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THE TRANS-NEW GUINEA PHYLUM:
EXPLORATIONS IN DEEP-LEVEL GENETIC RELATIONSHIPS

by

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0. INTRODUCTION

0.1. GENERAL

From the nineteenth century onwards it has been known that the number of languages in the New Guinea area was multitudinous. The most recent estimates (Wurm and Laycock, 1961; Wurm, 1970) place this number in excess of 1,000, of which approximately 700 are regarded as Papuan (i.e., non-Austronesian). Bringing order in this bewildering mass of languages is a formidable task, and it was only after the lexico-statistical method developed by Swadesh and expounded by Gudschinsky (1956) had been adopted that linguists had a tool with which they could hopefully tackle the classification of Papuan languages.

After a slow start a great activity in this field developed during the last decade, and the existence of more and more groups of genetically related languages was posited.

A first overall classification was devised by the Voegelins (1965); it was still rather vague, since most groups of purportedly related languages, except single language families, were indiscriminately coined 'phylum'. The Voegelins posited a Central New Guinea Macro Phylum as follows:

Central New Guinea Macro-phylum (by the Voegelins)

- (1) East New Guinea Highlands Micro-phylum
- (2) Ekagi-Wodani-Moni Family
- (3) Southeastern West New Guinea Phylum
- (4) Kamoro-Sempan-Asmat Family
- (5) Southern West New Guinea Group
- (6) Ok-Oksapmin Phylum
- (7) Binandere Phylum
- (8) Kâte Phylum
- (9) Ndu Family
- (10) Ndani Family
- (11) Various language isolates

The Voegelins also posited other phyla which were apparently unrelated to the Central New Guinea Macro-phylum, notably the Sentani-Demta-Nimboran and the Kiwai Phyla.

Since 1965 additional studies have been undertaken by members of the Australian National University and the Summer Institute of Linguistics, and many gaps in the New Guinea linguistic picture have been rapidly filled in. Wurm's most recent survey of the results from these studies (Wurm, 1970) also asserts the existence of a Central New Guinea Macro-phylum but one differing slightly from that of the Voegelins. Including the addenda to Wurm's article the following picture emerges:

Central New Guinea Macro-phylum (by Wurm)

- (1) East New Guinea Highlands Phylum
- (2) Central and South New Guinea Phylum
- (3) West New Guinea Highlands Phylum
- (4) Finisterre-Huon Phylum
- (5) South-East New Guinea Phylum
- (6) Madang Phylum
- (7) Adelbert Range Phylum
- (8) Ramu Phylum (?)
- (9) Middle Sepik Phylum (?)
- (10) Upper Sepik Phylum (?)
- (11) Sepik Hill Family (?)

The establishment of the various linguistic groups constituting the proposed Central New Guinea Macro-phylum was based mainly upon lexicostatistic evidence. In all but one case, viz., Healey (1964), the application of the method did not follow reconstruction so that there is the possibility that the presence of unrecognized loans skewed the results. Moreover, in many cases the data were scanty so that supposed cognates were identified solely by the use of the 'inspection method', (see Gudschinsky, 1956). Therefore, one may regard the sub-classification of many of these groups as tenuous and not adequately reflecting genetic relationship but still useful in the present context of New Guinea studies and the need to refer to particular languages as members of groups of languages. The evidence for linking the various linguistic groups together in a macro-phylum was largely typological, and often only a few lexical items (e.g., pronouns in the singular number) were said to be cognate throughout most of the member languages. Wurm, in asserting the existence of the macro-phylum, stated that there is "the very real possibility that further changes, including additions, will occur in its proposed composition in the very near future in view of

the present rapid progress in New Guinea linguistics" (Wurm, 1970). The present writers suggest what may well be the first of a number of changes in the internal composition of the macro-phylum and present data to support this change.

0.2. BACKGROUND

This study involves comparison of lexical items from two widely separated phyla which were posited independently by the lexicostatistical method. The phyla involved are the Central and South New Guinea Phylum (CSNGP - Voorhoeve, 1968) and the Finisterre-Huon Phylum (FHP - Hooley and McElhanon, 1970). Since the appearance of his 1968 article, Voorhoeve has expanded the membership of the CSNGP and revised its substructure. Map 2 presents the member languages and shows their grouping into lexicostatistically determined groups. Map 3 presents the same for the FHP.

The stimulus for a closer study of the possible genetic relationships of the two phyla came from independent observations by the authors which led to a converging of their interests. McElhanon in 1967 noted structural similarities between the Telefol language of the Ok family (see P. Healey, 1964, 1965a, 1965b, 1965c, 1966) and the languages of the Huon Peninsula group. Voorhoeve, when studying the genetic relationship of the Asmat and Sentani languages (Voorhoeve, 1970), found evidence which pointed to the possibility that their proto-language had been spoken somewhere in the Sepik or Ramu River basins.

At the same time, Voorhoeve noted that lexical data collected in the Madang District languages by Rev. John A. Z'graggen (1969) showed striking similarities with comparable data in the languages of the CSNGP. In early 1969 McElhanon completed additional field studies in the Finisterre-Huon languages and began to look for genetic relationships to the west.

When they learned of each other's interests, the authors decided to pool their data for a detailed inter-phylic comparison of as many lexical items as possible in order to get a clearer insight into the genetic relationships between the two phyla.

0.3. SCOPE

Whereas all the languages of the FHP could be included in the detailed comparison, it proved unfeasible to include all the languages of the CSNGP. For the 64 languages of the FHP a homogeneous and reliable corpus of data was available in the 140 item basic vocabulary

collected by McElhanon and Claassen. On the other hand, data from the languages of the CSNGP ranged from extensive to scanty and from reliable to unreliable. Moreover, the CSNGP includes thirteen stocks, of which nine have been only tentatively identified. Added to this was the practical necessity of reducing the mass of data to more manageable proportions. Therefore, only languages of the four established stocks were admitted and then only those for which adequate data were available. Omitted were the languages of the Tirio, Oriomo, Agob, Morehead, Upper Maro, Yelmek, Frederik Hendrik Island and Sentani Stocks as well as the Duna language. Data from these languages were only included occasionally when they seemed clearly to support or to clarify postulated interphylic relationships.

This is not to say that links with the other posited groups of languages were overlooked. Rather the vocabulary lists from these other groups, where available, were scanned for apparent cognate forms with the most stable vocabulary items of the CSNGP and the FHP. Every study, however, must have a terminus, and so, unless the languages of a particular linguistic group showed an evident relationship, no further investigation of that group was undertaken. Thus, in the course of the study it became apparent that the languages of the Binandere Family (Wilson, 1969) showed a significantly high number of cognate vocabulary items so as to be included in the detailed comparisons.

0.4. VOCABULARY ITEMS

The starting point for the comparison was the 140 item list from the languages of the FHP. A number of items were omitted, however, due to gaps in the data available for the languages of the CSNGP. As a result, only 85 of the items were compared, and 53 of these yielded interphylic series of probable cognates. These 53 are:

arm	hair (of head)	neck	star
ashes	he	new	straight
bone	head	nose	sun
breast	I	rain	tie
brother (elder)	knee	road	tongue
burn	leaf	sand	tooth
dog	long	say	urine
ear	louse	shoot	warm
eat	moon	sister	water
eye	mother	skin	we
fire	mouth	sleep	wind
foot	nail	smoke	wing
full	name	spittle	you
			you(pl.)

The omitted 32 are:

back	fat	meat	seed
bird	father	mountain	snake
black	fly	night	stand
blood	heart	old	stomach
cloud	hit	one	throw
come	know	red	tree
cut	liver	root	wet
earth	man	see	white

0.5. METHOD

The inspection method as outlined by Gudschinsky (1956) was used in identifying probable cognates. However, the primary interest in comparing the lexical data of the two phyla has been the identification of cognate morphemes, not the identification of lexicostatistically 'equivalent' morphemes. Thus, allowance was made for semantic shifts which seemed plausible. The decision of what is or what is not plausible was made on the basis of the writers' experience in the semantic structures of the more familiar languages of the phyla.

Because of the exploratory nature of the study, no attempt was made to systematically trace regular sound correspondences. That these do seem to exist, appears from the random observation that Asmat initial *y-* corresponds in a number of cases to *dz-* in the languages of the Huon Peninsula (see items no.18, 30, 40, 44, 51).

Neither was the construction of protoforms systematically attempted. This was done only in three cases in which a protoform proved to be a handy means to demonstrate the formal relationships between the cognate forms (see items No.14, 19, 45, 53).

During the investigation it appeared that a number of words which are synchronically monomorphemic, could be regarded as bimorphemic from the historical point of view. The identification of such bimorphemic forms depended upon the possibility of recognizing probable cognates of one or both of the suspected constituents in other languages. Each case had to be decided on its own merits, and the evidence is given in the discussions following the presentation of the data.

The search for probable cognates across such deep-level boundaries as those of stocks and phyla is a hazardous task, and the authors have been painfully aware of the thin line which separates sound reasoning from conjecture. Therefore, they have decided not merely to present the series of interphylic cognates, but, whenever necessary, to include the reasoning underlying the postulated series. Further they have added to

these the remainder of the data in the main body of languages compared and arranged this data into intra-phylic series of probable cognates. Moreover, available data from additional languages were included if they were considered relevant.

This form of presentation gives access to all data underlying the study and should enable the reader to ascertain for himself the probable validity of the postulated relationships. An additional advantage is, that a sizeable body of organised lexical data from widely divergent languages becomes available for further comparative study.

0.6. OVERVIEW

The main body of this study consists of three sections:

Section 1 contains all the background information needed in section 2: maps, lists of languages and language groups, a list of the items compared, notes on the spelling used, and an explanation of the arrangement of the data.

Section 2 contains the presentation of the interphylic series of cognates, the additional and residual data and annotations.

Section 3 contains a discussion of the results and a further outlook.

The study is concluded by a list of sources for the word-lists used and a bibliography.

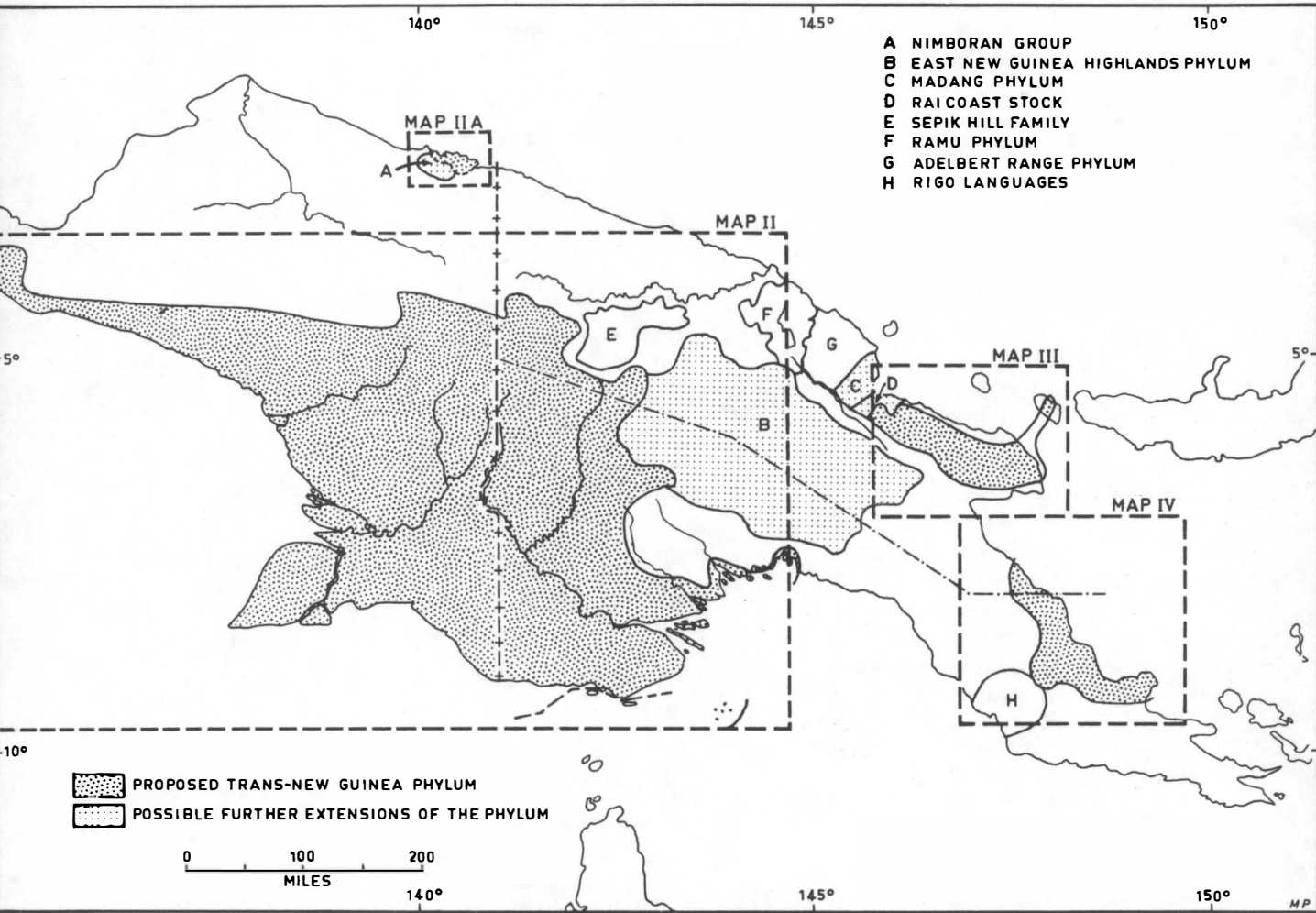
1. PRELIMINARIES

1.1. LIST OF ABBREVIATIONS

Alphabetical list of abbreviations of names of languages and language groups.

<u>ABR</u>	Adelbert Range Phylum
AGO	Agob Family
APA	Awin-Pare Family
ASK	Asmat-Sempan-Kamoro Family
AWY	Awyu Family
BED	Bedamini Family
BEN	Bensbach River Family
BIN	Binandere Family
BOA	Boazi Family
<u>CSNG</u>	Central and South New Guinea Stock
<u>CSNGP</u>	Central and South New Guinea Phylum
DUN	Duna
EHF	Eastern Huon Family
<u>ENHP</u>	East New Guinea Highlands Phylum
<u>ENHS</u>	East New Guinea Highlands Stock
ERA	Erap Family
FAS	Fasu
<u>FHP</u>	Finisterre-Huon Phylum
<u>FIN</u>	Finisterre Stock
GOG	Gogodala
<u>GOG</u>	Gogodala-Suki Stock
GOL	Goliath Family
GUS	Gusap-Mot Family
<u>HUP</u>	Huon Peninsula Stock
KAN	Kanum
KIM	Kimaghama Family
KIW	Kiwai Family
<u>KIW</u>	Kiwai-Miriam Stock
KOV	Kovai
<u>MAD</u>	Madang Phylum
MAR	Marind Family
<u>MAR</u>	Marind Stock
MIR	Miriam
MO	Moraori
MOM	Mombum

MOR Morehead River Family
MRS Morehead River Stock
OK Ok Family
ORI Oriomo River Family
PAN Proto-Austronesian
RAM Ramu Phylum
RCS Rai Coast Stock
SEN Sentani Group
SHF Sepik Hill Family
SUK Suki
URU Uruwa Family
WAN Wantoat Family
WAR Warup Family
WHF Western Huon Family
YAQ Yaqay Family
YEL Yelmek-Maklew Family
YEY Yey
YUP Yupna Family



MAP I: THE TRANS-NEW GUINEA PHYLUM

1.2. LANGUAGES OF THE CENTRAL AND SOUTH NEW GUINEA PHYLUM

CENTRAL AND SOUTH NEW GUINEA STOCK

ASK Asmat-Sempan-Kamoro Family
 a. Kamoro
 b. Sempan
 c. Asmat

AWY Awyu Family
 a. Sylagha
 b. Yenimu
 c. Pisa
 d. Aghu
 e. Kaeti
 f. Wambon

OK Ok Family
 a. Kati Ninati
 b. Kati Metomka
 c. Niggerum
 d. Yoggom
 e. Mianmin
 f. Tifal
 g. Telefol
 h. Faiwol
 i. Bimin
 j. Kauwol

APA Awin-Pare Family
 a. Awin
 b. Pare

BED Bedamini (Beami) Family
 a. Kubo
 b. Samo
 c. Bibo
 d. Bedamini
 e. Bosavi

FAS Fasu (language isolate)

DUN Duna (language isolate)

MOM Mombum (language isolate)

GOGODALA-SUKI STOCK

GOG Gogodala (language isolate)

SUK Suki (language isolate)

KIWAI-MIRIAM STOCK

KIW Kiwai Family
 a. Kiwai
 b. Wabuda
 c. Turituri

MIR Miriam (language isolate)

MARIND STOCK

MAR Marind Family
 a. Gawir
 b. Bian

BOA Boazi Family
 a. Boazi
 b. Kuini

c. Begua-Zimakani

YAQ Yaqay Family
 a. Yaqay
 b. Kayaghar
 c. Warkay

ORIOMO RIVER STOCK

ORI Oriomo River Family
 a. Gizra
 b. Bine
 c. Gidra

TIR Tirio (stock-level language isolate)

PAHOTURI RIVER STOCK

AGO Agöb Family
 a. Agob
 b. Mikud

MOREHEAD RIVER STOCK

MOR Morehead River Family
 a. Parb
 b. Keraki
 c. Dorro

BEN Bensbach River Family

a. Southern dialects ('Peremka')
 b. Northern dialects ('Setavi')

UPPER MARO RIVER STOCK

YEY Yey (language isolate)

MO Moraori (language isolate)

KAN Kanum (language isolate)

BULAKA RIVER STOCK

YEL Yelmek-Maklew Family
 a. Yelmek
 b. Maklew

FREDERIK HENDRIK ISLAND STOCK

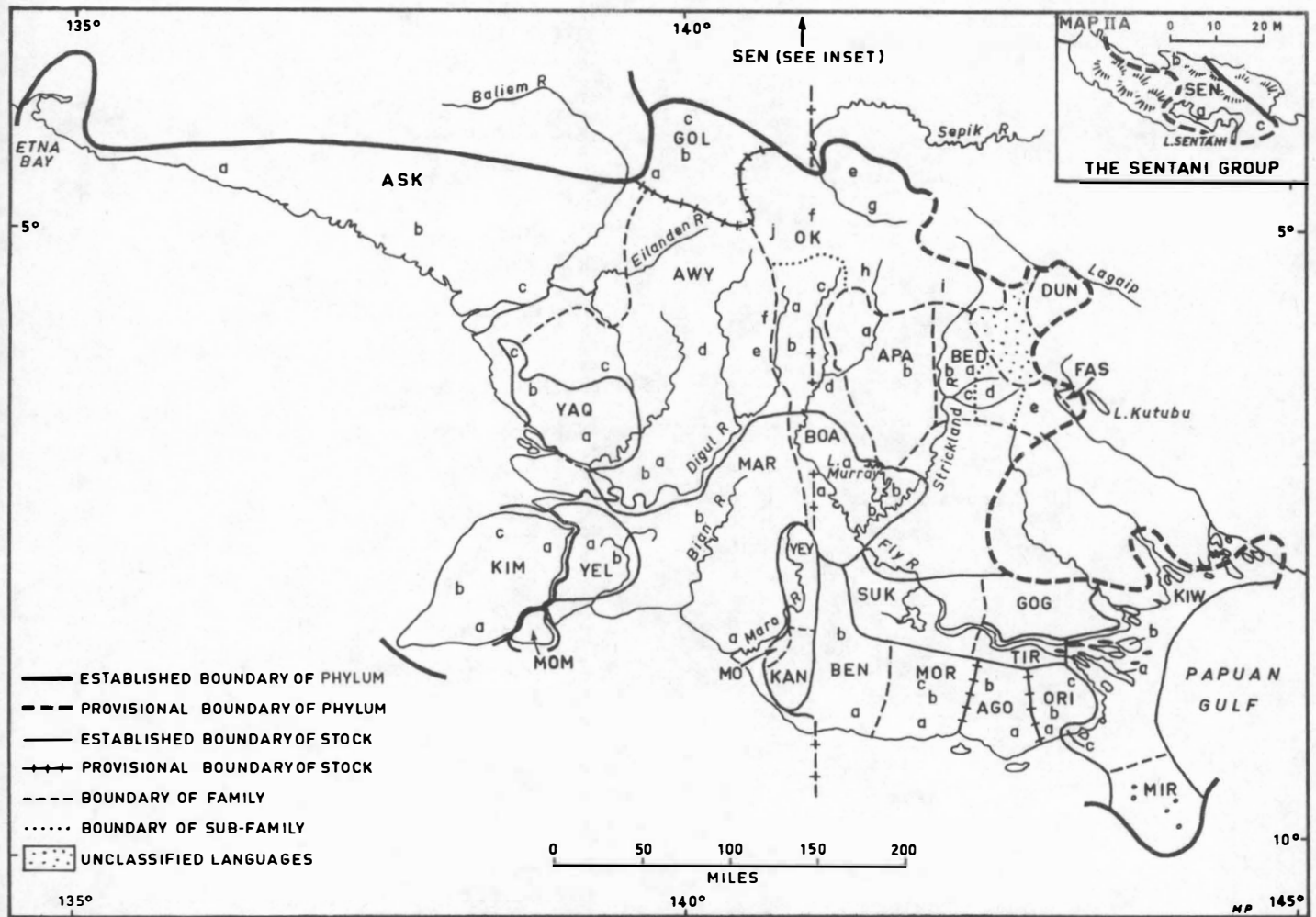
KIM Kimaghama Family
 a. Kimaghama
 b. Ndom
 c. Riantana

GOLIATH MOUNTAIN STOCK (?)

GOL Goliath Family
 a. Korappun (Erok)
 b. Naltje (T-Valley)
 c. Wanam

SENTANI GROUP

SEN Sentani Family (?)
 a. Sentani
 b. Tanah Merah
 c. Nafri



MAP II: LANGUAGES OF THE CENTRAL AND SOUTH NEW GUINEA PHYLUM

1.3. LANGUAGES OF THE FINISTERRE-HUON PHYLUM

FINISTERRE STOCK		c. Finungwan
WAR	Warup Family	d. Gusan
	a. Degenan	e. Nimi
	b. Asat	f. Sauk
	c. Morafa	g. Numanggang
	d. Dahating	h. Nakama
GUS	Gusap-Mot Family	i. Nek
	a. Gira	j. Nuk
	b. Ngaing	k. Munkip
	c. Neko	KOV
	d. Nekgini	Kovai (stock-level language isolate)
	e. Ufim	
	f. Nahu	HUON PENINSULA STOCK
	g. Rawa	WHF
URU	Uruwa Family	Western Huon Family
	a. Komutu	a. Kip
	b. Hamelengan	b. Zankoa
	c. Kumdauron	c. Karako
	d. Worin	d. Sialum
	e. Yawan	e. Nomu
	f. Mitmit	f. Kinalakna
	g. Mup	g. Kumukio
	h. Sindamon	h. Kosorong
	i. Sakam	i. Burum
	j. Som	j. Mindik
YUP	Yupna Family	k. Tobo
	a. Kewieng	l. Kube
	b. Nokopo	m. Timbe
	c. Domung	n. Selepet
	d. Nankina	o. Komba
	e. Bonkiman	p. Nabak
		q. Momolili
		EHF
		Eastern Huon Family
WAN	Wantoat Family	a. Dedua
	a. Awara	b. Migabac
	b. Leron	c. Momare
	c. Wantoat	d. Sene
	d. Saseng	e. Mâgobineng
	e. Bam	f. Wâmora
	f. Yagawak	g. Wemo
	g. Irumu	h. Naga
ERA	Erap Family	i. Mape W.
	a. Mamaa	j. Mape E.
	b. Uri	

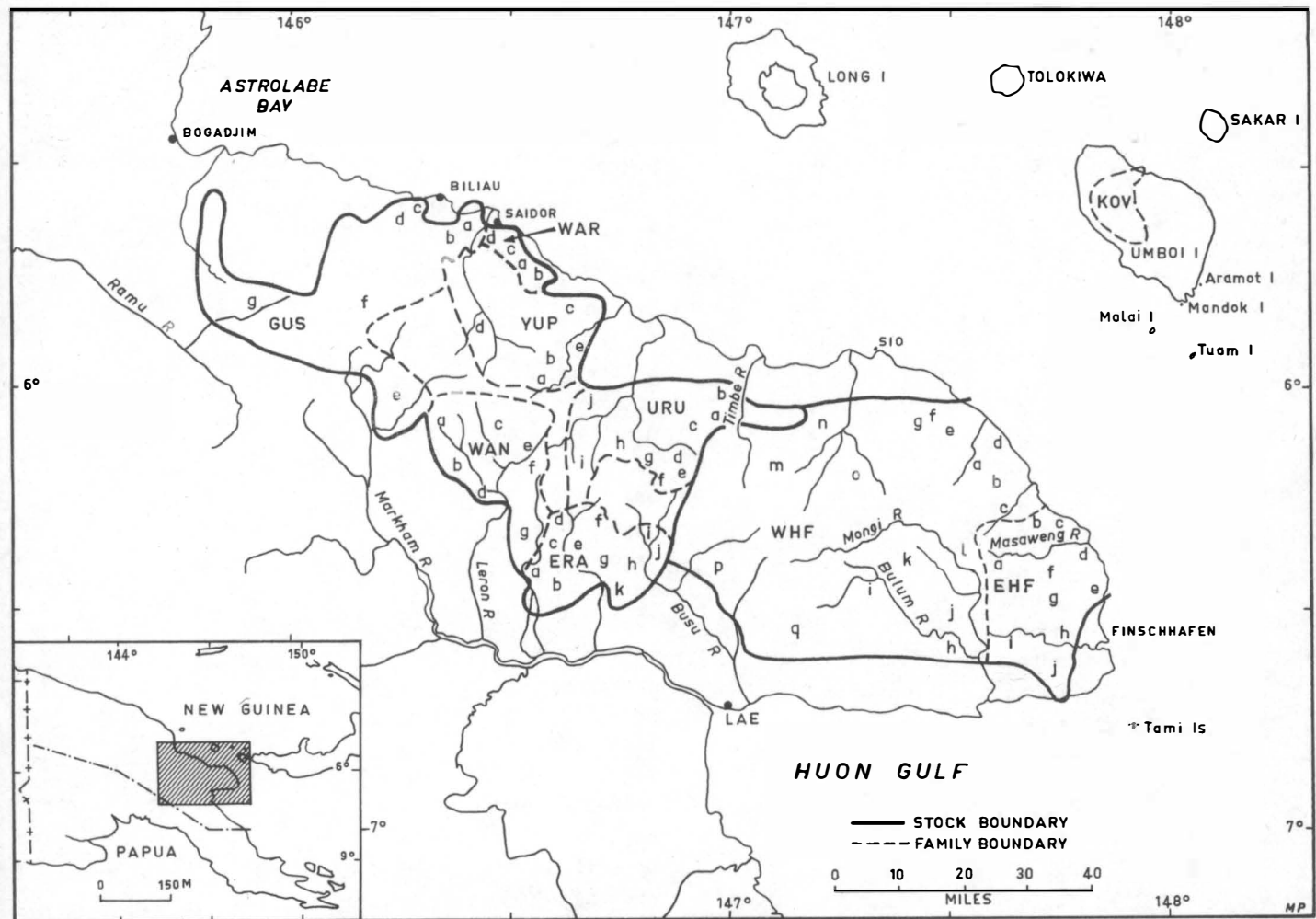
} Komutu

} Worin

} Ono

} Kâte

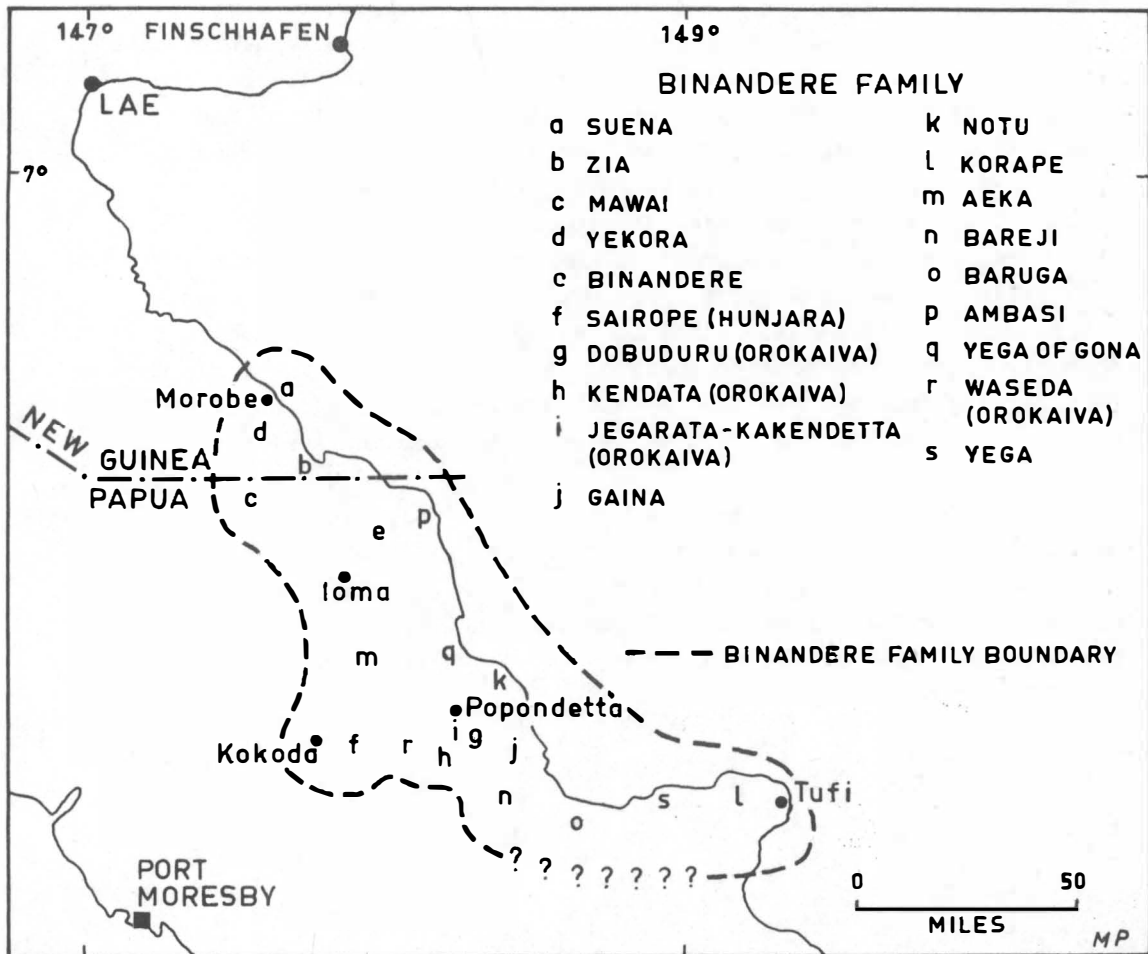
} Mape



MAP III: LANGUAGES OF THE FINISTERRE-HUON PHYLUM

1.4. FINDER LIST OF VOCABULARY ITEMS

Main Items	Section 2, No.:	Main Items	Section 2, No.:
arm, hand	1	warm	47
ashes	30	water	41
bone	2	we	24
breast	3	wind	42
brother	20	wing	29
burn	48	you s.	25
dog	34	you pl.	26
ear	4		
eat	49	Other items mentioned in the text:	
eye	5	anus	32
fire	33	ball	36
foot, leg	6	bridge	32
full	43	bulge	10
hair	7	buttress	14
he	27	cluster	5
head	8	door	32
I	23	dream	53
knee	10	edge	16,17
leaf	35	egg	5
long	44	face	14
louse	28	fever	47
moon	36	flame	16
mother	22	to fly	29
mouth	9	fruit	5
nail	11	hole	32
name	19	left hand	1
neck	12	level	46
new	45	mother's brother	20
nose	14	navel	5
rain	31	nostril	14
road	32	opening	32
sand	37	place, site	32
say	52	rim	16,17
shoot	50	river	47
sister	21	round	5
skin	13	shadow, soul	19
sleep	53	skull	8
smoke	38	smooth	46
spittle	15	snout	13
star	39	sprout	16
straight	46	support	1,12,17
sun	40	tree	13,33
tie	51	to urinate	18
tongue	16	vagina	32
tooth	17	vine	7
urine	18	vital spirits	19
		way of doing	49



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MAP IV: LANGUAGES OF THE BINANDERE FAMILY

1.5. SPELLING

Most of the data used in this study has not yet been phonemicized; the spelling is therefore phonetic and for practical reasons follows Pike 1947.¹

A small part of the data - that of the Ok languages, of Asmat, Gogodala, Suki and Sentani, has been phonemicized. The remaining data have been recorded in an impressionistic spelling which is neither wholly phonetic nor wholly phonemic. This is the data from Kamoro, Sempan, the Awyu languages, Marind, Yaqay, and the Kiwai languages.

In these cases the spelling as found in the sources has been retained. No attempt has been made to phoneticize the spelling: for the impressionistically recorded languages this would have been unfeasable because of insufficient information on phonetics given in the sources. Instead, the phonetic values of the symbols used in the phonemic and impressionistic spellings are listed below in so far as they deviate from the standard phonetic values of the symbols, and in so far as this deviation could be ascertained from the available sources.

In the following, hyphens indicate word-initial (e.g., p-), word-medial (e.g., -p-), and word-final (e.g., -p) position of the phones except for the Ok languages in which the frame of reference is the syllable. For further details of the distribution of the phones the reader is referred to the sources mentioned in 1.5.

¹ With the exception that in the phonetic spelling the symbol r is used everywhere for the flapped vibrant [r̥]

Symbol	Deviations from standard phonetic value
p =	ASK c: p-, p ^p -, p ^u ; AWY e,f: -p̂; SUK -p̂; YAQ a: p, p ^p ; OK a,e: b-, p-.
b =	SUK -b-, -b̂-; SEN a: b, p̂; OK b: b-, mb-; d: -b-, -p-; e,h,f: -p; g: -b̂-.
m =	ASK c: ^m b-, b-, -mb-, -m-, -m.
w =	OK a: w-, v-, -w-, -v-; c: w-, b̂-, -w-, -b̂-; d: w-, b̂-; h: -w-, -v-.
f =	SEN a: f, p̂; OK f: f-, p ^p -; g: p̂; h: f-, p ^p -, -f-, -p ^p -.
t =	AWY a,f: -t̂; GOG t-, th-; KIW c: t, th; YAQ a: t, t ^s ; OK c: th-, t̂h-, -t-, -t̂-; d: t-, t̂-.
d =	AWY d: -t̂-; SEN a: d, t, č; OK b: d-, nd-; c: d-, d̂-, -t̂-; h: -t̂-.
n =	ASK c: d-, ⁿ d-, -n-, -nd-, -n; OK c: n, ŋ.
r =	AWY a-c: ř, l; GOG ř, l; SUK ř, l; OK e: d-, -ř-, -l; i: d-, -ř-, -l-.
l =	SEN a: ř; OK g: -ř-, -l, -l̂.
y =	ASK c: y-, ŷ-, ĵ-.
s =	ASK c: s, š, θ; AWY c: s, š; GOG s-, ts-.
k =	ASK c: k, x; AWY e,f: -k̂; SUK k-, kh-, q-; GOG -k-, -x-; KIW c: k, kh; SEN a: k, q, x, k ^y -; OK a: g-, -g-, -k, -kh; b: -ĝ-, -k, -ĝ; c: kh-, -k-, -ĝ-; d: k-, k̂-, -k-, -ĝ-; e,f,g: kh-; h: kh-, k-; i: kh, h; f,g,i: -ĝ-; h: -g-, -ĝ-.
g =	GOG -g-, -ĝ-; BOA a: g, ĝ.
x =	AWY c: -ĝ-, -x-.
q =	YAQ a: q, q̂, x̂.
h =	AWY f: h, s; SEN a: h, s.
i =	ASK c: i, ɪ, ü; SUK i, ɪ, e; BOA a: i, ɪ; OK i, ɪ.
e =	ASK c: e, ɛ, ö; AWY a-d: e, ɛ; e,f: ɪ, e; SUK ɛ, ə; KIW c, MAR a, BOA a, YAQ a, OK a-i: e, ɛ.
ɛ =	GOG ɛ, ə.
a =	ASK c: a, ə, α; AWY a-c: a, ə; SUK, KIW c, MAR a: a, α; OK a-i: a, α, ʌ, ə.
ö =	YAQ a: ë (?)
o =	ASK c: o, ɔ, ë; OK a-i, SUK, GOG, BOA a, YAQ a, SEN a, AWY d-f: o, ɔ; a-c: ɔ.
u =	ASK c: u, û; SUK u, ů; BOA a: u, ů; OK a-i: u, û, u.

In the Finisterre-Huon data final voiceless stops are unreleased and these are replaced by their fricative counterparts at the corresponding point of articulation when followed by a vowel-initial suffix: thus $p \rightarrow w$, $t \rightarrow r/l$, $k \rightarrow h/g$. Therefore final t , l , r , final p , w , and final k , g , and h as given in the data represent morphophonemic variants. Voiced stops and affricate dz are generally prenasalized. The central vocoid $[\Lambda]$ represents any central, mid to low phone. Generally this phone represents a sixth vowel phoneme or an allophone of phoneme $/a/$. In the EHF family the final glottal stop represents a neutralization of the final voiceless stops p , t , and k of the WHF.

1.6. PRESENTATION OF THE DATA

For every lexical item, the presentation of the data falls into three or four parts, in the following order:

1. The interphylic series of cognates
2. The additional data (if available)
3. The residual data
4. Annotation.

The interphylic series of cognates are arranged in two columns, first the CSNGP forms are given, next the FHP forms. The ordering of the forms follows the division into stocks, families and languages within the two phyla. The abbreviations used have been listed in 1.1.: the single letters used to mark individual languages are those used in the lists of languages given in 1.2., 1.3. and on Map IV.

Each column of forms is followed by a column in which the series-membership of the forms is indicated. The members of an interphylic series are indicated by Roman numerals (I, II); morphemes with which the forms occasionally occur in compounds are marked a, b, c , etc. Unidentified elements are always marked x .

To show the morphemic structure of bimorphemic compounds one of the constituents will always be underlined. If only one of the constituents belongs to an interphylic series of cognates, this one will be underlined. If both belong to such a series, the first will be underlined. In trimorphemic compounds hyphens will indicate the morpheme breaks.

The additional data comprise:

- Additional cognates from languages outside the main body of languages compared, which may be subsumed under the same English gloss.
- Cognate forms involving semantic shifts. If these are also treated elsewhere, cross-reference is given.
- Other forms which are relevant.

The residual forms are arranged into two sub-sections: CSNGP languages and FHP languages. The division into stocks is not indicated. The data are further arranged into intra-phylic series of probable cognates. Different series of cognates are separated by a diagonal.

The annotations always contain a hypothesis concerning the inter-phylic series of cognates. The first part of the hypothesis always runs as follows: 'There are (n) series of interphylic cognates (I, II.. ..)'. That is, 'within the body of data compared the authors have discerned so far (n) series of probable cognates which stretch across the two phyla'.

The hypothesis can then be followed by comments and by notes.

2. VOCABULARY COMPARISONS

1. *Arm, forearm (f)*

<u>CSNG</u>		<u>FIN</u>	
ASK: c	man	WHF: a,d	met
AWY: a	bedo	e	metε
b	bido	h	boro
c	bide	i	barΛ
d	bodo	j	biri
e	it	k,l	mΛri
f	wit	m,n	bət
OK: b	ben	p	bet
e	pan f	q	bΛt
g	ban f	EHF: a	mari
i	ben f	b	more
<u>GOG</u>		c-j	me
GOG	mai	KOV:	me

Additional:

OK e het, f,g feet *forearm*¹*Arm, hand (h)*

<u>CSNG</u>		<u>FIN</u>	
OK: e	koir h	URU: a,b	ket
g	kul h	i	kΛilba
f,g	sikiil	ERA: c	kΛit
g	sakaal	d	kΛyer
h	sikaal	e	kir
APA: a	krite	f	kel
<u>MAR</u>		i	kΛi
MAR: a	sanga	j	ki
		WAN: b	kahit
		d,e	kesil
		f	kesi
		YUP: a	kesit
		b	kisir
		c,d	kΛsit

Additional:

II - OK e sikir *foot*, sakār *leg*²

FAS kita fene *nail*

KIW a tu-igiri-pitu, c igiri *nail*; a sairo, b sakiro, c haero
foot, *leg*

MAR a kisid *support*

ERA i kisir, j kesir *foot*

BIN f,g ingere, h igeni, i ingeni, k iŋgo, l uŋgo *arm*

OK g tu, h tai, i taip *upper arm*

KIW a,c tu, b tuwo *arm*; c tuipi *upper arm*

Residue:

CSNGP ASK a maare, b mafane³ / OK a tiningung / c tani, d tiŋki, g
teiŋ, h teŋ (*hand*), i taiŋ (*hand*), BED e tagi / APA b atowe,
BED dabogā, a,b debe, c dob, e dabo / FAS hokono / SUK kapsa /
KIW a,c tu, b tuwo / BOA a piŋgi / YAQ a marap-takere /

FHP WAR a or / b kərɿ / c ose / GUS a atyi, b-d ati, e,f kandi, g
kande / URU j karaŋa, WAN a,c katak / ERA a kafe, b kɿfɔŋ, g
kafɔŋ, h kafaŋ, k kafuŋ / WHF f holip, g suli /

Hypothesis:

There are two interphylic series of cognates (I, II). In URU 1, a member of series II has been combined with an unidentified element -ba (x).

Comment: In the above list it is assumed that the Ok forms, sikil, sikaal, and sakaal, show metathesis of the first and second consonant when compared with the WAN and YUP forms. The same is assumed for the KIW and BIN forms (igiri, ingere etc.) but with an additional loss of the initial consonant.

It also seems possible that the Ok forms are old compounds originally containing a morpheme meaning *upper arm* (present day Ok tu, ta-) and a morpheme meaning *lower arm* (*(i)kil) and thus are completely parallel to Kiwai a tu-igiri in tu-igiri-pitu *nail*. OK -kil, -kaal would then correspond to FIN kir, kayer, kesir, etc., and to Kiwai igiri, BIN ingere, etc. The initial i in the BIN and KIW forms then remains unaccounted for.

Although it seems clear that all the forms of series II link up, the details of their formal relationship must await further study.

Notes:

1. In Ok e,g these are additional to pan, ban, but seem to belong to the same series of cognates.
2. The semantic correspondence *leg/foot* - *arm/hand* suggests that these meanings have developed from an earlier more general meaning *limb* (see no.6).
3. These forms come from a protoform *mabane and do not seem to belong to series I. Perhaps they link up with OK e afan, f awaan, g afaan, h abaan, i awan *left hand*.

2. Bone

<u>CSNG</u>			<u>FIN</u>			
OK: a,c	kono	}	I	WAR: b	ʌtʌt	}
b	kondo		c	oser		
d	koo		GUS: a	ure		
e	on		b	uter		
f-h	kun		URU: a,b,f,g	kurat		
i	kuun		c	kudat		
APA: a	kro		d	kʌrʌt		
b	kɔ		e	karat		
BED: d	koso		h	kudaʔ		
			j	kwarandzi		
<u>GOG</u>			YUP: a	ka tar		
GOG	gosa		b	kataar		
<u>KIW</u>			c	kʌyaɪ		
KIW: a,b	soro		d	kʌdzi		
<u>MAR</u>			II	WAN: a	kwatʌl	}
MAR: a	hiau		b	kɔtɔl	I	
YAQ: a	ia		c	kwatʌe		
			d	hwatʌe		
			e	kwalan		
			f	kundzal		
			g	konzar		
			ERA: a	kodeʔ		
			b	kʌtii		
			d	kodzar		
			e	kudar, kat		
			f	kutul		
			g	kitir		
			h	kwada		
			i	kwanda		
			k	kwadzi		
			j	sail	II	
			<u>HUP</u>			
			WHF: p	kaset, kandzit	I	

	a	set	
	d	sara	
	e	siwit	
	f	hiwit	
	g	suwit	
	h	sii?	
	i-k	sigit	
	l	sir	
	m	hait	II
	n	hagit	
	o	sigit	
	q	set	
	EHF: a	sir	
	d	sie	
	e,f,i,j	sia?	
	g	sie?	
	h	hia?	

Additional:

I - MOR Parb qat, Dorro goat, Keraki goat; AGO Agob kut
ENHS Duna kuni

Residue:

CSNGP ASK a emae, b emake, c emak, AWY a boge, b begi, c bagi, d bigi /
e mirap, f mit / BED a dio / b,c kibi, FAS kiki / KIW c kako /
SUK budu / BOA bazag /

FHP WAR a doruk / GUS d-f wimbi, g wembu / URU i sipagali, ERA c
saburi? / EHF c yo?, KOV yo / EHF b liwe /

Hypothesis:

There are two interphylic series of cognates (I, II).

Comment: The formal relationship between the CSNGP and FHP members of both series is still far from clear. Possible proto-forms of the CSNG and the FIN are respectively *kwondzo and *kwandzat. KIW a,b soro could equally belong to either series I or II, and in fact the whole of series II might link with I. Much further research is needed.

Additional:

I - SEN a nime, ORI b ŋame, YEL a momo, ENHS Duna: amu
 BIN a-e,l,n ami; f-i,k,m emi

Residue:

CSNGP ASK a ao, b awo, c aw, YAQ a abur¹ /

FHP YUP a,b naŋ, WAN d,e,f,g nonoŋ, ERA a n+nok / WAN a takwΛpula /
 c ŋwam /

Hypothesis:

There are two interphylic series of cognates (I, II). The members of series II are suspected Austronesian loans (from PAN *t'ut'u *breast*²)

Notes: 1. The ASK and YAQ words possibly link with series I.

2. All the PAN references have been taken from Dempwolff, 1938.

4. Ear

<u>CSNG</u>			<u>FIN</u>	
AWY: a	toro	} I	ERA: a,c,e,f	du
b	turu		d	dzu
c	suru	} I+IIa	<u>HUP</u>	
d	su-ke-to		WHF: a	ket
e	keretop	IIa	e,f	kedzap
f	turu top	Ia	g	kizap
OK: b	kende	II	h	gedzi
a	kenekot	} IIb	i-k	ketsap
c	keehoo		l	getsaw
d	kenoot	} II	m,n	ondop
e	koron		o	kesap
i	kaluun	} I	EHF: a	kedza?
j	karuun		b,c	hade?
f	tilaang	} I	d	kodze
g	tuluun, toloong		e	adza?
APA: a	kendoke	IIx	f	hadza?
BED: a	duwew	Ia	g	hatse?
b	du:ri	} I	i-k	kadze?
c	du:r			
d	ke	} II		
e	kælən			
<u>KIW</u>				
KIW: a,c	gare			
<u>MAR</u>				
BOA: a	gia			

Additional:

BOA b kea, c gia, zia

ENHS Duna: konane; Kewa: kaale, kaane; Eṅa: kale

Residue:

CSNGP ASK a iini, b iane, c yen, zane¹ / APA b mogame / FAS senaki /
GOG igibi / SUK iakadgu / MAR a kembet / YAQ a mono /

FHP WAR a nɔɔm, b ɔɔɔm, c oɔɔm / GUS a amui / b-d asipi, e ɔsumbo, f
ɔsumbi / g sote / URU a ondu, d ɔngɔm, e ɔndɔm, f ɔɔɔm, g ɔndɔm,
h okom, i ɔdɔm / b gɔɔɔm, c kɔɔɔm / j dzukun, WAN f sukuna, g
sukun / URU k gabak / YUP a,b kɔsim / c kwem / d kɔrim / WAN a

marak, b mɔrɔk, c mæak, d mɔlak, e mala, ERA b magii, g,h magi,
k maget / i,j pawa / WHF d kinam / p wak / q bɔbasin / KOV ano /

Hypothesis:

There are two interphylic series of cognates (I, II). The members of these series occur as free forms or as the first constituent in (old) compounds. As the second or third constituent of compounds, at least two series of probable cognates occur: series (a) meaning *hole, passage, road* (see no.32), and series (b) meaning *leaf* (see no.35). The identity of the element marked (x) could not be ascertained.

Comment: It may be possible that series I and II link together. Forms of both series occur within three different families (AWY, OK, BED). Their main formal difference is between initial t and k, which is a well attested correspondence between languages within the two phyla. Healey (1964) constructed one protoform for both series within the OK family: *coluun.²

Notes: 1. At first sight the ASK forms seem to link with II: iini, iane, yen, zane would point to a protoform *dzane or *dziane. Among additional data from the Kamoro dialects, however, are forms ihini and ifini in which h and f are reflexes of an earlier bilabial stop. Mombum iper links with these forms. On the basis of all these forms it is now possible to construct a protoform *dzipare or *dzipane. At present it cannot be established whether or not *dzibare ultimately links with *coluun. It should be noted that a probable cognate of *dzipare occurs in the Kiwai languages: sepate *ear-lobe*, and that Marind kembet may also belong to the *dzipare series.

2. In the following the symbol c will be used when the t - k correspondence is found amongst the reflexes of the proto-sound. The t - k correspondence is found on all levels and it is suspected that in all cases an original velar stop shifted to a dental position (with or without an intermediate palatalized stage, as for instance in ASK c: c) under influence of one or more front vowels in its immediate environment.

5. Eye

<u>CSNG</u>			<u>FIN</u>			
AWY: a,b	<u>kir-o</u>	} Ia-b	WAR: a	<u>dabel</u>	Ia	
e,f	<u>ker-op</u>		b	<u>dana</u>	} Ix	
c	<u>kiri-mogo</u>	} Ia-c	c	<u>dane</u>		
d	<u>kio-mogo</u>			GUS: a	de	} I
OK: a	<u>tin-op</u>	} Ia-b	b	de		
b	<u>kon-yop</u>		c	ta		
d	<u>in-dop</u>		d	te		
c	<u>ti-op,ki-op</u>	I-b	e	<u>dɔŋi</u>	} Ix	
e	<u>kin</u>	} Ia	f	<u>tɔŋi</u>		
f,g	<u>tiin</u>		g	<u>tɔŋe</u>		
h,i	<u>kiin</u>		URU: c,g	<u>dan</u>	} Ia	
APA: a	<u>krɔ-ŋe</u>	Ia-x	d,f	<u>daar</u>		
b	<u>kere-mo</u>	Ia-c	e	<u>tar</u>		
BED: a	<u>diəhã</u>	} Ix	h	<u>dar</u>		
b,c	<u>hiãwã</u>		i	<u>dapul</u>		
FAS:	<u>hi</u>	I	YUP: a,b	<u>daɐʌl</u>		} Ia
<u>GOG</u>			c	<u>daon</u>		
GOG: a	<u>tao</u>	Ia	d	<u>daɐin</u>		
<u>KIW</u>			WAN: e	<u>ndapu</u>		
KIW: a,b	<u>damari</u>	} Ia	g	<u>dapur</u>		
c	<u>damare</u>		ERA: c	<u>dʌfur</u>	} I	
<u>MAR</u>			d	<u>dapur</u>		
MAR: a	<u>ki:nd</u>	} Ia	g	<u>dau</u>		
YAQ: a	<u>kind</u>		h	<u>dawa</u>		
			j	<u>daon</u>		
			k	<u>dae</u>		
			a	da		
			b	de		
			<u>HUP</u>			
			WHF: a	de		} I
			h	dza		
			i,j	dze		
			p	dzi		
			o	si	} Ia	
			e	<u>dzon</u>		
			n	<u>sen</u>		
			q	<u>dzin</u>		
			m	<u>dewun</u>		
			l	<u>kiw</u>	} Ia	
			k	<u>kip</u>		

	d	<u>deŋ</u>	} Ix
	f	<u>dzilan</u>	
KOV:		dziŋo	
EHF: b		dzɔŋo	
	c	doŋe	
	d,e	dzeŋe	
	f,i,j	dziŋo	
	g	dzɔŋe	
	h	dzɔŋa	

Additional:

BIN a giti moka, e gisi moka, b,c,d,j,k,l,o diti, f hiri, g,i tihi, h titi, m kiti

AWY c mugo, d mügo, *egg*; a,b ro, e,f rop *fruit*

OK a,b yop *fruit*

YUP d buun *round*

WHF n puru *cluster of fruit*

Residue:

CSNGP ASK a mame, b manake, c manmak / SUK itumku / BOA bei /

FHP URU a tat / b raha / WAN a,b,c kai / d ndaik / f enzake /

Hypothesis:

There is one interphylic series of cognates (I). The members of this series appear in many languages as the first constituents of old compounds. In all these cases the second constituent is a member of a series of probable cognates meaning *ball* (series a). This second constituent has been subjected to severe reduction and only traces of its presence remain in most of the forms. Perhaps because the original compound had lost its bimorphemic character, secondary compounds have been formed in the AWY and OK languages by the addition of a morpheme meaning *ball*, *fruit* (series b) or *egg* (series c). Unidentified elements occur in APA a, BED a,b,c, WAR a-c, KOV and in all EHF forms. Those elements containing the velar nasal may have been function morphs of one kind or another.

Comment: The Binandere forms link with series Ia. Notable is BIN a gitimoka which shows a striking resemblance to AWY kirimogo. The meaning of -moka could not be ascertained, but it also is probably a morpheme meaning *ball*, *fruit* and cognate with AWY -mogo. Supporting evidence is found in the Rigo languages, which show probable cognates ne and ne-meko *eye* and meko *fruit*. Probable cognates of moka, meko and mogo also occur in Asmat manmak *eye* and moko-per *navel* (= *the place where the fruit* (moko) *is connected with* (per) *the body*).

6. Foot, leg

<u>CSNG</u>			<u>FIN</u>		
AWY: a	kitu	I	YUP: b	kuluᅇa	I
b-d	kito		ERA: a	kwane	
e,f	kondok		b	koyon	
OK: b	kondo		c	koron	
d	kono		d	kolon	
APA: a	khatike		e,g	kayon	
FAS:	korake		f	koyon	
OK: e	sikir, sakar		h	kada	
			k	kada	
			i	kisir	
<u>KIW</u>		II	j	kesir	II
KIW: a	sairo				
b	sakiro				
c	haero				
			<u>HUP</u>		
			WHF: h	kani	I
			i	kana	
			j	kana, kani	
			k	h+ni	
			EHF: a	hani	

Additional:

- I - *foot, leg*: MOM kaᅇk, SEN a odo, KIW (Kerewa) kono, (Goari) kwano
knee: OK a kaᅇ-tom, ERA a,c kaᅇ-kariᅇ
arm, hand: URU j karaᅇa, WAN a,c katak
left hand: GUS e kwaᅇ, URU b kandaᅇk, c,d,f kando?, e kandoke, h
kandoi, i kwan, YUP a,b kpandaᅇ, d kwaᅇ, WAN c kwane,
ERA d kwan, WHF a,d-g,l kana, h kpani, i kwani, j,p
kani, m,n kane

II - MAR a kisid *support*.

Residue:

CSNGP ASK a maw, b mawi, c mai / OK a yon, c don, g-i yaan / APA b
tamakere / BED a abogaᅇ, b h3m3, c h3m, d emo / GOG ei / SUK
paparu / MAR a ta:gu / BOA a wagaiaᅇ / YAQ a ramu /

FHP WAR a iϑλρσϕ̄ / b γομϑλρ / c εϑαθς / GUS a arλ, b-d tar / e kee,
 f ki, g ke, WHF a,γ,ο ki, d keg, e,f,m kei, n koi, q κλτ, EHF b
 kige, c hiηke, d kege, e kigo, g kike, h kiga / f si?, WHF o
 set / i kifu / KOV eϑ / URU a κλlam, b haram / c,h ρru / d,f,g
 et, e eet / i. gatλni / j kaiwλ, WAN b kaipu, c kepi, e kewin /
 YUP a kandap / c κλman / d t̄m̄n / WAN a mbλrλη, d γλικηλ mbulλ /
 f kandelι seηi / g k̄n̄cm /

Hypothesis:

There are two interphylic series of cognates (I, II). Series II links with series II of *arm, hand* (see no.1).

7. Hair

<u>CSNG</u>				<u>FIN</u>			
ASK: a	wiri	}	I	GUS: b	ui	}	I
b	fini			e	wi		
c	fin			f	hu		
AWY: c	ro	}	II	g	u	}	III
e,f	ron			URU: b	<u>rom</u>		
BED: a	towe	}	III	c	<u>dim</u>	}	III IV
b,c	tawa			h	<u>dem</u>		
FAS:	iti		I	d,f	<u>diron</u>	}	III II
<u>KIW</u>				e	<u>tiron</u>		
KIW: a,c	muso	}	IV	g	<u>dzion</u>		
b	muho			j	<u>eron</u>		
<u>MAR</u>				YUP: a	<u>ean</u>	}	III IV
YAQ: a	<u>rumb</u>		III IV	ERA: g,h	<u>dumu</u>		
				i	<u>dom</u>	}	III IV
				<u>HUP</u>			
				WHF: a	<u>dzou</u>		
				d	<u>dzo</u>		
				e,f,i, j,p,q	<u>dzup</u>		
				g	<u>dzomor</u>		
				h,k,l	<u>dzu</u>		
				m	<u>dumut</u>		
				n	<u>somot</u>		
				o	<u>samot</u>		
				EHF: a	dzoi		
				b	dzowe?		
				c	dofa?		
				e	dzowe		
				f	dzowu		
				g	dzowɔ		
				i	dzou		

Additional:

I - EHF a witi? *vine*MAD vili, uli, ulu, uru, uri *hair*IV - WHF n mot *vine*EHF d meyo, e mu?, h mi? *vine*III - BIN a,e,h tu, f,g,i hu *hair*

Residue:

CSNGP AWY a mogo, b mo, d xabu-mu / OK a ambo-topuŋ / b ambo-kimi /
 c-i see *leaf* / APA a tene / b ose, BED d osa / e mesafon / GOG
 tita / SUK nigbagu / MAR a izmi, BOA a izim /

FHP WAR a gət, b ɣaɾa / c ɣa / GUS a ɣeɾɣi / c ame, d mi / URU a
 ɣain / i dakam, YUP a daŋuan, b daŋwai, d daŋɣam, WAN a ndaŋɣam,
 b ndaŋgam, c ndəŋgem, d ndəŋgəm, ERA j daŋam / WAN e nayi / f
 naɱet / g pundzi, ERA d pudzi / a sak, b saɬaʔ, c sesaʔ, k si:sa /
 e ambun / f mimbitem / EHF d səkɔdiʔ, h hokɔʔ, j siki /

Hypothesis:

There are four interphylic series of cognates (I, II, III, IV). Members of II, III, and IV combine to form compounds. The forms of series II are probable Austronesian loans, linking with PAN *daun *leaf*.

Comments: At first sight series I seems to link with PAN *pulu *body hair*. However, the widespread occurrence of high front vowels in the members of this series added to the fact that the protoform of the series may have had a final stop (evidence: EHF a witiʔ) make the equation with PAN *pulu unlikely.

The similarity of forms like WHF dzomor, dzumut to PAN *d'ambut *hair* seems accidental.

8. *Head*

<u>CSNG</u>			<u>FIN</u>	
ASK: a	<u>upao</u>	I II	GUS: c,d	<u>pit</u> III
c	<u>kuvus,</u> <u>kuwis</u>	I III	f	<u>kemba</u> I II
AWY: a,b	<u>xeiba</u>	}	URU: a	<u>kaut</u> I III
c	<u>xaiba</u>		d	<u>big</u> III
d	<u>xabā</u>		e	<u>kubit</u>
e	<u>kembian</u>		g,h	<u>kuwit</u>
OK: e	<u>gapam</u>		i	<u>kubir</u>
f	<u>daboom</u>	k	<u>kubik</u>	} I III
g	<u>duboom</u>	WAN: b	<u>kuhit</u>	
h	<u>guboom</u>	d,e	<u>kusit</u>	
APA: b	<u>keba</u>	f	<u>kayΛ</u>	
BED: a	<u>odiu</u>	g	<u>kay<i>i</i></u>	} I
b	<u>ukibi</u>	ERA: a,k	<u>kΛ<i>i</i></u>	
c	<u>ukib</u>	b	<u>kii</u>	
SUK:	<u>tibodu</u>	e	<u>kee</u>	} I II
<u>KIW</u>		h	<u>kubam</u>	
KIW: a,c	<u>epuru</u>	i	<u>kambam</u>	} I III
b	<u>kepuru</u>	<u>HUP</u>		
<u>MAR</u>		WHF: a	<u>lewut</u>	
MAR: a	<u>pa</u>	m	<u>kaut</u>	
BOA: a	<u>kawa</u>	o	<u>kΛuk</u>	} I III
		EHF: e,f	<u>kpidza?</u>	
		g	<u>kpitse?</u>	
		i,j	<u>kporu?</u>	
		KOV:	<u>buno</u> III	

Additional:

I - OK j guu

II - ASK c fa *bone in: kuvus fa skull*III - AGO a bun, bin *head*; SUK budu *bone*; BIN a,b *betu*, c *hetu bone*;
YUP d buun *round*, da-bin *eye-ball*; WHF n puru *cluster of fruit*.I II - BIN e kopuru, g ~~popuru~~, h hohoru, j kopiri, k kopiri, d gibadza
*head*a - BED a diu *bone*b - BED b kibi, c ki:b *bone*.

Residue:

CSNGP ASK b oweke / AWY f'ngin / OK a,b kotorok / c abokara / APA a pobe / BED d tiaruma / e pesai / FAS wamo / GOG ganabi / YAQ a muku /

FHP WAR a tlanam / b lam, c nume / GUS a tabo, b tapon, e,g tapa, WAN a tapon / URU b yeil, c yail / j magl / YUP a galam / b busun, c bilag, d bulun / WAN b,d ngwarak / ERA c karaguban, d karuman / f nemb+, g mebi / j awu / WHF d-g mam / h wan / i narup, j,k noruk, l oruh / n kun / q dongon / EHF a fufu?, b,c hodo?, h woto? / d kumo /

Hypothesis:

There are three interphylic series of cognates (I, II, III). Members of I and II, and of I and III sometimes combine to form compounds. In BED members of I are combined with morphemes meaning *bone* (a,b).

Comment: All the members of series I seem to share the general meaning *top*. The original meaning of the members of series II and III is difficult to trace. The fact that members of these series occur as free forms with the meaning *head, bone, ball, or round* would point to the possibility that they denoted a hard, round object.

The position in series III of WAN b -hit, d,e sit is tenuous. Perhaps these old morphemes link with series II of *bone* (see no.2).

9a. Mouth, jaw (j)

<u>CSNG</u>				<u>FIN</u>			
ASK: a	mwe	}	I	GUS: a	ma	}	I
b	mea			b	magok		
c	me			c,d	mak		
AWY: c	xate	e-g	mango				
a,b	<u>xateto</u>	}	Ia	ERA: g,k	maŋ		
d	<u>xato</u>			}	I		
e,f	maŋgot	}	Ia			WHF: a	aŋa
OK: a,b	moŋgot			}	Ib	f	aŋo
c	<u>miŋatem</u>						
d	<u>moŋkotkono</u>						
i	<u>maŋkatkun j</u>						
APA: a	<u>ŋgat</u> lame		Ia				
BED: a	moga	}					
b	magara						
c	maga:r						
d	magato						
FAS:	akay						
	fakatu	j					
<u>GOG</u>							
GOG:	magata						
SUK:	mada	j	I				
<u>KIW</u>							
KIW: a	magata						
c	magota						
	boga	j					
<u>MAR</u>							
MAR: a	bake						
	magol	j					
BOA: a	maŋkaŋka						

Additional:

BIN a-e,k be, f,i,m pe, j,l beka, o b'e

AWY c makabi chin

OK g baka speak, b meya-kat lip

ENHS Duna: akora mouth, aka top rim of pot; Kewa: aga, aŋga; Eŋa: agaŋu

RCS maŋgese, mangam, miŋge

MAD agani, aga, magam chin

RAM akam, aŋam jaw

Residue:

CSNGP KIW b mubasoro / SUK tauka / YAQ a mem /

FHP WAR c wɔ / URU a,b miluwa / c tu?, d,e tuɔ, f duɔ, g du?, h dug /
i gi / j gok / YUP a genkoɔga, b genka, WAN c ŋgene, e ŋgena /
YUP c duun / WAN a,b maiy, f menyɪ, g mendzi, ERA b mi, e,f,i,j
mɛ, g,k ma, h ma / WAN d nzolik / ERA a donɪ, c dinime, d
dzinam / WHF d koi / g gbi / h kpaɔ, k,l koa, EHF d kou / WHF
i,j numbu / m-o lau / p dapsak / q dzambut / EHF a ena? / i,j
mau¹ / d kou /

¹ Probably AN loans.

9b. Mouth (Lip)

<u>CSNG</u>			<u>FIN</u>	
AWY: a,b	<u>bonaxa</u> ¹	} IIc	WAR: a	mor
c	<u>bunaxa</u>		b	mo
d	<u>bomga</u>		YUP: d	mon
e	<u>baŋga</u>		<u>HUP</u>	
f	<u>bonop</u>		WHF: e,f	bun
OK: e	pān	II		
f-i	<u>boontem</u>	} IIa		
APA: b	<u>padame</u>			

Additional:

SEN a boney lip

AGO a bod lip

ORI b tageboro mouth

ASK c mon deep hole, cut in the trunk of a sago palm to allow easy access to the capricorn beetles, the larvae of which develop in the sago pith

OK b mboŋmi beard.

Hypothesis:

There are two interphylic series of cognates (I, II). The members of I and II occur as free forms or as the first constituents in compounds. As second constituents, members of three series of probable cognates occur: morphemes meaning *hole* (a), *bone* (b) or *skin* (c); see nos.32, 2, 13.

Comment: Series I is of interest because probable cognates occur in a number of Melanesian languages outside the New Guinea mainland (see Ray, 1907, p.494). Members of series I occur in AWY and MAR languages with the meaning *tooth* (see no.17).

Note: 1. These forms mean *external part of the mouth*; AWY d also means *lip*.

10. *Knee*

<u>CSNG</u>			<u>FIN</u>			
ASK: a	<u>iripo</u>	} I II	URU: a	turuk	} I	
b	<u>inipo</u>		b	tul		
c	yina, zini		e,f	tur		
AWY: f	<u>kerop</u>	I	c	gorug		
OK: g,h	katuun	I II	d	kondug		
i	katin	} I	g	gotu?		
BED: e	kulau		h	gorug		
FAS:	kakuna		YUP: c	geruk		
<u>MAR</u>		} I	ERA: a,c	kaŋkaruŋ		aI
BOA: a	katuk		<u>HUP</u>			
<u>KIW</u>			EHF: a-c	fakuruŋ	xI	
KIW: a-c	popu	II	f	tiri?	} I	
			i	tiri?, turu?		
			KOV:	pupo	II	

Additional:

ASK c popu *bulge* (yina popu *swollen knee*)

Residue:

CSNGP AWY a bokin / b bu-begi, c bagi bũ, d bũmo, e wambũon / OK a kaŋ tom, b kondo tom, APA a tama / b owgumu / BED a iabu, b iburi, c ibili / d muguni / GOG asmisi / SUK itumaregu / MAR a mig / YAQ a yambu /

FHP WAR a imdəm / b inmλ / c rame / GUS a anyi / b dangumat, c tarakum, d takuma / e,f poto, g pəto / URU i welgani / j muruk / YUP a tukuaλ, b tukwal / d muak / WAN a,b sopi / c mun, d mun / e torak- / f ŋgukale, g gukuri / b mλndamuŋ, d munmembλn, e mundλn, f mλndan, g,h muŋ, i,j m+n / k kaɗatmu / WHF a,e wawet, d wəwər, m pəwut, n pawut, p,q pet / f hat, g sat / h,l simiŋ, i-k,o simin / EHF d duke, e,g dieŋ, h dəkəŋ, j dikaŋ /

Hypothesis:

There are two interphylic series of cognates (I, II). In ASK and in AWY compounds occur containing members of both series as constituents. Members of series I occur as the second constituents of compounds in ERA a,c and EHF a-c.

Comment: The first constituent in ERA a,c is a morpheme meaning *leg* (see no.6, additional). The first element in EHF a-c could not be identified.

Formally series I falls into two subseries: (1) forms with initial t, z, y or no initial consonant, and (2) forms with initial k or g. The protoform would then be constructed with an initial *C-.

11. *Nail*

<u>CSNG</u>			<u>FIN</u>		
ASK: b	fiti	} I	URU: j	pitpit	} I
c	fič, fit faro		ERA: d	pedzλm	
OK: e	poroŋ		e	fen	
f,g	buluŋ		f	ful	
h	buduŋ		g	fir, fider	
i	buruŋ		h	fida	
BED: d	ifī		i	pusut, pindzut	
e	ifi		j	pindzul	
FAS:	kitafene		k	fider	
<u>KIW</u>					
KIW: a	tu-igiri-pitu	bI	<u>HUP</u>		
<u>MAR</u>			WHF: m	pik	
MAR: a	itir	} I	p	pλruk	
YAQ: a	ri				

Additional:

SH a phitsλkam

Residue:

CSNGP AWY a doxo, OK a duk, APA a dōke, b dage / AWY b dose / c kia, d bedi moxo, f muk / e mbetit, OK b mbatit / c tani tup / BED a bia / b,c kigā / GOG kaboa / BOA qandis /

FHP WAR a ogutur / b sina / c ətpai / GUS b kasuwak / e gawadzīŋ, f ngawate / g kendipi / URU a,b keslp / c tubōg, e dubok / d tit / f sōot / g siup, h sorip / i kλil siwλl, YUP a tsil-tsil / b sisip / c geŋa / d amλndzaap / WAN a tehira / b ŋgup / c tut / d kwina / e seŋλ / f kλndew / g tλk, ERA b kii / a dina?, c dinaŋ / WHF a dzolip, b dzoip, d salip, e dzoit, k silep, o sλλp, EHF a sori, d dziwiri, e sore, f,i,j soriki?, g dzoroi, h hōriki? / b fiŋa? / c lifo? / WHF h koso?, j keset / i kamba / l bopo? / n pekat / q dziŋgλgλŋ /

Hypothesis:

There is one interphylic series of cognates (I). In FAS and KIW its members occur as the last constituent of a compound of which the preceding part means *hand, forearm* (see no.1).

12. Neck

<u>CSNG</u>			<u>FIN</u>	
OK: a,b	ketek	I	URU: j	tek
c	kete		YUP: a,c	tek
f,g	ditak		b	tæk
h	getak		WAN: d	tawak
i	ritak		e	tek
<u>GOG</u>			f	katak
SUK:	kuni		g	kotok
<u>MAR</u>			ERA: a	kode
BOA: a	kone		b	kada
			g	kodi
			h	kadi
			d	kunkun
			<u>HUP</u>	
			WHF: o,p	gandu

Residue:

CSNGP ASK a ikiki / b imahi, c yimas, yumus / AWY a mu-boge, b tu-begi / c gubī, e ngemben, APA a keben / b kugumu / BED a,b mu / c musmar / d konomagi / FAS mawi / GOG mada / KIW a,c ma'u, b makakomu, MAR a mbaku / YAQ a rob /

FHP WAR a ngel, b gαλλ, c goldiη / GUS a buη, b buηε, c puntai, d,f puηi, g puηe, URU a buηa, c,d,f,g baηa, e,h paηa, i boηa / e dugση / URU b sala / YUP d gwλγak, WAN a ηgulak, b ηgulok, c ηguγak / ERA c wani / e bukηan / f βαβοr / i,j bim / k buwut / WHF a ebi, d ubi, e ebe, f,g eme, l ebi, m imbe, n ombe, EHF a,b, d,i,j ube, c umpe, e uba, g upe / f marii?, h marσ? / WHF h are / i-k dzλl / q togosaη / KOV ηalo /

Hypothesis:

There is one interphylic series of cognates (I).

13. *Skin/Bark*

<u>CSNG</u>			<u>FIN</u>		
AWY:	a-d	xa	URU:	b	kep
	e	kota		d,f	gib
	f	kotae		e	kib
OK:	a,b,d	kat		g	gib
	c	kaa		c	kɔtip
	e	ār		h	gɔdɔp
	g,h	kaal	YUP:	a	gɔp
	i	kaar		b,c	gʌp
APA:	a	kare		d	gup
BED:	b	kɔɔɔfu	WAN:	b,c	ngup
	a	kɔɔ		f	ngup
	c	klari		g	gup
	d	kadofo	ERA:	a	geʔ
	e	kapo		b	gik
FAS:		kau		c	gifiʔ
				d	gupl
				h	gerʌp
				i	gʌʌp
				k	girim

Additional:

MAD kana, gana, gale, gara

URU a kʌʌp, i kep, j karʌp, YUP b kandap, d kʌndʌp, WAN d katʌp, f kolawa, g kʌndʌp, ERA d kʌdʌp, e kadap, f kadip *tree*

GOL a-c kal *tree*, a kal pʰoga *bark*

Residue:

CSNGF ASK a pikiri, b pitini, c picin / APA b siɣa / BED b sibi¹ / GOG kaka, SUK kaka / KIW a,c tama, b tamakere² / MAR a rur / BOA a ngusum / YAQ a rumb /

FHP WAR a meɾ- / b masi / c saɾe / GUS a ʌbe / b taga / c,d mat / e gɔbi, f kowi, g kowe / URU i tur, WAN d tul / a tange / e pawap / ERA e,f,g git / j saŋgʌn / WHF a sola, e sela, f hala, h-j sele / d madzi, g mondzi, EHF h mɔdzɔ, j mɔdzi / WHF k,l sabʌl, EHF seber / WHF m,n hɔk, o-q sak, EHF b sohoʔ, c sofoʔ, d sɔkɔ, e saaʔ, f,g sahaʔ, h saklʔ / KOV siŋlo /

Hypothesis:

There is one interphylic series of cognates (I).

Comment: The linking of the CSNG and the FIN forms is based on the assumption that the BED forms are the most archaic. There is an obvious link with words meaning *tree* in the FIN and GOL languages. The BED b form kɔɔɔfu means *bark*, *skin* being sibi. One may suspect that the BED forms kɔɔɔfu and kadofo correspond to GOL kal-pʰoga and are therefore old compounds. This would imply that the FIN forms are old compounds as well. The ERA forms allow one to construct the formula *gʌrʌ-pik or *gʌrʌp-pik as their protoform. The protoform *pik would then be cognate with GOL pʰoga, and possibly with the ASK forms (pikiri etc.). The matter needs further investigation.

Notes: 1. *body hair*.

2. Probable cognates of BIN e tamo *skin*.

14. *Nose*

<u>CSNG</u>			<u>FIN</u>	
ASK: a	<u>mirimu</u>	Ix	GUS: e	umu
b	<u>mimake</u>	Ia	f	umi
c	mi	I	g	omu
OK: a	<u>kinin̄kono</u>	} IIb	URU: a	kuruk
b,d	<u>kirin̄kono</u>		b	kurək
c	<u>minukoo</u>		c-f	taman
f-i	<u>mutuum</u>	Ib	g	tanma
APA: a	koe	} II	h	tamar
b	kene		i	tanma
BED: a,d	mi	} I	j	tamna
b,c	mini		YUP: a	tomno
			b	tomoni
<u>GOG</u>			c	tamo
GOG:	mina		d	tama
SUK:	<u>umuku</u>	Ib	ERA: a	timi
<u>MAR</u>			g	time
YAQ: a	<u>tamaŋk</u>	Ix	i,j	time
			h	tima
			d	tama
			c	dama
			k	mimine
			b	kinin̄

Additional:

I - ASK a miriti *top of nose*, c minkum *snout*OK a muu-tem *nostril*, b mutu-tem *nostril*GOG umina *buttrass*SEN a bæ *face*I - RCS tumu, tumo *nose*MAD no, nome, numu *nose*BIN a,b beno, c heno, d mena, e,j,k,l,o mendo, f bende, g mbende, h,m mende, i bende *nose*; e mendo-to *nostril*

Residue:

CSNGP AWY a,b si, c sinto, d sipayo / e toŋgut / f ambo-top / FAS sape / KIW a,c wodi / b sarugo / MAR a aŋgip / BOA a keso /FHP WAR b sagan, c sege, GUS a tegai, WHF d sagari, e soŋore, f hoŋore, g soŋore, i saŋaŋa, j saŋaŋa, k saŋaŋa, l siraya,

o sληγαν, q siηγεη, EHF a segela, b sogo, c soηke, f,i,j soge,
g sōke?, h hōgi / d tino, e tina? / KOV samo / GUS b ora, c,d
ura / WAN a nom, b-e inam, g inami, f enyamyi / ERA e ηandon,
f ηamda, WHF h nendu / a sot / m,n hōme / p ηeη /

Hypothesis:

There are two interphylic series of cognates (I, II), the members of which occur either as free forms or as the first constituents of compounds. The second constituent in these compounds is a morpheme meaning *fruit* (a; see *eye*, no.5) or *bone* (b; see no.2). The constituents marked x could not be identified.

The forms of series II are probable Austronesian loans (from PAN *ʔituŋ).

Comment: The equation of forms like *miri* with those like *taman* may seem far-fetched; still, they all seem derivable from a protoform *tVmVdV (the quality of the vowels is left undecided). The following chart clarifies the formal relations between the forms of series I. An example may show how the chart is to be read:

*	t	V ₁	m	V ₂	d	V ₃
ASK	-	-	m	i	r,-	i,-

that is: within the ASK family none of the available data showed a reflex from *t or *V₁; all the data showed a reflex m from *m and a reflex i from *V₂; part of the data showed a reflex r from *d, the rest showed no reflex of *d; likewise, part of the data showed a reflex i from V₃, the rest showed no reflex.

Protoform: t	V ₁	m	V ₂	d	V ₃
ASK	-	-	m	i	r,- i,-
OK	-	-	m	i,u	n,t u,uu
BED	-	-	m	i	n,- i,-
GOG	-	u,-	m	i,u	n,- a,-
YAQ	t	a	m	a	ŋ(k)
GUS	-	u,o	m	i,u	- -
URU	t	a,^	m	a,-	n,r a,-
YUP	t	o,a	m	o,^,-	n,- i,o,-
ERA	t,d	i,a	m	i,e,ε,a	n,- ε,-
BIN	-	-	mb,m b,b,h	e	n,nd e,o

15. *Spittle*

<u>CSNG</u>			<u>FIN</u>			
ASK: a	<u>matao</u>	}	GUS: e	<u>tuto</u>	}	
b	<u>mahapi</u>		f	<u>tutowu</u>		
c	<u>mese</u>		URU: a,b	<u>alup</u>		} xI
AWY: c	<u>mase</u>	c	<u>ilup</u>			
a	<u>xate</u>	}	d-f	<u>orup</u>	} xIc	
b	<u>xatipa</u>		g	<u>yiup</u>		
d	<u>xasi</u>		h	<u>irup</u>		
e,f	<u>katet</u>		i	<u>oidzɬpmiak</u>		
BED: d	<u>tefo</u>	I	YUP: b	<u>ulup</u>	xI	
OK: a	<u>pʌmok</u>	}	c	<u>rup</u>	}	
b,d	<u>kamok</u>		xII	d		<u>tibwat</u>
f,g	<u>mook</u>			WAN: g		<u>iwit</u>
BED: a	<u>mahāũ</u>	}	ERA: j	<u>iwit</u>	}	
b	<u>mākũ</u>		II	b		<u>wiik</u>
c	<u>mākõũ</u>			a		<u>dep</u>
<u>MAR</u>			d	<u>dzeep</u>		
MAR: a	<u>kase</u>	xI	e	<u>dip</u>		
			f	<u>deɬp</u>		
			<u>HUP</u>			
			WHF: d	<u>sawat</u>	}	
			f,g	<u>nepa</u>		
			j	<u>sɨɨt</u>		
			k	<u>sʌbat</u>		
			l	<u>sɨfɛ?</u>		
			m	<u>towut</u>		
			n	<u>top</u>		
			o	<u>tʌp</u>		
			p	<u>dzawak</u>		
			q	<u>dzupati</u>		
			EHF: a-c	<u>sofo?</u>		
			d	<u>soo?</u>		
			e	<u>tofa?</u>		
			f	<u>tufa?</u>		
			g	<u>tofe?</u>		
			h	<u>tofa?</u>		
			i,j	<u>tifa?</u>		
			<u>FIN</u>			
			GUS: g	<u>muke</u>	II	

Additional:

I - BIN kosiwa

II - RCS muke, mokuo, muku**Residue:**CSNGP APA b t̄er̄ege / KIW a gereduru / BOA a ŋgefəŋq / YAQ a dak /

FHP WAR a motim / b min̄pu, mūpo¹ / GUS a mort̄at / b asume, d asuma /
 URU j kaȳak kaȳak¹ / YUP a motsok¹, ERA j matuk¹, k maluluk¹,
 h,i maruruk¹, g merit / WHF a,e mekat / h sulaa' / i sugut /
 KOV anuŋ /

Hypothesis:

There are two interphylic series of cognates (I, II), the members of which occur as free forms or as the second constituents in compounds. In ASK and AWY, the first constituent is a morpheme meaning *mouth* (see no.9). The identity of the first constituent in the other compounds could not be ascertained. The last constituent in URU i means *water* (see no.41).

Comment: The protoform of I probably contained a final alveodental or alveopalatal stop which dropped out in most languages. AWY e,f -tet would then have lost the intervocalic labial consonant, but would have retained the final consonant.

Note: 1. These forms are probably old compounds, the second constituent of which (pu, po, ok, uk, ak) is a morpheme meaning *water* (see no.41).

16. Tongue

<u>CSNG</u>				<u>FIN</u>		
ASK: a	mare	I	WAR: a	mele	} I	
b	omane		c	mole-		
c	komen	xI	GUS: a	mɔpli	} I II	
AWY: a-d	fage	} II	b	nebli		
OK: a,b	oŋ		c	melepi-		
c	hoŋ		f	mipi		
f,i	foŋ		g	meɸu		
g	filaŋ		URU: c	mombir	} I II	
h	falaŋ	d	mopir			
BED: b	meremai	e	mɔlwin			
<u>GOG</u>		f	mɔpir			
GOG:	melepila	g	motbin			
		h	motbir			
		i	mɔlbin			
		j	mɛmbi			
		YUP: a	meɸ-	} I		
		b	mel			
		WAN: d	mɔmbilɔ	} I II		
		f	mebet-			
		g	member			
		ERA: a	mimbeaŋ			
		b	mɔmbem			
		c	mimbi			
		d	mambem			
		e	mɛmbim			
		f	mɛmbem			
		g	mambam			
		h	mabilak			
		i	mɛmben			
		j	mamben			
		k	mɔbim			
		<u>HUP</u>		} IIa		
		WHF: a	belakam-			
		d	balakam-			

	e	<u>neberam</u>	} bII
	f	<u>nembalam</u>	
	g	<u>nembelam</u>	
	n	<u>nimbilam</u>	
	o	<u>nembilam</u>	
	p	<u>nambalam</u>	
	q	<u>nambalaŋ</u>	} II
EHF: b		belu	
c		beli, bori	
d		bero	
e-g		<u>nameŋ</u>	
h-j		<u>namaŋ</u>	

Additional:

I - ASK c men *edge, point, rim*

II - WHF d, e bolam, f balam, l b+laŋ *flame*

EHF a boraŋ, d berɔ, e-h boraŋ, i boraŋ *flame*

RAM Kalaŋ memraŋ

MAD peria, milalu

Residue:

CSNGP AWY e ongat / f anop / APA a ti:, b te / BED a i, c iri, d eri,
FAS aru / BED e san / KIW a-c wototorope / SUK kanka / MAR a
unom, YAQ a inem / BOA a nasam /

FHP WAR b minŋa, YUP c miŋan, d mien / GUS a topʌ / URU a, b elak /
WAN a, b yambi, c yambina / e memsae / WHF h neselaŋ, i, j neselam,
k etselam, l etselaŋ, EHF a nedzeraŋ / m elewet / KOV biŋlo /

Hypothesis:

There are two interphylic series of cognates (I, II), the members of which occur as free forms or as constituents in compounds. Some of these compounds contain a member of each series. Members of series I also occur compounded with morphemes meaning *sprout* (a) or *eat* (b).

Comment: Series I includes forms meaning *edge, rim, tooth* (see no.17). Members of series II occur as free forms with the meaning *flame* in EHF languages.

The second constituent in the WHF a, d forms (kam) is probably related to the word meaning *sprout* in other languages of the same family: n kom, f kom, a, b, c kpom.

The first constituent in WHF e-q probably is the verb root *nV- *to eat* (see no.49).

17. *Tooth*

<u>CSNG</u>			<u>FIN</u>			
ASK: a	titi	}	I	WAR: a	men	}
b	hi			b	mi	
c	sis			c	mai	
OK: a	<u>niŋ</u> ambo		IIx	GUS: a	matai	
b	<u>niyik</u> ondo		IIa	b	mati	
c	niŋi	}	II	c	maati	
e	niŋ			d	masi	
g	ŋiŋ			e	meto	
i	ŋiŋ			f	miti	
APA: a	phete	}	III	g	meto	
b	pere, mare			URU: a,b	matap	
BED: a,b	mɔyɔ			c	man	
d	pɛsɛ		d,e,h	mar		
e	pes		f	maar		
<u>GOG</u>			g	man		
GOG:	poso		j	gʌɛn		
			YUP: a,b	gen	}	II
			c	ŋgena		
			e	ŋgen		
			WAN: a	mai	}	III
			b	maha		
			f	mendaun		
			g	men		
			ERA: a,b	mi	}	III
			c,e,f	me		
			d	mʌye		
			i,j	me		
			k	ma		
			<u>HUP</u>		}	xI
			WHF: a	ŋɛt		
			d	<u>ŋɛsar</u>		
			e	<u>ɛzɛt</u>		
			g	<u>ɛzɛt</u>		

	f,p	dzət	} I
	h	dzot	
	i,j	dzit	
	k	dzit	
	l	dzɪr	
	m	dot	
	n,o	sot	
	q	dzʌt	
	KOV:	dzɔŋɔ	
	EHF: b,e-j	mi?	
	c	mu?	

Additional:

I - OK g tit *support of bridge*

ASK c sis *support of house; men edge, point*

BIN a-e,k,o di; f-l,m ti, l diaka; n dika

II - ENHS: Duna nee

Residue:

CSNGP AWY a,c,d maga, MAR a mangat, YAQ a manger (see *mouth* no.9) /
AWY b tare / e imban / f inim / OK h kail / KIW a,c iawa / b
ibupoka / SUK tamki /

FHP YUP c duun / d mipm / WAN c nzolik / ERA g,h maŋ (see no.9) /
EHF a ena? / d kon /

Hypothesis:

There are three interphylic series of cognates (I, II, III). In the OK languages, forms of II occur combined with a morpheme meaning *bone* (a) or an unidentified element (x). Also the first element in WHF a,d,e could not be identified.

Comment: The ERA, WAN and EHF forms also mean *mouth* (see no.9, series III). It should be noted that the forms in series I probably link with the WHF and EHF forms meaning *bone* (see no.2). The semantic link would be *support*, since the semantic combinations *tooth/support* and *bone/support* have both been found.

18. *Urine*

<u>CSNG</u>			<u>FIN</u>						
ASK: a	yi	}	I	GUS: e	sondo	}	I		
c	i, yi		}	Ia	b		<u>pusi</u>	}	
b	<u>itake</u>				g		<u>usore</u>		
AWY: e	<u>erok</u>	}	Ia	URU: a	iat	}	x ₁ I		
f	<u>yerok</u>			b	<u>hiat</u>				
a	yiti	}	I	c	<u>fie</u>				
b	yitu			d	<u>hiet</u>				
c	yi			e	<u>huyet</u>				
d	isi			f	<u>fie?</u>				
OK: a,b,d	<u>yumun</u>	}	Ib	g	<u>piat</u>				
e,h	<u>iman</u>			h	<u>fiet</u>				
f,g	<u>imaan</u>			i	<u>piar</u>				
h	<u>yeman</u>			j	<u>piut</u>				
APA: a	ute	}	I	YUP: a	sit	}	I		
b	uri			b	<u>pusit</u>				
BED: b	ār			c,d	<u>piit</u>				
				WAN: c	<u>piat</u>				
				ERA: b	<u>fifi?</u>	}	x ₁ I		
				c	<u>fiat</u>				
				d	<u>piar</u>				
				e,g,k	<u>fiet</u>				
				f	<u>fiar</u>				
				j	<u>pia</u>				
				<u>HUP</u>					
				WHF: a	<u>woi</u>	}	x ₂ I		
				d	<u>wadzi</u>				
				l	<u>pusa?</u>				
				e	<u>sazo</u>				
				f	<u>hazi</u>				
				h-k	<u>tasi</u>				
				n	<u>asi</u>				
				g,p,q	<u>sandi</u>	}	I		
				o	<u>sanda</u>				
				m	<u>suluk</u>		Ia		
				EHF: a	<u>fusa?</u>	}	x ₁ I		
				b	<u>fodzi</u>				
				c	<u>fonti?</u>				
				d	<u>fidi</u>				
				e-j	<u>fodzi</u>				
				KOV:	<u>sulo</u>		Ia		

Additional:

I - BIN a susu¹; KAN yerka; KIM c yan

xa - WAN c piok; ERA a fe λ k, i piaŋ

I - ASK c (central dialect) ii zi- *urinate*

I - EHF e-j fâdzi dzi-; d fidzi dzi-; WHF f hazi-, p sandi tasandi,
urinate

Residue:

CSNGP OK c namun / BED d bãyã / SUK guni / KIW a ono / MAR a kono, YAQ
a qoto / BOA a ŋqaia /

FHP WAR c puem / GUS a witwit /

Hypothesis:

There is one interphylic series of cognates (I), the members of which occur as free forms or as constituents of compounds. In ASK b, AWY e,f, WHF m, and KOV, they are combined with a morpheme meaning *water* (see no.41, series II). The second constituent in the OK forms may link with series IV of the words meaning *water*. The meaning of the first constituent in the FIN and HUP compounds could not be ascertained.

Comment: The morphemic status of x_1 is shown by the words in WAN c, ERA a,i (additional forms), in which this element appears in combination with a morpheme meaning *water* (ok, λ k, aŋ).

Note: 1. BIN a susu either links with x_2 I or is a reduplicated form of I. It is unlikely that it would be an Austronesian loan (from PAN *t'ut'u, *milk, breast*).

19. Name

<u>CSNG</u>			<u>FIN</u>	
ASK: a	u	} I	WAR: b	ΛwΛnum
b	iwahe		GUS: a	wΛnΛ
c	yuwus, yuwas, zoas		b,d	waw
			e	obi
AWY: a-d	fi		f	owe
e	üp		g	owɔ
f	ip			
OK: f,h	win	} II	WAN: f,g	wop
g	un, win		ERA: b	wΛp
i	wiin		d	wɔp
			e	wup
			f	yip
			g,k	wow
			URU: a	hut
			b	kut
			<u>HUP</u>	
			WHF: e	kpet
			f	kpot
			g	kpor
			h,k	kpat
			i,j	kpet
			l	kpar
			m,q	kɔt
			n,o	kut
			p	kwit
			EHF: a	kpar

Additional:

I - SHF a yufat, b ovas, c wufa; ENHS (Kewa) bi, ibi

SEN do, BIN a dzadzo, b yadzo, e dao, dou

ASK c yipi *vital spirits*; yipir *shadow, soul*

II - MOM ur; RCS weni, wenim; MAD wen, veni, wani

Residue:

CSNGP OK a aningo, b anyingo, d aniŋko / c duno / APA a,b hi, BED a-c
hū / d diš / GOG gagi / SUK yaka / KIW a,c paina, b masira /

FHP WAR a maŋgi, c mæna, URU c,e-g,j man, d maan, h manug, YUP a maŋ, b mai, c,d man, WAN a,c uman, b uman, d manʌ, ERA j mane / URU i gin, WAN a ngen / ERA a utaŋ, c witaŋ / h kikiu / i koi / WHF a eŋet, d aŋara / EHF b dzonɔ, c done, d dzeŋe, e dzeŋo, f dzĩŋo, g dzonɛ, h dzonɔ, i,j dzina /

Hypothesis:

There are two interphylic series of cognates (I, II).

Comment: The inclusion of such formally divergent forms as yuwus, kpat, wup, and dou in one series rests upon the following considerations: When we find y- corresponding with z- in Asmat dialects, the proto-sound probably was *C- (see items 18, 30, 44, 51 for ASK c y-, z- from possible *C-).

When Asmat s corresponds to Sempan h, the Kamoro correspondence is always t, and the established protosound is *t. In this case no Kamoro cognate is available, but it may be inferred that Asmat s, Sempan h are in this case also developments from *t.

If the SHF forms are really cognates of the Asmat forms, then the intervocalic consonant in the protoform would have been *p, since in all the better known languages of the CSNGP fricatives are either allophones of stops or probably have developed from stops.

There is evidence that *C- occurred in the immediate environment of high-front vowels (see no.4, note 2). The protoform may therefore be constructed as *Cipat.

There is evidence that the initial kp- in the HUP languages developed from kVp- by the loss of the first vowel (see nos.8, 42, 45). One can therefore posit a protoform *kVpVt from which kpat etc. developed.

The symbol *C- implies the occurrence of initial k in the daughter languages; therefore the protoform *kVpVt might very well link with *Cipat, and the possible protoform of the whole series would be *CipVt. Most of the members of series I can be accounted for by this protoform; exceptions are the forms with initial w. Either one may assume that the initial k in the k- series was labialized (wufa, from *kwupat, etc.) or one may assume that, preceding u the semivowel tends to become w by assimilation to u.

20. *Elder Brother*

<u>CSNG</u>			<u>FIN</u>		
OK: a	amba	} I	GUS: a	κκκλi	} II
b	ambaŋ		b,d	kak	
c	bap		e	λβλ,apa	
f	abaab		f	pa	} I
g	baab		g	pe	
h	baabnak		Ix		
<u>GOG</u>					
GOG: a	kaka	II	YUP: a	pe	
			b	pai	
			c	baŋλ	
			d	paamλ	
			WAN: a	paiye	} I
			b	paiyi	
			c	paa	
			<u>HUP</u>		
			EHF: b	kaka?	} II
			c	kake	
			f,g	haha?	
			h-j	kaka?	

Additional:

BED b babo, c ba:b *mother's brother*

Residue:

CSNGP ASK a poka, b pota, c epuč, epeč, OK e hek, f-i fik¹ / AWY a yaxe, b yaxo, d exo / c kapu / e anet, f net / APA a ŋgoe / b äyã, BED a,b äyã / c ẽẽ, d ore / e atλi / FAS mamania / SUK awagani / KIW a-c naramu dubu / b namu dubu / MAR a namek / BOA a za / YAQ a mön /

FHP WAR a tλte / b ληληλm, c anem / URU a,b tat, i,j dat, ERA g,h dar, i-k dal, WHF a,e tat, d ta, f,g tataŋ, h-k,p,q dat, l dar, n ata, o λtλ, EHF a dae / WAN e samin / f tuu, g towa, WHF m teu, ERA d towa / b gwiaŋ, c wiak, e kuyaŋ / f noru / EHF d kpamu / e oa / KOV a /

Hypothesis:

There are two interphylic series of cognates (I, II).

Comment: The element nak in OK h baabnak has not been identified. The forms in series II are suspected Austronesian loans (from PAN *kaka' *elder sister*).

Note: 1. These forms mean *his elder brother*; the corresponding forms listed in series I mean *my elder brother*.

21. *Elder Sister*

<u>CSNG</u>			<u>FIN</u>	
ASK: a	upuha	}	URU: c,f,g	na?
b	ipita		d,e	nat
c	epic		h	nut
AWY: a	ni	}	ERA: j	awit
b,e	neni		c	dinaibe?
f	nani		f	nanaebe
d	eni			
OK: a	oni	}	<u>HUP</u>	
c	onan		WHF: e	nein
g	unaŋ		f	nawen
<u>KIW</u>		}	g	nawil
KIW: a	abida		h,k,l	naoŋ
b	mabia		i,j	nen
c	mabira			
<u>MAR</u>		}	EHF: a	nawin
MAR: a	namuk			

Additional:

MOR nin, YEY nengoan, MKL ŋena

OK g nabinaŋ *my sister*OK e,f,i neŋ, g,h neeŋ *younger sister*

Residue:

CSNGP AWY c de / OK b ambaŋ / APA a poe, b pe / BED a,b ʒwɔ, c ʒw /
e sapalyo / GOG naya / SUK gai / BOA a zan / YAQ mun /

FHP WAR a walle / b bɔb / c oŋgɔp / GUS a usem / b,d upa / e kuɔ, f
kuwi, g kuwɔ / URU a mɔɔɔ, c mɔɔɔ / i ɣawim, j ɣawe, WAN d ɣɔpe,
a hɔmi, b hɔmi, c sɔmi, YUP b sami, EHF e ɣame / YUP a naŋ¹ / c
boi, d bei / WAN f wanat, wanɔr / ERA a ubeŋ susu? / b gwian
tamiŋ / d mɔk / e kuyaŋ lahep / g wiwi, h,k wi, i wiwu / WHF a
klari, d kerari / m,n tou / o pona / p ip, q lip / EHF b,c,f,g,i,
j seŋ / d kpae / KOV a /

Hypothesis:

There is one interphylic series of cognates (I).

Comment: It seems that many forms contain an old pronoun root n(V)-*ɔg*.; in KIW b,c the root is m(V)- (a). Note the similarity of OK g nabinaŋ and WHF g nawil, EHF nawin. The OK tern is redundant (Healey, 1962) and may therefore be an archaic form. Healey tentatively analyses the term as follows: n- *my* + ab (meaning?) + inaŋ *sister*. An alternative analysis would be: na- *my* + abinaŋ *sister*. The form abinaŋ would then correspond with WHF awil, awin, EHF awin, KIW abira, abia, abida, ASK epic, ipita, to mention the more obvious links with series I.

Note: 1. YUP a naŋ links with series I of cognates meaning *mother* (see no.22).

22. *Mother*

<u>CSNG</u>			<u>FIN</u>	
ASK: a	enea,	I	WAR: a,b	mo
	enae		c	mom
	enew		GUS: a	mam
OK: a	naŋ		b	maŋ
	enaŋ		d	na
	neŋ		e	name
	ena		f	nimi
APA: a	me		g	namo
	ama		URU: a,b	ma
BED: d	ame		c,d,f,g	ma?
	ama		e	meŋ
FAS:	ama		h	mioŋ
<u>GOG</u>			i	mii
SUK:	amu		YUP: a,b	meŋ
<u>KIW</u>			WAN: a,c	miŋ
KIW: a-c	maramu	b	miŋ	
		d	meŋ	
		f	meŋ	
		g	miŋ	
		ERA: a	miaŋ	
		b,d,f,i	meŋ	
		c	mi	
		e,g,h	miŋ	
		j	me	
		k	mī	
		<u>HUP</u>		
		WHF: a	naga	
		d	na	
		e-g	naŋ	
		h	namo	
		i	namŋi	
		j	namŋ	
		k	naŋgi	
		l	neŋgia	
		m	meme	
		n	momo	
		o-q	mam	
		EHF: a	noŋge?	
		b,c	neŋga?	
		d-h	neŋgo?	
		i,j	maŋgo?	

Additional:

I - SEN a nake

II - KIM a mamu, MOR mam, BIN a mia, SHF a mamɛmit, b maynja, c
thanmay, d may

Residue:

CSNGP ASK b wehe / AWY a,b wini, c ni, e now, f noi / d api / OK e
awok, f awook, g ook, i auk / BED a dua, b uya, c uí / GOG agl /
MAR a vu, BOA a vu, YAQ a vu /

FHP YUP c nuuna, d nuni / WAN e tenɣʌ /

Hypothesis:

There is one interphylic series of cognates (I).

Comment: Although all the forms of series I appear to link together, it is unclear in which way they link up. A possible development would be a protoform *naməŋ(i), leading to:

- a. namŋi, nangi, naŋ, etc.
- b. namʌn, namo, momo, amo, etc.
- c. mango, nengo, etc.

KIW a-c maramu would seem to contain the possessive pronoun root *ma-my* (compare *elder sister*, no.21).

It is possible that forms like mam, mamo developed independently from babytalk (*Lallwörter*).

23. I

<u>CSNG</u>			<u>FIN</u>	
ASK: a,b	noro		WAR: a	ne
c	no/nor ¹		b	na
AWY: a	no		c	na
b-d	nu		GUS: a,d	na
e	no		b	na ^w e
f	nu		e	no
OK: a-d,i	ne		f,g	no
e	ne/nere ¹		URU: a,b,i	na ^k
f	na/nila		c,d,f-h	no [?]
g,h	na/nala		g	na ^k
APA: a	no		j	na
b	no	I	YUP: a-c	na ^k
BED: a-c	ã		d	na
d	na		WAN: a,c,e	na
e	ne		f,g	na ^k
FAS: a	ano		ERA: a	no ^{go} ?
<u>GOG</u>			b	na ^{ga} /na
GOG: a	ne		c	na ^k
SUK: a	ne		d	na ^g
<u>MAR</u>			e,f,i,j	na ^k
MAR: a	na ^k		g	na
BOA: a	no		h	na/naga
YAQ: a	ano		k	no ^{go}
			<u>HUP</u>	
			WHF: a-d	na
			e,f	no
			g-l	na
			m,n	no
			o,q	na
			p	na ^g
			EHF: a	na
			b	na
			c	na ^{ne}
			d	na ^l
			e-g	no
			h	na ^g

¹ nor is the emphatic pronoun, nere, nila, and nala are emphatic pronoun roots.

Additional:

SEN da, EHS Kewa ni

BIN a-d,e,k,m,l na; a,b nane (emphatic)

SHF na, an, ?ani, ane; MAD da?, da**Residue:**CSNGP KIW a-c mo¹**Hypothesis:**

There is one interphylic series of cognates (I). The root underlying all the members of the series is nV- in which V may have been any vowel except a high-front vowel (compare *we*, no.24). All elements following this root in the present-day forms are, or were, separate morphemes.

Comment: In so far as these elements still function as morphemes they mark different degrees of emphasis or contrast, e.g.,

ASK c (Asmat): no non-emphatic
 nor emphatic; absolute form
 nam contrastive

BIN a (Suena): na non-emphatic
 (Wilson, 1969b) nane emphatic
 naka nane hyper-emphatic
 nama respectful

In a few languages (FAS, YAQ a, SHF) a vowel precedes what seems to be the root, but there is evidence that these forms have lost the initial consonant of the root (see *we*, no.24).

Note: 1. KIW mo possibly developed from *nVmo, compare FAS ano (from *nano ?) I subject; nomo I object.

24. *We (plural)*

<u>CSNG</u>			<u>FIN</u>	
ASK: a	nare	I	WAR: a	nu
b	naro		b	nΛ
c	na/nar ¹		c	ne
OK: a	nup		GUS: a,b	ni
b	nub		d	nε
c	nii		g	no
e	ni/niri ¹		URU: a,b	nΛ
f	nu		c-h	no
g,h	nu/nulu ¹		i,j	ni
i	nuu		YUP: a-d	ni
APA: b	ni		WAN: a,c,e-g	ni
BED: d	nini		ERA: a,c-f,j,i	ni
e	niyo		b,g,k	in
<u>KIW</u>				I
KIW: a-c	nimo	<u>HUP</u>		
<u>MAR</u>		WHF: a-c	ne	
MAR: a	nok	d	i	
BOA: a	ni	e-g,m-o	ne	
YAQ: a	indok	h	no	
		i-l,p,q	ni	
		EHF: a,d,e	ne	
		b,c	no	
		f	ni/no ²	
		g,h	no	
		i,j	ni/no ²	

¹ the first form is the non-emphatic pronoun root, the second is the emphatic pronoun root.

² inclusive/exclusive distinction.

Additional:

MOM num, KAN ni, MOR nie, KIM a-c ni

BIN a nakare, b nae, c nage, d nati, m nako, l namane

Orokaiva: nanngo

SHF nAm, d nAmo

Residue:

CSNGP .AWY a nogo, b,c nugu, d nügu, e nongü, f nanggu¹ / BED a cy, b aye, c ay / FAS isi, GOG se / SUK e /

Hypothesis:

There is one interphylic series of cognates (I).

The root underlying all the forms of the series is nV- in which V probably was a high-front vowel. The ERA forms with initial vowel seem to have lost the initial n of the root. The same may have happened in YAQ a: we indok, from *nindok parallel to I ano from *nano(k). For the elements following the root see I, no.23.

Comment: In the FHP languages, non-singular number is divided into dual and plural number by the addition of a dental/alveolar or velar obstruent and a dental/alveolar or velar nasal respectively. These suffixes have been omitted in the data listed here.

Note: 1. The Awyu forms have not been included in series I since the root in these forms is identical with the root of the singular forms. In the Awyu languages the plural is formed by affixing a pluralizing suffix.

25. You

<u>CSNG</u>			<u>FIN</u>	
ASK: a,b	oro		WAR: a	ge
c	o/or ¹		b	ga
AWY: a	go		c	ga
b-d	gu		GUS: a	ga
e	ngo		b	ga ^w e
f	ngu		d	ka
OK: a	tep ²		e	ge
b	ep		f,g	ke
c	kep		URU: a,i	ga ^k k
e	kep/kerep ¹		b	ka ^k k
f	kab/kal ^t ab	I	c,d,f-h	go?
g	kab/kalab		e	ga ^k k
h,i	kab		j	ga
APA: a,b	go		YUP: a-c	gak
BED: e	ge		d	ga
<u>KIW</u>			WAN: a,c,e	ga ^w
KIW: a,c	ro		f	ga ^w k
b	arapu		g	ga ^k k
<u>MAR</u>			ERA: a	gogo?
MAR: a	og		b	gu
BOA: a	go		c	ga ^k k
YAQ: a	aq		d-f,h	ga ^k k
			<u>HUP</u>	
			WHF: a-d	ge
			e	go
			f	gogo
			g-l	gi
			m-o	go
			p	ga ^w
			q	ga
			EHF: a	ge
			b-d	ga
			e-j	go
			KOV:	gok

¹ the first form is non-emphatic, the second emphatic

² = you (male person) in OK a-i

Additional:

EHS Duna ɔ, KIM a ungu, b ŋgö, c ɣe, MOR ka

OK a tup, b,c kup, e op/orop, f kub/kultub, g kub/kulub, h kub, i ku
you (female person)

ASK c orap *you alone, only you*

Residue:

CSNGP . BED a-c n̄s / d ti / FAS ne / GOG ε, SUK e /

FHP ERA g du, i,j dAk, k do /

Hypothesis:

There is one interphylic series of cognates (I). The root underlying all the members of this series is *gV- or *kV- in which the vowel may have been any vowel except a high-front vowel.

Comment: The initial consonant has been dropped in ASK, OK e (*female series*) and possibly also in MAR a and YAQ a. For the elements following the root, see I, no.23. OK a tep is assumed to have developed from *kep.

26. *You (plural)*

<u>CSNG</u>			<u>FIN</u>	
ASK: a	kare	}	WAR: b	ti
b	taro		c	te
c	ca/car ¹		GUS: a	di
OK: a	tip		b	yi
b	kip,yip		d	ye
c	dip		f,g	ye
f	ip/irip ¹		URU: a,b	sΛ
g	ib		c,f,h	so
h	ib/ilib ¹		d,e	ho
i	ib		g	so
APA: b	gi		i	si
BED: b	ni		j	dzi
c	nie		YUP: a,d	dzi
d	tiri		b	zi
e	giyo		WAN: a,c	gi
FAS:	re	e	dzi	
<u>KIW</u>		f	si	
KIW: a-c	nigo	g	i	
<u>GOG</u>		ERA: a,b,d-f,	si	
GOG:	de	i-k	he	
SUK:	de	g	he	
<u>MAR</u>		i	hi	
BOA: a	zu	<u>HUP</u>		
		WHF: a-c	ŋi	
		d	ŋe	
		e,m,n	ye	
		f,g	e	
		i-l,p	i	
		q	li	
		o	ze	

¹ the first form is non-emphatic, the second emphatic

Additional:

MOR kie, KIM a iŋgi, c ki, b ntjö

BIN c nige, k,m iŋgo

Residue:

CSNGP AWY a gogo, b,c gugu, d gügu, e nengi, f ŋgaŋgu¹ / MAR a eoh,
YAQ a aeok² /

FHP WAR a duŋtu-muŋ / GUS e ene / EHF a,b ŋe, c ŋa, d-j ŋo, KOV
ŋo

Hypothesis:

There is one interphylic series of cognates (I). The root underlying the forms of series I is *gV- or *kV- in which the vowel probably was a high-front vowel. For the elements following the root, see I, no.23.

Comment: In the FHP languages, non-singular number is divided into dual and plural number by the addition of suffixes containing a dental/alveolar or velar obstruent and a dental/alveolar or velar nasal respectively. These suffixes have been omitted in the data listed here. The high-front vowel is assumed to have caused the development of initial *k or *g to consonants of the (alveo)dental series in many of the present-day languages. In a number of languages (OK f-i, WAN i, WHF f,g,i-l,p) the initial consonant of the root has disappeared.

Notes: 1. The Awyu forms have not been included in series I since the root in these forms is identical with the root of the singular forms. In the Awyu languages the plural is formed by affixing a pluralizing suffix.

2. The MAR and YAQ forms possibly link with series I.

27. He

<u>CSNG</u>			<u>FIN</u>		
ASK: a	are	I	WAR: c	yen	I
b	aro		URU: c,f,h	yu	
c	a/ar ¹		g	yo	
AWY: a-e	e		j	eɬk	II
f	ye		i	e	
OK: a,b	ye		YUP: c	no	I
e	e/ere ¹		d	nu	
f	a/ala ¹		WAN: a,c,e-g	u	
g	i/ila ¹		ERA: a	ado	I
h	a		k	ada	
i	e	b,c,f,g	adi		
APA: b	yo	h	ande		
BED: a,b	yə	e	ɲandik		
c	yɔ	d	in		
d	ya,e	i,j	en		
e	e				
<u>GOG</u>		II	<u>HUP</u>		
GOG:	oba		WHF: a-c	eŋe	I
SUK:	u,ub		d	yaŋa	
<u>KIW</u>		e,g	yok		
KIW: a,c	nou	f	yogo		
b	nuabu	m,n	ɔk		
		o	zɔk		
		p	ɬk		
		q	lɬ		
		h	e		
		i-l	i		
		EHF: c,e-g	e		
		d	oe		
		a	ye		
		b	eŋe		
		i,j	iŋo		
		h	yoŋa		

¹ non-emphatic/emphatic

Additional:

II - BIN a-d, l nu, k, m umo, e awa, owa

I - OK a, b yu, e o, oro, f, g u, ulu she

ASK c a, ar *this e*, er *that, there (in the distance)*, ya, yaka
there (near you)

BIN 1 {
emo *he, this (near me)*, amo *he, that (near you)*, omo *he,*
that *(yonder)*, eremo *this (emphatic)*, aramo *that (near you,*
emphatic), oromo *that yonder (emphatic)*

Residue:

CSNGP MAR a anep, YAQ a arep / BOA a ndene /

FHP WAR a ow / b go / GUS a iŋ / b ŋatʌ / d aiŋo / URU a, b wa, d, e
woroʔ, ERA f wʌ / YUP a, b uŋun /

Hypothesis:

There are two interphylic series of cognates (I, II).

The root underlying the forms of series I is yV, in which V stands for a non-high-front vowel. For the elements following the root, see I, no.23.

Comment: It is unclear whether or not there is any connection between series I and series II.

In at least a number of languages there is a close connection between - if not identity of - the 3sg. pronoun and demonstrative pronouns as is shown in the additional data. The Asmat form yaka seems to link with the forms yok, yogo etc. in the WHF languages.

Additional:

SEN a mi; MAD mi, mei; ADR iman, eman, ñima, n+maŋ, im+

BIN a dzimi; SHF namo, namis, namu, neme

Residue:

CSNGP ASK c wombak / AWY a go, b gu, c,d aŋgu, e,f ŋgut / APA a
huɔle / b ɔ, BED b ɔw / e tekeape / SUK daka, MAR a mbamb /
BOA wuŋg /

FHP YUP a iyet, b,c iat, d ayet / ERA d sawan / e sɔgum, f sɔguməŋ /
KOV apalau /

Hypothesis:

There is one interphylic series of cognates (I). Members of this series occur as the second constituents in compounds in URU b and WAN a. The first constituent has tentatively been identified as a morpheme meaning *head* (see no.8).

Comment: Related forms are also found in a number of Melanesian languages along the coast of south-east New Guinea (tuma, tumani, see Ray, 1907). The series does not seem to be of Austronesian origin.

29. *Wing*

<u>CSNG</u>			<u>FIN</u>	
AWY: e	mborō	} I	WAR: a	pur
f	mburui		b	pay
OK: e,i	per		c	per
f-h	bal		GUS: a	warɛm
a	mburu		b,d,e	wiri
b	<u>purukap</u>	Ia	f	wire
<u>GOG</u>			URU: a,b	hit
GOG:	ita	} I	c	fo?
SUK:	iti		d,f,g	fot
			e	hot
			h	fit
			i	pir
			j	pit-
			YUP: b	par
			d	pil
			WAN: a,g	pir
			b,d-f	pil
			c	piʌ
			ERA: a,b,c	fir
			d	pir
			e,f	fur
			g	papal
			h	papar
			i	papau
			j	papao
			k	pʌpal
			KOV:	bala

Additional:

BIN b,c wati

to fly: ASK c pi, AWY a boro, b buru, c busũ, OK a.won wene

Residue:

CSNGP ASK a yaru, c yoro / b opo / AWY a yaxa-boge, b yaga-begi / c ba / d tefio / APA b ditere, BED e tltiare / b arafə-gibi, c ara:f-gib / d augia, FAS auwa / KIW a tamu / MAR a tah, BOA a taf / YAQ a yakuwi /

FHP YUP a pəpəp, WHF p pəp / YUP c sabə / WHF a,e kplmgim, d kpimdim, f kpingalap, g kpingim, h enğaŋ, i giŋga, j kpeŋgam, l kpeŋgaŋ, m pingim, n,o peŋgam, q poŋom, EHF a kpeŋgaŋ, b kpegeʔ, c kpageʔ, d fəge, e,f fagaʔ, g fakeʔ / h-j toʔ /

Hypothesis:

There is one interphylic series of cognates (I).

Comment: In OK b, a member of this series occurs as the first constituent in a compound. The second constituent probably denotes the upper part of a limb as shown by OK b ben kop *upper arm*.

The members of this series are cognate with the members of series I of *arm, forearm* (see no.1).

30. *Ashes*

<u>CSNG</u>			<u>FIN</u>		
ASK: a	eao	I	WAR: b	nAbA	I
c	yowomic, zoomit	} Ix	GUS: a	denAbA	} bI
AWY: e	kotep	} aI	c	tanapa	
f	kosep		d	sinap	
OK: e-g	kutab		e,g	nembo	
h	kutub		f,g	nombo	
i	kuteeb		<u>HUP</u>		
APA: a	tiwe	I	WHF: b	dzepe	} I
BED: a	dasu	} bI	c	dzepe	
b,d	dasubu		d	dziu	
c	dasuf		h	too?	
FAS:	ko	a	KOV:	tep	
<u>GOG</u>			EHF: a,b	defe	
GOG:	ukuru	aI	c	dape	
SUK:	irsi	cI	d	dzoef	
<u>KIW</u>			e	dzofa	
KIW: a	tuwo	I	g	dzafe	

Additional:

- I - OK g a-tib, i uk-tem, kip *white ashes*; BED d dem, KIW a-c tema, FAS katema *smoke*, MOM timbwo *ashes*, ASK c *yowse fireplace* (se mud)
- a - GOL a,b uk *fire*
- b - BED a dow, b dorɔ, c dau, d daru, e de, GUS a dit, c thlte, d thl *fire*, see no.33.
- c - GOG ila, KIW a,c era, b kera *fire*
- I - BIN a-c,e abɛtu, f abisa, h amlsa *ashes*¹

Residue:

CSNGP ASK b yuhawa² / AWY a senagoto, b slnaro, d sinako / c taki / OK a itpot, b alpo / APA b unekame / KIW b tonobere, c kunaro / MAR a gum / BOA a poqaq / YAQ a pop /

FHP WAR a εραρ-μερ, c μαρ, WAN c miup, URU g upmop / a kuβl, b kuhi / c,f φοη, ERA f kafuruη, g kudufuruη, h furuη, k kundufuruη, WAN b ρολιη / URU d,e it / h isi? / i κλιρ / j kokot, WAN d,f,g kut, ERA d kot / YUP a αβlak, c κlak, d κλrak, e kweλk, ERA i kwλloη, j koloη / WAN a yuwit / e munuk / ERA a konombοη, b kunλmbλη, c κλnumbοη, e nλmbum / WHF a,e-g,i, j,m kau, n kou, o κλυ, p κo, q ko / k κλμα, l homa, EHF f hīmō, h-j κome /

Hypothesis:

There is one interphylic series of cognates (I), the members of which often occur as the second constituents in compounds. The first constituent in these cases seems to be a morpheme meaning *fire*. There are three series of morphemes meaning *fire*, (a, b, c) of which at least (b) is interphylic (see *fire*, no.33).

The morphemes of series I are related to morphemes meaning *smoke* in BED d, FAS, and KIW a-c.

Notes: 1. The first constituent in the BIN forms for *ashes* is related to the first constituent in BIN l 'aba-raka *fire* and YUP a αβ-lak *ashes*.
2. ASK b yuhawa contains a root yuha which corresponds with ASK c yis *firewood*. The formal similarity to ASK c yowo seems therefore to be accidental.

31. *Rain*

<u>CSNG</u>			<u>FIN</u>		
OK: e	sok	} I	GUS: e	yango	III
i	suuk		a-c	'wai	} II
f	woom	} II	URU: d,e	bip	
g	weeb		c	<u>komo?</u>	
h	waib		f-h	<u>komu?</u>	
APA: a	'wac		j	<u>kamok</u>	
BED: a	'hūṛ	} III	YUP: a	<u>sakok</u>	Ia
b	'hū		ERA: b	<u>gimak</u>	IVa
<u>GOG</u>		} IV	a	wii?	} III
GOG:	gui		f	gii	
SUK:	goama		g,h,i,k	gwi	
<u>MAR</u>		} III	<u>HUP</u>		} III
MAR: a	xe,hei		WHF: a	koya	
BOA: a	gae,gaia		i,j	kie	
			k,l	kia	
			EHF: a	kia	
			c	hae	
			d	kio	
			e	ɔyɔ	
			g	hoe	
			h	koe	
			i,j	kue	

NOTE: Forms marked ' also mean *water*

Additional:

BIN a-f wa, g-i,k,m ga

Melanesian languages of the Huon Peninsula: III - kut, kuya, kui, ki?, yan, from PAN *?ut'an, *rain*; IVa - kamiək, amik

Residue:

CSNGP ASK a kee¹ / b,c te / AWY a,b,d a, c aa / e murup, f mirip /
 OK a,b,d am / APA b ɔmɔɛ / BED d kibu / e hano / FAS yao / KIW
 a wiawia, b wisare, c wihare / YAQ a aqaid /

FHP WAR a agλ, b agu / c a / GUS d tupuη / f,g sono / URU a ɔle,
 b λle / i nebil / YUP b suwa, WAN a hopλ, b hopɔ, c sopλ / URU
 c peen / d tupuλ / WAN d mbukηλ / e pimasλ / f,g iwλn, ERA d
 iwλn / c guri / e naηgi / j kan / WHF d sakorop / e mɛrɛm / f
 ongat / g,ɔ,p map, q ma, EHF maʔ / WHF h koη / m tɔnɔk / n
 gelok / EHF f hɔwɔ / KOV ait /

Hypothesis:

There are four interphylic series of cognates (I, II, III, IV). Members of I and IV occur as the first constituents in compounds. The second constituent in these compounds, (a), is an old morpheme meaning *water* (see no.41). The members of series III are suspected Austronesian loans, from PAN *ʔut'an, *rain*.

Comment: SUK a goama may perhaps have developed from *goamak (IVa).

Note: 1. ASK a kee does not link with series III, as one would expect. Dialectical forms in Kamoro show that kee developed from an earlier *kebe, perhaps related to BED d kibu

32. Road

<u>CSNG</u>			<u>FIN</u>		
ASK: a	<u>mawtawe</u>	} aI	GUS: e-g	<u>ore</u>	II
b	<u>mawiyafa</u>		URU: c	<u>uyap</u>	} xI
c	<u>maiyo<u>f</u></u>		d	<u>asap</u>	
OK: a	<u>yontom</u>	e	<u>a+<u>t</u>ap</u>		
e	<u>reip</u>	f	<u>amsap</u>		
f	<u>liib</u>	} I	<u>HUP</u>		
g	<u>ileeb</u>		WHF: a	<u>duma</u>	} I
h	<u>laib</u>		b	<u>numa</u>	
i	<u>raib</u>		c	<u>luma</u>	
<u>MAR</u>		m	<u>dɔp</u>		
BOA: a	<u>toqotap</u>	d	<u>dap</u>		
YAQ: a	<u>yandoao</u>	e	<u>kiop</u>		
<u>CSNG</u>		} xI	f	<u>halap</u>	
BED: a	<u>ai</u>		g	<u>kesɔp</u>	
b	<u>ari</u>		n	<u>giop</u>	
c	<u>ori</u>		o	<u>mɔtɔp</u>	
		} I	EHF: b	<u>yefe</u>	
			f	<u>yɔfɔ</u>	
			h	<u>yape</u>	

Additional:

cI - MOR teguyefo; I - RAM (Kalan) raup

opening, hole ASK a ipa, b yafa, c yof; AWY a-d to, e, f top; OK a-e tem, f-i teem, APA a ame, b dame, BED c taim, MAR a teb, YAQ a qop, WHF n lom

hole in ground WHF a, d, e lom, f rom, g dom, j lam, o, m lom

unoccupied place WHF e duma, k, l, j dum, m welam, n welom

abandoned village site WHF n kowurum (kowi floor, space)

door ASK a imapu, b imahapi, c yimasap, yimsep, yimsip, zimasapo; AWY a abita, b afito, c awti, e yombutop; WHF n mɔtɔp, EHF g mɔtɔ?

vine between trees, used as bridge by tree-dwelling animals WHF a mutop, n mɔtɔp, l, j dɔp, l d+?, k dip; EHF a, b, d-h do?

vagina WHF q kɔp, d koi

anus EHF g, f hotu?, i ata-tu?¹

Residue:

CSNGP APA a tene / b utigi / BED d nogo / e isu / GOG nabidi, SUK
napru / KIW a-c gabo / MAR a isas /

FHP WAR a mařan, c mař / b yam / GUS a ketλ / b bigu / c arapuk,
d sinλη / URU a kolu, b kalu, EHF j kari / URU f tero' / h
weap / i κλερ, j kewλ, WAN c kepi, e kewa / YUP a kosit, b
kosit, c κλετ, WAN a,b kahit, d kasit / YUP d tλibi / WAN f
kλndet, g kandet, ERA c kλdit, d,f kλdet, e kadit / a kλdiminaη,
b kλdλpmaη / g talek, j,h terak, i telak, k tele / WHF h,i kana,
j,k kana, l h+na / p set / q kλtλrλm / EHF a siη / KOV atam /

Hypothesis:

There are two interphylic series of cognates (I, II). The members of I and II occur by themselves or as the second constituents in compounds. The first constituent is a morpheme meaning *foot, leg*, in ASK, OK a, BOA a, YAQ a (a, b, c). The elements preceding the members of I in the FIN and HUP forms have not been identified.

Comment: The items *road, passage, opening, hole* are semantically closely related, and members of series I can have one or more of these meanings when occurring by themselves. They also occur as the second constituent in many compounds which denote an opening or passage of some sort, such as *door, bridge, unoccupied seat, ear* (for *ear* see no. 4).

Note: 1. Perhaps the following also could be included: *anus*, WHF f boro, b boro', EHF d bore', ASK a atamporo, which could be analysed as bo + ro' from *rop *hole*. The form bo- could then be an old morpheme meaning *posterior*; compare AWY a obo, b bubute, OK a embim, e pimpian, f-h biim, APA a pu, b pako, BED b bubuhũy buttocks. Moreover, note the similarity between ASK a ata, EHF i ata, AWY o, or, oi, OK ot, o, ar, ool, oor, MAD oto *excreta*.

33. *Fire*

<u>CSNG</u>				<u>FIN</u>	
APA: a	doe, de	}	I	GUS: a	dit
b	ne			b	teyak
BED: a	dow			c	tite
b	dɔrɔ			d	ti
c	dau			e	de
d	daru		f, g	te	
e	de		YUP: a	dere	
<u>MAR</u>				<u>HUP</u>	
MAR: a	<u>tekav</u>	Ix		WHF: d	dze
BOA: a	<u>te</u>	I		e	dzi
YAQ: a	<u>reka</u>	Ix		q	tedzi
				EHF: b	dza?
				c	da?
				g, h	dzo?

Additional:

BIN i, m zi, f, h i *fire, tree*

MAR a de, YAQ a de, YEL a, b doyo, KIM a do, b ⁿdua, c ⁿdör, MOM tu
tree

GUS a da, b dik, c tei, f de *tree*

BIN d i, e, f, h, i, k-n izi, g iyi, o iri *sun*.

Residue:

CSNGP ASK a uta, b yuhamake, c yis / AWY a jindo, b jido, c jĩ, e in /
d jã / f enop-tenop / OK a, d amot, b amo, c awok / g at, h as,
i ais / FAS dufi / GOG ila, SUK araka, KIW a, c era, b kera /

FHP WAR a εřλp, URU a kɔlɔp, b kɔrɔp, c-f, h ep, i kλip, j karp, j
YUP b kandap, c κλep, d kλndap, WAN c, e katap, f, g kλndap, ERA
a, c kλdep, b, g kudip, d, e kλdλp, f kadip, h, k kudup, WHF a gerep,
f, g konop, h gere?, i, j kλλap, k girip, l geri?, m, n kɔlɔp, o
kλp, EHF a gere / WAR b dλgλn / c səl / URU g ibdi / WAN a
ndaki, b ndɔki / d isiwa / ERA i komba / j miyet / WHF p tep /
EHF d misi, e mɔse?, f misi?, g mii? / KOV puŋ /

Hypothesis:

There is one interphylic series of cognates (I), the members of which occur as the first constituents of compounds in MAR a and YAQ a. The second constituent in these compounds could not be identified.

Comment: The form in APA a also means *firewood, tree*; those in BED a-d also *firewood*; GUS d, e, g, and YUP a also mean *tree*.

34. Dog

<u>CSNG</u>			<u>FIN</u>		
ASK: a	uuri	}	URU: c	sap	
b	iwiri		d,e	hap	
c	yuwur, zuwur		f-i	sap	
AWY: a,b	se	}	GUS: e,f	isa	
c	angi		g	se	
d	yangi		ERA: c-f,h,i,k	sap	
e	anga		URU: a,b	aŋ	
f	angae		WAN: f	aŋ,an	
OK: g	kayaam	III	g	aŋ	
BED: a	so	}	<u>HUP</u>		
b	sofu		WHF: i-k	klam	III
c	sof		a	kasi	}
e	kasa	h	kasu		
FAS:	kasa	l	katsu	IV	
			EHF: a	kasi	

Additional:

I - RCS soIII - GOL a kham, c kam¹

Residue:

CSNGP OK a,b anon / c niŋop / e til / f miyaan, h mayan / APA a psane / b tii / BED d we:me / GOG soke / SUK ebme / KIW a sio, b viko, c so² / MAR a ŋgat / BOA a gago, YAQ a qake /

FHP WAR a umat, b aman, c umal, GUS a komal, YUP d kam+n, WAN a kamul, b-d kamun, e kamal, ERA a kamoe, f kamo, i kamot / GUS b gone, c gonl / d palawal / URU j kalwen / YUP a paŋan / b noŋkwak, c nimgak / ERA b kugal / WHF d,g wawa, e wau, f wa / m doa / n soso / o bua / p tam, q tã / EHF b hoda, c honta, d kpedo, e kpedo, f kpendo, g kpoɔ, h kpoɔ, i kporo, j kpodo / KOV goun /

Hypothesis:

There are four interphylic series of cognates (I, II, III, IV). The forms of series IV are suspected AN loans, from PAN *?at'u

Notes: 1. A probable cognate kiam occurs in a number of Melanesian languages on the south coast of the Huon Peninsula and in the Markham valley. These forms seem not to be of Austronesian origin.

2. The KIW protoform could be *siko, in which case it links with GOG sok and BIN (Adawa) sika.

35. *Leaf*

<u>CSNG</u>			<u>FIN</u>			
ASK: a	ee	} I	WAR: c	əyag	} III	
b	ye		GUS: a	sɔ		
c	e, esena, etan		c	sa		
AWY: c	rõ	d	sʌ	} aII		
d	õ	ERA: a	sak			
e, f	ron	b	sʌsaʔ			
<u>MAR</u>		} III	c	ser		} III
MAR: a	tetek		d	sa		
BOA: a	esaqo		e	sese		
		g-1	sap	} III		
		k	sɪsa			
			URU: a	iʔoŋ	} aII	
			b	ilʌŋ		
			WAN: b, c	tatɔk	} III	
			f	tсен		
			<u>HUP</u>		} I	
			WHF: h	siŋ		
			i, j, p, q	sin		
			m, n	esen		
			o	isin	} II	
			KOV:	lau		

Additional:

a - RCS ron, aron, rouna

Residue:

CSNGP AWY a, b anamo / OK a ot, c hoot, b oo / d awutok / e ǎn, f-1 koon, FAS kũ / APA a wɛ / b ose / BED a, b dibi, d rubi / c gwɔ:b / e fɔs / GOG ibagi, SUK nigbagu / KIW a, b pasa, c paha / YAQ iri /

FHP WAR a ŋon- / b gurak / GUS b mi / d, e kəmir / URU d saŋam, e, f haŋim, g saŋem, h saim / i tɔmɔg, j tʌm, k tam, YUP c tam, d tʌm, WAN a tam, ERA f tʌmer / YUP a kondzi / b kwatəŋ, WAN e kwatʌŋ / d puʔuk / g eŋe / ERA j endzi / WHF a, d met, EHF a mari, b more, c me, e more? / WHF e sewe / f heo / g endzel / k karem, l hareŋ / EHF d yotu / f, g leha?, i leka? / h gürü /

Hypothesis:

There are three interphylic series of cognates (I, II, III). The members of series II are probable Austronesian loans, from PAN *daun *leaf* (see also *hair*, no.2). The forms of this series occur in URU a, b as the second constituents of old compounds. The first constituent is probably an old root meaning *tree*.

36. Moon

<u>CSNG</u>			<u>FIN</u>		
OK: f-i	kayoob	I	WAR: b	yaŋgʌp	} I
<u>GOG</u>			URU: a,b	ɣap	
GOG:	samoso	xII	d,e	ɣaɾɔp	
			f	ɣaɾop	
			g	ɣaop	
			YUP: d	yaŋgʌp	
			WAN: a,c-e	ɣekʌp	
			b	ɣekɔp	
			f	ɣasʌp	
			<u>HUP</u>		
			WHF: a,b	mɛso	} II
			EHF: e,f	maso	
			g	mosa	

Additional:

II - SHF a ɣamʌθ, c ɣamal, d ɣameʔ

Residue:

CSNGP ASK a pura, b plɾa, c plɾ¹ / AWY c,d bɪdɪ / a afe, b are / e ogo, f wogol, OK a,b woot, c woo, d wot, BED a,b ugo, FAS oko / APA a doarene / b abi, BED c alb, d aubi / SUK tai / KIW a sagana², b sogomi, c ganome / MAR a mandaw / BOA a doveak / YAQ a kamo /

FHP WAR a dɛp, c ɛp / GUS alɪbʌ, b abʌl / c tapɪŋ, d tapuŋ / e gombo, f,g kɔmbo, WHF a kowon, e kobon, f,g kombon, j kombol, l komoŋ / URU h yamon, i yamin / j karoŋamen / YUP a sinagap / b kenuk, c kainok, WHF h koɪŋ, i,o kʌɪn, k kain, EHF i kaiŋ / WAN g kɔmɛpak / ERA a imak, c gimaʔ, d ema, e ŋɛmʌk / e muyep / WHF a boito³ / EHF m dewuto / n emesenge / p ayongga, q ayonggo, EHF h,j ayon / a afo, b tamaʔne / c wayawe /

Hypothesis:

There are two interphylic series of cognates (I, II). The OK forms show metathesis of the first and second consonants when compared with the FIN forms.

Comment: It would seem possible that yoob in kayoob is an old morpheme meaning *ball* (OK a,b yob *ball*, *fruit*, c dob *seed*). The form ka- would then have been a separate morpheme, presumably meaning *sky*. In the FIN forms, -kɔp, rɔp, sʌp, etc. would then correspond to OK yoob, whereas ya- would correspond to OK ka- and perhaps GOG sa-.

Two Melanesian languages in the lower Markham valley (Sukurum, Sirak), have forms belonging to series I: yakap, yakep.

Notes: 1. The ASK forms are suspected Austronesian loans, <bulan moon.
2. KIW a sagana seems to link with BIN o sekara, e,k,n kariga, g-i,m hariga. All these forms link with the word for *star* in WHF h-1,o; (see no.39).
3. The form boito links with words meaning *star* in other languages; see *star*, no.39; series I.

37. Sand

<u>CSNG</u>			<u>FIN</u>			
ASK: a	tiri	} I	ERA: b	kiŋ	} I	
b	hini		g	kiŋ		
c	misin,ti		aI	k		kiŋ
AWY: c	girī	}	WAN: c	saisai	II	
d	giŋe		}	<u>HUP</u>		
e	ngirim			} I	EHF: a	ziŋiŋ
OK: a	yiŋ	b			dziŋoŋ	
b	yerep	c	diŋiŋ			
c	diin	} I				
e	ririn		}			
f	diniin			}		
i	rinin					
APA: a	dəni	}				
b	dərina					
BED: d	soi	}				
e	sai					
<u>GOG</u>		} II				
GOG:	sasasa					
<u>MAR</u>						
MAR: a	sa:					

Additional:

I - MOM sir

Residue:

CSNGP AWY a gete poporo, b poporo, BED b bəbəsə, c bebe:s / AWY f ok yaman / FAS sakipu / KIW a-c wio / BOA a ndivind / YAQ a gem aqqai /

FHP WAR a numuŋ, b nλmən, YUP b numan, c namin, d nλmuλn, GUS a,b namu / WAR c məluluλ / GUS d sakari / e sodoma, f sotama / g kereti / URU a son, b sλn, c sonəro?, d əsəŋ / e əkəəl / f guro?, h kosəɾək, j kasirək, YUP a katsogot / URU g o?bin / i morak / WAN a haruharu / b atətək, e atλtək / d mumba pλ+λk / f salu, g upuŋ / ERA a yuf, c yufu?, d efoŋ, e ŋofuŋ / f k+k+n namuk / h kλnasek, i kanandzλt / j gamindok / WHF a kpalak / d sok, h sakasiŋ, i sak, j sakasak, l sakesa?, n,o sak / e sawet / f,g,m nupi / p gambibik / q gλŋλ / EHF d mage, e menŋaŋ, f,g monŋeŋ, h,i,j mageŋ, KOV maŋ /

Hypothesis:

There are two interphylic series of cognates (I, II). In ASK c a member of series I occurs as the second constituent of a compound.

Comment: ASK c also means *sandbank, beach*. The first constituent is a morpheme meaning *point, cape, nose* (see *nose*, no.14).

38. *Smoke*

<u>CSNG</u>			<u>FIN</u>		
AWY: c	aku	I	URU: a	toget	} I
d	yan <u>üku</u>	aI	b	towet	
a	or <u>u</u>	} xI	c,d	b <u>o</u> o?	} cI
e	ar <u>u</u> k		e	b <u>o</u> o <u>k</u>	
f	ur <u>u</u> k		f	ba <u>o</u> o <u>k</u>	
OK: c	are <u>k</u>	} bI	g	bo <u>u</u> ?	
f	as <u>l</u> ak		h	bo <u>u</u> ?	
h	at <u>l</u> aik		ERA: a	k <u>l</u> do <u>o</u> ?	
i	raik	b	ku <u>d</u> u <u>g</u> o		
APA: a	tuk <u>e</u>	c	k <u>l</u> do <u>g</u> o?		
b	og <u>e</u>	e,f	ka <u>d</u> i <u>g</u> i		
<u>MAR</u>		} I	g	ku <u>d</u> u <u>g</u> e	
MAR: a	rak				
YAQ: a	aku				

Additional:

I - YUP a abulak, b klak, c klak ashes

BIN abaraka fire

Residue:

CSNGP ASK a utimini, b amini, c jis amun / AWY b afuwo / OK a amot-ten / b amo-iip / e tum, f a-tum / BED a,b dahāi / d ginā / c dem, KIW a-c tema / FAS ira musu / GOG wo / SUK timkre / BOA a qaifa /

FHP WAR a gəbi / b kigap / c əpka / GUS a aita / b,c osl, d os / e woo, g woo / f puka / URU i womak / j nelkel / YUP a mukma / b gl / c gwi / d klbaat / WAN a ŋgwaha, b ŋguha / c kulan, d ŋgul, g gupe, ERA d gupe, h,i gue, WHF b,c kopu / WAN e kwanakat / f mupe / ERA j seku / k tafo / WHF a ŋauk, f ŋauŋ / e oup / d kasak, g kasat, h kaaso?, p klak, EHF a hosu?, b,c haso?, e oso?, f hosi?, g koso?, d modo?, h-j dzu, KOV siau / WHF i-k klak, l hofa?, m dook, o kabak / n utun / q dau /

Hypothesis:

There is one interphylic series of cognates (I), the members of which occur as free forms or as the second constituents of compounds. The first constituent in all identified cases is a morpheme meaning *fire* (a, b, c, d) (see no.33).

Comment: Series a: the form yan is a morpheme meaning *fire*;

b: OK f,h as, at are morphemes meaning *fire, firewood, tree*;

c: The members of this series are probably related to YUP a abu- in abulak *ashes*, BIN aba- in abaraka *fire*, and to OK a amot, b amo *fire*;

d: The forms in this series probably link with GOL uk *fire* and GOG uku- in ukuru *ashes* (see no.30).

39. *Star*

<u>CSNG</u>				<u>FIN</u>			
ASK: a	maako	}	I	GUS: a,b	bolŋ	}	I
b	maweto			c	poiŋ		
c	mait						
AWY: a-c	mi	}	II	WAR: a	bingsarŋ	}	II
d	mī			b	ben		
e	minap			URU: a,b	hituŋ		
f	minduy			c	fitnuŋ		
OK: b	minoo	}	IIx	h	fiduŋ	}	III
c	min			i	guk		
d	mindŋ			j	gok		
g	<u>biniŋook</u>			YUP: a	gok		
<u>KIW</u>				b,c	gAk		
KIW: a,c	gugi		III	d	gok		
<u>MAR</u>				ERA: d	gok		
YAQ: a	mind		II	<u>HUP</u>			
				WHF: n	pitu	}	II
				m	pituŋ		
				EHF: e,f	bɔbiŋ	}	I
				g	bɔpiŋ		
				h	bɔboŋ		
				i,j	bɔuŋ		

Additional:

I - MAD poita, paita *moon*; WHF a boito *moon*

Residue:

CSNGP OK a wot¹ / e awitriŋ / f wakalum / h abil kayak / i meruum /
 APA a pote, b pɛtɛmɛ / BED a,b gɔsɔmuy, g gasəmari, d gasumuni,
 e sami / FAS ti makata / GOG ibina / SUK goara / KIW b suri /
 MAR wayar / BOA ɣavak /

FHP WAR c dama / GUS d tatu, e,f tutu, g totu / URU d ɣɔmbŋ gire, e
 ɣɔmbŋ gere, f ɣambuŋ giri, g ɣambuŋgi / WAN a endɾɾ emɾk / b
 kuminam / c ɣɛkɾɾ ndak / d takwa / e,f tawɾɾɾ, g tɾɾbo / ERA
 doɔk, c windlbo? / b bɾɾ / e saunak / f dɾɾbugum, i dɾɾbomɔp /
 g sina tarama / h sariŋa, k sɔreŋe / j dzɾɾmarɾŋɾɾɾ, WHF q
 dzɾɾɾrindzɾɾ / a,e sɛrɛkin / d ise, f,g isa / h,i,j sɛngɛlau, k
 sekelau, l sikilu, o sɾngɛɾɾk² / p wɛndzim / EHF a,c asomɛŋ,
 b aso'mɛŋ / d damasi / KOV amputi /

Hypothesis:

There are three interphylic series of cognates (I, II, III). The members of series II are suspected Austronesian loans, from PAN *bintəŋ or *bituhən.

Comment: Forms of series I also occur in a number of Melanesian languages in the Madang District (mboi, boi). These forms further link with the word for *moon* in some MAD languages and in WHF a.

The second constituent in OK g biniŋook has not been identified.

- Notes: 1. OK a wot is cognate with the word for *moon* in the same language and in AWY e,f, OK b-d (see no.36, residue).
 2. This series links with BIN and KIW words for *moon* (see no.36, note 2).

40. Sun

<u>CSNG</u>			<u>FIN</u>	
ASK: a	yaw	I	GUS: a	ata
b	yowi		b	atɬt
c	yow, zoe, yawī		c	aatɬ
AWY: c	sawe	I	URU: a	yanep
d	sowo		c	sep
			d,e	iyep
OK: a,b	aton	II	f	yep
c,d	adon		g,h	sep
f,i	atan			
g,h	ataan			
APA: a	toe	I	<u>HUP</u>	
BED: a,b	āsā	II	WHF: a,e	kaiwe
c	ās		d	karip
d	eso		k	kaibe
<u>GOG</u>			p	kɬsup
GOG:	kadɛpa	xI	q	kɬsu
<u>MAR</u>			EHF: e,f	dziaŋ
MAR: a	katane	xII	g	dzoaŋ
BOA: a	qawɛ	xI	KOV:	sual

Additional:

BIN d i, e, f, h, i, k-n izi, g iyi, o iri

MOM zawa, SEN a hu (<*t⁵u)

Residue:

CSNGP AWY a,b sera / APA b gēnē / BED e opo / FAS maīya / SUK kamgu /
KIW a sa'i, b sariki / c hiwio / YAQ a tapaq /

FHP WAR a ɔm, b amɬ / c i / GUS d usau / e ɔkisa, f,g okisa / URU b
kae / i gulam / j murum / YUP a gɬɬt, c gendat, d gɬɬt / b
doran / WAN a,b ŋusit, c-e ŋunzit / f,g kɔmi / ERA a mere?,
b mɬɬam, c mere, g mɛɛɛ, h mɛɛ, i,k maim / d sedap / e nɬma /
f go / j gonok / WHF f,g pangat / h weeŋ, i,j weŋɬn, EHF b wego?,
c wago?, d wɔgo, h wɔho?, j wegi?¹ / WHF m,n dewuto / o mirɬsiŋ /
EHF a wena?, i una? /

Hypothesis:

There are two interphylic series of cognates (I, II). Members of I and II are sometimes preceded by an element ka- or ya-, which may be identical with the ka- and ya found in words for moon (see no.36).

Comment: The forms of series I may have meant *fire*; compare ASK c yowse *fireplace* (yow + se mud) and yowmic *ashes* (yow + mic (unidentified)), and the interphylic series of *fire*, no.33, and *burn*, no.48.

Note: 1. These forms possibly link with AWY e, f, OK a-d moon (see no.36. residue).

41. *Water*

<u>CSNG</u>				<u>FIN</u>				
ASK: a,b	mi	}	I	WAR: b,c	fo	}	I	
c	mu,m ^u i			<u>HUP</u>				
<u>GOG</u>				WHF: h	o			
GOG:	wi				i,j	ou		
<u>MAR</u>				EHF: e	opu			
YAQ:	mi		I?		g	opo		
<u>KIW:</u> a,c	obo	}	I		h	obo		
b	kobo				i,j	obu		
<u>CSNG</u>				<u>FIN</u>				
AWY: a-d	oxo	}	II	URU: c,g	yamo	}	IV? II	
e,f	ok				d,f,h			yamu?
OK: a-1	ok				e			yamuk
<u>MAR</u>					i,j	mi ^l ak		
BOA: a	aoq				a	imi		
<u>CSNG</u>				<u>WAN:</u> g	ome			
APA: a	wae		III	ERA: b	am ^l			
b	ome,ome, m ^o a		IV?	c	ame			
				d	ame		IV	
				e	o ^l ami			
				f	mii			
				g,h	imi			
				j	eme			
				k	ime			
				GUS: a-c	wai		III	

Additional:

I - MOM *mwe*, SEN *bu*, BIN *a-e ou*, f,g,k,m *umo*, h,i *umō*, l,o *ubu*, n *uwu*;

Melanesian languages of Huon Peninsula: *po?*, *bu*, *pui*, *puui*

EHF *f howo rain*

II - YUP *d ok*, RAM (Kaian) *ok river*

Residue:

CSNGP BED *a hūi*, b *hū*, c *hāu*, d *harō*, e *hoN*, FAS *hē* / MAR *a adika* /

FHP WAR *a im* / GUS *d tupun* / e *yaŋgo*¹ / f,g *sono* / YUP *a pagbe* / b *k^llap*, c *k^lrap* / d *kōmu* / WAN *a,b,f yaŋga*¹ / f *iy^lpet* / ERA *a inom* / i *tuk*, WHF *a doku*, k *duku*, l *doku*, m,p,q *tu*, n,o *to*, EHF *a doku* / WHF *d nage*, f,g *nange* / e *ketue* / EHF *b,c misa*, f *meso* / d *rapa?*, KOV *lap* /

Hypothesis:

There are three interphylic series of cognates (I, II, III); the status of a fourth series (IV) is uncertain. Members of series II occur as the second constituents of compounds in URU c-j.

Comment: The first constituent in the compounds in URU c-j has tentatively been equated with the forms in WAN and ERA. Whether or not they are part of an interphylic series depends on the status of APA *b ome*, etc. which could also belong to series I. It is also uncertain whether YAQ *a mi* belongs to I or to IV. The forms of series II also mean *rain* (see no.31).

Note: 1. These forms are possible Austronesian loans (see *rain*, no.31).

42. *Wind*

<u>CSNG</u>			<u>FIN</u>	
ASK: a	kimiri	I	URU: i	gupit
AWY: a-d	kifi		YUP: d	guup
e	kiou		WAN: b,c	ngot
f	kiwuy		d	got
OK: . a	uwarim		ERA: b	gugublk
<u>MAR</u>			d	guplk
MAR: a	kiwar		e	gufu
			f,g	gufut
			j	guk
			<u>HUP</u>	
		EHF: b	gbelon	
		h,i,j	gbin	

Additional:

MAR b yumbuk

Residue:

CSNGP ASK b ifako / c fo / OK c hup / e goror, g dulul, h yarul / APA a hore / b obasi / BED a,b wafu, c wau, d fo, FAS fofo / GOG iboa / SUK ripipia / KIW a susuo, c huhuo / b gawia / BOA a gozag, YAQ a qoq /

FHP WAR a nareη, b glareη / c nan / GUS a γλη / b dlok / d kltλη / e matun, f matu / g tōkō / URU a ilup, b lruk / c,f-h sum, d,e hum / j sorup / YUP a mep / b kaum / c kasi / WAN a ηgwaman / e palak / f mλnιp, g mλnit / ERA a,c yukyuk / h,k fifiη / j sesere / WHF a,d,e momo / f,g paten / h haamo? / i,k lugut, l lufu? / m,n bōlōp / o piōō / p tōōō, q tλgλ / EHF a flaη / c abubu? / d dzeru, KOV zir / EHF e moηeη, f mōηeη, g mōηōη /

Hypothesis:

There is one interphylic series of cognates (I).

Comment: ASK b ifako possibly belongs to series I, since -ko is likely to be a morpheme meaning *very*, *much* or, in this case *strong*, and corresponding to ASK c ko, kor *very*.

43. *Full*

<u>CSNG</u>			<u>FIN</u>	
AWY: a	toxo	} I	YUP: a,b,d	tok
b	toho		c	toguo
OK: f	doŋa		WAN: a	andok
g	dooŋ		c	ndok
			e-g	tok
			ERA: b	to'neŋ
			d	toye
			f,g	toko
			i,j	tok
			URU: i	sok

Residue:

CSNGP ASK a enakoepa / b tapeta, AWY d tape ki, e tome, GOG atawa, BOA a tave / ASK c umunakap, imi / AWY e tarema / f koya / OK a ketere / b yootere / c wee kaden / e sippe / h wainbu / i menewere / APA b kokobo / BED b mœe tau / KIW a orosuwo, b topu korosuwo / MAR a huala / YAQ a kopdoq /

FHP WAR a toiwik / b ληλςuk / c maŋ / GUS a κλρσ̄γ / b μεγλιε, d μεκελλη, f mangore / e sœruwate / g aŋe / URU a kalak / b tuwatak / c fœ?-ta? / d omoŋ ka? / e oŋmowok / f oŋfo'to? / g umo? / h du'mœha? / j kwak / ERA a motonek / c titodo, h tado / e lokŋalokŋa / WHF a watki, d watko e watke, EHF a,b wake, c wa'ke? / WHF f pike g,m-o pik / h saakpe / i,j kokolakpe, k koayakpe, l koyokpe / p dzedzet, q dzadzλgœ / EHF d hisœ, e-g,i,j fuse, h fœœ'ma- / KOV ampule? /

Hypothesis:

There is one interphylic series of cognates (I).

Comment: There is often a close semantic relation between words meaning *full* and words meaning *mouth*, *teeth*, or *top*. Thus:

ASK c umunakap = *near the top*; GUS a megλιε, b μεκελλη, c mangore, also mean *mouth* (see no.9); WHF i,j kokolakpe, k koayakpe, l koyokpe mean *to touch the mouth*; WHF p dzedzet, q dzadzλgœ also mean *teeth*.

44. Long

<u>CSNG</u>			<u>FIN</u>		
ASK: c	yuruw, zirao, taoroa	} I	GUS: f	piru	} II
			g	peru	
AWY: e	nguruop	} II	URU: d	wa?wago	} III
f	ngurup		e	wakwago	
a	pere		f	wa?wa'o	
b	pisi		g	poupou?	
d	pi		h	fɔrɔ?fɔrɔ?	
OK: f	batbat	III	<u>HUP</u>		
			WHF: a	kiro	} I
			d	kira	
			e-g	korep	
			h	koriga	
			i,j	kɔrip	
			k	kɔrua	
			l	horua	
			m,n	kɔlip	
			o	kɔrɛp	
			EHF: b	dzari?	
			c	dari?	
			d	dari	
			e-h	dzori	
			i	dzora	

Additional:

I - BIN c gorebu

Residue:

CSNGP ASK a maiku / b inawako / c kowe / OK a kataat, SUK katati / OK b bankau / c gumtit / e teke / g timitim, h kimisim / i tiyaakim / APA a ngawa / g sigisigi / BED a kuga / b sago, d sada / e senapo / KIW a tuturo / GOG leobega / MAR a wagatok / BOA a sekegapeg / YAQ a pearp /

FHP WAR a bunumɔŋ / b sunbɛm, c sɔlbai / GUS a lɛoŋɔŋ, b ɔlo / d siriŋ / e pisɔŋga / URU a mɔlaŋ / b hɔsɔk / c uparago / i summi, j sumji / YUP a dɔbakŋa, d dɔbwɔkŋ / b lɔɔŋa / c mɔraaga / WAN a mbelakŋe, c biakŋe, ERA a biagaŋ / WAN e ŋgasamɔ / f kɔloŋiwa, g karoŋi, ERA d kɔroŋi / b pɔramu? / c bɔsɛraŋ / e koimiŋ / f yopmaran / g kwehiyaniŋ / h yombɔrma, i ɔmbɔrpm / j atiri /

Hypothesis:

There are three interphylic series of cognates (I, II, III).

Comment: ASK b inawako probably contains a morpheme -ko *very* which corresponds to ASK c ko, kor *very*. The form inawa would then link with series I. KIW a tuturo could perhaps be a reduplication of turo, and then link with series I.

45. *New*

<u>CSNG</u>			<u>FIN</u>		
ASK: a	ayku	}	URU: d	uye?	
b,c	ay		e	huyegɔ	
AWY: c	kadagai		f	uyegɔ	
e	are		i	kwegɔli	
f	ariok		j	kwarak	
OK: a	kuri			YUP: a	kalok
b	kiri			b	kɔndak
f	<u>aluk-soo</u>		}	c	kwag
h	<u>kiki-so</u>			d	kwondak
i	<u>kikis</u>				WAN: a
APA: b	koārē, kone		c	kayuk	
BED: e	hiriki		e	kwɔlak	
			f	kondake	
<u>GOG</u>			g	kɔndaki	
GOG:	kanike	}	ERA: c	kɔlak	
<u>KIW</u>			d	kayak	
KIW: a,c	orio		e	kayak	
b	korio		f	koda	
			i,j	kaek	
<u>MAR</u>			k	kubuli	
BOA: a	qandi			<u>HUP</u>	
				WHF: d	gbali
				g,h	gbili
				i	gbɔɔ
			k	gbilik-gbilik	
			l	gbeli	
			m-o	irak	
			p	arak	
			q	alak	
			EHF: a	gbori	
			b,c	gberi?	
			d	gbere?	
			e	gbari?	
			f,g	gbori?	
			h-j	gari?	

Additional:

young man AWY (Kwem) koandep, SUK guargia

green, (alive) YUP a kalokkalokha, b pondakpondakha, c kwaktam, d
kwalndakdam, WAN f kondakondake, ERA b gila, d goyari, e gibukha,
g,j kaekaek, WHF m gologolo, n golo, o gwaliagwala

Residue:

CSNGP · AWY a,b afo / d gagide / APA a waemene / BED a doaw, b doafi,
c doaif / FAS kawe / MAR noh, YAQ a noqok /

FHP WAR a uruh / b andagum / c mare / GUS a geŋhah, b gemah / d keh /
e kundziyoh / f keta, g keta / URU a milak, b mirak / c weko, h
wogo / g boino / ERA a ait / b iha?ni / g kaermon, h kaipm / WHF
a musele / b wisikap / c usikap / e pouhe, f pouyo / j daliakhi /

Hypothesis:

There is one interphylic series of cognates (I). In OK f,h,i its members occur combined with an unidentified element (x).

Comment: The protoform can be represented by *k u b V d V k V. The formal relations of the members of series I can then be shown by the following chart.¹

	*k	u	b	V	d	V	k	V
ASK	-	-	-	a	-	i	k,-	u,-
AWY	k,-	-	-	a	d,r	i,e,a	k,g,-	o,ai,-
OK	k,-	u,i,-	-	a,-	r,l,-	i,u,-	k,-	i,-
APA	k	o	-	a,-	r,n	e	-	-
BED	h	i	-	-	r	i	k	i
GOG	k	-	-	a	n	i	k	e
KIW	k,-	o	-	-	r	i	-	o
MAR	q	-	-	a	nd	i	-	-

URU	k,h,-	u,-	w,-	a,-	r,y,-	e,a	k,g,g,?	o,ai,-
YUP	k	-	w,-	a,o,-	l,nd,-	Λ,a,o	k,g	-
ERA	k	u,-	b,-	Λ,a	l,d,	i,e	k,-	-
				o,u	y,-	a,Λ		
WHF	g,-	-	b,-	i,e	r,l	i,a	k,-	-
				a,Λ		Λ		
EHF	g	-	b,-	e,a	r	i,e	?,-	-
				o				

Note: 1. For the explanation of this kind of chart see *nose*, no.14.

46. *Straight*

<u>CSNG</u>			ERA: a	dinda	} II
ASK: c	torwot, toror, toroot	I	b	didime	
			c	damine	
AWY: c	imidī	} II	d	damdāmnl	
e	ndindip		f	didimen	
OK: f,g	<u>tool</u> -kub	} Ix	g	didimeniq	
i	<u>kiyoor</u> -kub		h	didim	
<u>GOG</u>			i,j	dindim	
GOG:	serere	I	k	didimi	
<u>FIN</u>			<u>HUP</u>		
WAN: c	dudumne	} II	WHF: f,g	tororogo	} I
URU: c	nɔŋnɔŋɔ		o	tʌrʌrʌk	
d	dɔŋdɔŋɔ		h,k,l	dindina	
f	dondɔŋɔ		i,j	dindini	
j	tʌrʌrʌ		m	tɔŋ	} II
YUP: b	kuririak	n	tɔŋtɔŋ		
		p	tʌŋ		
		q	dʌndʌŋʌtn		
			EHF: b,d	dɔndɔne	
			c	dari?	
			e-h	dɔndɔŋ	

Additional:

AWY a tetede *smooth, level*, ORI a tümtüma *straight*

WHF n dɔŋdɔŋɔk ek to *stare (look) intently*

Residue:

CSNGP ASK a iare, b iwato / AWY a mode / d kidī / b yo, f yani / OK a topoŋ-mo / b kimka-mo / KIW a kawitato / b karawasemi / MAR a heda / YAQ a meteqor-in / APA b dugene / BED b mugu /

FHP WAR a utikniŋ / b utuktugum / GUS a pɛt / b nenil / d menʌ / f rɔnɛnɛŋ, g nɛnɛŋo / e umbumaŋ / URU a kɔndɔŋ, b kʌndʌŋ / e susukɔ / g sɔɔʔno / h tumbupmɔ / i dokɔŋ / YUP a ʌʌkɔŋ / c tʌɛbɛmsinʌ / d numʌŋi / WAN g siwɔŋi / ERA e lutʌmgeʌk / WHF a,e kobobo / d kɔŋtɛne / EHF a sroŋa / i,j fɔretiq / KOV maiton /

Hypothesis:

There are two interphylic series of cognates (I, II). Members of series I occur in OK f,g,i as the first constituents of compounds.

Comment: The second constituent in these compounds has not been identified. AWY c imidī is assumed to have developed from *dimidim.

47. *Warm*

<u>CSNG</u>			<u>FIN</u>	
ASK: a	amamuru	} I	URU: c,d,h	monmoro
b	amapoto		g	manmoro
c	amup,amam			
AWY: a	apato			
b,c	apa			
d	apufu			
f	mamin			
OK: b	nlmin			
c	namin			
e,g	mlmin			
f,i	mamin			

Additional:

SEN a naumə, BIN a menamana

ASK c nam *fever***Residue:**

CSNGP OK a wiŋ / APA a kewa / b tegega / BED a dafi, b dɔfi, c dɔlf /
 FAS sisipusa / GOG ilabega / KIW a eraera, c enaena, MAR a ena /
 SUK wātru / BOA a tatas / YAQ a kir /

FHP WAR a wagiŋ / b wabim / c wai / GUS wanwanai / b awatitl / d
 wanŋ / e dzlwiŋ, f tiwi / g kokŋo / URU a ɔŋɔɔŋɔ, b ɔŋɔɔŋɔ,
 e iŋiŋɔ, f ilŋɔ / i kowiri / j koŋkoŋi / YUP a terpa / b ŋŋŋŋŋ /
 c eraŋa / d eegawie / WAN a wawuŋ / c opak / e komltak, g
 komi / f kadapŋŋŋŋ, ERA a kadep-gok, c kadep-gok, d kɔɔɔɔɔ, e
 kɔɔɔɔɔ-tuan, f kadɔɔɔ-mut, WHF f konopkonop, g konopo, i kɔɔɔ
 ŋambuk, j kɔɔɔŋŋŋŋŋŋŋ, gɔɔɔɔ-agu, n kɔɔɔkɔɔɔ, o kɔɔɔkɔɔɔ /
 ERA b kugudu-guk, g kudut, h kuduk, i kunduwat, k kundutkawe /
 j koŋgom / a gereune, h gerlabu?, EHF a gerea / WHF l fo?nla / m
 utunge / p kɔɔɔŋŋ, q kɔɔkɔɔ / d watalna / e dzlŋeŋe, EHF b
 dza?ne, c da?ne / d hotɔne?, e aroŋŋɔ, f hɔɔɔŋŋɔ, g hɔɔɔŋne,
 h,i,j koroŋŋne / KOV nairon /

Hypothesis:

There is one interphylic series of cognates (I).

Comment: Many of the residual forms contain a root meaning *fire*, or
burn. GOG ila, KIW era, WAN kadap, ERA kadep, etc., WHF konop, etc.
 mean *fire*, *firewood*, *tree* (see no.33). WHF dzl, EHF dza?, etc. mean
burn (see no.48).

48. *Burn*

<u>CSNG</u>			<u>FIN</u>	
ASK: c	sɔs, ses ¹	I	WAR: c	sɔlset
AWY: b	yinu		GUS: a	dɪ
c	yidu		b	dɛ
e	ondü		d	tɪ
f	undo		f	tɛ
APA: b	dɪ		g	tɛ
BED: a-c	sɪ		URU: a	tɛʌ
e	hina		b	rʌɛ
			c, e	tɪ
			d, f	dɪ
		g, h	dɔ	
		ɪ	ɪ	
		j	sɪ	
		YUP: b, c	dɑ	
		WAN: a	hɪ	
		c	ɪsɪ	
		f	sɛ	
		g	ɪndzɪt	
		ERA: b, d, j	sɛ	
		c	sɛsɛ	
		e, f, ɪ	dʌ	
		g, h, k	dɑ	
		<u>HUP</u>		
		WHF: a, p, q	dzi	
		d, l	dze	
		m	dɛ	
		n, o	sɪ	
		EHF: a	dze	
		c	dɑ	
		d	dzo	
		e-j	dza	
				I

Additional:

BIN b bebɛsɪ-, c hebɛsɛ-

Residue:

CSNGP ASK a puma otomo, c urum / b moay wi / AWY a raru, d fiox / OK a nenge, b nenga / c tenen / BED d gobe / KIW a, c ital / WAR a husig / BOA a lavut / YAQ a parade / GOG oro /

FHP WAR a ɛʔup / b dʌgan yi / GUS e ka / YUP a deren / d ʌr / WAN e membeli / ERA a moda / EHF b lobo / KOV ae /

Hypothesis:

There is one interphylic series of cognates (I).

Comment: The BIN forms seem to be compounds, the second constituent of which links with series I. The first constituent has been tentatively identified as a morpheme meaning *tongue, flame*.

Note: 1. sɔs, ses also mean *torch*.

49. *Eat*

<u>CSNG</u>		<u>FIN</u>	
ASK: a,b	ne	WAR: a	na
c	na	b	n-
AWY: a,f	en	c	ne†
b	e	GUS: a	Λnyo
c	nĩ	b	ne
d	ẽ	c	nei
e	andi	d	ni
OK: a	ane	e-g	ne
b	anye	URU: a	ne
c	ine	b-j	na
d	anei	YUP: a-d	na
e,g	una	WAN: a,e,g	na
f	in	b	no
g	wan	c,d	nΛ
APA: a	də	f	ne
b	da	ERA: a	nΛ
BED: a-e	na	b-j	na
FAS:	na	k	nΛna
<u>GOG</u>		<u>HUP</u>	
GOG:	na	WHF: a,p,q	ni
SUK:	na	d-o	ne
		EHF: a,d,e	ne
		b,c	no
		f-j	no

Additional:

SEN anə, EHS (Duna) nai-

BIN a n, b na, c ni, e inda

Residue:

CSNGP MAR a havi / BOA a log / YAQ a bae / KIW a oruso, c oruho, b kadaruwo /

Hypothesis:

There is one interphylic series of cognates (I).

50. *To shoot*

<u>CSNG</u>			<u>FIN</u>		
ASK: b	tor	I	URU: a,b	tʌrabe	I
c	cim,tum, to		c-f	temo	
AWY: d	tĩ		g	tima	
e	teen		i	temʌ	
f	taem		j	tawa	
APA: b	hime		YUP: a	yama	
			b	yama	
			c	taama	
			d	imia	
			WAN: c	tem	
		g	tama		
		ERA: e	lim		
		c	tamo		
		d	tama		
		f	talama		
		g	tarama		
		h	terabu		
		i	terabu		
		j	tʌlama		

Residue:

CSNGP AWY a piemo, c pemo / OK a yetpar aambe / b mbatange / e pina, f,h bina, g binu, BED a iano, b eno, c ina / d kare¹ / KIW a aro¹, ibo / MAR a deh / BOA a pasoa / YAQ a way /

FHP WAR a ut / b watnʌ, c woĩnʌ, URU h wod / GUS a mulu, e mulo, f muro, g mure, WAN a mulo, EHF b,d,e,g,i,j muru, c muro, f mĩri, h mɔro / GUS b sʌgʌre, d sabire / ERA a sinsumtiŋaŋ / b yok / k yoyo, WHF a yati, d eta, e yoto, f,g ito, h ido, i,j ere, k urut, l wiri?, m ero¹, n yero, o zer, p ele, EHF a wede? / WHF q osa, KOV so /

Hypothesis:

There is one interphylic series of cognates (I).

Note: 1. BED d kare and KIW a aro possibly link with WHF m ero and related forms.

51. *To tie*

<u>CSNG</u>			<u>HUP</u>	
ASK: b	eka	} I	WHF: e,f,g	dzoko
c	yik,zik		i,j	dzΛgΛ
BED: a,b	tiga		k,l	dziki
c	tiã		m	dɔgɔ
d	dɛgi		n	sɔgɔ, tek ¹ , heku
			o	sΛga
		p,q	dza	} I
		EHF: a	dzege	

Additional:

BIN a di

Residue:

CSNGP ASK a moker / AWY a,b ado, c,d ada, f andap / e rün / OK a yene, b yendeware, APA b ina / a puri / GOG papami / SUK pigumu / MAR a kiparud / BOA a lavain / YAQ a abaqaqan /

FHP WAR a sogu / b uɸΛ, c oɸi / GUS a genΛ / b gΛtir, d kΛti / e witumɔ / f kusiya, g kosiyo / URU a,b haro, j pΛro, ERA d pado, j parakηΛ / URU c akepto?, h akaiptu? / d,e hene, f fene, g pini / i sop / YUP tΛpmaη / b gulu / c tu / d wami, WAN c wama / f tokma / ERA a itaŋka / b tofΛ, f torofe / c tikara / e iusupmΛ / g tibikerite / h iba, i imo / WHF a,d pise, b,c pisi / h somoŋgo / EHF b hefe, c hape, e afe, f kife, g hafe, h-j kipe / d kɔi /

Hypothesis:

There is one interphylic series of cognates (I).

Note: 1. WHF n sɔgɔ means *to bind*; heku, tek¹ mean *to tie*.

Additional:

say WHF n (Northern dialect) de, BIN a sa, b si
speech, word GOG gilala, gi way of doing, BIN a,b,e ge

Residue:

CSNGP AWY a,b roxo, c ro, d ox, e arek tagamo¹, f rug in-, OK a ora
 are-, b tekme, KIW a arogo, b kdarogo, MAR a mean rah- / OK
 b,c yeetme-² / KIW c awapotai / BOA a maŋkat in- / YAQ a tumi
 paq- /

FHP GUS b uyay, d yay / e mania te- / URU a,b me, EHF a,g-i mi,
 b,f mu, c me, d mo, e mi, KOV me /

Hypothesis:

There is one interphylic series of cognates (I).

Comment: Initial t, d, r, l, s, h, y, dz, and g are reflexes of *C-.

Notes: 1. tagamo and arek are probable cognates; compare ASK c
 atakam, arakam *language*. The verb root is probably taga and mo is
 probably a transitive suffix.

2. The verb root seems to be yeet which links with series I.

53. *Sleep*

<u>CSNG</u>			<u>FIN</u>	
ASK: a	ete	I	WAR: a	po
b	ehe		b	pi
c	isi es-, ese es-		c	per
APA: b	kiš-		GUS: e	etio
BED: a	tia		f	ete
b,c	kia		g	weto,were
d	tia		URU: i	pe
			j	pa
			YUP: a	pok
			c	pua
		d	pa	
		WAN: b	pek	
		c	pe	
		e	pak	
		f	pa	
		g	par	
		ERA: a	fa	
		c	fir	
		e	fa	
		f	f†	
		g	fara	
		i,j	pa	
		<u>HUP</u>		
		WHF: a,l	fe	
		d	pa	
		e	wo	
		o,p	we	
		f,g	eko	
		h	e	
		k	he	
			I	

Additional:

to dream AWY a kono magete fete-, b agatu fite-, d asü ete-og, e ö
iti-gio, f wi eto-

Residue:

CSNGP AWY a kono re-, b kunu re-, c kunū re-, d kumun iŋ-, e kinum ra-, f kinun yan- / OK a konyop enge-, b tunuk aŋgee / e āra, f akaan, g akaal, h akal, i akar / GOG tene, BOA tena / SUK rapa / KIW a,c uwo, b kuwo / MAR a nu x- / YAQ kindan poen- /

FHP GUS a wig- / b ŋɣʌr- / d kora / URU a su, b ru, c tu, d,g,i du, ERA h dau / WAN a awak, d dopik / ERA b dek / d kpa / k dʌmudu / WHF i,j aɣʌ / m ye, n i, o dzi / EHF d gone /

Hypothesis:

There is one interphylic series of cognates (I).

Comment: The protoform can be represented by *p ə C i o. The formal relations of the members of series I can then be shown by the following chart:¹

	p	ə	C	i	o
ASK	-	e,i	t,s,h	e,i	-
AWY	f,-	e,i	t	e,i,-	o,-
APA	-	-	k	i	ō
BED	-	-	t,k	i	a

WAR	p	i,e,o	r,-	-	-
GUS	w,-	e,ɛ	t,r	i,e,-	o,-
URU	p	e,a	-	-	-
YUP	p	a,o,u	k,-	-	a,-
WAN	p	e,a	k,r,-	-	-
ERA	p,f	i,a	r	-	a,-

WHF	p,f,w,-	e,a,o	h,k,-	e,-	o,-

Note: 1. For the explanation of this kind of chart, see no.14.

3. CONCLUSION

In the previous sections fifty-three items have been presented, each of which yields one or more interphylic series of probable cognates. Even if one allows for a wide margin of error in the postulated series, it should be clear beyond doubt that there is substantial evidence for a positive genetic relationship between the languages of the CSNGP and the FHP. The authors therefore propose that the CSNGP and the FHP be combined into a single phylum, the Trans-New Guinea Phylum.¹

Moreover, data have also been given which point to the inclusion of the Binandere Family (Wilson, 1969a) within the proposed phylum. In addition to those data other data may be presented which were not included in the body of the study because they do not reach across to the CSNGP:

- Man:* BIN a ema, b,c emo, d emba, e-i,k,m embo, l genembo, URU a, WAN f,g, ERA d,i ama, URU b-i amna, j, YUP b-d amen, WAN c amin, ERA b ami, c ama?, e ɲama, g,h me, j eme.
- Bird:* BIN a,c,e ni, b,d,f,g,o ndi, h,i,m di, k dī, WHF a-d naŋi, e,i,j, l nei, k,o ni, n noi, EHF a neŋ, b,c,d naŋo, h noŋo, KOV naŋ, GUS a-d nuŋ, f nū, g nu.
- Stone:* BIN f,h,i koro, h karu, i kalu, g kaluma, ERA e kodo, f kaoda, g kawade, h kawada, i,j kawat, kəkəwəda, WHF d kit, e-g kot, i,j,m-o kət, EHF h kə?, a-c, WHF l ho?.
- Woman:* BIN j-l,o eβetu, g eβuhu, i eβohu, e eutu, WHF e aware, n apet, GUS f,g pare, URU c awe, f ɔwe, g,h ɔbi, d,e ɔe.

The inclusion of the Binandere Family within the Trans-New Guinea Phylum raises a question regarding the inclusion of the whole of the Southeast New Guinea Phylum. Wurm (1970) included the Binandere Stock (i.e., the Binandere Family plus the Guhu-Samane language), the Koiari-Manubara-Yareba Stock, the Gollala Family and a couple of language isolates within a proposed Southeast New Guinea Phylum. He stated that the families and language isolates within the Koiari-Manubara-Yareba Stock exhibited interrelationships between 10-20% shared basic vocabulary. The interrelationships between this stock, the Binandere Stock, the Gollala Family and the language isolates was stated to be generally

¹ The label 'phylum' is used here to simply indicate that the writers recognize a group of languages which are genetically related at a low level. This relationship is regarded as being significantly higher than that implied by the term 'macro-phylum' as used by Wurm (1970), and future studies may show that perhaps the label 'stock' is more appropriate. 'Phylum' as used here does not imply any particular lexicostatistical level of relationship since lexicostatistical relationships were not computed.

below to well below 10%. Moreover, Wurm states that the two stocks and the family represent three typologically and structurally distinguishable types. In view of the structural diversity, the preliminary nature of the posited lexicostatistical relationships and the extremely low cognate relationships between the Binandere Stock on the one hand and the Koiari-Manubara-Yareba Stock and the Gailala Family on the other hand, one may question whether or not the Binandere Stock rightly belongs within Wurm's proposed Southeast New Guinea Phylum. A definitive statement, of course, must await the completion of further studies.

4. FURTHER OUTLOOK

The language groups thus far united in the Trans-New Guinea Phylum are located in four widely separated areas of New Guinea and the question arises whether the geographical discontinuity of the phylum is real or apparent. The answer to this question has to await much further research. Still, in the light of the present knowledge one may anticipate the possible inclusion of three other groups of languages (either in whole or in part) in the Trans-New Guinea Phylum. These groups are:

1. The Nimboran group of languages. This group borders in the north-east on the Sentani group of languages. The possibility of including the Nimboran group in the former CSNGP was recognized by Voorhoeve (1970) who presented evidence to support this claim.

2. The East New Guinea Highlands Phylum. This large group of languages was posited by Wurm (1960). Several languages near the western, southern and eastern borders of this phylum show considerable lexical similarities with languages of the Trans-New Guinea Phylum. The Duna language which had been classified as a language isolate within the East New Guinea Highlands Stock (ENHS) shows a cognation percentage with the Mountain Ok Languages which is high enough for it to be included in the CSNG Stock. Kewa and Foi of the West-Central Family (ENHS) show considerable lexical similarities with Fasu of the CSNGS. The languages of the East-Central Family (ENHS), especially Kamano, are reported by Wurm to show cognation percentages of up to 16% with languages of the Huon Stock (Wurm, 1970). A recent assessment by the authors of the cognation percentages between Kamano and four Huon Stock languages (Borum, Mindik, Tobo, and Kube) puts this percentage much lower, but still within the range of phylum-level relationships.

3. The languages of the Madang Phylum. This phylum was posited by Z'graggen (1969). The languages of the Rai Coast Stock were included within this phylum by Claassen and McElhanon (1970). Some lexical data from these groups have been presented in this study as additional data.

5. LIST OF SOURCES

5.1. PUBLISHED DATA

Authority		Language groups, languages
Cowan	1965	SEN a
Drabbe	1949	KIM
"	1950	YEL, MOM
"	1953	ASK
"	1954	MAR, YEY, KAN
"	1955	MAR a
"	1959	AWY, OK a,b
"	1963	ASK c
Dye	1968	SHF
Riley-Ray	1930	KIW a-c, <u>MRS</u>
Voorhoeve	1965	ASK c
Wilson	1969a,b	BIN

5.2. UNPUBLISHED DATA

Authority		Language groups, languages
M. Bromley		GOL b,c
C.R. Claassen		GUS a-d,f,g, <u>RCS</u>
D. Davis		WAN a-f
A. Healey (1964)		OK
Phil Masters		GOL a
K.A. McElhanon		FIN, HUP, except for those collected by Claassen, Davis, and Webb.
Ch. Modjeska		DUN
C.L. Voorhoeve		APA, BED a-d, BOA a-c, GOG, SUK, KIW c.
T. Webb		ERA b
S.A. Wurm		ORI, AGO
J.A. Z'graggen (1969)		<u>MAD</u> , <u>RAM</u> , <u>ABR</u>
Survey Wordlists of Linguistics	collected by members of the Summer Institute	FAS, BED e.

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