

## A SOCIOLINGUISTIC SURVEY OF HEYO, PAHI AND MAYO-PASI

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## 0. INTRODUCTION

This sociolinguistic survey presents information on language groups located in the Wan Wan Census Division, Nuku District, West Sepik Province, Papua New Guinea. It was conducted under the auspices of the Summer Institute of Linguistics during October 1980. I am indebted to Robert Bugenhagen and Gregory Cooper for their help in writing this report.

Sources of information on which this paper is based include:

- (1) A General Sociolinguistic Questionnaire
- (2) A Questionnaire on Language Use and Attitudes
- (3) A Standard S.I.L. Survey Word List. Two lists were collected and are referred to as the "25-Word List" and the "100-Word List".
- (4) A Tok Pisin Literacy Test (Appendix C).
- (5) January 1978 Census Figures (Table 3), obtained from the Provincial Census Officer, Vanimo.
- (6) Observations and interview summaries, recorded in diary form during the survey.

Table 1 summarizes the data obtained. The main villages, as used by the Government for obtaining their census figures, are underlined. The survey was conducted in Tok Pisin. Data on Maimai No. 3, Porowate and Wosapom were collected by Cooper, who was surveying the Maimai Namblo Census Division at the same time.

Table 1  
SUMMARY OF SURVEY DATA

Village	Lang.	General Sociolin- guistic Question- naire	Question- naire on Language Use and Attitudes	100- Word List	25- Word List	Tok Pisin Literacy Test
(Including name of village if recorded away from home village)						
<u>Bel</u>	Mayo	x	x		x	
<u>Eburo</u>	Heyo				x	
<u>Gamo</u>	Heyo	x			x	
<u>Kaikeum</u>	Pahi	x	x	x		x
<u>Korobokom</u>	Heyo	x	x	x		
		(Sambuwuta)	(Wulbowe)	(Wulbowe)		
<u>Maimai No. 3</u>	Pahi	x	x	x		
<u>Mogovara</u>	Heyo				x	
<u>Nau'alu</u>	Mayo		2x		x	x
<u>Porowate</u>	Pahi		x	x		x
<u>Sambuwuta</u>	Heyo		3x			x
<u>Semengla</u>	Heyo				x	x
<u>Troro</u>	Heyo				x	
<u>Tuginaro</u>	Heyo				x	
					(Wulbowe)	
<u>Ulap</u>	Heyo	x	x	x		x
<u>Vei</u>	Heyo	x	x		x	x
<u>Wawihe</u>	Heyo		2x			
<u>Wongrai</u>	Heyo		x		x	
			(Wulbowe)		(Wulbowe)	
<u>Wolmaloo</u>	Mayo	x	2x	x		x
<u>Wosapom</u>	Pahi	x	x		x	x
<u>Wulbowe</u>	Heyo	x	3x	x		x
<u>Yimin</u>	Pasi	x		x		x
<u>Yimut</u>	Heyo	x			x	x
<u>Yituwa</u>	Heyo				x	
<u>Yuwut</u>	Heyo				x	
TOTALS:		12	21	8	14	12

## 1. GENERAL INFORMATION

### 1.1 Language Classification

According to Laycock (1973:69, 73-4), the Heyo language belongs to the Maimai Family and Stock of the Torricelli Phylum, while the Mayo, Pasi and Pahi languages are three of the five members of the Tama Family and Stock of the Sepik-Ramu Phylum.

Velma Foreman and Helen Marten of the S.I.L. have done linguistic and literacy work in Mayo, and have written a monograph and other papers on their findings. They have also finished a diglot (vernacular and Tok Pisin) New Testament in that language. No linguistic work has been done on any of the other three languages. The Heyo speakers often said that they prefer their language to be called "Wanib". Table 2 lists the alternative names for these languages, as given by Laycock (1968, 1973).

Table 2  
PREVIOUSLY ASSIGNED LINGUISTIC NAMES

HEYO	MAYO	PAHI	PASI
Arinwa	Mayo-Yesan	Lugitama	Besi
Lolopani	Yasyin	Riahoma	Warasai
Ruruhip	Yessan-Mayo	Wansum	Yau dialect of Mayo
Wan Wan			

1.2 Language Locations

The map (Appendix A) illustrates how the Wan Wan Census Division -- hereafter referred to simply as "Wan Wan" -- can be divided into four quarters, each representing a different language group. Some residents refer to the Heyo area as "Wan Wan Number One" and the remainder as "Wan Wan Number Two". Heyo and Pasi are fully contained in the census division, while Mayo extends south into the East Sepik Province, and Pahi extends north to include Maimai No. 3 in the Maimai Namblo Census Division.

1.3 Number of Speakers and Villages

The name "Wan Wan" is a Tok Pisin expression referring to the scattered nature of the many villages in the area ("one here and one there"). A village directory is supplied in Appendix D. Wan Wan is under the Provincial Government Administration Centre at Nuku. Table 3 gives the names of the "big" villages as used by the government. Each of these "big" villages represents other "smaller" villages in its area and has a government rest house where patrols can overnight.

Table 3

1978 CENSUS FIGURES (Grouped according to Language)

HEYO		MAYO		PAHI		PASI	
Gamo	268	Bel	51	Wosapom	168	Yimin	153
Semengla	243	Nau'alu	116	Yauwa	135		
Tuginaro	335	Wolmaloo	116	Yimauwi	263		
Ulap	159						
Vei	226						
Wulbowe	188						
Yimut	292						
	<u>1711</u>		<u>283</u>		<u>566</u>		<u>153</u>
Absentees:	113		4		12		1
		Totals:	Residents:	2713			
			Absentees:	130			

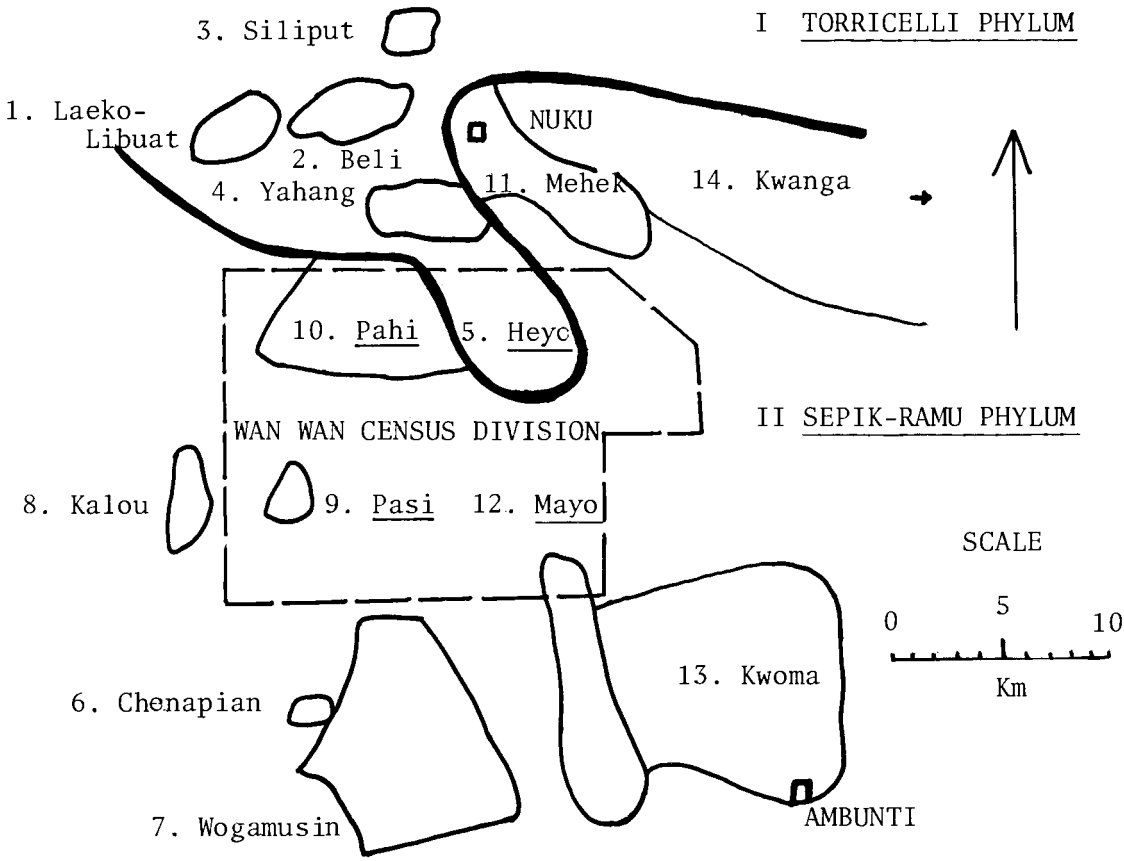
According to Cooper, there are also 20 Pahi speakers in Maimai No. 3, Maimai Namblo Census Division.

The absentees are mainly young men who have gone to work on plantations in New Britain and other islands. Many of them do not return to their home villages.

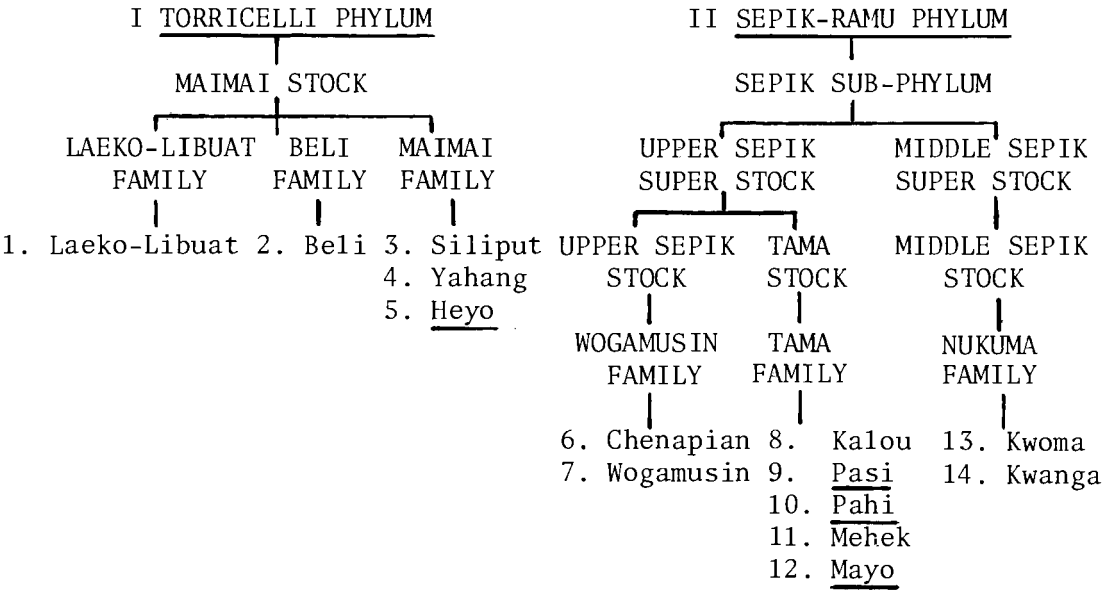
#### 1.4 Neighbouring Languages

According to Laycock (1973, attached map), Wan Wan is bordered on the north by languages in the Torricelli Phylum and on the south, east and west by languages of the Sepik-Ramu Phylum. An extract from Laycock's map, Figure 1 illustrates these phylas and gives his language classifications.

Figure 1.  
NEIGHBOURING LANGUAGES



———— Phylum boundary  
———— Language boundary  
- - - - - Wan Wan Census Division boundary



### 1.5 S.I.L. Work in Related Languages

Dave and Jackie Scorza work in Au (Torricelli Phylum), living west of Yangkok. Au is in a different stock than Heyo and so is not closely related to it.

Takashi and Kazue Manabe work in Kwanga, living in Yubanakor Village located on the eastern end of that language in the East Sepik Province. Pasi, Pahi and Mayo are in the same Sepik Sub-Phylum as Kwanga, but under a different super-stock (see Figure 1 and Table 11.)

The team of Velma Foreman and Helen Marten work in Yessan-Mayo, living in Maio village, located on the Sepik River in the East Sepik Province.

### 1.6 Churches and Missions

There are four missions working in Wan Wan: Catholic, Christian Missions in Many Lands (C.M.M.L.), South Seas Evangelical Church (S.S.E.C.) and Seventh Day Adventist (S.D.A.).

The Catholic mission at Wati, near Nuku, began in 1949 and has had considerable influence in the Heyo language group, conducting schools and classes for catechists. They now have a church, school, airstrip and house at Yimut. Father Arthur from Mukili (Maimai Namblo Census Division) spends some of his time in the Yimut house when he ministers in that area.

Operating from Nuku since 1959, the C.M.M.L. has held services in Wan Wan, but now the S.S.E.C. supervises the village churches at Sambuwuta and Wawihe.

The church at Wawihe was begun in 1977 by Thomas Abikra from Sambuwuta. He became literate through Catholic schools at Semengla and Wati in 1957-8 and attended the S.S.E.C. Bible School at Brugam in the East Sepik from 1973-5. S.S.E.C. services are held each morning and evening at Sambuwuta and Wawihe.

Traditional initiation courses for young men were held for two months every 3-4 years, but are now dying out, although they were conducted at Gamo and Yimut in 1980. The S.S.E.C. at Wawihe has made a cultural substitute by building a house in which two-month baptismal classes are held.

Only the Catholic mission works in the Mayo language area, with national Prayer Leaders taking services in the Nau'alu school. A new church is being built at Wolmaloo.

While I was at Yimin, the national S.D.A. pastor was conducting services twice daily, but he expected to leave at the end of 1980.



Table 4 summarizes the extent of mission influence in Wan Wan.

Table 4  
MISSIONS WORKING IN WAN WAN

MISSION	LANGUAGE GROUP	CHURCH LOCATION	OTHER VILLAGES ATTENDING (CENSUS NAMES ONLY)
Catholic	Heyo	Yimut	Gamo Kaikeum Vei
	Mayo	Nau'alu	Bel Wolmaloo
	Pahi	Wosapom	Porowate Yauwa Yimauwi
S.S.E.C.	Heyo	Gumawob	Tuginaro
		Sambuwuta	Semengla Wulbowe
		Wawihe	Ulap
S.D.A.	Pasi	Yimin	

### 1.7 Schools and School Attendance

The community schools at Yimut and Nau'alu, begun by the Catholic Mission, are now under government administration. The Mission still has some involvement in staff appointments. More students attended Yimut school in its earlier years. Table 5 gives statistics for the two schools.

Table 5  
SCHOOL STATISTICS

SCHOOL	YEAR BEGUN	ENROLMENT PER GRADE						TOTAL	GIRLS (approx.)	TEACHERS	
		1	2	3	4	5	6			1980	1981 (proposed)
Yimut	1971		22		17		47	86	20	4	3
Nau'alu	1978	34		49				83	20	2	2 or 3

With few job opportunities for school-leavers, parents do not seem to regard school as very important. They like their children to receive some education, but attendance is sporadic. Most do not like to send their children away to school and regret to see the deterioration of traditional culture which is caused by education. As subsistence farmers, families spend much of their time away from the village out in the bush and in their gardens.

About the only opportunities which school-leavers have for employment in Wan Wan are as Aid Post Orderlies, teachers or trade store clerks. These positions are quickly filled.

The Christians at Semengla and Wulbowe seemed to be significantly more interested in literacy and education. At the end of 1979 they applied to the provincial government for a school to be built at Wulbowe, which they would like C.M.M.L. to operate. They said that there are 60 children in the area who are old enough to hold their right ear with their left hand, the criterion used in many areas of P.N.G. to determine age eligibility for school.

Table 6 shows the number of students in the villages surveyed. Presumably all the High School students attend St. Francis High School at Seim, but this was not established. Proximity to schools greatly influences attendance. The numbers in Table 6 were obtained from the villages, not the schools.

Table 6  
SCHOOL ATTENDANCE

VILLAGE	LANGUAGE	SCHOOL	STUDENTS	GIRLS	HIGH SCHOOL STUDENTS
Korobokom	Heyo	Yimut	0	0	1
Gamo	"	"	25	2	0
Ulap	"	"	1	0	1
Vei	"	"	7	1	0
Wulbowe	"	"	1	0	4
Yimut	"	"	2	2	7 (15 from the area)
Bel	Mayo	Nau'alu	0	0	0
Wolmaloo	"	"	30	10	0
Yimin	Pasi	Nau'alu	1	0	0
		Yilui	0	0	0
Kaikeum	Pahi	Yimut	0	0	0
Maimai No. 3	"	Mukili	2	0	1
Wosapom	"	"	"many"	0	0

Some students at Nau'alu school come from Bur, Morwar and Warsai in the East Sepik.

## 1.8 Accessibility and Transportation

Small airstrips are located at Nau'alu, Yimin and Yimut. The one at Yimin is subject to inundation and was closed in October when an S.D.A. plane bogged on landing and overturned.

At present vehicles can only go as far as Wulbowe and Yimut. The Provincial Government plans to extend the Yimut road through Ulap to Nau'alu.

All the villages are connected by walking tracks, but from Bel to Yimin and from Yimin to Kaikuum these tracks are only passable in dry weather. Many rivers have to be crossed, and where there are bridges these are just single logs.

## 2. PRESENT LANGUAGE USE

### 2.1 Use of English

English is only used in Wan Wan in the two community schools. The teachers at Yimut use English as the medium of instruction, while Tok Pisin is used at Nau'alu. Except for the Nupela Testamen, all the school books I saw were in English. No conversational English was heard, and my experience was that conversations with school-leavers could only satisfactorily be held in Tok Pisin.

### 2.2 Oral Language

Children and young people are fluent in both Tok Pisin and their local language, and were heard to change freely from one to the other. Older men understand and use Tok Pisin with difficulty, while most of the older women only understand their own language.

Although Tok Pisin is often used in the home, mothers predominantly use the local language with their children.

Catholic and S.D.A. services are conducted entirely in Tok Pisin. In S.S.E.C. services the leaders translate the message into the vernacular for the older people and some songs and prayers are also in the local language.

In general, people prefer to use the vernacular. Conversations about council and government matters involve more use of Tok Pisin, which is also used to converse with people from other language groups. Older men sometimes know enough of neighbouring languages to communicate in them on a superficial level.

### 2.3 Literacy

Throughout the Wan Wan area, I was told that many could read in Tok Pisin. It was surprising to meet people who, without any schooling, had learned to read from their friends. The Nupela Testamen, song books in Tok Pisin and school books in English were almost the only books seen in the area.

To determine the general level of reading ability, ten men, mainly under 30, were tested during the survey. Cooper gave additional tests at Porowate and Wosapom villages. The two reading texts used and an evaluation are given in Appendix C. Each reader was asked to read the text silently first, then aloud. Records taken of speed, accuracy and comprehension are shown in Table 7. Only words read incorrectly the first time were regarded as errors.

Table 7  
TOK PISIN LITERACY TEST RESULTS

VILLAGE	LANG.	WORDS PER MINUTE		% OF WORDS READ CORRECTLY		NO. OF QUESTIONS ANSWERED CORRECTLY		COMMENTS
TEXT:→		A	B	A	B	A	B	
Kaikeum	Heyo	40	42	93	93	3	3	taught by catechist
Sambuwuta	Heyo	125	125	99	97	3	3	6 years of school
Semengla	Heyo	29	18	86	82	4	2	never attended sch.
Ulap	Heyo	30	21	88	88	2	2	1 year of school
Vei	Heyo	26	26	89	92	3	3	6 years of school
Wulbowe	Heyo	118	125	97	100	3	3	
Yimut	Heyo	67	83	89	92	3	3	6 years of school
Nau'alu	Mayo	118	63	97	96	3	3	
Wolmaloo	Mayo	72	51	97	93	3	3	Aid Post Orderly
Yimin	Pasi	16	36	86	92	3	1	(no school, New reader for Text B)
Porowate	Pahi	77	59	98	94	2	2	
Wosapom	Pahi	<u>89</u>	<u>64</u>	<u>97</u>	<u>82</u>	<u>2</u>	<u>1</u>	
AVERAGE		67	59	93	92	3	2.4	

Reading was slow, probably due to lack of practice, but comprehension was good.

3. ATTITUDES TOWARDS LANGUAGE

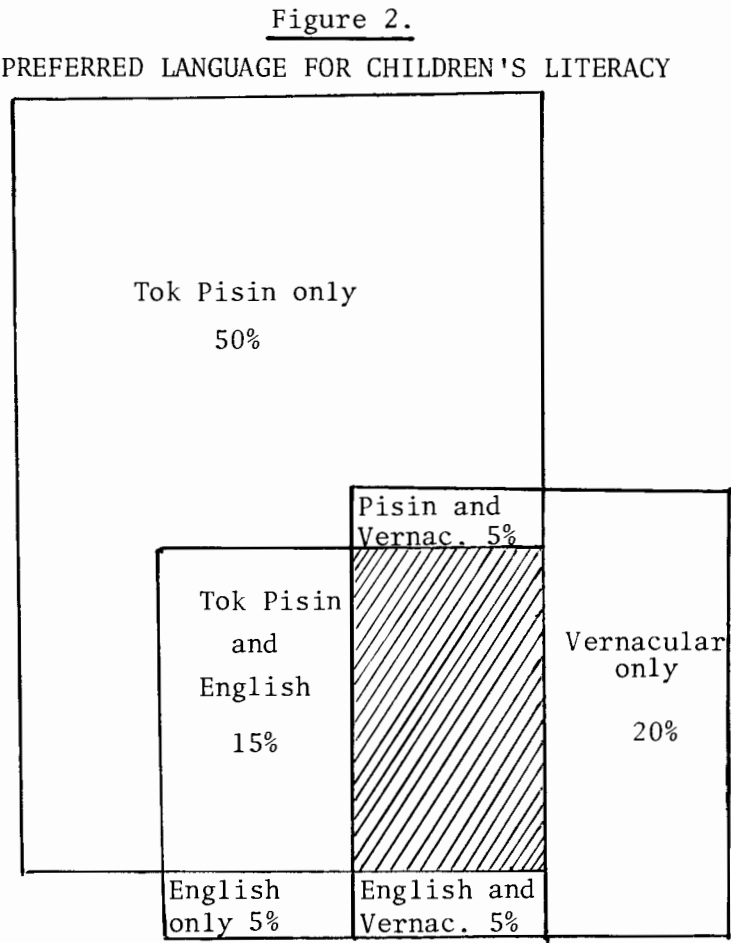
3.1 The Vernacular

It was unanimously expressed that Tok Pisin would never replace the vernacular. Only the Pahi villages of Maimai No. 3, Porowate and Wosapom said that God's Word would not be clearer if it was in their language. This contrasts with Heyo speakers, who were very enthusiastic about the idea of having Scripture in their mother tongue. The difference here is probably the fact that while there was little evidence of reading in Pahi, Heyo speakers in S.S.E.C. areas struggle constantly to read the Nupela Testamen.

3.2 Tok Pisin

Many people expressed their appreciation for the wider range of communication made available to them through Tok Pisin. A large majority (81%) said that it was sufficient to express anything they wanted to say.

Figure 2 presents the results given to the question concerning which language they would prefer their children to learn to read and write.



Tok Pisin was the preferred language, by far, for literacy, with 70% referring to it in their answer. Of these, 50% said "Tok Pisin only". A total of 30% referred to the vernacular and 25% referred to English. However 20% indicated a preference for "Vernacular only" while only 5% said "English only".

Although the schools have used English since 1975 to teach literacy, it appears that the people prefer to have their children learn to read and write in languages they already know.

### 3.3 English

Possibly another reason for the lack of interest in schools is that people did not seem to feel that there was much value in trying to learn English, which for them is very difficult and quite outside their own culture. Only one person said that it would be an improvement for his children.

## 4. PREDICTED CHANGES IN LANGUAGE USE

### 4.1 Questionnaire

When asked whether their language is changing, 76% replied 'no'. But the question may have been ambiguous and it is not clear whether they were referring to changes between generations or dialects.

### 4.2 Between Generations

Two clear references were made to differences between generations, each referring to communication between separate villages. At Wulbowe it was said that the older men at Tuginaro spoke Heyo differently. At Kaikeum they said that their young men could hear Pahi as spoken at Watemaher, but could not reply in that dialect.

Commenting on differences between generations in the Sepik region in 1960, Glasgow and Loving (1964:11) wrote:

Twenty years ago it was necessary to learn a bit of the adjoining language to make oneself understood, whereas today, with the widespread knowledge of Pidgin ... there is inadequate motivation for the people to learn any significant amount of other unrelated languages.  
(Emphasis mine)

### 4.3 Between Dialects

The comments at Wulbowe and Kaikeum suggest that the increasing use of Tok Pisin may be affecting dialects in the same language. Because people probably prefer to speak either the same dialect or else use Tok Pisin, dialects may be drifting further apart at a faster rate than before.

## 5. LINGUISTIC SURVEY

### 5.1 Aim

This section examines dialect and language boundaries within Wan Wan. The main focus will be on relationships between the four language groups. Little information was gathered on the dialects.

### 5.2 Procedure

Two kinds of data were collected on the survey. A Dialect Differences Questionnaire was used to record the linguistic differences as perceived by the speakers, and the Standard SIL Survey Word List as modified by Loving (1980:4), was used as a basis for lexicostatistical analysis.

### 5.3 Dialect Differences Questionnaire

#### 5.3.1 Results

In twelve villages, a group of people, including the leaders if possible, were asked to compare neighbouring languages with their own. They were to put them into five language categories, ranging from 'exactly the same' to a 'different language'. Table 8 shows the results.

Table 8  
SPEAKER PERSPECTIVES ON DIALECT RELATIONSHIPS

PLACES MENTIONED		PLACES GIVING INFORMATION											
LANG.	Name	HEYO					MAYO		PASI	PAHI			
		Gamo	Koro-bokom	Ulap	Vei	Wulbowe	Yimut	Bel	Wolmaloo	Yimin	Kaikeum	Maimai 3	Wosapom
HEYO	Gamo	-	A	A		A					D		
	Semengla			A		A							
	Tuginaro			A		A, D							
	Ulap	A	A	-		A		E					
	Vei		A	A	-	A	A						
	Wulbowe	A		A		-							
MAYO	Yimut	A	A	A	A	A	-				D		C
	Bel							-	A				
	Fusfari								A				
	Nau'alu		E	E	E	E	E	B	A	A			
PASI	Wolmaloo		E					B	-				
	Yimin			E		E		A	B	-	B, D		
PAHI	Kaikeum	D					E	E	B	C		A	
	Maimai 3		D		C							-	B
	Porowate											A	A
	Wosapom	D			C	E	E				A	A	-
	Watemaher										B	B	B
	Yauwa						E	E			A	A	A
YAHANG	Yimauwi	D								C		B	A
	Maimai 1		D	D		D	B			E	B	D	E
	Maimai 2		D	D		D	B			E	B	D	E
	Namblo		D	D		D	B		E				
BELI	Wombiu											D	
	Mukili		D		E						D		
	Yulem												E
MEHEK	Makru				E	E	D		D	D	D		
	Nuku											D	
	Klaplei						E						
KALOU	Warsei (E. Sepik)		E						n				
	Yilui (South Wapei C.D.)									B			
KEY: A = exactly the same B = changes slightly C = changes considerably D = changes even more E = different language													



All the six Heyo villages said that they have no dialects, except that at Wulbowe they felt that their young men could not understand the older men at Tuginaro. Hence the 'A, D' representation.

The most interesting feature of this table is that people at Bel said that Yimin had the same dialect as their own, while Nau'alu and Wolmaloo changed it slightly. Yet the Provincial Government census (1980:20) places Bel, Nau'alu and Wolmaloo in the Mayo language group and assigns the Pasi language to Yimin alone. The lexicostatistical analysis will further examine these relationships.

Pahi speakers at Kaikeum felt that their language only changed slightly from the Pasi language at Yimin, but it was not known by the young men at Kaikeum. This relationship is shown as 'B, D'. They said that there had been more interaction between these villages in earlier times.

### 5.3.2 Evaluation

Although the people received a careful explanation of what was required, this questionnaire was very hard to administer. Only Yimin villagers could allocate all five categories. The concept of gradations of language similarity seemed foreign to them. Also, questionnaire answers may have been based on comprehension of the other languages, rather than on objective similarities and differences between them.

Another consideration is that people may have aligned themselves with prestige villages and disassociated themselves from lower-ranking villages.

## 5.4 Lexicostatistical Survey

### 5.4.1 Data Collection

The modified word list had 106 items. Once this long list had been taken in another village said to be exactly the same "talk", then often only a short list of the first 27 items were collected to ensure that this was so and to test reliability and dialect variation. Word lists were elicited by obtaining a group consensus and recording only one answer. A list previously collected from another village speaking that language was then compared with the one just received, and the group was questioned about any discrepancies. For example, it was found with the word "name" (item 77) that people sometimes gave specific names, rather than their word for "name". On the basis of suspected inaccurate data and for easy percentage calculations, the 106-Word List was reduced to 100 items, and the 27-Word List to 25.

### 5.4.2 Data Analysis

All the word lists were compared to determine cognates. In this paper, 'cognates' are regarded as 'phonetically similar words for which historical reconstructions have not been carried out'.

After lining up the lists, a basis of 50% similarity in forms was used to indicate cognates. This procedure followed the guidelines of McElhannon, as quoted in Sanders (1977:34). Sanders' cognate set method (1977:36) was followed to compute cognate percentages between villages.

### 5.4.3 25-Word List Results

Table 9 shows the percentages of shared cognates between villages in which the 25-Word List was recorded. Pahi villages are excluded from this Table because more worthwhile comparisons can be made using the 100-Word Lists. Villages are listed in the order in which data was collected.

Table 9

COGNATE PERCENTAGE MATRIX BASED ON THE 25-WORD LISTS

<u>Tuginaro</u>															
100	<u>Wulbowe*</u>														
100	100	<u>Wongrai</u>													
92	92	92	<u>Semengla</u>												
100	100	100	96	<u>Korobokom*</u>											
88	88	88	96	88	<u>Ulap*</u>										
92	92	92	96	92	92	<u>Yituwa</u>									<u>HEYO</u>
96	96	96	96	96	92	100	<u>Mogovara</u>								
84	84	84	84	84	92	88	88	<u>Eburo</u>							
96	96	96	92	96	88	92	92	88	<u>Troro</u>						
92	92	92	100	92	92	96	96	92	96	<u>Yuwut</u>					
92	92	92	96	92	92	96	96	88	96	100	<u>Gamo</u>				
88	88	88	94	88	100	92	92	92	88	92	92	<u>Yimut</u>			
92	92	92	88	92	92	96	96	88	92	84	96	92	<u>Vei</u>		
4	4	4	4	4	4	4	4	4	4	4	4	4	4	<u>Wolmaloo*</u>	
4	4	4	4	4	4	4	4	4	4	4	4	4	4	84 <u>Nau'alu</u> <u>MAYO</u>	
4	4	4	4	4	4	4	4	4	4	4	4	4	4	76 64 <u>Bel</u>	
4	4	4	4	4	4	4	4	4	4	4	4	4	4	68 60 84 <u>Yimin*</u> <u>PASI</u>	

\*Villages where the 100-Word List was elicited. The first 25 items were compared with the 25-Word Lists.

The most significant feature in the Heyo section of this matrix is the low 84% cognate relationship which Eburo has with five other villages. This word list was elicited from a 30 year old man on his own in the village.

At Mogovara, my main language helper was a 45 year old man, and with at least four of the 25 words elicited, my 18 year old guide from Ulap quietly but clearly expressed his disagreement. As we have seen from Table 8, Heyo speakers like to say that they have no dialects. I suspect, therefore, that my guide disapproved the use of a dialect which was inconsistent with his desire to portray an unfragmented Heyo language. Some words which irritated the guide were still counted as cognates, because the differences were usually in the inflections, and did not take the words beyond the bounds of 50% similarity.

The Mayo village, Bel, is shown to be more closely related to Yimin (84%) than to Wolmaloo (76%) or Nau'alu (64%). From Bel it is a six hour walk west to Yimin and only two hours east to Wolmaloo (four hours to Nau'alu). Yet the lexicostatistical data is consistent with the subjective data recorded in Table 8, in which people at Bel said that their language was 'exactly the same' as that of Yimin, while the dialects at Wolmaloo and Nau'alu 'changed slightly'.

Laycock (1973:22) lists Nau'alu as the only West Sepik village speaking Mayo and does not mention Bel or Wolmaloo.

#### 5.4.4 100-Word List Results

Table 10, which shows cognate percentages based on the 100-Word Lists, is able to reflect the linguistic patterns more accurately than the 25-Word Lists. Much more data is still required from the 73 Wan Wan villages before uncertainties such as Heyo dialects and Mayo-Pasi classifications can be resolved.

Table 10

## COGNATE PERCENTAGE MATRIX BASED ON THE 100-WORD LISTS

<u>Wulbowe</u>										
92	<u>Korobokom</u>			HEYO		A				
89	91	<u>Ulap</u>								
4	3	3	<u>Wolmaloo</u>				MAYO			
			B							
3	3	3	66	<u>Yimin</u>			PASI			
2	2	1	33	36	<u>Kaikeum</u>					
5	4	3	22	22	85	<u>Porowate</u>			PAHI	C
5	4	3	21	19	54	72	<u>Maimai No. 3</u>			

Section A is in accord with Laycock's claim that Heyo belongs to a different phylum than the other three languages. On average, Heyo is only 3% cognate with either Mayo, Pasi or Pahi.

In Section B, Wolmaloo compares with Yimin at 66%. (The first 25 words compared at 68%). Laycock suggests that Pasi may be part of the Yau dialect of Mayo (1973:22). As we have already seen, this theory is confirmed by the people themselves and also by the 25-Word List taken at Bel.

In the Pahi languages in Section C, Kikeum and Porowate have 85% shared cognates, and at Wosapom, a 25-Word List recorded by Cooper was 100% cognate with Porowate.

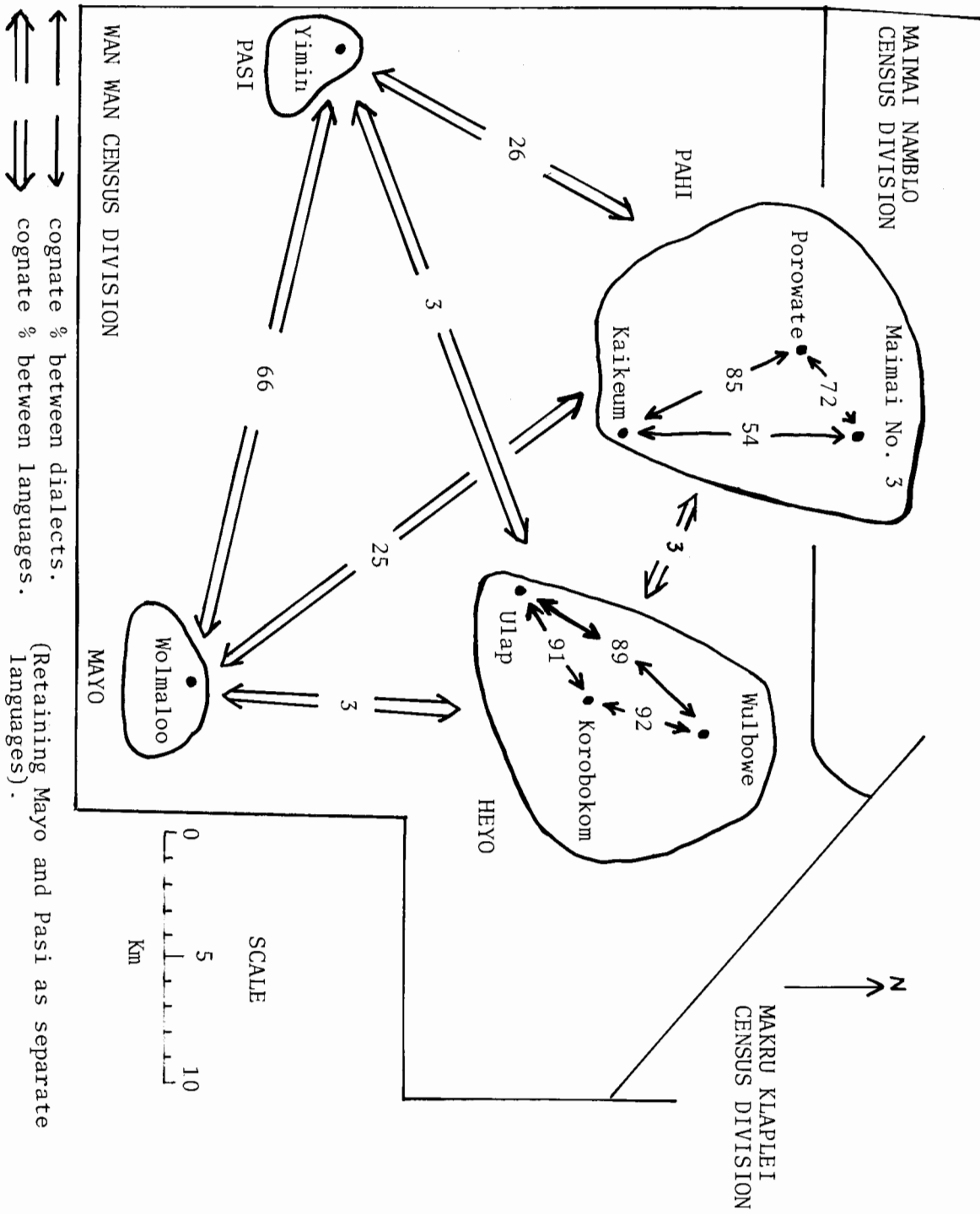
Although Kikeum and Maimai No. 3 only compare at 54%, Simons quotes McElhannon as saying that cognate percentages within the same language may even be as low as 54% (1977:16). Simons then says:

For a synchronic study there is no doubt as to how the cut off percentage is determined - it must be correlated to the point at which intelligibility between speech communities begins and ends.

Maimai No. 3 and Kikeum are at the ends of a language chain with Porowate as the link.

Figure 3 summarizes the 100-Word List cognate percentages between Wan Wan villages.

Figure 3.  
COGNATE PERCENTAGES BETWEEN VILLAGES



5.4.5 Comparisons Between Neighbouring Languages

Word lists for languages in Maimai Namblo Census Division were collected by Greg Cooper and for Makru-Klaplei Census Division by Robert Bugenhagen. Table 11 gives the cognate percentages between languages in Wan Wan and these two neighbouring census divisions.

Table 11  
COGNATE PERCENTAGE COMPARISONS BETWEEN LANGUAGES

LANGUAGES:	Census Divisions					
	WANWAN	MAIMAI NAMBLO			MAKRU-KLAPLEI	
	YAHANG	BELI	LAECO-LIBUAT	KWANGA	MEHEK	SILIPUT
Heyo	58	2	3	4	12	24
Mayo	0	0	0	20	31	5
Pasi	1	0	0	21	38	4
Pahi	6	2	1	13	51	3

These figures agree with Laycock's classifications, which are:

TORRICELLI PHYLUM

MAIMAI FAMILY

Siliput

Yahang

Heyo

SEPIK-RAMU PHYLUM

SEPIK SUB-PHYLUM

TAMA FAMILY      NUKUMA FAMILY

Pasi

Kwanga

Pahi

Mehek

Mayo

The two languages closest to Heyo are Yahang and Siliput. Laycock combines these three as the Maimai Family of the Torricelli Phylum.

Mehek is the closest of these languages to Mayo, Pasi and Pahi. Kwanga is the second closest. These patterns are consistent with Laycock's Tama and Nukuma Family groups in the Sepik-Ramu Phylum.

## 6. ALLOCATION SITES

### 6.1 Heyo

The area between Yimut and Ulap is recommended for an allocation site for any linguistic team intending to conduct further work on the Heyo language. It is reasonably central geographically and linguistically, and those interested in allocating should visit the villages in that area and appraise them to select the best location. There is a small airstrip at Yimut and the government plans to extend the road from Yimut, taking it through Ulap to Nau'alu. The census village (i.e. area) with the largest population is Tuginaro, but it is geographically peripheral. The traditional culture remains somewhat intact around Yimut and young language helpers would be readily available. Temporary accommodation might be available in the government rest houses. Although the area seemed to have adequate supplies of food, firewood and building materials, a rainwater tank would be required to guarantee an adequate water supply.

### 6.2 Mayo-Pasi

Data from Mayo and Pasi villages in Wan Wan, including Fusfari, would need to be compared with the Sepik River dialect of Mayo, to determine whether other translations are needed for dialects found in Wan Wan.

Facilities recommending Nau'alu for possible allocation are an airstrip, school and the proposed road from Yimut. If Yimin and Bel can use materials translated for Nau'alu, then the geographic centrality of Bel would also need to be considered.

### 6.3 Pahi

Porowate seems to be the central dialect of Pahi and its people have a high regard for the vernacular. The dry weather road from Nuku only comes as far as Maimai No. 1.

## 7. SUMMARY

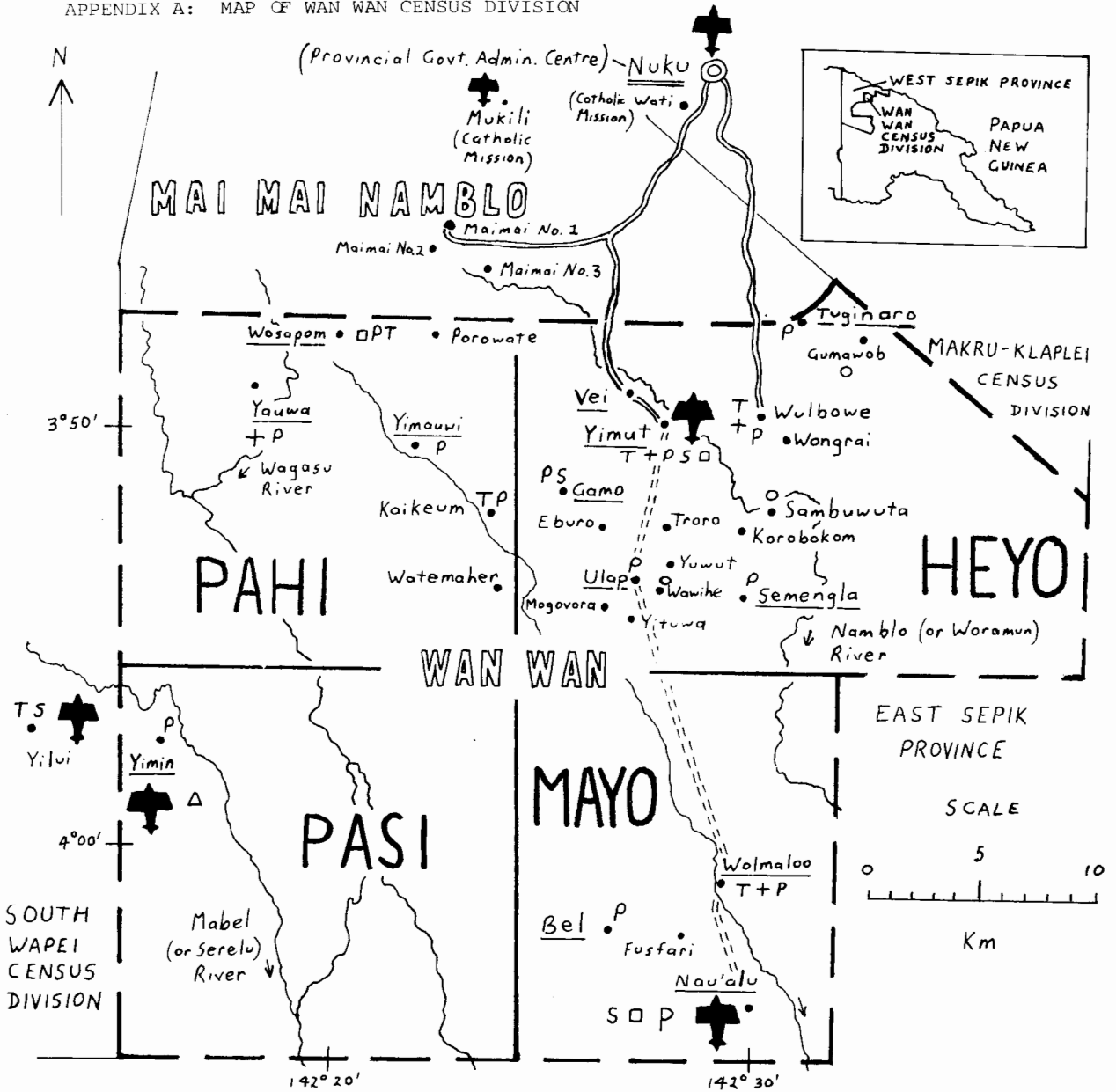
There are probably only three languages in Wan Wan: Heyo, Pahi and Mayo (with Pasi as a divergent dialect). Heyo is by far the largest language, and although dialectal differences can be found, a complete description of them awaits further study.

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APPENDIX A: MAP OF WAN WAN CENSUS DIVISION



— — — Wan Wan boundary  
 — — — language boundary  
 ~~~~~ river  
 ===== vehicle road  
 - - - - - proposed road  
 ✈ airstrip  
 • village  
 (main ones underlined)

T trade store  
 + aid post  
 P patrol house  
 (haus kiap)  
 CHURCHES  
 □ Catholic  
 ○ South Seas Evangelical Church  
 Δ Seventh Day Adventist  
 S School

Pahi and Heyo language areas have hills rising to 200'. Pasi and Mayo areas are subject to inundation.

## Appendix B.

## TABLES AND FIGURES

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## Appendix C.

## TOK PISIN LITERACY TEST AND EVALUATION

Text A. - Kaikai Nogut

Wanpela wok painimaut i soim olsem planti pikinini long Is Sepik i save gat sik bun nating long wanem ol i no save kisim gutpela kaikai. Ol pikinini i no kisim gutpela kain kaikai i ken kisim sik nogut isi tru na tu bai i mekim ol i les na i no inap long lainim samting long ples na long skul.

As bilong dispela long wanem planti papa na mama, i wok long baim ol rabis kaikai na i givim ol pikinini bilong ol.

Ol gutpela kaikai ol pikinini i ken baim long stua em long: pinat, bisket wantaim pinat bata, kokonat bisket na olgeta dring i gat susu long en.

Askim:

1. Bilong wanem planti pikinini i gat sik bun nating?
2. Sapos ol pikinini i no kisim gutpela kaikai, wanem samting bai i kamap long ol?
3. Dispela man i tok planti papa na mama i wok long baim wanem kain kaikai na givim long ol pikinini bilong ol?
4. Wanem kain dring ol pikinini i ken baim em long stua na kisim gutpela kaikai?

English Copy of Text A - Inadequate Diet

It has been found that many children in the East Sepik are malnourished because they don't eat good food. Children who don't eat good food can become sick very easily and are too tired to learn anything at home or at school.

The reason for this is that many parents buy their children junk food.

Good food, which the children can buy at the store, would be: peanuts, biscuits with peanut butter, coconut biscuits and any drink with milk.

Questions:

1. Why are many children malnourished?
2. What happens if children don't eat good food?
3. What kind of food does this man say parents buy for their children?
4. What kind of good food drink can children buy at the store?

Text B. - Saina

Planti pipel bilong Saina i seksek tru long lainim tok Inglis. I luk olsem tok Inglis bai kamap namba tu tokples bilong Saina. Nambawan tokples bilong ol, ol i kolim Mandarin. I gat ripot olsem planti sumatin i karim ol buk i gat tok Inglis ol i save pasim ol man long rot na askim ol long paitim tok Inglis wantaim ol. Olsem bai ol i lainim Inglis hariap. Namba bilong ol sumatin i laik lainim Inglis i bikpela tru. I gat 150 milien sumatin long primeri skul, 65 milien long hai skul na 860 tausen sumatin long bikskul olsem yuniversity na kolis.

Askim:

1. Planti pipel bilong Saina i seksek long wanem samting?
2. Nambawan tok ples bilong Saina i wanem samting?
3. Bilong wanem ol i save pasim ol man long rot?
4. Hamas sumatin i gat long hai skul?

English Copy of Text B - China

Many Chinese are anxious to learn English. It looks as if English will be the number two language in China. Their number one language is called Mandarin. Reportedly, many students carrying English books stop people on the road and try them out with English. In this way they learn English quickly. A vast number of students want to learn English. There are 150 million students in primary school, 65 million in high school and 860 thousand at advanced schools such as university or college.

Questions:

1. What are many Chinese anxious to do?
2. What is the number one language in China?
3. Why do they stop people on the road?
4. How many high school students are there?

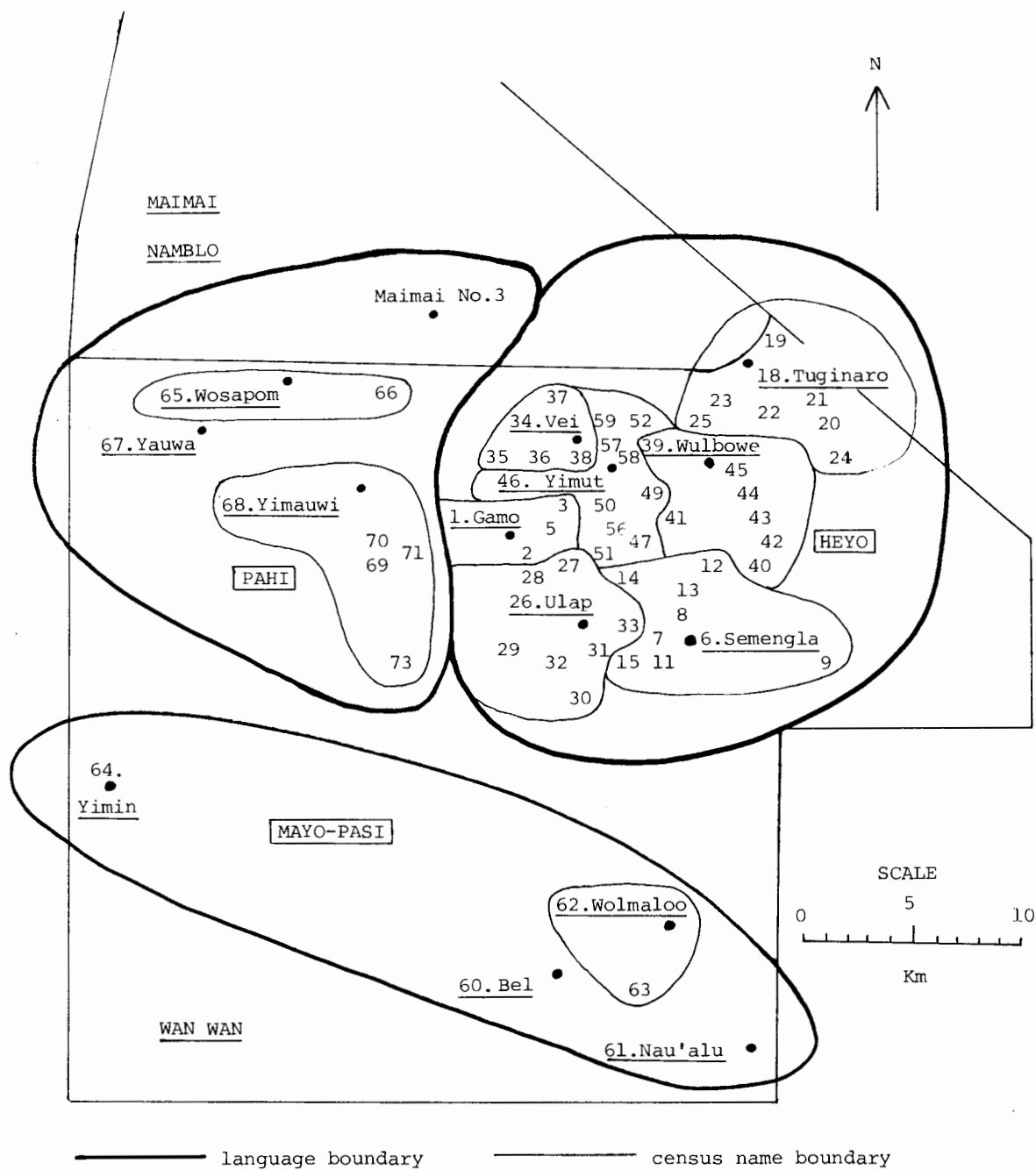
Literacy Test Evaluation

The two texts came from A Sociolinguistic Survey of Wom, Moeckel and Moeckel, in this volume. Text A was from Is Sepik Nius, Desemba 15, 1978. p. 7. Text B was from Wantok, Mas 22, 1980. p. 7. Although I asked for the best reader in each village, I usually had to test someone in the group around me at the time. Table 7 results should indicate the level of the average young reader.

Question two of Text A had three possible answers and many readers confused it with question one. Because there are no examples given of rabis kaikai, question three was usually answered with reference to paragraph three instead of paragraph two.

The subject matter in Text B was harder, resulting in slightly poorer responses. Nearly every reader had difficulty reading and recalling the large numbers.

## APPENDIX D. VILLAGE LOCATIONS MAP



## Index to Village Locations Map

The underlined names on the map and at the top of each of the following lists is the census name, used for all villages or hamlets in the list beneath it. The people call these the "big names". Census population figures from Table 3 are given for each of these groupings.

### HEYO NAMES

|                           |                        |                               |
|---------------------------|------------------------|-------------------------------|
| 1. <u>Gamo No. 1</u> 268  | 6. <u>Semengla</u> 243 | 18. <u>Tuginaro No. 2</u> 335 |
| 2. Mapug                  | 7. Aive                | 19. Bre                       |
| 3. Onwuriwiyev            | 8. Korobokom           | (Tuginaro No. 1)              |
| *4. Romowosu              | 9. Magikom             | 20. Grabi                     |
| (Gamo No. 2)              | *10. Manbi             | 21. Gumawob                   |
| 5. Wadara                 | 11. Mewata             | 22. Senkom                    |
|                           | 12. Sambuwuta No. 1    | 23. Turo                      |
|                           | 13. Sambuwuta No. 2    | 24. Wadakob                   |
|                           | 14. Troro              | 25. Watelisi                  |
|                           | 15. Walasobo           |                               |
|                           | *16. Walater           |                               |
|                           | *17. Walwo             |                               |
| 26. <u>Ulap No. 1</u> 159 | 34. <u>Vei</u> 226     | 39. <u>Wulbowe No. 1</u> 188  |
| 27. Alva                  | 35. Boya               | 40. Elbuelbug                 |
| 28. Eburo                 | 36. Undu               | 41. Helbo                     |
| 29. Mogovara              | 37. Yobo               | 42. Soro                      |
| 30. Mulb                  | 38. Yaiyan             | 43. Waguri                    |
| 31. Wawihe                |                        | 44. Wongrai                   |
| (Ulap No. 2)              |                        | (Wulbowe No. 3)               |
| 32. Yituwa                |                        | 45. Yowes                     |
| 33. Yuwut                 |                        | (Wulbowe No. 2)               |
|                           |                        | 46. <u>Yimut</u> 292          |
|                           |                        | 47. Emne                      |
|                           |                        | *48. Humer                    |
|                           |                        | 49. Humag                     |
|                           |                        | 50. Mombur                    |
|                           |                        | 51. Nagob                     |
|                           |                        | 52. Rabag                     |
|                           |                        | *53. Ulwur                    |
|                           |                        | *54. Walwo                    |
|                           |                        | *55. Wangu                    |
|                           |                        | 56. Weluv                     |
|                           |                        | 57. Woho                      |
|                           |                        | 58. Yever                     |
|                           |                        | 59. Yugwib                    |

## MAYO-PASI NAMES

60. Bel 51    61. Nau'alu 116    62. Wolmaloo 116    64. Yimin 153  
63. Fusfari

## PAHI NAMES

[illegible]

\* position on map not known