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**Ikhtisar:**

Kertas ini menyajikan garis besar keadaan bahasa-bahasa Mek, yang sebelum diteliti secara lebih mendalam oleh penulisnya (seorang anggota Team Peneliti Jerman Barat) dikenal dengan nama "Bahasa-bahasa Goliath". Pada umumnya di kalangan ahli bahasa terdapat anggapan bahwa perbedaan antara bahasa dan dialek adalah adanya kognat (cognate) sekitar 81% atau lebih rendah lagi. Tetapi penulis ini menemukan pada bahasa-bahasa Mek batas itu seharusnya terdapat antara 83% atau 84%. Beberapa antar-hubungan bahasa-bahasa Mek diperikan dalam kertas ini (Ed.I.S.).

### Summary:

The article gives a survey of the Mek languages, formerly called Goliath languages, in the Kabupaten Jayawijaya, Irian Jaya. The unity and diversity of these languages is illustrated, and the possibly wider connections of the Mek family are reviewed. A sketch of the grammar of the Eipo language is added.

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## 0. Introduction

The Mek languages of Irian Jaya are known as the Goliath languages or as the languages of the Goliath family, but the name Goliath is now obsolete. The actual location of the descendants of the Goliath pygmies described by de Kock (1912) is not known, no further fieldwork having been done in this marginal area. Thus Schiefenhövel (1976:265-6) has proposed calling these languages the Mek languages. As the people of the area are not aware of their linguistic and cultural unity and as there is, accordingly, no native term for it, the word for river, water is taken as a denominator. The expression has been chosen in analogy to the Ok languages, where ok means the same as mek.

### 0.1 Location

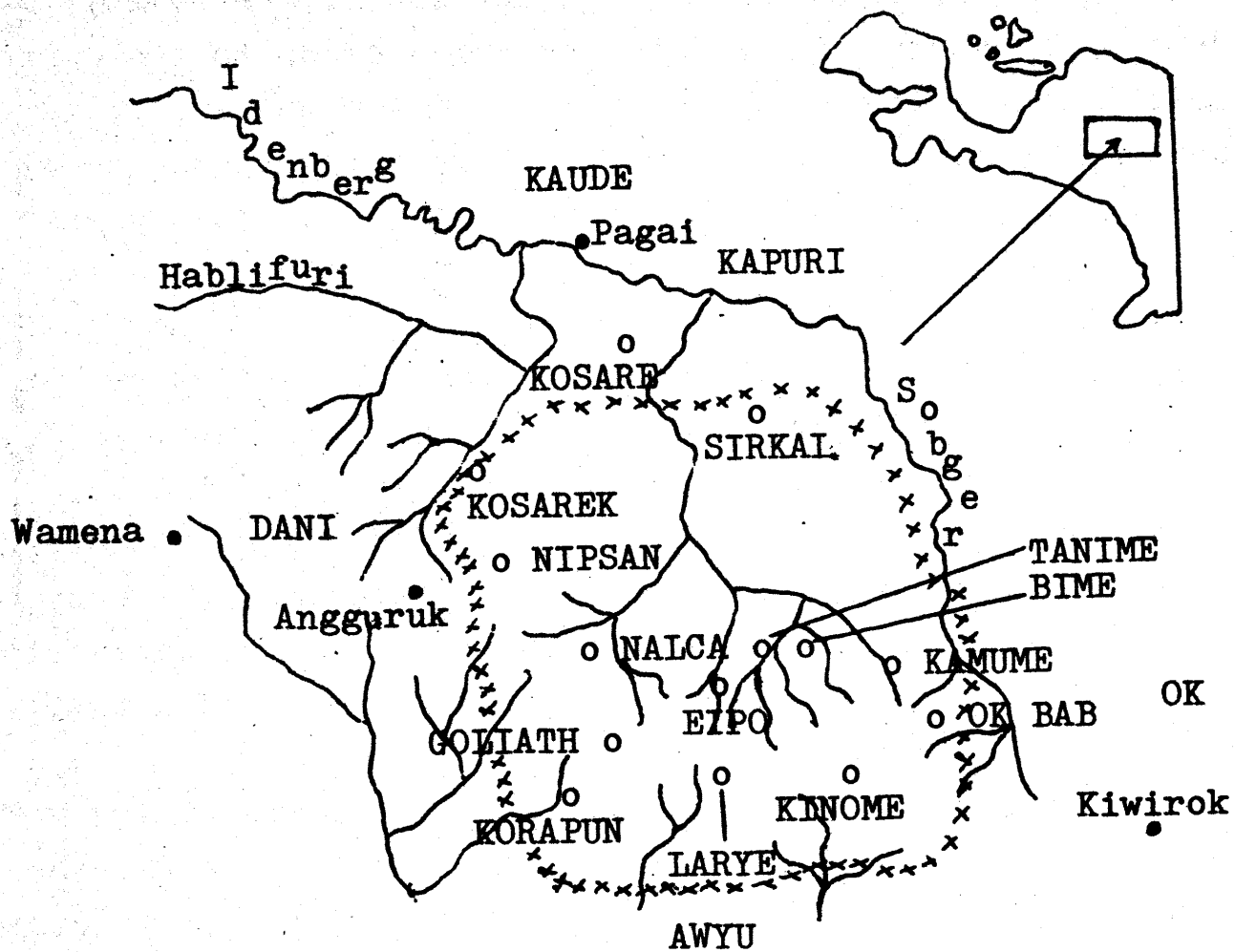
The bulk of the languages and dialects is spoken in an area which is situated in the Kecamatan Kurima of the Kabupaten Jayawijaya. Approximately, the area stretches from 139° 30'

eastern longitude to  $140^{\circ} 31'$  eastern longitude.<sup>2</sup> The exact southern and northern limits are not known. Presumably a line about 30 km south of the Idenburg comes close to the correct limit in the north. Schiefenhövel and the present writer found speakers of a Mek language (Sirkai) 40 km southeast of Pagai, but we were told that they originated from an area further to the east. The southern limits may be the beginning of the lowlands south of the Central Range. Further to the east and the south-east, one will find speakers of the Ok languages, to the south languages of the Awyu-Dumut family are spoken, in the west languages of the Great Dani family. Voorhoeve (1975a) does not indicate the northern neighbors of the Mek family. At least one further language, the Kosare language, is spoken between the languages of the Kaure stock (Voorhoeve 1975a) north of the Idenburg and the Mek family (see map and appendix).

So far the following languages and dialects of the Mek family are known. (Wherever possible I will give (a) the name of the language used in this article, (b) alternative names, the native names being underlined, (c) the approximate location of the place where the data have been collected, and (d) the sources if seen by the present writer and if not published. Because of the earthquake in this area on June 26, 1976, and because of the subsequent perturbations I am not able to give demographical data.)

The following dialects have been excluded from my list and from the calculation of the shared cognates, because they are too close to one of the languages or dialects already mentioned: (1) the language of the Fa valley west of Eipomek; (2) the dialects of Limeri and Teli spoken east and northwest of Bime; (3) the dialects of Kirome and Bame spoken in the valleys between Kamume and Ok Bab north of the Central Range. The dialects up to 30 km north of Nalca, Eipomek and Ok Bab are reported to be essentially the same as their southern counterparts.





50km

- villages
- o place of language data eliciting
- \*\*\* Mek family boundary

small letters: villages, rivers

capital letters: languages

all positions approximate

- (1) a: Eipo, b: language of Eipomek, lik yupe, c: 140°; 4° 28', d: grammar, wordlists, and texts by VH.
- (2) a: Larye, b: language of Larye, una, c: 139° 55'; 4° 40', d: phonological statement by J. Louwerse and Y. van der Wilden, several wordlists by J. Louwerse and VH respectively, texts and grammatical notes by VH (Larye is spoken in Eipomek, too).
- (3) a: Goliath language, c: see map.
- (4) a: Korapun, c: 139° 36'; 4° 29'.
- (5) a: Nalca, b: hmanggono, hmanggon, c: 139° 48'; 4° 23', d: grammar by W.M. & J.E. Rule and R. Cutting, wordlists by S. Walter and VH, texts by J. Binzell.
- (6) a: Nipsan, b: Yali, c: see map.
- (7) a: Kosarek, b: Wanam, c: 139° 29'; 4° 6', d: grammatical notes by members of GKI, grammatical notes and wordlist by VH.
- (8) a: Kinome, b: language of Kinome, c: see map, d: wordlist and grammatical notes by VH.
- (9) a: Tanime, b: language of Tanime, Tani, ware, c: 140° 6'; 4° 25', d: grammatical notes, wordlists, and texts by VH. (Tani is also spoken in Eipomek.)
- (10) a: language of Bime, b: Bi Me, Bi language, ware, c: 140° 11'; 4° 30', d: rather extensive grammatical notes and wordlists, texts by VH. (After the earthquake the people moved to an area somewhat northwest of Ok Bab.)
- (11) a: language of Kamume, c: 140° 18'; 4° 31', d: wordlist by VH.
- (12) a: Ok Bab, b: language of Ok Bab, Kupel, ketengban, c: 140° 31'; 4° 31', d: grammar by G. & J. Fowler, and M. & J. Rule; wordlist and text by VH.
- (13) a: Sirkai, c: see map, d: wordlist by VH.

The unpublished sources are either available from the present writer or from the missionary stations.

## 0.2 Research concerning the Mek family.

For a long period the wordlist of de Kock (1912:169-70), re-published in Le Roux (1948, II, 902-13), was the only work available for comparative purposes. On the basis of this work, Healey (as quoted by Bromley), McElhanon and Voorhoeve (1970), and Wurm (1971:595-6) incorporated the Mek languages into the Trans-New Guinea Phylum. Though this wordlist seems to be fairly reliable<sup>3</sup>, Bromley (1966:299) believed the comparable items of this list to be "too brief for calculation of meaningful percentages". On the evidence of four subsequent wordlists from Kosarek, Nalca, Korapun, and Ok Bab, he established the Goliath family which is "clearly a group of closely related languages, sharing 50% or more basic vocabulary with each other" (Bromley 1973:16). This statement, which is firmly corroborated by my findings, could have even been better based if the pioneering work of an Indonesian expedition (Laporan Expidisi 1971) had been published. The report contained wordlists and words of the languages between Eipomek and Bime. Voorhoeve's (1975a: 116-7) wordlists of the languages of Kosarek, Nalca, Korapun, Nipsan and Ok Bab are based on Bromley's collections. In this publication and in Voorhoeve (1975b: 398-400) the membership of the Mek languages to the Trans-New Guinea Phylum is unquestioned. Some notes on the grammar of the Eipo language can be found in Heeschen (1977:650). Heeschen (in press) discusses the meta-linguistic vocabulary of the Eipo language from the viewpoint of the ethnography of communication and psycholinguistics. Heeschen, Schiefenhövel, and Eibl-Eibesfeldt (in press) look for the relationship of non-verbal and verbal behaviour in the Eipo speech community from the standpoint of human ethnology. More general information on the culture and society of the Eipo is given by Schiefenhövel (1976), Eibl-Eibesfeldt (1976), and Koch (1977).

# 1. The Mek Languages

## 1.1 Internal relationships. Lexicostatistical evidence.

The following table gives the percentages of shared cognates between the languages and dialects mentioned above.<sup>4</sup>

Mek Languages: Percentages of Shared Cognates

	Eipo	Larye	Goliath	Korapun	Nalca	Nipsan	Kosarek	Kinome	Tanime	Bime	Kamume	Ok Bab	Sirkai
Eipo	-	93.88	(68.42)	75.76	77.91	74.29	70.41	86.59	93.00	89.00	88.89	83.00	82.83
Larye	93.88	-	(78.95)	72.75	72.94	70.59	74.45	75.53	94.90	89.70	85.26	84.36	84.04
Goliath	(68.42)	(78.95)	-	-	-	-	-	-	-	-	-	-	-
Korapun	75.76	72.73	-	-	81.25	81.82	78.79	68.75	66.67	66.67	62.50	63.64	69.70
Nalca	77.91	72.94	-	81.25	-	94.85	79.07	71.79	72.09	65.12	64.71	66.28	62.79
Nipsan	74.29	70.59	-	81.82	84.85	-	79.41	63.64	64.71	63.71	63.64	61.76	61.76
Kosarek	70.41	74.45	-	78.79	79.07	79.41	-	75.00	66.33	66.33	61.86	66.33	59.79
Kinome	86.59	75.53	-	68.75	71.79	63.64	75.00	-	87.95	91.57	83.13	80.72	79.27
Tanime	93.00	94.90	-	66.67	72.09	64.71	66.33	87.95	-	93.00	89.90	85.00	84.85
Bime	89.00	89.70	-	66.67	65.12	64.71	66.33	91.57	93.00	-	95.96	92.00	83.84
Kamume	88.84	85.26	-	62.50	64.71	63.64	61.86	83.13	89.90	95.96	-	89.90	83.67
Ok Bab	83.00	84.36	-	63.65	66.28	61.76	66.33	80.72	85.00	92.00	89.90	-	82.83
Sirkai	82.83	84.04	-	69.70	62.79	61.76	59.79	79.27	84.85	83.84	83.67	82.83	-

The table yields the picture well known throughout Irian Jaya and Papua New Guinea, namely that of dialect chaining, e.g. starting in Nalca and moving to the east, the percentages of shared cognates are diminishing step by step. Due to the lack of material the same picture cannot be sketched for the chains in the north-south direction. According to the impressions of J. Binzell, D. Cole, and G. Fowler, and according to my own



observations languages and dialects are more rapidly changing in the west-east direction than in the north-south direction. The high degree of relationship between Larye and Sirkai and the low figure of cognates shared by Kosarek and Sirkai seems to support these impressions. Contrary to what has been assumed in the literature on lexicostatistics (see, for example, McElhanon 1971:134-5) the limit between a dialect and a language seems not to be at 81% or lower, but between 83% and 84%, as far as the Mek languages are concerned. This proposal is based on the observation of, and the Eipo's judgment on, the reciprocal intelligibility of differing languages. We had speakers of Bime, Nalca and Kosarek as guests in Eipomek, and I walked from Eipomek to Ok Bab with four Eipo. But the intelligibility does not depend on the vocabulary, but on different sets of so called function words and morphemes: the interrogative and demonstrative pronouns, the tense-person affixes, and the post-positions are either etymologically different or have different phonetic realizations.

Assuming that the limit between a language family and a stock is 28% or lower, the close relationship and relatedness of the Mek languages to each other is self evident from the calculations, the lowest figure of shared cognates being 59.79%. The relatedness is confirmed by the fact that all grammatical features as described in the sketch of the Eipo grammar are found in all members of this family.

## 1.2 Diversity of the Mek languages

Using some morphological, phonological and lexical criteria the Mek languages can be divided into two groups, a western one including Eipo, Nalca, Korapun, Nipsan, and Kosarek, and an eastern one including Larye, Kinome, Tanime, Bime, Kamume, Ok Bab, and Sirkai. (In the following the first group is abbreviated W, the second one E.) The examples illustrating this

grouping are only sample proofs.

W has as the future infix -na-, as the immediate future infix -nu-, while E shows -ka- and -ko-, e.g. Eipo bin<sup>n</sup>anam, Tanime bin<sup>k</sup>anim 'we two will be going', Eipo bin<sup>n</sup>nun, Tanime bin<sup>k</sup>kun 'I will be going instantaneously'.

Stem final -r or -l of verbal stems seems to be generalized in W, while E shows these stems only in composite forms. Thus we have Kosarek malamla and Tanime mabmar 'he is sleeping', where mal- and mab- are the stems; but Tanime has also mar-binkamne 'I am going to sleep', where the stems mab- 'to sleep' and bin- 'to go' build up a composite form and where mab- has changed the final consonant. Eipo has both forms, malamle 'he is sleeping usually' or 'he has been sleeping usually' and mabmal 'he is sleeping' adding a shade of meaning to the different morphonemic processes. This hints at the fact that W has restructured subparts of its verbal system using only composite forms; the infix -am- in Kosarek malamla and Eipo malamle derives from another verb, ab- 'to do, make, say'.

W has separate forms for the 2nd and 3rd plural of the pronouns, e.g.

'you (all)'	Eipo <u>angun</u>	Tanime -
'they'	Eipo <u>sik</u>	Tanime <u>sun</u>

Syllable and word final -l in W corresponds to -r in E, e.g. Eipo bin<sup>n</sup>mal and Tanime bin<sup>n</sup>mar 'he is going'.

Word initial p is lost in W and shows varying reflexes in E: Eipo ob-, Tanime fob-, Bime pob- [pʰɔp], larye ob- [hɔp] 'to beat, kill'.

In some items word initial k- in E corresponds to zero in W:

'you'	Eipo <u>an</u>	Tanime <u>kan</u>
'to give'	<u>areb-</u>	<u>kareb-</u>
'to become, be'	<u>ub-</u>	<u>kub-</u>

The distribution of some lexical items, all of them belonging to the basic vocabulary confirms this subgrouping, thus the

two groups have different words for 'to say', 'blood', 'bird', and 'all', e.g.

		W		E
'blood'	Eipo	<u>ining</u>	Tanime	<u>yabye</u>
'bird'	Kosarek	<u>winang</u>	Tanime	<u>ma</u>
'all'	Eipo	<u>nirya</u>	Bime	<u>ayuma</u>
'to say'	Eipo	<u>winyab-</u>	Tanime	<u>feb-</u>

The words given here only for one language are identical in the other languages of the respective groups. Only the Eipo language is not consistent, thus we have the eastern word for bird, mak.

Stress seems to be partially phonemic in the east, e.g. Ok Bab 'uku 'fire' and uku 'young plant of sweet potatoes', while tones are said to be phonemic in Nalca and Kosarek (Bromley 1973:15 and Rule and Cutting). Though I have not found any minimal pair in Nalca and Kosarek, the development of (non) phonemic tones can be explained by two processes:

(1) Two syllables are contracted into one voicing of the medial consonant and subsequent loss of this voiced consonant between two vowels, cp. Bime ambotum, Eipo ambosum [ambo't<sup>h</sup>óm], Nalca ampum [am'p<sup>h</sup>óm] 'yesterday'. In all the examples I have collected syllable contraction is involved in the development of tonal features and this contraction in the west presupposes stress to the east, that is to say, I interpret the geographical distribution as a representation of the historical developments of the western group of languages.

(2) High rising tone is conditioned by the presence or loss of word final glottal stop. In Eipo we find minimal pairs of the following kind: fokná 'whistling', fokna 'sexual intercourse', phonetically ['fɔknáʔ] and ['fɔkna]. Final glottal stop is only present in a small subpart of the nouns, namely deverbal nouns.

Thus tonal features develop only in certain restricted environments, and the tonal analysis of Nalca and Kosarek may be partly right, though, due to the restrictions, tones have to be marked only on a very limited set of the vocabulary.

Regardless of the fact whether the contraction of two syllables is at the origin of tonal features, this phenomenon is the cause of a considerable diversity of the phonological shapes of words which apparently have a common etymon. Cp., e.g. 'pig': Ok Bab bisam, Bime and Tanime besam, Eipo basam, Fa valley bam, Nalca and Kosarek pam; 'way, path, direction': Ok Bab and Bime bisi, Eipo biisiik, Nalca pik, Kosarek bi; 'small, little': Bime and Eipo metek, Nalca mik; 'yesterday, tomorrow': Bime ambotum, Eipo ambosum, Nalca ampum. Contraction seems to involve the following processes and rules:

- (1) It does not operate across morpheme boundaries.
- (2) The word medial consonant must be an alveolar. /d,r,n/ tend to be flapped in this position. /t/ in this position is first fricativized and then lost.
- (3) In most cases the two vowels are either high and mid front vowels or high and mid back vowels.
- (4) Where this is not the case, high vowels in prestress position are progressively assimilated to the following low or back vowels, that is, contraction and loss of word medial consonants is preceded by a phase of vowel harmony.

Evidence for this supposed diachronic development comes from synchronical alternations in the Eipo language. Here we have a good number of verb stems with the following alternating shapes: birib- and biib- 'to stretch, sketch, vibrate', dinik- and diik- 'to fasten, fix'. Presumably this development is at the origin of a further point of diversity. The contracted words have closed vowels against open vowels in the two syllable stems. Now imagine that the longer forms become obsolete. The closed vowels can no longer be explained by an underlying alternative



form with open varieties. This development gives rise to a more complicated vowel system. This complication goes with contraction from east to west. Thus Larye and Ok Bab are reported to possess a five vowel system, Eipo and Nalca a seven vowel system.

Concerning diversity a last point has to be mentioned here. Compared with the presence of common etymons of the basic vocabulary the interrogative pronouns show an astonishing degree of diversity. The word for 'what' is in Ok Bab, Kamume, Bime, Tanime ware, Kinome munta-, Larye una, Eipo yate, Nalca hyka, and Kosarek anesa.<sup>5</sup> The reconstruction of a common etymon, though phonetically possible, would have to postulate ad hoc rules. Any lautgesetz explaining this diversity is not supported by the correspondences among other items of the different languages. At the moment I cannot account for this.

### 1.3 Evaluation of diversity

Diversity seems to be highest in the west and lowest in the eastern dialect chain. The average of shared cognates among the languages of the western group is 77.38%, while it is 86.93% in the eastern group (Eipo again included). I do not know whether this difference is statistically significant, but if one takes it for granted that the place of the original spreading of the languages is where the diversity is highest, then this place must be somewhere between Larye - Eipomek - Nalca - Kosarek. This is consonant with the facts that the diversity of the interrogative pronouns, which must be an old layer in all languages, is highest in this area and that the area of phonetic innovations as evidenced by the development of tonal features and syllable contraction is in the west. This diversity contrasts singularly with the unity of all dialects east of Eipomek. With the exception of Eipo itself and Kinome and Larye on the margins of this area, the unity is further proved by the presence of only one etymon

for the interrogative pronoun. What can be said with a fair degree of reliability is that the spreading of dialects in the large area between Tanime and Ok Bab is due to more recent development than in the other parts. With a better knowledge of the dialect chains the history of the peopling and the spreading of languages may be traced more in detail.

Nonlinguistic evidence suggests that the original habitat of the Mek people was not the large valleys of the highlands, but the foothills and lowlands north of the Central Range. The Eipo tell in their myths how the mythical ancestors and the founders of culture handed over the victuals to mankind, and in enumerating these victuals they do not mention the sweet potato, but never fail to name the sago, though the subsistence of the highland people is nowadays dependent on the sweet potato, most of the people having not even seen sago. The myths, then, may hint at an area of settlement before the introduction of the sweet potato and the subsequent peopling of the highlands by a new wave of horticulturists some hundred years ago.

To my knowledge Eipomek is the only region where according to the abovementioned criteria three well defined dialects are spoken, namely Eipo, Tanime, and Larye. Eipo itself is the easternmost of the western dialect chain, but being exposed to two dialects of the eastern chain, it is characterized by mixing on the morphological (see above discussion of stem final consonants of the verb), phonological and lexical level (see discussions above). The myths, the songs of the older people, and the tabooed names of mountains, rivers, body parts, etc. have the phonological shape of the eastern group. The vocabulary of the everyday language points to the west, which is, I believe, the area of innovations, while the language of myths and the sacred names retain apparently an older layer, which is that of everyday communication in the more conservative eastern group. To give only two examples: in Eipo the everyday

word for 'penis gourd' is sanyum, the tabooed and sacred name is balum, but in Tanime and Bime the common word is balape (bal- is the stem); Eipo has nirya 'all', Bime ayuma, but the Eipo myths tell: Yaleny yume yayuk, Yaleny yume boamuk 'Yaleny (a mythical hero) first came, Yaleny all has given'.

Mixing has sometimes simply enriched the vocabulary of the Eipo language. Thus western bai- and eastern barye or bari- 'forest, outside (as opposed to village and cultivated land)' are found in Eipo: baibuk 'to be cold (lit. to be outside)', baidonok- 'to throw away', bai basam 'wild pig (one still living in the forest)', but barye asiik 'village in the forest', barye 'something mysterious, unearthly (what one expects to encounter in the forest).'

Thus variability, idiolects, and sociolects in one language can be traced back to the original spreading of innovations from the west to the east and to the conservation of older layers in the eastern dialects. I believe that a survey of the dialects and some guesses at the spreading of these dialects may contribute to a better understanding of the language actually under research. For the reconstruction of a common vocabulary it seems to be even necessary.

#### 1.4 External relationship.

The membership of the Mek languages of the Trans-New Guinea Phylum seems to be firmly established (Wurm 1971:595-6; McElhanon & Voorhoeve 1970:7-16; Bromley 1973:15-6; Voorhoeve 1975a:46 and 1975b:398-400). Since Bromley (op cit) I have not found any new calculations of shared cognates. According to Bromley, who summarizes the calculations of Healey and Voorhoeve, the Mek languages share 10% to 25% possible cognates with Ok, which would assign to them the status of a family isolate within the Trans-New Guinea Phylum. "In contrast, there are still, on better lists carefully rechecked, only three or four possible cognates with Dani on the Swadesh hundred word list." (ibid.) I am very



reluctant in granting lexicostatistical findings any basic value, if they are not confirmed and sustained by the reconstruction of a proto-grammar and if the percentages fall below a certain level. The percentages I have given for the Mek languages correspond positively to the essential identity of the morphological and syntactic features of all Mek languages, and all deviations concerning the phonological shape of the words can be explained by clear lautgesetze and general trends in the development of the phonological systems (cp. above section 1.2). I want to give here some more general reasons and some arguments perhaps valid only for the Mek languages for explaining why I refrain from any new calculations at the moment.

(1) Most of the authors agree that genetic relationship cannot be based solely on lexicostatistical evidence, but that it has to be based on typological features as well. But the arguments of the latter type are sometimes very inconclusive, because no difference is made between implicational universals, typological and areal features and such features that can be assigned by way of reconstruction to the proto-language, e.g. the predominance of suffixing said to be characteristic of the Trans-New Guinea Phylum languages (see Wurm & Voorhoeve & McElhanon 1975:301-2) is a feature widely met in all languages of the SOV type; perhaps it is a universal and does not tell anything in favor of genetic relationship.

(2) Sometimes some widespread typological features are supposed to corroborate the assumption of a genetic relationship. Among these features are (a) "a covert noun-class system denoted through sets of classificatory verbs", (b) "an overt two-gender system manifesting itself in pronouns, adjectives and noun and verb markers", (c) the "presence of special sentence-medial verb forms...with identity and non-identity of the subjects of the medial and the final verbs mostly indicated by separate forms", and (d), finally, the presence of "one bound



subject marker indicating two or several different persons, especially the second and third persons non-singular" (ibid.). Logically, the absence of these features cannot prove any linguistic relationship. Arguments of the kind "some languages show these features, some of them do not" are of a very limited value; they presuppose what should have been proved by them, namely the genetic relationship. None of these features is present in the Mek languages; thus no positive proof for the inclusion of them into the Trans-New Guinea Phylum is given by arguments of this kind. Again, to say that these languages are of an aberrant type presupposes what can only be established by the real presence of shared features, namely the genetic relationship or whatever relationship there may be.

(3) In view of the sometimes inconclusive arguments based on the presence or absence of typological features I would like to stress the divergence of some features. Even a careful comparison of the verbal complex of the Mek languages and one of the Ok languages, Telefol<sup>6</sup>, yields the following main differences, though according to Healey and Voorhoeve (see above) the Mek languages have their nearest relationship in that family. Telefol has different morphologically defined verbal stem classes for intransitive, benefactive, non-benefactive, and motion verbs; these categories are not morphologically manifest in the Mek languages. Telefol has object person prefixes, Mek has none, object pronouns being infixed. Telefol makes a difference between aspect and tense suffixes; Mek has aspect infixes (with tense connotation). Telefol has a negative suffix, Mek none. Telefol has subject person suffixes, tenses and modes are characterized by different sets of person suffixes in Mek. Telefol makes use of auxiliaries, Mek does not. On the other hand the Mek languages seem to be characterized by composite forms of the verb (see section 2.2.1.2), for which there is no equivalent in Telefol. There are sentence medial verb forms in

Telefol, none in Mek. As long as there is no model for explaining differences of this kind, I suspect that there is a lot of borrowing, areal and sprachbund phenomena in the shared vocabulary. This argument leads to the next point.

(4) Let us assume that a, b are languages of one family and A, B languages of another one and that the geographical distribution is such that b and A are neighbouring languages and that a and B are without immediate contact. Maybe there will be some borrowing between b and A, while none will occur between a and B. I believe that this exactly is the case between the Mek and Ok languages, where a are the western dialects, b the eastern ones, A those languages of the Ok family geographically nearer to the Mek area and B those more distantly situated. In the following I will prefix a, b, A, B to real language names according to the above definition. Compare the following items:

'small, little': a Eipo metek, b Ok Bab yambul, A Okbi (= Ngalum) yambul, B Telefol katib.

'blood': a Eipo (and all other a) ining, b Tanimé (and all other b) yabye, A Okbi yapi, B Kauwol kaim.

'dog': a Eipo kam (and all a and b), A Okbi kayam, B Ninggirum nongop.

'foot, leg': a Eipo (and all other a and b) yan, A Okbi yon, A Kauwol yaan, B South Kati kondo, B Mianmin sikir, sakar.

My Ok data come from Voorhoeve (1975:97-8); his wordlists contain maximally 40 items. With more data at hand perhaps there will be a chance to give more proofs of this kind of language family chaining, which would seriously complicate lexicostatistics. The general argument to be derived from this distribution is, as I believe, inevitably this that we cannot compare the vocabulary of single languages of different families, but first of all we have to reconstruct the proto-vocabulary of one family, and secondly we may compare two or more similarly reconstructed vocabularies.

Comparisons based on only two or three languages of one family risk being erroneous. Thus McElhanon & Voorhoeve (1970:41) include Nalca, Korapun and Kosarek kal 'tree' and Nalca pok 'bark' in their interphylic series of cognates 'skin, bark'. But throughout the remaining area of the Mek languages the common word for tree is to, cp. Eipo yo, Bime tyo, Ok Bab tso. The genuine word for 'skin, bark' in all languages east of Nalca is bol, while Nalca pok corresponds to bok in all other languages. Nalca pok, then, is due to recent phonological and semantic developments. Furthermore the authors rely heavily on initial p of Nalca pok for their reconstruction, but this should correspond to initial b in proto-Mek. kal is found in Eipo too, meaning 'sickness (where the skin is peeling off)'. But as this sickness is very uncommon in the highlands and as the Mek people might have met speakers of other languages in the lowlands, where this sickness is more frequent, kal can be a borrowing. kal 'tree' and pok 'skin, bark' have to be excluded from the proto-Mek vocabulary. With regard to language family chaining as proposed above, kal may come from the Dani languages in the west, cp. e.g. Upper Pyramid o akapolo, Jalimo e akap 'bark' (where o and e mean 'tree'), Upper Pyramid nakatlo, Jalimo nakap 'my skin' (data from Bromley 1966:305-6).

Last but not least, the mere feeling that the Mek languages are a member of a wide range of languages in Irian Jaya and Papua New Guinea can be emphasized by Wurm's reconstruction of three different sets of pronouns, the first of them "constituting a typical Trans-New Guinea Phylum characteristic" (Wurm 1975:192). The characteristic base consonants of set I are (*ibid*:194):

sg 1 n

2 k ~ g ~ ŋg

3 y ~ t ~ d ~ r ~ l ~ s, Vk (~ -g ~ -ŋ)

Cp. Mek:

pl 1 n

2 k ~ g ~ ŋg ~ ŋ, t ~ d ~ r ~ s ~ y

sg 1 Eipo na, Bime ne, sg 2 Eipo an, Bime kan, sg 3 Eipo el, Bime er, pl 1 Eipo nun, pl 2 Eipo angun, pl 3 Eipo sik, Bime sun. This partial identity of the base consonants, however, cannot be correlated with the typological features, which Wurm suggests to be associated with set I.

## 2. Sketch of Eipo grammar.

The following description of the Eipo language cannot be exhaustive. Its aim is to present some data. The rather traditional and eclectic presentation of the data reflects the theoretical position of the author only indirectly.

### 2.1 Sound system and alphabet

#### Chart of Consonants

	bilabial	labiodental	alveolar	palatal	velar
unvoiced plosives	p		t	c	k
voiced plosives	b		d		g
unvoiced fricatives		f	s		
voiced fricatives	w			y	
lateral flapped nasals	m		l r n		ng

#### Chart of Vowels

	high		
	ii		uu
	i		u
front	e	o	back
	a		
	low		



I will comment only on those symbols which are not self-explanatory either for the linguist or for the Indonesian or English reader:

/p/ is an unvoiced, bilabial, labialized plosive with voiced release occurring only word finally [p<sup>wə</sup>]. The letter p may be a stand in for an increasing number of Indonesian borrowings with /p/.

/k/ [k, k<sup>h</sup>] between vowels can be realized as [x] or [ɣ]. Cp. na ka [na'xa] 'my friend, my relative', sakuk [sʌ'xʌkʰ] 'he (she, it) fell'. In front of r in a word k is spoken with voiced release, cp. bukrak [bukʰrʌk] 'the two sit down'.

/b/ [b] occurring syllable initially, [p] occurring syllable finally. It is realized with voiced release in front of r in a word, cp. eibrak ['ɛibʰrʌk] 'the two see'.

/w/ is a bilabial voiced fricative [β]. Occurring word finally after /k,m,n,s,t/ it indicates labialization with voiced release of the preceding phone, cp. ame ['amʌ] 'taro' and amwe ['am<sup>w</sup>ʌ] 'tail'.

/y/ is a voiced palatal fricative [j], which is written according to the Indonesian alphabet. For the same reason the consonant cluster /tj/ or palatal [t<sub>j</sub>] are written c.

/r/ is a flapped alveolar vibrant never occurring word initially [r].

/ng/ is a velar voiced nasal [ŋ].

All alveolars with the exception of /s/ tend to be flapped if they occur between vowels in a word.

/o/ represents [ɔ] in open, [o] in closed syllables.

/e/ represents [ɛ] in open, [e] in closed syllables. It is [ɔ] if the immediately following or preceding syllable has the main stress of a word.

/i/ is realized as [ɨ] and u as [ɯ] in closed syllables. Wherever [ɨ, ɯ] come to stand in open syllables due to morphological alternations, they represent [e] and [o].

/ii/ and /uu/ represent [i] and [u]. uu tends to be fronted by some speakers. This fronting is obligatory in the sg 3 of the hortative-deliberative, cp. mabluul [mʌp'lyl] 'he may be sleeping'. Though most of the occurrences of ii and uu can be explained by underlying [ɿ, ʊ] being heightened through the position in open syllables, there remain some instances of a clear opposition between [ɿ, ʊ] and [i, u], which justify their different phonemic status, cp. dinmal 'he is eating', and diinmal 'he is seeing', kune 'bark (of a tree species)' and kuune 'shadow'.

Stress occurs in two syllable words (1) on that syllable which has more satellites, cp. bikle ['bɿklɔ] 'he knows' and biisiik [bi'sik] 'way, direction'; (2) it does not occur word finally in open syllables after consonant clusters, cp. bilyam [bɿ'lam] 'you shall go' and bilye ['bɿlyɔ] 'going'. Where these criteria do not work, e.g. in binmal 'he is going', the placing of the stress depends on the intonation patterns of the utterance. Words of more than two syllables can be traced back to the two basic rules.

In most cases stress cooccurs with a high rising tone. But for a small subset of the nouns, all of which are deverbal derivations, this rule does not apply, cp. fokna ['fɔkna] 'sexual intercourse' and fokná ['fɔkná] or ['fɔknáʔ] 'whistling', where stress and tone are dissociated. Instead of writing or indicating the glottal stop, which seems to be at the origin of this high rising tone, words like fokná shall be marked by /'/, because the same symbol can be used in all other cases where the indication of stress (occurring with high rising tone) seems to be appropriate.

## 2.2 Morphology<sup>7</sup>

The reader may compare the following utterances:

24.

- (1) me  
child  
it is a child/that is a child
- (2) me metek  
child small  
it is a small child
- (3) na me metek  
my child small  
my child is small
- (4) me gum bikman  
child not know=ma-infix=sg-1-present  
I do not know the child
- (5) me mam el sii gum bikmal  
child uncle his name not know=ma-infix=sg-3-present  
the child does not know the name of his uncle
- (6) me bikmal  
child know=ma-infix=sg-1-present  
the child knows it/he knows the child
- (7) me -berye bikmal  
child=subject marker know=ma-infix-1-present  
the child knows (it)
- (8) me biisiik bikmarak  
child way know=ma-infix=dual-3-present  
the two children know the way
- (9) metek me -arve biisiik gum biklyura  
small child=because way not know=sequence marker  
feterebuka biknamluul  
show=sequence marker know=nam-infix=sg-1-deliberative

Since it is a small child, he does not know the way, but having shown it (to him), he could be knowing it.

In all utterances nouns, adjectives, and noun phrases never change their shape; functions are defined by word order. Functions of nouns (see (7)), noun phrases, and clauses ((9): metek me-arve) can be indicated by postpositions (-berye, -arve). Changes occur in the verb. Thus I will start this description with the morphology of the verb; having described the internal structure of that constituent, which functions as predicate in the clause, we can rapidly pass over the structure of the other word and morpheme classes, give some hints at how they build up

larger groups and what their functions are in a clause. Finally, some common clause patterns and clause chaining are illustrated.

### 2.2.1 Verb morphology

The general linear structure of the verbal complex is:

(proclitics) stem  $\left\{ \begin{array}{l} \text{stem} \\ \text{derivational suffix} \end{array} \right\}$  (tense-aspect-infix)  
 (object pronouns) tense-person-suffixes (enclitics)

#### 2.2.1.1 Proclitics

These are either directionals (see Section 2.2.5) or other deictics, e.g. a- 'here' in a-binmal 'he is going here', te- 'back' in te-bobnamalam 'you will give it back'.

#### 2.2.1.2 Stems

Stems have the structure cvc-, the second consonant being either -b- or -k-. Without any tense-aspect-infix and with one of the tense-person-suffixes they form the punctiliar aspect, e.g.

niinye eibse  
man see=sg-1-past  
 I saw the man (once)

Some petrified and irregular forms of yan- 'to come' and bin- 'to go', e.g. yakcobrs 'having come' or bikbik- 'to run', seem to suggest that these verbs originally ended in -k-; nowadays the punctiliar aspect is expressed without stem final consonant, e.g. yase 'I came' or bil 'he goes (just now)'. The replacement of these stem final consonants by -n- means repeated or continuous action, cp.

Manbol obmik  
Manbol hit (or kill)=ma-infix=pl-3-past  
 They killed Manbol

me tokwe onmal  
child earth hit=ma-infix=sg-3-present  
 The child is hitting (repeatedly) the earth/on the earth.



This -n- has become fixed in most usages of 'to come' and 'to go'.

Two or more stems may be combined. The whole range of syntactic and lexical functions of this formation cannot be described in this paper. They yield either new lexemes or they assume syntactic functions. The nonfinal stem changes its stem final consonant into -l-, e.g.

kelape mek kwelbinmak  
 woman water scoop=go=ma-infix=pl-3-present  
 the women fetch water

where kwel- derives from kweb- 'to scoop, create, originate from'.

mapə diltekmaseak  
 boy see=stand=ma-infix=us=pl-3-present  
 the boys are standing (there) in order to look at us.

dil- derives from diib- 'to see, look'. The second stem is tek- 'to stand'. The combination of two or more stems is quite common, e.g. ketinge-ton wale-ton boldeliilbalamak 'sun=and moon=and give=put=collect=go=am-infix=pl=3=habitual/sun and moon gave it, put it down, collected it and went' (they gave... the victuals to the first men). The following stems are combined in the verbal complex: bob- 'to give', deib- 'to put, to give birth to, to die', liib- 'to put into a net bag, to collect', and ban- 'to go', ban- having changed to bal- in front of the infix -am- (see section 2.2.1.3). I believe that this kind of stem chaining is a characteristic feature of the Eipo language.

The stem may be expanded by some derivational affixes, among them -ei- and -rob- both having causative meaning, e.g. teleb-robmal 'good=causative=ma-infix=sg-3-present': 'to mend, repair', bikeiamkin 'know=causative=am-infix=you=sg-1-present': 'I have made known to you (you have learnt from me).'

### 2.2.1.3 Tense-aspect infixes

The infixes -ma- and -nam- are opposed to each other. -ma- indicates that the subject does not focus on the end or beginning

of a state, process or action: the subject is participating in, and has sensual experience of the states, processes, and action which are seen from the standpoint of the subject engaged.

-nam- means that the subject does not focus on the development of a state and process or on the course of an action. The subject may have no sensual experience of the states, processes and action. Examples without a good (and long) context are without value; thus, suffice it to say, that -ma- cooccurs mainly with forms referring to events in which the subject has participated and that -nam- is used in simple questions and in accounts of mythical events.

-na- indicates a wish, desire, or generally, future tense.

-nu- indicates the ingressive aspect or immediate future tense.

-am- has perfective meaning. Stem final -b- can be dropped in front of -am-, e.g. ya boamuk 'axe give=am-infix=sg-3-past: 'he has given the axe', where bob- 'to give' is the stem.

#### 2.2.1.4 Infixed pronouns

These have the following form and meaning:

-nV- 'me, for me, toward me'

-kV- 'you, for you, toward you'

-sV- 'us, for us, toward us'

where V stands either for /i/ or for the vowel of the following syllable. With transitive verbs these pronouns have direct object function, with intransitive verbs indirect object, benefactive, or locational function, e.g.

kelape Talim yanmasil

woman Talim come=ma-infix=us=sg-3-present

The woman comes to us from Talim

yo obmanil

tree hit=ma-infix=me=sg-3-present

A tree has just now hit me

Another set of pronouns is used obligatorily in the imperative

which lacks the tense-person affixes: -min, -kin, -sin 'for me, you, us; in my, your, our interest', e.g. bukmin 'sit down (in my interest)', and bobnusin '(you will) give to us.'

### 2.2.1.5 The tense-person affixes

Together with an appropriate tense-aspect infix the first set forms either the present or the future tenses:

sg 1	<u>-n</u> , <u>-ne</u>	dual 1	<u>-nam</u>	pl 1	<u>-ab</u>
2	<u>-lam</u>	2	<u>-rum</u>	2	<u>-lum</u>
3	<u>-l</u> , <u>-le</u>	3	<u>-rak</u>	3	<u>-ak</u>

e.g. bikle 'he knows', bikmalam 'you are knowing', biknanam 'we two will know (it).'

The set for the near past is:

sg 1	<u>-mum</u>	dual 1	<u>-mum</u>	pl 1	<u>-mupe</u>
2	<u>-mum</u>	2	<u>-marum</u>	2	<u>-malum</u>
3	<u>-mo</u>	3	<u>-marunge</u>	3	<u>-munge</u>

The set for the far past is:

sg 1	<u>-se</u>	dual 1	<u>-num</u>	pl 1	<u>-upe</u>
2	<u>-lum</u>	2	<u>-rum</u>	2	<u>-lum</u>
3	<u>-uk</u>	3	<u>-rik</u>	3	<u>-ik</u>

The set for the hortative-deliberative is:

sg 1	<u>-nyam</u> , <u>-nuun</u>	dual 1	<u>-nyanam</u>	pl 1	<u>-nyab</u>
2	<u>-lyam</u>	2	<u>-ruurum</u>	2	<u>-luulum</u>
3	<u>-luul</u>	3	<u>-ruurak</u>	3	<u>-nyak</u>

The second person may form a polite imperative, e.g. buklyam 'could you sit down.'

The set for the abilitative or imaginative is:

sg 1	<u>-tinye</u>	dual 1	<u>-tenimye</u>	pl 1	<u>-teibye</u>
2	<u>-tum</u>	2	<u>-tum</u>	2	<u>-tum</u>
3	<u>-to</u>	3	<u>-tering</u>	3	<u>-ting</u>

Together with perfective -am- or a past tense it forms the conditional, e.g. diamtinye 'I could have eaten (it)' with verb stem dib- 'to eat', or

min yanmoto teleb  
 early come=near-past-sg-3=abilitative-sg-3 good  
 If he had come earlier it would have been alright

### 2.2.1.6 Some comments

No indication of the possible cooccurrences of the different stem forms, infixes, and tense-person affixes can be given here. One of the fascinating aspects of the Eipo verbal complex is that even those combinations can be found that seem to be impossible. Thus we find asiik bulamnamaluul 'village stay=perfective=future=ma-infix=abilitative-sg-3' (with stem buk 'to sit, stay'). A necessarily bad translation of this complex is 'he, having stayed at home, perhaps he will be staying at home.'

The combination of the stem ending in -l- together with perfective -am- and the 3rd singular or plural of the tense-person affix set I forms general statements and descriptions, e.g.

kwit      ma      motokwe      dub      malamle  
cassowary bird mountain top live=perfective=sg-3-present  
The cassowary lives usually on top of the mountains.

### 2.2.1.7 Enclitics

These seem to modify only the verbal complex, and are -cuk 'again' and -tok 'only', e.g. bikamne-tok 'I have known only (this).'

### 2.2.1.8 Participles

Participle-like forms are the verbal stem plus one of the tense-aspect infixes, e.g. malam 'having slept' from mab- 'to sleep, stay, live' and perfective -am-.

### 2.2.2 Nouns

Nouns are not inflected. The productive processes of forming new nouns are:

(1) Serialization of two or more nouns joined under one main stress, e.g. mek katum 'bank' from mek 'river, water' and katum 'cheek';

(2) Verbal stem in -n- plus -a, e.g. dina 'food' from dib- 'to eat';

(3) Labialization of the verbal stem or of the verbal stem plus one of the tense-aspect infixes, e.g. yukwe 'young plants' from yuk- 'to plant' or (me) bomwe '(child) giver: uterus' from bob- 'to give' (the original form should be boamwe, see section 2.2.1.3).

### 2.2.3 Adjectives

There is a small set of adjectives like teleb 'good', malye 'bad', metek 'small, little', wik 'big, many', bii 'red', kurun 'white', meriin 'black'. They modify nouns and are usually placed behind them; if they are emphasized, they may be placed in front of them.

### 2.2.4 Pronouns

The pronouns are:

<u>na</u>	I, me, my
<u>an</u>	you, your (sg)
<u>el</u>	he, she, it, him, her, his, its
<u>nun</u>	we, us, our
<u>angun</u>	you, your (pl)
<u>sik</u>	they, them, their

In most cases a postposition is placed behind them if they assume subject emphasizing or object function, e.g.

an -ak                      binmalam  
 you=too(or=and) go=ma-infix=sg-2-present  
 you, too, are going

ketinge an -ak  
 sun                      you=too(or=and) create=am-perfective=sg-3-past  
 The sun has created you also

Placed in front of a noun they have possessive function, e.g. na wa 'my garden'. Placed in front of nouns referring to body functions, feelings, or to the state of knowledge they form an



important set of utterances in everyday conversation, e.g. na akwe 'my laughter: I am laughing', na elel 'my fear: I am afraid (of)', el walewal 'his ignorance: he does not know', sik kele wik 'their knowledge big: they know a lot'.

### 2.2.5 Locational deictics

Locational deictics are formed by a- 'here', ei- 'up there, up hill', uu- 'down there, down hill', or- 'across, across the valley'. They are either prefixed to verbs (see Section 2.2.1.1) or to nouns, e.g. uu-asiik 'the village down hill'. Placed in front of -tam 'side' they point out to a direction, e.g. biisiik eitam 'the way up hill'; placed in front of -tiba they show an object in a resting position, e.g. wa eitiba 'the garden (is) up hill'.

### 2.2.6 Postpositions

There is a small set of postpositions which at the same time function as clause final conjunctions:

- de 'pronominal subject marker, and'
- ton 'and, also'
- ak 'pronominal subject or object marker, to, at the side of, at'
- tam 'side'
- sum 'day, when'
- kankan 'among, between'
- arye 'because, origin'
- berye 'subject marker'.

Examples:

Talim-tam binmal  
 Talim=side go=ma-infix=sg-3-present  
 He is going to Talim

Kam bindobmal-tam bikne  
 dog go=away=ma-infix=sg-3-present=side not know=sg-1-present  
 I don't know where the dog has gone.

kwaning      fatan-arye      aik bindobmal  
 sweet potato lack=because hut go=away=ma-infix=sg-3-present  
 Because he was longing for sweet potatoes he left for the  
 hut

kwaning      aik deibse-arye      durungiibuk  
 sweet potato hut put=sg-1-past get=mouldy=sg-3-past  
 Because I had put the sweet potatoes into the hut they got  
 mouldy

### 2.2.7 Interrogative pronouns

These are either formed with the help of dan- 'where' or yate 'what', e.g. dantam 'where side: in what direction', danak 'where at: at what place', yate me (kil, anya) 'what child (woman, man): who', yate sum 'what day: when'. Simple questions are formed by postposing -ro/-do: yatero 'what?', binmalamdo 'are you going?'

Interrogative pronouns have that position in a clause where the word or phrase asked for should be placed, e.g.

tobnok aik-alum sakmo  
 knife hut=under fall=sg-3-near-past  
 The knife has fallen under the hut

tobnok danak sakmo  
 knife where=at has=fallen  
 Where has the knife fallen?

### 2.3 Noun phrases

Noun phrases have the following possible structures:

- (1)  $\left\{ \begin{array}{l} \text{(adjective)} \\ \text{(deictic)} \\ \text{(pronoun)} \end{array} \right\} \text{ noun}$

e.g. metek wa 'small garden', nun wa 'our garden', uu-wa 'the garden down hill.'

- (2) (pronoun) noun (adjective)

e.g. nun wa metek 'our small garden'; but this can also be interpreted as an equational clause 'our garden is small'.

Usually the construction is closed with one element added to the noun. Thus you cannot say nun uu-wa 'our garden down hill', you

have to repeat the noun nun wa uu-wa 'our garden is the garden down hill'.

(3) (pronoun) noun (pronoun) noun

e.g. na mam el sii 'my uncle his name', niinye sik do 'man their egg (that is, the first men)'. Theoretically this construction is recursive.

I do not mention here again the postpositions. The negation gum 'not' may be placed behind all constructions so far mentioned. It is placed in clauses with finite verbs in front of the verb.

## 2.4 Notes on syntax

In the preceding section I have described the words, their internal structure, and the ways they form larger groups (phrases). We can now look at the building up of clauses and complex sentences, which is a matter of mere arrangement or word order in the Eipo language.

### 2.4.1 Equational clauses

They have the following general structure:

$$\left\{ \begin{array}{l} \text{(noun phrase)} \\ \text{pronoun} \\ \text{deictic} \\ \text{adjective} \\ \text{adverbial} \end{array} \right\} \quad \text{plus} \quad \left\{ \begin{array}{l} \text{(noun phrase)} \\ \text{deictic} \\ \text{adjective} \\ \text{adverbial} \\ \text{participle} \end{array} \right\}$$

We can label the first group the head, and the second group the attribute of an equational clause. Only one element of one of the two groups has to be realized to form an utterance, e.g.: me 'child' or 'that is a child'. Some unusual patterns are: eitam nuntam 'up hill is our side', metek teleb 'small good', the exact meaning of which depends on the situation. Here are some other examples:

eitam gum balam  
up hill not having=gone  
Up hill one usually does not go

mak kilape sik dina  
 bird woman their food  
 Birds are the food of women

na metek mape gum na merkem  
 I small boy not I clever  
 I am not a small boy, I am clever

el yupe gum  
 he language not  
 He is a taciturn person

are 'that is, is' may be the connective between the head and the attribute. I believe that are derives from, or is etymologically connected with, -arye 'because, origin of'. If it were a genuine verbal element one should expect it to be placed at the end of a clause.

iim are sal, tokwe are kil  
 sky is man earth is woman  
 The sky is male, the earth is female

motokwe dub mak are kwemdina ma  
 mountain top bird is creation bird  
 The bird on top of the mountains is a mythical bird

teikyonok teikyonok are eipenang wine arena gum  
 single single is Eipo=people way giving not  
 To give bit by bit is not the way of the Eipo people

#### 2.4.2 Clauses with finite verbs

The overall structure and the linear arrangements of the elements of the clause may be summarized in the following chart:

	<u>Position 1</u>	<u>Position 2</u>	<u>Position 3</u>	<u>Position 4</u>
<u>Function:</u>	subject	indirect object	direct object	location, direction, instrument, manner
<u>Filled by:</u>	noun phrase pronoun proper name	proper name pronoun	noun phrase pronoun proper name	noun phrase deictic, adverbial
	<u>Position 5:</u>	<u>Function:</u>	predicate	
		<u>Filled by:</u>	verbal complex	



Only position 5 is filled obligatorily. Reference to position 1 can be given by the tense-person affixes only, to position 2 and 3 by the infixes only.

Intransitive verbs typically induce position 1 and 4 to be filled and position 2, too, if carried over into the verbal complex as infixes. Position number will be prefixed in the following examples:

- (1) ketinge (5) banmal  
 sun go=ma-infix=sg-3-present  
 The sun is going down
- (1) akwe (5(2)) ubmanil  
 laughter become=ma-infix=me=sg-3-present  
 Laughter is springing up for me/I burst out laughing
- (1) kilape (4) larye-tam (5(2)) yanmasil  
 woman larye-side come=ma-infix=us=sg-3-present  
 The woman has come to us/for us from larye

Transitive verbs typically induce position 1, 3, and 4 to be filled, and position 2 only, if transferred into the verbal complex and if position 3 is filled and not transferred into the verbal complex.

- (1) Berekto (3) wine (4) sii (5) karuakmal  
 Berekto nut tooth crack=ma-infix=sg-3-present  
 Berekto is cracking nuts with her teeth
- (1) yo wik (4) kot -tam (5(3)) obmanuk  
 tree big rock=side hit=ma-infix=me=sg-3-past  
 A big tree hit me at the rocky slope
- (3) wine (5(1)(2)) karuakmakil  
 nut crack=ma-infix=you=sg-3-present  
 She he is cracking nuts for you

Ditransitive verbs typically induce position 1,2,3 to be filled. However, in all genuine examples one of these positions is transferred as tense-person-affix or infixes into the verbal complex.

- (1) Fatere (2) Ningke (5(3)) arebnul  
 Fatere Ningke give=future-infix=sg-3-present  
 Fatere is going to give (it) to Ningke

- (2) Ningke-ak (3) ya (5(1)) arebmo  
 Ningke-to axe give=sg-3-near past  
 He has given the axe to Ningke.

Noun phrases in position 4 typically cooccur with the post-positions -ak, -tam, -arye, position 3 with -ak, if position 2 is not filled, position 2 with -ak, and position 1 with -arye and -berye (see Section 2.2.6).

Word order is not as rigid as the chart suggests. Even proper names of position 1 and 3 can be permuted:

Bongto Babial dobuk  
Bongto Babial take=sg-3-far past  
 Babial took Bongto by force

The first name is a woman's name, the second one a man's, and men take women by force, not vice versa.

Noun phrases giving the reason of an action are usually found in extraposition, e.g.

kwaning fatan Berekto wa beluul  
 sweet potato lack Berekto garden go=sg-3-deliberative  
 Because of the lack of sweet potatoes, Berekto might have  
 gone into the garden

### 2.4.3 Complex sentences.

Equational clauses and/or finite verb clauses can simply be juxtaposed without indication of their logical relationship, e.g.

bulonmab yan tabnil  
 sit=be-continuously=ma-infix=pl-i-present foot tie=me-sg-3-  
 present

We are sitting all the time, my foot has gone to sleep.

Their relationship can be specified by one of the conjunctions:

male marabik-arye bane malye balamle  
 arrow shoot=pl-3-far past=because going bad go=perfective=  
 sg-3-present

Because they shot (him) with an arrow he is going (with) a bad walk.

-yura and -buk suffixed to a finite verb specify the temporal relationship of two clauses, e.g.

moke cenmal -yura aik bukmab  
 rain fall=ma-infix=sg-3-present=yura hut sit=ma-infix=pl-1-  
 present

While it is raining, we are sitting in the hut

saboka areblam -buk Alamde bil  
 tobacco give=sg-2-present=buk Alamde go=sg-3-present  
 After having given tobacco (to him), Alamde goes

A rough translation of -yura may be 'while', that of -buk 'after, and then'. The structure of the second example is also that of sentences, where English or Indonesian can use simple time adverbials, cp.

iniible -buk iisa kanye yanmasiak  
 growing dark=sg-3-present=buk spirit soul come=ma-infix=us-pl-3-present

In the night (or: after dusk) the spirits come to us

Clauses can be subordinated to each other in such a way that the first one assumes those functions which the nouns or noun phrases or adverbials have in a simple clause. Such a clause can be the object of a higher verb, e.g.

niinye-ton yanmak tenebman  
 man -also come=ma-infix=pl-3-present think=ma-infix=sg-1-present

I think that some more men are coming.

Other subordinated clauses can be explained as relative clauses. A relative clause modifies the noun of the higher clause; this noun is either the subject of the higher clause or the attribute of an equational clause, e.g.

arebmalum ya mek sakuk  
 give=ma-infix=sg-2-far past axe river fall=sg-3-far past  
 The axe you gave (me) fell into the river

Bongto dobuk kil  
 Bongto take=sg-3-far past woman  
 Bongto is a woman which one took by force.

In the following sentences the nouns -nang 'people', -tam 'side', and -sum 'day, time' are modified. These nouns are no longer free morphemes. The result of their grammaticalization may be that the original relative clauses develop into subordinated clauses that assume subject, locational and temporal (adverbial) functions.

Egluaik mabnamak-nang yale sii gum  
Egluaik sleep=future=ma-infix=sg-3-present clan name not  
 The people who will be sleeping in the Egluaik have no clan's  
 name

Ningke bukmal -tam na-ton buknamne  
Ningke sit=ma-infix=sg-3-present=side I -also sit=nam-infix=  
 sg-I-present

I will sit down where Ningke is sitting.

bilum -buk -sum me deibuk  
go=sg-2-far past=after=day child born=sg-3-far past  
 When you had gone the child was born

A full description of these structures can only be given in another paper.

The finite verbs of all clauses but the last one can be transformed in such a way that the tense-person affixes are dropped, but the tense-aspect infixes, all markers of temporal sequence and postpositions are retained. Thus the sentence saboka areb-lam-buk Alamde bil (see above) is transformed into saboka areb-uka Alamde bil. -uka is an allomorph of -buk. Two other pairs of sentences will illustrate these changes.

niinye murubmak basam obnamak  
 man they=conclude=peace pig they=will=kill

niinye murub-yura basam obnamak  
 man concluding=peace pig they=will=kill

Dingerkon binnanam tobnok arebnilyam  
 Dingerkon we=two=will=be=going knife you=will=give=me

Dingerkon bil-yura tobnok arebnilyam  
 Dingerkon going knife you=will=give=me

Going to Dingerkon you will give me a knife

Another transform of the last sentence may be:

Dingerkon binmamin -yura tobnok arebnilyam  
 Dingerkon go=ma-infix=forme=yura knife you=will=give=me  
 When going in my interest to Dingerkon you will give me a  
 knife

The subject of the non-final clauses can be dropped. I do not believe that there is only a one way relationship between clauses with finite verbs and those not marked with the tense-

person affixes, the result of the changes being manifold and presenting their own range of options to the speaker.

The chaining of clauses in the way just described is the technique the Eipo language prefers; simple juxtaposition and subordination are quite uncommon compared to this technique.

### 3. Conclusion

I will give three longer sample sentences to conclude. The first one is a chain of equational and verbless clauses typically occurring in daily conversation. It is the description of a mad man. The second one is a request in daily conversational style, too; but in addition, non-finite and finite verb forms occur. The last sentence contains these forms, too, but the style is that of telling stories and myths. Actually, it is a sentence out of a myth telling the deeds of the father of mankind.

yupe walewal, niinye kekena are gum, el yupe tonok,  
 language not=know, man hearing is not, his language only,  
niinye urasin walewal, wa walewal, el nonge urasin teleb,  
 man face not=know, garden not=know, his body face good,  
kanye tonok gum.  
 soul only not

(He) does not understand language, (he) does not understand (other) men, but his own language only, he does not know men's faces, he does not know (his) garden, his body and face are good, the soul only is not (good).<sup>8</sup>

Terban faliilalye-sum-ak, aike bulamnamyak,  
 Terban work=make=while=day=then, hut sit=perfective-nam-  
 infix=pl-3-deliberative  
bobelan terekdongob-uka saboka arebnamkin  
 door close=after tobacco give=nam-infix=you=sg-1-present  
winyamlam-buk an dina dibnanam  
 say=perfective=sg-2-present=after your food eat=future=dual-1-  
 present

While Terban is working, if one has stayed at home, maybe staying there, having shut the door, after you have said "I will give tobacco to you", we two will eat your food.



faliilal- composed of faliib- 'to work, to do work in the garden' and ab- 'to do'; -ye- another form of -yura.  
bulamnamyak from buk- 'to sit, stay, rest'; the 3rd person plural of the deliberative can be translated with 'one, you, somebody'.

niinye elii Firwe asiik -dam yalyura, mem ken  
 man father Firwe hamlet=near come=while, tabooed pandanus  
boblyura, mem ken amca bomlya,  
 give=while, tabooed pandanus young plant give-perfective=while  
kwarang bonmalye, beialyura, niinye amca,  
 fig tree give=ma-infix=while bring=while, man young plant,  
niinye wik abik-cak yok lebuka-ab  
 man many make=pl-3-far past=and then bone uncover=after=and  
beialyura, niinye tub deibuka-ab-arye, deimabmalye,  
 bring=while, man flesh put=after=and=because, put=live=ma-  
 infix=sg-3-present=while, bereklyura, nai gekelamin-bida,  
 dawn=while, well listen=make=me=at-an  
-end, bereklyura, deimabmalyine,  
 dawn=while put=live=ma-infix=sg-3-present=while=and,  
Barikye asiik yangalamle.  
 Barikye hamlet come=do=perfective=sg-3-present.

Men's father coming near the hamlet of Firwe, giving the tabooed pandanus fruit, having given the young plant of the pandanus fruit, he is giving the fig tree, and bringing, men's young plant, they made many men, bringing the bare bones, and because (he) had put the flesh also, he is founding, in the morning, well listen to me up to the end, in the morning, he was really founding, he was making his way to the hamlet of Barikye.

In this text the form of -yura is -lyura.

bomlya from bob- 'to give', -am-, and -lya instead of -ye in everyday language.

-cak from de 'and' and -ak.

-ab another form for 'and'.

gekelamin from gekeb- 'to listen, understand', with stem final -l-, perfective -am-, and -min.

deimab- from deib- 'to put, give birth to, die' and mab- 'to sleep, rest, live'.

-yine composite form of -de 'and' and an emphasizing particle.  
yangal- from yan- 'to come' and ab- 'make'. I have no explanation for stem final -ng-.

### Appendix

I will give here three wordlists of the Mek languages, one of the western group (Kosarek), one of the eastern group (Bime), and one of the Eipo language in the center of the Mek language area. I will add a wordlist of the Kosare language, which, so far, was not known. The transcription for Eipo and Bime is phonemic, that for Kosarek is broad, and that for Kosare is somewhat narrower.

I have modelled my wordlist after that of Bromley (1966: 305-6), which itself is an adaptation of the Swadesh wordlist for the use of Irian Jaya linguists. However, I have changed several items (which are underlined in the English list) for several reasons, e.g. drink and eat, round and moon, skin and bark, man and people are the same items in the Mek languages; thus I have dropped the first item of these pairs and replaced it by another one. leaf was difficult to elicit, because the informants gave the proper name of the tree or specified the state of the leaf (rotten, hairy, etc.) For similar reasons mouth and red were dropped. The verb forms are not always in the imperative. I have tried to elicit a minimum of information concerning the tense-aspect infixes and the tense-person affixes.

English	Eipo	Bime	Kosarek	Kosare
all	nirya	ayuma	nĩsembe	namo'tali
ashes	akumá	agoma	au	sáká
bark	bol	bol	kun	kí
belly	mun	mundo	mon	ang
big	wik	wik	mɛikɔngɔ	auβi
bird	make	ma	winang	o
let us bite	karuknab	garubkameb	telamna	kɛ'rene
black	meriin	merin	merin	'pota 'tomo, sche

English	Eipo	Bime	Kosarek	Kosare
blood	ining	yabye	ining	ña
bone	yoke	yo	you	'kákò
breast	taram	taram	saram	kó kakò
let us burn	seknab	fabkameb	uk talaməng	sa.'bɛinɛ
claw	sii kankanya	singananyo	wa'bá	ɔbɔ'kakò
cloud	doa	doba	doa	'dɛiɸá
cold	aruukna	baibungna	walɛ'kɛn	tíɔ
come!	yalyam yamin	yakarum	yai	kɛgu'mɛri
died	deibuk	deibu	tebal	kɛ'jand
dog	kam	kam	kam	sé
<u>word, language</u>	yupe	oupu	yo'bo	-
<u>drink</u>	-	-	-	miɛ'mɛnɛ
dry	asim, dou	dou, asim	hɛng tebal	sa.pí'
ear	amol	amol	amalé	'kɔro
earth, ground	tokwe	tokwe	sɔró, sou	kɔré
he is eating	dibmal	jibmar	el dilamla	kɛnɛ
egg	duk	do	winang wangká	ho'sɛri
eye	asing	asorue	hɛng	ʔsɛrit
fat	meta	meta	sí	masɔfá
<u>later</u>	amenyan	amenyan	amík	mɛnɛrí
<u>fire</u>	uukwe	ukwe	ouk	sá
flying	fol bil	fol bir	imdoman	ho kɛi
			balamla	isibɔɛ
foot	yan	yan	yan	tipɛ.pá
full	lang dible	langnebre	dɔwal	so.ka
give me	arebnilyam	karebnerum	na tatne	no tamakó
good	teleb	teleb	walí	'sɛngɛ
green, unripe	imbik maka	imbik meka	kalgon	usu 'jɛbɔ
hair	fotong	potong	hong	potɔi
hand	taruk	burye	sasang	wɛ
	taruk tatang	burutan		
head	kiisok	giso	heiyó	potó
I heard	gekebmase	gekebmasi	na wamnun	na pikɛnɛɛ
heart	talema	talema	waná	kirɛ'tinɛ
I	na	ne	na	nó
kill!	oblyam	pobrum	-	-
I killed	-	-	nari omno	na o'rɛka
knee	kutam	gotam	yabu	aimó
I know	bikman	bikman	na el	no to'wai
<u>I catch</u>	talebman	talebman	nari selbano	na mɔro
<u>liver</u>	yaica	yeko	wana	ikuimɛnɛ
long (way)	fera	pera	inauwé	djubó
louse	amnye	amnye	amí	mi
<u>child</u>	me	mapwe	mɛ	sɔra
<u>short</u>	dam	burum	bumangnɛ	soɛ
meat	toubne	tub	mɛsá	pou
moon	wale	ware	wal	paka

English	Eipo	Bime	Kosarek	Kosare
mountain	motokwe	motokwe	yim	kõ
<u>shoulder</u>	takunya	takunyo	sau	tsu
<u>name</u>	sii	si	si	moro
<u>back</u>	balye	balye,	udong	kiring
		amnyatara		'kako
new	winirjuk	okoripwe	siwɛn'dɔknɛ	-
night	luukenyan	lukenyan	imbal	tomo
nose	uu	u	uryam	moro 'kakò
not	gum	men	gom	e'hɛ
one	ton	tegen	se'lek	kora'ɸɛ
people	niinye	nimi	kabuni	nɪmɪɾɛka
rain	mok	mo	mak	soa'si
ripe	eng	eng	yolameng	pɛ
road, path	biisiik	bisi	bi	kɛmɔrɔ
root	ateng	aten	kal waná	pɔ'rɪsi
<u>flat</u>	luu	ban bisi	as	'ɸan'ja
<u>sand</u>	(mek) dala	me wininga	kirikanger	ru'ti
	(mek) wininga			
I say	winyabman	pebman	nari lemnun	na siɛ
I see	diibrenman	diwerenman	na dipna	na nɛ'ka
	diinman			
seed	yukwe	youkwa	nina	'tiwiɟe
I sit	bukman	bukman	na bukmun	na ruidɔ
<u>rope</u>	tape	tabkwe	-	po
we two will	mabnanam	mabkanim	nun mabokap	-
sleep				
I sleep	-	-	-	no kɛlrɪo
small, little	metek	metek	ɔlɔk	-
smoke	tulum	tolum	mɔhɔŋ	sa.wi
I stand	tekman	tekman	na seknun	no kɛ'truɪ-
				dɔrɛ
star	kurye	guri, kurye	ɪmbɔdea	ɛmɛ
stone	kedige	gil	kirik	'naka
sun	ketinge	getane	hɛŋ	ɛnɛ?
tail	amwe	amngwe	amɪ	uijɛ
tongue	sii tang	lyemngwe	selemɪ	pɛrɛ
tooth	sii	tsi	si	pɛki
tree	yo	co	kal	tɪndi
two	betinye	bitini	pɛndɛ	tau
<u>I am going</u>	binman	binman	na binnun	no kɛdɔ
warm	boupe, tin	boupe	bopo	pɔ'bu
water, river	mek	me	mak	biɛ
we(all)	nun	nun	nu	wɛnɛ
thou	an	kan	an	ɛnɛ
what	yate(ro)	waredaro	anɛsa	kosarɛ
white	kurun	korun	kororupne	kɛrɛ
who	yate anya	waring	anɛikne	kɔrɔ

English	Eipo	Bime	Kosarek	Kosare
woman	kilape	nerape	kəlabo	dumɔ'kasia
bad	malye	mali	mali	numɛ.'si
<u>headwaters</u>	fuu	pu	lu	-
<u>river</u>	( see water )			biəngntu
<u>not know</u>	walewal	walewal	ni'kon	-
<u>navel</u>	num	num	mən	'ākɾəkri
air, sky	iim	im	im	nubɔ
net (bag)	aleng	alen	ak	ta
pig	basam	besam	pam	pi

### Notes

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Linguistic fieldwork by the present writer was done in Eipomek in July 1974, December 1974 - March 1975, March 1976 - July 1976, and in Bime in June 1974 and October - November 1974.

<sup>2</sup> For other maps see Schiefenhövel (1976:264) and Voorhoeve (1975a:69).

<sup>3</sup> In the light of my notes of the surrounding dialects I have found only two mistakes: mal-ye is 'not bad' instead of 'stone axe' and kwa-ning is 'sweet potato' instead of 'to eat'. Doubtful items are ate 'hand' and da-boe-ning 'cassowary', the first meaning probably 'this here', the second 'what belongs to the north', that is the area where cassowaries are still living.

<sup>4</sup> The calculation is based on my own material except for Goliath (de Kock 1912) and Korapun and Nipsan (Voorhoeve 1975a:116-7).



<sup>5</sup> For formation of other interrogative pronouns see Section 2.2.7. The form una is from Louwerse & van der Wilden. The form I elicited in Eipomek is ono [ono'] .

<sup>6</sup> Data of the Ok languages are from Voorhoeve (1975a:97-8) and Healey (1965a and b).

<sup>7</sup> For the sake of readability I will use only the following abbreviations: sg (singular), pl (plural), 1 (first person), 2 (second person), 3 (third person).

The first translation follows the Eipo text word by word. = indicates a new morpheme within a word. Explanations and indications connected by - all refer to one morpheme. Thus English (he) sings would be rendered as sing=sg-3-present, where = indicates the presence of two morphemes, namely sing and -s, and the indications connected by - all refer to the morpheme -s. In brackets or with the help of / alternative translations, remarks or additional explanations are given. In charts and formulas brackets ( ) indicate that the element is optional. Elements without any bracket are obligatory. Elements written one below the other and included in { } exclude one another. In some later translations not all grammatical indications are given.

<sup>8</sup> Text recorded by W. Schiefenhövel.

## References

- Bromley, H.M., 1966. "The linguistic relationship of Grand Valley Dani: a lexicostatistical classification." Oceania 37: 286-308.
- \_\_\_\_\_, 1973. "Ethnic groups in Irian Jaya". Irian. Bulletin of West Irian Development 2:3. 1-37.
- de Kock, M.A., 1912. "Eenige ethnologische en anthropologische gegevens omtrent een dwergstam in het bergland van Zuid Nieuw-Guinea." Tijdschrift van het Koninklijk Nederlands Aardrijkskundig Genootschap 29: 387-400.
- Eibl-Eibesfeldt, I., 1976. Menschenforschung auf neuen Wegen. Die naturwissenschaftliche Betrachtung kultureller Verhaltensweisen. Wien: Molden.
- Healey, P.M., 1965a. "Telefol clause structure." Papers in New Guinea Linguistics 3: 1-26.
- \_\_\_\_\_, 1965b. "Telefol verb phrases." Papers in New Guinea Linguistics 3: 27-53.
- Heeschen, V., 1977. Review of Voorhoeve 1975a. Anthropos 72: 649-51.

Heeschen, V., and W. Schiefenhövel and I. Eibl-Eibesfeldt. In press. "Requesting, giving, and taking. The relationship between verbal and nonverbal behavior in the speech community of the Eipo, Irian Jaya (West New Guinea)."

Koch, G., 1977. "Die Eipo. Anatomie einer Steinzeitkultur." *Bild der Wissenschaft* 14: 9. 44-59.

Le Roux, C.C.F.M., 1948-50. De Bergpaoea's van Nieuw Guinea en hum woongebied. Deel 1-3. Leiden: Brill.

McElhanon, K.A., and C.L. Voorhoeve. The Trans-New Guinea Phylum: Explorations in deep-level genetic relationships. Canberra: Australian National University. (Pacific Linguistics, B 16).

Schiefenhövel, W., 1976. "Die Eipo-Leute des Berglands von Indonesisch-Neuguinea." Homo 26: 263-275.

Voorhoeve, C.L., 1975a. Languages of Irian Jaya. Checklist, preliminary classification, language maps, wordlists.

preliminary classification, language maps, wordlists.  
Canberra: Australian National University. (Pacific Linguistics  
B 31)

B 31) , 1975b. "Central and western Trans-New Guinea  
Phylum languages." Wurm (ed): 345-459.

Wurm, S.A., 1971. "The Papuan linguistic situation." Current Trends in Linguistics 8:541-657.

, 1975. "Personal Pronouns." Wurm (ed.): 191-216.

(ed), 1975. Papuan Languages and the New Guinea linguistic scene. Canberra: Australian National University. (New Guinea area languages and language study, Vol 1) (Pacific Linguistics, C 38)

Wurm, S.A., and C.L. Voorhoeve, and K.A. McElhanon, 1975. "The Trans-New Guinea Phylum in general." Wurm (ed.): 299-322.