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PART 2.5.-2.9.

THE TRANS-NEW GUINEA PHYLUM

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2.5. THE TRANS-NEW GUINEA PHYLUM IN GENERAL

S.A. Wurm, C.L. Voorhoeve, K. McElhanon

2.5.1. INTRODUCTORY REMARKS

The Trans-New Guinea Phylum is both geographically and numerically by far the largest of the Papuan phyletic groups: it extends over considerably more than four-fifths of the New Guinea mainland and comprises nearly five hundred languages, i.e. close to 70% of the over seven hundred and twenty Papuan languages identified to date. At the same time, speakers of Trans-New Guinea Phylum languages account for almost 82% of the approximately 2,756,000 speakers of known Papuan languages. (See the Table at the end of 1.3.4.).

Apart from the Austronesian coastal and near-coastal areas in the west, south-east, north-east and north, the only sections of the mainland which are not occupied by Trans-New Guinea Phylum languages are the northern five-sixths of the Vogelkop Peninsula, a small western portion of the northern part of the non-peninsular section of Irian Jaya which is occupied by the languages of the Geelvink Bay Phylum and a few isolates, and in Papua New Guinea the Sepik and Ramu basins and coastal ranges in the north of the Sepik Districts, two tiny areas in the Morobe and Gulf Districts which are held by two isolates, and two small areas in the Northern District occupied by the Maisin language, an Austronesian-Papuan "mixed" language whose exact classificatory status is still under discussion (see (II) 4.5.1.), but which may prove to be originally Austronesian.

In addition to this, the Papuan languages found on a part of the northern half of the island of Timor, and on most of the Alor and Pantar Islands, south-west of Irian Jaya, are now believed to be members of the Trans-New Guinea Phylum - until quite recently, they were regarded as belonging to the West Papuan Phylum (see 2.10.1.).

The history of the establishment of the Trans-New Guinea Phylum and the various steps leading to its discovery and elaboration have already been described in 1.3.3. and 1.3.4. and need not be repeated here.

2.5.2. GENERAL CHARACTERISTICS

The main characteristics of the Trans-New Guinea Phylum show a fair amount of homogeneity in their appearance in the languages belonging to it except that the influence of various substrata is in evidence in most parts of the phylum, with their influence being particularly strong in some, mostly marginal, areas where the languages contain a considerable number of non-Trans-New Guinea Phylum features and are quite aberrant in several ways. Such areas are, in particular, in a rather extended region in the central south, in the border area between the West Sepik District of Papua New Guinea and Irian Jaya, in the north and the extreme west of Irian Jaya, as well as in the Madang District. In the light of what has been said about the classification of Papuan languages in 2.2.0. and in particular, in 2.2.6., it has nevertheless been decided to include such fringe area language groups in the Trans-New Guinea Phylum, generally as sub-phyla, even though only a component part of each of them is likely to be genetically related to other Trans-New Guinea Phylum languages. Other language groups which are also located in one of the areas mentioned and show quite strong, but apparently less incisive, Trans-New Guinea Phylum influence, have been excluded (see 2.2.6.), with the decisions concerning the inclusion or exclusion of especially doubtful language groups being perhaps somewhat arbitrary in some cases.

From what has been said in 3.4.1. in this volume, it appears that much of the Trans-New Guinea Phylum area may have been originally occupied by a number of probably unrelated earlier languages, and that the interrelationship of many of the present-day Trans-New Guinea Phylum languages is in a way, secondary, or partial and fractional, in nature and brought about by the very strong and pervading influence of an originally little differentiated element manifested on both the lexical and structural-typological levels, and attributable to the spreading of daughter languages of the Trans-New Guinea Phylum proto-language first from west to east through much of the New Guinea mainland well over five thousand years ago, and perhaps much more vigorously, from east to west during the last five thousand years or so (see 3.4.1.). The presence of the older, different languages upon which the Trans-New Guinea Phylum languages appear to have been superimposed in the course of these migrations, is noticeable in the form of substrata of varying strength throughout the greater part of the Trans-New Guinea Phylum.

The most important main characteristics of Trans-New Guinea Phylum languages are as follows:

2.5.2.1. PHONOLOGY

Very commonly two series of stops are present, but fricatives are often restricted to one phoneme per language, and palatalised and labialised consonants are rare. A glottal stop phoneme appears with great statistical frequency in some restricted areas. In a number of languages, uncommon consonant types such as laterally released stops, labio-velar stops, preglottalised voiced and voiceless stops, implosive stops, and bilabial trills (the last probably non-phonemic), are met with. The consonants often have widely varying allophones, and fricative allophones of stops are very common. The number of vowel phonemes is commonly five, very rarely less, though instances of higher numbers occur. The vowels rarely have widely varying allophones. The suprasegmental systems are often complex, and phonemically relevant tones are frequently found. Morphophonemic changes are very numerous and often highly elaborate.

2.5.2.2. PRONOUNS

The personal pronouns in the Trans-New Guinea Phylum languages belong very predominantly to set I (see 2.3.3.2.) (in a few western, central and eastern areas, to set Ia) (see 2.3.3.5.), but set II (see 2.3.3.3.) is very strongly in evidence in the central south in sub-phylic areas, e.g. in the Trans-Fly area, as well as to a lower degree in the north and the extreme west. Set III (see 2.3.3.4.) is strongly present in the north-west and central north, and very strongly in the north-east in the Madang District in a sub-phylic area, and also in a region extending to the south of the western Madang District through the Highlands to the Papuan Gulf. The characteristic base consonants *n* and *k* of the set I pronouns of 1 sg. and 2 sg., in the general form of a dental nasal + vowel, and a velar stop + vowel, appear over wide areas in the subject and/or object markers with the verbs. A usually open vowel tends to indicate the third person singular in such cases.

2.5.2.3. MORPHOLOGY

The morphology of the Trans-New Guinea Phylum languages is predominantly suffixing, though prefixes play a part, often as object markers and aspectual markers with verbs, and as possessive markers with nouns. Especially in the south, the north-west and the extreme west, prefixes are more strongly in evidence in aberrant languages which often belong to sub-phyla. The morphology of the great majority of the Trans-New Guinea Phylum languages shows very high to extreme complexity, though some languages, especially in the central north, the eastern part of the southern centre and the south-east, have less elaborate morphologies. An

outstanding feature which is very wide-spread amongst Trans-New Guinea Phylum languages is the presence of a covert noun-class system denoted through sets of classificatory verbs of two different types. At the same time, an overt two-gender system manifesting itself in pronouns, adjectives and noun and verb markers which is characteristic of many languages of other Papuan phyla is found in Trans-New Guinea Phylum languages, but is limited to some, often sub-phylic, parts of the centre, the south, the southeastern part of the central portion, the north-west and the west. It manifests itself mostly only in third person singular personal pronouns and in bound person markers with verbs, and is often quite rudimentary. It is generally co-occurring with the class-system through classificatory verbs, and is apparently a sub-stratum feature wherever it is met with.

Another feature which is very widespread and common amongst Trans-New Guinea Phylum languages, though not entirely limited to them, is the presence of special sentence-medial verb forms, i.e. of separate sets of forms appearing with non-final verbs in a sentence, with identity and non-identity of the subjects of the medial and the final verbs mostly indicated by separate forms. Outside the Trans-New Guinea Phylum, sentence-medial verb forms are usually less elaborate than within this phylum, and their occurrence is limited.

Also, many Trans-New Guinea Phylum languages are characterised by one bound subject marker indicating two or several different persons, especially the second and third persons non-singular. Again, this feature is encountered outside the Trans-New Guinea Phylum area as well, but very much less commonly.

Other common or widespread characteristics of the Trans-New Guinea Phylum languages have been given in 2.3.2.5. and contrasted with Sepik-Ramu Phylum features.

Some additional discussion of the covert noun-class system through classificatory verbs, and of sentence-medial verb forms, may be given for illustration.

2.5.2.3.1. Classificatory Verbs

Two types of classificatory verbs can be distinguished which A. Lang (1971, 1975) refers to as existential verbs, and as pro-verbs in predications.

The existential verbs occur with certain types of concrete nouns and correspond in meaning to the English copula *be*. Every one of such nouns co-occurs with one particular existential verb which marks the class to which the particular noun belongs, and each of these verbs appears only with a certain set of nouns which generally denote palpable objects. In

Enga (East New Guinea Highlands Stock), A. Lang observed seven distinct existential verbs and in consequence, seven covert noun classes, i.e. noun classes not indicated on the noun itself by morphological processes, and eight have been observed in Hagen (East New Guinea Highlands Stock). The assignment of nouns to the different classes as manifested by their co-occurrence with certain existential verbs is generally attributable to features of shape and posture, except that in languages of the Central Family of the East New Guinea Highlands Stock, the classes appear to be determined by features of animate versus inanimate, and permanent versus non-permanent. This aberrant feature of the languages of this family is of interest in the light of other aberrant characteristics of the languages included in it with regard to their pronouns (touched upon in 2.3.3.4.1.), and also of other features, and of findings of linguistic prehistory (3.4.1.).

In other languages, the number of existential verbs appears to be mostly less, but this may be attributable to the inadequacy of the amount of study devoted to this particular phenomenon to date. So for instance, only six seem to be present in Kamoro (Central and South New Guinea Stock); five in Asmat (Central and South New Guinea Stock) and Dani (Dani Stock); whereas in Wahgi (East New Guinea Highlands Stock), Káte (Huon Peninsula Stock), Kiwai (Trans-Fly Stock) and others there are four; and Huli (East New Guinea Highlands Stock) has three. For instance, in Kiwai (of the Trans-Fly Stock) (Southern Kiwai language, Island Kiwai dialect, Wurm 1973), the four verbs *erea* = *remain, lie*, *(orow)omi* = *stay, orou* = *lie*, and *otoi* = *stand* function as existential verbs, the first in connection with some objects which do not move, the second with persons, the third with persons or things lying down, and the fourth with, for instance, mountains, trees, and food plants and their fruit (Ray 1931). Examples: *ni o'i-ro uba-ime ai-r-erea* = *this coconut is bad* = *this (coconut-subject) (bad-emphasis) ([assertion] - [non-speaker subject in present form] - [be])*; *gonou-wa na'u dubu ai-g-omi-diro* = *a man was there* = *(that-locative) one man ([assertion] - [non-speaker subject in past form] - [be] - [continuity])*; *auwo-ia mataru aime-g-orou* = *and then there was a great calm* = *(big-emphasis) calm ([successive action] - [non-speaker subject in past form] - [be])*; *no ebeta ota r-otoi* = *what tree is this?* = *this what tree ([non-speaker subject in present form] - [be])*. A few examples from Enga (East New Guinea Highlands Stock) (A. Lang 1971, 1975) will further illustrate the point: *mená dúpa kate-yé* = *pigs exist* = *pig the ([be] - [habitual])*; *énda dúpa pete-né* = *women exist* = *woman the ([be] - [habitual])*; *kanopáto dúpa sí-ŋi* = *reptiles exist* = *reptile the ([be] - [habitual])*; *mapú dúpa pale-né* = *sweet potatoes exist* = *(sweet potato) the ([be] - [habitual])*; etc.

The pro-verbs which enter into the formation of predications constitute the second type of classificatory verbs (A. Lang 1971, 1975). The predications consist of an adjunct, usually a noun, which has a specific meaning and a pro-verb whose meaning is more general, with the combination adjunct + pro-verb functioning as a verb-phrase. These pro-verbs appear in complementary distribution with the existential verbs with regard to the types of the nouns with which they co-occur - the nouns which pro-verbs accompany can be described as generally indicating inner states, events, qualities and time.

The number of these pro-verbs in a given Trans-New Guinea Phylum language is usually greater than that of the existential verbs, and they subdivide the adjunct nouns co-occurring with them into a corresponding number of noun classes. A. Lang (1971, 1975) distinguishes thirteen such pro-verbs in Enga (East New Guinea Highlands Stock), and in some other East New Guinea Highlands Stock languages the following numbers have been observed: Chimbu proper (Kuman) twelve, Sinasina ten, Wahgi and Kalam eight, Hagen seven, Kewa five, Benabena three, and Usarufa two. Here again, further study may well reveal additional pro-verbs. In Kapau (Angan stock-level Family), six seem to be present, in Kâte (Huon Peninsula Stock), Asmat (Central and South New Guinea Stock) and Suena (Binandere Stock) also six, and in Telefol (Central and South New Guinea Stock) three.

A few examples will suffice to illustrate this phenomenon:

The most frequently encountered pro-verbs in predications in Trans-New Guinea Phylum languages carry the basic meaning *do*, *hit*, and *utter*, but pro-verbs with the meanings of *eat*, *get*, *take*, *see*, *go*, *know*, *come*, *put*, *die*, *give*, and others are also encountered. For instance, in Chimbu proper (East New Guinea Highlands Stock) (Trefry 1969), *di-* = *utter* appears in predications such as *birum di-* = *sweep*, *ebe di-* = *lose*, *puglo di-* = *jump*; *eri* = *do* for instance in *kai eri-* = *cry*, *kuda eri-* = *be angry*; *gogl-* = *die* in *kidan gogl-* = *be hungry*, *kodugl gogl-* = *be afraid*; etc. In Benabena (East New Guinea Highlands Stock) (Young 1964, 1971), *i-* = *do* is found for instance in *kehe i-* = *call*, *iya i-* = *spear*; *ho-* = *hit* in *loka ho-* = *ask*, *kota ho-* = *fall down*, *igofa ho-* = *break something*; *li-* = *take* in *foya li-* = *work*, *kele li-* = *wipe*; etc. In Suena (Binandere Stock) (Wilson 1969), *wai* = *do* is for instance met with in *gitawa wai* = *sleep*; *sai* = *utter* in *asio sai* = *sneeze*; *nai* = *arrive* in *are nai* = *yell*; etc.

2.5.2.3.2. Sentence-Medial Verb Forms

The sentence-medial verb forms have been briefly touched upon in 2.5.2.3. as one of the salient characteristics of the majority of the Trans-New Guinea Phylum languages, though, possibly under Trans-New Guinea

Phylum influence, they show a limited occurrence outside this phylum. As has been indicated, sentence-medial verb forms constitute special sets of forms appearing with non-final, as opposed to final, verbs, and they denote the relationship between the actions referred to by the medial and final verbs such as simultaneity, successivity, duration of one of the actions and punctiliarity of the other, temporal relations, conditional and causal relations, and others. In addition, as has already been mentioned, identity versus non-identity of the subjects of the medial and final verbs is usually indicated by separate sets of forms, and in very many languages, the medial verb forms denote the person and number of the subject of the medial verb, or in an anticipatory manner, of the subject of the final verb, or of both. In individual sentences, the number of medial verbs is unrestricted and can be very great with dozens of them following each other in narrative style for instance, before a final verb appears.

In individual Trans-New Guinea Phylum languages, the medial verbs can be of great complexity and their system very elaborate. However, their intricacies generally show a sharp decrease towards fringe areas of the Trans-New Guinea Phylum, and in quite a few areas in which strong substrata affecting grammatical structures are found, especially in subphylic parts of the phylum, the sentence-medial verbs are only weakly developed, or totally absent. This seems to provide added emphasis to the assumption that the appearance of sentence-medial verb forms constitutes one of the basic characteristics of Trans-New Guinea Phylum languages and is presumably one of the features of the Trans-New Guinea Phylum proto-language. Characteristically, some languages of other phyla which possess sentence-medial verb forms, such as languages of the Middle Sepik Super-Stock of the Sepik-Ramu Phylum, appear to have been in contact with Trans-New Guinea Phylum languages, and with a section of it which shows a strong development of this feature (see 3.4.1.).

A few examples of sentence-medial verb forms may be given here for illustration: Kamano (East New Guinea Highlands Stock) (Payne and Drew 1966): *ne[?]ya ne-te-[?]na vu-gah-u-e* = *when I have eaten food I will go = food* ([eat] - [successivity marker] - [first person singular subject marker on medial verbs])([go] - [future] - [first person singular subject marker on final verbs] - [declarative]); *u-nə-mi-te-su-i-ge-nka vu-gah-an-e* = *when he has given me, you (sg.) will go* = ([there] - [first person singular object] - [give] - [successivity marker] - [intention] - [third person singular subject marker] - [change of subject marker] - [anticipatory second person singular subject marker on medial verbs])([go] - [future] - [second person singular subject marker on final verbs] - [declarative]); Awa (East New Guinea Highlands Stock) (Loving and McKaughan 1973): *tag-og-ph bok-óna[?]* = *when I looked, you (sg.) 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 singular subject marker on medial verbs]) ([go] - [second person singular subject marker on final verbs in near past tense form]). If there is no change of subjects, some sentence-medial verb forms in Awa carry a special portmanteau suffix to denote singularity, duality or plurality of the subject, e.g. tag-ani-e = *you (sg.) will see and you (sg.)...* = ([see] - [singularity of subject, with the appearance of this suffix indicating future and identity of the two subjects] - [anticipatory second singular subject marker on medial verbs in a special form appearing after number-marking portmanteau suffixes]); Kâte (Huon Peninsula Stock)(Pilhofer 1933): guŋ fo-hu' mi mana-po = *I was sleeping and did not hear (it) = sleep* ([lie] - [subject identity marker denoting simultaneity]) negation ([hear] - [first person singular subject marker on final verbs in far past tense form]), fiu' lo-ha-me hone-pe wise-we' = *while he was stealing, I saw him, and he fled = theft* ([take] - [simultaneity marker] - [third person singular subject marker denoting change of subject]) ([see] - [first person singular marker indicating successivity and change of subject]) ([run] - [third person singular subject marker on final verb in far past form]).

2.5.2.4. VOCABULARY

A number of lexical items have cognate chains running through most, or almost all, of the entire Trans-New Guinea Phylum, and quite a few more are represented by less far-flung, but nevertheless spectacular, cognate chains and constitute valuable diagnostic items. Many vocabulary items appear in the form of two or several distinct cognate chains whose members are often in complementary distribution within languages belonging to the same family within individual stocks. In cases in which several cognate chains are present, one of them sometimes constitutes an Austronesian loan element. This occurrence of multiple parallel cognate chains in Trans-New Guinea Phylum languages constitutes interesting evidence for further comparative work and studies in linguistic prehistory in apparently reflecting the spreading of several different language elements over wide areas of the New Guinea mainland in the past.

Lexical items appearing in the form of very widespread cognate chains throughout most of the Trans-New Guinea Phylum are for instance the words listed in 2.2.4.1. A)b)-c), i.e. the verbs *eat* and *say, speak*; the nouns *arm (or hand), bone, breast (female), ear, eye, fire, louse*, to a lesser extent *mother, skin, and water*; as well as set I pronouns (see 2.3.3.2.) of the first and second person singular, the first person plural, and to a lesser extent, the third person singular. Other very widespread lexical

items are for instance the verbs *sleep*, *burn*, and *shoot*; the nouns *foot*, *leg*, *knee*, *nail*, *neck*, *spittle*, *urine*, *elder sister*, *wing*, *ashes*, *road*, *fire*, *sand*, *smoke*, *wind*; the adjectives *full*, *new*, *warm*; and the set I pronoun (see 2.3.3.2.) of the second person plural. Lexical items manifesting themselves in the form of several cognate chains, with one of them an Austronesian loanword in the majority of the cases, are for instance, *hair*, *head*, *mouth*, *nose*, *tongue*, *tooth*, *elder brother*, *rain*, *dog*, *leaf*, *star*, *long*, etc. (McElhanon and Voorhoeve 1970).

The semantic characteristics of the grouping of lexical items (see 2.2.1.) are of some diagnostic importance in comparative work involving Trans-New Guinea Phylum languages though less so than in other phyla such as the Sepik-Ramu Phylum because of the greater formal comparability of Trans-New Guinea Phylum lexical items as resulting from the greater number of diagnostic cognate chains in it. For instance, in contrast to the Sepik-Ramu Phylum situation, the concepts of *blood* and *red* are generally connected with two distinct lexical items in Trans-New Guinea Phylum languages.

A certain amount of comparative linguistic work resulting in the reconstruction of proto-forms has been undertaken involving various families within some of the stocks composing the Trans-New Guinea Phylum (see e.g. 2.4.2. and 2.4.3.). Similar, though rather preliminary, studies concerned with the Trans-New Guinea Phylum as a whole have also been carried out. A discussion of this has been given in 2.4.1.

2.5.3. INTERNAL CLASSIFICATION

2.5.3.1. INTRODUCTORY REMARKS

From the point of view of its internal classification, the Trans-New Guinea Phylum consists of a very major main section which can be subdivided into a geographically very large central and western, and a comparatively quite small eastern, part, with a number of additional, mostly smallish, fringe sections containing very many, largely numerically insignificant, aberrant languages and adjoining the large central and western part of the main section in the south, south-west, west, north-west and north-east.

As has been pointed out in 2.2.5., it has been decided in the light of the extent and nature of the differences and similarities between member languages of the various stocks making up the abovementioned general picture which largely reflects the greater or lesser presence and influence of sub-strata (see 2.3.2.3.), to introduce the concepts of sub-phyla and super-stocks to permit greater taxonomic flexibility (for the definition of these two terms see 2.2.5.). However, in spite of the greater

classificatory range provided by these concepts, the clear demarcation of the status of several Trans-New Guinea Phylum stocks still remains difficult, and somewhat arbitrary decisions are necessary in a few instances (see below 2.5.3.2.).

2.5.3.2. DOUBTFUL CASES

2.5.3.2.1. General Remarks

The general principles underlying the establishment of stocks and phyla (see 2.2.5. and 2.2.4.3.) allow for the assignment of a specific classificatory status to the great majority of the languages of the Trans-New Guinea Phylum. However, in addition to the cases discussed in 2.2.6. about whose inclusion or otherwise into the Trans-New Guinea Phylum as such there may be some doubt, there are a few language groups whose inclusion into the Trans-New Guinea Phylum appears justified in the light of the definitions given in 2.2.4., but whose status as members of sub-phyla, super-stocks or otherwise may be questionable. Two particular instances may be mentioned here:

2.5.3.2.2. The Marind Stock

The Marind Stock which is located in south-eastern Irian Jaya shows a number of aberrant features which are probably attributable to a strong sub-stratum, with several of these aberrant features being comparable to those characteristic of languages of the Trans-Fly Stock (see 2.6.1.) which has been assigned sub-phylum status in the light of these characteristics. In view of this, there seem to be some grounds for regarding the Marind Stock as constituting a sub-phylum as well. However, in contrast to the Trans-Fly Stock languages whose pronoun forms belong largely to set II (see 2.3.3.3.), the pronouns in the Marind Stock languages belong predominantly to set I, the typical Trans-New Guinea Phylum set (see 2.3.2.5.). Also, the lexical sharing between Marind Stock languages and other Trans-New Guinea Phylum languages is of a much higher order than that between most Trans-Fly Stock languages and other languages of the Trans-New Guinea Phylum. On the structural level, the Marind Stock languages share more features with other Trans-New Guinea Phylum languages than is the case with Trans-Fly Stock languages, with a higher degree of formal similarity of person markers with verbs constituting one of these features.

When taking all these factors into consideration, it may, on balance, seem possible to include the Marind Stock into the main section of the Trans-New Guinea Phylum while recognising its aberrant status within it.

2.5.3.2.3. The Sentani Family

The Sentani language of the Sentani Family located in north-eastern Irian Jaya and according to the present classification, constituting the major portion of the Sentani Stock, has been shown by Voorhoeve (1969) to have some comparatively close links with the Asmat language of the Kamoro-Sempan-Asmat Family of the Central and South New Guinea Stock. On these grounds, it could perhaps be suggested that it and the other languages of the family to which it belongs, could be included, as a constituent family, into the Central and South New Guinea Stock (Voorhoeve 1969). At the same time, however, it contains some aberrant features such as membership of its pronouns to sets II and III (see 2.3.3.3. and 2.3.3.4.), and much of its vocabulary is aberrant when compared with the Central and South New Guinea Stock vocabulary, and also shows not many close links with that of the neighbouring stocks and families which are largely sub-phylic members of the Trans-New Guinea Phylum. The same statement applies to some of its structure which shows a mixture of typical Trans-New Guinea Phylum characteristics such as the absence of an overt two-gender system, and other features which bear no close resemblance to those of the neighbouring groups mentioned above. It appears that the languages of the Sentani Family contain a sub-stratum upon which a Trans-New Guinea Phylum element similar to, or identical with, that present in particular in the Kamoro-Sempan-Asmat Family of the Central and South New Guinea Stock (disregarding the sub-stratum features present in that family) has been superimposed. The strength of this sub-stratum, especially on the lexical level, is such that it seems to militate against the inclusion of the Sentani Family into the Central and South New Guinea Stock. The question remains therefore whether or not there may be sufficient grounds for joining it and the whole stock to which it belongs, with that stock into a super-stock. While this may well be justifiable on the basis of the obvious connections between Asmat and the Sentani Family languages on some levels, it seems that, perhaps somewhat arbitrarily, the assignment of ordinary stock status to the Sentani Stock may perhaps be more appropriate if the overall similarities and differences between it and the Central and South New Guinea Stock are taken into account.

2.5.3.3. THE CLASSIFICATION

2.5.3.3.1. General Remarks

One difficulty encountered in describing the composition of the Trans-New Guinea Phylum in terms of its constituent stocks is the question of the order in which the stocks should be listed. The principle of dealing with the main section of the phylum first, beginning with its large

western and central part and following it up with the small eastern one, and then turning to the sub-phyla, obviously suggests itself. However, the order within these portions remains largely arbitrary, and it has been decided to start the listing with the main section at the general Finisterre-Huon Peninsula area, an important region from the point of view of the assumed second major Trans-New Guinea Phylum language migration (see 3.4.1.), and to proceed from there in a generally western direction, allowing for some deviations to the south and north to include geographically outlying stocks.

The Angan Stock which, when following the described principle of listing, should have been mentioned in the second place after the Finisterre-Huon Super-Stock in view of its geographical position, has been mentioned a little later out of turn. It is somewhat aberrant, and appears to owe its, possibly secondary, Trans-New Guinea Phylum nature and characteristics to the strong super-imposition upon an older, probably unrelated, language type, of a language element similar to, or identical with, one encountered particularly strongly in the eastern central part of the East New Guinea Highlands Stock. The discussion of the Angan Stock seems therefore to be somewhat subsidiary to that of the East New Guinea Highlands Stock which ought to come first. At the same time, its listing immediately after the East New Guinea Highlands Stock would break the sequence between the East New Guinea Highlands, Kutubuan and Central and South New Guinea Stocks which are closely linked by chain relationships between languages belonging to them. In view of this, it has been thought best to mention the Angan Stock after the Central and South New Guinea Stock.

The eastern part of the Trans-New Guinea Phylum has been taken up with the Binandere Family which is again close to the Huon Peninsula area and occupies a somewhat transitory position between the two parts. The eastern part has been presented in a generally eastern direction. The sub-phyla have again been started with in the general Huon Peninsula area from where they have been enumerated in a generally clockwise direction as far as northern Irian Jaya, with the far western sub-phyla added afterwards.

2.5.3.3.2. Composition of the Trans-New Guinea Phylum

Note: s-1 = stock-level; f-1 = family-level; Is = isolate; dfl = doubtful.

A number added in parentheses to a figure in the family column, with (dfl)f-1 Is etc. after it, indicates that the families composing a given stock include as many (doubtful) family-level isolates as are denoted by the number in question, i.e. 4 (2 dfl f-1 Is) = 'the stock contains four families of which two are doubtful family-level isolates'. The symbols s-1 Is have comparable meanings, e.g. 1 (Is-1 Is) = 'the stock contains

one stock-level isolate' = 'the stock consists of a single stock-level isolate' = 'the language listed constitutes a stock-level isolate'.

As has already been pointed out in note 1 to 1.0., the figures given in tables such as the following (figures which are the result of the adding up of the numbers of speakers of individual Papuan languages as given in the various chapters in this volume, and, in some instances, of rough estimates) may in fact be too low because they are based on population counts made several years ago. In recent years, there have been quite extensive population increases in many parts of the New Guinea area, and as a result of this, the present number of the speakers of Trans-New Guinea Phylum languages can be assumed to be markedly larger than indicated, perhaps by as much as 3%-5% in general, and rather more in some areas. Information on numbers of speakers is subject to quite frequent changes as new data become available or extant ones are found to be in error - events of almost daily occurrence in Papuan linguistics.

It may be mentioned that in the table below, the figures culled from the various chapters have been rounded up to full hundreds.

TRANS-NEW GUINEA PHYLUM	NAME	STOCKS	FAMILIES	LANGUAGES	SPEAKERS
	I. Main Section	24	58(14f-1 & s-1 Is)	258	1,806,700
	A. Central and Western Part	16	49(13f-1 & s-1 Is)	208	1,672,200
	1. Finisterre-Huon Super-Stock	2	10(2f-1 Is)	71	139,000
	a) Finisterre Stock	1	8(1f-1 + 1dfl f-1 Is)	50	55,100
	b) Huon Stock	1	2	21	83,900
	2. East New Guinea Highlands Stock	1	7(2f-1 Is)	38	929,200
	3. Central and South New Guinea-Kutubuan Super-Stock	2	11(1f-1 Is)	48	162,000
	a) Kutubuan Stock	1	2	5	4,000
	b) Central and South New Guinea Stock	1	9(1f-1 Is)	43(+?)	158,000
	4. Angan stock-level Family	1	1	12	64,500
	5. Gogodala-Suki Stock	1	2(1f-1 Is)	3	11,500
	6. Marind Stock	1	3	6	21,000
	7. Kayagar stock-level Family	1	1	3	7,200
	8. Sentani Stock	1	2	4	10,500
	9. Dani (or Dani-Kwerba) Stock	1	4(2f-1 Is)	11	225,000
	10. Dem stock-level Isolate	1	1(s-1 Is)	1	500
	11. Wissel Lakes-Kemandoga Stock	1	2(1f-1 Is)	4	92,000
	12. Mairasi-Tanah Merah Stock	1	2(1f-1 Is)	3	3,500
	13. West Bomberai Stock	1	2(1f-1 Is)	3	6,200
	14. Mor stock-level Isolate	1	1(s-1 Is)	1	60
	B. Eastern Part	8	9(1f-1 Is)	50	134,500
	1. Binandere Stock	1	2(1f-1 Is)	15	61,500
	2. Gollalan stock-level Family	1	1	5	31,600
	3. Koiarian stock-level Family	1	1	6	15,300

NAME	STOCKS	FAMILIES	LANGUAGES	SPEAKERS
4. Kwalean stock-level Family	1	1	3	1,200
5. Manubaran stock-level Family	1	1	2	3,000
6. Yareban Stock	1	1	5	2,600
7. Mailuan stock-level Family	1	1	6	7,100
8. Degan stock-level Family	1	1	8	12,200
III. Sub-Phyla	30	76(31f-1 & s-1 Is)	235	440,920
A. Madang and Adelbert Range Sub-Phylum	8	31(10f-1 & s-1 Is)	100	76,000
1. Rai Coast-Mabuso (Madang) Super-Stock	2	10(1f-1 Is)	57	36,100
a) Rai Coast Stock	1	4(1f-1 Is)	29	14,600
b) Mabuso Stock	1	6	28	21,500
2. Adelbert Range Super-Stock	6	21(9f-1 & s-1 Is)	43	39,900
2 ¹ Pihom-Isumrud-Mugil Section	3	10(3 f-1 & s-1 Is)	27	29,400
a) Pihom Stock	1	6(1f-1 Is)	21	15,300
b) Isumrud Stock	1	3(1f-1 Is)	5	11,800
c) Mugil stock-level Isolate	1	1(s-1 Is)	1	2,300
2 ¹¹ Josephstaal-Wanang Section	2	7(2f-1 Is)	12	9,400
a) Josephstaal Stock	1	4(1f-1 Is)	7	6,400
b) Wanang Stock	1	3(1f-1 Is)	5	3,000
2 ¹¹¹ Brahman Section	1	4f-1 Is	4	1,100
a) Brahman Stock	1	4f-1 Is	4	1,100
B. Teberan-Pawaian sub-phylum-level Super-Stock	2	2(1s-1 Is)	3	10,300
1. Teberan stock-level Family	1	1	2	8,000
2. Pawaian stock-level Family (or Isolate)	1	1(s-1 Is)	1	2,300
C. Turama-Kikorian Sub-Phylum	1	2(1f-1 Is)	4	2,100
D. Inland Gulf Sub-Phylum	1	2(1f-1 Is)	4	800

NAME	STOCKS	FAMILIES	LANGUAGES	SPEAKERS
E. Eleman Sub-Phylum	1	3(2f-1 Is)	7	41,700
F. Trans-Fly-Bulaka River (or Yelmek-Maklew) sub-phyllum-level Super-Stock	2	6	29	35,500
1. Trans-Fly Stock	1	5	27	35,000
2. Bulaka River (or Yelmek-Maklew) stock-level Family	1	1	2	500
G. Goliath sub-phyllum-level Family	1	1	6	50,000
H. Oksapmin sub-phyllum-level Isolate (may prove to be unrelated to the Trans-New Guinea Phylum)	1	1(s-1 Is)	1	5,000
I. Senagi sub-phyllum-level Family	1	1	2	4,300
J. Pauwasi Sub-Phylum	1	2	4	1,500
K. Northern (or Border-Tor-Lake Plain) sub-phyllum-level Super-Stock	2	9(3f-1 Is)	31	17,200
1. Border Stock	1	3	12	12,700
2. Tor-Lake Plain Stock	1	6(3f-1 Is)	19	4,500
L. Morwap sub-phyllum-level Isolate	1	1(s-1 Is)	1	400
M. Molof sub-phyllum-level Isolate	1	1(s-1 Is)	1	200
N. Usku sub-phyllum-level Isolate	1	1(s-1 Is)	1	20
O. Tofamma sub-phyllum-level Isolate	1	1(s-1 Is)	1	100?
P. Nimboran sub-phyllum-level Family	1	1	5	6,000
Q. Kaure Sub-Phylum	1	3(2f-1 Is)	4	2,500
R. South Bird's Head (or Vogelkop) Sub-Phylum	1	3	10	9,000
S. Kolopom (or Frederik Hendrik Island) sub-phyllum-level Family (shows strong sub-stratum connections with R.)	1	1	3	3,300
T. Timor-Alor-Pantar Sub-Phylum	1	7(6f-1 Is)	18	175,000

Information on the stocks listed above under C, D, G, I, J, K2, L, M, N, O, Q and R is largely limited to lexical data and a few more or less scanty notes on structure, and their classification remains more or less tentative in most cases until more material becomes available. They have for this reason not been included into the main section of the Trans-New Guinea Phylum, but assigned sub-phylic status for the time being. It seems quite possible that some, or perhaps even quite a few, of them will prove to be ordinary stock-level members of the Trans-New Guinea Phylum.

2.5.4. NON-GENERAL CHARACTERISTICS

2.5.4.1. CENTRAL AND WESTERN, AND EASTERN PARTS OF THE MAIN SECTION OF THE TRANS-NEW GUINEA PHYLUM

As has been indicated in 2.5.3.1., the Trans-New Guinea Phylum contains a very large main section which is sub-dividable into two parts of quite unequal size on the basis of lexical, typological, and structural evidence.

As has been shown by comparative work and the study of cognate chains, the lexical cohesion between member stocks of the two parts is of approximately the same order within the two parts, but of a somewhat lower order between the two parts, except for the Binandere Stock which seems to constitute a link between the two parts both in this respect and in structure and typology.

With regard to structural and typological features, the salient characteristics of both parts are those listed in 2.3.2.5. and 2.5.2.1.-2.5.2.3. as typical of Trans-New Guinea Phylum languages, with other, aberrant, features playing only a relatively minor to very minor role in the great majority of the language groups (but see below 2.5.4.2.1.). Some significant structural differences between the two parts can however be observed, and a few may be mentioned here:

In languages of both parts, consonants tend to have phonetically widely varying allophones and in particular, stops often have fricative allophones. However, both these phenomena are in general, less strongly in evidence in languages of the small eastern part than in languages of the large central and western part. In addition, a few languages of the eastern part have some stop allophones of fricatives.

Complex suprasegmental systems including phonologically relevant tones, are features of many of the languages constituting the central and western part. In those of the eastern part, they tend to play a rather less important role, though languages with tonal systems are also present in that part.

In the languages of the central and western part, the pronouns belong overwhelmingly to set I (2.3.3.2.), except for a concentration of set III forms running through the highlands areas due south of the Madang District (see 2.3.3.4.1.) and the presence of some set II forms in highlands areas (see 2.3.3.3.1.). In languages of the eastern part, set I forms also predominate, but set II and set III forms are perhaps a little more strongly in evidence than in the central and western part.

The indication of the object through affixes added to the verb is widespread in both parts. However, while in the central and western part, markers constituting reflexes of *na, *ka and *a (predominantly as prefixes) (see 2.4.1.3.) appear widely for the first, second and third persons singular, markers found for these persons in languages of the eastern part are usually formally different, and object suffixes predominate.

A feature found in languages of both parts is the indication of two or several different persons by one bound subject marker in the verb complex. However, while in the central and western part, this feature is largely observable in connection with the second and third persons non-singular, it tends to affect other persons in languages of the eastern part.

Sentence medial verb forms (see 2.5.2.3.2.) are a salient feature of languages of both parts. However, their elaboration in languages of the eastern part is, except for the languages of the Binandere Stock, largely of a lower order than is predominantly the rule in the majority of those of the central and western part, and the lack of distinction between identity and non-identity of the subjects through special forms is somewhat more commonly found in languages of the eastern part than in those of the central and western part.

The presence of classificatory verbs (see 2.5.2.3.1.) is a feature of languages of both parts, but their development and role is of a much lower order in those of the eastern part than in those of the central and western part.

Another interesting difference between the two parts is the paucity of the presence, or the total absence, of Austronesian loanwords in a sometimes Eastern Oceanic form, from languages of the eastern part, whereas they are in evidence over a wide area of the central and western part (see below 2.5.4.2.2.). This phenomenon obviously reflects migrational trends within the Trans-New Guinea Phylum area in times post-dating the advent of Austronesians in the New Guinea area (see 3.4.1.).

2.5.4.2. SUBSTRATA AND AUSTRONESIAN LOANWORDS IN TRANS-NEW GUINEA PHYLUM LANGUAGES

2.5.4.2.1. Substrata

The existence of numerous substrata in the various Papuan language groups has been mentioned in many places in this volume, and a discussion of the problem itself given in 2.3.2.3., and three examples, one for the Trans-New Guinea Phylum and two for the Sepik-Ramu Phylum, have been mentioned there.

Two major substrata affecting the Trans-New Guinea Phylum have been discussed in chapter 3.4.1. in this volume, one of them very widespread and reflecting a West Papuan Phylum and to some extent also East Papuan Phylum type. A third substratum shared mainly by the languages of the Kolopom and South Bird's Head (or Vogelkop) Stocks is also referred to there, and a local East Papuan Phylum substratum in Trans-New Guinea Phylum languages in the eastern tail-end of the mainland is mentioned in 3.2.5.

A number of additional substrata in Trans-New Guinea Phylum languages may be briefly mentioned here:

The languages of the Madang and Adelbert Range Sub-Phylum show a great predominance of set III pronouns (see 2.3.3.4.) which are thought to have come into their area from the far west of the New Guinea mainland along the coast (see 3.4.1.). The same pronoun forms appear as a substratum in the Kalam Family languages of the East New Guinea Highlands Stock (see 2.7.2.2.5.6. in this volume) - the same languages have, in addition, a strong substratum from the Sepik-Ramu languages in the form of a pure Sepik-Ramu type phonology in them. Some of the same pronoun forms appear as substratum features in the Central and Eastern Families of that stock (see 2.7.2.2.6.) and are also present further south in the Teberan-Pawaian sub-phylum-level Super-Stock (see 2.7.5.2.4.1. and 2.7.5.3.).

The membership of the pronouns of the Sentani Stock languages in north-eastern Irian Jaya (see 2.6.2.2.1.4.) to sets II and III constitutes a substratum which manifests itself also in some other aberrant features of those languages.

The comparatively simple morphology of the languages of the Border Stock in the Northern (or Border-Tor-Lake Plain) sub-phylum-level Super-Stock (see 2.6.2.2.11.) appears to be due to substratum influence from the languages of the Kwomtari Phylum (see 2.14.1.2.), and perhaps also from the older forms of the Sepik-Ramu Phylum languages which are believed to have been comparatively simple in nature (see 2.11.0. and 3.4.1.).

The presence of set x pronoun forms (see 2.3.3.6.) in Trans-New Guinea Phylum languages is very much less pronounced than their appearance in

Sepik-Ramu and Torricelli Phylum languages, but it seems to be attributable to the same substratum in the three phyla.

The Timor-Alor-Pantar area languages which used to be classified as members of the West Papuan Phylum (Wurm 1971) are now believed to be more correctly classified as members of the Trans-New Guinea Phylum (see above 2.5.3.3.2.). Whichever way they are classified, they contain strong substratum elements of the other of the two phyla involved.

Trans-New Guinea Phylum lexical, typological and structural elements appear as substratum features in a number of non-Trans-New Guinea Phylum languages in the New Guinea area, i.e. in languages of the Sepik-Ramu, Sko, Kwomtari, West Papuan and East Papuan Phyla. They are particularly strongly in evidence in languages of the Middle Sepik Stock of the Sepik-Ramu Phylum, and in those of the East Bougainville Stock of the East Papuan Phylum.

2.5.4.2.2. Austronesian Loanwords in Trans-New Guinea Phylum Languages

The presence of Austronesian loanwords, some of them recognizably of Eastern Oceanic type, in many languages of the Trans-New Guinea Phylum, and the pattern of their distribution, has been briefly mentioned in 3.2.2.-3. in this volume.

Austronesian words of this kind are:

<i>pig</i>	reflexes of pO *mpoRo ± m
<i>dog</i>	reflexes of pPN *kulii (usually *l > r), and pAN *ʔat'u (?pO *ŋkaun)
<i>tooth</i>	reflexes of pAN *gigi
<i>breast</i>	reflexes of pO *susu, pAN *t'ut'u
<i>hair</i>	reflexes of pO *ndau(n) and pAN *daun = <i>leaf</i> , and of pO *pulu, pAN *bulu?
<i>rain</i>	reflexes of pAN *ʔut'an
<i>leaf</i>	reflexes of pO *ndau(n), pAN *daun
<i>moon</i>	reflexes of pO *pula(n), pAN *bulan
<i>star</i>	reflexes of pO *pituqu, pAN *bintaŋ or *bituhən
<i>mouth</i>	reflexes of pO *maŋa ± t
<i>water</i>	reflexes of pAN *vajəy

A few examples from languages spoken at present at various distances from Austronesian-speaking areas:

<i>pig</i>	Gadsup (East New Guinea Highlands Stock, Eastern Highlands, Papua New Guinea): po; Kamano (East New Guinea Highlands Stock, Eastern Highlands, Papua New Guinea): fuʔ; Moni (Wissel Lakes-Kemandoga Stock, Western highlands of Irian Jaya): woro; Uhunduni (or Amung) (Wissel Lakes-Kemandoga Stock, same area): bowe; Kiwai (Trans-Fly
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- Stock, Fly Delta, Western District, Papua New Guinea): boromo; Sentani (Sentani Stock, north-eastern Irian Jaya): bo; Afoa (Goilala stock-level Family, central mountain range, east of Anga stock-level Family area): polu.
- dog* Kamano (East New Guinea Highlands Stock, Eastern Highlands, Papua New Guinea): kera; Waina (Border Stock, West Sepik District, Papua New Guinea): ure; Tonda (Trans-Fly Stock, western Trans-Fly area, Western District, Papua New Guinea): ɲaðo; Kamoro (Central and South New Guinea Stock, south-eastern Irian Jaya): uuri.
- tooth* Enga (East New Guinea Highlands Stock, Enga District, Papua New Guinea): nege; Telefol (Central and South New Guinea Stock, south-western corner of West Sepik District): ɲiŋ; Kewieng (Finisterre Stock, Western Morobe District, Papua New Guinea): gen; Ekagi (or Kapauku) (Wissel Lakes-Kemandoga Stock, western highlands of Irian Jaya): ego.
- breast* Dera (Senagi sub-phylum-level Family, western West Sepik District and overlapping into Irian Jaya): toto; Kalam (East New Guinea Highlands Stock, Schrader Range, Papua New Guinea): ti; Boazi (Marind Stock, western Western District, Papua New Guinea): toto.
- hair* Moni (Wissel Lakes-Kemandoga Stock, western highlands of Irian Jaya): toe; Aturu (Trans-Fly Stock, Fly Delta): pol; Kaeti (Central and South New Guinea Stock, south-eastern Irian Jaya): ron.
- rain* Nomad (Kubo dialect) (Central and South New Guinea Stock, Upper Strickland area): hüf; Dera (Senagi sub-phylum-level Family, western West Sepik District and overlapping into Irian Jaya): kue; Dubu (Pauwasi Sub-Phylum, eastern border area of northern Irian Jaya): kəwei; Ekagi (or Kapauku) (Wissel Lakes-Kemandoga Stock, western highlands of Irian Jaya): edi.
- leaf* Pisa (Central and South New Guinea Stock, south-eastern Irian Jaya): rō; Nambu (Trans-Fly Stock, Trans-Fly area, Western District, Papua New Guinea): (æ)rau.
- moon* Kamoro (Central and South New Guinea Stock, south-eastern Irian Jaya): pura; Kuman (East New Guinea Highlands Stock, Chimbu District, Papua New Guinea): ba.
- star* Enga (East New Guinea Highlands Stock, Enga District, Papua New Guinea): bui; Tonda (Trans-Fly Stock, western Trans-Fly, Western District, Papua New Guinea): bet^əge; Yaqay (Marind Stock, south-eastern Irian Jaya): mind.
- mouth* Awyi (Border Stock, north-eastern Irian Jaya): minggir; Kalam (East New Guinea Highlands Stock, Schrader Range, Papua New Guinea):

mɛŋk; Kiwai (Trans-Fly Stock, Fly Delta, Western District, Papua New Guinea): magota; Kati (Central and South New Guinea Stock, south-eastern Irian Jaya): moŋgot.

water Awin (Central and South New Guinea Stock, Western District, Papua New Guinea): waɛ; Gira (Finisterre Stock, western Morobe District, Papua New Guinea): wai.

The varied distribution of Austronesian loanwords such as those listed above, in individual languages and language groups in different parts of the Trans-New Guinea Phylum is of interest:

In north-eastern parts of the mainland and the neighbourhood of the Markham Valley through which an Austronesian migration is believed to have entered, the incidence of Austronesian loanwords in the Papuan languages is highest in the Huon and Finisterre Stock languages: the average number of them, out of ten widespread Austronesian items, is 6. In the eastern part of the East New Guinea Highlands Stock, the average is 4, and it drops progressively to 3 and 2 in its central and western parts. In the Kalam Family the average number is 3, and the same figure holds good for the Mabuso Stock of the Madang-Adelbert Range Sub-Phylum. In the central "hub" area of the mainland it is 3-4 in the centre, and drops to 2 in southern coastal areas, even to 1-2 in the Trans-Fly area. In the northern central and north-western parts of the mainland it also drops to 2 and 1-2, but it remains on a level of 3 in the eastern parts of the Irian Jaya highlands, to drop to 2-3 in their western part. In the Bomberai Peninsula, the figure is 2. In the eastern part of the mainland, south-east of the Markham Valley, it drops rapidly from 3 to 2 and 1, and lies below 1 in the eastern part of the tail-end of the mainland.

It is of interest to note that the inland areas in which Austronesian loanwords are most strongly in evidence, almost completely co-incide with those areas in which certain formally similar to identical verbal subject and object markers appear. This has considerable bearing on the study of past Papuan language migrations within the New Guinea mainland (see 3.2.3. and 3.4.1. in this volume).

2.5. THE TRANS-NEW GUINEA PHYLUM IN GENERAL

BIBLIOGRAPHY

FRANKLIN, K.J., ed.

- 1973 *The Linguistic Situation in the Gulf District and Adjacent Areas, Papua New Guinea.* PL, C.26.

LANG, ADRIANNE C.

- 1971 *Nouns and Classificatory Verbs in Enga (New Guinea): a semantic study.* Ph.D. thesis. Australian National University. Canberra.
- 1975 *The Semantics of Classificatory Verbs in Enga (and Other New Guinea Languages).* PL, B.39.

LOVING, ARETTA and H. MCKAUGHAN

- 1973 'Awa Verbs II: the Internal Structure of the Dependent Verbs'.
! McKaughan, ed. 1973. 56-64.

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

- 1970 *The Trans-New Guinea Phylum: Explorations in Deep-Level Genetic Relationships.* PL, B.16.

MCKAUGHAN, H., ed.

- 1973 *The Languages of the Eastern Family of the East New Guinea Highlands Stock.* (Anthropological Studies in the Eastern Highlands of New Guinea, Vol.I.) Seattle. University of Washington Press.

PAYNE, A.M. and D.E. DREW

- 1966 *Kamano Language Course.* Ukarumpa. Summer Institute of Linguistics.

PILHOFER, G.

1933 'Grammatik der Kâte-Sprache in Neuguinea'. ZES. Beiheft 14.

RAY, S.H.

1931 *A Grammar of the Kiwai Language, Fly Delta, Papua*. Port Moresby. Government Printer.

TREFRY, D.

1969 *A Comparative Study of Kuman and Pawaian*. PL, B.13.

VOORHOEVE, C.L.

1969 'Some Notes on the Linguistic relations between the Sentani and Asmat Languages of New Guinea'. *BijdrTLV* 125.466-86.

WILSON, D.B.

1969 'Suena Grammar Highlights'. PL, A.18.95-110.

WURM, S.A.

1971 'The Papuan Linguistic Situation'. Sebeok, T. ed. 1971. *Current Trends in Linguistics, Vol.8: Linguistics in Oceania*. The Hague. Mouton & Co. 541-657.

1973 'The Kiwalian Language Family'. Franklin, ed. 1973. 217-60.

YOUNG, R.A.

1964 'The Primary Verb in Bena-bena'. *Verb Studies in five New Guinea Languages*. Summer Institute of Linguistics Publications in Linguistics and Related Fields. 10.45-83. Norman, Oklahoma.

1971 *The Verb in Bena-Bena: its Form and Function*. PL, B.18.