the East New Guinea Highlands, Kutubuan and Angan Stocks of the Trans-New Guinea Phylum, as well as of the Teberan, Pawaian, Turama-Kikorian, Inland Gulf, Eleman and Oksapmin Sub-Phyla of that phylum (see 2.5.3.3.2.).

Of these stocks, the Kutubuan Stock has been classified as forming a super-stock with the Central and South New Guinea Stock which has been discussed in 2.6.2.2.6. At the same time, the classificatory situation of the East New Guinea Highlands, Kutubuan and Central and South New Guinea Stocks is hard to delineate precisely, and the three stocks are linked with each other through areas of transition (see below 2.7.2.1.). As a new development, Franklin (see 2.14.2. in this volume) has recently suggested new classificatory affiliations of the languages of the Kutubuan Stock which in the present classification (see below 2.7.3.) is believed to consist of two families, the East Kutubu and the West Kutubu Family. He suggests that the two families be assigned membership to two different stocks in spite of their obvious, though by no means close, relationship to each other, i.e. the West Kutubu Family to the Central and South New Guinea Stock, and the East Kutubu Family to a newly created Trans-Murray Stock which also includes the Teberan and Pawaian (now sub-phylum-level) Families. In 2.14.2. he gives a number of reasons for this new classification which illustrates the vexed nature of linguistic interrelationships in this particular area of the New Guinea mainland which has already been indicated in 1.4. in this volume, and demonstrates the presence of several interacting and co-existing, often contradictory, layers of relationship involving languages in it - a phenomenon which is not uncommon in the New Guinea area.

For the purpose of this chapter, the classification valid to date and allowing for the presence of a Kutubuan Stock, with the Teberan and Pawaian Families constituting stock-level members of a sub-phylum-level super-stock in the Trans-New Guinea Phylum, will be adhered to (see 2.5.3.3.2.).

LEGEND TO MAP OF EASTERN CENTRAL TRANS-NEW GUINEA PHYLUM AREA

Note: To facilitate reference to the General Map of Papuan Language Stocks in Papua New Guinea as given in 1.3.4., the stock numbers appearing on that map have been given below in parentheses after the names of the stocks listed.

(F = Family, f-l I = family-level Isolate)

THE EAST NEW GUINEA HIGHLANDS STOCK (3)

- a Eastern F
- b East-Central F
- c Central F
- d West-Central F
- e Kalam F
- f Wiru f-l I
- g Kenati f-l I

THE KUTUBUAN STOCK (4)

- h West Kutubu F
- i East Kutubu F

THE ANGAN STOCK-LEVEL FAMILY (6)

- j Angan F

THE TEBERAN-PAWAIAN SUB-PHYLUM-LEVEL SUPER-STOCK

THE TEBERAN FAMILY (33)

- k Teberan F

THE PAWAIAN FAMILY (34)

- l Pawaian f-l I

THE TURAMA-KIKORIAN SUB-PHYLUM-LEVEL STOCK (35)

- m Mena F
- n Kairi (or Dumu) f-l I

THE INLAND GULF SUB-PHYLUM-LEVEL STOCK (36)

- o Minanibai F
- p Ipiko f-l I

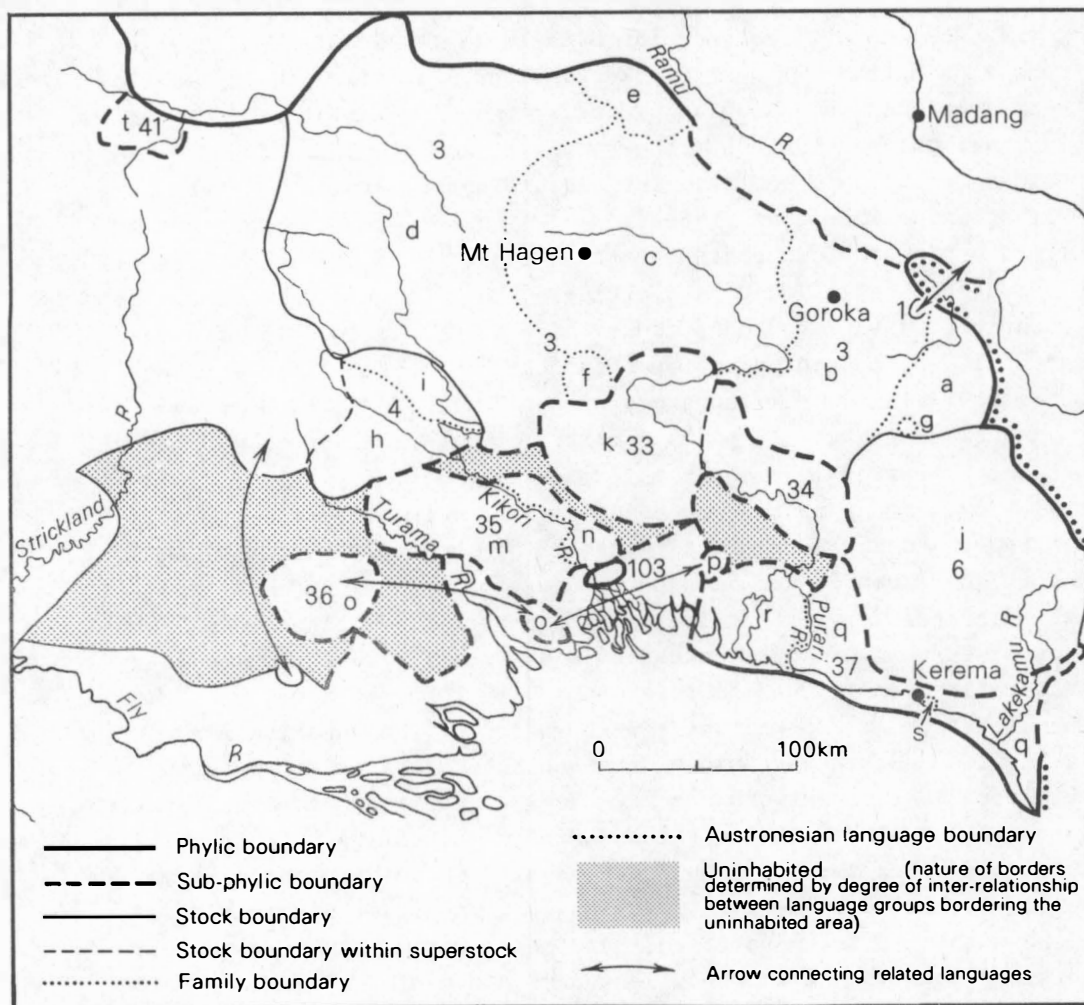
THE ELEMEN SUB-PHYLUM-LEVEL STOCK (37)

- q Eleman F
- r Purari (Koriki, Namau) f-l I
- s Tate f-l I

THE OKSAPMIN SUB-PHYLUM-LEVEL ISOLATE (41)

- t Oksapmin sub-phylum-l I

FAMILY MAP OF EASTERN CENTRAL TRANS-NEW GUINEA PHYLUM AREA



2.7.2. THE EAST NEW GUINEA HIGHLANDS STOCK IN GENERAL

2.7.2.1. THE RELATION OF THE EAST NEW GUINEA HIGHLANDS STOCK TO THE KUTUBUAN AND CENTRAL AND SOUTH NEW GUINEA STOCKS

In 1.4., the special role of the Duna language and of the languages now constituting the Kutubuan Stock was discussed, with the implications of their role upon the question of the extent of relationship between the East New Guinea Highlands, the Kutubuan, and the Central and South New Guinea Stocks, and the relative classificatory status of these three stocks, emerging from that discussion. The question arises whether in the light of the obvious chain relationships between these three stocks, they should not be included into a single, very large super-stock. It may be suggested that in addition to this chain-relationship, the reconstructability of common proto-forms for the bound verbal subject and object markers in several languages of the East New Guinea Highlands Stock and of languages of the Ok Family of the Central and South New Guinea Stock (Pawley 1966, Wurm 1977, see also 2.4.1.3. in this volume) constitutes a strong reason for combining these two very large stocks into a super-stock. However, some rather pronounced typological and structural differences between the majority of the languages of the two stocks which are largely attributable to substratum influence in Central and South New Guinea Stock languages, seem to militate against such a classification, and it has therefore not been proposed here.

The situation is somewhat different regarding the relationship between the Central and South New Guinea, and the Kutubuan Stocks. Originally, a clear stock border between the East New Guinea Highlands Stock and the languages now included in the Kutubuan Stock was set up, but Franklin's results concerning the quite numerous regular sound correspondences between Fasu and Kewa, as mentioned in 1.4., and later developments, have shown this to be unjustified. At the same time, the earlier classifications suggested that these languages had a closer affinity to the Central and South New Guinea Stock than to the East New Guinea Highlands Stock (see 1.4.). This was later re-affirmed in McElhanon and Voorhoeve 1970 concerning Fasu. Franklin's and Voorhoeve's (1973) results which clearly demonstrated the presence of the chain-relationship mentioned above, led to difficulties in connection with the classificatory status of the group constituted by the two family members of the problematic Kutubuan Stock. The two families appear to be equally closely related, on the lexical level, to languages of the West-Central Family of the East New Guinea Highlands Stock (at least to the Kewa dialects) and to some families of the Central and South New Guinea Stock, and to constitute a definite link between these two large stocks. However, in view

of the inadvisability, for structural and typological reasons (see above), of joining the latter two stocks into a super-stock, the preferable classificatory position of the Kutubuan Stock may rest on structural and typological criteria and on the apparent degree of relationship which it shows with these other two stocks as a whole. These criteria seem to support a closer link for it with the Central and South New Guinea Stock rather than with the East New Guinea Highlands Stock, and it has therefore been decided to include it into a super-stock with the latter. In fact, it might have well been possible to classify its constituent families simply as members of the Central and South New Guinea Stock as has now been suggested for Fasu by Franklin in his latest approach (see above 2.7.1.). However this approach would not indicate the relatively close connection between these two families in contrast to their relationship to the other families of the Central and South New Guinea Stock, and would also tend to over-emphasise their differences from the East New Guinea Highlands Stock, especially its West-Central Family. The apparent inconsistency in the treatment of the Kutubuan Stock families, and of Duna (see 1.4.) which has now been included into the Central and South New Guinea Stock, seems justified when considering the fact that the lexical relationship between Duna and languages of the West-Central Family of the East New Guinea Highlands Stock appears to be of a lower order than that observable between the West-Central Family and the Kutubuan Stock languages, though it seems to have been obscured by heavy borrowing by Duna from Huli of this West-Central Family. At the same time, Duna differs structurally and typologically more from the East New Guinea Highlands Stock languages than does Foe (Kutubu) of the Kutubuan Stock (Wurm 1964), and is much more similar to some languages of the Central and South New Guinea Stock.

2.7.2.2. THE EAST NEW GUINEA HIGHLANDS STOCK IN DETAIL

2.7.2.2.1. Establishment of the Stock and General Remarks

The East New Guinea Highlands Stock belongs to the most important Papuan language stocks: it is one of those which have been most thoroughly studied, and it has great numerical importance: its speakers comprise approximately one-third of all speakers of Papuan languages (see 1.3.1.). At the same time, the average number of speakers of the languages included in it is about 25,300 - nearly seven times greater than the average for the Papuan languages as a whole which is only over 3,700 speakers per language.

The stock was set up by the present writer (Wurm 1960, 1961a, 1961b, 1961c, 1962, 1964, 1965, 1971) on the basis of earlier pioneering work

by Capell (1948-49). It was originally believed to be composed of four families and one family-level isolate, Duna (see 1.4.), but modifications arising out of work by Biggs (1963), Pawley (1966), Franklin (1968 and personal communication), the present writer and several members of the New Guinea Branch of the Summer Institute of Linguistics resulted first in the inclusion of another family, the Kalam Family, into it, though its relationship to the stock, believed to be more distant, had been recognised by the present writer from the beginning. Later, Duna was excluded from it (see 1.4.) and included into the Central and South New Guinea Stock as a member of a newly established family in it, and Wiru (Kerr 1967), formerly classified as a sub-family within the West-Central Family, was given the status of a family-level isolate in the stock. Also, Kenati (Ganati, Aziana) and Owena (Waisara) which had until recently been thought to possibly constitute two unrelated phylum-level isolates (Wurm 1971), could, in the light of preliminary work by Lloyd (1973), be included into the East New Guinea Highlands Stock, Kenati as a family-level isolate in it (or perhaps as a sub-family-level isolate of the East-Central Family) and Owena as a member of the Eastern Family. In its present version, the East New Guinea Highlands Stock contains therefore five families and two family-level isolates. The relationship of the stock itself to other stocks, and in consequence, its membership to the Trans-New Guinea Phylum, was established by the present writer (see 1.4.).

Studies of individual languages and language groups of the East New Guinea Highlands Stock are very numerous. The great majority of these have been authored by members of the Summer Institute of Linguistics, mainly of its New Guinea Branch, the Australian National University, and missionaries of various Missions, mostly the Lutheran, Catholic and Baptist, active in the area. Only a few publications were produced by authors working outside these organisations (e.g. Biggs 1963, Haiman 1972, Pawley 1966).

Reference to studies produced by the first two categories of authors has been made in (III) 7.9.2. and (III) 7.9.1. (One particularly important collection of contributions by members of the Summer Institute of Linguistics to the study of languages of the Eastern Family is McKaughan, ed. 1973.) A few studies authored by the third category are for instance Aufenanger 1952, 1953, Bergmann 1953 and n.d., Strauss n.d., Luzbetak 1954, McVinney and Luzbetak 1954, Nilles 1969, Blowers, R. and B. 1970, Blowers B. 1970, Draper 1953, 1954 and n.d., Rule W. 1954, Hintze 1963, Finney, Rothenbush and Hintze 1964, Budke 1964, Renck 1975, 1976, etc.

A large number of unpublished manuscripts containing studies in East New Guinea Highlands Stock languages is in the hands of the New Guinea Branch of the Summer Institute of Linguistics, and of various missions,

especially the Lutheran, Catholic, Baptist and Asia Pacific Christian (formerly Unevangelised Field) Missions.

2.7.2.2.2. Member Families of the East New Guinea Highlands Stock and their Geographical Location

The five families and the two family-level isolates mentioned above in 2.7.2.2.1. are the Eastern, East-Central, Central, West-Central and Kalam Families, as well as the Wiru and the Kenati family-level Isolates. They occupy the Eastern, Chimbu, Western, Enga, and Southern Highlands Districts, with some overlap into the neighbouring Districts, especially along the northern and to a very small extent along the eastern borders. The Gende Sub-Family of the East-Central Family is completely, and the Kalam Family to a great extent, within the Madang District. Enga of the West-Central Family overlaps to the north into the East Sepik District to quite some extent, and the Lemben Sub-Family (if it is real, see below 2.7.2.2.3.) of the West-Central Family is entirely inside of it on the Karawari River.

The geographical position of the first four families is indicated by their names: the Eastern Family is situated in the north-eastern corner section of the Eastern Highlands District, overlapping into the Morobe District in the east; the East-Central Family takes in most of the remainder of the Eastern Highlands District (except for the south-eastern corner and some minor southern areas) and overlaps to the north into the Madang District; the Central Family occupies the Chimbu District (except for some of its southern parts), most of the Western Highlands District and overlaps northward into the Madang District; and the West-Central Family occupies the Enga District, overlaps northward into the Madang and East Sepik Districts and takes in the greater part of the Southern Highlands District. The Kalam Family borders on the Central Family in the north-west and takes in the Western Highlands District and Madang District border area, with its greater part situated in the latter. The Wiru family-level Isolate is situated in the northern section of the eastern part of the Southern Highlands District, and the Kenati family-level Isolate is located downstream from Wonenara on the Aziana River in the south-eastern corner area of the Eastern Highlands District.

2.7.2.2.3. Composition of the East New Guinea Highlands Stock

The composition of the East New Guinea Highlands Stock (929,200¹) is as follows:

1) Eastern Family	41,100
1a) Gadsup-Auyana-Awa Sub-Family ²	31,000
Gadsup dialects	22,000
Gadsup	9,000
Oyana	950
Agarabi	12,000
Auyana dialects	7,500
Auyana	3,800
Kosena	2,700
Usarufa	1,000
Awa dialects	1,500
1b) Tairora Sub-Family	9,700
Tairora dialects	8,500
Binumarrien ³	190
Waffa	1,000
1c) Owena sub-family-level Isolate	350
2) East-Central Family	185,000
2a) Gende (Bundi) sub-family-level Isolate	9,000
2b) Siane Sub-Family	18,000
Siane	16,000
Yabiyufa	2,000
2c) Gahuku Sub-Family	38,000
Gahuku-Asaro dialects	23,000
Gahuku	9,000
Asaro	14,000
Benabena	15,000
2d) Kamano Sub-Family	84,000
Kamano dialects ⁴	84,000
Kamano	47,000
Kanite	3,400
Keiagana	8,000
Yate	4,600
Yagarria	21,000
2e) Fore Sub-Family	36,000
Fore	18,000
Gimi ⁵	18,000
3) Central Family	328,500
3a) Chimbu Sub-Family	156,000
Chimbu dialects	131,000
Chimbu proper (Kuman)	66,000

Nagane ⁶	1,000	
Dom	9,300	
Golin (Marigl)	26,700	
Salt-Yui	6,000	
Sinasina	19,000	
Nondiri	2,700	
Chuave	21,000	
Nomane	4,000	
3b) Wahgi Sub-Family		54,300
Wahgi	45,000	
Nii	9,300	
3c) Jimi Sub-Family		13,000
Narak dialects ⁷	5,000	
Narak	3,000	
Gandja (Monggum)	2,000	
Maring	8,000	
3d) Hagen Sub-Family		105,000
Hagen dialects	101,000	
Medlpa	69,000	
Gawigl (Kaugel)	35,000	
Aua	450	
4) West-Central Family		339,400
4a) Enga Sub-Family		172,900
Kyaka	14,000	
Enga dialects ⁸	149,382	
Layapo	25,023	
Kopona	6,766	
Sau ⁹	15,228	
Kaina	10,959	
Mai	38,508	
Malamuni	3,600	
Tayato	13,507	
Yandapo	10,804	
Kandepe	24,987	
Katinja	900	
Nete ¹⁰	200+	
Lembena (Bisorio, Inia1) ¹¹	600	
Ipili	7,764	
4b) Huli sub-family-level		65,000
Isolate		

4c) Angal (Mendi)-Kewa	101,500	
Sub-Family		
Angal (Mendi) dialects	55,000	
Angal Heneng	25,000	
Angal	10,000	
Southern Angal Heneng	20,000	
Kewa dialects	44,000	
West Dialect	20,000	
East Dialect	20,000	
South Dialect (Pole)	4,000	
Sau (Samberigi)	2,500	
5) Kalam Family	18,600	
Kalam	13,000	Wiyaw and Aramo
Kobon	3,500	may link with the
Gants (Gaj)	1,900	Kalam Family, see
		note at end of
		2.15.1.
6) Wiru family-level Isolate ¹²	16,000	
7) Kenati (Ganati, Aziana) family-level Isolate ¹³	550	

2.7.2.2.4. Interrelationships within the East New Guinea Highlands Stock

The degrees of the interrelationship between languages of the East New Guinea Highlands Stock are, in general, quite close, both within the individual families and across family-boundaries, and are apparent both on the lexical and the structural levels. Results arrived at by lexico-statistical techniques are closely similar to those based on structural and typological comparisons.

The questions of the extent of the interrelationship of the East New Guinea Highlands Stock communalects, as dialects or separate languages, have been vexing problems since the first definite establishment of the stock by the present writer (Wurm 1960). At that time, figures of 78%-81% sharing of basic vocabulary cognates between communalects which constituted a modification of Swadesh's (1955) postulate of 81%, were adopted as diagnostic for the distinction between languages and dialects, and a number of separate languages established in the light of this. However, as a result of the generally close relationship of languages within the East New Guinea Highlands Stock Families, many cognation percentage figures lay between 65% and 80%, and it was observed soon afterwards that established languages with above 70% or more shared basic vocabulary cognates showed a quite marked extent of mutual intelligibility. The problem was discussed by the present writer and Laycock (Wurm and Laycock

1962), and considering the high level of mutual intelligibility observable between communalects showing well below 78% shared cognates, the presence of mutual intelligibility chains (or neighbour intelligibility) and the appearance of multiple cognates shared by two languages for the same concepts, they challenged the justification of adopting a 78%-81% cognation as the border-line between language and dialect in the Papuan linguistic field in the absence of comparative studies undertaken in some detail, and proposed that it be lowered considerably. A suggested re-classification of the communalects of the East New Guinea Highlands Stock based on such lowered percentage figures made possible the combination of thirty communalects which had been assigned separate language status into only eleven distinct languages, though some of the decisions determining their separation were arbitrary and perhaps subject to doubt.

However, the original classification by the present writer was widely adopted in literature and in practical approaches relating to languages of the East New Guinea Highlands Stock, to some extent for sociolinguistic and socio-political reasons. One notable exception was McKaughan's (1964) view who classified a number of the languages originally established by the present writer within the Eastern Family, as only dialects.

The present writer continued to employ his old classification with some reservations (Wurm 1971) until comparative studies involving Papuan languages on a large scale (McElhanon and Voorhoeve 1970) and East New Guinea Highlands Stock languages in general (Wurm 1977) began to show that generally, percentages of basic vocabulary cognates established by the inspection method were usually far too low (see 2.2.3. and 2.2.5. in this volume). The result of this was that many of the relatively high cognation percentages previously established within the East New Guinea Highlands Stock shifted into a range lying above the language-dialect diagnostic border which changed the status of the languages involved to that of dialects. The classification given above in 2.7.2.2.3. constitutes the result of this re-assessment.

A few difficulties remain:

Wiru was originally classified tentatively as a sub-family-level isolate in the West-Central Family, but to some extent, there have always been problems in attempts at classifying it. Its lexical relationship to other East New Guinea Highlands Stock languages is comparatively low and rather diffuse: the percentages of cognates which it shares with members of the West-Central Family are in the mid-to-high thirties, while they are in the mid-to-high twenties with those of the Central Family, and, at the same time, around 15% and more with languages of the Teberan sub-phylum-level Family (see 2.7.5.2.). However, much of its lexical resemblance with at least the languages of the West-Central Family may be

due to borrowing, and according to K. Franklin (personal communication), regular sound correspondences are not greatly in evidence. (But see 2.4.3. in this volume.) At the same time, Wiru is typologically and structurally not greatly aberrant when compared with other languages of the East New Guinea Highlands Stock. However, while the languages with which it shows greatest structural resemblance are those of the West-Central Family, it shares some structural features, especially on the pronominal level, with languages outside the stock such as those of the Teberan sub-phylum-level Family. In the light of all this, the reclassification of Wiru as a family-level isolate within the East New Guinea Highlands Stock may perhaps be justified, though the problem cannot as yet be regarded as fully settled.

Kenati had formerly been regarded as an unrelated phylum-level isolate in the absence of reliable information on it, but was recently found by Lloyd (1973) to display the following percentages of shared cognates (on the basis of 170 words): with Gimi 19%, Fore 17%, Owena 19%, Awa 12%, Tairora 14%, Waffa 12%, and with Angan Family languages (2.7.4. below) on average 5%. The weighting of these figures (according to Thomas and Healey 1962) making them comparable to percentages based on longer lists, requires them to be lowered by 1% each, except for the 5% with Angan Stock languages which remain unchanged.

When considering these figures, it appears that Kenati can tentatively be included into the East New Guinea Highlands Stock as a family-level isolate, though in the absence of structural information on Kenati, this has to remain preliminary. However, a corroboration of its membership to the stock is provided by the fact that the Kenati belong culturally to the East New Guinea Highlands people. Stories of the Kenati and the Baruya (Angan stock-level Family, see 2.7.4. below) state that the Kenati are descendants of Baruya and Fore (or Gimi) people (Lloyd 1973): this may suggest that Kenati may perhaps have originally been an Angan language - but this question can only be solved in the light of additional information. The situation may perhaps be comparable to that of the Abaga language of the Finisterre Stock (see 2.8.1.3.10. in this volume) whose few speakers live nowadays largely in the area occupied by speakers of Kamano of the East-Central Family of the East New Guinea Highlands Stock. It shares 25%-30% basic vocabulary cognates with Kamano, and is structurally quite similar to it, except for some features of its verb structure. At the same time, only about 15% of its basic vocabulary show clear connections with lexical items of Finisterre Stock languages.

In any case, it seems very likely, on the basis of experience with Papuan languages in general (see above and 2.2.3. and 2.2.5.) that the cognation figures listed above for Kenati are much too low, and that the

real percentages of the basic vocabulary items which it shares with Gimi, Owena and perhaps also with Fore are high enough to permit its inclusion into one of the East New Guinea Highlands Stock families, probably the East-Central Family. The intermediate position of Kenati between the East-Central and Eastern Families is immediately obvious in this connection. However, the same remark also applies to Gimi which shares 32%-35% basic vocabulary cognates with the non-adjacent Auyana dialects of the Eastern Family, 35% with the adjacent Keiagana of the East-Central Family, and 46% with Fore, while it is at the same time structurally closer to Keiagana than to Fore, and also shares more structural features with languages of the Eastern Family than any other East-Central Family language. In the light of further study, it may perhaps prove possible to combine Gimi and Kenati into a separate sub-family within the East-Central Family, with this family having the status of a link between the East-Central and the Eastern Families which would allow the combination of these two families into a super-family.

It may be mentioned that some languages, of several sub-families, show higher percentages of shared basic vocabulary cognates across sub-family boundaries than with members of their own sub-families, whereas the extent of agreement which they display with members of their own sub-families in the phonological shapes of bound morphemes, and in their structures in general, demonstrate their closer general relationship to languages of their own sub-family. Benabena and Yabiyufa are good examples for this: Benabena shares over 60% basic vocabulary cognates with Keiagana and even more with Kamano, but only 57% with Gahuku of its own sub-family. Similarly, Yabiyufa shares almost 60% with Gahuku, but only 52% with Siane of its own sub-family.

2.7.2.2.5. Typological and Structural Features of the East New Guinea Highlands Stock Languages

2.7.2.2.5.1. *General Remarks*

The typological and structural features of the East New Guinea Highlands Stock languages are, in general, those listed in 2.3.2.5. and 2.5.2. in this volume as characteristic of Trans-New Guinea Phylum languages, though aberrant features, probably due to substratum influence, are quite markedly in evidence in some areas. A study of the distribution of typological features of the languages of the stock was carried out by the present writer (Wurm 1964). The main results of this study are as follows:

Regional typological features are found within the stock, and major boundaries of the distribution of such features coincide with, or are

located near, the border between the East-Central and the Central Families. A similar but much less pronounced boundary is met with at, or near, the border between the West-Central and Central Families.

There is close typological similarity between the Eastern and East-Central Families, a fair measure of it is observable between these two families and the Kalam Family (Pawley 1966), and some regional typological agreement is present between the East-Central and West-Central Families. The Central Family does not show specific regional typological affinity with any other particular family in the stock. This last fact is also borne out by the somewhat aberrant nature of the Central Family languages with regard to the general Trans-New Guinea Phylum feature of noun classification through existential verbs (see 2.5.2.3.1. in this volume). The strong presence of set III pronoun forms in languages of the Central Family may also be mentioned in this connection (see 2.3.3.4.).

Some notes may be added on characteristics of individual families within the East New Guinea Highlands Stock:

2.7.2.2.5.2. *The Eastern Family*

Phonologically, the Eastern Family languages are characterised by a strong development of tonal systems, and the relatively high statistical frequency of the appearance of the glottal stop phoneme.

Their pronoun systems show a great prevalence of set II and set III forms (see 2.3.3.3. and 2.3.3.4.) over the set I (see 2.3.3.2.) forms largely typical of Trans-New Guinea Phylum languages in general (see 2.5.2.2.).

Morphologically, there is a lower incidence in the use of possessive affixes with nouns than in languages of the East-Central Family of the stock, but the verbs show a very great elaboration of aspectual and modal affixes, and of sentence-medial verb forms (see 2.5.2.3.2.). In the latter forms, anticipatory indication of the subject of the following clause takes place. In some languages of the Eastern Family, morphologically signalled number forms of the nouns occur - a feature very rare in Trans-New Guinea Phylum languages in general (see 2.3.2.5.).

A few notes on Awa will be given here for illustration. (R. Loving 1973a, 1973b, R. and A. Loving 1973, McKaughan and A. Loving 1973, R. Loving and McKaughan 1973, A. Loving and McKaughan 1973.)

Phonology

Consonants:	p	t	k	ʔ
	b	d	g	
		s		
	m	n		
	w	y		

Vowels:	i	u
	e	o
	æ	ɒ
	a	

Tones: four tonemes: high, falling, rising, low. Morphophonemic changes are very complex.

Remarks on Morphology

Nouns: dual, trial, and plural suffixes occur, e.g. *iya-tade* = *two dogs*, *iya-madi* = *many dogs*.

A number of suffixal relation markers are present and denote subject, instrument, a number of different locational relations, causation, purpose, possession between nouns, etc., e.g. *poedɒ-ka nade* = (*pig-subject*) *is eating*; *sogi-taten amuduwedede* = (*knife-with*) *he cut*; *mɒdi-taʔ mado* = (*bed-on*) *set (it)*; *wani-taha pokide* = (*water-across*) *he went*; *iya-ne nɒ* = *the dog's house*, etc.

Nouns denoting inalienable entities (mostly body parts and kinship categories) have obligatory possessive prefixes - with other nouns, possession is indicated by the preposed personal pronouns with the possessive suffix *-ne* added to the latter. The following prefixes exist:

1sg	ne-	} with allomorphs
2sg	te-	
3sg	we-	
non-specified third sg	a-	
non-third pl	ite-	
third pl	se-	

Example: *-nuo* = *neck*, *wena-nua* = *his neck*, *a-bowa* = *someone's father*.

Pronouns: As with the possessive prefixes, the person and number distinctions in the personal pronouns are restricted and somewhat rudimentary when compared with the indication of these categories with subject suffixes to verbs. The personal pronouns are:

1sg	ne
2sg	ade
3sg	we
non-third pl	ite
third pl	se

Emphatic forms occur.

Verbs: Verbs are independent or dependent. The subject and the object (direct and indirect, with various restrictions) are marked with verbs, the latter through prefixes or suffixes, e.g. *nu-b-iʔ* = *me-hit-he*, *te-aw-iʔ* = *tell-him-he*. Benefactive forms occur, e.g. *keki-nin-t-æʔ* = *burn-me-benefactive-he* = *he burned it for me*.

The independent verbs have two conjugational classes which are characterised by different stem vowels. Complex morphophonemic rules apply.

The subject of verbs is denoted by suffixes in the first, second and third person in singular, dual and plural. The markers of 2nd and 3rd dl and pl are formally identical - a typical Trans-New Guinea Phylum characteristic (see 2.5.2.3. in this volume). The subject markers are fused into portmanteau suffixes with the tense markers. Tenses distinguished are: near past (including action still in progress), far past, and future.

Principal alternants of the subject elements are:

	1st	2nd	3rd
sg	-ga ~ -ʔ	-na ~ -naʔ	-de ~ -ʔ
dl	-ya ~ -yaʔ	-ya ~ -yaʔ	
pl	-na ~ -naʔ	-wa ~ -ʔ	

Examples of tense-subject portmanteau suffixes: taga- = *see*: near past

	1st	2nd	3rd
sg	tag-oʔ	tag-unaʔ	tag-aʔ
dl	tag-oyaʔ	tag-ayaʔ	
pl	tag-onaʔ	tag-aʔ	

A large number of aspectual and modal markers occur with verbs, denoting punctiliar, completive, benefactive, continuative, habitual, repetitive, inceptive, imperative, avolitional, certitudinal, dubitative, interrogative, and augmentative.

Dependent verbs are sentence medial verbs (see 2.5.2.3.2. in this volume), but there are also dependent final verbs in Awa. The latter occur in dependent clauses which are preceded by one or more clauses.

The dependent medial verb forms constitute the bulk of the dependent verb forms - the dependent final ones which are characterised by the appearance of special morphemes occur only in contrary-to-fact clauses and in clauses containing an indication of an obligation which are preceded by dependent medial conditional clauses.

Dependent medial verbs characteristically contain markers anticipating the subject of the following clause, or anticipating a second clause, while at the same time the subject of the medial clause in which they occur is also indicated with them.

The anticipatory subject markers are:

-na ~ -ena	<i>I, he</i>
-n ~ Ø ~ e	<i>you (sg)</i>
-ta ~ -eta	<i>we two, you two</i>
-ʔ ~ -eʔ	<i>we, you (pl)</i>
-da ~ -eda	<i>they two, they</i>

Example: tag-oga-da bok-oya? = *when I looked, you two went* = ([look]-[first person singular subject marker in near past tense form and in a form preceding anticipatory subject markers in medial verbs]-[anticipatory second person dual subject marker on medial verbs]) ([go])-[second person dual subject marker on final verbs in near past tense form]]. For other examples see 2.5.2.3.2. in this volume.

Anticipatory subject markers which follow subject-tense portmanteau suffixes always signal a subject in the following clause which is different from the subject in the dependent medial clause. These subject-tense portmanteau suffixes differ in varying degrees from their equivalents occurring with independent verbs.

When the anticipatory subject markers refer to the same subject in the following clause, they are preceded by portmanteau suffixes denoting number, i.e.

sg	-ani
dl	-ayæ
pl	-anæ

Examples: tag-ani-ena = *I will see it, I...*, tag-ayæ-eta = *we two will see it, we two...*

Anticipatory clause markers are mutually exclusive with the anticipatory subject markers. They a) indicate simply the fact that the action referred to by the verb in the dependent clause is in some way dependent on that expressed in a related independent clause, b) they mark a specific time when the dependent action occurred, c) they denote the fact that the action referred to in the dependent clause is the cause or reason for the action mentioned in the related independent clause.

2.7.2.2.5.3. *The East-Central Family*

In their phonologies, the East-Central Family languages show a strong development of supra-segmental features manifesting themselves in tonal systems and combined tone-stress systems. The glottal stop phoneme appears with extremely high statistical frequency in the languages of the Gahuku and the Kamano Sub-Families, and in Gimi.

Their pronoun systems show a great prevalence of set I forms (see 2.3.3.2.). They are mostly very similar in their basic structural characteristics, and amongst their features are high occurrence of possessive affixes and the presence of several declensional classes with nouns, the occurrence of a back-vowel-front-vowel ablaut in verb forms, and great elaboration of sentence-medial verb forms. In the latter, anticipatory marking of the subject of the following clause is frequent.

Some notes on Yagaria, a member of the Kamano Sub-Family, are given in (III) 7.5.3. and notes on sentence-medial verb-forms in Kamano are

included in 2.5.2.3.2. in this volume. Some more remarks on Yagaria (Renck 1975) will be given below for illustration:

Nouns: In (III) 7.5.3., the presence of two declension classes is mentioned, and the existence of agentive and other case suffixes indicated. The latter denote possession between nouns, benefactive, a number of local relations such as adessive, inessive, ablative, elative, also instrumental, comitative etc., e.g. a-ba' hudie = *woman-agentive said*.

The obligatory possessive prefixes appearing with nouns denoting inalienably possessed objects are as follows:

	1st	2nd	3rd
sg	da-	ga-	Ø
dl	la ² a-	lata-	ta-
pl	la-	lapa-	pa-

Example: da-kameva = *my spine*.

With alienably possessed nouns, possession is indicated by suffixes with the possessive form of the personal pronouns optionally preceding the noun:

	1st	2nd	3rd
sg	-di	-ka	- ² a
dl	-ti ² a	-titi ² a	-ti ² a
pl	-ti	-tipi	-pi

Example: (dagae²) hoy-a-di = *my garden*.

Inalienably possessed nouns with possessive prefixes can optionally take the possessive suffixes in addition, e.g. d-oulega-di = *my eye*.

Pronouns: The personal pronouns are:

	1st	2nd	3rd
sg	dagaea	gagaea	agaea
dl	la ² agaea	latagaea	tagaea
pl	lagaea	lapagaea	pagaea

The same relational suffixes as appearing with nouns are added to pronouns, except for the agentive. The suffixes are added to allomorphic forms with the final -a replaced by ², e.g. dagae-togati² = *from me* (<*dagae²-logati²). The forms with the final -a replaced by -² function as possessive pronouns, e.g. dagae² = *my*.

Verbs: In (III) 7.5.3., the presence of four conjugational classes (as distinguished by stem vowels) and the appearance of a back-vowel-front-vowel ablaut with verbs is mentioned, and tenses, modes and other features such as the indication of the object with the verbs through prefixes briefly referred to.

The person-number markers denoting the subject are suffixes and appear in different allomorphic forms according to the conjugational class of the verb to which they are added. For instance, with class I verbs they are as follows:

	1st	2nd	3rd
sg	-u-	-in-	-i-
dl	-uʔ-		-iʔ-
pl	-un-		-i-

Characteristically, there is formal identity of the markers of the 2nd and 3rd persons in dual and plural (see 2.5.2.3.).

Example: fili-d-iʔ-e = *they two died* = ([die: in past stem-allomorphic form]-[past]-[3rd dl subject]-[indicative-declarative]).

The (direct and indirect) object prefixes with verbs are formally identical with the obligatory possessive prefixes appearing with inalienably possessed nouns (see above), e.g. ta-(a)mi-d-un-e = *we gave (it) to them two* = ([3rd dl object]-[give]-[past]-[1st pl subject]-[indicative-declarative]).

Sentence-medial verb forms in Yagaria are briefly touched upon in (III) 7.5.3. Two incompletely different sets of subject markers occur with them according to whether the subject of the medial verb form is identical, or not identical, with that of the verb in the subsequent clause.

Identical subjects:

	1st	2nd	3rd
sg	-da	-ka	-na
dl	-taʔa		-daʔa
pl	-ta		-da

Different subject (anticipatory subject markers):

	1st	2nd	3rd
sg	-da	-ka	-ni
dl	-taʔa	-tati	-ti
pl	-ta	-tapi	-pi

With identical subjects, the medial verb forms can be inflected for progression or completion of the action denoted by the medial verb. Examples: ge havi-lo-da o-d-u-e = *having heard (it), I came* = talk ([hear]-[completion]-[1st sg subject in medial verbs]) ([come]-[past]-[1st sg subject in final verb]-[indicative-declarative]), no-fili-na banuge da-hapei-d-i-e = *while he was dying, he said good-bye to me* = ([progressive]-[die]-[3rd sg subject in identical subject medial verbs]) (last-word) ([1st sg object]-[say]-[past]-[3rd sg subject in final verbs]-[indicative-declarative]).

With non-identical subjects, medial verbs are inflected for the subject of the medial verb and anticipatorily, for that of the verb of the following clause, and also for tense and subject change.

Example: *ba de-d-a²-aga-ta gayale ta-(a)mi-d-un-e* = *after they two had eaten the sweet potatoes we gave them two pork = sweet potato* ([eat: in non-sg subject allomorphic form]-[past]-[3rd dl subject]-[change of subject]-[1st pl anticipated medial verb subject]) *pig* ([3rd dl object]-[give]-[past]-[1st pl subject in final verbs]-[indicative-declarative]).

2.7.2.2.5.4. The Central Family

Phonologically, Central Family languages are characterised by the presence of several lateral phonemes including laterally released stops, consonant clustering and complex suprasegmental systems including some tonal features, though the latter play a subordinate role. The glottal stop phoneme is absent.

Their pronoun systems show a prevalence of set I forms (see 2.3.3.2.), but set III forms (see 2.3.3.4.) are markedly in evidence.

The Central Family languages are structurally quite similar to each other, but contrast in a few respects with those of other families of the East New Guinea Highlands Stock. So, for instance, the covert noun classes through existential verbs which are a characteristic of Trans-New Guinea Phylum languages appear to be dependent on an animate-inanimate, and permanent-non-permanent contrast, rather than on features of shape and posture as in other Trans-New Guinea Phylum languages (A. Lang 1971, 1975). In contrast to the Eastern and the majority of the East-Central Family languages and dialects, medial verbs in Central Family languages do not show anticipatory indication of the subject of the following clause. Nouns lack a range of relational suffixes, and an agentive suffix is absent. Both inalienably and alienably possessed nouns have possessive suffixes which however are obligatory with the former.

A few notes on Chimbu proper (Kuman) (Trefry 1969, and notes on Kuman (Middle Chimbu (Goglime) and Mingende dialect) kindly put at the disposal of the present writer by J. Z'graggen) may be given for illustration:

Phonology

Consonants:	p	t	k
	b	d	g
		s	
	m	n	
		r	
		l	
	w	y	g [±]

b d g are prenasalised medially, and prenasalised allophones occur with non-prenasalised ones in free variation initially.

Vowels: i u
 e o
 a

Z'graggen observes the rare occurrence of æ, apparently in phonemic contrast with a in minimal pairs.

Suprasegmentals: stress and some tonal features in combination.

Morphophonemic changes: numerous and complex.

Nouns: Inalienably possessed nouns occur with obligatory possessive suffixes. These suffixes, like most Kuman affixes, have numerous allomorphic forms.

	1st	2nd	3rd
sg	-na	-n	-mo
pl	all persons: -no		

Examples: na bawa-na = *my uncle*, ene dirabi-n = *your (sg) tongue*.

Pronouns: As in Awa of the Eastern Family (see 2.7.2.2.5.2. above), the person and number distinctions in the personal pronouns and the possessive suffixes are restricted and rudimentary when compared with the indication of these categories with the subject marking on the verb.

The personal pronouns are as follows:

	1st	2nd	3rd
sg	na	ene	ye
pl	no		

Verbs: Verbs are final or medial. Medial verbs occur in coordinate or dependent non-final clauses and are formally different in these two types of medial clauses.

Final verbs are characterised by the presence of a particular set of subject suffixes which are obligatorily followed by a declarative suffix. The forms of the latter is -ka, with numerous allomorphs.

Because of the extensive morphophonemic changes affecting the subject suffixes and their numerous allomorphic forms, they are open to different interpretations. So, for instance, Trefry regards the 1st sg and 2nd/3rd pl subject suffixes as containing -gi-, whereas Z'graggen looks upon this as an allomorph of the suffix -nagi- denoting the inceptive aspect postulated by him, but not recognised by Trefry.

Trefry gives the following major allomorphic forms of the subject suffixes:

	1st	2nd	3rd
sg	-gɿ, -i	-in	-u-u, -bu
dl	-bugɿ	-buri	
pl	-mun	-gɿum	

Z'graggen gives the following forms:

	1st	2nd	3rd
sg	-y	-n	-um ~ -bu
dl	-ubugɿ	-ibri ~ -iri	
pl	-umun	-im	

Examples: (Trefry) ene kan-a-buri-ka = *you two will see* = *you* ([see]-[imperfect]-[2nd/3rd dl subject]-[declarative]). Z'graggen gives this form as ene suo kan-a-bri-ka = *you two* ([see]-[inceptive]-[2nd/3rd dl subject]-[declarative]).; (Trefry) na kan-a-gɿ-ka = *I will see* = *I* ([see]-[imperfect]-[1st sg subject]-[declarative]). Z'graggen regards this as na kan-agɿ-Ø-ka = *I* ([see]-[inceptive]-[1st sg subject]-[declarative]).

Tense is not expressed in the verb.

The interrogative is denoted by the suffix -o replacing the declarative suffix, e.g. na kan-a-gɿ-o = *will I see?* Z'graggen mentions that the interrogative suffix is -e if an interrogative pronoun is present in the sentence.

The negative marker is -kir- (with allomorphic forms) added to the stem (Z'graggen postulates -kre- for his completive and continuative aspects, and -kragɿ- for his inceptive aspect), e.g. (Trefry) na kan-i-ga = *I saw* = *I* ([see]-[1st sg subject]-[declarative]): zero aspect marker = perfective; na kan-kir-i-ka = *I didn't see* = *I* ([see]-[negative]-[1st sg subject]-[declarative]): zero aspect marker = perfective.

According to Trefry, imperfective and perfective aspect are indicated with final verb forms: Ø = perfective, -a- = imperfective. However, Z'graggen regards zero aspect marking as denoting a continuative aspect, -nagɿ- with allomorphic forms including -a- as indicating an inceptive aspect, and -konde- as denoting a completive aspect.

The object is not indicated in verb forms, only *-re- = *give* shows obligatory prefixing of the personal pronouns (with morphophonemic changes) to denote the indirect object, i.e. nare- = *give to 1st sg*, te- = *give to 2nd or 3rd sg*, nore- = *give to 1st dl or pl*, yere- = *give to 2nd or 3rd dl or pl*.

Medial verbs in coordinate clauses with no change of subject consist either of the verb stem only (denoting simultaneity or quick succession), or of verb stem + -tire ~ -dire denoting successivity, e.g. na pi kaniga = *I went and saw* = *I go (I-saw)*; ye kua ka-dire ye sugua = *he saw, and then shot the bird* = *he bird (see-medial) he shot*.

Medial verbs in coordinate clauses with change of subject appear with the same suffixes as final verbs, but no aspects are marked, and the declarative marker has the final vowel -o, e.g. ene ka-buri-ko = *you two saw (see, will see) and... = you* ([see: in allomorphic form]-[2nd/3rd dl subject]-[declarative in medial form]).

Medial verbs in dependent clauses have a special set of suffixes which denote dependence, person and number of the subject of the medial verb, and optionally negation. The suffixes, in the affirmative, are as follows:

	1st	2nd	3rd
sg	-ibo	-in	-an
dl	-obugɿ	-iburi	
pl	-omun	-ibi	

Examples: na kan-ibo = *when (because, if) I saw...*, ye ene kan-kir-ibi ye bugɿa kunolugua = *because you (pl) did not see him, he stole the pig = he you* ([see]-[negative]-[2nd/3rd pl subject in medial forms]) *he pig stole*.

2.7.2.2.5.5. The West-Central Family

In their phonologies, members of the West-Central Family are characterised by the presence of palatalised consonant phonemes and the universal appearance of complex tonal systems. The glottal stop phoneme is absent, and so are complex syllable structures.

The pronoun systems show a strong presence of set II and set III forms in addition to the basic Trans-New Guinea Phylum set I forms (see 2.3.3.1.-3.).

The languages of the West-Central Family display considerable structural similarity, though Huli stands a little apart. Their features are low incidence of possessive affixes with nouns, i.e. the almost complete absence of possessive affixes with nouns and almost no distinction between inalienably and alienably possessed nouns, the presence of two imperatives (immediate, and deferred or late), the appearance of special modal suffixes with verb forms denoting attitudes of the speaker towards the action referred to by him, i.e. whether he himself has witnessed it, is reporting from hearsay, or deducing from evidence, etc. Benefactive forms are common and elaborate, and so are sentence-medial verb forms, but no anticipatory marking of the subject of the following clause is present with medial verbs.

A few brief notes on Enga (A. Lang 1973) may be added here:

Phonology

Consonants:	p	t		k
	b	d	j	g
	m	n	nʸ	ŋ
		l	lʸ	
		s		
	w		y	

Vowels:	i	u
	e	o
	a	

Suprasegmentals: two tonemes: high and low.

Morphophonemic changes are of comparatively low complexity.

Nouns: Relation markers are suffixes and denote agentive, associative, instrumental, possessive, locative, temporal, and vocative, e.g.

akali-mi mena doko pia = *the man killed the pig* = (man-agentive) pig determiner ([hit]-[past]-[3rd sg subject]).

Pronouns:

	1st	2nd	3rd
sg	namba	emba	baa
dl	nalimba	nyalambo	
pl	naima	nyakama	

While the 2nd and 3rd dual and plural pronoun forms given are identical, other forms denoting one of these categories exclusively exist.

Verbs: Verbs are final and medial. With final verbs, five tenses (far past, near past, past, present and future) are distinguished. Tense, person and number are marked by suffixes, the latter two portmanteau and differing to some extent in the various tenses. The verb stems and tense markers show allomorphic forms, e.g. 1-e-o = *I spoke* (far past) = ([speak in far past allomorphic form]-[far past]-[1st sg subject]); 1a-p-u = *I spoke* (near past) = ([speak]-[near past]-[1st sg subject]); 1a-p-umba = *we two spoke* (near past) = ([speak]-[near past]-[1st dl subject]); 1a-t-ambi = *we two will speak* = ([speak]-[future]-[1st dl subject]).

The negative is indicated by the prefix na-, and the interrogative by the suffix -pe ~ -pi. A declarative suffix -mo ~ -no appears in certain tenses and person-number forms, e.g. 1e-1-e-no = *you* (sg) *speak* = ([speak in present allomorphic form]-[present]-[2nd sg subject]-[declarative]).

As in other languages of the East New Guinea Highlands Stock, a distinction is made between medial verb forms whose subjects are identical,

or not identical, with those of the following clause. With the former, the temporal suffixes appear after the verb stem, whereas with the latter, the verb shows the final verb tense, person and number markers with special suffixes.

The temporal suffixes added to medial verb forms with identical subjects denote simultaneity or successivity of the actions referred to by the medial and the following verb, e.g. *baa-me pa-o kalai p-i-a* = *he went and worked (at the same time)* = (he-agentive) ([go]-[simultaneity of actions]) *work* ([do]-[past]-[3rd sg subject]).

With medial verbs with non-identical subjects, the suffix *-pa* appears to denote both simultaneity or successivity, e.g. *namba-me p-e-o-pa baa-me kalai p-i-a* = *I went and he worked* = (I-agentive) ([go]-[past]-[1st sg subject]-[change of subject]) (he-agentive) *work* ([do]-[past] [3rd sg subject]).

In addition to these forms, medial forms with causal and result suffixes, conditional suffixes (denoting real or irreal conditional), concessive, purposive, desiderative, etc. suffixes occur.

Two different types of imperatives exist, an immediate and a deferred (or late) imperative. Imperative forms appear for all nine persons and numbers, and imperative forms enter into a number of other verbal constructions.

Aspectual suffixes denoting intensive, completive, instantaneousness, repetitive, simulative, progressive, conformativ, comprehensive, etc. are present, and special reciprocal, causative, contingency etc. forms occur. The direction of an action, with six possible directions distinguished, is denoted by special suffixes added to the verb stem.

A special feature of Enga (and other languages of the West-Central Family) is the distinction between references to something that is meant to include or be for the benefit of, the hearer, or otherwise. This is denoted by suffixes added to the stem: *-ka-* indicates the inclusion of the speaker or hearer but the exclusion of any third person, *-kamai-* the exclusion of the speaker or hearer; e.g. *akali doko-me mena doko namba-nya* (or *emba-nya*) *pya-k-e-a* = *the man killed the pig for me (or you sg)* = *man* (determiner-agentive) *pig* determiner (I-benefactive) (or (you sg-benefactive)) ([hit]-[benefactive including speaker or hearer]-[past]-[3rd sg subject]); but *akali doko-me mena doko baa-nya pya-kamai-y-a* = *the man killed the pig for him* = *man* (determiner-agentive) *pig* determiner (he-benefactive) ([hit]-[benefactive excluding speaker or hearer]-[past]-[3rd sg subject]).

A set of suffixes or particles occurs which indicate the speaker's attitude to an event etc. and what he can sense or deduce about it. For instance, the particle *lamo* added to a statement indicates that the statement made is based on deduction, e.g. *mena doko namba-nya lamo* =

this is obviously my pig = pig determiner (*I*-possessive) deduction. Similarly, the suffix *-lami* denotes that an event referred to is a tale or myth, e.g. *yana-pa saa-pa ly-i-ambi-lami = they say that dogs and possums danced* = (*dog-conjunction*) (*possum-conjunction*) (*[dance]-[past]-[2nd/3rd dl subject]-[mythologically]*).

2.7.2.2.5.6. *The Kalam Family*

The three languages of the Kalam Family were originally believed to constitute a separate stock related to the East New Guinea Highlands Stock on the phylum level (Wurm 1960). However, as a result of Pawley's (1966) work, their closer relationship to the East New Guinea Highlands Stock was recognised, and they were included into it as forming a family member (Wurm 1971).

The reasons for the classificatory difficulties surrounding the languages of the Kalam Family lie in their nature which is highly aberrant in some ways and not aberrant in others. Recent studies and re-interpretations of earlier findings (Biggs 1963, Pawley 1966, Laycock: personal communication) have revealed the following with regard to Kalam, the best-studied member of the family:

It shows an interesting mixed composition: its phonology is largely purely of the Sepik-Ramu Phylum type (see 2.11. in this volume) as opposed to the Trans-New Guinea Phylum type (see 2.5.2.1.), its pronominal forms and systems are very much like those of the Madang-Adelbert Range Sub-Phylum (see 2.8.2.3. in this volume), its structure and typology in general is very predominantly like that of the other East New Guinea Highlands Stock languages and it shares more regional typological features with the East-Central and Eastern Families than with any other family in the stock (Pawley 1966), and its vocabulary is a mixture of the three, with the East New Guinea Highlands Stock element somewhat predominating. This mixed nature of Kalam is understandable in the light of linguistic prehistory (see 3.4.1. in this volume).

In abstract, its phonology is characterised by the presence of four linear distinctions with stops and nasals, with a palatal point of articulation figuring in the series. Only three vowel phonemes appear, and no complex suprasegmental system is present. Numerous consonant clusters are in evidence, with the consonant members in sequences separated by a predictable, non-phonemic shwa vowel.

In its morphological structure, Kalam parallels the languages of the other East New Guinea Highlands Stock families discussed so far fairly closely, with some of its features quite similar to those found in the Eastern and East-Central Families, and with others more like those of the West-Central and the Central Families.

In particular, the person-number subject markers with verbs in Kalam (and Kobon) fit in very well with those observable in languages of the Eastern and East-Central Families (Wurm 1965) and Eastern-East-Central-Kalam Family proto-forms have been proposed by Pawley (1966). The forms involved are as follows:

Eastern Family:

	Gadsup	Auyana, Usarufa	Awa
sg 1	u	un	u?
2	onΛ	an	ona?
3	i	ay ~ i	i?
dl 1	u	uy	uya?
2}	o	ay	oya?
3}			
pl 1	u	un	una?
2}	o	a	o?
3}			

East-Central Family:

	Gende	Yabiyufa	Asaro, Gahuku	Benabena	Kamano, Kanite, Kelagana, Yate, Yagarua	Fore	Gimi
sg 1	u	u	u	u	u	uw	u
2	an	an	an	an	an	a:n	an
3	(a)i	a ~ i	i	i	i	iy	i
dl 1	ur	u	usi	u?i	u?	us	ur
2}	ar	ai	asi	a?i	a?	a:s	ar
3}							
pl 1	un	un	un	un	un	un	un
2}	a	a	a	a	a	a:w	a
3}							

Kalam Family:

	Kalam	Kobon	*proto East-East Central-Kalam
sg 1	in	in	*u
2	an	an	*an
3	a	a	*i
dl 1	ut	ul	*uR
2}	it	əl	*aR
3}			
pl 1	un	un	*un
2}	m	im	*a
3}	ay	al	

At the same time, Kalam has object marking with verbs which is somewhat comparable to that encountered in the Eastern and East-Central Families (see above 2.7.2.2.5.2.-3.), though perhaps more like that met with in Huon Peninsula Trans-New Guinea Phylum languages (2.8.1.4.10. in this volume).

While the languages of the families discussed so far show identity of the forms of the second and third person subject markers in the dual and plural numbers, this feature is restricted in Kalam and Kobon to the dual number.

In the form and nature of sentence-medial verb forms, Kalam is similar to the languages of the West-Central Family, and the Central Family (see 2.7.2.2.5.4.-5.). In other features of its verb morphology (the presence of stem allomorphs etc.) it resembles the other families discussed so far, especially the Eastern and East-Central Families.

In its noun morphology, Kalam parallels the Central Family languages most closely. Relational suffixes are lacking, and an agentive suffix is absent. Possessive affixes (prefixed) appear optionally with a number of relationship terms.

2.7.2.2.5.7. *The Wiru Family*

The problems of the classification of Wiru (Kerr 1967, and the author's field notes) which is now classified as constituting a family-level isolate within the East New Guinea Highlands Stock, have been briefly touched upon above in 2.7.2.2.4.

In its phonological and structural characteristics, Wiru is, in general, closest to the languages of the West-Central Family, but there are quite a number of differences in detail.

Phonologically, it is characterised by the presence of nasal vowels, a simple syllable structure and a word-level tonal system with low functional load.

With the personal pronouns, a very strong presence of set III (see 2.3.3.4.) is observable, and possession is indicated through possessive forms of the personal pronouns. Special location-in-space pronouns are in evidence.

On the morphological level, Wiru displays several systems which in some ways constitute simplified versions of West-Central Family ones. So, for instance, only three tenses, present, past and future, are encountered with the verb; in the person marking with the verb, no dual number appears though it is present in the pronoun system, and in some final verb forms, indicating neutral situations, tense and person markers are entirely absent. Regarding the special modal affixes found in West-

Central Family languages and denoting attitudes on the part of the speaker towards the action referred to, Wiru shows only one which indicates a reported or inferred situation.

The following may be noted in addition:

Phonology

Consonants:	p	t	k
	mb	nd	ŋg
	m	n	
		l	
		y	
	w		
Vowels:	i	u	
	e	o	
	a		

A series-generating feature of nasalisation is present.

Suprasegmentals: A two-tone system on the word level is present, with low functional load.

Nouns: The noun inflection in Wiru compares well with the West-Central Family type, and an agentive is present.

Pronouns: In the personal pronoun system, three persons and three numbers (singular, dual and plural) are distinguished, but in the dual, the forms for the second and third persons are identical.

	1st	2nd	3rd
sg	no	ne	one
dl	tota	kita	
pl	toto	kiwi	kini

With the possessive pronouns, only singular and plural forms are distinguished. With the latter, the second and third person forms are identical.

	1st	2nd	3rd
sg	anu	neke	one
pl	tone	kini	

Verbs: Final and medial verbs are distinguished. With final verbs, portmanteau suffixes denoting the person and number of the subject appear. Only singular and non-singular forms are distinguished, and speaker and non-speaker forms. The speaker plural and non-speaker singular forms are identical:

	speaker (1st)	non-speaker (2nd,3rd)
sg	u	o
pl	o	i

With medial verbs with subject identity in the medial clause and the following clause, the distinction of speaker and non-speaker forms in the suffixes is limited to the singular:

	speaker	non-speaker
sg	ne	me
pl		te

In combination with tense markings, the following forms are present:

Final verbs: present k, past ko, future o.

	sg		pl	
	speaker	non-speaker	speaker	non-speaker
present	ku	ko	ko	ki
past	kou	ka	koo	koi
future	ou	oo	oo	oi

Medial verbs: present Ø, past ke, future de.

	sg		pl
	speaker	non-speaker	
present	ane	a	a
past	kene	kome	kete
future	adene	ademe	adete

In medial clauses with subject difference in the medial clause and the following clause, the medial verb takes the ordinary final verb tense and person-number suffixes, plus a special suffix to denote the change of subject in the following clause. A difference is made between identity and non-identity of time as referred to in the two clauses.

Other features of the verb include an imperative system that is simpler than the one encountered in the West-Central Family, the same importance attached to benefactive forms as in that family, inflection for neutral situations, only one modal affix denoting the speaker's attitude to the action referred to, indication of transitivity, causative, aspects, and of directions of the action. The negative is expressed by a suffix which is formally identical with that encountered in several East-Central Family languages, and the interrogative by the suffix -pe which tallies with a West-Central Family suffix.

2.7.2.2.5.8. *The Kenati Family*

Very little is known of the structure of Kenati as has been indicated in 2.7.2.2.4. However, lexicostatistical evidence gives Kenati a position intermediate between that of the Eastern and the East-Central Families of the stock.

2.7.2.2.6. Substrata in East New Guinea Highlands Stock Languages

Substratum influence is noticeable in several parts of the East New Guinea Highlands Stock. In the south-west of its area, i.e. in southern parts of the West-Central Family and in the Wiru family-level Isolate, nasal vowel phonemes appear with great frequency - a feature also present in the languages adjoining that region in the south, south-west and south-east and belonging to other stocks and sub-phyla in the Trans-New Guinea Phylum. This characteristic may be attributable to a regional substratum which in most of its area seems to be linked with a) the simplification of the sentence-medial verb phenomena or even their defective or rudimentary nature or total absence, b) the simplification, or even absence, of subject person and number marking with verbs, and c) a proliferation of aspectual distinctions within the verb (Franklin and Voorhoeve 1973). Within the East New Guinea Highlands Stock, this substratum manifests itself largely through the presence of nasal vowels (see above) and c) only, whereas a) and b) are generally only met within areas outside it; except for the Wiru family-level Isolate.

The strong presence of set III pronoun forms in languages of the Kalam and Central Families and in Wiru, and to a lesser extent in Central and Eastern Family languages, also comes under the heading of substratum influence and can be explained in terms of linguistic prehistory (see 3.4.1.). Another comparable substratum influence manifesting itself in the stronger presence of set II pronouns than is usually the case with East New Guinea Highlands Stock languages is observable in languages of the Eastern Family.

2.7.3. THE KUTUBUAN STOCK

2.7.3.1. INTRODUCTORY REMARKS

The special problems surrounding the classification of the languages included here in what is being referred to as the Kutubuan Stock, the steps leading to the establishment of this stock, the membership of this stock to the Central and South New Guinea, and Kutubuan, Super-Stock, and the recent challenge to the existence of the Kutubuan Stock by Franklin (see 2.14.2. in this volume) have been reviewed above in 2.7.1. and 2.7.2.1. and need not be discussed here again.

Studies of some of the languages of the stock were undertaken by J. Rule (1952), W.M. Rule (1965), and Loeweke and May (1965, 1966). Several unpublished manuscripts of studies of Kutubuan Stock languages are held by the New Guinea Branch of the Summer Institute of Linguistics and the Asia Pacific Christian Mission (formerly Unevangelized Field Mission).

2.7.3.2. MEMBER FAMILIES OF THE KUTUBUAN STOCK AND THEIR GEOGRAPHICAL LOCATION

The two families constituting the Kutubuan Stock are the West Kutubu Family and the East Kutubu Family. They are both found in the extreme south of the Southern Highlands District, with the West Kutubu Family located north and south of the Leonard Murray Mountains and extending towards the Upper Kikori River, and the East Kutubu Family situated east of Lake Kutubu, on the main island of the lake, and extending some distance to the south-east to the Waga River.

2.7.3.3. COMPOSITION OF THE KUTUBUAN STOCK

The internal composition of the Kutubuan Stock (4000)¹⁴ is as follows:

1) West Kutubu Family	1,200
Fasu	750
Some	150
Namumi	300
2) East Kutubu Family	2,800
Foe	2,500
Fiwaga	300?

2.7.3.4. INTERRELATIONSHIPS WITHIN THE KUTUBUAN STOCK

The interrelationship of the languages within the two families is very close. In the West Kutubu Family, percentages of shared basic vocabulary cognates lie between the mid-fifties and mid-sixties, and the two members of the East Kutubu Family share over sixty percent basic vocabulary cognates.

Interrelationships across family boundaries are comparatively distant, both on the lexical and on the structural and typological levels. Percentages of basic vocabulary cognates shared across family boundaries range from the mid to high teens only, but regular sound correspondences are in evidence.

2.7.3.5. *TYPOLOGICAL AND STRUCTURAL FEATURES OF THE KUTUBUAN STOCK LANGUAGES*2.7.3.5.1. *General Remarks*

The structural and typological features of the languages of the Kutubuan Stock are basically comparable to those mentioned in 2.3.2.5. and 2.5.2. in this volume as characteristic of the Trans-New Guinea Phylum, with strong allowances made for the presence of the substratum features referred to above in 2.7.2.2.6. Of those characteristics, the nasal vowels are strongly present, and so is the multiplicity as aspectual distinctions within the verb, especially in the East Kutubu Family. Person marking with verbs is present in the East Kutubu Family, but number marking is lacking. Sentence-medial verb phenomena, are in evidence, but are simplified when compared with other Trans-New Guinea Phylum languages. With pronoun forms, set I forms (see 2.3.3.2.) prevail, but set III forms (see 2.3.3.4.) are strongly in evidence.

A few notes may be added here on Fasu (Loeweke and May 1965, 1966, Franklin and Voorhoeve 1973) and Foe (J. Rule 1952, W.M. Rule 1965, Franklin and Voorhoeve 1973) as representatives of the two families.

2.7.3.5.2. *Fasu (West Kutubu Family)**Phonology*

Consonants:	p	t	k
	f	s	h
	m	n	
		r	
	w	y	
Vowels:	i		u
	e		o
	a		

Phonemic nasalisation is present.

Suprasegmentals: A two-tone system appears.

Morphology

Nouns: An agentive (marked by -mo) is present, and relation markers are suffixes.

Pronouns: Fasu has three kinds of personal pronouns, one called ergative and functioning as the subject of intransitive verbs and the object of transitive ones, one nominative which serves as the subject of transitive clauses and also as possessive, and the third reflexive which constitutes the referent in clauses. Tone mostly disambiguates apparent homophonous forms.

	ergative	nominative	reflexive
sg 1	ano	nòmo	nì
2	né	nómo	ní
3	e	epo	ipi
dl 1	eto	etapo	itì
2	teto	tetápo	titi
3	teta	tetapò	tati
pl 1	isu	isiapo	isina
2	re	repo	namina
3	i	ipu	namina

Verbs: Final and medial verb forms are distinguished, and with both, intransitive, transitive and stative are contrastively marked. Subject identity and non-identity with medial verbs are distinguished, but only defectively. No indication of the person or number of the subject with verbs is found, but an indicative-declarative marker is met with. Four tenses: neutral, present, future and customary, are in evidence and are marked by suffixes. One attitude-marker referring to actions observed by the speaker is found. Two imperatives, immediate and deferred, are present, and also a large number of aspects and modes, e.g. completive, consecutive, purposive, causative etc. The interrogative is marked by the suffix *-re*, and the negative by the suffix *-fa*.

2.7.3.5.3. Foe (East Kutubu Family)

Phonology

Consonants:	t	k	ʔ
	b	d	g
	f	s	h
	v		
	m	n	
		r	
	w	y	
Vowels:	i	u	
	e	o	
	a		

Phonemic nasalisation is present.

Suprasegmentals: A two-tone system is present.

Morphology

Nouns: An agentive (marked by *-mo*) is present, and relation marking is by suffixes.

Pronouns: Only one set of personal pronouns appears. In the first person non-singular, inclusive and exclusive forms are distinguished.

	incl	1st excl	2nd	3rd
sg		na	na'a	yo
dl	yage	ya'a		haga'a
pl	yia	yiya	ha'a	ya'a

Verbs: Final and medial verb forms are distinguished. A distinction is made between subject identity and non-identity with medial verbs, but is defective in part. The person of the subject, but not its number, is indicated with final verbs through suffixes which vary for tense and the indication is more a speaker-verb than a subject-verb reference. In some verb forms, person marking is absent. Four tenses: present continuous, near past, far past, and future, are found and denoted by suffixes and the form of the subject markers. The indication of attitudes of the speaker to actions is complex: factual, seen, unseen, deduced, visible evidence and previous evidence are contrastively marked by suffixes. Two imperatives, immediate and deferred, are met with, and a large number of aspects and modes are present. Two negative forms are found with imperatives, one for immediate and one for deferred ones. Two different interrogative suffixes are present in Foe: -be with verbs, and -gebe with nouns and pronouns.

2.7.3.6. SUBSTRATUM INFLUENCE IN KUTUBUAN STOCK LANGUAGES

The Kutubuan Stock languages show a strong influence of the substratum mentioned above in 2.7.2.2.6. as occurring in the south-western part of the East New Guinea Highlands Stock.

2.7.4. THE ANGAN STOCK-LEVEL FAMILY

2.7.4.1. INTRODUCTORY REMARKS

The possibility of the existence of a group of closely interrelated languages in the area known today to be occupied by the Angan Family was mentioned in the early sixties by the present writer (Wurm 1960), Capell (1962), and C. and F. Voegelin (1965). The family - at first thought to be a stock (Wurm 1971) because of the lexicostatistically aberrant nature of one of its members - was definitely established by Lloyd, R. (1969), and Lloyd, J. and A. Healey (1970), with Lloyd, R. (1973) providing a comprehensive statement, and definitely establishing the group as a family and determining its constituent members.

The inclusion of the Angan Family into the Trans-New Guinea Phylum has had a somewhat checkered history. In Wurm 1971, the then Angan Stock was one of the groups of which it was thought that they might potentially be included with the Central New Guinea Macro-Phylum - the fore-runner of the present Trans-New Guinea Phylum - and strong indications supporting its membership to it were believed to be present. Further studies carried out since by the present writer (Wurm 1976, see also 2.4.1.5.1. in this volume) demonstrated that a quite significant number of Angan basic vocabulary items tied in well with Trans-New Guinea Phylum cognate chains such as those set up by McElhanon and Voorhoeve (1970), and constituted reflexes of Trans-New Guinea Phylum proto-forms. It could also be established that the Angan personal pronouns were typical set I (see 2.3.3.2.) Trans-New Guinea Phylum pronouns, and that some Angan structural features such as the prefixed object markers occurring with some verbs, medial verb forms etc. were of Trans-New Guinea Phylum type - in fact, the object markers mentioned were found to be formally near-identical with those met with in several other Trans-New Guinea Phylum stocks. Substrata features are admittedly strongly in evidence, and there may be good reasons to believe that the Angan people were not originally speakers of a Trans-New Guinea Phylum language: the somewhat aberrant nature of the Angan Family languages points in some ways to their possibly secondary Trans-New Guinea Phylum membership which may be attributable to the overlaying of a language element closely related to, or identical with, one strongly in evidence in the eastern part of the East New Guinea Highlands Stock, upon an earlier, presumably unrelated, language type (see also 2.5.3.3.1.). However, the present writer is of the opinion that this substratum influence is not extensive enough to justify the assignment of sub-phylum status to the Angan Family. At the same time, its apparently quite considerable differences from neighbouring language groups have been pointed out by other linguists (such as Franklin 1973a, and in 2.14.2. in this volume; R. Lloyd 1973) and, in the present writer's view, overstressed. The assessment of the vocabulary of Angan languages by the present writer as mentioned above, indicates that its lexical relationship to other Trans-New Guinea Phylum languages in general is apparently higher than may be suggested by the low percentage figures of shared basic vocabulary cognates arrived at as a result of the lexicostatistical comparison, by the inspection method, of individual Angan Family languages with individual East New Guinea Highlands Stock languages for instance. Also, it has been mentioned above that structural and typological agreements between Angan languages and in particular, languages of the East-Central Family of the East New Guinea Highlands Stock are quite pronounced (Lloyd, R. 1973); they extend to great formal similarity and even near-identity

of a number of function morphemes such as object prefixes and subject suffixes with verbs, and negative affixes with them.

In the light of the evidence mentioned above it may appear quite justifiable to include the Angan languages into the Trans-New Guinea Phylum and as constituting an ordinary, i.e. not sub-phylic, family-level stock in them.

Some of the detailed studies existing of some member languages of the Angan Family have been written by W. and L. Oates (1968), Lloyd, R. (1969) and West (1973). A number of unpublished manuscripts of studies of Angan Family languages are in the hands of the New Guinea Branch of the Summer Institute of Linguistics, and the New Tribes Mission.

2.7.4.2. GEOGRAPHICAL LOCATION OF THE ANGAN FAMILY

The Angan Family occupies the border area between the Eastern Highlands, Morobe and Gulf Districts, and the greater part of the area occupied by it is approximately evenly divided between the last two. It extends from the Lamari River in the Eastern Highlands District to the Upper Watut and the Bulolo Rivers in the Morobe District - and in the Gulf District, it stretches from its eastern border to the Vailala River, and spreads to within a few miles of the coast.

Nearly half of the Angan Family area, in the south and east, is occupied by Kapau, whereas the other eleven languages of the family are fairly evenly distributed in the north-western part, with a group of the Yagwoia and the Angaataha speakers each geographically separated from their respective main bodies of speakers.

2.7.4.3. COMPOSITION OF THE ANGAN FAMILY

The composition of the Angan Family (64,500)¹⁵ is as follows:

a) Main Sub-Family	63,500
Simbari ¹⁶	2,400
Baruya ¹⁶	4,400
Ampale ¹⁷	3,000
Kawacha	30
Kamasa	50
Yagwoia	6,100
Ankave	1,500
Ivori ¹⁸	400
Lohiki ¹⁸	850
Menya ¹⁹	12,400
Kapau ¹⁹	32,300
b) Angaataha sub-family-level Isolate	1,000

2.7.4.4. INTERRELATIONSHIPS WITHIN THE ANGAN FAMILY

The lexical relationship between the members of the Angan Family varies from very close (see the notes to 2.7.4.3.) to a medium-to-low family-level, with Angaataha rather aberrant and only barely within the family when considering its lexicostatistical sharing of cognates with the other Angan languages, though structurally and typologically it is somewhat closer to them. Structurally and typologically, the interrelationships of the Angan Family languages are generally closer than their respective lexical interrelationships.

2.7.4.5. TYPOLOGICAL AND STRUCTURAL FEATURES OF THE ANGAN FAMILY LANGUAGES

2.7.4.5.1. General Remarks

The structural and typological features of the Angan Family languages are, with a few notable exceptions, very much in keeping with those mentioned in 2.3.2.5. and 2.5.2. as typical of Trans-New Guinea Phylum languages. The main exceptions are: a) the presence of two genders in all the languages and a complex gender and class system with concord in at least one of them (Angaataha), with genders denoted by suffixed markers, and b) the appearance of verb prefixes indicating features which in other Trans-New Guinea Phylum stocks are mostly marked by suffixes, e.g. the indicative, imperative etc. The presence of somewhat complex syllable structures with initial consonant clusters is also a feature not as a rule met with in Trans-New Guinea Phylum languages. It seems that these aberrant features in otherwise fairly normal Trans-New Guinea Phylum type languages are, as has been suggested above in 2.7.4.1., attributable to substratum influence and reflect the superimposition of a language form of the Trans-New Guinea Phylum type upon an earlier, different language type.

A few notes on Baruya may be added here:

2.7.4.5.2. Baruya (Lloyd 1973)

Phonology

Consonants:	p	t	k	ʔ
	b	d	g	
	m	n	ŋ	
		l		
		r		
	w	y		

Vowels:	i	ɨ	u
	e		o:
	a		a:

Suprasegmentals: A phonemic pitch accent combining high pitch and stress is present.

Morphology

Nouns: A two-gender system is present and indicated by suffixes. Relation markers which include an agentive are suffixes. Cases are also denoted by clitics (see below under 'Pronouns').

Pronouns: No gender distinction is indicated in personal pronouns.

	1st	2nd	3rd
sg	nɨ-	gɨ-	ga-
dl	na:rɨ-		kɨrɨ-
pl	ne-	sarɨ-	ku-

With all of these, -mɨno appears as a suffixed element.

With pronouns, phrases and included clauses, clitics occur which are case markers and (except for pronouns) also show gender, person and number: Masculine:

	1st	2nd	3rd
sg	-i-nyo	-i-gɨno	-lo
dl	-i-na:lo	-ra:i-ʔɨlo	-ra:lo
pl	-i-na:wo	-iʔɨlo	-ra:wo

Feminine:

	1st	2nd	3rd
sg	-ʔ-nyo	-ʔ-gɨno	-wo
dl	-ʔ-na:lo	-wa:i-ʔɨlo	-wa:lo
pl	-n-na:wo	-ŋ-iʔɨlo	-ŋo

Verbs: Verb roots are generally subdivided into active and stative. Some roots appear with indirect object prefixes:

	1st	2nd	3rd
sg	nyɨ-	gɨ-	
dl	neʔɨ-	yɨʔɨ-	wɨ-
pl	ne-		

Benefactive forms are frequent and formed by the suffix -y, e.g. dɨ-nyɨ-ram-y-ɨ = *hit (kill) it for me!* = ([imperative]-[me]-[hit]-[benefactive]-[2nd sg subject with imperatives]).

Final (independent) and medial (dependent) verbs are distinguished, as well as subjunctive and included verbs. With final verbs, tense and the person and number of the subject are indicated by suffixes. The subject suffixes differ somewhat in the various tenses, moods and aspects, e.g.

	complete	incomplete	regular past	
sg 1	-ano	-eno	-eno	
2	-a:no	-ino	-ino	
3	-ako	-iko	-ako	
dl 1	-olo	-olo	-olo	
2}	-a:lo	-ilo	-ilo	
3}				
pl 1	-ono	-ono	-ono	
2}	-a:wo	-a:wo	-ewo	etc.
3}				

The subject suffixes listed are reflexes of the proto-forms listed in 2.7.2.2.5.6. for several families of the East New Guinea Highlands Stock and are one of the factors proving the comparatively close interrelationship of the Angan languages to other Trans-New Guinea Phylum stocks. Reflexes of these proto-forms occur in some other Trans-New Guinea Phylum stocks as well, so for instance, in languages of the Ok Family of the Central and South New Guinea Stock.

Baruya has several past tenses: nocturnal past (i.e. previous late afternoon or night), near past, regular past and far past, and two future tenses: desiderative and future, e.g. *y-ag-eno* = *I did it* = ([*do*]-[regular past]-[1st sg subject in regular past form]).

The negative consists of the prefix *ma-* and the suffix *-y* which precedes the tense or aspect suffix, e.g. *ma-n-y-iw-ano* = *I have not finished eating* = ([negative]-[eat]-[negative]-[complete] -[1st sg subject in complete aspect form]). The interrogative is denoted by the prefix *da-*.

With medial verbs, a distinction is made between future and non-future tense, simultaneity or successivity of the actions referred to in the two successive clauses, and identity or non-identity of the subjects of the verbs in the two successive clauses. The ordinary final verb subject suffixes play a part in them, e.g. *ka-n-iw-a:wo* = *they have eaten and...* = ([change of subject]-[eat]-[complete]-[3rd pl subject in complete aspect form]); *n-ev-a* = *they ate and they...* = ([eat]-[3rd pl subject in past form < -ewo]-[same subject successive marker]).

2.7.4.6. SUBSTRATUM INFLUENCE IN ANGAN FAMILY LANGUAGES

The presence of a strong substratum in the Angan Family languages has already been mentioned and discussed above in 2.7.4.1.

2.7.5. THE TEBERAN-PAWAIAN SUB-PHYLUM-LEVEL SUPER-STOCK

2.7.5.1. INTRODUCTORY REMARKS

The languages included in the Teberan and Pawaian sub-phylum-level Families are in some ways rather aberrant when compared with other Trans-New Guinea Phylum languages (Wurm 1964), probably in part as a result of the strong presence of a substratum in them. It appears to be the same substratum as that referred to above in 2.7.2.2.6. in connection with languages in the south-western part of the East New Guinea Highlands Stock. At the same time, their lexicostatistical sharing of basic vocabulary cognates with other Trans-New Guinea Phylum languages is of a fairly low order, though they contain a number of reflexes of Trans-New Guinea Phylum proto-forms. In the light of these facts, it has been decided to assign sub-phylum status to both of them.

In 2.2.6.8. in this volume, the circumstances relating to the Pawaian language(s), whose relationship to other Trans-New Guinea Phylum languages had been previously regarded as particularly distant and doubtful, have been discussed in some detail, and mention is made of MacDonald's (1973) recent work which makes possible the inclusion of the Pawaian and Teberan Families into a super-stock.

2.7.5.2. THE TEBERAN FAMILY

2.7.5.2.1. Introductory Remarks

The Teberan Family was originally set up by Franklin (1968) after one of its languages, Mikaru (now called Daribi), had been classified by the present writer (Wurm, 1960, 1964) as distantly related to the East New Guinea Highlands Stock, and a Summer Institute of Linguistics team had subsequently worked in it. The first detailed discussion of the family was provided by MacDonald (1973) who also discussed Pawaian in his study.

2.7.5.2.2. Geographical Location of the Teberan Family

The Teberan Family is located in an area in the interior of the Gulf District of Papua New Guinea, and overlaps into the Chimbu and Southern Highlands Districts. More precisely, it occupies the country bordered by a line running from Karimui in the Chimbu District south to the headwaters of the Sirebi River, and then north towards the Kerabi Valley, then running on the northern side of the Erave River eastwards to the Tua River and back to Karimui (MacDonald 1973).

2.7.5.2.3. Composition of the Teberan Family, and the Interrelationship within it

The Teberan Family (8,000)²⁰ has only two members: Daribi (formerly called Mikaru) (5,500) and Polopa (2,500).

The relationship between the two languages is lexically not close: they share about 35% basic vocabulary cognates. Within the Polopa language, dialect diversity is great, and the language appears to consist of a chain of dialects whose geographically distant variants may not be mutually intelligible. The percentages of basic vocabulary cognates shared by such dialects fall below to well below 60%, according to MacDonald (1973).

2.7.5.2.4. Typological and Structural Features of Languages of the Teberan Family

2.7.5.2.4.1. *General Remarks*

The languages of the Teberan Family show typological and structural features which are basically similar to the ones mentioned in 2.3.2.5. and 2.5.2. in this volume as typical of the Trans-New Guinea Phylum languages, but strong allowances have to be made in this for the substratum referred to above in 2.7.2.2.6. In particular, the presence of nasal vowels, the rarity of person and number indication with verbs, and the simplicity of medial verb forms are attributable to this influence. Of other features, a simple syllable structure, the very strong presence of set III (see 2.3.3.4.) pronoun forms which overshadows that of typical Trans-New Guinea Phylum set I (see 2.3.3.2.) pronoun forms in the language, and the appearance of three different personal pronoun types may be mentioned.

A few notes on Daribi may be given (MacDonald 1973).

2.7.5.2.4.2. *Daribi*

Phonology

Consonants:	p	t	k
	p ^h	t ^h	k ^h ²¹
		s	h
	m	n	
		l	
	w	y	
Vowels:	i	u	
	e	o	
	a		

Phonemic nasalisation is present.

Suprasegmentals: A two-tone system with low functional load is present.

Nouns: Relationship marking is by suffixes, and an agentive/instrument marker (-go) is present. No obligatorily possessed noun category - i.e. category with possessive affixes - is present.

Pronouns: Three kinds of personal pronouns are present in Daribi, a) one functioning as objects and as subjects of verbs lacking expressed objects; b) one in which the agentive suffix -go appears, as subjects with expressed objects, and c) one as possessives. Only singular and plural numbers are distinguished, though a dual can be formed with the help of the numeral *si* = *two* if necessary, e.g. the type b) pronoun 2nd pl is *dagi-si-go*.

The forms of the three kinds of pronouns are:

	a)	b)	c)
sg 1	ena	eno	ena
2	nagi	nago	naga
3	ãgã	ãgãĩ	ãgã
pl 1	da	dago	dena
2	dagi	dagigo	duga
3	augwadi	augwadigo	augwa

Verbs: Medial verbs are in evidence, but they are very simple and few in number. With final verbs, person and number of the subject is only rarely marked.

The vowels in verb stems often undergo changes when suffixes are added to the verbs. Tenses and aspects are indicated by suffixes - e.g. -bo denotes a present tense/incomplete aspect - and customary or habitual action by -bo-da, e.g. *da-go we a-de sa-bo-da* = *we get wives there customarily* = (we-agentive) woman (there-locative) (obtain-incomplete-[customary = is]).

The negative is denoted by -be, e.g. *te bidi eno su-be* = *I did not see that man* = *that man I (see-negative)*. The interrogative is indicated by the suffix -we.

Several imperative forms are distinguished in Daribi.

2.7.5.2.5. Substratum Influence in the Teberan Family Languages

It has already been mentioned above in 2.7.5.1. that the substratum referred to in 2.7.2.2.6. is strongly present in the Teberan Family languages.

2.7.5.3. THE PAWAIAN FAMILY

Pawaian which is the eastern neighbour of the Teberan Family in the Gulf District of Papua New Guinea and overlaps into the Eastern Highlands and Chimbu Districts, was assumed by Franklin (1968) to constitute a two-language family, though more recent work (Franklin: personal communication; MacDonald 1973) seems to give fresh support to the previous assumption (Wurm 1971) that it constitutes only a language isolate with several dialects.

A discussion, in some detail, of its classificatory status has been given in 2.2.6.8. in this volume and need not be repeated here. Mention may however be made of Trefry's (1969, 1972) work in it.

The number of its speakers is estimated to be about 2,300 including all dialects.

Its typological and structural characteristics are, on a general level, quite similar to those of the Teberan Family languages, and the same substratum is strongly present in it.

Its consonantal inventory is simpler than that of Daribi:

p	t	k
	s	h
m	n	
	l	
w	y	

However, it has six vowels:

i	u
	o
e	ɔ
a	

Nasalisation of vowels is phonemic, and a two-tone system is present.

In its morphology, Pawaia shows quite considerable typological and structural agreements with the Teberan Family languages.

Nouns: No relational suffixes are present, and the agentive is not marked. No obligatorily possessed noun category is present.

Pronouns: Only three personal pronouns exist:

1 sg	ana
2 nd	ono
1 pl	nono

Of these, ana and nono belong to set I (see 2.3.3.2. in this volume), and ono to set III (see 2.3.3.4.). Demonstratives replace the third person pronoun.

Possession is indicated by special possessive pronouns. Only two are in evidence: *a* = *my, our*, *ma* = *your, his, their*.

Examples: *a hã* = *my dog*, *ma wo* = *your bag*.

Verbs: Final and medial verbs are distinguished, but the latter are rudimentary and are marked only by the omission of the indicative-declarative suffix *-e* which appears with final verbs. No distinction between subject identity or non-identity in two successive clauses is made, e.g. *á nu-e* = *he has gone* = *he (go-indicative/declarative)*; *á nu hetesüe* = *he has gone to eat* = *he go (medial form) (will-eat)*.

Verbs in Pawaian undergo morphophonemic changes manifesting themselves in consonant changes when suffixes are added to them. They are obligatorily marked for either of two aspects, perfect (*-i-*) or imperfect (*-ai-*), e.g. *ono het-i-e* = *you saw* = *you (see-perfect-declarative)*, *ono hen-ai-e* = *you are seeing* (or: *you will see immediately*) = *you (see-imperfect-declarative)*.

Four suffixes denote (subject-)person-number-stative in portmanteau fashion, i.e.

- o- 1st sg-perfect-stative
- ũ- 3rd sg-perfect-stative
- ulo- 1st sg-imperfect-stative
- esũ- 3rd sg-imperfect-stative

Example: *ana het-ulo-e* = *I am seeing* = *I ([see]-[1st sg subject + imperfect + stative]-declarative)*.

The negative is marked by *-ãi*, and the interrogative by *-a*, both replacing the declarative suffix *-e*, e.g. *a hen-u-a* = *did he see?* = *he ([see]-[3rd sg subject + perfect + stative]-[interrogative])*.

The non-immediate future tense is marked by the suffix *-u-* after the stem, e.g. *omol hen-u-ai-e* = *they will look later* = *(those-men) ([look]-[non-immediate future]-[imperfect]-[declarative])*.

2.7.6. THE TURAMA-KIKORIAN SUB-PHYLUM-LEVEL STOCK

2.7.6.1. INTRODUCTORY REMARKS

After early indications by Capell (1962) regarding the existence of several interrelated languages in the area of the Middle and Upper Turama and of the Paibuna and Omati Rivers in the western part of the Gulf District, K. Franklin and C.L. Voorhoeve carried out further preliminary studies in them (Franklin 1968, also mentioned in Wurm 1971 - in the note before the late 1969 supplement) and came to the conclusion that these languages whose location they were able to delineate more definitely, constituted a family and were related to languages of what is today known as the Central and South New Guinea Stock of the Trans-New Guinea Phylum.

Subsequent studies carried out mainly by Franklin (1973b) showed the languages to be four in number, to extend further than previously assumed, and to constitute a stock consisting of a family and a family-level isolate. He named it the Turama-Kikorian Stock, with Kikorian Stock as an alternative.

From what is known of these languages, they seem to be somewhat aberrant when compared with other Trans-New Guinea Phylum languages, though apparently less so than those of the Teberan-Pawaian sub-phylum-level Super-Stock. They show some strong Trans-New Guinea Phylum features such as very predominantly set I (see 2.3.3.2. in this volume) pronouns, and possessive suffixes to nouns which are formally related to the pronouns. At the same time, the number of reflexes of Trans-New Guinea Phylum proto-forms in them is comparatively low. In the light of this, it has been decided to give the Turama-Kikorian Stock preliminarily the status of a sub-phylum within the Trans-New Guinea Phylum - further information on its member languages may well make it possible to classify it as an ordinary stock in the phylum.

2.7.6.2. GEOGRAPHICAL LOCATION OF THE FAMILIES OF THE TURAMA-KIKORIAN STOCK

The Mena Family of the stock is located in the Middle and Upper Omati and the Upper Turama Rivers area in the extreme western corner of the Gulf District of Papua New Guinea. Omati is spoken along the Middle Omati River, with Ikobi on the Upper Omati, and Mena further west on the Upper Turama River.

The family-level isolate, Kairi, is spoken in villages generally north of the town of Kikori, along the Kikori, Sirebi and Iviri Rivers, with a geographically separate small group situated further north-west on Iehu Creek.

2.7.6.3. COMPOSITION OF THE TURAMA-KIKORIAN STOCK

The composition of the Turama-Kikorian Stock (2,100)²² is as follows:

- | | |
|---|-------|
| 1) Turama-Omatian (or Mena) Family | 1,450 |
| Omati | 800 |
| Ikobi } | |
| Mena } | 650 |
| 2) Kairi (or Dumu) family-level Isolate | 650 |

2.7.6.4. INTERRELATIONSHIPS WITHIN THE TURAMA-KIKORIAN STOCK

Within the Turama-Omatian Family, the interrelationship between Ikobi and Mena is very close, and it may be possible that they constitute in fact only dialects of one language. It has been claimed that mutual intelligibility exists between them (Franklin 1973b). The lexical interrelationship between them and Omati is on the level of about 50% shared basic vocabulary cognates, but further study may show it to be closer.

The percentages of basic vocabulary cognates shared by Kairi with numbers of the Turama-Omatian Family are in the high teens, but here again it appears likely that their interrelationship is in fact closer.

2.7.6.5. TYPOLOGICAL AND STRUCTURAL FEATURES OF THE LANGUAGES OF THE TURAMA-KIKORIAN STOCK

Comparatively little is known of the structure of these languages. Some of their characteristics seem to be the presence of nasal vowels, and apparently, the same substratum as mentioned above in 2.7.2.2.6. is making itself felt in them. It appears that the characteristics of the languages are in keeping with those mentioned for the Trans-New Guinea Phylum languages in general in 2.3.2.5. and 2.5.2., if allowance is made for the presence of that substratum. The marking of the person and number of the subject with verbs through suffixes seems to be present with at least a number of forms. The verb stems undergo morphophonemic changes manifesting themselves in vowel changes when suffixes are added to them. The object is marked with at least some verbs, and a special set of verb forms denotes the negative. Some medial verb forms appear to be present, but the evidence is inconclusive as to whether forms denoting subject identity and non-identity of the subjects of the verbs in the two successive clauses are differentiated. Relational and possessive suffixes appear with nouns.

Some notes on Kairi may be added here (Franklin 1973b; A. Capell's field notes kindly put at the disposal of the author).

Phonology

Consonants:	p	t	k
	b	d	g
	m	n	
		r	
	f	s	h
	v		
	w	y	

Vowels: i u
 o
 e ɔ
 a

Phonemic nasalisation is present.

Suprasegmentals: No reliable information is available but the materials suggest the presence of a two-tone system with low functional load.

Morphology

Nouns: Relational markers are suffixes, and an agentive, or subject marker, -po, is present. Possessive suffixes appear. However, no obligatorily possessed category of nouns is present.

Pronouns:

	1st	2nd	3rd
sg	ene	eke	ane
dl	nati	kati	ati
pl	name	kame	ame

The possessive suffixes which appear in conjunction with the proposed personal pronouns, appear to be optional. They are:

1st	-na(mo)
2nd	-ka(mo)
3rd	-a(mo)

Example: eke u-ka = *your* (sg) *coconut*, but ane neikomo = *his food*.

Possession can also be indicated by the personal pronouns placed after the noun indicating the possessed object, e.g. maka nati = *our* (dl) *father*.

Verbs: There are final and medial verbs, but it is not quite clear whether with the latter, a distinction is made between forms denoting identity or non-identity of the subjects of the verbs in the two successive clauses, though some indications point in that direction. The elaboration of the medial verb forms is of a very low order, and at least some subject medial forms consist of the verb stem only, e.g. nati ame-wahito waheti-ma-po a-po pini-te youka-uto = *we watched him, and we saw that he went into the bush* = *we* (*him-see*) ([see: in allomorphic form]-[1st pl subject marker]-[medial verb change of subject marker?]) (*he-subject*) (*bush-into*) ([direction?]-[go]).

With final verbs, the person and number of the subject are sometimes marked by portmanteau suffixes in conjunction with morphophonemic changes affecting the vowels of the verb stem. In the past tense these markers appear to be absent - they appear largely in forms denoting a stative

which would be comparable to the situation in Pawaian (see above 2.7.5.3.), e.g.

ene no	}	<i>I am eating</i>
ene ne-imo		
eke no-noa		<i>you (sg) are eating</i>
ane no-mo		<i>he is eating</i>
name no-mo		<i>we all are eating</i>
kame na-do		<i>you all are eating</i>
ame ne-mo		<i>they are eating</i>

The negative is formed by vowel changes, e.g. ene na-imo = *I am not eating*, and affixes seem to play a part.

There seem to be four tenses: past, distant past, present and future, and punctiliar and continuous aspects. Aspectual and modal elaboration appears to be of a low order.

2.7.6.6. SUBSTRATUM INFLUENCE IN THE TURAMA-KIKORIAN STOCK LANGUAGES

It has already been mentioned above in 2.7.6.5. that influence from the substratum referred to above in 2.7.2.2.6. is present in the Turama-Kikorian Stock languages.

2.7.7. THE INLAND GULF SUB-PHYLUM-LEVEL STOCK

2.7.7.1. INTRODUCTORY REMARKS

The Inland Gulf Stock constitutes a very recent addition to the Trans-New Guinea Phylum languages. Its existence was discovered by Franklin in 1969 (Wurm 1971: note before the late 1969 supplement) who split off some of its languages from the then tentatively established Turama-Kikorian Family, and combined them into a Turama and Bamu Rivers Family which constituted a phylum-level family isolate. It was later found that a geographically widely separated language, Ipiko, showed a stock-level relationship to this newly established family - this led to the establishment of a new stock which was named the Inland Gulf Stock (Franklin 1973b). It was regarded until quite recently as constituting a small Papuan phylum by itself, until a short while ago, Franklin (see 2.14.2. in this volume) established the fact that it was related to other stocks in the area which were members of the Trans-New Guinea Phylum. He noted that its relationship was more obvious with the Turama-Kikorian and the Central and South New Guinea Stocks than with others.

The pronouns of the Inland Gulf Stock languages belong very predominantly to set I (see 2.3.3.2.), the typical Trans-New Guinea Phylum set, only the three singular pronouns in Ipiko belong to sets B, III and II

(see 2.3.3.7., 2.3.3.4. and 2.3.3.3. in this volume) respectively. Their vocabulary contains a number of reflexes of Trans-New Guinea Phylum proto-forms including verbs (e.g. *say*). Little is known of their structure, but on the basis of the evidence mentioned above, it seems quite justifiable to include the Inland Gulf Stock, on the sub-phylum-level, into the Trans-New Guinea Phylum. Further information on the languages, especially on their structure, may make it possible to give it ordinary stock-status within the phylum.

2.7.7.2. GEOGRAPHICAL LOCATION OF THE MEMBERS OF THE INLAND GULF STOCK

The languages of the Minanibai Family within the stock are spoken in three geographically separated locations.

Minanibai is spoken on the Middle Paibuna River, immediately to the north of the Turama Delta, in the western part of the Gulf District of Papua New Guinea, and in a village (Pai'ia'a No.2) at the mouth of the Omati River further east.

Tao-Suamato is located on the Upper Bamu and the Middle and Lower Wawoi Rivers in the north-eastern corner of the Western District of Papua New Guinea.

Another language, Karami, now apparently extinct, was reported in 1917 to be spoken on the right-hand side of the left branch of the Upper Turama River in the western corner of the Gulf District. The somewhat unreliable wordlist given of the language in the report shows it to be a member of the Inland Gulf Stock - it may have been one of the Minanibai Family.

Ipiko, the family-level isolate within the Inland Gulf Stock, is spoken far to the east of the Minanibai Family, about five miles up the Pie River, north of Baimuru Government Station, in the central part of the Gulf District.

2.7.7.3. COMPOSITION OF THE INLAND GULF STOCK

The composition of the Inland Gulf Stock (800)²³ is as follows:

1) Minanibai Family	600
Minanibai	300
Tao-Suamato	300
Karami	extinct
2) Ipiko family-level Isolate	200

2.7.7.4. INTERRELATIONSHIPS WITHIN THE INLAND GULF STOCK

The relationship between the two surviving members of the Minanibai Family is very close, and it seems likely that they constitute only dialects of one language. The percentage figures of basic vocabulary

cognates shared between Karami and the Minanibai Family languages are very low (17% and 11%), but the Karami list is not reliable, and other old lists giving Minanibai and Tao-Suamato items yield percentage figures of only 40-45% cognates shared when compared with modern lists (Franklin 1973b). From this, it may be extrapolated that the real lexical relationship of Karami with the Minanibai Family languages may well be above the diagnostic limit for family membership.

The relationship between Ipiko and the two members of the Minanibai Family is on the low-to-medium stock-level, with percentages of shared cognates 20% and 14% respectively.

2.7.7.5. TYPOLOGICAL AND STRUCTURAL FEATURES OF THE INLAND GULF STOCK LANGUAGES

At present, little is known of the structure of the languages beyond some basic phonological information, the pronoun system and some very limited information on noun and verb morphology. The notes given below refer to Minanibai (Franklin 1973b).

Phonology

Consonants:	p ~ f	t	k
	mb	nd	ŋg
			h
	m	n	
		r	
Vowels:	i	u	
		o	
	e	ɔ	
	a		

No information is available on the suprasegmental system.

Morphology

Pronouns:

	1st	2nd	3rd
sg	no	ŋgo	eti
pl	ni	ndo	eti

A dual set seems to be present, but the forms given in Franklin 1973b are identical with the plural forms.

Other scanty information on morphology which can be culled from the materials suggest some structural similarity between the Inland Gulf Stock languages and those of the Turama-Kikorian Stock.

2.7.8. THE ELEMEN SUB-PHYLUM-LEVEL STOCK

2.7.8.1. INTRODUCTORY REMARKS

The Eleman Stock also constitutes a very recent addition to the Trans-New Guinea Phylum. The existence of a family of closely interrelated languages in coastal and hinterland areas of the eastern part of the Gulf District has been known since Ray (1907) established it - it was known as the Toaripi Family for a long time.

Detailed work in member languages of the family and in the family itself as a whole has in recent years been carried out by Brown (1968, 1972, 1973) who gave it the name Eleman Family.

The family was, until quite recently, regarded as constituting a small Papuan phylum by itself (Wurm 1971).

At the same time, the existence of the Namau or Koriki language, now called Purari, to the west of the Toaripi or Eleman Family area, was also known since the beginning of the century (Ray 1907). Until quite recently, it was regarded as a phylum-level Papuan isolate (Wurm 1971).

Similar statements apply to the Tate or Raepa-Tati language spoken near Kerema in the middle of the Eleman Family area (Franklin 1973b).

However, recent work by Brown (1973) and Franklin (see 2.14.2. and 2.15.3.) has demonstrated that both the Purari and the Tate languages are related to those of the Eleman Family on the stock level which makes it possible to include them all in a newly set-up Eleman Stock. At the same time, Franklin (in 2.14.2.) suggests that the Eleman Stock may be related to the East New Guinea Highlands Stock on the phylum level, which would make it a member of the Trans-New Guinea Phylum. There is corroborating non-linguistic evidence supporting the assumption of a relationship between the East New Guinea Highlands and the Eleman Stocks, and it seems that at least some groups among the Eleman people have migrated to their present area from the interior.

The personal pronouns in the Eleman Stock languages belong in part to sets I and III (see 2.3.3.2. and 2.3.3.4.), but some cannot be assigned to any of the recognised sets (see 2.3.3.8. in this volume). The languages contain a limited number of reflexes of Trans-New Guinea Phylum proto-forms, and some of their structural features are comparable with those of Trans-New Guinea Phylum languages in general (see 2.3.2.5. and 2.5.2. in this volume) though there are some differences. In the light of this, it seems possible to include the Eleman Stock languages into the Trans-New Guinea Phylum on a sub-phylic level.

2.7.8.2. GEOGRAPHICAL LOCATION OF THE MEMBERS OF THE ELEMEN STOCK

The Eleman Family of the stock extends along the coast and hinterland of the eastern half of the Gulf District of Papua New Guinea, from the Aivei River east of the Lower Purari River, eastwards to the border between the Gulf and Central Districts. Along the Lower Vailala River area in the west, and along the Lakekamu River in the east, two of its member languages (Orokolo and Toaripi) extend inland for quite some distance.

The Purari family-level isolate adjoins the Eleman Family in the west and occupies the Purari Delta area, extending east to the Pie River and north to the height of Baimuru Government Station.

The Tate language is spoken in three villages in the Cape Cupola area, south-east of Kerema.

2.7.8.3. COMPOSITION OF THE ELEMEN STOCK

The composition of the Eleman Stock (41,700)²⁴ is as follows:

1) Eleman Family		34,900
Toaripi dialects	20,200	
Sepoe	1,100	
Toaripi proper	14,400	
Kaipi	4,700	
Uaripi	2,500	
Opao	1,200	
Keuru (or Belepa) dialects	4,600	
Keuru proper	3,900	
Aheave	700	
Orokolo	6,400	
2) Purari (Koriki, Namau) family-level Isolate		6,500
3) Tate family-level Isolate		270

2.7.8.4. INTERRELATIONSHIPS WITHIN THE ELEMEN STOCK

Within the Eleman Family, the degrees of interrelationship are close to very close, with the percentages of shared basic vocabulary cognates ranging upwards from the high forties and low fifties, and the majority of them lying in the sixties and seventies. The interrelationships on the structural level are also very close.

Brown (1973) suggests a subdivision into an Eastern and a Western Eleman linguistic group, the first comprising the Toaripi dialects and Uaripi, and the second Opao, the Keuru dialects, and Orokolo. While the cognation percentages lie persistently higher within the group boundaries than across them, percentages of up to 75% occur across the boundaries

between adjacent languages belonging to opposite groups - obviously the result of mutual borrowing.

The lexical relationship between Purari and the Eleman Family languages is low - the percentage figures of shared basic vocabulary cognates range from below 10% to the low teens. However, the structural relationship between them, both on the typological and formal level, is closer than on the lexical. With Tate, Purari shares 15% basic vocabulary cognates. Further study may show the cognation percentages to be in fact higher.

2.7.8.5. TYPOLOGICAL AND STRUCTURAL FEATURES OF THE ELEMEN STOCK LANGUAGES

2.7.8.5.1. General Remarks

As has been mentioned above in 2.7.8.1., some of the structural features of the Eleman Stock languages are comparable to those mentioned in 2.3.2.5. and 2.5.2. as characteristic of Trans-New Guinea Phylum languages in general. Amongst the chief features of the languages of the stocks, the prevalence of clitics and particles over affixes may be mentioned. Relational markers with nouns are few, and no possessive marking with them is present. The personal pronouns display an inclusive-exclusive distinction in the plural forms. The verb is characterised by a lack of indication of the person and number of the subject, and a low-level development of medial forms which do not show distinct forms to denote identity or non-identity of the subjects in successive clauses.

A few notes on Toaripi, of the Eleman Family, with some remarks on the Purari family-level Isolate, may be added (Brown 1973):

2.7.8.5.2. Toaripi

Phonology

Consonants: p t
 f s h
 m l

m has a bilabial fricative allophone, and l an r allophone. In the practical orthography, these allophones are written as v and r.

Vowels: i u
 o
 e ɔ
 a

ɔ is rendered in the practical orthography by ȯ. Stress is predictable.

The syllable structure is very simple, and diphthongs abound.

Morphology

In the morphology, suffixes and clitics or particles play an important part. Several of the suffixes appearing in the morphology are demonstrably derived from words such as verb forms.

Nouns: Three relations are indicated by particles: possessive (-ve), instrumental (-sa), and object (-la), e.g. *uamori ve tivi* = *women's work*.

A few relationship terms take a plural suffix.

No obligatorily possessed nouns exist, and possessive affixes are not present in the language.

Pronouns: The personal pronouns show an inclusive-exclusive distinction, but only in the plural.

	incl	1st excl	2nd	3rd
sg		ara(o)	a(o)	are(o)
dl		elaka	euka	ereuka
pl	ereita	ela(o)	e(o)	ere(o)

Possession is expressed by the preposed personal pronouns with the possessive particle -ve suffixed to them, e.g. *arave* = *my*. The object particle, as a suffix to pronouns, has the allomorphic form -ro, e.g. *araro* = *me* (direct and indirect object).

Verbs: Final and medial verb forms occur as well as relative verb forms which function as noun adjuncts.

With final verbs, no marking of the person or number of the subject is found, only tense and aspect is shown by suffixes and auxiliaries.

Five tenses are distinguished: indefinite, remote past, recent past, immediate future and indefinite future, e.g. with *mapai* = *hear* the five tense forms are *map-ai*, *mapo-pe*, *mapa-ita*, *mapai roi*, *mapai vei la roi*.

In the indefinite tense, and some other verb forms, the suffixes have allomorphic forms establishing several conjugations. A special set of stative verbs exist with which a singular-plural distinction is marked.

The aspects include present continuous, recent and remote past frequentative, and habitual. For instance, with *mapai* = *hear*, the four forms are: *mapai-peta*, *mapai-ape*, *mapa-vota*, *mapai-vei*.

The negative is marked by auxiliaries, e.g. for the present and past, *kao* is placed after the indefinite tense form, e.g. *mapai kao* = *do (did) not hear*.

The interrogative is denoted by the clitic *ei*.

An ordinary and an emphatic imperative exist and are marked by suffixes, e.g. *mapai-a* = *listen!*

Medial verb forms show no distinction for identity or non-identity of the subjects of the verbs in the two successive clauses. They are not marked for tense, aspect or mood, and are formed by not entirely predictable changes from the indefinite tense form, e.g. mapai = *hear* has the medial form mapi. Stative verbs have no separate medial forms. Example: ere isai elavo voa pataipe = *they went (coastwards) and climbed into the men's house = they (coastwards-go) (men's house) into climbed.*

Simultaneity of the actions referred to in the two successive clauses is indicated by the particle vo after the medial verb: are soea vo kotipe = *he running came.*

Other medial verb forms denoting purpose are formed by the placing of the particle vei after the indefinite tense form, e.g. ere oru mere vipai vei kavōpe = *they banana suckers plant-to (went inland).*

2.7.8.5.3. Purari

The Purari language shows very considerable typological agreement with the Eleman Family languages and formal identity between several markers in Purari and their equivalents in Eleman Family languages is present. Its pronouns belong predominantly to sets I and III (see 2.3.3.2. and 2.3.3.4.), and thus can be assigned to recognised sets. No inclusive-exclusive distinction is present in the plural forms.

The general verbal system and structure in Purari is closely comparable to that found in Eleman Family languages (see the discussion of the Toaripi verb above in 2.7.8.5.2.), and some forms are identical, e.g. the indefinite tense, e.g. Purari ru-ai = *stab*: Toaripi suk-ai.

2.7.8.6. SUBSTRATUM INFLUENCE IN ELEMEN STOCK LANGUAGES

It seems that the substratum referred to above in 2.7.2.2.6. has exercised some moderate influence upon the Eleman Stock languages, but some of its chief characteristics, such as nasal vowels, are absent from these languages.

2.7.9. THE OKSAPMIN SUB-PHYLUM-LEVEL ISOLATE

The Oksapmin language, spoken by approximately 5,000 people to the west of the uppermost course of the Strickland River, and immediately north of the border between the Western and West Sepik Districts of Papua New Guinea, is a doubtful member of the Trans-New Guinea Phylum. The problems associated with its classification have been discussed in 2.2.6.9. in this volume and need not be taken up here again. In view of what has been said there, the classification of Oksapmin as a sub-phylum-level isolate within the Trans-New Guinea Phylum may be appropriate, until further studies may call for a revision of this classification.

N O T E S

1. The figures indicating numbers of speakers are approximate and based on 1972 census figures.
2. Languages showing rarely below 45% and mostly above 55%, but below 70% shared basic vocabulary cognates (see 2.2.5.) are classified as belonging to the same sub-family.
3. It may perhaps prove possible to include Binumarien into the Tairora dialects.
4. The Kamano dialects consist of several incomplete mutual intelligibility chains: Kamano - Kanite - (Keiagana), Kamano - Kanite - Keiagana - (Yate), (Kamano) - Kanite - Keiagana - Yate - (Yagaria), (Kanite) - Keiagana - Yate - Yagaria, (Keiagana) - Yate - Yagaria.
5. Gimi could perhaps be classified as a sub-family-level isolate. It appears to be somewhat closer to the Kamano sub-family in structure than to Fore, though lexically it shows much closer links with the latter (46% as opposed to 35%). At the same time, Kenati seems to be lexically almost equally closely related to Fore and Gimi which may suggest that Fore and Gimi have closer links with each other than with any other language.
6. Nagane is spoken in addition to Chimbu proper, by a part of the adult male population of two of the four clans constituting the Inaugl tribe in the Upper Chimbu Valley. It is now being superseded by Chimbu proper.
7. Considerable confusion has been reigning over the names of these communalects. When assessing the results of his 1958-59 fieldwork, the present writer distinguished two languages which he called Narak (around Tabibuga Patrol Post) and Gandja (Kandawo) (in the Jimi Headwaters area

around Yawaramon and Monggum) (Wurm 1961a, 1971). He found that their basic vocabulary cognation percentage was only 61%. Bunn and Scott (1962) used the name Narak for a group of Wahgi speakers living north of the Jimi Divide in the Jimi Sub-Family area and combined the present writer's Narak and Gandja into a single language which they called Gandja. At the same time, they said that 'this group is divided into two distinct dialects; one situated around the Patrol Post Tabibuga (i.e. the present writer's Narak) and the other in the Jimi Headwaters area around Yawaramon and Monggum (i.e. the present writer's Gandja). Mutual understanding between these two dialects is very limited due to the fact that they almost border on being two separate language groups'. As from 1966, the name "Gandja" was replaced in Summer Institute of Linguistics usage by "Narak" without a change of meaning. Cook's (1966) classification occupies an intermediate position between Bunn and Scott's, and the present writer's, classifications. An assessment by the present writer of his own materials in the light of recent comparative findings has shown that his original cognation percentage figure of 61% was much too low, and is close to 70%. In view of this it seems justifiable to regard Narak and Gandja as highly aberrant dialects of a single language for which the name Narak appears to be the best choice.

8. The exact determination of the number and nature of the Enga dialects still awaits further study. The dialects listed here have been tentatively set up on the basis of preliminary brief observations.

9. A number of the indigenes living in the Wapi Census Division are bilingual speakers of Enga and Pinaï of the Piawi stock-level Family in the Yuat Super-Stock in the Ramu Sub-Phylum of the Sepik-Ramu Phylum (see 2.11.3.5.1. in this volume). (1977 Note: P. Brennan regards Pinaï and Wapi as separate languages - see Note at the end of 2.15.1.)

10. Nete, in the headwaters of the Karawari River in the East Sepik District, is closely related to Enga, but is a distinct language. It seems to link most closely with the Maramuni dialect (R. Lang, personal communication).

11. Lemben, on the Karawari River and towards the Middle Yuat area in the East Sepik District, is known to the present writer only from a vocabulary (also, Patrol Report 1962). It has clear affinities with Enga, but the list shows only 43% cognation between Lemben and Enga which would put Lemben into a separate sub-family. At the same time, it may well be that either the vocabulary list is not very reliable, or that the language has borrowed heavily from outside (some of the items show connections with

Sepik Hill Family languages (Sepik Sub-Phylum, Sepik-Ramu Phylum, see 2.11.2. in this volume)) and that Lemben (Iniai) is basically a northern Enga dialect or a language closely related to Enga. Laycock (1973) reports Bisorio as spoken in four villages, one of them Iniai, in the area. He mentions that it shows close relationship with Nete to the south-west and suggests that Bisorio may be the same as Lemben. (1977 Note: P. Brennan (personal communication) identifies 'Lembena' as a separate language.)

12. The Wiru Family could perhaps be included into the West-Central Family as a sub-family-level isolate - see 2.7.2.2.4.

13. See 2.7.2.2.4.

14. The numbers of speakers are approximate and based on 1971 Census figures.

15. The numbers of speakers are approximate and based on 1971 Census figures.

16. Baruya and Simbari may perhaps prove to be aberrant dialects of one language.

17. Includes the Wojokeso dialect.

18. Ivori and Lohiki could perhaps be regarded as dialects of one language.

19. Menya and Kapau may perhaps constitute aberrant dialects of one language.

20. The figures are approximate and based on 1972 Census figures.

21. The difference between the two stop series seems to constitute a voiced ~ voiceless unaspirated lenis versus a voiceless aspirated fortis contrast.

22. The figures are approximate and based on 1972 Census figures.

23. The figures are very approximate and based on 1972 Census figures.

24. The figures are approximate and based on 1970 Census figures.

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