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PART 2.13.

THE EAST PAPUAN PHYLUM

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2.13.1. THE EAST PAPUAN PHYLUM IN GENERAL

S.A. Wurm

2.13.1.1. INTRODUCTORY REMARKS

The East Papuan Phylum which comprises what has until quite recently (Wurm 1971) been regarded as the Bougainville Phylum, the Reef Islands-Santa Cruz phylum-level Family, and a number of isolates in the New Britain, New Ireland, Solomon Islands and Louisiade Archipelago areas, has been set up by the present writer (Wurm 1972a) on the basis of his own preliminary assessment of the available information and materials, and taking into account Greenberg's (1971) findings as well, though with some reservations in particular in view of his including a considerable number of Austronesian loanwords in his comparisons involving Reef Islands-Santa Cruz Family languages and the Papuan languages of the Solomon Islands, as has already been mentioned before by the present writer (Wurm 1970).

The classification presented below takes into consideration E. Todd's (see 2.13.2. in this volume) recent findings and constitutes a great improvement over the present writer's original classification given in Wurm 1972a. In particular, the languages of two of the three families postulated by him originally for the central Solomons area have in the light of Todd's work been found to be combinable into a single family, the Central Solomon Family. At the same time, the present writer feels that it may be a little premature to include Yele into that family as well, as E. Todd has suggested as a possibility (see 2.13.2.3.5.), and has decided, for the time being, to leave its original status as a family-level isolate within a stock unchanged.

At the same time, the present writer was able to include the three stock-level isolates listed in his Wurm 1972a classification, into the New Britain Stock. Wasi, classified in Wurm 1972a as a family-level isolate within the then Yele-Solomon-Wasi Stock has been re-classified

as a family-level isolate in the New Britain Stock. All this has greatly simplified the internal classificatory picture of the East Papuan Phylum. Also, in following the lead laid down by Laycock (1973; also 2.11.2. in this volume) for the Sepik-Ramu Phylum, the present writer has decided to subdivide the East Papuan Phylum into three sub-phyla.

In its present preliminary form, the East Papuan Phylum is thought to consist of four stocks (two families - one of them doubtful - and one family-level isolate; one family and five family-level isolates; two families; one family and two family-level isolates) and one stock-level family.

Two each of the four stocks have been combined into super-stocks, and each of the two super-stocks and the stock-level family have been assigned sub-phylum status (for a definition of the terms super-stock and sub-phylum see 2.2.5. in this volume).

Apart from the sources quoted above, no studies having a bearing on the East Papuan Phylum languages as a whole are extant. Publications dealing with individual groups and languages in it will be referred to in the appropriate parts of this chapter section.

The East Papuan Phylum is wholly situated in the island world to the north-east and east of the New Guinea mainland, from New Britain and Rossel Island in the Louisiade Archipelago eastwards across the Solomon Islands chain to the Reef Islands-Santa Cruz Archipelago.

The members of the first of the stocks mentioned, the Yele-Solomons Stock, are located on Rossel Island in the Louisiade Archipelago off the eastern extremity of the New Guinea mainland, and on Vella Lavella, New Georgia, Rendova, Russell and Savo Islands in the British Solomon Islands chain.

This stock has been combined with the New Britain Stock mentioned below into the Yele-Solomons-New Britain Super-Stock because of considerable typological and structural similarities between members of the two stocks, and far-reaching agreements in the pronoun forms, even though lexical agreements between them are mostly not high. In the New Britain Stock, Sulka constitutes a link between the two stocks in showing similarities in several pronominal forms with some members of the Yele-Solomons Stock, especially Lavukaleve, in contrast to the other members of the New Britain Stock. At the same time, Sulka shows greater agreement with the other members of the New Britain Stock in features of its verb structure and on the lexical level, though standing apart from them and most other members of the East Papuan Phylum in lacking gender and class distinctions.

The remaining two stocks are situated on Bougainville Island at the western end of the Solomon Islands chain, and occupy much of the south-eastern three-quarters of the island - the north-western quarter and some coastal parts are Austronesian territory. They have been tentatively combined into the Bougainville Super-Stock in view of some typological features and pronominal forms shared by them in contrast to the Yele-Solomons-New Britain Super-Stock, and the likelihood that lexical agreements between members of the two stocks may well be in excess of what has been indicated by Allen and Hurd (1965). At the same time, it appears that lexical affinity between some members of the East Bougainville Stock such as Nasioi and members of the Yele-Solomons Stock such as Yele and Savosavo is somewhat greater than that between some members of the East and West Bougainville Stocks, but these lexical similarities are not greatly paralleled by comparable agreements on the pronominal, typological and structural levels, though some agreements on the level of noun classification exist between the two stocks which are absent from the West Bougainville Stock.

In other respects, the differences between members of the Bougainville and the Yele-Solomons-New Britain Super-Stocks both on the lexical and structural levels, are quite extensive, and in spite of the linking features between members of the two super-stocks as mentioned above and also below with regard to Yele, it was felt that it might be appropriate to assign separate sub-phylum status to both of them.

The first of the two stocks of the Bougainville Super-Stock, the East Bougainville Stock, is located in the south-eastern half of the super-stock area, and the second, the West Bougainville Stock, in the north-western half.

The Yele family-level Isolate in the Yele-Solomons Stock occupies a special position in constituting in some ways a link between the various groups mentioned so far. It shows comparatively high lexical agreement, apparently into the stock level, with Nasioi of the East Bougainville Stock, but agrees much more closely with the other members of the Yele-Solomons Stock on the pronominal, typological and structural levels, though lexically only on the stock level. At the same time, it agrees lexically with Baining and Sulka of the New Britain Stock on the stock level as well, and could conceivably be classified as a member of all three of the stocks mentioned on a purely lexico-statistical basis. This fact and other factors some of which have been briefly touched upon above suggest that the inter-relationship between the various member groups and languages of the East Papuan Phylum may perhaps be closer than the present classification indicates.

It may be mentioned that Yele shows possible lexical links with Yareba of the Yareban Stock and phonological ones with Daga of the Dagan Stock (see 2.9.5.7. and 2.9.5.6. in this volume about these stocks) - both of the Trans-New Guinea Phylum - and appears to constitute a sub-stratum in them.

The Reef Islands-Santa Cruz Family is located on the Reef and Santa Cruz Islands far to the east of the main Solomon Islands chain. Its members have been subject to very strong Austronesian influence on all levels, and their originally Papuan structure and typology very strongly affected by this. They nevertheless display some clear connections with some other languages of the phylum on the structural level, some with members of the East Bougainville Stock such as the near-identity of most subject-suffixes on verbs in Santa Cruz languages and the Buin language of the East Bougainville Stock (Wurm 1969). Agreements on the pronominal level, predominantly with members of the Central Solomon Family and also Yele, but also with members of the New Britain and East Bougainville Stocks, are also present, and a number of lexical agreements, especially with members of the Yele-Solomons Stock, and to a lesser extent with East Bougainville Stock languages, are in evidence. Nevertheless, in view of the aberrant nature of the Reef Islands-Santa Cruz Family languages on some levels as a result of the very strong Austronesian influence on them, the family has been assigned sub-phylum status in the phylum. Its few links with members of the East Bougainville Stock are striking, but it also has pronounced links with members of the Yele-Solomons Stock, and the pervading Austronesian influence in them has obliterated most of the evidence which would contribute to making its more exact classification within the East Papuan Phylum possible.

For a map showing the location of the groups discussed above, see Map I in 1.3.4. and the map in 2.13.2. in this volume.

In their phonologies, the East Papuan Phylum languages are mostly of medium complexity to very simple - some of them such as members of the West Bougainville Stock, belong to the phonologically simplest languages of the world. At the same time, some member languages of the phylum such as Yele and those of the Reef Islands-Santa Cruz Family, show highly complex segmental phonologies with extensive phoneme inventories.

The most typical morphological feature of the languages of the phylum is an elaborate gender and class system with concord which is present in most of them. The genders and classes are marked by preposed particles or prefixes, postposed particles or suffixes, or both. There is some formal agreement between the class markers in languages

of various families and stocks of the phylum. Number indication in nouns is widespread, and the verb morphology is highly complex. The personal pronouns belong predominantly to sets II and III (see 2.3.3.3. and 2.3.3.4. in this volume), but set I (see 2.3.3.2.) forms are also quite strongly in evidence. The person, number, gender and class of the subject and object are indicated in the verb, and a dual number is very generally present. In spite of its complexity, the morphology is usually quite transparent, and morphophonemic changes are mostly few in number and not extensive. Medial verb forms occur in some language groups only, e.g. in East Bougainville Stock languages, and are comparatively simple.

2.13.1.2. THE YELE-SOLOMONS-NEW BRITAIN SUB-PHYLUM-LEVEL SUPER-STOCK

2.13.1.2.1. THE YELE-SOLOMONS STOCK

The Yele-Solomons Stock has recently been established by the present writer (Wurm 1972a). Of studies relating to its members, Ray 1928 and 1939, Lanyon-Orgill 1953, Capell 1969, Henderson 1975, the Hendersons 1974, and Todd (2.13.2. in this volume) may be mentioned as examples.

The Yele-Solomons Stock consists of two families and one family-level isolate, i.e.: 1) the Central Solomon Family comprising Bilua on Vella Lavella, Baniata on Rendova Island in the Georgia Archipelago, Lavukaleve on Russell Island and Savosavo on Savo Island, both near Guadalcanal; 2) the Kazukuru Family (now extinct) with Kazukuru, Guliguli and apparently Dororo, formerly on central New Georgia (the family status of this group is doubtful because of the limited materials available on its members); and 3) the Yele family-level isolate on Rossel Island in the Louisiade Archipelago, east of the south-eastern extremity of the New Guinea mainland.

This gives the following picture of the composition of the Yele-Solomons Stock (9350¹):

- | | |
|----------------------------------|------------------|
| 1) The Central Solomon Family | 6850 |
| Bilua | 4300 |
| Baniata | 900 |
| Lavukaleve | 700 |
| Savosavo | 950 ² |
| 2) The Kazukuru Family | } |
| Kazukuru | |
| Guliguli | |
| Dororo | |
| 3) The Yele family-level Isolate | 2500 |

The lexical relationship within the two families is on the low to low-medium family level, with percentages of shared basic vocabulary cognates in the Central Solomon Family ranging from the low thirties to the low forties, and between the families and between them and the family-level isolate Yele on the low to low-medium stock level with percentages of basic vocabulary cognates shared between Yele and members of the Central Solomon Family for instance generally ranging from the low to high teens. However, the presence of a considerable number of Austronesian loan items in the basic vocabulary of all the languages involved has had a strongly deflating effect on the percentages of original, i.e. Papuan, cognates shared by the individual languages, and undoubtedly their original lexical interrelationship used to be much higher than the figures referred to above may suggest.

Agreements on the pronominal, structural and typological levels within and between the three family-level groups and entities are considerable, though there are differences in detail.

Typological characteristics of the languages of the stock include phonological systems of predominantly only low to medium complexity (the presence of four linear distinctions with stops and nasals, including a palatal point, is notable) except for Yele which has a quite complex segmental phonology. Supra-segmental systems appear to be simple. On the morphological level, the presence of overt noun classification with concord is important with the genders or classes which range from two to four or five in the different languages, predominantly indicated by preposed particles, postposed particles, and sometimes also formal changes in the nouns themselves. Third person pronouns have masculine and feminine, and in some languages also one or two neuter forms. Some cross-cutting with the class systems in other word categories appears to be present. In all languages of the Central Solomon Family, an inclusive-exclusive contrast in the first person non-singular pronouns is present. Non-singular forms of nouns are denoted by special forms of the class particles and in some instances (especially in Lavukaleve) also by changes in the form of the noun. A dual number is generally present, in Baniata also a trial. With the verb, the subject is predominantly indicated by preposed particles or prefixes, and the object by suffixes, sometimes also by prefixes. The class systems are reflected to some extent in the marking of person with verbs. Tense, aspect and modal systems are generally elaborate and denoted mostly by suffixes, sometimes by particles. Sentence-medial verb-forms appear to be absent.

A detailed discussion of the languages of the Central Solomon Family and some notes on Yele are given in 2.13.2. in this volume.

2.13.1.2.2. THE NEW BRITAIN STOCK

The New Britain Stock has also been set up recently by the present writer. Of studies concerning its members, Rascher 1904, Parkinson 1907, H. Müller 1915-16, Laufer 1950, Futscher 1959, Schneider 1962, Chowning 1969 and the Parkers 1974 may be mentioned here.

The New Britain Stock consists of one family and five family-level isolates, i.e.: 1) the Baining-Taulil Family occupying most of the Gazelle Peninsula, with Baining taking up most of the family area, Taulil located on its central northern fringe, and Butam (extinct) previously to the east of the Taulil region; 2) Sulka on a narrow coastal strip on the southern side of Wide Bay and previously also in a small area on the north-eastern coast of the Gazelle Peninsula (Laufer 1950); 3) Kol occupying most of the interior of the extreme eastern portion of New Britain, south of the Gazelle Peninsula and north of Jacquinet Bay (Chowning 1969). There are two main divisions: Sui in the north and Kol proper in the south; 4) Wasi (or Peleata) in the interior of the eastern half of New Britain within the north-eastern section of the West New Britain District, about half-way between the Gazelle and Willaumez Peninsulas; 5) Anem in a few coastal villages and extending inland for a short distance along the Banu River, on the north coast of the western half of New Britain, about half-way between Willaumez Peninsula and the western end of New Britain; 6) Panaras (or Kuot) in a small portion of north-western New Ireland.

This gives the following picture of the composition of the New Britain Stock (9400³):

1) The Baining-Taulil Family	4900
Baining	4500
Taulil	400
Butam	extinct
2) Sulka family-level Isolate	1100
3) Kol family-level Isolate	1500
4) Wasi (or Peleata) family-level Isolate	500
5) Anem family-level Isolate	500
6) Panaras (or Kuot) family-level Isolate	900

Within the Baining-Taulil Family, the relationship between Taulil and Butam is very close and almost on the dialect level. Baining itself consists of five very divergent dialects (e.g. Gaktai) which are almost sub-languages. The lexical relationship between Baining and Taulil-Butam is quite low, a long way below the family-level, because a major proportion of the basic vocabulary of the latter two languages

consists of loans from the Austronesian Tolai. However, their comparatively close relationship to Baining is quite obvious on the pronominal, structural and typological levels, and in view of this it has been decided to include all three into the same family.

Sulka shows a medium stock-level lexical relationship with Baining, with percentages of shared basic vocabulary cognates in the high teens, but its lexical relationship with some members of the Yele-Solomons Stock is only a little lower, still well within the stock level. At the same time, it shows much closer agreement with the latter languages, especially with Lavukaleve, on the pronominal level, than with Baining. However, in other structural and typological features it shows closer parallelism with Baining than with the members of the Yele-Solomons Stock, and has therefore been included in the North New Britain Stock, though its position appears to be to some extent intermediate between the two stock members of the super-stock. It contrasts with members of both stocks in lacking gender and class distinctions.

The lexical relationship of the remaining four family-level isolates in the stock to the Baining-Taulil Family and to Sulka is on the low to medium stock level, with percentages of basic vocabulary cognates shared by the languages ranging from the very low to the high teens. On the structural level, there is, except for Panaras, a certain amount of formal agreement in pronominal forms between these family-level isolates, and between them and members of the Baining-Taulil Family, but they all appear to lack the masculine-feminine distinction in the third person singular pronouns which characterises the members of that family. With other structural features, overall agreement appears to be of a comparatively high order, as far as this can be ascertained from the limited amount of material available.

On the phonological level, the members of the stock show medium to comparatively high complexity on the segmental level. Phoneme inventories are quite extensive in some languages, phonemes infrequently met with in Papuan languages such as voiceless velar fricatives occur, and initial and other consonant clusters are met with. On the structural and typological levels, the characteristics of the members of the stock comprise the presence of a dual/number and of morphologically signalled non-singular forms of nouns. All the languages except Sulka appear to have noun classes with concord (apparently five in Baining), though the materials are inconclusive in this respect for Kol and Panaras. In the languages of the Baining-Taulil Family, a masculine-feminine distinction in the third person singular pronouns is met with. The subject of the verb is indicated by preposed - or postposed, e.g. in the Baining-Taulil Family - person markers which

are derived from the personal pronouns. In the Baining-Taulil Family, tense, aspect and other particles precede the preposed subject markers, whereas in Sulka they follow them, and the subject markers themselves undergo changes in the various tenses and aspects. The object is marked by postposed pronominal particles, and at least in Sulka, the verb stem undergoes changes if the object is in the plural. Changes in the verb stems indicate various modal forms. Simple sentence-medial forms only denoting identity of the subjects have been observed at least in Sulka.

2.13.1.3. THE BOUGAINVILLE SUB-PHYLUM-LEVEL SUPER-STOCK

The language group known now as the Bougainville Super-Stock was established by Allen and Hurd (1965) as the Bougainville Phylum after earlier work in classifying the languages had been carried out by Capell (1962).

It is wholly situated on Bougainville Island, east of New Britain and New Ireland, at the western end of the Solomon Islands chain, and occupies much of the south-eastern three-quarters of the island. The north-western quarter and some coastal parts of the remainder of Bougainville are occupied by Austronesian languages.

For further discussion of the classificatory problems impinging upon this super-stock see above 2.13.1.1.

2.13.1.3.1. THE EAST BOUGAINVILLE STOCK

The East Bougainville Stock has been set up by Allen and Hurd (1965) with earlier work in this direction carried out by Rausch (1912). Recent studies of the stock member languages have been carried out by the Hurds (1966, 1970) and Laycock (1969, 1976).

The East Bougainville Stock languages occupy the south-eastern half of the super-stock area.

The composition of the East Bougainville Stock (35,200⁴) is as follows:

1) Nasioi Family	19100
Nasioi dialects	14100
Nasioi	13000
Simeku	1100
Nagovisi	5000
2) Buin Family	16100
Buin dialects	9500
Buin	8300
Uitai	1200

Siwai dialects	6600
Siwai (or Motuna)	6000
Baitsi (or Sigisigero)	600

The interrelationship between the two members of the Nasioi Family is on the medium family level, with the percentage figures of basic vocabulary cognates shared by them according to Allen and Hurd, lying over fifty. In the light of what has been said below about the Buin Family it seems likely that they are in fact even higher than that.

The interrelationships within the two members of the Buin Family is on the low medium family level. The percentages of basic vocabulary cognates shared between them as given by Allen and Hurd are in the mid-thirties, but more recent studies (D.C. Laycock, personal communication) suggest that these may be too low, and that the figures lie above forty.

The lexical interrelationship between the two families is quite close, with figures given by Allen and Hurd (1965) ranging from the high teens to the high twenties. In the light of what has been said above, it seems possible that the two families may in fact be combinable into a single family. The relationship between members of the two families on the typological and structural levels is quite close.

Typological and structural characteristics of the languages of the East Bougainville Stock include very simple segmental phonologies with small phoneme inventories, and a low incidence of morphophonemic changes. In spite of their complexity, the morphologies are highly transparent. Suffixes are generally employed. One of their main characteristics is a complex classification of nouns into upwards of forty classes and in some of the languages such as Buin and Siwai, a cross-cutting gender system carrying over to noun-adjuncts, possessives and to some extent, verbs. The indication of the classes and genders is by suffixed markers. A dual number is universally present. The pronouns belong predominantly to sets I and Ia (see 2.3.3.2. and 2.3.3.5. in this volume), the characteristic Trans-New Guinea Phylum sets (other general Trans-New Guinea Phylum typological characteristics such as the presence of an obligatorily possessed class of nouns (see below) and medial verb forms with identical subject - non-identical subject distinction are also present in the languages). A masculine-feminine distinction is present in the third person pronoun forms of all numbers. The conjugation of the verb is by suffixes and the person and number of the subject is indicated with the verb. Indication of the object with the verb is found. Sentence-medial verb forms occur and different forms are present to denote identity or non-identity

of the subjects. Negation with verbs is indicated by a preposed clitic.

A few notes on Buin (Laycock 1976) may be added here:

Phonology

Consonants

p	t	k
		g
m	n	ŋ
	r	

Vowels

i	u
e	o
a	

Syllable structure is simple.

Morphology

Numerals and Adjectives

Different sets of numerals are present for different classes of nouns, e.g. male humans: *one* = nonumoru, female humans: *one* = nonumara, etc. Some adjectives have different forms according to whether the noun qualified by them indicates a person, place or thing, e.g. rirogagi = ~~new (= young) person~~, rirogou = ~~new place~~, rirogupa = ~~new thing~~.

Nouns

Relations are expressed by suffixes, and an agentive is present. Nouns denoting kinship terms are obligatorily marked for possession, e.g.

moka	=	<i>my father</i>
ruumo	=	<i>your (sg) father</i>
puumo	=	<i>his father</i>
reumo	=	<i>our father</i>
raumo	=	<i>your (pl) father</i>
paumo	=	<i>their father</i>

Kinship terms are marked for number, e.g. reumouko = *our two fathers*, reumoki = *our fathers*.

Pronouns

The basic personal pronouns are:

	1st	2nd	3rd	
			m.	f.
sg	(n)ne	ro(o)	ako	eko
dl	re(e)	rai	aroko	itoko
pl			igoko	emiko

For groups consisting of both men and women, the feminine non-singular forms are used.

Verbs

Final and medial verbs are distinguished. With both, the person and number of the subject are indicated by suffixes, but the masculine-feminine contrast observable with pronouns is not shown. The person of the object is denoted in the verbs. Four main conjugational classes, with sub-classes, exist, and are marked by the appearance of thematic consonants added to the verb stem.

The forms of the subject markers vary according to tense/aspect and other factors. Four tense/aspects are distinguished (present, immediate future or past, mediate past, remote past).

The present subject markers of p-class verbs are for instance:

	1st	2nd	3rd
sg	-o	-e	-u
dl	-oge	-ere	-ure
pl	-ogi	-eŋ	{ -a -are -aŋ

e.g. with *mina* = *hide*, the 1st and 2nd sg are: *mina-p-o*, *mina-p-e*.

If *hide* takes a 2nd person object, its thematic consonant changes to -r-, e.g. *mina-r-o* = *I hide you* (sg). If the object is the 1st person, the thematic consonant changes to -m-, e.g. *mina-m-e* *you* (sg) *hide me*.

Static and dynamic forms are distinguished in the verb, and benefactive, causative, reciprocal, reflexive, impersonal, multiple object, and various other forms are distinguished. The combination of several of these forms in one verb-form can result in highly complex forms. Imperative forms occur in all persons. The negative is denoted by a particle placed before the verb.

With medial verbs, identity of the subjects of the two successive clauses is denoted by the use of the mediate past tense forms with the medial verb, whereas subject change is indicated by a variety of suffixes, one of them the suffix -ku (with 1st person forms) and -gu

(with non-first person forms), with the verb appearing in the immediate tense forms; e.g. tee-p-ui-gu aa-p-uriro oo = *when he had spoken, they two said "yes"* = ([*speak*]-[thematic consonant]-[3rd sg subject in immediate tense form]-[change of subject marker]) ([*say*]-[thematic consonant]-[3rd dl subject in mediate tense form]) *yes*.

2.13.1.3.2. THE WEST BOUGAINVILLE STOCK

The West Bougainville Stock has been established by Allen and Hurd (1965). Studies in member languages of the stock were undertaken by A. Müller (1954), Firchow (1969, 1970, 1971), and the Firchows and Akoital (1973).

The West Bougainville Stock languages occupy the north-western half of the Bougainville Super-Stock area.

The composition of the West Bougainville Stock (8000⁵) is as follows:

- | | |
|---------------------------------|------|
| 1) Rotokas Family | 5500 |
| Rotokas dialects | 4320 |
| Rotokas | 4200 |
| Atsilima | 120 |
| Eivo | 1200 |
| 2) Konua family-level Isolate | 1500 |
| 3) Keriaka family-level Isolate | 1000 |

The interrelationship of the two members of the Rotokas Family is on the low medium family level and comparable to that observable with regard to the two members of the Nasioi Family of the East Bougainville Stock. The same remarks as made about those above in 2.13.1.3.1. may well apply to the two members of the Rotokas Family.

The lexical interrelationship between the three family-level members of the West Bougainville Stock is close and it seems quite likely that it may be possible to unite them all into a single family considering what has been said in 2.13.1.3.1. about Allen and Hurd's (1965) percentage figures of basic vocabulary cognates shared by various languages within the Bougainville Super-Stock being perhaps too low. Allen and Hurd give inter-family cognation percentages for the West Bougainville Stock which range from the low twenties to the thirties - if the former prove to be in reality higher by only a few percent, all three family-level members of the stock would lexically constitute members of a single family.

The typological and structural similarities between the family-level members of the West Bougainville Stock are comparatively close.

Typological and structural characteristics of the languages of the West Bougainville Stock include extremely simple segmental phonologies with very small segmental phoneme inventories. For instance, the phoneme inventory of Rotokas (Firchow 1969) is as follows:

Consonants

p	t	k
β	ʔ	g

Vowels

i	u
e	o
a	

One very unusual feature is the lack of nasal consonants.

At the same time, in Rotokas at least, there is a complex supra-segmental phonology in which length and stress patterns play a part.

Their morphologies are complex but less so than those of the languages of the East Bougainville Stock. They are highly transparent.

The languages of the West Bougainville Stock lack the numeral class system met with in the East Bougainville Stock languages, but show gender distinction in the third person singular pronouns. Their pronouns belong largely to sets I and II (see 2.3.3.2. and 2.3.3.3. in this volume). In Konua, inclusive and exclusive forms are distinguished in the first person plural. In general, their noun and verb morphologies show features similar to those of the West Bougainville Stock languages, but their gender (and number) marking through suffixes is in some ways comparable to that encountered in languages of the Yele-Solomons Stock (see above 2.13.1.2.1.). An obligatorily possessed category of nouns exists, and possessive suffixes are present in Konua. With the verbs, the subject and tense markers are clearly separable, with the first preceding the latter, and object marking with the verb is through special pronominal elements preceding the verb. There is little information in the materials concerning medial verb forms, but some simple forms appear to be present.

2.13.1.4. THE REEF ISLANDS-SANTA CRUZ SUB-PHYLUM-LEVEL FAMILY

The Reef Islands-Santa Cruz Family was established by Davenport (1962) and independently by the present writer (Wurm 1969), whose views regarding the distribution of languages within the family and their respective status, differ somewhat from those expressed by Davenport. The family is located in the Santa Cruz Archipelago, east of the Solomon Islands, and occupies the greater part of the Reef

Islands in the northern part of the Archipelago and the main island of Santa Cruz itself.

Studies relating to languages of the Reef Island-Santa Cruz Family have been carried out by the present writer (Wurm 1969, 1970, 1972b).

According to the present writer's classification, the composition of the Reef Islands-Santa Cruz Family (7250⁶) is as follows:

Reefs Sub-Family	3800
Reefs	3800
Santa Cruz Sub-Family	3450
Löndäi (or Nambakaengö)	2000
Nea dialects	1200
Western dialect (e.g. Nemboi)	750
Eastern dialect (Nooli)	450
Nanggu	250

The interrelationship between the members of the Santa Cruz Sub-Family is close, with percentages of shared basic vocabulary cognates ranging from the low fifties to the high sixties. The lexical inter-relationship between them is paralleled by very considerable agreements on the typological and structural levels.

The lexical relationship of Reefs to the members of the Santa Cruz Sub-Family is on the medium family level, with percentages of shared basic vocabulary cognates ranging from the high thirties to the low forties. Typological and structural similarities between the two sub-families are quite marked.

The languages of the Reef Islands-Santa Cruz Family have been subject to extremely strong Austronesian influence of various kinds (Wurm 1969, 1970), with the result that more than half of their basic vocabularies is Austronesian, and that quite a few of their pronominal elements and much of their typology and structure have been taken over from Austronesian languages. With many grammatical features, the typological principles involved are basically Austronesian, but the individual bound morphemes appearing in connection with them are often formally non-Austronesian. At the same time, they contain a number of features which are Papuan and link with those of other members of the East Papuan Phylum (see above 2.13.1.1 and (II) 4.5.3.).

Some of the typological and structural features of members of the family are as follows:

The languages have quite complex phonologies and extensive phoneme inventories with a high number of vowel phonemes (seven to ten) and in addition, phonemic nasalisation with vowels in the Santa Cruz Sub-Family languages.

Inclusive and exclusive forms are distinguished in the first person non-singular personal pronouns and bound pronominal elements. The first person inclusive forms show one number additional to the full number range of the respective language, i.e. the Reef Islands language has singular, dual and plural, and has an additional trial number in the first person inclusive person marker. The Santa Cruz Sub-Family languages have a dual in that person, and only singular and plural in other persons.

An obligatorily possessed category of nouns is present which carry possessive suffixes. With other nouns, possession is denoted through preposed possession markers to which person markers are suffixed as in the case in Austronesian languages of Melanesia, but the forms of the affixes are often non-Austronesian, and the possession markers belong to a considerable number of semantically determined classes (e.g. fourteen in Löndäi (Wurm 1972b)). The same possession markers, suffixed to an invariable element, constitute the personal pronouns.

In Reefs, a four-class system affecting the numerals has been observed, and traces of this are present in the other languages. A rudimentary noun class system through prefixes is present in the languages of the Santa Cruz Sub-Family.

The indication of the subject with verbs is generally by suffixes. In Reefs, the person of the subject of an intransitive verb is indicated by a particle preceding the verb, but the number of the subject is denoted by a marker suffixed to the verb. The person and number of the object is indicated with verbs, also by suffixes which follow the subject suffixes, and another set of suffixes appears immediately after the verb stem to denote in an anticipatory manner, the person of the object to be referred to subsequently by formally different person, and number, suffixes. Markers, usually suffixed, indicating the direction of actions are present, and a number of tenses, aspects and moods are distinguished, predominantly by prefixes. Discontinuous morphemes occur in the verb morphology. Simple medial verb forms seem to occur in Santa Cruz Sub-Family languages, and nominalized verb forms play an important part.

More details on the structure of the languages of the Reef Islands-Santa Cruz Family have been given in (II) 4.5.3.

2.13.1.5. SUBSTRATUM INFLUENCE IN THE EAST PAPUAN PHYLUM

One point of interest is the presence of some apparently Trans-New Guinea Phylum substratum influence in East Papuan Phylum languages, especially those of the East Bougainville Stock (see above 2.13.1.3.1.).

There is little formal Trans-New Guinea Phylum influence in the structure of the languages except apparently in the forms of the personal pronouns, but the principles underlying some structural and typological features of the East Bougainville Stock languages are reminiscent of those met with in many Trans-New Guinea Phylum languages, and contrast with those of other languages in the East Papuan Phylum. Trans-New Guinea Phylum loanwords are present in the languages of that stock, but are also found in other languages of the phylum. In this connection, it may be noted that East Papuan Phylum lexical elements and features, especially of Yele, are found in Trans-New Guinea Phylum languages of the south-eastern part of the New Guinea mainland as a substratum (see above 2.13.1.1.) and it seems likely that the speakers of at least some East Papuan Phylum languages were driven out of the New Guinea mainland by speakers of Trans-New Guinea Phylum languages (see 3.4.1. in this volume).

N O T E S

1. The figures are approximate and based on 1970 census figures.
2. Knowledge of Savo is rapidly declining amongst members of the younger generation, and of the 950 people given as Savosavo speakers, less than a quarter may have a good command of the language.
3. The figures are approximate and based on 1970 census figures.
4. The figures are approximate and based on 1970 census figures.
5. The figures are approximate and based on 1970 census figures.
6. The figures are approximate and based on 1972 census figures.

2.13.1. THE EAST PAPUAN PHYLUM IN GENERAL

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