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NO. 1

THE NDU LANGUAGE FAMILY

(Sepik District, New Guinea)

by

D. C. LAYCOCK

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P R E F A C E

This book is based on linguistic material collected during fieldwork in the Sepik District, Territory of New Guinea, during the period May 1959 to March 1960. Before my departure for the field no one, least of all myself, had more than an outline knowledge of what I might expect to find in the way of languages and their internal relationships throughout the Sepik District. Accordingly, fieldwork was planned as a survey of the languages of a large, geographically continuous segment of the Sepik River basin, the area to be enlarged or reduced as time and circumstances permitted.

When it became apparent that the most profitable line of research was to concentrate on the large interrelated group of languages clustered around the Middle Sepik area, the survey plan was not abandoned, but was modified to include, as far as possible, only languages of the related group and those languages which surrounded this group on the northern, western and eastern sides - the southern side proving impossible to visit. A few exceptions were made because of prevailing circumstances.

From the documentation of the related group - the Ndu family - the present study has emerged. Languages outside the Ndu family are mentioned only in passing or in contrast to members of the family, although considerable material was collected in them. Analysis and publication of this material is planned for a later date. Those who in the meantime are interested in the distribution of the languages concerned should consult A. Capell, *A Linguistic Survey of the South-Western Pacific* (revised edition, South Pacific Commission Technical Paper No.136, Noumea, 1962) and my own brief article 'The Sepik and its Languages' (*Australian Territories* 4, No.4.35-41, 1961).

The plan of this work should be apparent from the table of contents. In the first section, an outline of the geography of the Sepik District is given, as well as an account of the distribution of the major languages encountered and the numbers and types of natives who speak them. Then follows a summary and a justification of the method of 'direct eliciting' which was followed in obtaining material. The remaining sections, which form the bulk of the book, show

the grammatical and lexical interrelationships of members of the Ndu family, and the conclusions to be drawn therefrom. The appendices add supplementary material.

Although this work is divided into parts, the numbering of sections is continuous throughout. The number to the left of the first decimal point is a whole number, and is not subdivided; the remaining subsections are subdivided decimally in pairs. Zero (0) is not used in the numeration.

The spelling of place-names in the Sepik District conforms to that of the official *Village Directory* (Department of Native Affairs, Port Moresby, 1960), and to that of the principal map used: Sepik District 1 inch = 4 miles, Port Moresby 1960. These sources have been supplemented where necessary by the Fourmil series compiled by the Department of Lands, Surveys and Mines, Port Moresby.

In a few cases phonemicisation of native names has been attempted. This is only possible, however, when the words were pronounced by a native of the correct linguistic group in a context which ruled out the possibility of an approximation to the prevailing European or Pidgin pronunciation. Latitude and longitude are given for all important places mentioned on their first occurrence in the text.

A roving fieldworker gathers no moss, but many indebtednesses. In a brief compass it is not possible to do justice to all who helped me in my research, and I apologise in advance to anyone whose name I have inadvertently omitted from the following acknowledgements.

Firstly, I must thank the Australian National University, whose scholarship grant and ample field allowances gave me the initial opportunity for research. Secondly, I have to thank my supervisor, Dr. S.W. Wurm, who taught me what to look for and how to look for it, and whose tireless persistence in reading drafts of this work gave me the encouragement to keep writing it.

For permission to reproduce, from Dr. Capell's *Survey*, the map on page 18, I am very grateful to Dr. Capell, to the South Pacific Commission, and to the cartographer, Mr. Edgar Ford. Hatching of Ndu-family languages has been added.

My thanks also go to my many friends in New Guinea, particularly to the many Administrative officers who simplified my progress and who frequently provided assistance and hospitality at short notice; also to the missionaries of all denominations, who, like Good Samaritans, on occasion fed me and took me in. I must especially thank Miss Pat Davidson and Mrs. Hazel Easton, of the Assemblies of God Mission, for

additional information on the Abelam and Boikin languages; also Miss Shirley Matthews, of the South Seas Evangelical Mission, whose premature death in 1959 brought to an end her valuable studies in the Arapesh language.

Mr. Kay Liddle, of the Christian Missions in Many Lands, Green River, provided me with hospitality, an excellent informant, and my first insight into the class-system of the Abau language: to him too many thanks.

Finally, I owe a debt to my informants for their patience with me. If they ever learn to read English, they will realise that this is not quite, unfortunately, the book that I promised I would write about their languages.

*Canberra, A.C.T.,
March 1962.*

For publication, a number of small changes and revisions have been incorporated into this work. I am grateful for suggestions from Dr. Fred Householder, Indiana University, and Dr. Kenneth Hale, University of Southern Illinois.

*Berlin, Germany,
January 1964.*

TABLE OF CONTENTS

	<i>Page</i>
<i>PREFACE</i>	iii
PART I: ORIENTATION	
1. The Sepik District	3
1.1. Area and Administration	3
1.2. Terrain	3
1.3. Population	5
1.4. Anthropology and Ethnography	7
1.5. History of the Sepik District	9
2. Field Methods	10
2.1. Direct Eliciting	10
2.2. Eliciting Material	10
2.3. Safeguards	11
2.4. Texts	12
2.5. Language of Interrogation	12
2.6. Informants	13
2.7. Conclusion	13
3. Terminology and Abbreviations	20
3.1. Terminology	20
3.2. Abbreviations and Symbols	20
PART II: PHONOLOGY AND GRAMMAR OF ABELAM	
4. Introduction	25
4.1. The Abelam Language	25
4.2. Material in Abelam Dialects	26
4.3. Introduction to the Grammar	27
5. Phonology	29
5.1. Phonological Units	29

	<i>Page</i>
5.2. Stress	29
5.3. Juncture, Transition and Pauses	30
5.4. Intonation	31
5.5. Phonemics and Orthography	32
5.6. Allophonic Variations affecting Classes of Phonemes	33
5.7. Allophonic Variations in Detail	34
5.8. Syllable and Phrase Structure	42
5.9. Morphophonemics	44
6. Grammar	46
6.1. Minimal Utterance	46
6.2. Sentences containing only one Verb	46
6.3. Predicate Expansions	52
6.4. Subject Expansions	55
6.5. Further Expansions of Basic Sentences	58
6.6. Sentences with more than one Verb	67
6.7. 'Sentence-Medial' Verb Forms	69
6.8. Residue	75
6.9. Morpheme Inventory	81
7. Wosera Abelam Texts	88
7.1. Texts from Situational Testing	88
7.2. Free Texts	93
PART III: OUTLINE GRAMMARS OF OTHER LANGUAGES	
OF THE NDU FAMILY	
8. Introduction to Outline Grammars	101
8.1. Presentation	101
9. Outline Grammar of Boikin	103
9.1. Introduction	103
9.2. Materials in Boikin	103
9.3. Phonology of Boikin	104
9.4. Outline of Boikin Grammar	106

	<i>Page</i>
10. Outline Grammar of Iatmul	112
10.1. Introduction	112
10.2. Materials in Iatmul	113
10.3. Phonology of Iatmul	113
10.4. Outline of Iatmul Grammar	114
11. Outline Grammar of Manambu	120
11.1. Introduction	120
11.2. Materials in Manambu	120
11.3. Phonology of Manambu	120
11.4. Outline of Manambu Grammar	121
12. Outline Grammar of Ngala	131
12.1. Introduction	131
12.2. Phonology of Ngala	131
12.3. Outline of Ngala Grammar	133
13. Outline Grammar of Yelogu	139
13.1. Introduction	139
13.2. Phonology of Yelogu	139
13.3. Notes on Yelogu Grammar	140
14. Notes on Sawos	144
14.1. Introduction	144
PART IV: LEXICAL COMPARISON OF LANGUAGES OF THE NDU FAMILY	
15. Presentation of Lexical Material	147
15.1. Introduction	147
15.2. Word List	147
15.3. Sound Correspondences	148
15.4. Presentation	150
16. Comparative Word List	151
17. Computation of Lexical Relationships	179
17.1. Introduction	179

	<i>Page</i>
17.2. Lexicostatistical and Glottochronological Results	179
17.3. Significance of Table X	181
 PART V: THE NDU FAMILY IN PERSPECTIVE	
18. Internal Relationships in the Ndu Family	185
18.1. Introduction	185
18.2. Relationship	185
18.3. Mutual Interaction of Ndu-Family Languages	189
19. The Ndu Family: Conclusions	191
19.1. Relationship with Other Languages	191
19.2. Migration of the Ndu Family as a Whole	192
19.3. Conclusion	197
 <i>APPENDICES</i>	
Appendix A: Pidgin Translations of Wosera Texts	201
Appendix B: Subjected Verb Forms in Ndu-Family Languages	204
 <i>BIBLIOGRAPHY</i>	 215
 <i>TABLES, DIAGRAMS AND MAPS</i>	
Table I: Population of the Sepik District at 30 June, 1960	6
Table II: Major Sepik Languages Surveyed	6
Table III: Distribution of Time in Language Sampling	14
Table IV: Material Elicited in 1959-1960 Survey	15
Table V: Material Tape-recorded in Sepik Languages	16
Table VI: Ranking of Syllabic Nuclei	29
Table VII: Wosera Phoneme Chart	32
Table VIII: Sound Correspondences	149
Table IX: Ndu-Family Cognate Count and Items Compared	180
Table X: Cognate Percentages and Time-Depths in Years	181

Page

Table XI:	Structural Comparisons of Ndu-Family Languages	188
Diagram I:	Relationships of the Languages of the Ndu-Family in Family Tree Form	187
Map:	Sepik District Languages	18

PART I:

ORIENTATION

1. THE SEPIK DISTRICT

1.1. Area and Administration

1.11. The Sepik District is by far the largest administrative district in the Australian Trust Territory of New Guinea. Its borders are approximately the border of Netherlands New Guinea in the east, the northern slopes of the Central Ranges in the south, and a line drawn just west of the Ramu River in the west. With the inclusion of the numerous coastal islands, it has a total area of 30,200 square miles - more than twice that of New Britain, the next largest administrative district.

1.12. Of the total area, 23,600 square miles were regarded in June 1960 as being under full administrative control, while 3,700 square miles (all on the southern fringes of the district) were listed as 'area penetrated by patrols only'. (Annual Reports 1959-1960.)

1.13. Details of the administration of the Sepik District, and of that of the Territory as a whole, may be found in the Annual Reports of the Commonwealth of Australia to the United Nations. Some familiarity with aspects of administration is assumed in the following pages.

1.2. Terrain

1.21. Only a brief summary of the geography and terrain of the Sepik District is attempted here, with the emphasis on those areas (principally the Wewak, Maprik, Ambunti and Angoram subdistricts) which formed part of the linguistic survey. The most recent and detailed information on a large part of the eastern section of the district may be found in a recent CSIRO Land Survey (CSIRO 1961). The accounts of early explorers (particularly Behrmann 1917; 1922; 1924b; and Thurnwald 1913; 1914; 1917) give accurate descriptions of the terrain and vivid impressions of the climate. These may be supplemented by a wartime terrain study undertaken by the Allied Geographical Section (AGS 1943).

1.22. The Sepik District is roughly bisected from west to east by a stretch of the Sepik River some 250 miles long in

a straight line. Above this point the Sepik approximately follows the border of Netherlands New Guinea, after a short east-west run from its source in the Victor Emanuel Ranges. It is fed from the south by a number of large tributaries rising in the Central Ranges, and from the north by much smaller streams draining the southern side of the coastal ranges.

1.23. The areas south of the Sepik River were outside the scope of the linguistic survey, except for languages spoken in the immediate vicinity of the river itself. The terrain consists largely of lakes and swamps (particularly sago swamps), giving way gradually to the foothills and ultimately to the northern slopes of the Central Ranges. Population is sparse, even non-existent, over large areas, and much of this region is imperfectly explored and not under administrative control.

1.24. To the north of the Middle Sepik area¹ are found extensive grasslands, ranging over flat or sloping plains to the foothills of the coastal ranges. These foothills, and the southern side of the ranges themselves - named, from east to west commencing at the mouth of the Sepik River, the Marienberg Mountains, the Prince Alexander Mountains, and the Torricelli Mountains² - offer good hunting and agricultural facilities, and have attracted the heaviest concentration of population in the district. The Torricelli Mountains and the Lumi subdistrict which contains them were not included in the linguistic survey.

1.25. At Ambunti, the boundary between Upper and Middle Sepik, a spur from the Central Ranges forms the Hunstein

¹ Following contemporary geographical usage, the term 'Lower Sepik' refers to the stretch of river from Angoram to the mouth, the term 'Middle Sepik' to that between Ambunti and Angoram, and the term 'Upper Sepik' to that between Green River and Ambunti. There is no well-established term for the large section of river between the source and Green River. Though the traditional divisions are here maintained, a more realistic division would be: Upper Sepik, source to Green River; Middle Sepik, Green River to Ambunti; Lower Sepik, Ambunti to the mouth.

² The distinction between the Prince Alexander and Torricelli Mountains, while a very real one ('da sich eine tiefe Einsattelung etwa unter 142°45' befinden muss' - Behrmann 1924b) is often blurred in popular usage, the entire range being frequently spoken of as 'the Torricellis'. In this work the correct geographical distinction has been maintained.

Ranges on the south side of the river and the Washkuk Mountains on the north side. Above this again the land flattens out, and swamps are common on both sides of the river. As no contact could be made with natives on the sparsely-populated plains to the north of the Sepik, or with groups adjacent to the river itself between the May and Green rivers, these areas were excluded from the survey.

1. 26. The Green River area was included in the survey to make up for the lack of linguistic information for the Upper Sepik area. Here the relative proximity of the mountains is made apparent by the stony soil and jagged hills, but there are many low-lying areas, sandy grass-plains and shallow swamps. Only the 'river' people, who live - or used to live - in large communal houses in the relatively low-lying areas, were studied; no attempt was made, because of lack of time, to contact the mountain groups (Yuri and others) who live in the mountains to the north of the Abau (river and plains) people.

1. 27. To the north of the coastal ranges lies the narrow coastal strip. The westernmost part of this strip (sub-district of Aitape) and its hinterland were excluded from the survey; in the east, linguistic material was obtained only for those languages (Arapesh and Boikin) which are also spoken on the other side of the ranges. The numerous coastal 'pocket' languages, both Melanesian and non-Melanesian, were excluded, as well as a few languages around the Sepik delta.¹

1. 3. Population

1. 31. Some observations on the distribution of the native population of the Sepik District have been included above. The total population for the district, both counted and estimated, is 247,453; but distribution is very uneven, as may be seen in the breakdown by subdistrict in Table I below. The bulk of the population is in the Maprik, Wewak and Angoram subdistricts, largely clustered around the Prince Alexander Mountains, the Marienberg Mountains, and adjacent grasslands. Other areas of high or moderately high population density are the Torricelli Mountains, the Middle Sepik river areas, and some parts of the coastal plain. Elsewhere the concentration of population drops off sharply.

¹ Some previous information is available for many languages of this area; see **1. 4.** below.

TABLE I**Population of the Sepik District at 30 June, 1960**

<i>Subdistrict</i>	<i>Enumerated</i>	<i>Estimated</i>	<i>Grand Total</i>
Wewak	24,456	-	24,456
Aitape	18,354	-	18,354
Maprik	78,518	-	78,518
Angoram	28,320	1,500	29,820
Lumi	38,986	900	39,886
Ambunti	22,224	12,300	24,524
Telefomin	4,395	17,500	21,895
<i>Total</i>	215,253	32,200	247,453

(From Annual Reports, 1959-1960).

1.32. The above figures should be compared with those in Table II, which gives the number of speakers of the major languages encountered during the survey. It will be

TABLE II**Major Sepik Languages Surveyed: Location and Number of Speakers**

<i>Language</i>	<i>Location (subdistricts)</i>	<i>Speakers</i>
Ndu-Family:		
Abelam	Maprik	29,188
Boikin	Wewak and Maprik	17,332
Iatmul	Ambunti and Angoram	7,887
Sawos	Maprik	1,804
Manambu	Ambunti	1,448
Ngala	Ambunti	134
Yelogu	Ambunti	63
Other Languages:		
Abau	Ambunti	2,600
Iwam	Ambunti	1,160
Wogamusin	Ambunti	336
Mayo	Ambunti	704
Kwoma	Ambunti	2,236
Angoram	Angoram	3,986
Kambot	Angoram	4,383
Buna	Angoram	935
Murik	Angoram	1,183
Arapesh	Maprik and Wewak	17,791

(Figures calculated from 1958-1959 census).

immediately noticed, from this table and from the Sepik District map at the end of this Part, that the speakers of languages of the Ndu family are almost wholly concentrated in the high-density areas. That this fact is not solely due to the large numbers of speakers of individual languages is shown by the circumstance that elsewhere in the district a language with a relatively large number of speakers (Abau) is spread over an area roughly equal to that occupied by the Ndu-family language of Iatmul, with three times the number of speakers. The significance of the distribution of Ndu-family languages in relation to a possible migration route will be discussed further in Part V.

1.4. Anthropology and Ethnography

1.41. The natives of the Sepik District show considerable variation in languages, cultures, and even physical appearance, but within certain geographical bounds the resemblances are greater than the differences. It is therefore possible to obtain a reasonably accurate picture of the way of life of most peoples included in the survey by extrapolating from the standard anthropological works dealing with the area. These are:

Mountain and hills peoples	Mead, various dates (Arapesh) Kaberry, various dates (Abelam) Whiting and Reed 1938; Whiting 1941; 1944 (Kwoma)
River peoples	Bateson, various dates (Iatmul) Laumann, various dates (Angoram and Mundugumor) Mead 1935 (Chambri and Mundugumor)
Non-Melanesian coastal peoples	Gerstner, various dates (Arapesh and Boikin).

1.42. 'Non-Melanesian' in this work means 'not speaking a Melanesian language'; it has nothing to do with racial properties. Melanesian languages were not included in the survey, but for contrast some information on them may be found in Gehberger 1950; also Hogbin 1935 and other articles in *Oceania*.

1.43. No anthropological or ethnographical study has been made of natives in the Upper Sepik area, although there are considerable differences in at least material culture from the Middle Sepik groups. Some of the differences, especially

in art styles, may be found mentioned in Bühler 1960 and 1961.

1.44. A few books on Sepik art, mostly primary sources, have been included in the bibliography. The wellknown 'Sepik' woodcarvings come principally from the Middle Sepik and Maprik areas, and appear to represent a characteristic cultural trait of speakers of Ndu-family languages (see Part V). Some 'travel' books (Gardi 1956;1960; Simpson 1955) have also been included for the excellence of their photography or because of scraps of linguistic information.

1.45. From the above-mentioned books and from personal observation a general pattern of Sepik native life emerges. The principal staple of river peoples is the virtually ubiquitous sago, supplemented by small quantities of yam and taro. In the mountains, and on some parts of the coast, the situation is reversed: gardens are more extensive and yams, in season, play an extensive part in ceremony and as a staple. Sago, taro, and later introductions such as sweet potato may supplement the yams. Protein is obtained in all communities by hunting, but river groups depend at least as much on fish as on land game. Hill groups in fertile areas supplement game - principally wild pig, birds and small marsupials - with additional garden produce (much of it introduced by Europeans) and tame cassowary and poultry (the latter introduced).¹ Some uncultivated plants (varieties of watercress, bush 'greens') are eaten in all areas. Crocodiles are killed and eaten in river areas.

1.45.1. Houses in mountain areas are for the most part built on the ground, while those on the river are raised on posts, as a protection against floods; but the materials (hardwood posts, sago thatch for walls and roof) are generally similar, as is the construction (sloping roof, sometimes to floor level; low or non-existent walls - their place being taken by the gables of the roof). Round houses are encountered in the Upper Sepik area above Chenapian (142°17'E 4°12'S) and large communal houses in the Green River area. (See also Reche 1913.)

1.45.2. Ritual and religious thinking, traditionally centred on ancestor propitiation, initiation, and yam harvests or fish bounty, are giving way throughout the district to

¹ The numbers of wild and, even more so, of domestic pigs are now said to be much less than formerly. The Second World War and the decline in rituals requiring pig sacrifices are given as reasons for this.

European values learnt from officials, missionaries and traders. Ceremonial dances - 'singsings' - are performed in middle and lower river areas only at Administration-sponsored New Year celebrations. For ritual in fully-functioning societies, see the works listed in 1.41.

1.5. History of the Sepik District

1.51. Apart from valuable ethnographic and linguistic information in the records of early explorers, the history of the Sepik District does not greatly concern this work. For a complete account of early exploration see Wichmann 1912, and for subsequent development AGS 1943. The postwar years were devoted to repairing the ravages of the war and consolidating administrative control.

2. FIELD METHODS

2.1. Direct Eliciting

2.11. The material in this work was collected by direct eliciting - by presenting the informant with words and sentences in a language of interrogation for translation into his languages. The responses were written down and subsequently recorded.

2.12. Direct eliciting is probably the oldest method for obtaining linguistic information, and is widely used by both linguists and non-linguists as a method of obtaining at least lexical information in a short time. For the serious study of languages, however, it has gone out of fashion, because of the possibility - some would say likelihood - of obtaining wrong information by misunderstanding on the part of the informant, or else by overwillingness in the filling out of paradigms. These difficulties inherent in the method were recognised and measures taken against them. (See 2.3.)

2.2. Eliciting Material

2.21. For eliciting, S.A. Wurm's *Manual for Recording New Guinea Languages* (unpublished typescript) was used.¹ As this work is not generally available, a summary of the testing material, in the approximate order of testing,² follows:

- Noun list, with testing for classification, if any
- Noun adjuncts: numerals and adjectives, in attributive and predicative functions
- Possession in nouns and pronouns, in attributive and predicative functions
- Simple verb testing for variation for time and person
- Modifiers with verbs
- Objects with verbs

¹ For a comparable, though less extensive, published work, see Capell 1952.

² The order of testing was frequently varied to suit the particular language being studied, or according to the ability of the informant.

Verb list: tested in forms which yield stems, with random testing for irregularities and differences of conjugation

Interrogatives and replies to questions

Possessor-Possessed Complexes ('these two pigs belong to my younger brother', etc.)

Equation Statements ('this tree is an ironwood tree', 'he is not my brother', etc.)

Testing of verbs for 'utterance-medial' forms

Applicative constructions ('make a bow for me', etc.)

Competence/Incompetence constructions

Ability/Inability constructions ('can/cannot')

Necessitative constructions ('must/must not')

Permitted/Unpermitted actions

Frustrative forms ('almost fell', etc.)

Other less usual constructions.

2.22. It will be seen that the testing procedure is specifically oriented to the languages, and especially the non-Melanesian languages,¹ of New Guinea, in that tests are included for all major structural features that have hitherto been observed in New Guinea languages.

2.23. It need hardly be stated that all testing was continued, where appropriate, through all variations for time, person, negation etc. that were observed to be present in the languages. The test material was treated flexibly: order was varied and items expanded, abbreviated or omitted according to the structure of the language itself. Supplementary word lists and testing were devised as required.

2.3. Safeguards

2.31. To ensure that the material elicited represented a genuine sample of ordinary spoken language, various checks were incorporated in the testing. These included:

the use of at least two informants simultaneously
double-checking, preferably with other informants,
when informant showed hesitation or doubt

¹ For the best brief statement of structural differences between Melanesian and non-Melanesian languages, see Ray 1927.

tape-recording of all material some days after the initial eliciting
 abstinence from pressing informants to complete paradigms
 following up volunteered information
 listening in (where possible) to native conversation, and personal use of elicited forms
 situational testing and texts.

2.4. Texts

2.41. Texts were obtained when grammatical testing was completed. Two kinds of texts were obtained: 'situational texts' and free texts.

2.41.1. 'Situational testing' consisted of obtaining a series of short, directly elicited texts, in which the informant was presented, sentence by sentence, with a dialogue based on probable situations in native life. (Situations were modified in different culture-areas.) No attempt was made to obtain exact translations of the sentences offered; rather, the informant was encouraged to translate freely so that the dialogue would be as natural a reflection of ordinary language as possible. (Frequently the informant volunteered additional sentences in keeping with the same situation; these were recorded.) New morphemes and constructions arising from the situational testing were queried and tested.

2.41.2. 'Free texts' were also collected. Informants were asked for a myth, oral history, an account of village life, or whatever seemed appropriate or was volunteered. A translation was obtained in Pidgin whenever the informant ceased speaking, but time did not permit accurate juncture-to-juncture translations. Thus, segments tended to be long and the translations accordingly to be rather free (see Appendix A). There occur therefore in texts some morphemes, usually bases, whose meaning cannot be fully determined.

2.5. Language of Interrogation

2.51. Eliciting was conducted in Neo-Melanesian, or Melanesian Pidgin, hereafter called simply Pidgin.¹ All informants spoke Pidgin, but, in the upper Sepik areas, with varying

¹ Spelling of Pidgin words in this work generally follows that of Mihalic 1957.

degrees of competence.

2.52. Structural disadvantages in the use of Pidgin as an eliciting language were recognised early and allowed for. In a few cases words already elicited from other languages familiar to informants were used to supplement the Pidgin words, to avoid semantic confusion.

2.53. In one case (Kwoma) eliciting was conducted in English as well as Pidgin, owing to the informant's insistence on using some English for prestige reasons. A little Wogamusin was used in the eliciting of Ngala forms.

2.6. Informants

2.61. All informants had previously worked for Europeans. Most were young men in their early twenties who had learned Pidgin and the vagaries of the white man on plantations around Rabaul (New Britain) and elsewhere, while working as indentured labourers.

2.62. Depending on their length of absence from their home community, young informants had a tendency to use Pidgin bases with native affixes, but were usually capable of giving native forms as well when questioned - except, of course, when the concepts did not previously exist in the native community.

2.63. The best informants, because of their generally higher level of intelligence, were found to be 'doktabois' (native medical assistants), and these were used whenever possible.

2.64. Material elicited from young informants was checked when possible with older, more traditionally-oriented men, and the latter were frequently used as supplementary informants for texts. Because of sanctions imposed by native and European society, no women were used as informants.

2.7. Conclusion

2.71. It is claimed that direct eliciting with adequate safeguards can greatly shorten the time required for the initial analysis, though it is realised that the tentative clues provided by this method are no final substitute for a later fully structural and deductive analysis. In view of the large number of unknown New Guinea languages, it was decided to forgo the time-consuming fully deductive approach in favour of preliminary materials in a larger number of languages than would otherwise have been possible. It must be realised, therefore, that the grammatical descriptions

which follow are preliminary and tentative, and should not be compared with grammars based on an extensive acquaintance with a single language. Within the restrictions of the material, however, an attempt has been made to include as much relevant structural data as possible.

2.72. Table III below gives a breakdown of the average time spent on each section of the testing material; less or greater time was spent according to the complexity of the language and the co-operation and intelligence of informants. Table IV shows the total distribution of time among the various languages tested, and the type of material collected. Table V shows the amount of recorded material, including Pidgin translations of free texts.

2.73. The map on page 18 is reproduced from Capell 1962 by permission of the author, the South Pacific Commission and the cartographer, Mr. Edgar Ford. It shows the distribution of all known languages in the Sepik District. The numbered languages in the Lumi and Aitape subdistricts may be ignored for the purposes of this work.

TABLE III

Distribution of Time in Language Sampling

Day 1	Noun list and selected adjuncts
Day 2	Initial verb testing
Day 3	Verb list and adjective testing; adjective list
Day 4	Further verb testing; interrogatives
Day 5	Equation statements; applicative forms
Day 6	Remaining grammatical testing; situational texts Tape-recording commenced
Day 7	Tape-recording completed
Day 8	Obtaining and tape-recording of free texts.

TABLE IV

Material Elicited in 1959-1960 Survey

<i>Date</i>	<i>Place</i> ¹	<i>Language</i>	<i>Material</i> ²
1959			
Jul.	Dreikikir	Urat	W
	Yengoru	Boikin (Yengoru dial.)	W
	Maprik area	Abelam dialects	W
	Maprik SD	Abelam (Maprik dial.)	M commenced
	Supari SSEM	Arapesh (Muhiang dial.)	W
Aug.	Maprik SD	Abelam (Maprik dial.)	MT* completed
	Pagwi AOG	Iatmul (Nyaura dial.)	MT*
Sep.	Ambunti SD	Kwoma	MT*
	"	Manambu	MT*
	"	Iwam	M commenced
Oct.	"	"	M continued
	Washkuk V	Wogamusin	MT*
	Swagup V	Ngala	MT*
	Ambunti SD	Mayo	MT*
Nov.	Yelogu V	Yelogu	WG*
	Ambunti SD	Iwam	MT* completed
Dec.	Angoram SD	Angoram	M*
	Marienberg SVD	Buna	W
1960			
Jan.	Angoram SD	Angoram	T*
	"	Kambot	MT*
	"	Iatmul (Tambunum dial.)	WGT*
Feb.	Green River CMML	Abau	MT*
	Ilahita SSEM	Arapesh (Muhiang dial.)	WT*
	Kunjingini SVD	Abelam (Wosera dial.)	MT*
	Yengoru	Boikin (Yengoru dial.)	L*
	Wewak D	Boikin (Kwusaun dial.)	M*

¹ AOG = Assemblies of God Mission; D = district administrative centre; SD = subdistrict administrative centre; SSEM = South Evangelical Mission; CMML = Christian Missions in Many Lands; SVD = Catholic Mission of the Divine Word Society; V = village. Other places are patrol posts.

² G = some grammatical material; testing; T = free texts; W = word lists. * indicates that the material was tape-recorded.

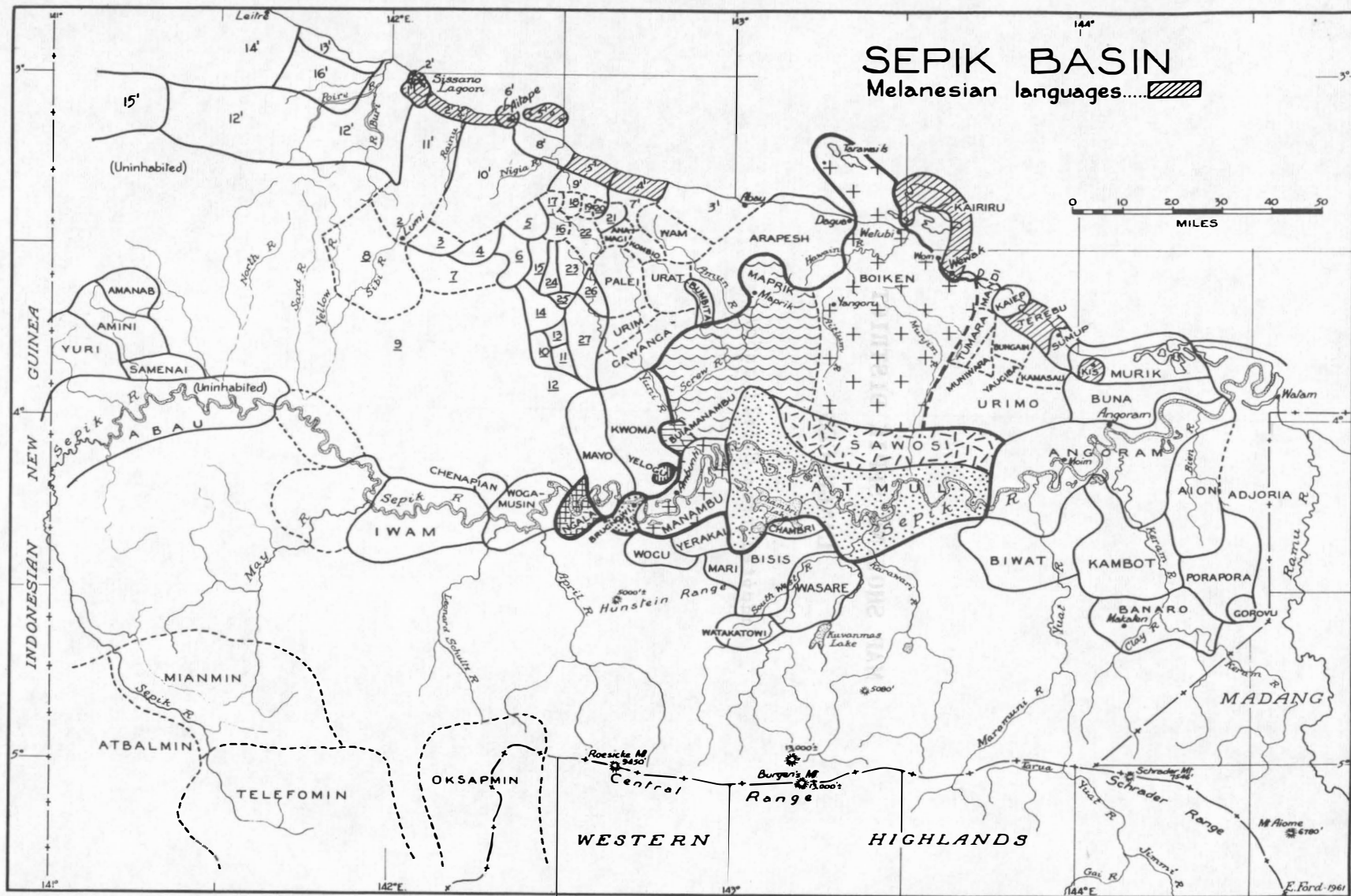
TABLE V
Material Tape-recorded in Sepik Languages

<i>Language</i>	<i>Recorded time (minutes)</i>
Ndu-Family:	
Abelam (Maprik dialect)	105
Abelam (Wosera dialect)	120
Boikin (Kwusaun dialect)	120
Boikin (Yengoru dialect)	15
Iatmul (Nyaura dialect)	120
Iatmul (Tambunum dialect)	30
Manambu	120
Ngala	180
Yelogu	45
Other languages:	
Abau	150
Iwam	120
Wogamusin	150
Mayo	150
Kwoma	180
Angoram	255
Kambot	120
Arapesh (Muhiang dialect)	60.



**MAP SHOWING SEPIK DISTRICT
LANGUAGES**

(adapted from Capell 1962)



SHADED AREAS BORDERED BY HEAVY LINES ARE OCCUPIED BY LANGUAGES OF THE NDU FAMILY.

KEY TO NUMBERED LANGUAGES

Lumi Subdistrict			Aitape Subdistrict		
<i>Linguistic Group</i>	<i>Number of Speakers</i>		<i>Linguistic Group</i>	<i>Number of Speakers</i>	
<u>1</u>	Aunalei	1,800	1'	Warapu	1,587
<u>2</u>	Orlei	7,600	2'	Malon	3,330
<u>3</u>	Elkei	2,200	3'	Womsak	531
<u>4</u>	(unnamed)	?	4'	Suain	909
<u>5</u>	Sinagen	1,050	5'	Yakamul	1,318
<u>6</u>	Dia	600	6'	Tumleo	439
<u>7</u>	Au	5,100	7'	Kombio (Dreik)	391
<u>8</u>	Kamnum	2,100	8'	Koroko	585
<u>9</u>	Edawaki	3,800	9'	Palei (dialect)	28
<u>10</u>	Yauan	550	10'	Wapi	1,184
<u>11</u>	Arinwa	1,500	11'	Wapi (dialect)	639
<u>12</u>	Lugitama	400	12'	Bembi	1,854
<u>13</u>	Rurihi'ip	1,000	13'	Vanimo	2,025
<u>14</u>	Makarim (Mukili)	1,500	14'	Kilmera	1,886
<u>15</u>	Metan	500	15'	Krisa	468
<u>16</u>	Metru	600	16'	Negira	406
<u>17</u>	Yapunda	200			
<u>18</u>	Lawisaranga	600		(information from G.R. Burfoot, ADO, 1959)	
<u>19</u>	Alatil	400			
<u>20</u>	Alauagat	300		*	
<u>21</u>	Endangen	450			
<u>22</u>	Malek	1,200			
<u>23</u>	Wanap	750			
<u>24</u>	Minendon	400			
<u>25</u>	Sokorok	250			
<u>26</u>	Sambu	2,250			
<u>27</u>	Indinogosima	2,800			

(information from
C.E.T. Terrell, a/ADO, 1959)

The above language names, locations and populations are taken from notes supplied by field officers to the Department of Native Affairs (Native Languages File 7-2-2) and have not been checked by the author. Other sources or later information are not to hand.

3. TERMINOLOGY AND ABBREVIATIONS

3.1. Terminology

3.11. In the sections which follow, unusual terminology has been avoided as far as possible. New terms are explained on first occurrence. A few terms such as 'ablative', 'allative', 'agentive' have been used, sparingly, because they provide convenient adjectives and abbreviations for indicating the functions of morphemes in text material.

3.12. Phonetic terminology and symbolisation throughout follow Trager 1958.

3.2. Abbreviations and Symbols

3.21. Names of Ndu-Family Languages. The following self-explanatory abbreviations are used:

K	Kwusaun dialect of Boikin
M	Manambu
Mk	Maprik dialect of Abelam
N	Nyaura dialect of Iatmul
Ng	Ngala
W	Wosera dialect of Abelam
Y	Yelogu
Yg	Yengoru dialect of Boikin.

3.21.2. The justification for the use of the various language names is given in the sections on the languages themselves.

3.22. Abbreviations and Symbols in the Grammars

C	consonant phoneme
N	syllable nucleus
P	predicate
S	semivowel phoneme subject
V	vowel phoneme
n	noun
np	noun phrase
O	object

O ₁	first object (direct object)
O ₂	second object (indirect object)
ov	verb with bound pronoun object
pn	pronoun
-pn	bound pronoun
sv	verb with bound pronoun subject
v	verb
vb	verb base
vs	verb stem
xv	verb lacking bound pronoun subject
/ /	encloses phonemes
[]	encloses phonetic transcriptions and pn series
{ }	encloses morphemes
a{ }	encloses allomorphs when cited as such
.	morpheme separator
□	phonological phrase marker
/	pause with slightly rising intonation
//	pause with sharply rising intonation
#	pause with falling intonation
...	hesitant pause.

3.22.1. The symbol □ is not written at the beginning of a cited utterance, or adjacent to any of the four pause/intonation symbols which follow it; it is to be understood in these positions.

3.23. Additional Abbreviations occurring with Texts

A	allative	('towards')
Ab	ablative	('from')
Ag	agentive	('with', 'by means of')
C	comitative	('along with')
F	future	
G	gender/number marker (Manambu)	
L	locative	('in', 'at')
P	past	
Pr	present	

- S sentence-medial marker
- T time suffix ('at' with time words)
- () encloses noun and verb bases.

3.24. Non-overlap of Abbreviations. The use of the same abbreviation symbol in some cases for more than one meaning will cause no confusion, as the different meanings occur in mutually exclusive environments.

PART II:

**PHONOLOGY AND GRAMMAR OF ABELAM
(WOSERA DIALECT)**

4. INTRODUCTION

4.1. The Abelam Language

4.11. Abelam, probably the most important language of the Sepik District, is spoken by a native population of 29,188 (1959/1960 census) concentrated entirely within the Maprik subdistrict. The greatest density of population surrounds the subdistrict administrative centre of Maprik (143°3'E 3°38'S) itself, in the south of the Prince Alexander Mountains. The population of the grasslands to the south, before the Sepik River is reached, is less intensive, but still much greater than in most parts of the district.

4.12. The name 'Abelam' was first given to the language and the people who speak it by the anthropologist Margaret Mead, who stated that it was the name given by the Arapesh (among whom Mead was working) to the people to the south of them (Mead 1938, map on page 156). The name was adopted and established by Phyllis Kaberry (Kaberry 1941;1942) after her work in the village of Kalabu (143°06'E 3°38'S). The name is not used by the Abelam themselves, who appear to have no general name for the language; but they recognise it, at least in the vicinity of Maprik station, as a name applied to them by the 'Bukŋi' (/bwkŋy/ = Arapesh).¹

4.13. Dialect differences were observed even between adjacent villages, and present knowledge does not permit accurate dialect boundaries to be drawn. The Abelam themselves recognise three main dialects, according to the form of the word for 'what'; these they call Samu-Kundi (/camw kwdy/), Mamu-Kundi (/mamw kwdy/), and Kamu-Kundi (/kamw kwdy/).² On this classification, the dialects here called 'Maprik' and 'Wosera' are Samu and Kamu dialects respectively, and Kalabu and adjacent villages (see Kaberry 1941.234) speak a Mamu dialect. It appears likely, however,

¹ Kaberry 1941 gives a Kalabu pronunciation [ambəla:m] (page 234); Malemole (Maprik informant) pronounced it [ambələs].

² Kaberry 1941 and personal observation. /kwdy/ = 'speech', 'language'.

that isoglosses drawn on the basis of other dialect differences¹ would yield at least slightly differing results. Therefore the geographical names are retained here.²

4.2. Material in Abelam Dialects

4.21. Eliciting in the Maprik dialect (full manual testing, plus texts) was carried out in July-August 1959 at Maprik centre. Informants were Malemole (/mələmələ/), aged about 37, and Markus, aged about 22, from the nearby villages of Maprik No.1 and Neligum (/nələkəm/) respectively. Both were native medical assistants. Maprik material is included in the grammar only for comparison with Wosera.

4.22. Wosera material (full manual testing plus texts) was recorded in February 1960 at the Catholic mission station of Kunjingini (3°46'S 143°2'E). Informants were Malaken (/mələkəyn/) and Pano (/panəw/), from the nearby villages of Kunjingini No.1 and Abusit (/əvəcət/) respectively. Both informants, aged in their late twenties, were employed on the mission station.

4.23. A few pages of noun-lists were elicited in July 1959 for various villages five to ten miles east of Kalabu.

4.24. The following additional material has been examined:

Anonymous (Patrol Officer?): word-list consisting of three foolscap pages, collected at Maprik, 1947. Obtained from subdistrict office, Maprik, and now in my possession.

A. Capell: Field notes in Abelam, 1950. Copied and in my possession.

P. Davidson (Assemblies of God Mission, Maprik): Elementary Abelam material. In my possession.

P. Kaberry: scattered lexical material in Kaberry 1941; 1942.

¹ Such as /nəky/ versus /wɪn/ for 'blood'; the presence or absence of interrogative forms in verbs; intervocalic /k/ versus /kɨ/; /-rən/ versus /-rəl/ in conditional forms (Maprik area), or their absence (Wosera); presence or absence of special possessive forms in pronouns.

² Maprik is subdistrict, census division, subdistrict centre, and village; where the context does not make it clear, the designation is added. Wosera comprises two census divisions (North and South Wosera), but is also used as a general term for the plains people immediately to the south of the Maprik census division.

However, the material presented in the following grammar is entirely based on personally recorded information.

4.3. Introduction to the Grammar

4.31. The presentation of this grammar owes a great deal to that of R.S. Pittman's grammar of Nahuatl (Pittman 1954a and later statements 1954b;1959), and the principles enunciated in the introduction to that work have been borne in mind. The concepts of tagmemic analysis have been assumed throughout, and some use has been made, where a simplification of presentation resulted, of the method of 'transforms' (Chomsky 1955;1956;1957), though no attempt was made at anything approaching a 'transform grammar'.

4.32. No morphology-syntax division has been made; morphology has been presented as arising directly from statements on syntax.

4.33. Certain non-productive morpheme-sequences have not been analysed. Thus, in /kənΛ/ 'whose' and /kΛdə/ 'who' the morphemes {nΛ} 'possessive' and {də} 'third person singular' may perhaps be recognised, and it would also be possible to assign /kə-/ and /kΛ-/ to a single morpheme; but as these constructions have no other parallels in the language, and as the /-də/ element of /kΛdə/ does not vary for person, as might be expected if it were the morpheme {də}, /kənΛ/ and /kΛdə/ have been treated as indivisible morphemes. Similarly, /kΛgw/ 'children, people' is possibly derivable (irregularly!) from /kΛn/ 'child, human being' and a plural marker /-gw/; but this /-gw/ occurs in only one other form (/waw/ 'mother's brother': /wawgw/ 'mother's brothers'), and it is therefore simpler to treat both forms with which it occurs as single morphemes.¹

4.34. Non-productive inner-layer constructions in verb stems have also not been analysed; thus /warəwΛ/ 'quarrel' and /waryΛ/ 'fight' are regarded as stems in spite of a common element /war-/ (= 'reciprocity' ? See 6.62.2.). To resolve such stems into more than one morpheme could result in subjective semantic interpretations, such as may emerge when the verb stems /warə/ 'go up' and /warəp/ 'stand up' are adduced.

4.35. The grammar is designed to be readable. To assist the reader, the following general plan of its construction is given. First, basic sentences, consisting only of subject

¹ A form /nΛgw/ 'people' also occurs (in texts).

and simple predicate, are given. Predicates are then expanded with the introduction of negatives and additional verb morphology. Subjects are expanded by various attributes; then object slots, with similar fillers to subject slots, are introduced. Remaining slots in one-verb sentences, with types of fillers, are described before sentences with more than one verb are adduced. The presentation of sentence-medial forms allows for the construction of expanded sentences made up of closely-connected clauses. Finally, a residue of syntactic and conceptual features which could not be presented until all major constructions had been described is given.

4.36. The text material gives both 'situational texts' (see 2.41.1.) and free texts. The first situational text may be compared with the same text presented in the outline grammars of part III.

4.37. Phonology has been presented in considerable detail in order that phonological statements for the succeeding languages of the Ndu family, which have a generally similar distribution of allophonic variants, may be reduced to note form.

5. PHONOLOGY

5.1. Phonological Units

5.11. A Wosera utterance which contains no pauses and not more than one syllable bearing heavy (primary) stress is a *phonological phrase*, henceforth called simply phrase. A phrase which contains not more than one free morpheme is a word. (A *bound morpheme* is a morpheme which always forms a phrase with its headword; a *free morpheme* is a morpheme which does not always do so.)

5.22. A *syllable* is a segment which may be stressed, together with surrounding segments uttered on the same breath-pulse. A *nucleus* (N) is a syllable peak.

5.2. Stress

5.21. Stress is non-phonemic, being wholly conditioned by the syllable and nuclear structure of the phrase. For the purpose of predicting stress patterns, a ranking of syllable nuclei must be assumed (Table VI).

TABLE VI

Ranking of Syllabic Nuclei

	1	2	3
<i>Complex nuclei</i>	aw	Δw	w
	ay	Δy	y
<hr/>			
<i>Simple nuclei</i>	a	Δ	ə

5.22. Complex nuclei rank higher than simple nuclei, and columns with lower numbers rank higher than those with higher numbers.

5.23. Degrees of stress are largely conditioned by the ranking of nuclei, nuclei of higher rank tending to receive higher stress in all positions than nuclei of lower rank. For the prediction of stress patterns, however, it is necessary to assume only three degrees of stress: *primary stress*, *secondary stress*, and *unstressed*. In the remainder of

this grammar, 'stressed' without qualification means 'bearing primary stress'.

5.24. Subject to the restriction that a phrase-final syllable not ending in a consonant is always unstressed, the three degrees of stress occur as follows:

5.24.1. Primary Stress. Primary stress occurs on the higher-ranking N of the first two N of the phrase; if both N are equal in rank the first N bears primary stress unless the second syllable ends in a consonant or the phrase has more than two syllables, in which case the second N bears the primary stress.

5.24.2. Secondary Stress. Secondary stress occurs on any N adjacent to that bearing primary stress if the rank of that N is equal to that bearing primary stress. If an unstressed N follows a primary stressed N, secondary stress occurs, according to the rules for primary stress, as if a new phrase began with the syllable following the unstress.

5.24.3. Unstress. All N not covered in 5.24.1. and 5.24.2. are unstressed. The distribution of primary and secondary stresses makes it impossible for more than three unstressed N to occur in succession.

Examples:

(Primary stress marked by [ˈ], secondary stress by [ˑ], unstress unmarked.)

Phrases of one syllable: /dṽ/ 'man', /m̃j/ 'tree', /kál/ 'small yam species', /mák/ 'frog species'

Phrases of two syllables: /mónə/ 'you', /nábə/ 'hair', /fávə/ 'clamshell', /cápa/ 'lime gourd', /kópma/ 'ground', /kwíla/ 'axe', /vətʃk/ 'two', /kwɔ́k/ 'three', /jəpm̃j/ 'stinging nettle'

Phrases of more than two syllables: /kákɔ́wtəkwa/ 'I shall eat', /kákamənəgwa/ 'you will eat', /gərákamənəgwa/ 'you will cry', /m̃j gəgə/ 'tree leaf'

5.3. Juncture, Transitions and Pauses

5.31. For morphophonemic changes within the phrase, see 5.9.

5.32. The phrase is set off from other phrases by the stress pattern, but there may in addition be a perceptible pause. The symbol □ is used to separate phrases.

5.33. Hesitation of any kind is marked in texts by three dots

5.34. For pauses accompanied by intonational features, see 5.4.

5.35. The space between words is a morphological, not a phonological boundary.

5.4. Intonation

5.41. Sentence-types in Wosera text material collected do not show sufficient variety for definitive statements to be made on contrastive intonation patterns. Questions, commands, completed statements and uncompleted statements are almost always marked by segmental morphological features, and the functional load of contrastive intonation is slight. However, some patterns emerge and are marked in texts when they occur:

5.41.1. Sentence-final Intonation. In questions containing morphological signals of interrogation, and in statements, the intonation preceding a non-hesitant pause and accompanying a sentence-final or predicate form is characterised by a fall from the pitch of the stressed syllable of the last phrase to a much lower pitch on the last syllable of the phrase. This fall may occur on a single syllable, or be spread over several secondary stressed or unstressed syllables. This pattern is marked by the symbol #.

5.41.2. Sentence-medial Intonation. Accompanying many sentence-medial forms or other non-final clause constructs the intonation contour consists of a slight rise from the pitch of the stressed syllable of the phrase, spread over any remaining syllables. This pattern is marked by the symbol /.

5.41.3. Question Intonation. Questions, in which the interrogation is not marked by segmental features, typically consist of a sharp rise to a high pitch on the stressed syllable of the final phrase, the high pitch being maintained or only slightly lowered in any succeeding syllables. This pattern is marked by the symbol //.

5.5. Phonemics and Orthography

TABLE VII

Wosera Phoneme Chart

<i>Consonant Phonemes</i>	<i>Bilabial</i>	<i>Alveolar</i>	<i>Prepalatal</i>	<i>Velar</i>
vl. unaspirated stops	p	t	c	k
vd. prenasalised stops	b	d	j	g
vd. nasal continuants	m	n	ɲ	ŋ
vd. continuants	v	r	l	—
<i>Semivowel Phonemes</i>	w	—	y	—

Vowel Phonemes

High

ə

Front

ʌ

Back

a

Low

5.51. Phonemes in Loanwords: /f h s e i o u/

5.52. Non-Segmental Features

- phonological phrase (see 5.32)
- # pause with sentence-final intonation (see 5.41.1)
- / pause with sentence-medial intonation (see 5.41.2)
- // pause with rising intonation (see 5.41.3)
- ... hesitant pause (see 5.33)
- (space) word separator (see 5.11).

5.53. Bilingualism and Loanwords. Almost all adult male speakers of Wosera, and many female speakers, have some knowledge of Pidgin, and the informants from whom material was collected were completely bilingual. Because of the prestige value of Pidgin, many Pidgin words are found in Wosera speech. These loanwords usually present no difficulty to the native speaker, as the allophones of phonemes occurring in them are often similar to allophones of phonemes occurring in his own speech; however, as the total distribution of the phonemes in loanwords is generally quite different to that of comparable phonemes in Wosera, it has been

thought preferable to spell loanwords with the phonemes of the language of origin. The presence of any one of the phonemes in 5.51. is thus sufficient evidence of a non-Abelam word.

5.53.1. A few words borrowed directly from English, or from Malay, have been treated in the same way. (While it is true that a large proportion of Pidgin words are themselves derived from English words, it is nevertheless generally possible to distinguish those that are in common use, and are thus true Pidgin words, from nonce-borrowings from English that may only be used by an individual speaker.)

Examples:

Loanwords from Pidgin: /luluai/ 'Government-appointed headman', /sambai/ 'watch, observe', /poto/ 'photo', /piksa/ 'picture', /misis/ 'white woman', /pater/ 'priest', /sister/ 'nun', /kros/ 'angry'

Loanword from Malay: /tuan/ 'white man'

Loanword from English: /everibodi/ 'everybody'

5.53.2. The Wosera interpretation of the above forms, in terms of Wosera phonemics, is as follows:

/lwlway/, /cabay/, /bwataw/, /pykca/, /mæcæc/,
/pater/ ~ /patət/, /cæctər/, /kwarac/, /twan/,
/ʌverybaty/.

However, most natives, because of their bilingualism, approximate the Pidgin pronunciations more closely.

5.6. Allophonic Variations affecting Classes of Phonemes

5.61. All voiceless stops tend to take on some voicing following a nasal in the same phrase. No overlap with the prenasalised stops occurs when the nasal is homorganic, as the voicing is only partial and the fortis-lenis contrast is maintained.

5.62. All voiceless stops are orally unreleased before a homorganic nasal, and frequently before any nasal, in the same phrase. Phrase-finally, unreleased stops are in free variation with the released allophones.

5.63. All prenasalised stops tend to lose their prenasalisation following a nasal in the same phrase. The voiced-voiceless and fortis-lenis contrasts with the voiceless stops is maintained.

5.64. All bilabial consonants except /v/, and all velar consonants, are labialised before /w/ or /u/ in the same phrase.

5.65. All alveolar consonants except /r/ are slightly palatalised before /y/ or /i/ in the same phrase, but not sufficiently to overlap with the palatal series of consonants.

5.7. Allophonic Variations in Detail

5.71. Consonants. In the list which follows, it will be noted that some of the consonant series called 'stops' have fricative allophones, and are therefore not proper stops but obstruents. Since however such obstruents are few in number, they are here classed, for simplicity and clarity of description and because they pattern with the true stops, together with the other stops.

5.72.

<i>Phoneme</i>	<i>has allophone</i>	<i>in environment</i>	<i>except</i>
/p/	[p ⁼] voiceless unaspirated bilabial fortis stop	in all occurrences	as noted in 5.61. , 5.62. , and 5.64.
<i>Examples:</i>	/pəlw/ [p ⁼ éÍu] 'buttocks', /apΛ/ [æp ⁼ æ] 'father', /kəpə/ [k ⁼ ép ⁼ é] 'cane', /wp/ [wup ⁼] 'fear'		
/t/	[t ⁼] voiceless unaspirated alveolar fortis stop	in all occurrences	as noted in 5.61. , 5.62. , and 5.65. ; see also 5.95.
<i>Examples:</i>	/takwΛ/ [t ⁼ æk ⁼ wɔ] 'woman', /yatΛ/ [yæt ⁼ æ] 'Carry on shoulder', /vətyk/ [bét ⁼ ik ⁼] 'two', /wt/ [wut ⁼] 'net bag'		
/c/	[č] voiceless prepalatal ¹ groove affricate	phrase-initially	as noted in 5.61. and 5.62.

¹ The phonemes here listed (accurately) as prepalatal are elsewhere in this volume referred to simply as palatal.

<i>Phoneme</i>	<i>has allophone</i>	<i>in environment</i>	<i>except</i>	
(/c/)	[ç ^h]	voiceless unaspirated prepalatal fortis stop	alternating freely with [s] phrase-finally; preceding /h/ in the same phrase	
	[s]	voiceless prepalatal groove fricative	alternating freely with [ç] phrase-finally	
	[ʃ]	weakly voiced form of the preceding	preceded and followed by N in the same phrase	
	<i>Examples:</i> /cat/ [çæt ^h] 'fly' (insect), /cərə/ [çɪr ^h ɛ] 'to-morrow', /wacɹ/ [wæçç] 'dog', /kwc/ [k ^w ʊç ^h] ~ [k ^w ʊs] 'salt, poison', /mac/ [mæç ^h] ~ [mæç] 'rain'			
	/k/	[k ^h]	voiceless unaspirated velar fortis stop	in all occurrences as noted in 5.61., 5.62. and 5.64.
		<i>Examples:</i> /kaŋ/ [k ^h æŋ] 'hand drum', /makɹ/ [mæk ^h ç] 'head', /sajkə/ [çæ ^h k ^h ɛ] 'cassowary', /kwɹɹk/ [k ^w ʊɹ ^h ɹ ^w ʊk ^h] 'three'		
		[m ^b]	voiced prenasalised unaspirated bilabial lenis stop	in all occurrences as noted in 5.63. and 5.64.
<i>Examples:</i> /bənə/ [m ^b ɛnɛ] 'you two', /barə/ [m ^b ɛrɛ] 'vegetable species', /yabw/ [yæ ^{m^b} wʊ] 'road', /tabɹ/ [t ^h æ ^{m^b} ç] 'hand'				
/d/	[ⁿ d ^h]	voiced prenasalised unaspirated alveolar lenis stop	in all occurrences as noted in 5.63. and 5.65.	

Phoneme has allophone in environment except
 (/d/)
Examples: /dw/ [n^d=u] 'man', /dawΛ/ [n^d=æ^wɔ] 'thigh', /kΛdə/
 [k^æ=n^d=è] 'hunger', /cədəp/ [ɔɪⁿd⁼əp⁼] 'wall'

/j/ [n^j=] voiced in all as noted
 prenasalised occurrences in 5.63.
 unaspirated
 prepalatal
 lenis stop

(For typographical reasons, the phonetic symbol is henceforth simplified to [n^j=].)

Examples: /jabə/ [n^j=æ^mb⁼è] 'bed', /jagw/ [n^j=æⁿg⁼wu] 'valley',
 [/kwæjə/ [k^w=æⁿj⁼ɪ] 'flying fox' (species), /gwæjək/
 [ŋg^w=æⁿj⁼ɪk] 'breadfruit'

/g/ [ŋg⁼] voiced in all as noted
 prenasalised occurrences in 5.63.
 unaspirated and 5.64.
 velar lenis stop

Examples: /gw/ [ŋg^w=u] 'water', /gwnə/ [ŋg^w=unè] 'you', /bagwy/
 [m^b=æⁿg⁼wil] 'vine', /wagy/ [wæⁿg⁼i] 'eel'

/m/ [m] voiced in all as noted in
 bilabial nasal occurrences 5.74.
 continuant

Examples: /mənə/ [mènè] 'you', /mæcΛ/ [mæ^çç] 'betel nut',
 /nəmə/ [nèmæ] 'large', /cam/ [çæn] 'bee'

/n/ [n] voiced in all as noted
 alveolar nasal occurrences in 5.65.
 continuant

Examples: /nΛk/ [næ^k=] 'one', /nalə/ [nælè] 'yesterday', /anə/
 [ænè] 'we two', /gan/ [ŋg⁼æn] 'night'

/ŋ/ [ŋ] voiced in all occurrences

- Phoneme has allophone in environment except*
- (/f/) prepalatal nasal
continuant
- Examples:* /fɛnə/ [fɛnɛ] 'you' (f.), /fɛn/ [fɛn] 'child',
/afnə/ [æfɛn] 'elder brother', /kəcfɛl/ [k^hɛfɛl] 'vulva'
- /ŋ/ [ŋ] voiced velar in all as noted
nasal continuant occurrences in 5.64.
- Examples:* /kən/ [k^hɛn] 'hand drum', /nən/ [nɛn] 'sago',
/dəkŋl/ [nd^hɛkŋl] 'spider'
- /v/ [b] voiced in all
bilabial fricative occurrences
- Examples:* /vy/ [bi] 'spear', /kavy/ [k^hæbi] 'fish species',
/kayvərə/ [k^hæb^hɛrɛ] 'wait for'
- /r/ [ɹ] voiced in free
alveolar fricative alternation with
next in all
occurrences
[r] voiced in free alterna-
alveolar flap tion with
preceding
- Examples:* /rap/ [rɛp^h] 'pus', /rəm/ [rɛm] 'bury', /warl/ [wæɹl^h] 'grass', /bərə/ [mb^hɛrɛ] 'they two',
/karl/ [k^hæɹl^h] 'pig tusk'
- /l/ [l] voiced in all
prepalatal occurrences
lateral
continuant
- Examples:* /lə/ [lɛ] 'she', /lapw/ [lɛp^wu] 'banana',
/balə/ [mb^hæɹl] 'pig', /mal/ [mæɹl] 'leech'

5.73. Vowels. The low number of vowel phonemes in Wosera (three vowel phonemes plus syllabic occurrences of two semi-vowel phonemes) has as a result considerable allophonic variation in vowels, particularly preceding or following palatal consonant or semivowel phonemes. In the list which follows, allophones may be regarded as being clustered around the particular allophonic variant given.

5.74. Vowels as Simple Nuclei

Phoneme has allophone in environment except

/ə/ [è] higher mid after non-palatal
unrounded central consonants
vocoid
[ɪ] lower high after palatal
unrounded front consonants
vocoid

Examples: /təpgə/ [t^hèpŋg^hè] 'mouth', /kəby/ [k^hè^mb^hi] 'basket', /nəbə/ [nè^mb^hè] 'head hair', /ŋəgwc/ [ŋɪŋg^wɥç] 'tobacco', /ŋegΛ/ [nɪŋg^hç] 'banana leaf'

/Λ/ [ç] advanced after non-palatal
higher low palatal
central unrounded consonants
vocoid
[ç̣] advanced after palatal
lower mid central consonants and
unrounded vocoid /y/
[ç̣] advanced after /w/
lower mid back
rounded vocoid

Examples: /kəΛΛ/ [k^hç̣ç̣] 'bamboo species', /mΛkΛΛ/ [mç̣k^hç̣ɪ] 'small', /ŋΛgΛy/ [ŋç̣ŋg^hç̣ç̣] 'sister', /yΛΛΛΛ/ [yç̣ç̣ç̣ç̣] 'bark string', /k^wΛlpək/ [k^wç̣ç̣ç̣p^hək^h] 'bow', /wΛpwy/ [wç̣ç̣ç̣p^wç̣ç̣] 'loincloth'

<i>Phoneme</i>	<i>has allophone</i>	<i>in environment</i>	<i>except</i>
/a/	[æ] higher low back unrounded vocoid	in all occurrences	for very slight modi- fication following palatal con- sonants or semivowels

(This vowel is accompanied by a slightly greater degree length than /ə/ or /ʌ/.)

Examples: /abə/ [æ^mb⁼ə] 'bandicoot', /adəkʌw/ [æⁿd⁼ək⁼ʌ^w] 'skull', /naget/ [næ^ŋg⁼ət⁼] 'story', /gwabə/ [ŋ^g⁼wæ^mb⁼ə] 'worm'

5.75. Vowel and Semivowel as Complex Nuclei. In the list of VS sequences which follows, descriptions of the diphthongs are dispensed with; the phonetic values should be apparent from the descriptions of vowel phonemes and from the symbols given. The semivowel phonemes shown in round brackets occur when a vowel phoneme follows in the same phrase - i.e., when the VS sequences are not strictly complex nuclei but sequences of phonemes across a syllable boundary (see 5.8.).

5.76.

<i>Phoneme sequence</i>	<i>has phonetic value</i>	<i>in environment</i>
/ə/+w/	[u(w)]	in all occurrences; see 5.94.
/ə/+y/	[i(y)]	in all occurrences; see 5.94.
/ʌw/	[ʌ ^w (w)]	in all occurrences
/ʌy/	[ɨ ^y (y)]	in all occurrences
/aw/	[æ ^w (w)]	in all occurrences
/ay/	[æ ^y (y)]	in all occurrences

Examples: /wnə bələ wʌ/ [wunə^mb⁼æⁱuwɔ] 'my pig there', /mənə wʌ/ [mənəwɔ] 'you there!', /kʌkə yəkʌwʌ/ [k⁼ɨk⁼iyæk⁼wɔ] 'come to eat', /bənə yk/ [m^b⁼ənɨk⁼] (also [m^b⁼ənɨyɨk⁼] 'did you two go?', /mʌ wərə/ [mʌ^wwæ^rə] 'go up!', /də kʌw/ [n^d⁼ək⁼ʌ^w] 'is he eating?', /kʌkʌwtəkʌwʌ/ [k⁼ɨk⁼ʌ^wt⁼ək⁼wɔ] 'I shall

eat', /mΛ ya/ [mæ̃yæ̃] 'come!', /gΛy/ [ŋg̃æ̃] 'village', /gΛyt/ [ŋg̃æ̃t] 'to the village', /nəma yΛkwΛ/ [nəmæ̃yɛ̃k̃wɔ̃] 'is big', /may/ [mæ̃] 'taro', /kwayk/ [k̃wæ̃k̃] 'gave', /kəpma wΛ/ [k̃əpmæ̃wɔ̃] 'ground there', /wawtəkwa/ [wæ̃t̃ək̃wɔ̃] 'I have spoken', /waw/ [wæ̃] 'mother's brother'

5.77. Semivowels. A class of semivowels (phonemes which have both vocoid and contoid allophones) is set up to simplify description in various parts of the language. For example, the morphology of [ŋg̃^wu] 'water', [ŋg̃wɔ̃t̃] 'to the water', [ñd̃^u] 'man', [ñd̃^{uw}ɔ̃t̃] is most easily explained if the base morphemes are phonemicised as /gw/ and /dw/ respectively, in which case a suffix {-ɔ̃t̃} with no allomorphic variation is added.

5.77.1. Semivowels function as non-syllabic syllable onsets, as simple nuclei, and as the second element in complex nuclei. (In Table VI, however, semivowels as simple nuclei are listed with complex nuclei because of their ranking in that context.) /w/ and /y/ are non-syllabic in the sequences [SV, VSV, VS], VSC, and as the first S in the sequence S₁S₂. /w/ is also non-syllabic after /p b m k g n/ when V or S follows.

5.78.

<i>Phoneme</i>	<i>has allophone</i>	<i>in environment</i>	<i>except</i>
/w/	[w] ~ [ỹ] voiced velarised rounded or unrounded bilabial continuant [wu] allophone [w] plus lower high back rounded vocoid [wu] allophone [w] plus high back rounded vocoid	in non-syllabic occurrences in sequences [] - C and C ₁ -C ₂ where C ₁ is /p b m k g ŋ/ in sequences [] - [] and C-[] where C is /p b m k g ŋ/	as noted in 5.76.

<i>Phoneme</i>	<i>has allophone</i>	<i>in environment</i>	<i>except</i>
(/w/)	[u] lower high back rounded vocoid	in other syllabic occurrences in the sequence C-C	
	[u] high back rounded vocoid	in other syllabic occurrences in the sequences C-∅, C-V and C-Y	

(For allophones following vowels, see 5.76.)

Examples:

Non-syllabic occurrences: /wələ/ [wə̌lɪ] 'natural spirit',
/wan/ [wæn] 'ear', /mawɔ/ [mæ̌wɔ̌] 'flower', /kaw/ [ǩæ̌wi] 'sago mallet', /kwaw/ [ǩwæ̌wi] 'unmarried',
/yaw/ [yæ̌] 'comes'

Syllabic occurrences: /wənə/ [wɔ̌nə] 'I', /kwɔ/ [ǩwɔ̌] 'speech', /dəkw/ [ďəǩw] 'his', /tw/ [ťu] 'cook',
/twkwɔ/ [ťɔ̌kwɔ̌] 'cooks'

/y/	[y] voiced palatal continuant	in non- syllabic occurrences	as noted in 5.76.
	[ɪ] allophone [y] plus lower high front unrounded vocoid	in sequences ∅-C and ∅-∅	
	[ɪ] lower high front unrounded vocoid	in sequence C ₁ -C ₂ where C is not a palatal C *	
	[i] high front unrounded vocoid	in sequences C-∅, C-V and C-w	

* Occurrences of [ɪ] in this environment are assigned to the phoneme /ə/ when C₁ is a palatal consonant.

(For allophones following vowels, see 5.76.)

(/y/)

Examples:

Non-syllabic occurrences: /yamΛy/ [yäm^hɛ̃^h] 'smell', /yabw/
[yæ^mb^u] 'road', /mä yatΛ/ [mɛ̃^hyät^h] 'carry [it]!',
/waykΛ/ [wæⁱk^h] 'younger brother'

Syllabic occurrences: /y/ [yɪ] 'name', /ykwn/ [yɪk^hwun] 'good',
/mygy/ [mɪŋg^hɪ] 'tree roots', /wyn/ [wɪn] 'blood', /my/
[mɪ] 'tree', /dy/ [ɲd^hɪ] 'faeces', /vya/ [viæ̃] 'fight',
/tya/ [tiɛ̃] 'give (to speaker)'

5.8. Syllable and Phrase Structure

5.81. Syllable Structure. The syllable in Wosera is a significant unit only in the prediction of stress, and to some extent in determining the presence or absence of true consonant clusters.

5.81.1. The possible syllabic N are S or V. A nucleus V may be preceded and/or followed by a non-syllabic S as part of an extended N; a nucleus S may be preceded by a non-syllabic non-identical S as part of an extended N. Any of these extended N may be preceded and/or followed by any C, provided that the non-syllabicity of the S is not thereby affected (see 5.77.1.). The vowel phoneme /ə/ does not occur in extended N, except as stated in 5.9.

5.81.2. A single S between vowels or non-identical syllabic semivowels may be regarded as belonging to either the preceding or the following syllable, or to both simultaneously; there is no evidence favouring one interpretation rather than another, and there is no reason for making a decision.

5.81.3. Syllabic S followed by V or non-identical S yields two syllables.

Examples:

Syllabic nuclei:

V: /mΛ/ 'imperative marker', /tə/ 'stand', /və/ 'break ground', /mac/ 'rain', /ac/ 'catfish', /gət/ 'scratch'

S: /y/ 'name', /vy/ 'spear', /by/ 'sap', /yk/ 'wing', /mw/ 'thing', /gw/ 'water', /wt/ 'net bag'

SV: /ya/ 'fire', /yΛ/ 'make', /wΛ/ 'say', /wak/ 'look after', /kwan/ 'slept'

VS: /kΛ.w/ 'eats', /vΛ.w/ 'digs hole', /may/ 'taro',
/gay.t/ 'to the village'

SVS: /ya.w/ 'comes', /yΛ.w/ 'makes', /kway/ 'give',
/kwaykway/ 'frog species'

SS: /wy/ 'sword-grass', /yw/ 'comes'

S in environment V-V, S-S, V-S, S-V: /dawΛ/ 'thigh', /kawΛ/
'decorative shrub', /yaw/ [yæ^hwi] 'garden', /ywy/
[yuwi] 'skin', /bwyak/ [mbwiäk] 'rat', /vyw/ [viu],
also [viwu] 'lizard'

5.82. Restrictions on Phoneme Occurrence

5.82.1. Phonemes /v ñ b d j g/ do not occur syllable-finally.

5.82.2. Phonemes /ə/ and /ŋ/ do not occur phrase-initially. Phonemes /p/ and /Λ/ are comparatively rare in phrase-initial position, though they do so occur.

5.82.3. No sequence CC occurs within the Wosera syllable. The sequence CC is comparatively rare even within the phrase, and usually indicates a morpheme boundary; the predominant phrase pattern is CNCN... . In phrases where morpheme divisions are apparent, all possible sequences of permitted syllable-final consonants with permitted syllable-initial consonants occur in CC sequences across the morpheme boundary; in phrases where no morpheme division is evident, the only common CC sequence is stop plus homorganic nasal. Most other sequences are stop plus non-homorganic nasal or plus prenasalised stop. Sequences of identical consonants do not occur within the phrase, except as noted in 5.93.

5.82.4. The sequences SS or VV do not occur within the phrase where the S are identical, except as noted in 5.93.

5.82.5. A single occurrence in Wosera of the sequence /kŋ/ should be noted (in /dəkŋΛ/ 'spider'). The sequence is relatively common in the Abelam dialect, in positions where the Wosera form has only /k/; compare Mk /ykŋwn/ - W /ykwn/ 'good', Mk /waykŋΛ/ - W /waykΛ/ 'younger brother'. The occurrence of the /ŋ/ phoneme at all is rare in Wosera, being recorded in only a few words in which it corresponds to word-medial /g/ in some other members of the Ndu family; compare I /nagw/ - W /naŋ/ 'sago', I /kagw/ - W /kaŋ/ 'hand drum'. (Apart from the occurrence in /dəkŋΛ/, it would be

possible to regard /ŋ/ in Wosera as an allophone of /g/, although this analysis would not be supported by patterning; /g/ would then be the only prenasalised stop to occur syllable-finally.)

5.82.6. In the examples of CC sequences within the word which follow, all are single morphemes, as far as can be determined from present material:

/kəpma/ 'ground', /cəpma/ 'spittle', /təpma/ 'coconut',
 /bəpmw/ 'moon', /mapma/ 'possum', /gərapmyn/ 'carved
 bird', /cacñə/ 'peel (vegetables)', /kəcñə/ 'vulva',
 /wcñə/ 'urine', /wakwacñə/ 'show', /yacñə/ 'smoke',
 /təpge/ 'mouth', /watbwn/ 'gecko' (lizard species),
 /atmw/ 'fence', /kəpray/ 'bad', /maprəc/ 'Maprik' (vil-
 lage name),¹ /bəlbəl/ 'jews-harp'.

5.9. Morphophonemics

5.91. For the sake of simplicity of morphological description, it is convenient to depart from strict phonemic orthography in a few minor ways. These departures are detailed below.

5.92. Linking Shwa. In many occurrences within the phrase of C+C, C+S (where + indicates a morpheme boundary), a 'linking shwa' is heard; this phone [ə̃], [ɪ̃], [ʊ̃], with variants [i] and [u] before /y/ and /w/ respectively, is not counted as a phoneme, since to do so would be to postulate two allomorphs of every morpheme ending in -C, one form with -C in phrase-final position and another with -Cə̃ in other positions. As morpheme-final /ə/ also occurs, the phone [ə̃] is always taken to be the phoneme /ə/ in environment Cə̃C, Cə̃S across morpheme boundaries when no phrase-final form of the first morpheme has been recorded without [ə̃].

5.92.1. The 'linking shwa' does not occur:

- where C₁ and C₂ are identical;
- where C₁ is a nasal continuant and C₂ a voiceless stop;
- where C₁ is a voiceless stop and C₂ a nasal
 continuant or prenasalised stop;
- where C₁ is /p m k ŋ/ and S is /w/.

¹ This is the form used in a text by a Wosera informant; the natives of the actual Maprik area may pronounce it with final /k/ instead of /C/. A form [maprik] is used when informants are speaking Pidgin, but may well have been derived from European usage.

Examples: /wan₁ gwa₁ 0 a₁ ɬay 0 wa₁gy ɬay 0 təkwa₁/
 [wɔnɪ^ɬg^wu^mb^ɬ 0 äsɪɬ^ɬ 0 wæ^ɬg^wɪ^ɬ 0 t^ɬək^wɔ]
 'in this water there are many fish and eels',
 /wan₁bwa₁/ [wäné^mbwɔ] 'on the ear', /mənə wan₁ wa₁/
 [ménüwän^wuwɔ] 'your ear there'

5.93. Sequences of Identical Phonemes. Sequences of identical C+C, V+V, S+S (where + indicates a morpheme boundary) are written as such, although such sequences are pronounced as a single phoneme within the phrase.

Examples: /ma kwɪ tiy₁/ [mɬk^wut^wɪ^ɬ] 'fetch [it] and give [it] to me', /vəkwwtən/ [bək^wut^wɛn] 'I heard' (/vək^w/ 'hear'), /ɬay yakwa₁/ [n^dɬ^ɬyäk^wɔ] 'they come'

5.94. Elision of /ə/. /ə/ is written in the sequences ə+V and ə+S (where + indicates a word boundary), although it is frequently elided within the phrase, with or without compensatory lengthening of the V.

Examples: /wnə ap₁/ [wunäp^wɬ] 'my father', /mənə aɬ₁/
 [ménä^sɬ^ɬ] 'your mother'

5.95. Change of /t/ to /r/. Morpheme-final /t/ changes to /r/ (usually manifested as the allophone [ř]) in phrase-medial position before V or S in the following morpheme, and in positions where the 'linking shwa' can potentially occur.

5.95.1. {bət} 'they two' has allomorphs {bət} ~ {bərə} in the phonological environments given above; but _a{bərə} also occurs in phrase-final position, in free variation with _a{bət}.

6. GRAMMAR

6.1. Minimal Utterance

6.11. The Wosera *minimal utterance* consists of one of the following:

- a free form or list of free forms, usually in response to a question or to direct eliciting;
- certain interjectional and paralinguistic forms, which may also occur preceding a sentence;
- a sentence, consisting of a subject and a predicate.

6.11.1. Free forms as minimal utterances do not play any further part in the grammar. Nor are the interjectional and paralinguistic features treated; here need only be mentioned the form /y/ 'yes'. (The form corresponding to 'no' /yABA wA/, is a sentence.)

6.2. Sentences containing only one Verb

6.21. $Sentence = + S + P.$

6.22. Subject

$S_1 = n/np$

$S_2 = pn$

$S_3 = -pnI$

S_2 (free pronoun) and S_3 (bound pronoun suffix) tend to be in complementary distribution, but both may occur. S_1 usually requires S_2 or S_3 but may occur without either; for a full statement on the interrelationship of subjects, see 6.82. Fillers of the subject slot are termed *substances*; a sub-class of substances which excludes the free pronouns is called *substantives*.

6.22.1. **Noun and Noun Phrase.** A *noun* is a free form commutable with S_2 when S_3 also occurs. A *noun phrase* is a construct, with a noun as head, commutable with a noun. A *noun base* is a one-word substantive minus affixes; a *noun stem* is a minimal base.

6.22.2. **Free and Bound Pronouns.** Subject pronoun forms are given paradigmatically in the list which follows, which will be referred to from other parts of the grammar.

The notation [-pnI] refers to the column marked I, and [-pnII] to the column marked II. The same morpheme is represented in each row across, but the presentation in three columns with allomorphic variation within the class represented by the columns marked simplifies the statement of the distribution of allomorphs.

6.22.21. The forms /kʌdə/ 'who' and /kʌmw/ 'what' are interrogative morphemes which share many of the characteristics of free pronouns, and are therefore included in the list. /kʌmw/ also functions as demonstrative 'which'.

6.22.22. 'Verbal pronouns' [-pnII] will be discussed under predicates.

6.22.23. 'Pronoun' throughout means 'personal pronoun' as occurring in the following list (excluding /kʌdə/ and /kʌmw/), unless the context specifies otherwise.

6.22.3. List of Allomorphs of Personal Pronouns

<i>English</i>	<i>Free Pn</i>	<i>Bound PnI</i>	<i>Verbal PnII</i>
'I'	wnə	wtə ~ wt	wnə ~ wn
'you' - m.	mənə	mənə ~ mən	mənə ~ mən
'you' - f.	ñənə	ñənə ~ ñən ∞ ñə	ñənə ~ ñən
'he'	də	də ~ d	də
'she'	lə	lə ~ l	lə
'we two'	anə	tə ~ t	tə
'you two'	bənə	bənə ~ bən	bənə ~ bən
'they two'	bərə ~ bət	bərə ~ bər	bərə ~ bət
'we'	nʌnə ~ nanə	nʌnə ~ nʌn ∞ nʌ	nʌnə ~ nʌn
'you'	ɡwnə	ɡwnə ~ ɡwn	ɡwnə ~ ɡwn
'they'	dʌy	dʌrə ~ dʌr ∞ dʌ	dʌrə
['who'	kʌdə	-	-
'what'	kʌmw	-	-]

[pnI] allomorphs {wtə ~ wt} replace final /ə/ of preceding morpheme, and final /ə/ of all bound pn forms are replaced by V or S in the following morpheme. Allomorphs in the first and third columns are in free variation with the alternative forms given.

6.23. Predicate

$$P_1 = \{w\Lambda\}_1 \text{ or } [pnII]$$

$$P_2 = v$$

6.23.1. $\{w\Lambda\}_1 \sim \{w\}_1 \infty \{\emptyset\}$ or [pnII] 'invariable predicate'

Distribution of allomorphs: $\{w\Lambda\}$ and $\{w\}$ are in free variation after word-final /ə/; substitutes [pnII] occur in affirmative equational questions; ${}_a\{w\Lambda\}$ occurs in all other locational, existential and equational sentences, except for some occurrences of ${}_a\{\emptyset\}$ (see below, 6.23.12.).

Examples: /məne wΛ/ 'you there' (attracting attention)
 /wnə balə w/ '[this is] my pig'
 /wnə ∅ luluai wΛ/ 'I am the luluai'
 /anə ∅ məne waykΛ wΛ/ 'we two are your younger brothers'
 /wΛny balə ∅ wnə ∅ waykΛ.nΛ balə w/ 'this pig is the pig of my younger brother'
 /məne ∅ luluai məne/ 'are you the luluai?'
 /gwnə ∅ wnə añə ∅ gwnə/ 'are you all my elder brothers?'

6.23.11. The form /də/ (third person) of [pnII] occasionally replaces second or other third person forms:

Examples: /bəne ∅ wnə añə ∅ vətyk bəne/ } 'are you two my two
 /bəne ∅ wnə añə ∅ vətyk də/ } elder brothers?'
 /bət ∅ məne ∅ añə.waykΛ də/ 'are they two your brothers?'

6.23.12. Allomorphs $\{w\Lambda\} \sim \{w\}$ and substitutes have been found to be optionally replaceable by zero in a few cases:

Examples: /wnə balə/ 'my pig'
 /y ∅ anə ∅ məne ∅ añə vətyk/ 'yes, we two are your two elder brothers'
 /gwnə ∅ kΛdə gwnə/ } 'who are you [all]?'
 /gwnə ∅ kΛdə/ }

6.23.13. For $\{w\Lambda\}$ in negative equational statements, see 6.31.1.

6.23.14. All allomorphs of $\{w\Lambda\}$ and substitutes are invariable for time, and $\{w\Lambda\} \sim \{w\} \sim \{\emptyset\}$ for person.

Examples: /Λny ∅ nalə ya.n dw ∅ wnə apΛ wΛ/ 'that man who

came yesterday was my father'
 /ʌny kwamy ɔ̄ wnə balə wʌ/ 'that meat was [is from]
 my pig'

6.23.2. Verb. A *verb* (v) is a predicate containing affixes. A *verb base* (vb) is a verb minus affixes. A *verb stem* (vs) is a minimal base. A *subjected verb* (sv) is a verb containing S₃; a *non-subjected verb* (xv) is a verb which does not contain S₃.

6.23.3. Verb Morphology

6.23.31. {-kwʌ} ∞ {-gʷʌ} ∞ {-w}₂ 'non-past tense suffix'

Distribution of allomorphs: {-gʷʌ} occurs after bound pronoun forms /məŋə/, /ñəŋə/, /bəŋə/, /gʷŋə/ and /nʌŋə/ in subjected verbs, and following base-final /k/ in non-subjected verbs.

{-w} occurs with non-subjected verbs in questions and as a dialect variant of {-kwʌ} in both subjected and non-subjected verbs. It replaces final /ə/ of the preceding morpheme.

{-kwʌ} occurs in all other environments.

Present verb = + vb ± [-pnI] + {-kwʌ}₁

Note: {nʌŋə} 'we' has allomorph {-nʌ-} before _a{-gʷʌ}
 {ñəŋə} 'you' (f.) frequently has allomorph {-ñə-}
 before _a{-gʷʌ}
 {dʌy} 'they' frequently has allomorph {-dʌ-}
 before _a{-kwʌ}

Examples:

Non-subjected verbs: /wnə kʌ.kwʌ/ 'I eat'

/dʌy vya.kwʌ/ 'they fight'

/anə ñərək.gʷʌ/ 'we two swallow'

/məŋə ya.w/ 'are you coming?'

/məŋə v.w/ 'do you see?'

Subjected verbs: /ña ɔ̄ dawlə y.də.kwʌ/ 'sun goes down'

/dʌy vya.dʌrə.kwʌ/ }
 /dʌy vya.dʌ.kwʌ/ } 'they fight'

/ʌny takwʌ ɔ̄ kʌ.lə.kwʌ/ 'this woman eats'

/takwΛ ñΛgw □ tə.dΛ.kwΛ/ 'the women (young women) remain'
 /gərə.mənə.gwΛ/ 'you are crying'

6.23.31.1. In the Maprik dialect $a\{-w\}$ occurs in all functions of $a\{-kw\}$ and $a\{-gw\}$; no distinction is made between xv and sv, or between statements and questions.

Examples: /wnə kΛ.w/ 'I eat'
 /ənə kΛ.t.w/ 'we two eat'
 /yΛbΛ □ mənə y.w/ 'where are you going?'
 /gəy.r wnə y.w/ 'I am going to the village'

6.23.32. $\{-n\} \sim \{-ən\} \sim \{-\Lambda n\} \infty \{-k\}_1 \sim \{-ək\} \sim \{-\Lambda k\}$ 'past tense suffix'

Distribution of allomorphs: $\{-n\} \sim \{-ən\} \sim \{-\Lambda n\}$ occur in statements, $\{-k\} \sim \{-ək\} \sim \{-\Lambda k\}$ in questions

$\{-n\}$ and $\{-k\}$ occur after [pnI] forms, after base-final vowel or unstressed semivowel, and irregularly after /y/ 'go'

$\{-ən\}$ and $\{-ək\}$ occur after base-final consonant

$\{-\Lambda n\}$ and $\{-\Lambda k\}$ occur after base-final semivowel.

Past v = + vb ± [pnI] + $\{-n\}$

Examples:

xv: /bərə vya.n/ 'they two fought'
 /bərə vya.k/ 'did they two fight?'
 /mənə gy.Λk/ 'did you tie [it]?'
 /wnə rap.ən/ 'I stood up'

sv: /wnə □ kΛ.wtə.n/ 'I ate'
 /gwnə □ kΛ.gwnə.k/ 'did you [all] eat?'
 /nΛnə □ gəy.bΛ □ kwΛ.nΛnə.n/ 'we slept in the village'
 /nΛnə □ balə □ wlΛ.nΛnə.n/ 'we hunted a pig'

6.23.32.1. In the Maprik dialect the allomorphs in /-n/ do not occur in this context; the allomorphs in /-k/ occur in all functions. See also 6.83. and Appendix B.

Examples from the Maprik dialect:

/wnə kλ.k/ 'I ate'

/dɔy y.k/ 'they came'

/takwλ [] kλdəmɯ [] tw.λk/ 'the woman cooked the food'

6.23.33. {-kλ-}₁ ~ {-gλ-}₁ 'future suffix'

Distribution of allomorphs: {-gλ-} occurs after base-final /k/

{-kλ-} occurs in all other environments

6.23.33.1. Allomorph {-w}₂ of {-kw} does not occur in this construction.

Future v = + vb + {-kλ-} + [-pnI] + {-kwλ}

Examples: /nλnə [] y.kλ.nλ.gwλ/ 'we shall go'

/wλ.kλ.wtə.kwλ/ 'I shall talk'

/kya.kλ.tə.kwλ/ 'we two shall die'

/gəra.kλ.ñənə.gwλ/ 'you (f.) will cry'

6.23.34. {mλ} 'imperative marker'

Imperative v = + {mλ} + vb

Examples: /mλ və/ 'look!'

/mλ warə/ 'go up!'

/mλ [] ñəgwc [] tyλ/ 'give [me] tobacco!'

/ñəgwc [] mλ kway/ 'give [him] tobacco!'

6.23.34.1. {mλ} is written as a free morpheme for the reasons given in 5.11.: it may occur as an independent phrase, or forming part of a phrase with morphemes other than verb bases (objects or adverbs in close connection with the verb base). More usually, however, it forms a phrase with the verb base.

6.23.35. {kλ-} 'prohibitive prefix'

Prohibitive v = + {kλ-} + vb + [pnII]

Examples: /wdə [] pakw.wtə.kwλ [] kλ.kλ mənə/ 'I hide food so that you should not eat'

/kwəjə [] kλ.kλ də/ 'the flying fox should not eat [the bananas]'

/kλ.vyΛ də [] wany my [] vəkər.Λy [] kλ.vyΛ də/
 '[be careful] lest it hit [you], this tree
 in falling, [be careful] lest it hit you'

6.23.36. {-kə}₁ ~ {-gə}₁ 'intensive suffix'

Distribution of allomorphs: {-gə} occurs after base-final /k/
 {-kə} occurs in all other
 environments

Intensive v = + vb + {-kə}₁ ± [pnII]

Examples: /cərə [] ya.kə mənə [] cərə [] kλ.kə mənə/ 'if you
 [plan to] come tomorrow, tomorrow you will
 [be able] to eat'

/kλ.kə dərə/ 'they intend to eat'

6.23.36.1. This construction is rare without [pnII]; the only common examples are in constructions with {ygΔy} (a form of {ygΔ} 'how'?): /ygΔy [] vəkə/ '[I] cannot see' (lit. 'how to see?' ?), /ygΔy [] və.kə/ '[I] cannot break [the ground]'. The full form (with pnII) also occurs with this construction: /ygΔy [] vaty.kə tə/ 'how should we two cross [the river]?'.

6.23.36.2. For occurrences of {-kə} in verb-verb constructions, see **6.62.1**.

6.3. Predicate Expansions

6.31. Negatives. Negatives may be regarded as 'transforms' of affirmative predicates. They are presented here in the same order as the predicates already treated.

6.31.1. 'Invariable predicate' negative =
 = + {yΛbΛ} + {wΛ} ~ {w} or [pnII]

Examples: /wnə [] luluai [] yΛbΛ wΛ/ 'I am not the luluai'
 /anə [] mənə waykλ [] yΛbΛ wΛ/ 'we two are not your
 younger brothers'
 /Λny my [] vətyk [] tapw [] yΛbΛ wΛ/ 'these two trees
 are not black palms'
 /bənə [] wnə añə [] yΛbΛ bənə/ 'are you two not my
 elder brothers?'

6.31.11. The substitutes [pnII] occur only in questions.

6.31.12. A further negative was recorded, representing a borrowing from Pidgin: /i no/ 'is not', with occurrence restricted (as in Pidgin) to second and third person subjects.

Example: /ʌny my ɔ̄ i no ɔ̄ tɔpw/ 'this tree is not a black palm'

6.31.2. Present negative xv = + {yʌbʌ} + vb + {-y}₁ ± [pnII]

Present negative sv =

= + {yʌbʌ} + vb + [-pnI]₁ + {-y}₁ + {-kwʌ}₁

Examples:

xv: /wnə yʌbʌ ɔ̄ kʌ.y/ }
 /wnə yʌbʌ ɔ̄ kʌ.y wnə/ } 'I do not eat'

sv: /wnə yʌbʌ ɔ̄ kʌ.wtə.kwʌ.y/ 'I do not eat'
 /mənə yʌbʌ ɔ̄ y.mənə.gwʌ.y/ 'are you not going?'

6.31.3. Past negative = + {kɔpwk} + past v

xv: [no xv forms recorded; xv forms may possibly not occur in this construction]

sv: /wnə ɔ̄pʌ ɔ̄ kɔpwk yʌ.də.n/ 'my father did not come yesterday'
 /wnə bʌlə ɔ̄ kɔpwk ɔ̄ və.mənə.k/ 'did you not see my pig?'

6.31.4. Future negative = + {yʌbʌ} + future v + {-y}

Examples: /cərə ɔ̄ yʌbʌ ɔ̄ kʌ.kʌ.wtə.kwʌ.y/ 'tomorrow I shall not eat'

/mənə ɔ̄ yʌbʌ ɔ̄ yʌ.kʌ.mənə.gwʌ.y/ 'are you not going to come?'

6.31.41. This construction is comparatively rare. The intensive negative construction (6.31.6.) usually appears in the function of future negative.

6.31.5. Imperative negative = + vb + {mərək}
 = + vb + {bʌk}

Examples: /gərə mərək/ }
 /gərə bʌk/ } 'do not cry!'

6.31.51. The two forms do not seem to differ in use or meaning; the former is slightly more common.

6.31.52. The intentive negative construction (6.31.6.) sometimes appears in the function of imperative negative: /kʌty
 [] kʌ.kə mənə/ 'do not eat!'

Intentive negative = {kʌty} + vb + {-kə}₁ + [pnII]

Examples: /cərə [] kʌty [] kʌ.kə wɪ/ 'tomorrow I shall not eat'

/kʌty [] kway.kə nʌnə [] kʌkəm/ 'we will not give [you] food'

6.32. Verb Prefixes

6.32.1. {a-} 'here'. Indicates that the action of the verb is taking place in the immediate vicinity.

Examples: /wɪnə [] a.v.wtə.n/ 'I have seen it here' ('I have found it')

/y [] a.tə.kwʌ/ 'yes, [it] is nearby'

/wɪnə lʌp w [] ʌny.bʌ rʌ.kwʌ [] mənə lʌp w [] a.rʌ.kwʌ/ 'my banana-tree is there, your banana-tree is here'

6.32.2. {wə-} 'there'. Indicates that the action of the verb is taking place at a distance.

Examples: /wə.vya.wtə.n/ 'I have shot [it]'

/wɪnə bʌlə [] wə.vya.mənə.k/ 'did you kill my pig?' [owner was not present; the action took place elsewhere]

6.32.21. See 6.62.33. regarding another function of {wə-}.

6.33. Multiple-stemmed Bases

6.33.1. {-kway-} ∞ {-tyʌ-} 'benefactive marker'

vb = + *vs* + {-kway}

Distribution of allomorphs: {-tyʌ} occurs when the recipient of the benefaction is a first person pronoun, expressed or understood

{-kway} occurs in all other environments.

Examples: /mənə kwʌlpək [] yʌ.kway.wtə.kwʌ/ 'I make a bow for you' (lit. 'I make-give your bow')

/wnə ʔ mənə vy ʔ kyñ.kway.kʌ.wtə.kwʌ/ 'I shall
make a spear for you'

/yatə.kway.kʌ.wtə.kwʌ/ 'I shall carry [it] for
you'

/wnə gw ʔ mʌ tw.tyʌ/ 'draw water for me!'

6.33.11. {kway} ∞ {tyʌ} appears as an independent vs meaning 'give'; but the occurrences as a benefactive marker include some (such as /yatə.kway.kʌ.wtə.kwʌ/, above) where the concept of 'giving' is not present.

6.33.2. {-rə} 'continuous action marker'

vb = + vs + {-rə}

Examples: /wnə ʔ ya.rə.kwʌ/ 'I come to stay'; 'I am still
coming'

/wn lə ʔ kʌ.rə.kwʌ/ 'she is still eating'

{rə} as an independent vs means 'sit, remain'.

6.34. Sequences of vb plus v. A number of cases of affixless vb followed by a full verbal form occur. It would be possible to regard these as multiple-stemmed bases (see above, 6.33.) except for the fact that the individual vs usually retain an independent meaning and do not form a compound whose meaning is slightly different from that of the sum of its parts. They are therefore regarded here as abbreviated verbal sequences, the first vs being without affixes (sentence-medial or sentence-final forms; see 6.7.) because the nature of their affixes is understood from the context. This type of construction is very common after {mʌ}.

Examples: /nʌnə ʔ y kwa.k/ 'we went and slept'

/mʌ y ta gy/ 'go and get [it] and tie [it]!'

/mʌ warə və/ 'go up and see'

6.34.1. The occurrence of /kwa.k/ instead of /kwa.n/ in the first example represents a dialect difference on the part of the informant from Kunjingini No.1.

6.34.2. For affixless occurrences of bases in sentence-medial forms, see under 6.75.2.

6.4. Subject Expansions

6.41. Noun-noun Constructions. Noun-noun constructions may be regarded as attribute + head (see 6.42.), as compounds,

or as appositional sequences.

6.41.1. Compounds. Where the total meaning of a noun-noun construction differs from the combined meaning of its parts, and/or where non-predictable phonetic changes occur, the construction is regarded as a compound and written as one word.

Examples: /manwy/ 'bird of paradise' (/man/ 'leg', /wy/
'sword-grass' = 'hair?')
/ñəgwɔ/ 'tobacco' (/ñəgɔ/ 'banana leaf', /kwɔ/
'salt')

6.41.2. Apposition. Noun-noun constructions which are not compounds and in which neither noun is head are regarded as being in apposition. Nouns or noun phrases in this context are usually uttered as two independent phrases, except for the frequent /dw takwɔ/ 'men and women', 'people'. Repetitions of a noun or noun phrase are also regarded as being in apposition.

Examples: /takwɔ ñɔgw ɔ takwɔ ñɔgw ɔ tə.dɔ.kwɔ/ 'the young
women remain' (lit. 'women-children women-
children they stand')
/wany balə ɔ wany aɔ ɔ waryɔ.bər/ 'that dog and
that pig fight'

6.42. Attributes. An *attributive phrase* is that part of a noun phrase with noun as head that precedes or follows the head. An *attribute* is a one-word attributive phrase.

6.42.1. Attributes and attributive phrases regularly precede a noun as head word, except for a small number of special attributes in 46.42.3.

6.42.2. A subclass of attributes that regularly precede other attributes or attributive phrases are *demonstratives*. These are:

/ɔny/ ~ /ɔn/ 'this' (nearby)
/wany/ ~ /wan/ 'that' (distant)
/yany/ ~ /yan/ 'which?'
/wɔ/ 'that' (pointing) (may precede
or follow its head)

6.42.21. It is possible, but not necessary, to regard /wɔ/ 'that' as an additional function of {wɔ}₁.

6.42.3. A subclass of attributes that may follow or precede a noun as head word, and which always follow when any attribute which is not a demonstrative precedes, are *numerals*, as follows:

/nɔkwɔɔk/ ~ /nɔk/	'one'
/vɔtyk/	'two'
/kwɔpwk/	'three'
/vɔtyk vɔtyk/	'four'
/tabɔk/	'five' (? abbreviation of /tabɔ nɔk/ 'one hand'?)
/kayk/ ~ /kayk ɔ nɔkwɔɔk/	'six'
/kayk vɔtyk/	'seven'
/kayk kwɔpwk/	'eight'
/kayk ɔ vɔtyk vɔtyk/	'nine'
/tabɔ vɔtyk/	'ten'
/nɔkwɔɔk ɔ my/	'twenty'
/my vɔtyk/	'forty'
/my vɔtyk vɔtyk/	'eighty'
/katyk/	'how much?', 'how many?'

6.42.31. Numerals above 'five', except for multiples of ten, are usually replaced in Wosera, when used at all, by Pidgin numerals. Number morphemes show considerable dialect variation in Abelam, and also throughout the entire Ndu family; confusion as to whether /tabɔ nɔk/ means 'five' ('one hand') or 'six' ('hand one') is also common.

6.42.4. A subclass of attributes commutable with demonstratives is that of *possessives*.

6.42.41. {-nɔ} ∅ {-kw} ∅ {-∅} 'possessive suffix'

Distribution of allomorphs: {-nɔ} occurs with most nouns, particularly those which can be regarded as 'animate'

{-kw} occurs with non-dual third person free pronouns

{-∅} occurs with remaining free pronouns and with nouns regarded as 'inanimate'

Examples: /takwɔ.nɔ ɔ ñan/ 'the woman's child'
 /dɔy.kw ɔ balɔ/ 'their pig'
 /mənɔ ɔ kwɔlpək/ 'your bow'
 /wnɔ apɔ.nɔ ɔ takwɔ/ 'my father's wife'
 /dɔkw añɔ.nɔ gɔ/ 'his elder brother's house'

6.42.41.1. In the category of possessives must also be

placed /kənΛ/ 'whose': /wΛ [] kənΛ balə/ 'whose pig is that?'

6.42.41.2. In some dialects of Abelam (particularly the 'Mamu-Kundi' dialects around Wingei, east of Maprik centre) the final /ə/ of non-third-person free pronouns is replaced by a possessive suffix {-Λ}, possibly a contraction of {-nΛ} in forms such as */mənə.nΛ/.

6.42.42. Predicated forms of possessive pronouns occur with a second order suffix {-n}₂ following the pronoun allomorphs of {-n}. This is the only recorded instance of a second order suffix occurring with substances. The final /-ə/ of non-third person pronouns is replaced by /-Λ/, possibly the morpheme mentioned in **6.42.41.2.**

{-n} 'predicative possessive suffix'

Examples: /wnΛ.n/ 'mine'

/mənΛ.n/ 'yours'

/wΛny balə [] də.kw.n wΛ/ 'that pig is his'

/wt nənΛ.n wΛ/ 'the netbag is ours'

6.42.5. *Examples* of attributes and attributive phrases:

/wnə [] ykwn [] vy/ 'my good spear'

/wΛny [] gələ balə/ 'that black pig'

/wΛny ñw [] kΛprΛy [] ñw wΛ/ 'this firewood is bad firewood'

/kənΛ [] nəmə gΛ [] kwpwk/ 'whose [are these] three big houses?'

/wnə waykΛ.nΛ [] balə vətək/ 'my younger brother's two pigs'

/bəre [] wnə waw vətək/ 'they two are my mother's brothers'

/yΛny [] takwΛ.nΛ wt/ 'which woman's net bag?'

6.42.6. Attributes in verbal constructions, and attributive phrases containing verbs, are treated in **6.53.**

6.5. Further Expansions of Basic Sentences

6.51. Object Slots. Two object slots occur in the Wosera sentence, filled by substances with or without object suffixes. The fillers are referred to below as *first object* and *second object* respectively.

- 6.51.1. $\{-t\}_1 \sim \{-\text{ət}\}_1 \sim \{-\text{at}\}_1 \sim \{-r\}_1 \sim \{-\text{ər}\}_1 \sim \{-\text{ar}\}_1 \infty \{\emptyset\}$
 'first object suffix'

Distribution of allomorphs: $\{-r\} \sim \{-\text{ər}\} \sim \{-\text{ar}\}$ occur when a vowel or semivowel follows in the same phrase (see 5.95.)

$\{-t\}$ and $\{-r\}$ occur after base-final / Λ /, / a / or unstressed semivowel, with some free pronouns (see 6.5.11.), and irregularly with / $\text{c}\text{ə}\text{p}\text{ə}$ / 'skin'

$\{-\text{ət}\}$ and $\{-\text{ər}\}$ occur after base-final consonant

$\{-\text{at}\}$ and $\{-\text{ar}\}$ replace base-final / ə /, occur after base-final stressed semivowel and with some free pronouns (see 6.51.11.)

$\{\emptyset\}$ occurs with objects regarded as 'inanimate' (see 6.86.)

Examples: / $\text{wn}\text{ə} \quad \square \quad \text{c}\text{ə}\text{p}\text{ə}.\text{t} \quad \square \quad \text{v}\text{y}\text{a}.\text{k}\text{w}\Lambda$ / 'I hit myself' (lit. 'I hit [my] skin')

/ $\text{wn}\text{ə} \quad \square \quad \text{ñ}\text{an}.\text{ət} \quad \square \quad \text{k}\Lambda\text{yn}\Lambda\text{k}.\text{g}\text{w}\Lambda$ / 'I scold the child'

/ $\text{m}\text{ə}\text{n}\text{ə} \quad \square \quad \Lambda\text{ny} \text{d}\text{w}.\text{at} \quad \square \quad \text{m}\Lambda \text{w}\Lambda\text{c}\Lambda\text{ty}$ / 'you remove this man!'

/ $\text{wn}\text{ə} \text{w}\Lambda\text{c}\Lambda.\text{t} \quad \square \quad \text{k}\Lambda\text{m}\text{w}.\text{k}\text{ə} \quad \square \quad \text{m}\text{ə}\text{n}\text{ə} \text{v}\text{y}\text{a}.\text{w}$ / 'why are you hitting my dog?'

/ $\text{ñ}\text{ə}\text{g}\text{w}\text{c} \quad \square \quad \text{m}\Lambda \text{k}\text{w}\Lambda\text{y}$ / 'give [him] tobacco!'

6.51.11. Allomorphs of $\{-t\}_1$ occurring with free pronouns are irregularly distributed; a list follows.

$\text{wn}\text{ə}.\text{t} \sim \text{wn}.\Lambda\text{t}$	$\text{an}.\Lambda\text{t}$	$\text{n}\Lambda\text{n}\text{ə}.\text{t}$
$\text{m}\text{ə}\text{n}\text{ə}.\text{t}$	$\text{b}\text{ə}\text{n}\text{ə}.\text{t}$	$\text{g}\text{w}\text{n}\text{ə}.\text{t}$
$\text{ñ}\text{ə}\text{n}\text{ə}.\text{t}$		
$\text{d}.\Lambda\text{t}$	$\text{b}\text{ə}\text{r}\text{ə}.\text{t}$	$\text{d}\Lambda\text{y}.\text{t}$
$\text{l}.\Lambda\text{t}$		
$\text{k}\Lambda\text{m}\text{w}.\Lambda\text{t}$		
$\text{k}\Lambda\text{d}\text{ə}$		

6.51.12. Bases ending in / η / have allomorphs ending in /-g/ before $\{-t\}$:

/kaŋ/ - /kaŋ.ət/ 'hand drum'

/naŋ/ - /naŋ.ət/ 'sago'

6.51.2. {-kə}₂ ~ {-gə}₂ 'second object suffix'

Distribution of allomorphs: {-gə} occurs after base-final /k/

{-kə} occurs in all other environments

Examples: /wnə ɒ kwɔlpək.gə ɒ kəpə ɒ ta.kwɔ/ 'I put a string on my bow'

/wnə ɒ mənə.kə ɒ kɔdəmɔ ɒ kway.kɔ.wtə.kwɔ/ 'I shall give you food'

6.51.21. If the first object is indicated by allomorph {-∅} of {-t}₁, the second object is more frequently indicated by {-t}₁ than by {-kə}₂:

/wnə ɒ ñəgwɔ ɒ kway.kɔ.wtə.kwɔ ɒ wnə apɔ.t/

'I give tobacco to my father'

6.51.22. The verb /vəkɔ/ 'hear, smell, remember', and the construction /ykwn yɔ/ 'be sorry for' (lit. 'make good') require {-kə}₂ instead of {-t}₁ as first object suffix.

/mənə.kə ɒ ykwn ɒ yɔ.wtə.kwɔ/ 'I am sorry for you'

/wnə ɒ məgw.kə ɒ vəkɔ.kwɔ/ 'I remember something'

6.51.23. For another function of {-kə}₂, see 6.52.62.

6.52. Adverb Slots. The remaining slots in the Wosera sentence are filled by 'adverbs', including substances with or without suffixes.

6.52.1. 'Verbal adverbs'. This class of fillers occur only immediately preceding the verb. These fillers are:

6.52.11. {məwɔ} 'must'. Occurs with present sv with allomorph {-w}₂.

Examples: /ñan ɒ məwɔ ɒ kɔ.d.w/ 'the child must eat'

/wnə ɒ məwɔ ɒ y.wn.w/ 'I must go'

6.52.12. {bɔkɔ} 'purposelessly'. Occurs with verbs to indicate that the action is performed for no ulterior motive; cf. Pidgin 'nating' ('sindaun nating', etc.). As an attribute /bɔkɔ/ means 'empty' or 'unimportant'.

Example: /wnə ɔ̄ bakʌ y.wtə.kwʌ/ 'I stroll'

6.52.13. {dawlə} 'down'. Occurs with verbs expressing motion to indicate downwards direction of movement.

Examples: /balus ɔ̄ dawlə y.kwʌ/ 'the plane lands'
/matw ɔ̄ dawlə y.ʌn ɔ̄ gw.ba/ 'the stone sank in the
water'

6.52.14. {wabəɬʌ} 'back'. Occurs with verbs to indicate returning direction.

Examples: /wnə ɔ̄ wabəɬʌ ɔ̄ y.kwʌ/ 'I go back'
/wnə ɔ̄ wabəɬʌ ɔ̄ ya.kwʌ/ 'I come back'

6.52.2. 'Time adverbs'. Another adverb slot is filled by morphemes specifying the time of the action. A list of the commonest follows; some are compounds and some contain morpheme {-bʌ} (see 6.52.31.), although the first (base) morpheme is not recognisable as a noun.

apw.apw	'always'
bəɬʌ	'now', 'today'
bəɬʌ.kət	'slightly later'
waykʌ	'later today'
cərə.ma	'tomorrow or the next day'
kyñʌ	'in the future'
talʌ	'in the past'
talʌ.ba	'a long time ago'
cərə	'tomorrow'
ma	'two days hence'
walə.ña	'three days hence'
caləkwa.ña	'four days hence'
maləkwa.ña	'five days hence'
nələ	'yesterday'
dəkən	'two days ago'
dəkən.ba	'some time ago'
gərəbw	'(in the) afternoon'
gən.bwʌ	'(in the) morning'
jə.ba	'for a long time'

The morpheme sequences listed are non-productive and have no parallels.

6.52.21. This slot is also filled by /yʌny ɬapʌk/ 'what time?' (= 'when?', and /apw/ with /kətyk/ 'how many?' and numerals:

/yʌny ɬapʌk ɔ̄ mənə ɔ̄ d.ʌt ɔ̄ və.mənə.k/ 'when did

you see him?'

/apw kатыk 0 mənət 0 vya.k/ 'how many times did [he]
hit you?'

/apw kwpwk 0 kwp.ba 0 vya.də.n/ 'he hit [me] three
times on the back'

6.52.22. Substantives with suffix {-ba} also fill this slot; for discussion of this morpheme and its allomorphs, see **6.52.31.**

Examples: /wnə 0 nalə.ba 0 y.ən/ 'I went yesterday'

/wnə apλ 0 gan.ba 0 ya.də.n/ 'my father came in
the night'

6.52.23. 'Time' adverbs occur in apposition:

/nalə gərabw 0 vya.də.n/ 'he hit me yesterday after-
noon'

/cərə gan.bwλ 0 y.kλ.wtə.kwλ/ 'I shall go tomorrow
morning'

6.52.3. 'Place adverbs'. This slot is filled mainly by substantives with suffixes {-ba} and {-t}₂. A few fillers occur without suffixes, also a few fillers with suffix {-ba} in which the base morpheme is not readily isolable. The fillers in these two categories are:

abλ	'here', 'hence'
agλ	'hither'
wλba	'there'
jλba	'over there'
kwλymλkλ	'nearby'
apλk	'distant' (motion towards)
apλk.ba	'distant' (stationary)
yλba	'where', 'whence'

Examples: /wnə 0 abλ ya.kwλ/ 'I come from here'

/wnə 0 agλ y.kwλ/ 'I go to this place'

/abλ 0 v.wtə.n/ 'I saw it here'

/də 0 jabλ r.λw/ 'there he is' (dialect form)

/kwλymλkλ 0 tə.kwλ/ 'it is nearby'

/vy 0 apλk y.kwλ/ 'the arrow goes a long way'

/apλk.ba 0 tə.də.kwλ 0 ygλy və.kə/ 'he is a long
way away; I cannot see him'

6.52.31. {-bΛ} ∞ {-bWΛ} 'temporal/locational suffix'

Distribution of allomorphs: {-bΛ} and {-bWΛ} are in free variation in most occurrences, although there is a slight preponderance of occurrence of {-bWΛ} with substances filling the 'time' adverb slot and with bases ending in /w/; _a {-bΛ} occurs most frequently in other environments.

6.52.31.1. It is suggested that the present free variation in most occurrences of {-bΛ} represents a fusion of two formerly distinct morphemes as a result of the frequent loss in Wosera of /w/ in environment bilabial or velar C-V. (Compare correspondences such as Wosera /balə/ - Kwusaun /bwalə/ 'pig' in Part IV.) The only contrast recorded is /gan.bΛ/ 'at night' - /gan.bWΛ/ (also /gabWΛ/) 'in the morning'.

Examples:

'Time' adverbs:	/nalə.bWΛ/	'yesterday'
	/gan.bΛ/	'at night'
	/gan.bWΛ/	'in the morning'
'Place' adverbs:	/ya.bΛ/	'by the fire'
	/tabΛ.bΛ/	'on the hand'
	/gay.bΛ/	'in the village'

6.52.31.2. {-bWΛ}, like /yΛbΛ/ 'where, whence', indicates 'place whence' as well as 'place where':

/yΛbΛ ∅ mənə ya.w/ 'where have you come from?'

/wnə ∅ avəcət.bΛ ∅ ya.kWΛ/ 'I have come from Abusit'

6.52.32. {-t}₂ ~ {-ət}₂ ~ {-Λt}₂ ~ {-r}₂ ~ {-ər}₂ ~ {-Λr}₂
∞ {-kə}₃ ~ {-gə}₃ 'allative suffix' (place
whither).

Distribution of allomorphs: the first six allomorphs occur with inanimate substantives, with the same phonological conditioning of allomorphs as {-t}₁ (see 6.51.1.)

{-kə}₃ ~ {-gə}₃ occurs with free pronouns and with animate substantives, {-gə} after base-final /k/

(Note that this distribution contrasts with that of {-t}₁.)

- Examples:* /wnə ɔ̄ gay.r y.kwΛ/ 'I go to the village'
 /wΛny dw ɔ̄ wnə.kə ɔ̄ ya.kwΛ/ 'that man is coming
 to me'
 /anə ɔ̄ gw.Λt ɔ̄ y.kΛ.tə.kwΛ/ 'we two will go to
 the water'
 /cərə ɔ̄ bag.ət ɔ̄ y.kΛ.wtə.kwΛ/ 'tomorrow I will
 go to the bush'
 /ñənə ɔ̄ y.kΛ.ñə.gΛ ɔ̄ ñənə dw.nΛ ɔ̄ gay.t/ 'will
 you (f.) go to your husband's village?'

6.52.33. {-ΛΛ} ~ {-lΛ} 'comitative/locational suffix'

Distribution of allomorphs: {-lΛ} occurs after base-final /a/ with substances

{-ΛΛ} occurs in all other environments (replacing base-final vowel) with substances

6.52.33.1. Note that the above morpheme may indicate much the same as {-bΛ} when occurring with inanimate substantives; also that substantives with this suffix are commutable with 'manner' adverbs as well as with 'place' adverbs.

- Examples:* /apwɣ ɔ̄ my.ΛΛ ɔ̄ tə.kwΛ/ 'a bird is on the branch'
 /mən.ΛΛ ɔ̄ kΛdə ɔ̄ t.w/ 'who is standing near you?'
 /cərə ɔ̄ Λny takw.ΛΛ ɔ̄ y.kΛ.wtə.kwΛ/ 'tomorrow I
 shall go with this woman'

6.52.33.2. /cəkət/ 'along with' may occur preceding forms with suffix {-ΛΛ}:

- /anə ɔ̄ cəkət ɔ̄ mən.ΛΛ ɔ̄ y.kΛ.tə.kwΛ/ 'we two shall go
 along with you'

6.52.4. 'Manner adverbs'. This slot is filled by adverbs which indicate the manner of the action, and by substances with suffixes as described in **6.52.42.** and **6.52.43.**

6.52.41. The commonest adverb fillers in this class are as follows:

bary	'quickly'
pətəpətə	'quickly' (running)
rəkabΛ	'excessively'
gwabə	'half'
gwabə gwabə	'only partly' (cf. Pidgin 'hap hap tasol')

mΛΛ	'only'
ΛgΛ	'thus'
ygΛ	'how?'

- Examples:* /yΛbΛ ɔ̄ ya.ñənə.gwΛ.y ɔ̄ bary/ 'you (f.) did not come quickly'
- /wnə ɔ̄ pətəpətə ɔ̄ y.kwΛ/ 'I go quickly', 'I run'
- /ya ɔ̄ rəkabΛ ɔ̄ vərək.w/ 'the fire is burning fiercely' ({-w} for {-kwΛ}, dialect)
- /mac ɔ̄ rəkabΛ ɔ̄ vyΛ.y.../ 'rain having fallen heavily'
- /ñənə ɔ̄ ygΛ y.w/ 'how [by what route] do you (f.) go?'
- /balə ɔ̄ ygΛ ɔ̄ ra.kə mənə/ 'how do you set about cutting up a pig?'
- /wnə ɔ̄ ΛgΛ ɔ̄ ra.kwΛ/ 'I cut it up thus'

- 6.52.42.** {-t}₃ ~ {-ət}₃ ~ {-Λt}₃ ~ {-r}₃ ~ {-ər}₃ ~ {-Λr}₃
'agentive suffix' (with, by the agency of)

Distribution of allomorphs: allomorphs occur with inanimate substantives, with the same phonological conditioning of allomorphs as {-t}₁ (see 6.51.1.)

(Note that this morpheme overlaps in distribution but contrasts in meaning with {-t}₂)

- Examples:* /kəmw.Λt ɔ̄ mənə ɔ̄ vyΛ.k/ 'what did you hit [him] with?'
- /mygwΛ.t ɔ̄ də vyΛ.k ɔ̄ kəmw.Λ.t ɔ̄ də vyΛ.k ɔ̄ kwla.t ɔ̄ də vyΛ.k/ 'did he hit [you] with a stick, a knife, or an axe?'
- /tabΛ.t ɔ̄ vyΛ.də.n/ 'he hit [me] with his hand'

- 6.52.43.** {-kə}₂ 'for, on behalf of'. See 6.51.2. for the allomorphic distribution of this morpheme, and for its other function as second object suffix.

- Examples:* /kəmw.kə ɔ̄ bənə ɔ̄ waryΛ.k/ 'why [what for] did you two fight?'
- /wnə ɔ̄ mənə.kə ɔ̄ kəty.kΛ.wtə.kwΛ/ 'I shall dance for you'

6.53. Attribute-Verb Constructions. Any attribute may appear in construction with /yΛ/ 'make' or /tə/ 'stand, remain' in predicative usages; but many attributes which occur in this construction occur with nouns only in verbal expansions of noun phrases. These may be called 'complements' (see 6.53.2.).

6.53.1. The verb stem /yΛ/ is the commonest morpheme for indicating predication of attributes; /tə/ is used where the quality expressed by the attribute is not strictly a quality of the object qualified, but the result of some external factor ('skin is wet', 'bamboo is empty') and therefore less likely to be a permanent quality.

Examples: /dw □ ykwn yΛ.kwΛ/ 'the man is good' (/ykwn dw/ 'good man')

/wnə wəpw □ kəpɾy yΛ.n/ 'my loincloth is torn'
(/kəpɾy □ wəpw/ 'bad loincloth')

/kəpma □ kəɾ yΛ.n/ 'the ground is soft'
(/kəɾ kəpma/ 'soft ground')

/wəpw □ ñəky □ yΛ.kwΛ/ 'the loincloth is red'
(/ñəky □ wəpw/ 'red loincloth')

/wnə wəpw □ gw □ tə.kwΛ/ 'my loincloth is wet'
(/gw wəpw/ 'wet loincloth')

/kəma □ bəka tə.kwΛ/ 'the bamboo [container] is empty' (/bəka □ kəma/ 'empty bamboo')

6.53.11. As will be seen from the examples above, /yΛ/ occurs with past tense suffix when it is desired to indicate that the present quality is the result of a past action (or event) and is continuing in permanence. No tense forms other than present were recorded with /tə/.

6.53.12. The negative of constructions with both /yΛ/ and /tə/ is expressed by the 'invariable predicate negative' (see 6.31.1.):

/wəny dw □ ykwn □ yəbΛ wΛ/ 'that man is no good'

/kəpma □ kat □ yəbΛ wΛ/ 'the ground is not soft'

/wəpw □ gw □ yəbΛ wΛ/ 'the loincloth is not wet'

6.53.2. 'Complements'. Complements occur only in constructions with verbs; in attributive phrases they form a subsection of verbal expansions of attributives.

Examples: /dw ɔ̄ bar yλ.kwλ/ 'the man is sick' -
 /bar yλ.kwλ ɔ̄ dw/ 'sick man'
 /takwλ ɔ̄ kλdə yλ.kwλ/ 'the woman is hungry' -
 /kλdə yλ.kwλ ɔ̄ takwλ/ 'hungry woman'
 /wnə ɔ̄ pəpwy ɔ̄ yλ.wtə.kwλ/ 'I tell lies' -
 /pəpwy yλ.kwλ ɔ̄ dw/ 'a liar'
 /wnə ɔ̄ caləkʷ yλ.kwλ/ 'I am tired' -
 /caləkʷ yλ.kwλ ɔ̄ dw wλ/ 'he is a tired man'
 /my ɔ̄ vək yλ.kwλ/ 'the tree is heavy' -
 /vək yλ.kwλ ɔ̄ my/ 'heavy tree'
 /ragwλ yλ.n ɔ̄ kwat/ 'heavy post' - /kwat ɔ̄
 ragwλ yλ.n/ 'the post is crooked'

6.53.21. Note the occurrence of sv as well as xv with a first person subject; this is the only occurrence of sv recorded in a present context.

6.53.22. For the negative construction, see **6.53.12.**

Examples: /wnə ɔ̄ bat ɔ̄ yλbλ wλ/ 'I am not sick'
 /wnə ɔ̄ kλdə ɔ̄ yλbλ wλ/ 'I am not hungry'
 /kwat ɔ̄ vək ɔ̄ yλbλ wλ/ 'the post is not heavy'

6.6. Sentences with more than one Verb

6.61. Attributive Phrases with Verbs. Any sentence containing a non-subjected verb may function as an attribute. One common construction of this type has already been described in **6.53.2.** Other examples are:

/wλny ɔ̄ nələ ɔ̄ ya.n dw ɔ̄ wnə əpλ wλ/ 'that man
 who came yesterday is my father'
 /wə.tə.kwλ ɔ̄ kway.t ɔ̄ mλ dawlə y/ 'go down to
 that stream down there'
 /ñan rλ.kwλ ɔ̄ takwλ ɔ̄ kλdəmʷ ɔ̄ tw.λn/ 'a woman
 with child cooked the food'

6.62. Verb-Verb Constructions. A number of constructions containing two verbs exist; these differ from sentences containing 'sentence-medial verbs' (not treated in this section; see **6.7.**) by their close syntactical dependence on each other and by their restricted occurrence.

6.62.1. {-kə}₁ 'in order to'. For allomorphic distribution

and another function, see 6.22.36.

Construction = + vb + {-kə}₁ + v

- Examples:* /wnə ya.kwΛ □ və.kə/ 'I come to see'
 /wnə kΛ.kə □ yΛ.kwΛ/ 'I am about to eat'
 /anə □ kapmΛ □ kapmΛ □ və.kə yΛ.kwΛ/ 'we two are seeing each other' (lit. 'we two another another to see make')
 /də ya.də.n □ wn.Λt □ wΛ.kə/ 'he came to talk to me'
 /wnə □ y.kΛ.wtə.kwΛ □ və.kə/ 'I shall go to see'

6.62.11. The occurrence of this construction when the main verb is /yΛ/ 'make' may be regarded as representing a more emphatic 'intensive' statement. In the Maprik dialect this construction, with free personal pronoun occurring optionally between the two verbs, often has the force of a non-intensive future:

- /kΛ.kə wnə yΛ.w/ 'I shall go'
 /wnə □ və.kə yΛ.w/ 'I shall see'
 /anə □ y.kə anə yΛ.w/ 'we two shall go'

6.62.12. Morpheme {-kə}₁ may also be recognised in the apparently non-productive construction /kΛkəmw/ 'food' (/kΛ.kə mw/ 'thing for eating'?).

6.62.2. {warə-} ... {arə-} 'discontinuous reciprocal prefix'

Construction = + {warə-} + vb₁ + {arə-} + v₁

- Example:* /anə □ warə.və □ arə.və.kwΛ/ 'we two see each other'

6.62.21. Informants for the Wosera dialect denied that this morpheme occurred with bases other than /və/ 'see', but examples were recorded from the Maprik dialect with the verbs /vəkʷ/ 'hear' and /vya/ 'fight'. Compare also the probable occurrence of the first element of the morpheme in /waryΛ/ 'fight' and /warəwΛ/ 'quarrel'.

6.62.3. 'Competence' constructions with /və/ 'see'

6.62.31. 'Competence' and 'incompetence' (to perform an action) are expressed in questions, negative statements and imperatives by the following construction:

Construction = + vb + {-kwa}₁ + {-y}₁ + verb /və/

Examples: /məne ʔ kwɔlpək ʔ yɔ.kwɔ.y ʔ məne v.w/ 'do you know how to make a bow?'

/ñəne ʔ wt ʔ yətɔ.kwɔ.y ʔ ñəne v.w/ 'do you [f.] know how to make a net bag?'

/wnə ʔ wt ʔ yɔbɔ ʔ yətɔ.kwɔy ʔ v.wtə.kwɔ.y/ 'I do not know how to make a net bag'

6.62.32. The imperative construction is best translated by 'try to':

/mɔ vya.kwɔ.y ʔ və/ 'try and kill [it]!'

/mɔ yɔ.kwɔ.y ʔ və/ 'try and make [it]!'

6.62.4. The positive statement of competence ('I know how to...') requires the following construction:

Construction = + {wa-} + v

Examples: /wnə ʔ kwɔlpək ʔ wa.yɔ.wtə.kwɔ/ 'I know how to make a bow'

/wnə ʔ vy ʔ wa.kyñ.kɔ.wtə.kwɔ/ 'I shall know how to sharpen a spear'

6.62.41. See 6.32.2. for another function of prefix {wa-}.

6.62.5. {ykə} 'inability'

Construction = + vb + {ykə} + verb /yɔ/

Examples: /anə ʔ my ʔ yatə ʔ ykə yɔ.kwɔ/ 'we two cannot carry the tree'

/bəne ʔ ɔny my ʔ yatə ykə yɔ.w/ 'can't you two carry this tree?'

/wnə ʔ ñw ʔ vələk ʔ ykə yɔ.kwɔ/ 'I cannot chop firewood'

6.62.51. The sequence /ykə yɔ/ is homophonous with /y.kə yɔ/ 'intend to go' (see 6.62.11.), but the presence of an additional vb in the 'inability' construction ensures that there is no confusion.

6.7. 'Sentence-Medial' Verb Forms

6.71. Sentence-medial (or utterance-medial) verb forms are found in many non-Melanesian languages of New Guinea.

Essentially, all sentences containing more than one verb (except for a small number of verb-verb constructions (6.62.) and multiple-stemmed bases (6.33. and 6.34.) require that the first verb take a special (sentence-medial) form, although distinct sentence-medial forms do not occur for all possible combinations of 'first' and 'second' verb. ('First verb' in the discussions of sentence-medial forms means the sentence-medial verb form, whose form is conditioned by that of the next verb ('second' verb) whether or not this verb is itself a sentence-medial verb conditioned by a following verb. Similarly, 'first subject' means the subject, expressed or implied, of the first verb, and 'second subject' the subject, expressed or implied, of the second verb. In most of the examples below the second verb is a sentence-final form.

6.71.1. The form of a sentence-medial verb depends on two factors; whether the subjects of the first and second verbs are the same or different, and on the time relationship of the actions expressed. The terms 'same subjects' and 'different subjects' below are abbreviated expressions indicating the first factor.

6.71.2. As any sentence containing a verb may form part of an expanded sentence in which the verb of the original sentence is a sentence-medial form, it is possible to regard sentence-medial forms as transforms of sentence-final forms.

6.72. $\{-y\}_2 \sim \{-\Delta y\} \infty \{-t\Delta y\} \infty \{-t\Delta k\Delta y\}$ 'invariable
sentence-medial xv suffix'

Distribution of allomorphs: $\{-y\}$ occurs after base-final $/\Delta/$ or $/a/$, excluding those bases with which $\{-t\Delta y\}$ or $\{-t\Delta k\Delta y\}$ appear

$\{-\Delta y\}$ occurs after other bases (excluding those bases with which $\{-t\Delta y\}$ or $\{-t\Delta k\Delta y\}$ appear), replacing base-final $/\emptyset/$ and irregularly replacing base-final $/y/$ in $/ky/$ 'copulate'

$\{-t\Delta y\}$ occurs after the following stems: $/r\emptyset/$ 'remain'
 $/y/$ 'go' ($/y\Delta.y/$ also occurs)
 $/ya/$ 'come' ($/ya.y/$ also occurs)
 $/kwa/$ 'sleep' ($/kwa.y/$ also occurs)

$\{-t\Delta k\Delta y\}$ occurs after the following stems: $/v\emptyset/$ 'see' ($/v\emptyset.t\Delta y/$ occurs in the Maprik dialect)

/takΛ/ 'leave behind'
 /yΛ/ 'make' (/yΛ.y/ occurs in the Maprik
 dialect)
 /kΛ/ 'eat' (/kΛ.y/ also occurs)

6.72.1. No contrast has been observed between bases occurring with morphologically conditioned allomorphs of $\{-y\}_2$. The only apparent reason for the duplication of forms would seem to be the avoidance of ambiguity in the case of homophonous or potentially homophonous forms. Thus, both /və/ 'see' and /vΛ/ 'dig' have a sentence-medial form /vΛy/ (/v.Λy/ - /vΛ.y/); but /və/ also occurs in the form /və.təkΛy/ where confusion could arise. (The form */vatəkΛy/ occurs nowhere in the Wosera corpus.) Similar homophonous and potentially homophonous forms are:

/ky:/ /k.Λy/ 'copulate' - /kΛ:/ /k.Λy/ 'eat'
 (recorded also /kΛ.təkΛy/)
 /y:/ /y.Λy/ 'go' - /yΛ:/ */yΛ.y/ 'make'
 (recorded form /yΛ.təkΛy/)
 /rΛ:/ /rΛ.y/ 'possess' - /rə:/ */r.Λy/ 'remain'
 (recorded form /rə.tΛy/)

Examples: /wnə □ rə.tΛy □ kΛ.kwΛ/ 'I sit down and eat'
 /cərə ya.y □ kΛkəmw □ kərəy.kə mənə/ 'when you
 come tomorrow you will receive food'
 /wnə ya.y □ wnə kΛ.n/ 'I came and ate'
 /jəbΛ □ yΛ.təkΛy □ rə.tΛy □ kΛ.kΛ.wtə.kwΛ/ 'I
 worked for a long time; [now] having sat
 down, I shall eat'
 /məne □ ñərək.Λy □ ykwn □ yΛ.kΛ.mənə.gwΛ/ 'if you
 swallow [it] you will be well'

6.72.2. $\{-y\}_2$ is the usual sentence-medial morpheme for 'same subjects' throughout all possible time relationships of 'first verb' and 'second verb'. Where it is desired to indicate that the action of the second verb is subsequent to or the result of that of the first, suffix $\{-kΛ\}$ is used with subjected verbs (see 6.73.); where the fact of simultaneity of the actions is emphasised, $\{-w\}_3$ occurs with subjected verbs (see 6.74.).

6.72.3. A single example of $\{-y\}_2$ was recorded for different subjects of first and second verbs. The explanation for this form may be the fact that one of the actors is the same in both subjects.

Example: /anə [] warəwλ.y [] vyλ.də.n/ 'we two were quarrelling
and he hit me'

6.73. {-kλ}₂ ∞ {-gλ}₂ 'successive sentence-medial sv suffix'

Distribution of allomorphs: {-gλ} occurs after allomorphs
{-ñə-}, {-nλ-} and {-dλ-} of pronouns /ñənə/, /nλnə/
and /dλy/ respectively

{-kλ} occurs in all other
environments

Construction = + vb + [pnI] + {-kλ}

6.73.1. {-kλ} occurs with 'first verbs' when the 'second verb' is neither future nor imperative and/or when the action of the second verb is subsequent to that of the first verb. It occurs less frequently with 'same subjects' than with 'different subjects'; where it does occur with the former, the fact of successivity or the fact of the action of the second verb being a result of the performance of the action of the first verb is usually indicated.

Examples:

'different subjects' -

/gay.bλ [] war.λy [] caky.nλ.gλ [] sister [] fater []
dawlə y.dλrə.n/ 'when we had gone up to the
village and lined [yams] the nuns and the
priest went down'

/vyλ.wtə.kλ [] gərə.kλ.mənə.gwλ/ 'I shall hit you
and you will cry'

/wnə mawlə [] kagəl yλ.də.kλ [] vyλ.wtə.n/ 'I became
angry and hit him' (lit. 'my belly having
become hot I hit him')

'same subjects' -

/jəbλ [] yλ.wtə.kλ [] caləkw yλ.kwλ/ 'I worked a
long time and am tired'

/kλ.wtə.kλ [] kwa.kλ.wtə.kwλ/ 'when I have eaten I
shall go to sleep'

6.74. {-w}₃ 'simultaneous sentence-medial sv suffix'

Distribution: {-w} replaces final /ə/ of preceding [-pnI]
forms

Construction = + vb + {-kə}₁ + [-pnI] + {-w}₃

6.74.1. {-kə}₁ occurs as infix when the second verb is intensive; in this environment suffix {-w}₃ sometimes does not occur (see the first example in 6.22.36.).

6.74.2. The construction without infix {-kə}₁ occurs where the second verb is future or imperative and/or the action of the second verb is simultaneous with that of the first verb. This construction is accordingly that used to express condition.

Examples:

'different subjects' -

/məne ʔ wλ.mən.w ʔ vəkʷ.kλ.wtə.kwλ/ 'you will talk
and I shall listen'

/tə.mən.w ʔ v.wtə.n/ 'you were standing up and I
saw you'

/r.wt.w ʔ mλ kλ/ 'while I am sitting down, you
eat!'

'same subjects' -

/wnə ʔ d.λt ʔ v.wt.w ʔ kwla ʔ kway.kλ.wtə.kwλ/
'If I see him I shall give him an axe'

/məne ʔ d.λt ʔ və.mən.w ʔ kwla ʔ mλ kway/ 'if you
see him give him an axe!'

/vyλ.t.w ʔ gəra.kλ.lə.kwλ/ 'if we two hit her,
she will cry'

/wnə wacλ ʔ vyλ.mən.w ʔ mənə.t ʔ vyλ.kλ.wtə.kwλ/
'if you hit my dog I shall hit you'

/wonem taim ʔ marit.bən.w ʔ wnə ʔ wλ.wtə.kwλ ʔ
pater/ 'when two people get married I speak
to the priest'

6.74.3. With this construction the sentence-medial verb may follow the main verb:

/v.wtə.n ʔ tə.gwn.w/ 'I saw [you all] while you
were standing up'

6.75. Negative Transforms of Sentence-medial Forms

6.75.1. {-y}₂ negative = + {yλbλ} + sentence-medial form

Examples: /wnə ɔ̃ yʌbʌ ɔ̃ kʌ.təkʌy ɔ̃ wəy kʌ ɔ̃ kʌ.kə wnə/ 'I have not eaten, I intend to eat later'
 /də yʌbʌ vʌ.y ɔ̃ bʌkʌ y.də.n/ 'he did not hit [him], he just went [away]'

6.75.11. This form is comparatively rare; more common are the negative forms of {-w}₃ (see 6.75.3.).

6.75.2. {-kʌ} *negative* = vb + {kəpʌk} + /yʌ/ + sentence-medial {-kʌ} form

Examples: /wnə bələ ɔ̃ kway kəpʌk ɔ̃ yʌ.də.kʌ ɔ̃ vʌ.wtə.n/ 'as he did not give me my pig, I hit [him]'
 /yʌ kəpʌk ɔ̃ yʌ.mənə.gʌ ɔ̃ y.wtə.n/ 'as you did not come, I went'

6.75.3. {-w}₃ *negative* = vb + {yʌbʌ} + {wʌ}

Examples: /mənə ɔ̃ ñərək ɔ̃ yʌbʌ wʌ ɔ̃ kyə.kʌ.mənə.gwʌ/ 'if you do not swallow [it] you will die'
 /wnə ɔ̃ ñərək ɔ̃ yʌbʌ wʌ ɔ̃ kyə.kʌ.wt.w/ 'if I do not swallow [it] I shall die?'

6.76. Sentence-medial Forms in other Constructions

6.76.1. All constructions described for sentence-final verb forms may also occur with sentence-medial forms.

A few examples will suffice:

/mʌ wə.r.ʌy və/ 'go up and see!'
 /mənə kwʌlpək ɔ̃ yʌbʌ ɔ̃ yʌ.kway.kway ɔ̃ və.təkʌy ɔ̃ wnə əpʌ.kə ɔ̃ y.wtə.n/ 'as I did not know how to make a bow for you I went to my father'
 /wnə əpʌ ɔ̃ wʌkwacñə.d.w ɔ̃ cərə ɔ̃ kyñ.kwʌ.y ɔ̃ və.kʌ.wtə.kwʌ/ 'as my father has shown [me], tomorrow I shall [be able to] sharpen [a spear]'
 /kagələ ɔ̃ yʌ.də.kʌ ɔ̃ wnə ɔ̃ mənə.kə ɔ̃ yʌ.wtə.n/ 'as he was angry, I came to you'

6.76.2. An unusual attributive construction with a sentence-medial form may be mentioned here. Only one example has been recorded, and the meaning of the verb stem is not certain, but the construction is clear:

/da.y ʔ nʌk ʔ kwlə ʔ wrəpə.nʌ.gʌ balə ʔ
 kwlə wr.ʌy ʔ nʌk ʔ vya.kʌ.nʌ.gwʌ/ 'having
 gone down we rounded up and killed one pig
 that we had been (following?)'

The object slot is filled by /nʌk ʔ kwlə ʔ wrəpə.nʌ.gʌ balə/
 'one again we-(following?) pig'.

6.8. Residue

6.81. In this section are discussed some aspects of Wosera grammar that could not be described until all the constructions were listed, as well as some wider 'conceptual' considerations.

6.82. Subjected and Non-subjected Verbs

6.82.1. Bound pronoun subjects are required in sentence-medial verb forms where the subjects of the first and second verbs are different or where particular relationships of successivity or simultaneity are expressed (see **6.72.**, **6.73.** and **6.74.**). Subjected sentence-medial verbs will not be discussed further.

6.82.2. Future and prohibitive verbs are always subjected, imperative and intentive verbs are always non-subjected.

6.82.3. Otherwise, the preferred form with sentence-final verbs is free pn + xv if the utterance is short and if no sentence-medial verbs occur in the utterance.

6.82.4. If slots between a subject pn and the sentence-final verb are filled, or if sentence-medial verbs with different subjects occur in the sentence, the preferred pattern is free pn + sv.

6.82.41. In the circumstances mentioned in **6.82.4.**, the free pronoun need not be expressed, the pattern being merely + xv.

6.82.5. Where the subject of a sentence-final verb is a noun or noun phrase, subjected verbs are preferred; n/np + xv occurs only if slots between subject and verb are not filled.

6.82.6. The patterns n/np + pn + xv and n/np + pn + sv occur in elicited material, but not in texts; they appear to be in free variation with the pattern n/np + sv.

6.82.7. In addition to the above statements, it may be noted

that subjected verbs occur more frequently in past tenses and in statements, non-subjected verbs in present tenses and in questions. The present tense subjected form $vb + [pnI] + \{-kwa\}_1$ in particular is comparatively rare.

6.83. Tense. For reasons of simplicity, tenses in the previous sections of the grammar have been called simply 'future', 'present', 'past' etc. A few comments on the exact time-relationships implied by these terms are now necessary.

6.83.1. 'Future'. This tense could also have been called 'subsequential', as its primary function is to indicate that a certain action occurred after a certain fixed point in time, whether that point be in the present or in the past. Thus, 'future' verbs can appear in a past context, indicating the action that happened next in a succession:

/wla pətə y.ay □ gay.r ya.kΛ.nΛ.gwΛ/ 'the hunt
having gone quickly we [then] came back
to the village'

6.83.2. 'Present'. The concept of 'present' in Wosera includes the immediate future, as in English. An action taking place 'precisely' in the present may be indicated by the use of an adverb (/bəla/ 'now') or by the use of a base + /rə/ 'sit, remain' (see 6.33.2.).

6.83.3. 'Past'. The concept of past includes only true past actions.

6.83.4. 'Intentive'. The verbal forms labelled 'intentive' include such concepts as 'desiderative' and 'necessitative'; an 'intentive' verb may be translated by such phrases in English as 'want to', 'have to', 'must', 'plan to', 'be about to', even 'ought to'. In some dialects there are no verb forms corresponding to the 'future' forms of Wosera, and in these (particularly Maprik area) intentive forms are used to express simple futurity.

8.83.5. 'Prohibitive'. The forms so labelled occur rarely in the Wosera corpus; they express concepts translated by English 'must not', 'should not', or 'lest... should'.

8.84. Questions. Certain allomorphs of tense morphemes (see 6.22.31. and 6.22.32.) have been described as occurring only with questions. It should be added that this description is strictly true only of the dialect of the informant (Pano) from Abusit; the informant (Malaken) from Kunjingini No.1 used 'question' forms in many more contexts than did Pano,

and it is probable that his usage reflects a transition between the Wosera dialect and the Maprik dialect to the north (Kunjingini No.1 is to the north of Abusit). In the Maprik dialect 'question' allomorphs occur in all contexts.

6.84.1. In the preceding pages of the grammar, forms with 'question' allomorphs where the 'statement' allomorphs would be expected are taken from material elicited from Malaken, and are marked 'dialect'. In the texts no comment is made on such forms, but they are to be understood as being elicited from Malaken.

6.84.2. It should be noted that 'question' allomorphs occur with sentence-final verbs even when the question applies strictly only to a preceding sentence-medial verb:

/wnə ñan ɔ kɔdə ɔ vyɔ.də.kɔ ɔ də gəra.w/
'who hit my child [so that] he is crying?'

6.85. Causation. Causation is expressed in Wosera by the use of a sentence-medial and a sentence-final verb, the latter action being the result of the former. In this connection should be noted the absence of verbs denoting the bringing about of an emotional state in someone else; there is, for example, a construction 'to be afraid', but no verb 'to frighten'. To express 'I frighten him' (and similar concepts), the verb /yɔ/ 'make, do, act' is used in a sentence-medial form:

/wnə ɔ yɔ.wtə.kɔ ɔ də ɔ wp yɔ.kwɔ/ 'I frighten
him' (*lit.* 'I having acted he fright makes')

6.86. Gender. Gender in Wosera is 'natural' as far as large animate beings are concerned; thus, male beings require verbal agreements with the pronoun /də/, female beings agreements with the pronoun /lə/. With large animals whose sex is uncertain (for example, a possum in a tree) the masculine pronoun is usually used. With small animals, small birds, and insects, the feminine pronoun is usually used, though usage fluctuates. (Contrast /caykə/ 'cassowary' (m.) with /caykə/ 'praying mantis' (f.).) With inanimates, the masculine pronoun is usually used, except for the following recorded cases with feminine pronouns: /ña/ 'sun', /kway/ 'river', /kwc/ 'salt (water), sea', /wy/ 'sword grass'.

6.86.1. It is probable that the comparatively flexible agreements for grammatical gender in Wosera represent a simplification of a more extensive grammatical gender system;

compare in this respect the more extensive agreements for grammatical gender in Boikin and Manambu (Part III).

6.87. Animate-Inanimate. Reference has been made in previous parts of the grammar to suffixes occurring with 'animate' and 'inanimate' substantives. Here, as with gender, usage fluctuates, and tendencies are given here rather than statements of absolute fact. Usually 'inanimate' are insects, small animals, and birds, as well as plant life and true inanimates such as stones and artefacts. 'Animate' are human beings, large animals, and parts of the body, although here usage varies, as far as allomorphs $\{-t\}$ and $\{-\emptyset\}$ of $\{-t\}_1$ are concerned: thus /wacA/ 'dog' has been recorded as 'first object' with both allomorphs $\{-t\}$ and $\{-\emptyset\}$ of $\{-t\}_1$, while /balə/ 'pig' has been recorded as first object only with $\{-\emptyset\}$. Even substantives denoting human beings may occasionally occur with allomorph $\{-\emptyset\}$; see the example in 6.83.2., where /ñan/ 'child' so occurs.

6.88. Word Order. The order of slots in the Wosera sentence is relatively free, although certain orders are rigid. The fixed orders are described first.

6.88.1. Fixed Word Orders

6.88.11. A free subject (S_1 or S_2) always precedes the verb, except where a subject S_1 is added as an afterthought after a subjected verb. If both S_1 and S_2 occur, S_1 always precedes S_2 , and S_2 immediately precedes the verb, or verbal adverbs dependent on the verb.

6.88.12. In verb-verb constructions (6.62.) the dependent verb precedes the main verb, except in the case of the construction with $\{-kə\}_1$ 'in order to', in which case the dependent verb more frequently follows the main verb. Main verb and dependent verb may be separated only by objects dependent on the second verb, or, in questions, by a free pronoun subject of the main verb. In competence constructions (6.62.3.) negative morpheme and the imperative marker $\{m\}$ precede the entire construction.

6.88.13. In sentences with sentence-medial verbs, the sentence-medial verb always precedes the sentence-final verb, except frequently in the case of the construction with $\{-w\}_3$ (see 6.74.3.), where the sentence-medial verb may follow the sentence-final verb.

6.88.14. Verbal adverbs (6.52.1.) always immediately precede the verb, and are themselves always immediately preceded by negative morphemes, if occurring. In what follows, the term

'verb' is to be regarded as referring to the whole verb complex, consisting maximally of negative morphemes, verbal adverbs and verb base plus affixes.

6.88.2. Word Order in Statements. The positions that may be filled in the Wosera statement (=non-question) may be listed briefly as follows:

- preceding a free subject
- between free subject and verb
- following the verb.

6.88.21. The position preceding a free subject (S_1 , or S_2 if S_1 does not also occur) may be filled by any object or by any adverb except a verbal adverb, if emphasis is intended. If no emphasis is intended, the position is filled only by time adverbs.

Examples: /cərə [] wnə [] y.kλ.wtə.kwλ/ 'I shall go tomorrow'
 /yλybλ [] wnə və.k/ 'I saw a wallaby'
 (emphasis, in reply to the question: 'what did you see?')

6.88.22. Between subject and verb, not more than three slots may be filled. These slots may be filled by any object or by any adverb except a verbal adverb, with the following restrictions:

- the position nearest the verb complex is filled by 'manner' adverbs
- the position nearest the free subject is filled by 'time' adverbs
- objects precede 'place' adverbs.

6.88.23. The position following the verb complex may be filled by any object or by any adverb except a verbal adverb. However, 'manner' adverbs are rare in this position except as an afterthought. The commonest fillers in this position are 'second objects' or 'place' adverbs.

6.88.24. It will be seen then that first and second objects are interchangeable in all positions, that 'time' adverbs normally precede all other fillers, that objects usually precede adverbs, and that place adverbs, if occurring before the verb complex, precede manner adverbs.

6.88.3. Word Order in Questions. Word order in questions is the same as that in statements when an interrogative word occurs. The interrogative word fills the slot that is

filled by a corresponding non-interrogative word in statements. Interrogative words (attributes and adverbs) have been given in the relevant sections in the grammar.

Examples: /yʌny ɕʌpʌk ʃ mənə.t ʃ vyʌ.k/ 'when did he hit you?'

/bʌlə ʃ ygʌ ʃ rʌ.kə mənə/ 'how do you cut up a pig?'

6.88.31. Where no interrogative word occurs, any subject S_2 always immediately precedes the verb complex. The order of other slots remains the same as in statements.

Example: /wnə kwʌlpək ʃ yʌ.kwʌ.y ʃ mənə v.w/ 'do you know how to make a bow for me?'

6.88.32. /kʌdə/ 'who' may occur in sentences with either statement or question word order:

/mənə ʃ kʌdə ʃ və.k/ }
/kʌdə ʃ mənə ʃ və.k/ } 'whom did you see?'

/kʌdə.kə ʃ mənə y.k/ }
/mənə ʃ kʌdə.kə ʃ y.k/ } 'to whom did you go?'

6.89. Factors Conditioning the Phonological Phrase. The phonological phrase, while not wholly predictable, tends to consist of certain constructions more frequently than of others. Whether or not two or more free morphemes or morpheme sequences will form a phonological phrase depends on the following factors:

the position of the primary stress in the items when occurring alone as independent phrases

the length of the items

the closeness of the grammatical connection of the items.

6.89.1. Stress as a Conditioning Factor. Free forms cannot occur in a phonological phrase with other free forms if the primary stress of items other than the first occurs in a position in which secondary stress would be impossible in a phonological phrase - that is, if the primary stress of one item immediately follows the primary stress of the preceding item. This restriction does not, however, apply to monosyllables with nucleus /ə/:

/bʌlə ʃ də yʌ.də.n/ 'the pig came'

Nor does it apply to short noun phrases:

/dw takwΛ/ 'people', /kwc dw/ 'sorcerer'

6.89.2. Length as a Conditioning Factor. No phrases of more than six syllables have been recorded.

6.89.3. Constructions Forming Phonological Phrases. Subject to the above restrictions, the following constructs form phrases at normal speed of utterance:

S₂ + monosyllabic or disyllabic v

complement + monosyllabic or disyllabic v

noun subject + monosyllabic or disyllabic v

attribute + noun

verbal adverb + monosyllabic or disyllabic v

intensive v constructs

{-mΛ} + v

noun or free pn + {-wΛ}

6.89.31. Other subject + v, adverb + v or object + v may form phonological phrases if the total sequence is short, or at more rapid speeds of utterance.

6.89.32. The following sequences rarely or never form phonological phrases:

fillers of any object or adverb slot with fillers of any other object or adverb slot

fillers of any subject slot with fillers of any following object or adverb slot.

6.89.33. It will thus be seen that it is virtually possible to omit the indication of phonological phrases; they will however continue to be written in texts as a guide to the correct stressing.

6.9. Morpheme Inventory

6.91. The following classes of morphemes are excluded from the following inventory:

all stems and bases, except where these have bound allomorphs

all free morphemes, except where these have bound allomorphs, and except as noted below.

All derivational and inflexional affixes treated in the grammar are, however, listed. In addition, negative mor-

phemes and 'verbal adverbs' are listed, as well as the imperative marker {mΛ}.

6.92. Free morphemes are marked 'free', derivational morphemes forming bases are marked 'D'. Prefixes are marked simply as 'P', as no ranking is involved. Suffixes are marked with numbers 1, 2, 3 or 4 in order of their occurrence, counting from a verb or noun base; suffixes which occur in more than one position are assigned more than one number. The absolute rank of any suffix is the highest number assigned to it. The position of both elements in discontinuous morphemes is shown.

6.93. Order of presentation is alphabetical; /Λ/ follows /a/, /ə/ follows /d/, /ñ/ and /ŋ/ follow /n/. Where morphemes consist of the same segments, the order is prefix, suffix, discontinuous.

6.94. The indications under 'occurs with' and 'reference' refer to the items in the allomorph column, when different allomorphs of a morpheme have different distributions. The indications in the column 'function' are abbreviated; the relevant section of the grammar should be consulted for a full statement of the function.

6.95. The inventory follows on page 83.

MORPHEME INVENTORY

<i>Morpheme</i>	<i>Allomorphs</i>	<i>Occurs with</i>	<i>Position</i>	<i>Function</i>	<i>Reference</i>
a-	-	verb bases	P	'action here'	6.32.1.
anə	-	-	free	'we two'	6.22.3.
"	-tə ~ -t	verb bases	12	"	6.22.3., and all sv
"	tə	-	free	"	6.22.3.; see also {wΛ} and {-kə} ₁
-ΛΛ	-Λ	substances	1	'along with'	6.52.33.
-bΛ	-bwΛ	substantives	1	'locational/temporal'	6.52.31.
bΛk	-	-	free	'negative'	6.31.5.
bΛkΛ	-	-	free	'purposelessly'	6.52.12.
bənə	-	-	free	'you two'	6.22.3.
"	-bənə ~ -bən	verb bases	12	"	6.22.3., and all sv
"	bənə ~ bən	-	free	"	6.22.3.; see also {wΛ} and {-kə} ₁
bərə	bərə ~ bət	-	free	'they two'	6.22.3.
"	-bərə ~ -bər	verb bases	12	"	6.22.3., and all sv

MORPHEME INVENTORY *continued*

<i>Morpheme</i>	<i>Allomorphs</i>	<i>Occurs with</i>	<i>Position</i>	<i>Function</i>	<i>Reference</i>
(bərə)	bərə ~ bər ~ bət	-	free	'they two'	6.22.3.; see also {wΛ} and {-kə} ₁
dawlə	-	-	free	'downward motion'	6.52.13.
dɔy	-	-	free	'they'	6.22.3.
"	-dɔrə ~ -dɔr ∞ -dɔ	verb bases	12	"	6.22.3. and all sv
"	dɔrə ~ dɔr	-	free	"	6.22.3.; see also {wΛ} and {-kə} ₁
də	-	-	free	'he'	6.22.3.
"	-də ~ -d	verb bases	12	"	6.22.3. and all sv
"	də ~ d	-	free	"	6.22.3.; see also {wΛ} and {kə} ₁
gwnə	-	-	free	'you' (pl.)	6.22.3.
"	-gwnə ~ -gwn	verb bases	12	"	6.22.3. and all sv
"	gwnə ~ gwn	-	free	"	6.22.3.; see also {wΛ} and {kə} ₁
kapwk	-	-	free	'negative'	6.31.3. and 6.75.2.

kΛ-	-	verb bases	P	'prohibitive'	6. 22. 35.
-kΛ ₁	-kΛ ~ -gΛ	verb bases	1	'future'	6. 22. 33.
-kΛ ₂	-kΛ ∞ -gΛ	verb bases	2	'sentence-medial'	6. 73.
kΛty	-	-	free	'negative'	6. 31. 6.
-kə ₁	-kə ₁ ~ -gə ₁	verb bases	1	'intensive'	6. 23. 36. and 6. 74.
"	"	" "	"	'in order to'	6. 62. 1.
-kə ₂	-kə ₂ ~ -gə ₂	substances	1	'second object'	6. 51. 2.
"	"	"	"	'on behalf of'	6. 52. 43.
kway	kway ∞ tya	verb bases	(1)D	'benefactive'	6. 33. 1.
-kwΛ ₁	-kwΛ ₁ ~ gwΛ ₁ ∞ -w ₂	verb bases	123	'non-past'	6. 22. 31.
lə	-	-	free	'she'	6. 22. 3.
"	-lə ~ -l	verb bases	12	"	6. 22. 3., and all sv
"	lə ~ l	-	free	"	6. 22. 3.; see also {wΛ} and {-kə} ₁
marək	-	-	free	'negative'	6. 31. 5.
mawΛ	-	-	free	'must not'	6. 52. 11.
mΛ	-	-	free	'imperative'	6. 23. 34.
mənə	-	-	free	'you' (m. sg.)	6. 22. 3.

MORPHEME INVENTORY *continued*

<i>Morpheme</i>	<i>Allomorphs</i>	<i>Occurs with</i>	<i>Position</i>	<i>Function</i>	<i>Reference</i>
(məṇə)	-məṇə ~ -mən	verb bases	12	'you' (<i>m.sg.</i>)	6.22.3., and all sv
"	məṇə ~ mən	-	free	"	6.22.3.; see also {wΛ} and {-kə} ₁
-nΛ	-nΛ ∞ -kw ∞ ∅	substances	1	'possessive'	6.42.41.
nΛṇə	-	-	free	'we two'	6.22.3.
"	-nΛṇə ~ -nΛṇ ∞ -nΛ	verb bases	12	"	6.22.3., and all sv
"	nΛṇə ~ nΛṇ ~ nΛṇə ~ nΛṇ	-	free	"	6.22.3.; see also {wΛ} and {-kə} ₁
-n	-n ~ -ən ~ -Λṇ ∞ -k ~ -ək ~ -Λk	verb bases	12	'past'	6.23.32.
-n ₂	-	pronouns	2	'predicated possessive'	6.42.42.
ñṇə	-	-	free	'you' (<i>f.sg.</i>)	6.22.3.
"	-ñṇə ~ ñṇ ∞ -ñṇ	verb bases	12	"	6.22.3., and all sv
"	ñṇə ~ ñṇ	-	free	"	6.22.3.; see also {wΛ} and {-kə} ₁
rə	-	verb bases	(1)D	'continuous action'	6.35.2.

-t ₁	-t ~ -ət ~ -at ~ -r ~ -ər ~ -ar	substances	1	'first object'	6.51.1.
-t ₂	as -t ₁ , plus -kə ₃ ~ -gə ₃	substances	1	'place whither'	6.52.32.
-t ₃	as -t ₁	substances	1	'agentive'	6.52.42.
wabəla	-	-	free	'returning'	6.52.14.
warə...arə	-	verb bases	P...P	'reciprocal action'	6.62.2.
wA	wA ~ w ₁	-	free	'predicate'	6.23.1.
wnə	-	-	free	'I'	6.22.3.
"	-wtə ~ -wt	verb bases	12	"	6.22.3.; and all sv
"	wnə ~ wn	-	free	"	6.22.3.; see also {wA} and {-kə} ₁
-y ₁	-	verb bases	1	'negative'	6.31.2., 6.31.4.
"	-	"	2	'competence?'	6.62.31.
-y ₂	-y ₂ ~ -Ay [∞] -tAy [∞] -təkAy	verb bases	1	'sentence-medial'	6.72., 6.75.1.
yAbA	-	-	free	'negative'	6.73.1., 6.31.2., 6.75.1., 6.75.3.
yke	-	-	free	'inability'	6.62.4.

7. WOSERA ABELAM TEXTS

7.1. Texts from Situational Testing

7.11. Dialogue: 'A man hit me'

A 1 dw □ nɔkwɔɔk □ (vya)də.kɔ □ (ya)wtə.n #
man one (hit)he.S (come)I.P

2 (ya)y □ (wə)wtə.n #
 (come)S (cry out)I.P

B 3 kɔdə (vya)k #
who (hit)P

A 4 ɔny dw □ (vya)n #
this man (hit)P

B 5 yɔny ɔpɔk □ də (vya)k #
what time he (hit)P

A 6 nələ gəɔɔw □ (vya)də.n #
yesterday afternoon (hit)he.P

B 7 (mygwɔ)t □ də (vya)k // 8 (kəɔɔ)t □ də (vya)k //
(stick)Ag he (hit)P (bamboo)Ag he (hit)P

9 (kwɔɔ)t □ də (vya)k #
 (axe)Ag he (hit)P

A 10 (təɔ)t □ (vya)də.n #
 (hand)Ag (hit)he.P

B 11 (kwɔɔ)ɔwɔ də (vya)k // 12 (məɔɔ)ɔwɔ də (vya)k //
(shoulders)L he (hit)P (head)L he (hit)P

13 (təɔ)ɔwɔ də (vya)k // 14 (məw)ɔwɔ də (vya)k #
 (hand)L he (hit)P (chest)L he (hit)P

A 15 əpɔ □ vətɔk □ (kwɔ)ɔwɔ □ (vya)də.n #
times two (back)L (hit)he.P

- B 16** kəmw.kə ɔ̄ bənə (wəryΔ)k #
what.for you two (fight)P
- A 17** (nalə)ba ɔ̄ balə ɔ̄ kway ɔ̄ kapwk ɔ̄ (yΔ)də.kΔ ɔ̄
(yesterday)T pig give not (make)he.S
- (vya)wtə.n # **18** wənə məwlə ɔ̄ kəgəl (yΔ)də.kΔ ɔ̄
(hit)I.P my belly hot (make)he.S
- (vya)wtə.n #
(hit)I.P
- 19** anə ɔ̄ (wəwəwΔ)y ɔ̄ (vya)də.n
we two (quarrel)S (hit)he.P

7.11.1. Free Translation

- A 1** A man hit me, [so] I have come; **2** I have come and made my complaint.
- B 3** Who hit [you]?
- A 4** This man hit [me].
- B 5** When did he hit [you]?
- A 6** He hit [me] yesterday afternoon.
- B 7** Did he hit [you] with a stick, **8** with a knife, **9** [or] with an axe?
- A 10** He hit [me] with [his] hand.
- B 11** Did he hit [you] on the shoulders, **12** on the head, **13** on the arm, **14** [or] on the chest?
- A 15** He hit [me] twice on the back.
- B 16** Why did you two fight?
- A 17** Some time ago (= prior to yesterday) he did not give a pig [to my kin], [so] I hit [him]. **18** I got angry and I hit [him]. **19** We were quarrelling and he hit [me].

7.11.2. Notes

7.11.21. Note that both // and # occur with the above morphologically-indicated questions; the former occurs when an utterance follows.

7.11.22. The phrase [to my kin] is added in 17, as it cannot mean [to me], or else the verb /tyΔ/ 'give (to speaker)' would have been used.

7.12. Dialogue: 'We shall catch fish'

A 1 any (gw)ba [] ac də (t)w //
 this (water)L fish he (stand)Pr

B 2 any (gw)ba [] ac lay [] wagy lay [] (tə)kwΛ #
 this (water)L fish some eel some (stand)Pr

A 3 wnə [] cərə [] ac (kəra)dΛ.kwΛ [] (gw)at []
 I tomorrow fish (catch)they.Pr (water)A

(y)kΛ.wtə.kwΛ #
 (go)F.I.F

B 4 wany gw [] kwamamΛ [] ygΛ [] cay [] (vaty)kə tə //
 that water deep how stream (cross)intensive we two

A 5 anə [] cərə [] wlbΛ [] (kwa)kə (yΛ)w #
 we two tomorrow there (sleep)to (make)Pr

6 cay [] (vaty)kΛ.tə.kwΛ [] gw [] (kələk)d.w #
 stream (cross)F.we two.F water (fall)he.S

7.12.1. Free Translation

A 1 Are there any fish in this water?

B 2 In this water there are fish and eels.

A 3 Tomorrow I shall go to the water where they are catching fish.

B 4 This water is deep, how should we cross the stream?

A 5 We shall sleep there (=beside it) tomorrow; we shall cross when the river has fallen.

7.12.2. Notes

7.12.21. Note the construction in 3:/ac (kəra)dΛ.kwΛ [] (gw)at/ 'to the fish they-catching water'; see 6.61.

7.13. Dialogue: 'It is cold'

A 1 ypma (yΛ)kwΛ / ya [] mΛ (yamwkgΛ) #
 cold (make)Pr fire imperative (make)

B 2 ñw [] ylbΛ wΛ / katy [] (yamwkgΛ)kə wnə #
 wood not predicate not (make)intensive I

- A 3 kwajəlak [] (tyΛ)mən.w [] (y)kΛ.wtə.kwΛ (bag)ət []
 axe (give)you.S (go)F.I.F (bush)A
 ñw (vələ)kə #
 wood (cut) to
- B 4 wΛ kΛpɾay.dy ñw wΛ / mΛ (kwcaty) #
 this bad.excrement wood predicate imperative (throw)
- 5 ykw ñw [] mΛ (tak) # 6 (ñə)bΛ []
 good wood imperative (place) (sun)L
- mΛ (tak)Λy [] (ypwyn)d.w #
 imperative (place)S (become dry)he.S

7.13.1. Free Translation

- A 1 It is cold, make a fire.
 B 2 There is no wood, I cannot set about making a fire.
 A 3 If you give me an axe I shall go into the bush to cut wood.
 B 4 This wood is very bad, throw it away. 5 Put [down] [some] good wood. 6 Put [this bad wood] in the sun and let it dry out.

7.13.2. Notes

7.13.21. In 4, /kΛpɾay.dy/ 'bad.excrement' is an intensified form of /kΛpɾay/ 'bad'.

7.14. Dialogue: 'I want to see your drum'

- A 1 wnə (y)kə (yΛ)wtə.kwΛ # 2 (tyΛ)mən.w [] kəŋ []
 I (go)to (make)I.Pr (give)you.S drum
 (kwr) (y)kΛ.wtə.kwΛ # 3 wnə (y)Λy [] kəŋ []
 (take)(go)F.I.F I (go)S drum
 (və)kΛ.wtə.kwΛ # 4 (kwr) (ya)y [] (wΛkwacñə)mən.w []
 (see)F.I.F (take)(come)S (show) you.S
 (və)təkΛy [] (y)kΛ.wtə.kwΛ #
 (see)S (go)F.I.F

B 5 λny vyw $cəpə$ \square $(pwi)ən$ # 6 $n\lambda nə$ \square $(ykwn)ət$ \square
this lizard skin (break)P we (good one)O₁

$(kəra)y$ \square $(tap\lambda)kə$ $n\lambda n$ # 7 $n\lambda nə$ \square
(fetch)S (attach)intensive we we

A 7 vyw $cəpə$ \square $y\lambda b\lambda w\lambda$ # 8 $cəpə$ \square
lizard skin not predicate tomorrow

$(y)k\lambda.n\lambda.gw\lambda$ $(bag)ət$ \square $(kwr)kə$ / (kwr) $(y\lambda)y$ \square
(go)F.we.F (bush)A (take)to (take)(make)S

$(tap\lambda)kw\lambda$ #
(attach)Pr

A 9 $wnə$ \square vyw $cəpə$ \square $a(r\lambda)kw\lambda$ / $(kway)k\lambda.wtə.kw\lambda$ \square
I lizard skin here(own)Pr (give)F. I.F

$mən.\Delta t^1$ #
you.O₁

B 10 $(cəpə)t$ \square $(ty\lambda)mən.w$ \square $mənə$ $(bədən\lambda)$ \square $(kway)k\lambda.wtə.kw\lambda$ //
(skin)O₁ (give)you.S your (exchange?) (give) F.I.F

A 11 $wnə$ $(cəpə)t$ \square $(kway)wt.w$ \square $m\lambda k\lambda l$ $(\lambda k\lambda c\tilde{n}ə)t$ \square
my (skin)O₁ (give)I.S small (knife)O₁

$(ty\lambda)k\lambda.mənə.gw\lambda$ #
(give)F.you.F

B 12 $bəla$ \square $kaŋ$ \square $(takw\lambda)n\lambda.gw\lambda$ #
now drum (fasten)we.Pr

A 13 $m\lambda$ $(vya)kw\lambda.y$ $və\dots(vakwdy)$ $(y\lambda)w$ //
imperative (hit) try... (sound) (make)Pr

14 $m\lambda$ by (kwt) \square $y\lambda b\lambda$ \square $(vakwdy)kw\lambda.y$ $w\lambda$ #
imperative sap (take) not (sound)Pr.negative predicate

¹ / $mənə.kə$ /(O₂) is more common in this context.

7.14.1. Free Translation

- A 1 I am about to go. 2 Give me your drum and I will take it and go. 3 I have come (lit. 'gone') to see [your] drum. 4 Bring [it] and show [it to me]; when I have seen it I shall go.
- B 5 This lizard skin (= tympanum) is broken. 6 We shall get a good one and put it on. 7 We do not have a lizard skin. 8 Tomorrow we shall go to the bush, to get [one]; when we have got it we will attach it.
- A 9 I have a lizard skin; I shall give [it] to you.
- B 10 If you give [us] the skin, what should we give you in exchange?
- A 11 If I give you my skin, you shall give me a small knife.
- B 12 Now we fasten [the skin to] the drum.
- A 13 Try and beat it [to see] what sound it makes.
14 Fetch resin, it does not sound.

7.14.2. Notes

7.14.21. For the 'attempted action' construction in 13, see 6.62.32.

7.14.22. The construction in 14 (sentence-final verb plus predicate-marker {wΛ}) does not elsewhere occur; perhaps it may be regarded as emphatic: 'It does not sound at all'.

7.2. Free Texts

7.21. In the following free texts, the exact meaning of some bases and other free morphemes is uncertain. These have been marked by a query (?), although the probable meaning has also been inserted in some cases.

7.22. For the Pidgin translations of these texts as given by the informants, see Appendix A. They have not been included here as they are very free translations and would confuse rather than instruct.

7.23. A Pig Hunt

(Informant: Pano)

- 1 nΛnə □ balə □ (wla)nΛnə.n / 2 (wla)y □ (kələ)nΛ.gΛ
we pig (hunt)we.P (hunt)S (wound?)we.S
- (y) də:n / 3 (vya)nΛ.gΛ pay / (wlərəp)Λy (y)Λy □
(go)he.P (spear)we.S thus (get up?)S (go)S

wabΛ (rΛ)kwΛ # 4 nΛnə □ kwara □ (y)kwΛ # 5 kwara (y)Λy
 there(stay)Pr we back (go)Pr back (go)S

(kəra)kΛ.nΛ.gwΛ □ wΛny balə # 6 pay (vya) (takΛ)nΛ.gΛ □
 (get) F.we.F that pig thus (spear)(leave)we.S

(y) (rΛ)kwΛ # 7 (vya)y □ (war)Λy □ wΛny balə □ kwakənwκ □
 (go)(stay)Pr (spear)S (go up)S that pig ?

(kwbykΛ)nΛ.gwΛ # 8 kwakənwκ □ (kwbykΛ)nΛ.gwΛ wΛny balə #
 (catch?)we.Pr ? (catch?)we.Pr that pig

9 (kwbykΛ)y / (ra)kΛ.nΛ.gwΛ # 10 (ra)y (da)y □
 (catch?)S (cut)F.we.F (cut)S (go down)S

nΛk kwlə □ (wrəpə)nΛ.gΛ balə / kwlə (wr)Λy □ nΛk □
 one again (follow?)we.S pig again (follow?) one

(vya)kΛ.nΛ.gwΛ # 11 (vya)y / nΛk (gy)Λy (yat)Λy /
 (spear)F.we.F (spear)S one (tie)S (carry)S

(gay)r (y)kΛ.nΛ.gwΛ # 12 (gay)r (yat)Λy (y)Λy /
 (village)A (go)F.we.F (village)A (carry)S (go)S

wantu (tə)ɖr.w / orait □ wantu (tə)ɖr.w / nΛnə (rΛcyə)w...
 two (stand)they.S well two (stand)they.S we (divide)Pr

(wla)kə (y)kə (yΛ)kwΛ # 13 (wla)y (ya)y /
 (hunt)to (go)to (make)Pr (hunt)S (come)S

(wla) pətə (y)Λy / (gay)r (ya)kΛ.nΛ.gwΛ / (vya)y wΛny.t #
 (hunt) quickly (go)S (village)A (come)F.we.F (spear)S that.O₁

14 (kway)kΛ.nΛ.gwΛ / ɖakwΛ (kΛ)ɖr.w # 15 ɖakwΛ (kΛ)ɖr.w /
 (give)F.we.F woman (eat)they.S woman (eat)they.S

ɖakwΛ (kΛ)ɖr.w / 16 (kΛ)y (tə)ɖr.w / (dwnΛgw) □
 woman (eat)they.S (eat)S (stand)they.S (men)

(wla)kΛ.nΛ.gwΛ.y □ Λny baŋ wΛ # 17 dw nΛnə (wla)y /
 (hunt)F.we.F negative this bush here man we (hunt)S

(wla) pətə (y)ʌy / (gay)bʌ [] (gy)kʌ.nʌ.gwʌ [] ywʌ nʌŋʌy #
 (hunt) quickly (go)S (village)L (tie)F.we.F ring ?

18 ywʌ nʌŋʌy [] (gay)bʌ [] (gy)kʌ.nʌ.gwʌ # 19 (gy)ʌy /
 ring ? (village)L (tie)F.we.F (tie)S

wʌny dw wʌ [] (kʌ)kə (yʌ)kwʌ # 20 dəkwʌ (kway)nʌnə.n #
 that man there (eat)to (make)Pr woman (give)we.P

21 dəkwʌ (kway)nʌnə.n # 22 dw [] (kʌ)kə (yʌ)kwʌ #
 woman (give)we.P man (eat)to (make)Pr

7.23.1. Free Translation

1 We hunted a pig. 2 We hunted and wounded (?) one and it went away. 3 When we had speared it thus it got up and went away and stayed there [in the bush]. 4 We went back. 5 We went back to get that pig. 6 We had speared it thus and left it, and it went away. 7 We speared and went up [after] that pig, and then we caught it. 8 Then we caught that pig. 9 Having caught it we cut it up. 10 When we had cut it up and gone down we followed (?) and killed a pig we had been following (?) earlier. 11 We killed one, tied it up, carried it on our shoulders and went to the village. 12 When we had carried it to the village there were [now] two there; yes, there were two; we divided them... then we went off to hunt [again]. 13 We came [back to the bush] and hunted; the hunt went quickly and we came [back] to the village, having killed that [pig]. 14 We gave it [to the women] and they ate. 15 The women were eating, the women were eating - 16 while they were eating and standing around we hunted [unsuccessfully] in this bush. 17 When we men had finished hunting (the hunt being over quickly) we hung up [shell] rings in the village [spirit house, to celebrate the successful hunt and to sacrifice one of the pigs to an ancestor]. 18 We hung up rings in the village. 19 When he had hung up the rings that man [the spirit ancestor] set about eating [the sacrifice]. 20 We gave [pork] to the women. 21 We gave [pork] to the women. 22 The men set about eating [too].

7.23.2. Notes

7.23.21. Note the use of sentence-medial intonation (marked by /) with sentence-final verbs; the speaker in this case is conscious of something to follow.

7.23.22. The words /wantu/ 'one two' and /orait/ 'all right,

well' in 12 are loanwords from Pidgin.

7.23.23. The use of /dɔkwɔ/ for 'woman' in this text and the next (instead of the elicited and more usual form /tɔkwɔ/) is inexplicable.

7.23.24. For the Pidgin translation of this text, see Appendix A.

7.24. The Yam-Planting Cycle (Informant: Malaken)

1 nɔnɔ [] (gɔy)bɔ [] (kwɔ)nɔnɔ.n / 2 (kwɔ)y kwy (kwɔ)y /
we (village)L (sleep)we.P (sleep)S ? (sleep)S

yawy (yɔ)kɔ (tɔw)nɔnɔ.n # 3 yawy [] (tɔmy)nɔnɔ.n #
garden (make)to (chop)we.P garden (prepare)we.P

4 yawy [] (tɔmy)ɔy / kɔ (kwɔ)nɔnɔ.n # kɔ (kwɔ)y /
garden (prepare)S mami (plant)we.P mami (plant)S

kɔ (vɔ)y / (gɔy)bɔ [] (wɔr)ɔy / (cɔky)nɔnɔ.n #
mami (dig)S (village)L (go up)S (line)we.P

6 (gɔy)bɔ [] (wɔr)ɔy [] (cɔky)nɔ.gɔ / sister [] fater []
(village)L (go up)S (line)we.Pr sister father

dawlɔ (y)dɔrɔ.n # 7 dawlɔ (y)ɔy [] nɔnɔ kɔ [] dw wɔɔɔ []
down (go)they.P down (go)S our mami man also

dɔkwɔ wɔɔɔ [] piksɔ [] (kɔrɔ)dɔrɔ.n # 8 piksɔ [] (kɔrɔ)y /
woman also picture (take)they.P picture (take)S

(yɔɔ) dɔrɔ.n [] (mɔwkɔty)t # 9 em tasol #
(come up)they.P (Mauketi)A it that-is-all

7.24.1. Free Translation

1 We slept [= stayed] in the village. 2 This went on, [then] we cut [bush] to make a garden. 3 We prepared the garden. 4 Having prepared the garden we planted mami [= small yam species]. 5 We planted the mami, then [when they were ripe] we dug them up, went up and displayed them in rows in the village. 6 When we had gone up and displayed them in the village, the nuns and the priest came down [from the mission to the village]. 7 They came down and took pictures of the mami, also of the men and women [of

our village]. 8 They took the pictures and then came up to Mauketi [another village]. 9 That is all.

7.24.2. Notes

7.24.21. The morpheme /kwy/ in 2 is probably an intensifier of /kwa/ 'sleep'.

7.24.22. A number of Pidgin loanwords occur in this text: these are /sister/ '(ecclesiastical) sister, nun', /pater/ '(ecclesiastical) father, priest', /piksa/ 'picture, photograph', /em tasol/ 'that is all' (standard concluding phrase in stories).

7.24.23. For /dakwΛ/ = /takwΛ/, see 7.23.23.

7.24.24. /mawkəty/ is a place name, but it is uncertain whether it is a Wosera word for the Kunjingini mission station.

PART III:
OUTLINE GRAMMARS OF OTHER LANGUAGES OF
THE NDU FAMILY

8. INTRODUCTION TO OUTLINE GRAMMARS

8.1. Presentation

8.11. The outline grammars presented in this section are intended to facilitate the structural comparison of languages of the Ndu family. They are intended as sketches only, not as full accounts of structure. They are based, as far as is permitted by the structure of the individual languages, on the larger grammar of Wosera Abelam, and items follow in approximately the same order; they are not, therefore, fully structural grammars arising from the requirements of the languages themselves. Attention is concentrated on those parts of the structure which show divergences from the Abelam pattern; aspects of grammar which are the same as or similar to aspects of Wosera grammar are treated only briefly or passed over in silence.

8.12. Grammatical features which occur in Wosera but which are significantly absent in the languages here treated are given a heading, and the absence noted.

8.13. The account of phonology is reduced to a minimum, and it is to be assumed that, unless otherwise stated, phonemes phonetically similar to those of Wosera have similar distributions.

8.14. Terminology, unless redefined, remains the same as that in the Wosera grammar, and concepts such as those of 'subjected verbs' and 'phonological phrases' have been retained as being essentially valid for all languages of the Ndu family.

8.15. The languages are presented in order of the number of speakers, the more important languages in which material was elicited being described first.

8.16. A note is added on Sawos, or Tshwosh, although no material was collected for this language.

8.17. It may be mentioned here that the language accounts presented do not exhaust the languages of the Ndu family. Buiamanambu (63) certainly belongs to the family, either as an independent language or as a dialect of Yelogu, Manambu, or Abelam. In addition, there is some slight evidence (place names, native information) to suggest that one or

more of the following languages may be related to the Ndu group:

Gawanga

Wogu

Yerakai

Mari

Bisis

Watakatowi

Wasare

(see map, p. 18)

9. OUTLINE GRAMMAR OF BOIKIN (KWUSAUN DIALECT)

9.1. Introduction

9.11. Boikin, or Boiken (probably intended for */pɔwɔykən/ or */bɔwɔykən/) is spoken by a native population living immediately to the east of speakers of Abelam, and extending over a wide area from just north of the Sepik River (bordering on speakers of Sawos; see section 14.) through the Prince Alexander Mountains to the coast, and to those of the coastal islands which do not speak the Melanesian language of Kairiru; the total number of speakers, all located within the Maprik and Wewak subdistricts, has been counted from latest census figures at 17,332.

9.12. Boikin is the name of a coastal village (143°27'E 3°25'S) about 12 miles northwest of the Sepik District administrative centre at Wewak, and the site of one of the earliest mission stations of the Society of the Divine Word (SVD). In some writings by missionaries of this society (Kirschbaum 1922; Gerstner, various dates; Gehberger 1950) it is not always clear whether the name is used only for the language and people of the village itself, or also for the surrounding villages with the same language. The name has however gradually been extended to cover all the natives speaking the same language, although the full extent of the language has not always been known (see Capell 1954).

9.13. Dialect boundaries within the Boikin language area are extremely difficult to determine, largely because of noticeable dialect differences even in adjacent villages. However, a fairly sharp division appears between the dialect of villages on the northern side of the coastal range (as presented in this outline), and that of the mountain villages around Yengoru, and a dialect boundary could possibly be drawn somewhere between them. The hills and plains people further south are also reported to speak a different dialect.

9.2. Materials in Boikin

9.21. The material presented in this sketch was obtained in Wewak from the following informants:

Yawika (/yawyka/), from Kwusaun (/kwɔawn/) village (about 9 miles southwest of Wewak), aged about 53 years;

Hwanduo (/kwadwΛ/), originally from Uragembi (/wrəgaby/) village (about 4 miles SSE of Kwusaun), aged about 30 years.

A few minor dialect differences appeared in the speech of these two informants.

9.21.1. Gehberger (1950) says that the original village of Yawika was Borombe (Porombi, 4 miles SSE of Uregamni); evidently Yawika has lived in both Porombi and Kwusaun.

9.21.2. The village of Kwusaun is shown on the latest Sepik District map as Kusawun, and in the official village directory as Kusanun (the latter probably a misprint); because of this discrepancy I retain the anglicisation Kwusaun.

9.22. The material in Kwusaun Boikin has been supplemented by the following items kindly supplied by Mrs. J. Easton, of the Assemblies of God Mission, Yangoru:

Boikin Language, Yangoru: List of Verb Stems and Words used as Complements of Verbs (typescript, 15 quarto pages)

Boikin Language, Yangoru: Dictionary of Words other than Verbs (typescript, 25 quarto pages)

Süek jä (A free translation of part of Genesis) (typescript, 4 foolscap pages)

Non-Cultural Vocabulary (manuscript completed by Mrs. Easton from a list supplied by myself, and later recorded by myself, using informant Gottfried Wogiamungwu (/wΛkyΛmwgw/) from Sima (/cəmΛ/) village, about 4 miles north of Yangoru).

9.22.1. Yangoru (Yengoru) patrol station is situated at 143°20'E 3°41'S. The pronunciation of the informant from Sima was slightly different from that of the inhabitants of the villages in the immediate vicinity of Yangoru.

9.22.2. A few pages of material were also elicited from informants from Munjiharangi (Munji), about 11 miles south-east of Yangoru, and from Turingi, about 16 miles SSE of Yangoru, but the corpus is too small for any valid conclusions on dialect divergence to be drawn.

9.22.3. The following grammatical sketch is entirely based, except where otherwise specified, on my own recordings in Kwusaun Boikin.

9.3. Phonology of Boikin

9.31. The phonemes of Boikin are difficult to symbolise adequately, as many consonant phonemes have allophones in

certain positions which are identical with allophones of other phonemes in different positions. The following list shows the distribution of contoid phones in phrase-initial (PI), intervocalic (I), and phrase-final (PF) position:

PI	p	t	č	k	p*	ɾ	c	h	m	n	ñ	-	v	r	í	
I	ᵐb	ᵐd	ñ̃	ŋ	ɟ	p	r	c	k	m	n	ñ	-	v	l	í
PF	-	-	-	-	(pm	tn	cñ	kɳ)	m	n	ñ	ɳ	-	-	-	-

These and the remaining vowel and semivowel phonemes may most conveniently be represented by the symbols of the Wosera phonemes to which they correspond, namely

/b d j g p t c k m n ñ ŋ v r l w y a ə ʌ/,

but the different phonetic values and the totally different distribution of allophones must be borne in mind.

9.31.1. In the first line of the above list, an initial p* is inserted for completeness; however, there are only two rather doubtful cognates which show a correspondence of Kwusaun initial [p] with Wosera /p/, and any occurrence of a phone [p] in phrase-initial position in Kwusaun is of course assigned to the /b/ phoneme.

9.31.2. The [l] allophone of /r/ is an alveolar lateral which contrasts with the prepalatal lateral /l/.

9.31.3. The allophone of /k/ symbolised as [h] represents either a pharyngeal spirant [h̠] or a velar spirant [x]; the position and degree of frication depend on the speaker and/or on the dialect.

9.31.4. Final /pm tn cñ kɳ/ correspond to final stops in other Ndu-family languages. As these clusters also appear phrase-medially, in contrast with plain stops, they are treated as two-phoneme sequences and not as two-segment allophones of the plain stops.

9.31.5. In the sequences /wə/ and /wʌ/ the vowel is rounded much more than in Wosera; where the vowel carried primary stress labialisation may be completely lost following /b p k g m/: thus, /bwʌlə/ 'pig' = [p=ɔ́ɪ].

9.31.6. In the Yangoru dialect the phonemes /p t c k/ all have allophone [ʔ] (glottal stop) in phrase-final position. (Compare the lack of release of phrase-final voiceless stops in Iatmul, section 10.) In this dialect too word-final /p t c k/ are assimilated before a nasal in the same phrase to the corresponding homorganic voiceless stop.

9.31.7. In Yangoru and other Boikin dialects the phoneme written as /v/ is a voiced velar fricative [g].

9.32. **Sound Correspondence with Wosera.** Kwusaun phonemes generally correspond one-to-one with the Wosera phonemes represented by the same symbols; exceptions are dealt with in the notes to the lexical comparisons (Part IV).

9.4. Outline of Boikin Grammar

9.41. **Pronouns.** Kwusaun Boikin shares with Ngala (section 12.) the feature of having a set of abbreviated pronoun forms which occur preceding verb bases. In this position, however, no clear distinction has been observed between the {nΛ} and the {nə} series; it is possible that the variation is conditioned by stress.

9.41.1. A list of major pronominal forms follows; the citation of any of the allomorphs of {nΛ} 'I' refers to the class represented by the column in which the allomorph occurs.

9.41.11. Major Pronominal Allomorphs and Object Forms

<i>English</i>	<i>Free Pn</i>	<i>Object</i>	<i>-rə series</i>	<i>nΛ series</i>	<i>nə series</i>
'I'	nwΛ	nwΛ.kŋ	rə	nΛ	nə
'you' - m.	mənə	mə.kŋ	mΛ	mΛ	mə
'you' - f.	ñənə	ñə.kŋ	ñΛ		ñə
'he'	də	də.kŋ	də		də
'she'	ny	ny.kŋ	ny		ny
'we two'	nΛnə	nΛnə.kŋ	nΛnə		nΛnə
'you two'	bərə	bərə.kŋ	bərəΛ		bərə
'they two'	bərə	bərə.kŋ	bərə		bərə
'we'	nənə	nənə.kŋ	nənə		nənə
'you'	gwərə	gwərə.kŋ	gwərə		gwərə
'they'	dy	dy.kŋ	dy		dy

9.41.11.1. The form /bərəΛ/ in the second last column is not a misprint; differentiation between second and third person dual does occur in this context.

9.42. **'Predicate Marker'.** Kwusaun shows no equivalent of the Wosera predicate marker {wΛ}; equation statements are expressed by simple juxtaposition (with optional pn of the {nΛ} series in questions), non-equation by juxtaposition plus the negative {mapm}.

Examples: /mə ɔ̄ nw.kw ɔ̄ yapɔ̄ mɔ̄/ 'are you my father?'
 /awɔ̄ ɔ̄ nɔ̄wɔ̄ məkwɔ̄ ɔ̄ yapɔ̄/ 'yes, I am your father'
 /məpɔ̄ ɔ̄ nɔ̄wɔ̄ məkwɔ̄ ɔ̄ yapɔ̄ məpɔ̄ ɔ̄ nɔ̄wɔ̄ ɔ̄ dwɔ̄ nəpɔ̄/
 'no, I am not your father, I am another man'

9.43. Verbs. Verb forms in Kwusaun show more variation than those in Wosera. Recorded forms are given below, with no distinction drawn between forms apparently in free variation with each other.

9.43.1. *Present v* = + vb + {-w} ± [nɔ̄]

Examples: /nɔ̄wɔ̄ ɔ̄ kɔ̄.w/ 'I am eating'
 /nɔ̄wɔ̄ ɔ̄ v.w/ 'I see'
 /kya.w nɔ̄/ 'I am dying'

9.43.2. *Future v* $\left. \begin{array}{l} \text{ } \\ \text{ } \end{array} \right\} = + \text{vb} + \{-kɛ\} \pm \{y\}$
 $\left. \begin{array}{l} \text{ } \\ \text{ } \end{array} \right\} = + \text{vb} + [rɔ̄] + \{kwɔ̄\}$

Examples: /mə ɔ̄ də.kɛ ɔ̄ v.ɔ̄y ɔ̄ kwɔ̄ɔ̄ ɔ̄ kwɔ̄.kɛ/ 'if you see
 him you will give him an axe'
 /nɔ̄wɔ̄ ɔ̄ kɔ̄ yɔ̄.kɛ y/ 'I shall set about eating'
 /nɔ̄wɔ̄ ɔ̄ kɔ̄.rɔ̄.kwɔ̄/ 'I shall eat'

9.43.21. Morpheme {-kɛ} corresponds to Wosera {-kə}₁, but is used to form futures rather than intentives. The verb /yɔ̄/ 'make' is used in this context in a manner comparable to that of Wosera (see 6.22.36.). /y/ is the verb stem 'go', and may be omitted.

9.43.3. *Past v* = + vb + {-cɛ̃}

Example: /nɔ̄wɔ̄ ɔ̄ kɔ̄.cɛ̃/ 'I ate'

9.43.4. *Intentive v* = + vb ± {-wɔ̄} ± [nɔ̄] + {yɔ̄} ± {-w}

Examples: /mə.kɛ ɔ̄ vya nɔ̄ yɔ̄.w/ 'I am about to hit you'
 /ny.kɛ ɔ̄ vya.wɔ̄ yɔ̄.w/ '[I] am about to hit her'
 /nɔ̄wɔ̄.kɛ ɔ̄ vya.wɔ̄ mɔ̄ yɔ̄.w/ 'are you about to
 hit me?'

9.43.41. The exact function of {wɔ̄} in these forms is uncertain. It appears more frequently in past contexts than in future. Intentive forms may also be used in past contexts for actions which were actually performed ('went and hit' as well as 'made to hit'); for examples see text, sentence 1.

9.43.5. *Imperative v* = + {a-} ∞ {m-} + vb

Distribution of allomorphs: {m-} occurs only with stem
/ya/ 'come'

{a-} occurs in all other environments

Examples: /mΛ a.y/ 'you go!', /a.rə/ 'stay!', /m.ya/ 'come!'

9.43.51. The imperative may also be expressed by second person pn forms /mΛ/, /ñΛ/, /bərə/, /gwrə/ + vb:

/bərə kΛ/ 'you two eat!'

9.43.6. The vb is used in Kwusaun in many instances where the context makes the nature of the omitted affixes clear; see text, sentences 10-14, for examples.

9.44. Negatives

9.44.1. *Present negative* = + {kΛy} + vb + {-y}₁ ~ {-Λy}₁
(For the distribution of {-y} and {-Λy}, see 9.47.)

Examples: /nwΛ ∅ kΛy ∅ kΛ.y/ 'I do not eat'; 'I have not eaten'

/nwΛ ∅ kΛy v.Λy/ 'I do not see'; 'I have not seen'

9.44.2. *Future negative* = + {kΛy} + future v

Example: /nwΛ ∅ kΛy ∅ kΛ.kη/ 'I shall not eat'

9.44.3. *Past negative* = ± {kΛy} + vb + {-kηΛy}

Example: /nwΛ ∅ kΛ.kηΛy/ 'I did not eat'

9.44.4. *Intentive negative* = [not recorded]

9.44.5. *Imperative negative* = + vb + {kapw}

Examples: /gərə kapw/ 'do not cry!'

/y kapw/ 'do not go!'

9.45. **Possession.** Possession is shown in both nouns and pronouns by the suffixes {-kwa} and {-kly}. The former occurs when the possessed object is masculine, the latter when the possessed object is feminine. The possessive form of the first person pn (/nwΛ.kwa/ and /nwΛ.kly/) is frequently shortened to /nw.kwa/ and /nw.kly/.

9.45.1. Gender distinctions play a larger part in Kwusaun than in Wosera (see 6.85.). Other attributes with gender-differentiated forms are:

M	F	
nəpɿ ~ nəvɿ	kyapɿ	'one'
yɿnɿpɿ	yɿlypɿ	'which'
wɿnɿpɿ	wɿlypɿ	'this'

The conceptualisation of gender in Kwusaun is similar to that of Wosera; see 6.85.

9.46. Further Noun and Pronoun Morphology. The most important suffixes occurring with nouns and pronouns may be briefly listed as follows:

- {-kɿ} 'first and second object suffix; allative suffix'
- {-rə} 'agentive and comitative suffix'
- {-nə} 'locational suffix'

9.46.1. The forms of pronouns with suffix {-kɿ} are given in 9.41.11.

9.47. Sentence-Medial Forms. The sentence-medial suffix for 'same subjects' is {-y}₂ ~ {-ɿy}₂, suffixed to vb or vb + {-wɿ}; allomorphs are phonologically conditioned in the same way as the corresponding Wosera morpheme (6.72.). No special sentence-medial forms were observed for 'different subjects', the appropriate sentence-final forms being used, usually with prefix of the [nə] series.

9.48. Text from Situational Testing: 'A man hit me'

- A 1 dɿwɿ nəpɿ [] nɿwɿ.kɿ [] (vyɿ)wɿ.y rən [] mə.kɿ []
man one I.O₁ (hit)wɿ.S ? you.O₁
 (bwly)wɿ yɿ #
(talk)wɿ.make
- B 2 kɿnɿ.nɿ [] mə.kɿ [] (vyɿ)wɿ (yɿ)w //
who.possessive you.O₁ (hit)wɿ.(make)Pr
- A 3 mən wɿ [] dɿwɿ [] də [] nɿwɿ.kɿ [] (vyɿ)wɿ (yɿ)cɿ #
that there man he I.O₁ (hit)wɿ.(make)P
- B 4 yɿnəwɿ [] də də [] mə.kɿ [] (vyɿ)wɿ (yɿ)w #
when he he you.O₁ (hit)wɿ.(make)Pr
- A 5 nələñɿ [] gənəbɿ [] də də [] nɿwɿ.kɿ [] (vyɿ)wɿ (yɿ)w #
yesterday morning he he I.O₁ (hit)wɿ (make)Pr

- B 6 gapwλ (many)rə də ɒ mə.kŋ ɒ (vyλ)wλ (yλ)w //
 which (thing)Ag he you.O₁ (hit)wλ (make)Pr
- 7 (my)rə də ɒ mə.kŋ ɒ (vyλ)wλ (yλ)w //
 (tree)Ag he you.O₁ (hit)wλ (make)Pr
- 8 (kwλ)rə də ɒ mə.kŋ ɒ (vyλ)wλ (yλ)w //
 (axe)Ag he you.O₁ (hit)wλ (make)Pr
- 9 (kamλ)rə də ɒ mə.kŋ ɒ (vəly)wλ (yλ)w //
 (knife)Ag he you.O₁ (cut)wλ (make)Pr
- A 10 (tabλ)rə də ɒ nwλ.kŋ ɒ vyλ #
 (hand)Ag he I.O₁ hit
- B 11 (yλnəwλ)nə də ɒ vyλ ɒ (makŋwcək)nə də ɒ vyλ #
 (what)L he hit (head top)L he hit
- 12 (pəkə)nə də vyλ / (təməgλ)nə də ɒ vyλ #
 (chest)L he hit ? L he hit
- 13 (tabλ)nə də vyλ //
 (hand)I he hit
- A 14 cλ vərykŋ ɒ nw.kwλ (wmə)nə də ɒ vyλ #
 times two I.ɸossessive (back)L he hit
- B 15 (gλvλ)kŋ ɒ bərə ɒ kλ waryλ #
 (what)for you two ? fight
- A 16 nwλ ɒ bwalə napλ ɒ cəkwl ɒ (kwy)rən / də kλy ɒ
 I ɸig one before (give)?S he not
 nwλ.kŋ ɒ napλ ɒ (kwy)λy / nw.kwλ ɒ bwalə jəmλ #
 I.O₂ one (give)S I.ɸossessive ɸig lack
- 17 nλnə ɒ (wəbwly) ɒ də nwλ.kŋ ɒ vyλ #
 we two (quarrel) he I.O₁ hit

9.48.1. Free Translation

- A 1 A man hit me, so I am telling you.
 B 2 Who hit you?
 A 3 That man there went and hit me.
 B 4 When did he hit you?
 A 5 He hit me yesterday morning.

- B 6** What did he hit you with? **7** Did he hit you with a stick? **8** Did he hit you with an axe? **9** Did he cut you with a knife?
- A 10** He hit me with his hand.
- B 11** Where did he hit you, on the top of the head?
- 12** Did he hit you on the chest or on ...? ?
- 13** Did he hit you on the hand?
- A 14** He hit my back twice.
- B 15** Why did you two fight?
- A 16** I gave him a pig a long while ago, and he did not give me one; [so] I have no pig. **17** We two were quarrelling and he hit me.

9.48.2. Notes

9.48.21. For comment on the possessive form /kλnλ.nλ/ in 2, see **11.49.23**.

9.48.22. The usual phrase for 'when' is /yλnəwλ cλy/ 'what time', not simply /yλnəwλ/ 'what', as in 4. The same morpheme for 'what' occurs in 11.

9.48.23. The form /gəpwλ/ 'which, what' in 6 is in free variation with /gavλ/ in 15. A number of words with intervocalic /p/ or /pw/ have variant forms with /v/: thus also /yapλ/ - /yavλ/ 'father', /napλ/ - /navλ/ 'one'.

10. OUTLINE GRAMMAR OF IATMUL (NYAURA DIALECT)

10.1. Introduction

10.11. Iatmul is spoken by a native population living primarily on the stretch of Middle Sepik between Tambunum and Japandai, and on tributary streams of the Sepik to a distance of not more than about 15 miles from the main river; it is also spoken in the 'splinter' village of Brugnowi, just upstream of the Manambu-speaking village of Yambon (see section 11.). The total Iatmul-speaking population has been calculated from latest census figures at 7,887. The possibility of further Iatmul speakers being found in the unvisited regions between the Krosmeri and Yuat rivers in the south is not excluded, nor is the fact that a different interpretation of the language-dialect relationship between Iatmul and Sawos (see section 14.) might increase or decrease the number of people counted as speaking Iatmul.

10.12. The name Iatmul (probably intended for */yatmər/ or */yatmwr/) was given by Bateson to a central group of the Middle Sepik population in the vicinity of Mindimbit (143°23'E 4°17'S), and its use extended by him to cover the whole linguistic group, for which there is no indigenous name (Bateson 1932). Present-day natives do not appear to know the word 'Iatmul'; the only native name that could be obtained was 'Nyaura' (/ñawra/), which was applied only to the dialect group at the westernmost limits of the Iatmul speaking area (villages of Brugnowi, Japandai, Yamanambu, Japanaut, Nyaurangei and hamlets). The name Iatmul is here retained for convenience as referring to the whole linguistic group.

10.13. Little information could be obtained on the exact boundaries of Iatmul dialects. Dialect differences, some of which were observed, were reported for three groups at approximately equal intervals along the main river, and for a fourth group consisting of Aibom and the villages (excluding the villages speaking the Chambri language) on and around Chambri lakes, to the south of the Sepik. Native opinion was inconsistent on whether the language called Sawos (see section 14.) was to be regarded as a dialect of Iatmul or as a separate language.

10.2. Materials in Iatmul

10.21. The material presented in this sketch was obtained in Yamanambu (143°02'E 4°03'S), principally from the following informants:

Boni (/bʷʌny/), aged about 22

Joe, aged about 25

Thomas, aged about 23

Yaman (/yʌmʌn/), aged about 50, 'tultul' of Yamanambu village.

10.22. A few pages of material were elicited also from Luwe (/lwʌy/), 'luluai' from Mindimbit, and from Gwundege (/gʷdɛgʌy/) from Tambunum (143°37'E 4°11'S). This material provided some information on the easternmost Iatmul dialect, and a few differences from the Nyaura corpus emerged.

10.23. The following grammatical sketch is entirely based on Nyaura material.

10.3. Phonology of Iatmul

10.31. The phonemes of Iatmul are /p t c k b d j g m n ñ ŋ v r l w y a ə ʌ/. It will be noticed that the phonemes of Wosera are identical. Allophones and their distribution are also similar to those of Wosera, but the following important differences should be noted:

/c/ has allophones [č] and [č̣] in free variation phrase-initially, and allophone [č̣] in intervocalic position

/k/ has allophone voiced velar spirant [g] in free variation with [ḳ] between vowels and semivowels

/v/ has allophone [pʷ] following /m/ (the phoneme sequence */pw/ does not occur)

/r/ has only allophone [ɹ], never the flap [ɹ̣]

/l/ has allophone voiced alveolar flap [ḷ] in phrase-initial position, and allophone [ḷ] in free variation with allophone [ɹ̣] intervocalically.

10.31.1. The sequence /wʌ/ labialises only velar consonants; after /b m/ it is pronounced as a single phone [ɔ].

10.31.2. All voiceless stops /p t c k/ are unreleased in phrase-final position and are in free variation with each other in this position.

10.31.3. All voiceless stops before a nasal consonant or prenasalised stop in the same phrase manifest themselves as

the voiceless stop homorganic with that nasal or pre-nasalised stop.

10.31.4. Phonemes /n/ and /ŋ/ are in free variation in phrase-final position.

10.31.5. /t/ in intervocalic position may manifest itself as the allophone [ʔ] of the phoneme /l/. The conditions under which this occurs have not been fully determined, but compare Wosera, 5.95.

10.32. Sound Correspondences with Wosera. Iatmul phonemes generally correspond one-to-one with the Wosera phonemes represented by the same symbols, except that Wosera /c/ in intervocalic and final position corresponds to Iatmul /k/. Other exceptions are dealt with in the notes to the lexical comparison (Part IV).

10.4. Outline of Iatmul Grammar

10.41. Pronouns. A list of major pronominal forms, including those with object and possessive suffixes, follows. The citation of any of the allomorphs of {wn} 'I' refers to the class represented by the column in which the allomorph occurs.

10.41.1. Major Pronominal Forms

<i>English</i>	<i>Free Pn</i>	<i>Object</i>	<i>Poss.</i>	<i>-wn series</i>	<i>-wΛ series</i>
'I'	wn	w.gat	w.nΛ	-wn	-wΛ
'you' - m.	mən	mə.gat	mə.nΛ	-mən	-mΛ
'you' - f.	ñən	ñə.gat	ñə.nΛ	-ñən	-ñΛ
'he'	də	də.kat	də.nΛ	-də	-dΛ
'she'	lə	lə.kat	lə.rΛ	-lə	-lΛ
'we two'	an	a.gat	a.nΛ	-∅	-ryΛ
'you two'	bət	bə.kat	bə.rΛ	-bət	-bΛt
'they two'	bət	bə.kat	bə.rΛ	-bət	-bΛ
'we'	nən	nə.gat	nə.nΛ	-nən	-nΛ
'you'	gwt	gw.gat	gw.rΛ	-gwt	-gwΛ
'they'	dy	dy.gat	dy.nΛ	-dy	-jΛ

10.41.11. The forms in the [-wn] column are identical with the free forms except for the unusual occurrence of zero for 'we two'.

10.41.12. The form in the last column for 'they', /jΛ/, must

arise from */dyΛ/. It is probable that the palatal series of consonants throughout the Ndu family has arisen through palatalisation of alveolar consonants.

10.42. 'Predicate Marker'. The predicative morpheme corresponding to Wosera {wΛ} is a suffix {-mΛ} ~ {-nΛ} ~ {-ñΛ} ~ {-ŋΛ} ~ {-Λ} ~ {-∅}.

Distribution of allomorphs: {-mΛ} occurs after word-final /p/
 {-nΛ} occurs after word-final /t/
 {-ñΛ} occurs after word-final /c/
 {-ŋΛ} occurs after word-final /k/
 {-Λ} occurs after word-final
 semivowel and nasal consonant
 {-∅} occurs in all other environments

Examples: /wan ∅ kΛ.nΛ bək.ŋΛ/ 'whose pig is that?'
 /wan ∅ wn.Λ ∅ kəcΛ.nΛ ∅ gay.Λ/ 'that is my cousin's house'
 /wan ∅ kΛ.nΛ wəɾΛ/ 'whose dog is that?'

10.42.1. This morpheme alone provides evidence of which of the four stops /p t c k/ should be written in phrase-final position, where they are in free variation (see 10.31.2.).

10.43. Verbs. The Iatmul verb system differs from that of Wosera in that no verbal tense suffixes occur further from the base than the bound pronoun suffixes, except for one sentence-medial form (see 10.47.).

10.43.1. *Present v* = + vb + {-rəkΛ} + [-wn]

Examples: /bət ∅ kə.rəkΛ.bət/ 'they two are eating'
 /dy ∅ kə.rəkΛ.dy/ 'they are eating'

10.43.11. /rəkΛ/ occurs as a verb stem meaning 'to sit, remain', so this form is comparable with the construction in 6.33.2.

10.43.2. *Future v* = + vb + {-vΛy} + {-kΛ} + [-wn]

Examples: /wn ∅ kə.vΛy.kΛ.wn/ 'I shall eat'
 /an ∅ kə.vΛy.kΛ/ 'we two shall eat'

10.43.3. *Past v* = + vb ± [-wn]

The vb without bound pronoun suffix occurs in questions.

Examples: /w.gat ɔ̄ nak gərabw ɔ̄ vyΛ.də/ 'he hit me yesterday afternoon'

/mə.gat ɔ̄ kɔdə ɔ̄ vyΛ/ 'who hit you?'

10.43.4. *Imperative v* = + {a-} + vb

Examples: /mən a.kə/ 'you eat!', /a.rə/ 'sit down!'

10.43.41. The imperative /ya.kwΛ/ 'come!' (vb /ya/) is irregular.

10.43.5. *Intentive v* = + vb + {-kə} + /yΛ/ + [-wn]

Example: /kə.kə yΛ.wn/ 'I am about to eat'

10.43.51. This construction is a two-verb construction; see Wosera 6.62.11. for comparable forms. The stem /yΛ/ means, as in Wosera, 'make, do, act'.

10.43.52. This construction occurs occasionally in the Nyaura corpus, and frequently in the material on the Tambunum dialect, with morpheme {-w} instead of _a{-wn} in the first person. It is uncertain whether this {-w} is merely a contraction of _a{-wn}, or whether it is a vestige of the present tense morpheme {-w} found in the Maprik dialect of Abelam (6.22.31.1.).

10.43.6. *Remote past v* = + vb + [-wΛ]

Examples: /wn y.wΛ/ 'I went (a long time ago)'

/dy rə.jΛ/ 'they remained (a long time ago)'

10.43.61. No forms comparable with the above have been observed in any other languages of the Ndu family.

10.44. Negatives

10.44.1. *Present negative* = + {anΛ} + present v

Example: /anΛ ɔ̄ kə.rəkΛ.nən/ 'we do not eat'

10.44.2. *Future negative* = + {anΛ} + vb + {-kΛ} + -wn

Example: /wn ɔ̄ anΛ ɔ̄ kə.kΛ.wn/ 'I shall not eat'

10.44.3. *Past negative* = + {anΛ} + past v

Example: /nak ɔ̄ anΛ k.wn/ 'yesterday I did not eat'

10.44.4. *Intentive negative* = + {anΛ} + intentive v

Example: /anΛ ɔ̄ kə.kə yΛ.wn/ 'I am not about to eat'

10.44.5. *Imperative negative* = + {kΛy} + vb + {-kΛ}

Example: /mən [] kΛy kə.kΛ/ 'do not eat!'

10.44.6. It will be noticed that the negative morpheme is the same for all tenses except the future; this represents a considerable simplification of the usual Ndu-family language pattern of different negatives for different tenses. The morpheme {kΛy} occurring with the imperative is also the morpheme for general negation:

/kΛy [] mən.Λ ñayk [] anΛ wn/ 'no, I am
not your father'

10.45. Possession. Possession in nouns is indicated by the suffix {-nΛ}. The possessive forms of personal pns are given in **10.41.1.**

10.46. Further Noun and Pronoun Morphology. Noun and pronoun suffix {-kAt} ~ {-At} ∞ {-gAt} fulfils the functions of first and second object suffix, allative suffix and suffix corresponding to Wosera {-kə}₂. Allomorph {-At} occurs after word-final /k/, {-gAt} with various pronoun forms (see **10.41.1.**), {-kAt} in all other environments.

10.46.2. Other noun and pronoun suffixes have not been recorded.

10.47. Sentence-Medial Forms. The sentence-medial suffix for 'same subjects' is {-kΛ}, suffixed to vb; this form is however frequently replaced by a sentence-final verb with bound pn suffix. Special sentence-medial verbs for different subjects of first and second verbs occur only where the performance of the action of the second verb is conditional on the performance of that of the first verb:

Conditional v = + vb + [-wΛ] + {-yΛn}

Negative conditional = + vb ± {lapmΛŋ} + /y/
+ [-wΛ] + {-yΛn}

Examples: /wan [] kəkΛmakŋΛ [] lapmΛŋ [] y.mΛ.yΛn [] kya.kə
yΛ.mən/ 'if you do not swallow this
[medicine] you will die'

/an [] wan maresin [] kəkΛmakŋΛ [] ryΛ.yΛn []
kwΛlə.kə yΛ/ 'if we two swallow this
medicine we shall be well'

10.48. Text from Situational Testing: 'A man hit me'

- A 1 kətΛ ñan ∅ w.gət ∅ (vyΛ)vək (yΛ) ∅ mə.gət ∅
 one human I.O₁ (hit)to (make)he you.O₁
 (bwp)mək (yΛ)wn #
 (talk)to (come)I
- B 2 mə.gət ∅ kΛdə ∅ vyΛ //
- you.O₁ who hit
- A 3 kəgy (ñan)Λ ∅ w.gət vyΛ #
 this (human) here I.O₁ hit
- B 4 mə.gət ∅ ΛΔΛjwəbəlΛ ∅ (vyΛ)də #
 you.O₁ when (hit)he
- A 5 w.gət ∅ nək gərəbw ∅ (vyΛ)də #
 I.O₁ yesterday afternoon (hit)he
- B 6 mə.gət ∅ (məΔ)bəΛ də ∅ (vyΛ)də // 7 (jəgə)bəΛ ∅ (vyΛ)də //
- you.O₁ (what)Ag he (hit)he (axe)Ag (hit)he
- 8 (kəmΛ)bəΛ (vyΛ)də // 9 (kwrΛ)bəΛ ∅ (vyΛ)də //
- (bamboo)Ag (hit)he (fist)Ag (hit)he
- A 10 w.gət ∅ (tabΛ)bəΛ ∅ (vyΛ)də #
 I.O₁ (hand)Ag (hit)he
- B 11 mə.gət ∅ ΛΔΛ.bΛ ∅ (vyΛ)də // 12 (nəbw)bəΛ ∅ (vyΛ)də //
- you.O₁ what.L (hit)he (face)L (hit)he
- 13 (dəwrəvə)bəΛ ∅ (vyΛ)də // 14 (tabΛ)bəΛ (vyΛ)də //
- (thigh)L (hit)he (hand)L (hit)he
- A 15 w.gət ∅ jəbək vəry ∅ (bwny)bəΛ ∅ (vyΛ)də #
 I.O₁ times two (back)L (hit)he
- B 16 (məΔ)kət ∅ bət ∅ (vyΛ)bət //
- (thing)for you two (hit)you two
- A 17 wn ∅ bək ∅ (kwy)wn ∅ tabΛ ∅ əwək ∅ w.gət ∅
 I pig (give)I before exceeding I.O₂
 ənΛ (kwy)də #
 not (give)he

18 an [] (wgy)kΔt [] (tə)kΔ (wə)ryΔ / w.gΔt []
 we two (this)O₁ (stand)S (talk)we two I.O₁
 (vyΔ)də #
 (hit)he

10.48.1. Free Translation

- A 1 A man went and hit me [so] I came to tell you.
 B 2 Who hit you?
 A 3 This man here hit me.
 B 4 When did he hit you?
 A 5 He hit me yesterday afternoon.
 B 6 What did he hit you with? 7 Did he hit you with an
 axe, 8 with a knife, 9 [or] with his fist?
 A 10 He hit me with his hand.
 B 11 Where did he hit you, 12 on the face, 13 on the
 thigh, 14 [or] on the hand?
 A 15 He hit me twice on the back.
 B 16 Why did you two fight?
 A 17 I gave him a pig a long while ago, and he did not give
 me [one]. 18 We were standing up discussing this
 [when] he hit me.

10.48.2. Notes

10.48.21. The recorded version of the above text is very hard to hear, owing to bad recording conditions; accordingly, the tape-recorded version has been used mainly for the establishment of intonation contours and phonological phrases, the segmental phonemes being supplied from the originally elicited manuscript text.

10.48.22. It is uncertain whether the form /waryΔ/ in 18 is the verb stem for 'quarrel', or whether it is verb-stem /wə/ 'talk' plus /-ryΔ/ 'we two'; the latter interpretation has been adopted.

11. OUTLINE GRAMMAR OF MANAMBU

11.1. Introduction

11.11. Manambu is spoken only by the inhabitants of the three villages of Avatip (/avə təp/ 'big coconut'),¹ Malu (/marw/), and Yambon (/yʌbwn/ 'upstream, west'), and their hamlets, a total population of 1,448. The three villages are located on the Sepik River in the vicinity of the administrative centre of Ambunti (142°50'E 4°15'S), just upstream of the Iatmul area.

11.12. No indigenous name for the whole language or its speakers could be found. The name Manambu (/manʌbw/) was suggested by informants, who claim it to be the Iatmul word for themselves and their language.

11.13. No dialect difference between the three villages was observed.

11.2. Materials in Manambu

11.21. The material presented in this sketch was obtained at Ambunti, from informant Golman (/gwarman/), aged about 22 years, a native medical assistant at Ambunti native hospital. A previous informant, Kasameri (/kacamary/), was dismissed after one morning's work as unsatisfactory. Both informants were from the village of Malu, about half an hour's walk from Ambunti. A few pages of manuscript material were also supplied by A. Capell and S. Wurm.

11.3. Phonology of Manambu

11.31. The phonemes of Manambu are /p t c k b d j g m n ñ v r w y a ə ʌ/. These are the same as those of Wosera, except for the absence of /l/ and /ŋ/. Phonetic values are similar to those of Wosera, except as noted below.

11.31.1. All phonemes may occur phrase-finally, although vowels other than /ə/ are rare in this position (see 11.32.).

11.31.2. Prenasalised stops /b d j g/ have devoiced allophones [ᵐb ᵐd ᵐj ᵐg] in phrase-final position.

¹ Possibly 'big village'.

11.31.3. Phoneme /r/ has allophones alveolar flap [ř] and alveolar lateral flap [l̥] which are in free variation in some positions; in other positions the distribution of allophones is conditioned by stress. Details of this conditioning may be omitted here.

11.31.4. Phonemes /p t k/ are slightly aspirated intervocalically.

11.31.5. Except in monosyllables, /w/ has phrase-final allophone [w̥] in the sequences /pw bw kw gw/.

11.31.6. Phoneme-sequence /wΛ/ is pronounced as a single phone [ɔ] in stressed positions following alveolar stops.

11.32. Sound Correspondences with Wosera

11.32.1. Wosera vowels in word-final position normally correspond to zero in Manambu. The correspondence of Wosera monosyllables of the pattern CV is however to the pattern Cə in Manambu, whatever the vowel of the Wosera word. In these cases the non-correspondence of the vowel phoneme is ignored and forms such as W /kΛ/ - M /kə/ 'eat', W /ñΛ/ - M /ñə/ 'sun' are counted as cognate.

11.32.2. Wosera /t/ in intervocalic and word-final position corresponds to Manambu /r/.

11.32.3. Wosera /r/ and /l/ both correspond to Manambu /r/ in all positions.

11.32.4. Wosera word-final /ŋ/ corresponds to Manambu word-medial /g/.

11.32.5. The Wosera sequences /gwy/ and /gy/ correspond in unstressed positions to Manambu /j/.

11.32.6. All other phonemes correspond to the phonemes represented by the same symbols in Wosera, except as noted in Part IV.

11.4. Outline of Manambu Grammar

11.41. Pronouns. Pronoun forms in Manambu are more complex than in any of the Ndu-family languages so far treated. The agreement in verbs for first person feminine subject and object should be noted and compared with similar agreement in Ngala (section 12.). The list below (11.41.1.) gives allomorphs of free pns occurring with verbs, as well as the forms with first and second object and possessive suffixes. The citation of any of the allomorphs of {wn} 'I' refers to the whole series represented by that allomorph.

11. 41. 1. Major Pronominal Forms

English	Free	[-wn]	[-w]	[-twa]	O ₁	O ₂	Poss.
'I' - m.	wn	wn	w ~ Δw ~ tw	twa	wn.Δm	wn.Δk	wn.Δ
'I' - f.	wn	∅	w ~ Δw ~ tw	twa	wn.Δm	wn.Δk	wn.Δ
'you' - m.	mən	mən	mən	mənΔ	mən.Δm	mən.Δk	mən.Δ
'you' - f.	ñən	ñən	ñən	ñənΔ	ñən.Δm	ñən.Δk	ñən.Δ
'he'	də ~ d	d	də	dΔ	də.kəm	də.kək	də.kΔ
'she'	rə ~ r	∅	∅	rΔ	rə.kəm	rə.kək	rə.kΔ
'we two'	an	an	tək	bΔ	an.Δm	an.Δk	an.Δ
'you two'	bər	bər	bər	bərΔ	bər.əm	bər.ək	bər.Δ
'they two'	bər ~ kə.bər	bər	bər	bərΔ	bər.əm ~kə.bər.əm	bər.ək etc.	bər.Δ etc.
'we'	ñan	an	bΔ	bΔnΔ	ñan.Δm	ñan.Δk	ñan.Δ
'you'	gwr	gwr	gwr	gwrΔ	gwr.Δm	gwr.Δk	gwr.Δ
'they'	dΔy	dy	dΔ	dΔnΔ	dΔy.Δm	dΔy.Δk	dΔy.Δ

11. 41. 11. The allomorphs of {wn} in the [-w] column have the following distribution:

{-Δw} replaces final /ə/ of stems

{-w} occurs with all other stems

{-tw} is in free variation with {-Δw} and {-w}

11. 41. 12. Allomorphs {-d} and {-r} of {də} 'he' and {rə} 'she' occur in phrase-final position.

11. 41. 13. Allomorphs {kəbər} and {bər} of {bər} 'they two' are in free variation in most contexts; the longer form however always occurs where ambiguity with {bər} 'you two' could arise.

11. 41. 14. Further comments on pronominal forms will be found in 11. 45. and 11. 46.

11. 42. 'Predicate Marker'. In Manambu, no morpheme corresponding to Wosera {wΔ} occurs; free pns occur as predicate markers in affirmative and interrogative equational sentences, and are replaced by {mΔ} in sentences expressing non-equation.

Examples: /kə.də ∅ ñan d ∅ dw ñan d/ 'this child is a male

child'

/kə.bər my ɒ kəbw bər/ 'these two trees are kapok trees'

/kə.dy my ɒ kəbw mΛ/ 'these trees are not kapok trees'

/wn ɒ mən.Λ.də ɒ acəy mΛ/ 'I am not your father'

11.43. Verbs. The Manambu verb is more complex than that of other members of the Ndu family, because of the fact that not only are agreements for subject extended to agreement for gender throughout all singular subjects, but also because of the fact that one form of the verb also agrees with person, gender and number of object.

11.43.1. Agreements for person are expressed by the pn series [-wn], [-w] or [-twΛ]. Person is also partially expressed by the morpheme {-də}₂, which expresses gender and number. The distribution of the allomorphs of this morpheme, whether agreeing with subject or object, is as follows:

{-də} occurs agreeing with singular, masculine, first or second person subject or object

{-bər} occurs agreeing with dual first or second person subject or object

{-dy} occurs agreeing with plural first or second person subject or object

{-∅} occurs agreeing with any third person subject or object, or with any singular feminine subject or object

Appendix B gives paradigms of verbs containing this morpheme.

11.43. Major verb forms are:

11.43.1. Present *v* = + vb + {-nΛ-} + {-də}₂ + [-wn]

Examples: /wn ɒ kə.nΛ.də.wn/ 'I am eating'

/də ɒ kə.nΛ.d/ 'he is eating'

/an ɒ kə.nΛ.bər.an/ 'we two are eating'

11.43.2. Future *v* = + vb + {-kə-} + {-nΛ-} + {-də}₂ + [-wn]

Examples: /mən ɒ kə.kə.nΛ.də.mən/ 'are you (m.) going to eat?'

/ñən ɒ kə.kə.nΛ.ñən/ 'are you (f.) going to eat?'

/wn ɒ və.kə.nΛ.wn/ 'I (f.) am going to see'

11.43.3. *Past v* = + vb + {-də}₂ + [-wn]

Examples: /an ∅ kə.bər.an/ 'we two ate'
 /gwr ∅ və.dy.gwr/ 'did you all see?'
 /dy ∅ və.dy/ 'they saw'

11.43.4. *Imperative v* = + {ə-} + vb

Example: /mən ə.kə/ 'you eat!'

11.43.41. Two irregular imperatives occur: /may/ 'go' and /mɔy/ 'come', from stems /y/ 'go' and /ya/ 'come'.

11.43.5. *Intentive v* = + vb + {-kər}

Example: /wn ∅ və.kər/ 'I want to see'

11.43.6. This morpheme corresponds to Wosera {-kə}₁ in two-verb constructions as well as in intentive forms:

/an ∅ ya.nɔ.bər.an ∅ bər.ɔk ∅ və.kər/ 'we
 two have come to see you two'

11.44. Negatives

11.44.1. *Present negative* } = + vb + {mə}
Future negative }

Examples: /mən ∅ və mə/ 'do you not see?' 'will you not see?'

/wn ∅ papər ∅ kə mə/ 'I shall not eat later'

11.44.2. *Past negative* = + {mə} + vb

Example: /nar ∅ wn mə kə/ 'yesterday I did not eat'

11.44.3. *Imperative negative* = { + vb + {mə}
 + vb + {wayk}

Examples: /mən ∅ papər ∅ kə mə/ 'do not eat later!'

/gwn ∅ kə wayk/ 'do not eat!'

11.44.4. *Intentive negative* = + {mə} + intentive v

Example: /wn ∅ mə ∅ və.kər/ 'I do not intend to see'

11.44.5. A 'prohibitive' form may be mentioned here:

Prohibitive v = + vb + {-də}₂ + {-bwɔ}

Examples: /də ∅ kə.də.bwɔ/ 'he must not eat'

/rə ∅ kə.bwɔ/ 'she must not eat'

/an [] kə.bər.bwΛ/'we two must not eat'

11.45. Verbs with Bound Object Marker. A present tense form occurs in which a bound object is expressed.

Present ov = + vb + [-twΛ]¹ + {-də}₂ + [-wn]

The morpheme {-də}₂ and the pronouns of the [-wn] series agree with the object for person, number and gender.

Examples: /wn [] və.twΛ.də.mən/ 'I see you (m.)'
 /wn [] və.twΛ.ñən/ 'I see you (f.)'
 /wn [] və.twΛ.d/ 'I see him'
 /mən [] və.mənΛ.bər.an/ 'do you see us two?'
 /bər [] və.bərΛ.wn/ 'they two see me (f.)'

For full paradigms of this construction, see Appendix B.

11.46. Noun and Pronoun Morphology

11.46.1. Possession. Possession is expressed only in pronouns; where the possessor is expressed overtly by a noun, the appropriate possessive pn form must follow it:

/kə.də dw [] də.kΛ [] bəl d/ 'that man's pig'.

Many constructions however permit of possession being expressed by the use of the noun or noun phrase as attribute:

/kə.də bəl [] wn.Λ.də acay [] bəl d/ 'that pig is my father's pig'

11.46.11. Possessive suffixes agree for gender with the object possessed. The column marked 'Possessive' in **11.41.1.** contains the forms of pronouns occurring before possessed items whose gender (natural or grammatical) is unknown or unimportant. For masculine possessed objects in the singular, and for all possessed objects in the dual and plural, allomorphs {-də}, {-bər} and {-dy} of {-də}₂ are suffixed to the form marked as 'possessive'; for feminine possessed objects in the singular, {-kΛ} or {-∅} is suffixed to these possessive forms. (Allomorph {-∅} occurs only after /də.kΛ/ 'his' and /rə.kΛ/ 'her'.)

Examples: /wn.Λ.də bəl/ 'my (male) pig'
 /wn.Λ.kΛ bəl/ 'my (female) pig'
 /rə.kΛ bəl/ 'her (male or female) pig'

¹ The [-twΛ] series may well be regarded as portmanteau morphemes, incorporating a non-separable tense-morpheme.

/wn.ʌ bəl/ 'my (male or female) pig'
 /mən.ʌ.bər bəl/ 'your two pigs'
 /də.kʌ.dy bəl/ 'his pigs'

11.46.12. Conceptualisation of gender is similar to that in Wosera and Kwusaun; see **6.85**.

11.46.2. Objects. Pn forms with first and second object suffixes {-ʌm} and {-ʌk} are given **11.41.1**. In nouns, these suffixes replace the final vowel, if any, of stems. {-ʌk} also fulfils the function of an 'allative' suffix, expressing 'motion towards' in both nouns and pronouns.

11.46.3. Other Suffixes. A brief list of these may be given:

{-ʌr} 'agentive suffix'. Occurs only with nouns, replacing final V, if any, of stems

{-ʌb} ~ {-b} 'locative suffix' ('place where' and place whence'). Occurs only with nouns, allomorph {-b} occurring only after stem-final V.

Example: /kə.də ña.b ʔ kamy ʔ ɕʌmʌɕʌm ʔ tə.nʌ.d/ 'are there many fish in this river?'

{-ʌwʌ} 'comitative suffix'. Occurs with nouns and pronouns, replacing final V, if any, of stem.

Examples: /takw.ʌwʌ/ '(along) with the woman'
 /wn.ʌwʌ/ '(along) with me'

11.47. Attributes

11.47.1. Many common attributes in Manambu are reduplicated, with or without a connective morpheme {-kʌ-}. Examples are:

/wʌmʌ.kʌ.wʌm/ 'white', /gərə.kʌ.gər/ 'black',
 /ñəkʏ.ñəkʏ/ 'red', /vyʌ.vyʌ/ 'right (hand)',
 /ɕʌmʌ.ɕʌm/ 'many'

11.47.2. Demonstratives /kə/ 'this', /cəkə/ 'which?' (distant), and /əkə/ 'which?' (close), require third person pn suffixes agreeing with number and gender of the head of the noun phrase. Similar pn suffixes, which may be regarded as a kind of 'predicate suffix' (see **11.42.**), may occur with the head word:

/kə.də dw/ 'this man', /kə.r takw/ 'this woman',
 /kə.dy bəl.dy/ 'these pigs', /cəkə.bər ʔ my.bər/

'which two trees?'

11.48. Sentence-Medial Forms. The sentence-medial suffix for 'same subjects' is {-Λn} ~ {-ən} ~ {-n} suffixed to the vb.

Distribution of allomorphs: {-Λ} replaces base-final /ə/
 {-n} occurs after base-final
 /a/ or /Λ/
 {-ən} occurs after base-final C

Examples: /wnə da.n r.Λn [] kəkəvat [] kə.nΛ.də.wn/

'I sat down and, seated, eat'

/wnə rap.ən [] y.də.wn/ 'I got up and went'

11.48.1. Verb stems in the above example are /da/ 'sit down', /rə/ 'be seated', and /rap/ 'get up'.

11.48.11. The negative of this form is expressed by {mə} preceding the verb.

11.48.2. Three forms of sentence-medial verbs for 'different subjects' occur, according to whether the actions of the first and second verbs are simultaneous, or whether the action of the second verb is a result of or conditional on the performance of the action of the first verb.

11.48.21. 'Simultaneous' construction = + vb + [-w]

Examples: /wnə da(r.Λw) [] mən [] kəkəvat [] kə.nΛ.də.mən/
 (rə.tw)

'I sat down and am sitting while you eat food'

/ñən da rə.ñən [] rə [] kəkəvat [] kə.nΛ/ 'are you (f.) sitting while she eats food?'

11.48.21.1. The occurrence of /da/ 'sit down' without affixes is comparable to the use of vb alone in unambiguous contexts in other Ndu-family languages. Alternatively, /da/ + /rə/ may be regarded as a two-stem base.

11.48.21.2. This form occasionally replaces the normal present tense form in sentence-final position:

/mən [] rap.ən [] tə.mən [] wn v.Λw/ 'you got up and are standing, I see you'

11.48.22. 'Resultative' construction = + vb + [-twΛ] + {-rək}

Examples: /wn ɔ yawy ɔ kwt.twɔ.rək ɔ cəp ɔ cwkwy.nɔ.də.wn/
 'I have been working in the garden and am
 tired' (lit. 'I garden having worked skin I
 tire')

/dɔy ɔ kwr.dɔnɔ.rək ɔ cəp ɔ cwkwy.nɔ.dy/ 'they
 have been working and are tired'

11.48.23. 'Conditional' construction = + vb + [-twɔ]

Examples: /ən ɔ mən.ɔm ɔ vyɔ.tək ɔ ar mən ɔ
 gərə.kə.nɔ.də.mən/ 'if we two hit you then
 you will cry'

11.48.23.1. The future morpheme {-kə-} occasionally appears
 in this construction (compare 6.74.1.) where the reference
 is to a non-immediate action:

• /wn ɔ mən.ɔm ɔ vyɔ.kə.twɔ ɔ mən ɔ
 gərə.kə.nɔ.də.mən/ 'if I should hit you
 (later) you would cry'

11.48.24. The negatives of the above sentence-medial forms
 are expressed by the morpheme {mə} preceding the verb, ex-
 cept for the conditional form, which requires the following
 construction:

Negative conditional = + vb + {-marək} + [-twɔ]

Example: /rə ɔ kə maresin ɔ kə.marək.rɔ ɔ ar rə ɔ
 kyə.kə.nɔ/ 'if she does not take (=eat) this
 medicine, then she will die'

11.49. Text from Situational Testing: 'A man hit me'

A 1 wn ɔ dw nɔk ɔ wn.ɔm ɔ (vyɔ)dɔ.rək ɔ arək ɔ mən.ɔk ɔ
 I man one I.O₁ (hit)he.S so? you.A
 (yarəky)kər ɔ (yɔ)nɔ.də.wn #
 (inform?)to (come)Pr.G.I

B 2 mən.ɔm ɔ cəkə.dɔ.dɔ.d ɔ (vyɔ)nɔ.d //

you.O₁ who (hit)Pr.he

A 3 kə.də dw ɔ wn.ɔm ɔ (vyɔ)dɔ.də.wn #
 this.G man I.O₁ (hit)he.G.I

- B 4 mən.əm □ akəcəkə.r ñə □ (vyΛ)dΛ.də.mən //
 you.O₁ which.G day (hit)he.G.you
- A 5 də □ nər ɡərəbw □ (vyΛ)dΛ.də.wn #
 he yesterday afternoon (hit)he.G.I
- B 6 mən.əm □ əgwΛjav.ər □ (vyΛ)dΛ.də.mən //
 you.O₁ what.Ag (hit)he.G.you
- 7 mən.əm □ (my)ər □ (vyΛ)dΛ.də.mən // 8 əy (kwl)ər □
 you.O₁ (tree)Ag (hit)he.G.you or (axe)Ag
 (vyΛ)dΛ.də.mən // 9 əy □ (arəp)ər □ (vyΛ)dΛ.də.mən //
 (hit)he.G.you or (knife)Ag (hit)he.G.you
- A 10 mə □ də □ (tab)ər □ (vyΛ)dΛ.də.wn #
 no he (hand)Ag (hit)he.G.I
- B 11 mən.əm □ əgw.əm □ (vyΛ)dΛ.də.mən // 12 (əb)əm □
 you.O₁ what.O₁ (hit)he.G.you (head)O₁
 (vyΛ)dΛ.də.mən // 13 əy □ (məp)əm □ (vyΛ)dΛ.də.mən //
 (hit)he.G.you or (chest)O₁ (hit)he.G.you
- 14 əy □ (tab)əm □ (vyΛ)dΛ.də.mən //
 or (hand)O₁ (hit)he.G.you
- A 15 də □ jəb vətəy □ (bwn)əm □ (vyΛ)dΛ.də.wn #
 he times two (back)O₁ (hit)he.G.I
- B 16 əgwΛjav.ək □ bər □ (waryΛ)nΛ.bər.bər //
 what.for you two (fight)Pr.G.you two
- A 17 tayr □ wn □ bal □ (kwy)twa.d □ arək də □ bekim □
 before I pig (give)I.he so? he return
 mə kway # 18 arək □ (waryΛ)bər.ən #
 not gift so? (fight)G.we two
- 19 (waryΛ)kw / ə wn.əm □ (vyΛ)dΛ.də.wn #
 (fight)? so? I.O₁ (hit)he.G.I

11.49.1. Free Translation

- A 1 A man hit me, so I have come to tell you.
 B 2 Who hit you?
 A 3 This man hit me.

- B 4** When did he hit you?
A 5 He hit me yesterday afternoon.
B 6 What did he hit you with? **7** Did he hit you with a stick, **8** or an axe, **9** or with a knife?
A 10 No, he hit me with [his] hand.
B 11 Where did he hit you? **12** Did he hit [your] head, **13** [your] chest, **14** or [your] hand?
A 15 He hit me twice on the back.
B 16 Why did you two fight?
A 17 I gave him a pig a long while ago, and he did not return the gift. **18** So we [started] fighting. **19** We were fighting and he hit me.

11.49.2. Notes

11.49.21. The morphemes {a} and {arək}, glossed throughout as 'so', frequently occur between clauses. The second form, {arək}, may possibly contain the sentence-medial morpheme {-rək} (see **11.48.22.**), and mean something like 'these things being so'.

11.49.22. Allomorphs of {-də}₂ throughout have been marked for convenience as 'G'.

11.49.23. The form /cəkədɔdɔd/ in 2 is inexplicable, though it parallels predicative possessive forms; cf. /wn.ɔ.dɔ.dɔ.d/ 'mine'. Compare Boikin (**9.48.**, sentence 2), where /kɔnɔnɔ/ similarly shows a possessive form.

11.49.24. The word /bekim/ in 18 is Pidgin for 'return'. In the same sentence, /kwɔy/ must be noun rather than verb, as the verb form is regularly /kwy/; compare /vyɔ/ 'to spear' and /vay/ 'spear'.

12. OUTLINE GRAMMAR OF THE NGALA LANGUAGE

12.1. Introduction

12.11. Ngala is spoken by the 134 inhabitants of a single village, Swagup (142°30'E 4°19'S), about one and a half days' launch travel upstream from Ambunti. The village lies off the Sepik River, several hours travel up a narrow tributary stream. The nearest speaker of an Ndu-family language are the Iatmul-speaking inhabitants of Brugnawi, with whom however the people of Swagup have till recently had a long-standing feud. Closer are the villages of Mayo and Yesan, downstream, where the unrelated language Mayo is spoken, and the village of Washkuk, upstream. It is with the Wogamusin-speaking inhabitants of Washkuk that the Swagup natives have most of their trading contacts. These facts must be taken into account when considering the aberrant nature of Ngala as a member of the Ndu family, and the possible influence of Wogamusin on the language. (It should be mentioned that a large number of adult males in Swagup speak Wogamusin, and some of the eliciting was done in that language as well as in Pidgin.)

12.12. The name Ngala (/gɑrɑ/) is the native name of the village; the administrative name Swagup is taken from the name used by various linguistic communities further downstream: [sɔgɑp], [sɔkɑpɑ], [sɔkɑvət]. The village is shown on Behrmann's maps (for example, Behrmann 1922) as Kara, and on Bühler's as Suagab (Bühler 1960).

12.13. The material presented in this sketch was obtained in Swagup itself, principally from the following informants:

Komwey (/kwɑmwɑy/)

Merelbey (/mɛrɛrbɛy/)

Both were young men in their early twenties who had learnt Pidgin on plantations in Rabaul.

12.2. Phonology of Ngala

12.21. Ngala phonology is fairly complex, and the account here is tentative; further investigation may prove it necessary to admit some allophones as phonemes, because of influence from Wogamusin.

12.22. The phonemes of Ngala are /p t c k b j g m n ñ f r l w y a ə ʌ/. The absence of /d/ and /ŋ/ should be noted.

12.23. The following notes on the distribution of some allophones are relevant:

/c/ has allophone [č] phrase-finally, allophones [ś] and [č] in free variation phrase-initially, and allophones [š] and [č] in free variation phrase-medially between vowels; voiceless consonant phonemes /p t c k f/ take on some voicing phrase-initially.

12.24. The following phonetic renderings of complex nuclei following a consonant should be noted:

/wa/ - [wa]	/wʌ/ - [wɔ], [ɔ]
/ya/ - [yæ]	/yʌ/ - [yɛ]
/aw/ - [aw], [ow]	/ʌw/ - [ɔw]
/ay/ - [æy]	/ʌy/ - [ɛy], [ɛ]

12.25. Palatalisation of vowels similar to that caused by /y/ is also caused by the palatal series of consonants /c j ñ l/, and labialisation similar to that caused by /w/ is caused by /f/.

12.26. Sound-Correspondences with Wosera

12.26.1. W /t/ corresponds to Ng /t/ in word-initial and word-medial position, and to Ng /r/ in word-final position;

W /d/ corresponds to Ng /r/ in all positions;

W /ə/ in word-final position corresponds to Ng word-final /ʌ/;

W sequence /wy/, and in two cases W /kwy/, corresponds to Ng /f/ or /fy/;

W sequence /pm/ corresponds to Ng /pw/;

W sequence /pw/ corresponds to Ng /f/ or /fw/.

12.26.2. It should also be noted that a Wosera sequence of the pattern VCS frequently corresponds to Ngala (V)SC; where S is /y/, the consonant may be palatalised:

W /gəny/ - Ng /gyñ/ 'tail'; W /vətyk/ - Ng /fyt/ 'two'.

Note also W /təpmʌ/ Ng /twp/ 'month'.

12.26.3. Other Ngala phonemes correspond one-to-one with the Wosera phonemes represented by the same symbols, except as noted in Part IV.

12.3. Outline of Ngala Grammar

12.31. Pronouns. A list of major pronominal forms follows. The citation of any of the allomorphs of {wn} 'I' refers to the class represented by the column in which the allomorph occurs.

12.31.1. Major Pronominal Forms

English	Free	[aw-] series	[w-] series	[-wn] series
'I' - m.	wn	aw	w	wn
'I' - f.	ñən	an	nə ~ n	ñən
'you' - m.	mən	əm	mə ~ m	mən
'you' - f.	yn	an	yn	yn
'he'	kər	ar	rə ~ r	r
'she'	yn	a	yn	yn
'we two'	ʌyn	ʌyn	ʌyn	ʌyn
'you two'	bən	abə ~ ab	bən	bən
'they two'	(kə)bər	abə ~ ab	bər	bən
'we'	nan	anə ~ an	na	nən
'you'	gwn	agə ~ ag	gwn	gwn
'they'	rər	arə ~ ar	rə	rər

12.31.11. The presence of a first person singular feminine form should be noted, as well as the fact that feminine second and third person singular are identical in most allomorphs. The form in the [-w] column for the first person feminine singular is not a misprint, although */ñə/ might be expected. Similarly, allomorph {bən} of /kəbər/ 'they two' is not a misprint, although */bər/ might be expected here.

12.31.12. The short forms of the [aw-] and [w-] series occur before bases beginning with a vowel or semivowel.

12.31.13. Object forms of pronouns are the same as those in the [-wn] column, except that /kər/ may replace /r/ 'he'. These object forms occur immediately following the verb complex; for 'emphatic' object forms, see 12.35.

12.32. 'Predicate Marker'. Pronouns of the [-wn] series occur in affirmative equation statements. Non-equation is expressed by the morphemes /kəkə kəg/, /kʌbʌ kəg/, /kənkə kəg/, agreeing with subjects for singular, dual and plural number. A morpheme {wʌ} occurs with predicated adjectives: /gw ʌ pəʌ wʌ/ 'the water is bad'.

12.33. Verbs. A large number of verb forms appear in Ngala, many with little or no apparent differentiation. Similar forms with the same time reference are not separated in this brief sketch; the distinction between the alternative forms given, if any, is not one of tense, nor do the different forms separate questions from statements, or affirmative sentences from negative ones.

12.33.1. The notation [object] refers to object forms of the pronouns occurring with verbs, as noted in 12.31.13. The stroke in [w/aw-] and {wΛy/yΛw} means that both forms occur; the more frequent in each case is given first.

12.33.2. Many stems are reduplicated when occurring with pn prefixes. The reduplication is only partly predictable; a list of common stems and reduplicated forms follows:

ka	- kaka	'eat'
twkə	- tətwkə	'drink'
tə	- tət	'stand'
tayf	- tətayf	'see'
kwr	- kwrkwr	'get'
kwaʷ	- kwakwaʷ	'give'
fwk	- fəfwk	'hear'
gərə	- gegərə	'cry'
tw	- tətʷ	'cook'
fwlən	- fəfwlən	'blow fire'
wayn	- wawayn	'build (house)'
kəc	- kəkəc	'make (arrow or spear)'
fəla	- fəfal	'go down'
fya	- fəfya	'cough'
fwrac	- fwrƿrac	'forget'
tya	- tyatya	'stroll'
taka	- tətaka	'sharpen (knife)'
fya	- fyafya	'hit'

(Four classes of reduplicative morpheme occur in these examples: {C₁ə-} {C₁S₁V₁-} {C₁S₁C₂-}, and the type represented by /fəla/ - /fəfal/).

12.33.21. In the rest of this grammar, reduplicated stems are regarded as bases. Not all stems are reduplicated, and in some cases the reduplication appears optional.

12.33.22. Reduplicated stems also occur frequently with the imperative marker {mΛ}.

12.33.3. Present *v* = + [aw-] + vb ± [object] ± {wΛy/yΛw}

All possible combinations occur.

Examples: /wn 0 aw.kakA/ 'I eat'
 /wn 0 aw.kakA.yAW/ 'I eat'
 /wn 0 aw.tAyf/ 'I see'
 /wn 0 aw.fyA.mən.yAW/ 'I hit you'
 /wn 0 aw.tAyf.bər.wAy/ 'I see them two'

12.33.4. *Future v* = + vb + [-wn] ± object ± {-wAy/yAW}

All possible combinations occur.

Examples: /garə.mən.wAy/ 'you will cry'
 /wn 0 fyA.wn.mən.wAy/ 'I shall hit you'
 /mən 0 ya.mən.yAW/ 'are you coming?'

12.33.5. *Past v* = [w-/aw-] + vb ± [object] + {-bAyn}
 ± {-wAy/yAW}

All possible combinations occur, although forms with {-wAy/yAW} are less frequent.

Examples: /wn 0 w.kA.bAyn/ 'I ate'
 /kər 0 rə.fyA.wn.bAyn/ 'he hit me'
 /mən 0 əm.y.bAyn/ 'did you go?'

12.33.6. *Intensive v* = + vb + -n + [aw-] + {-wA}

Bound pn objects do not occur with this form; the full object form ('emphatic') is used.

Examples: /mən 0 fyA.n əm.wA 0 wn.gAM/ 'do you want to hit me?'
 /gwn 0 kA.n əg.wA/ 'are you going to eat?'

12.33.7. *Imperative v* = + {mA} + vb ± [object]

Examples: /bən 0 mA.kA/ 'you two eat!'
 /yn 0 mA.fyA.yn/ 'you (f.) hit her!'
 /mA.fəfwlən/ 'blow (the fire)!'

12.34. Considerable variation is found in negative forms. A single negative morpheme negates past and present forms, and a different morpheme negates future and intensive forms. The presence or absence of the negative {kafw} (which is also the morpheme for 'no', corresponding to Maprik /kapwk/) in past/present negatives is optional.

12.34.1. Past/Present negative =

+ vb ± {kəfw} + {wtΛ} + [-wn] ± [object] +
{-wΛy}

All possible combinations occur.

Examples: /wn □ kAkΛ □ wtΛ.wn.wΛy/ 'I am not eating'
/kəR □ fyΛ □ wtΛ.rəR.yn.wΛy/ 'he did not hit her'

12.34.2. Future/Intentive negative =

+ {mAk} + vb + [-wn] ± [object] ± {-wΛy}

All possible combinations occur.

Examples: /wn □ mAk □ fyΛ.wn.yn.wΛy/ 'I shall not hit her'
/Λyn □ mAk □ kΛ.yΛn.wΛy/ 'we two shall not eat'

12.34.3. Imperative negative =

+ {mΛ} + vb ± [object] + {-wΛy}

Examples: /mΛ fyΛ.rAR.wΛy/ 'do not hit them!'
/mΛ kΛ.wΛy/ 'do not eat!'

12.34.4. Note that neither prefixed pn forms nor the morpheme {-yΛw} occur with negative forms of verbs.

12.35. Noun and Pronoun Morphology. The most important suffixes occurring with nouns and/or pronouns may be briefly listed as follows:

- {-gΛm} = {-gAp} 'first object suffix' ('emphatic').
{-gΛm} occurs with pns, {-gAp} occurs occasionally with nouns.
- {-n} ~ {-ən} 'second object and agentive suffix'.
Occurs with nouns and pns.
- {-tAb} 'reflexive suffix'. Occurs with pns.
('I hit myself', etc.)
- {-bΛ} 'possessive suffix'. Occurs with nouns and pns.
- {-kən} ~ {-əkən} 'allative and locative suffix'
('place where' and 'place whither').
Occurs with nouns and pns.
- {-bΛ} 'ablative suffix' ('place whence').
Occurs with nouns and pns.
- {-wΛ} 'comitative suffix'. Occurs with nouns and pns.

- {-wəkən} 'close to'. Occurs with nouns and pns.
 {-nəkək} 'along with'. Occurs with nouns and pns.

12.36. Sentence-Medial Forms. No sentence-medial forms were observed in any context; sentence-final verb forms occur in all environments.

12.37. Text from Situational Testing: 'A man hit me'

- A 1** wn □ ratΛ □ (fyΛfyΛ)wn.bΛyn □ mən.ən □ aw(wlak)mən #
I one (hit) I.P you.O₂ I (tell)you
- B 2** kwΛyΛ □ rə(fyΛ)mən.bΛyn #
who he(hit)you.P
- A 3** ratΛ □ (fyΛ)wn.bΛyn #
one (hit)I.P
- B 4** acənΛgΛ □ rə(fyΛ)mən.bΛyn #
when he(hit)you.P
- A 5** nalΛ gangənw □ rə(fyΛ)wn.bΛyn #
yesterday morning he(hit)I.P
- B 6** (myΛ)n □ rə(fyΛ)mən.bΛyn # **7** (my)ən kΛyt □
(what)Ag he(hit)you.P (tree)Ag or
 kafw kΛyt □ (kwla)n kΛyt □ kafw (kΛpələ)n //
not or (axe)Ag or not (bush-knife)Ag
- A 8** (wΛcΛ)n □ rə(fyΛ)wn.bΛyn #
(hand)Ag he(hit)I.P
- B 9** (jə)kən □ rə(fyΛ)mən.bΛyn # **10** (mΛkΛpwa)kən □
(where)L he(hit)you.P (head)L
 rə(fyΛ)mən.bΛyn # **11** (wyaf)kən □ rə(fyΛ)mən.bΛyn /
he(hit)you.P (chest)L he(hit)you.P
 kafw (wΛcΛ)kən #
not (hand)L
- A 12** (ypwa)kən □ rə(fyΛ)wn.bΛyn □ kəpə fyt #
(back)L he(hit)I.P times two

- B 13 (myΛ)bəcΛk [] bən (wΛfyΛ)bΛyn #
(what)for? you two (fight)P
- A 14 wn bwala [] (kwΛkwΛw) wΛ.wn.r [] wΛcΛkə []
I pig (give) not.I.he later?
- (kwΛkwΛw) wΛ.wn # 15 Λyn [] Λyn (wΛkwany)bΛyn []
(give) not.I we two we two(quarrel)P
- na atΛyn [] Λyn (wΛfyΛ)bΛyn #
and then? we two(fight)P

12.37.1. Free Translation

- A 1 A man hit me, [so] I am telling you.
- B 2 Who hit you?
- A 3 A man hit me.
- B 4 When did he hit you?
- A 5 He hit me yesterday morning.
- B 6 What did he hit you with? 7 With a stick, or not;
 with an axe, or not; with a bushknife?
- A 8 He hit me with [his] hand.
- B 9 Where did he hit you? 10 Did he hit you on the head?
 11 Did he hit you on the chest, or neither, [but] on
 the hand?
- A 12 He hit me twice on the back.
- B 13 Why did you two fight?
- A 14 I did not give him a pig, ? I did not give [it].
 15 We quarrelled and then we fought.

12.37.2. Notes

12.37.21. Note the virtual absence of any kind of intonation contour; only in sentence 7 does a rising intonation pattern occur.

12.37.22. /rΛtΛ/ in sentences 1 and 3 is a borrowing from Wogamusin, in which language it is a classificatory numeral meaning 'one' (animate object).

12.37.23. /na/ in sentence 15 is a borrowing from Pidgin meaning 'and', 'then', 'so'.

13. OUTLINE OF THE YELOGU LANGUAGE

13.1. Introduction

13.11. Yelogu is spoken by the inhabitants of a single village of the same name (about 142°49'E 4°18'S, but the position on many maps is inaccurate) in the Washkuk Mountains north of Ambunti. All 63 inhabitants appear to be bilingual, speaking the unrelated Kwoma language as well as Yelogu. The village of Yelogu forms part of the Kwoma cultural community. Considerable influence from the Manambu-speaking village of Avatip, to the south, is also apparent. Yelogu (/yʌʌkw/) is the native name for the village, and is here applied to the language.

13.12. In some ways Yelogu gives the impression of being a dialect of Abelam, and has many of the features of Wosera. Inhabitants declare that their ancestors came from the direction of the southeastern Abelam villages on the other side of the Screw River; how long ago this occurred could not be determined.

13.13. The material presented in these notes was obtained in Yelogu in the course of a single evening and the following morning, principally from a young and not very intelligent informant named Avareka (/avareka/). Owing to the brief time span and the necessity for tape-recording elicited material, materials in this language are sketchy, and consist mainly of purely lexical data.

13.2. Phonology of Yelogu

13.21. The established phonemes of Yelogu are /p t c k b d j g m n ñ r l v w y a ə ʌ/. These are identical with those of Wosera, except for the absence of /ŋ/. A phone [ŋ] does not occur in recorded material, but may nevertheless represent a phoneme in the language; cognates of Wosera words containing /ŋ/ do not occur in the corpus.

13.22. The principal differences in distribution of allophones to those of Wosera are as follows:

/k/ has allophone [h] or [x] in phrase-initial position;

prenasalised stops /b d j g/ have allophones [b d ʃ g] (without prenasalisation) in phrase-initial position;

voiceless stops /p t k/ may freely be unreleased in phrase-final position.

13.23. It will be noticed that the above allophonic distributions are similar to those of Boikin (see 9.31.).

13.24. Sound Correspondences with Wosera

/v/ corresponds to Wosera /v/ and intervocalic /p/ or /pw/;

/ry/ frequently corresponds to Wosera /lə/ in word-final position;

/y/ frequently corresponds to Wosera word-final /ə/, with or without palatalisation of preceding /d n/ to /j ñ/.

13.24.1. Other phonemes correspond one-to-one with the Wosera phonemes represented by the same symbols, except as noted in Part IV.

13.3. Notes on Yelogu Grammar

13.31. Pronouns. A table of major pronominal forms, including pronouns with possessive and object suffixes, follows. The citation [-wn] refers to the class of bound pn allomorphs occurring in the same column as this allomorph.

13.31.1. Major Pronominal Forms

<i>English</i>	<i>Free</i>	<i>Bound</i>	<i>Poss.</i>	<i>Object</i>	<i>Emphatic</i>
'I'	wny	wn	wn.ʌ	wn.ʌr	wny.dy
'you' - m.	məny	mən	mən.ʌ	mən.ʌr	məny.dy
'you' - f.	ñəñy	ñən	ñən.ʌ	ñən.ʌr	ñəñy.dy
'he'	də	d	də.kənʌ	d.ʌr	də.dy
'she'	lə	l	lə.kənʌ	l.ʌr	lə.ly
'we two'	any	an	an.ʌ	an.ʌr	any.dy
'you two'	bəny	bən	bən.ʌ	bən.ʌr	bəny.dy
'they two'	bərə	bər	bər.ʌ	bər.ʌr	bərə.bəry
'we'	ñany	ñan	ñan.ʌ	ñan.ʌr	ñany.dy
'you'	gwny	gwn	gwn.ʌ	gwn.ʌr	gwn.ʌdy
'they'	jy	j	jy.kʌ	j.ʌrʌr	jy.jy

13.31.11. Note that the bound series of pronouns is identical with that of free pronouns with loss of final vowel or semivowel, except that in the case of /ñəñy/ /ñ/ is replaced by /n/, as also in the possessive and object forms.

13.31.12. The series listed as 'emphatic' roughly translates 'I myself', etc., in emphatic and reflexive positions. The forms are unusual. Compare Manambu.

13.32. 'Predicate Marker'. Equation statements and predication of adjectives require in Yelogu the pn series [-wn] ± {wλ}. In questions {wλ} does not occur. Negation is expressed by {wλkyc}.

Examples: /vy mwy.d/ 'the spear is good'
 /a.lə my [] jəbλ my.l/ 'that tree is an ironwood tree'
 /a.bər my [] jəbλ my.bər/ 'those two trees are ironwood trees'
 /a.jy my [] jəbλ wλkyc/ 'those trees are not ironwood trees'

13.33. Verbs

13.33.1. Present $v = + vb \pm [-wn]$

Examples: /wny [] kλ/ 'I am eating'
 /gəra.mən/ 'you are crying'

13.33.2. Future $v = + vb + \{-kə\} \pm [-wn]$

Examples: /cəry [] kλ.kə.wn/ 'I shall eat tomorrow'
 /mə və.kə/ 'are you going to see?'

(The /mə/ in the second example is a not very common abbreviation of /mən/, 'you'.)

13.33.3. Past $v = + vb + \{-k\}$

Example: /wny [] kλ.k/ 'I ate'

13.33.4. Imperative $v = + \{mλ\} + vb$

Example: /mλ kλ/ 'you eat'

13.33.5. Intentionive $v \left. \begin{array}{l} \right\} = + vb + \{-k\} + \{y\} \pm [-wn] \\ \left. \right\} = + vb + [-wn] + \{y\} \end{array} \right\}$

Examples: /wny [] kλ.k y/ }
 /wny [] kλ.k y.wn/ } 'I am going to eat'
 /wny [] kλ.wn y/ }

(/y/ in these constructions is a vb meaning 'go'.)

13.33.6. Negative forms of the above verbs were not recorded.

13.34. Noun and Pronoun Morphology. The following suffixes occurring with nouns and pronouns were recorded:

- {-ar} 'object and allative suffix'. Occurs with nouns and pns; see 13.31.1.
- {-na} 'possessive suffix'. Occurs with nouns and pns; for allomorphs when occurring with the latter, see 13.31.1.
- {-wɔy} 'comitative suffix'. Occurs with nouns and pns.
- {-bə} 'ablative suffix' ('place whence'). Occurs with nouns.
- {-k} Recorded only in /mə.dək/ 'for what', 'why'.

Examples: /mən.ar ɔ vya.kə.wn/ 'I shall hit you'
 /caby.na ɔ gay.ar ɔ wny y.wn/ 'I am going to the village of Chambri'
 /wny ɔ yaɬakw.na ɔ gay.bə ɔ wny tək/ 'I remained in the village of Yelogu'
 /bəny ɔ any.bə ɔ takwɔ.wɔy ɔ məny y.k/ 'did you go with this woman here?'
 /any dw ɔ ac ɔ mədək ɔ vya.k/ 'why did that man hit the dog?'

13.35. Sentence-Medial Forms. The sentence-medial marker for 'same subjects' is usually {-tə} suffixed to the vb, although /ya.y/ 'having worked' (vb /ya/) was also recorded. A form for 'different subjects', with suffixes + [-wn] + {-kɔ} = {-gɔ} = {-∅}, occurs in present tenses when the action of both verbs is simultaneous. For the distribution of allomorphs of {-kɔ}, see Appendix B, page 205: with this suffix the bound allomorph of /any/ 'we two' and /ñany/ 'we' is /-ba/ (compare the Manambu forms).

Examples: /y.ɔy ɔ cəkwa.wn y/ 'I have finished work and I am going to sleep'
 /ɔny ɔ marəsin ɔ kwr.tə ɔ mwy təkə.mən/ 'if you take this medicine you will be (=stand) well'
 /wny ɔ bwl.wn.gɔ ɔ də vəkə/ 'I am talking and he is listening to me'
 /məny ɔ bwl.mən.gɔ ɔ wny vəkə/ 'you are talking and I am listening to you'

/də [] bwl.də.kʌ [] wny vəkə/ 'he is talking and
I am listening to him'

13.36. Texts. A text was recorded in Yelogu, but no satisfactory Pidgin translation was obtained; in addition, the tape-recording is barely audible, and the text is so punctuated with interruptions by other speakers and hesitations on the part of the original speaker that it is unusable.

14. NOTES ON THE SAWOS LANGUAGE

14.1. Introduction

14.11. In the present classification of Ndu-family languages, Sawos is regarded as being the language spoken by the plains people immediately north of the Iatmul, and immediately south of speakers of Abelam and Boikin; the total number of speakers is counted at 1,804.

14.12. The origin of the name Sawos is uncertain. The language area is named Tshwosh on some patrol maps in New Guinea; this spelling is however rejected as being clumsy and unnecessary. Iatmul speakers were heard to use the term /cawac/ to refer to all the plains and mountain people to the north of them, including the Abelam, while Abelam speakers (principally in the Wosera area) used the word to refer to all natives to the south of them as far as the river, a designation which includes the Iatmul.

14.13. Because of difficulties of time and transport, it was not possible to elicit material in Sawos. Only two speakers of the language were encountered, and these only briefly; they claimed however that their language was different to both Abelam and Iatmul. They were however bilingual in Iatmul, and the forms used in conversation (unfortunately not recorded) suggested those of Iatmul rather than those of Abelam. The speakers were both from the village of Tolembei, and both Iatmul and Abelam speakers claimed that this village speaks a language that is neither Abelam nor Iatmul. Accordingly, Sawos is counted for the present as a separate member of the Ndu family, although its boundaries are difficult to determine, and although it is possible that further investigation may show that there is no need to count it as a separate language. The villages counted as speaking Sawos would then be divided up into dialects of Abelam, Boikin and Iatmul, with Iatmul probably receiving the largest, and Boikin the smallest share.

PART IV:
LEXICAL COMPARISON OF LANGUAGES OF
THE NDU FAMILY

15. PRESENTATION OF LEXICAL MATERIAL

15.1. Introduction

15.11. In Part III, the outline grammars of members of the Ndu family, show, when compared with the Abelam grammar in Part II, the close structural relationships of the languages involved. In this part lexical material is provided, to demonstrate further the interrelationship of these languages and to provide the justification for regarding them as belonging to a 'family', rather than to a stock or phylum.

15.2. Word List

15.21. The word list used for the comparison is the latest version of S.A. Wurm's 'Non-Cultural Vocabulary for Highlands District Languages, New Guinea' (unpublished). This is an adaptation of the Swadesh list as used for American Indian languages (Swadesh 1955a; 1955b, and elsewhere), and of the modification of the Swadesh list as used by research workers of the Tri-Institutional Pacific Program (TRIPP). The following reasons are given for the compilation of a list suitable for use in the New Guinea Highlands (Wurm 1959):

(a) the concepts denoted by some of the words in the TRIPP list were not known in the New Guinea Highlands (such as "sea", "ice", "freeze"),

(b) some concepts referred to by items in the list were, in Highlands languages, denoted by - often very complex - bound morphemes rather than free morphemes (e.g. "because", "if",

(c) some of the items in the TRIPP list did only rarely, if ever, have comparable equivalents in Highland languages (e.g. "hundred", "person"),

(d) several of the equivalents of the items in the TRIPP list could, as experience showed, only be obtained with great difficulty because of shortcomings of the *lingue franche* used for interrogation purposes, especially Pidgin (e.g. "wipe", "squeeze", "worm", "smooth"), and, in consequence, there was a very grave danger that the equivalents eventually recorded were incorrect.

Modifications of the original TRIPP list were made on the lines of introducing into the basic vocabulary terms, usually taken from the TRIPP General Vocabulary List, which denoted concepts of universal validity in Highland languages (e.g. "we

two", "you two", "they two", "go up", "go down"). At the same time, the number of items indicating parts of the body was increased (e. g. "thigh", "female breast", etc. were added).'

15.22. In using the Wurm list for Sepik languages, however, it was found that certain items were unsuitable, largely because of the close semantic connection between them; thus, 'five' and 'hand' give the same sememe in Ndu-family languages, while 'drink water' and 'suck (breast)' give equivalents which may be translated as 'eat water' and 'eat breast', thus repeating items which occur elsewhere in the list. Such items have therefore been omitted from the list, and the reasons for the omission in each individual case are given in the appropriate place below. The numbers from 'six' to 'nine' have also been omitted because of their general unreliability in Sepik languages.

15.23. No items have been added to the Wurm list, although many more items were taken into account for the establishing of sound-correspondences. A few additional items are given for comparison at the end of the list, although they have not been included in the calculation.

15.24. It will thus be seen that the list as used is shorter than the 235-word list devised by Wurm; the average number of items is around 190. The exact number of items compared, and the absolute number of cognates, are given in section 17 (Table IX).

15.3. Sound Correspondences

15.31. In each of the outline grammars in Part III will be found notes on the sound-correspondences of each of the members of the Ndu family with Wosera. These should be consulted for detail; Table VIII summarises only those correspondences in which the same phoneme does not occur throughout all members of the family, apart from irregular correspondences and the notes in **15.32.**

TABLE VIII

Mk	p	t	c	d	g	n	ŋ	v	ə	ʌ
W	p, v	t, r	c	d	g	n	ŋ	v	ə	ʌ
N	p, v	t, r	c, k	d	g	n	g	v	ə	ə, ʌ
M	p	t, r	c	d	g, j	n	g	v	ə, a	ə
Ng	p	t, r	c	r	g	n	-	f	ə, ʌ	ʌ
K	p, v	t, r	c	d	g	n	ŋ	v	ə	ʌ
Yg	p	t, r	c	d	g	n	ŋ	v	ə	ʌ
Y	p	t, r	c	d	g	n, ñ	-	v	ə	ʌ

15.32. The following additional correspondences should be noted:

15.32.1. Loss of initial semivowel. A few instances occur where some members of the family have /w/ or /y/ before /a/ in word-initial position, whereas the other members have only /a/. The semivowel is always retained in Kwusaun, but not always in Yengoru; the semivowel is usually, but not always, lost in Manambu. Otherwise the distribution of this feature is erratic, but items showing this feature with otherwise perfect correspondence are counted as cognate. For examples, see items 5, 51, 89 and 91.

15.32.2. Loss of non-syllabic /w/ after consonants. After /p b m k g/, /w/ is lost in some languages and not in others. Again the distribution is erratic; the /w/ is lost usually in Manambu, and in Nyaura in word-final position, and is usually retained in the Boikin dialects and in Yelogu. Maprik and Wosera often show differences in this respect, the former more frequently retaining the labialisation. There are very few minimal pairs in any of the Ndu-family languages which show a distinction between /CwV/ and /CV/, so no confusion is caused; see also 6.52.31.1. For examples, see items 24, 77, 91, 93, 95, 98, 105, 142, 173, 230, and 'pig' in the additional items.

15.32.3. Palatalisation. Preceding or following /y/, some languages have one of the palatal series /c j ñ l/ where others have /t d n r/; the distribution of this palatalisation is erratic. For examples, see items 19, 47, 59, and 75.

15.32.4. Final /ʌ/ after semivowel. Words which in some members of the Ndu family end in /y/ or /w/ usually end in /yʌ/ or /wʌ/ in Yengoru; this 'additional' /ʌ/ occurs after

/w/ in Kwusaun, but not after /y/. For examples, see items 1, 19, 26, 78, 84, and 91.

15.32.5. Correspondence of /ə/ to /a/. Many words in Manambu of the pattern CVC or CwVC have vowel /a/ where other languages have /ə/, especially when the second C is /r/. Item 185 shows the same correspondence in Nyaura. For examples of this feature in Manambu, see items 72, 88, 150 and 22.

15.33. Other, less well-authenticated correspondences are dealt with in the notes to the individual items.

15.4. Presentation

15.41. Under each item, with the numbering and order of the Wurm list, are given the renderings for all the members of the Ndu family, using the abbreviations listed in 3.21. Following each item is a cognate letter (a), (b), (c) etc.; same letters refer to cognates, different letters to non-cognates.

15.42. Unless otherwise noted, a maximum of one reflex which cannot be satisfactorily explained has been permitted in all morphemes consisting of more than three phonemes. Other doubtful items are marked with a query following the cognate letter, thus: (a?). The absence of an equivalent for any language is marked by a dash, thus: N - . All doubtful items are commented on in the notes following each section.

15.43. For the interpretation of the phoneme symbols, see the grammars of the languages concerned.

15.44. The indications S (supplementary), R (regional), and U (unreliable) have been retained as in the Wurm list, but no distinction has been made between items so marked and the remainder of the items in the list.

15.45. For many languages, more than one equivalent of each item was recorded. Where it was impossible to ascertain the form most commonly used, or which most closely translated the item, the decision between multiple forms was made arbitrarily, by tossing a coin. For lexicostatistical skewing caused by multiple cognates in New Guinea languages, see Wurm and Laycock 1961.

16. COMPARATIVE WORD LIST

1. 'man' Mk dw (a), W dw (a), N dw (a), M dw (a), Ng rw (a),
K dwΛ (a), Yg dwΛ (a), Y dw (a)
2. 'woman' Mk takwΛ (a), W takwΛ (a), N takwΛ (a),
M takw (a), Ng takwΛ (a), K takwΛ (a), Yg ta (a?),
Y takwΛ (a)

The Yg form is probably cognate with the other forms, although only the first two phonemes are represented. A Sima informant pronounced this word [hə], which may correspond to the last three phonemes /-kwΛ/.

3. 'child' Mk ñan (a), W ñan (a), N ñan (a), M ñan (a),
Ng ñan (a), K ñaŋ (a?), Yg ñan (a), Y ñan (a)

The K form has the wrong final phoneme, but is counted as cognate.

- S 4. 'old man' Mk kwaləpΛ dw (a), W aňəvΛ dw (b),
N awt dw (c), M apΛdə dw (d), Ng nwpwɕ (e),
K dwΛytΔ dwΛ (f), Yg fary dwΛ (g), Y akwΛdə dw (h)

The M form is possibly related to the Y form, though the correspondence /p/ - /kw/ does not occur elsewhere.

5. 'father' Mk yapΛ (a), W apΛ (a), N ñayk (b), M acay (c),
Ng kəlaw (d), K yapΛ (a), Yg yavΛ (a), Y yavΛ (a)

For explanation of the W form, see 15.32.1. The occurrence of /v/ and /f/ in the Yη and K forms may indicate a proto-form */yapwΛ/. Additional equivalents /cΛcΛ/ and /tat/ were recorded for N and Ng respectively.

6. 'mother' Mk nwΛ (a), W nwΛ (a), N ñəmay (b), M əmay (c),
Ng nwΛ (a), K nwΛ (a), Yg nwΛ (a), Y nwΛ (a)
7. 'sibling, same sex, older' Mk nəmə dw (a), W aňə (b),
N ñəmwn (c), M mam (d), Ng papə (e), K madə (f),
Yg acə (g), Y əmw (h)

The Mk form means 'big man', the K form means 'big'.

8. 'sibling, same sex, younger' Mk waykηΛ (a), W waykΛ (a),
N cabw (b), M ñəmwɕ (c), Ng kΛyΛ (d), K ñəmway
(c?), Yg waykΛ (a), Y ñəmwac (c)

The K form is probably cognate with the M and Y forms, in spite of the inexplicable final; the Y form too does not correspond perfectly with the M form. A few doubtful instances of /y/ - /c/ correspondences have been noted. With the Ng form compare item 9.

9. 'sibling, opposite sex, older' Mk $\tilde{n}\Delta\gamma$ (a), W $\tilde{n}\Delta\gamma$ (a), N $\tilde{n}\Delta\gamma$ (a), M $j\acute{e}kw\acute{a}r$ (b), Ng $n\acute{a}m\acute{d}\acute{e}$ (c), K $w\acute{a}k\acute{e}c\acute{e}$ (d), Yg $\tilde{n}\acute{e}g\Delta$ (a?), Y $\tilde{n}\acute{e}g\acute{a}y\Delta$ (a?)

The (a) forms are possibly from / $\tilde{n}\acute{a}n$ / 'child' + */ $k\Delta y$ /; compare Ng $k\Delta y\Delta$ (item 9). The Yg and Y forms are somewhat hesitantly counted as cognate with the (a) group.

10. 'sibling, opposite sex, younger'

Not used; no distinction is made in any of the languages between this item and item 9.

11. 'I' Mk $w\acute{n}\acute{e}$ (a), W $w\acute{n}\acute{e}$ (a), N $w\acute{n}$ (a), M $w\acute{n}$ (a), Ng $w\acute{n}$ (a), K $n\acute{w}\Delta$ (b), Yg $w\acute{n}\acute{e}$ (a), Y $w\acute{n}y$ (a)

The occurrence of Ng / $\tilde{n}\acute{e}n$ / 'I (f.)' should be noted.

12. 'you (masculine singular)' Mk $m\acute{e}n\acute{e}$ (a), W $m\acute{e}n\acute{e}$ (a), N $m\acute{e}n$ (a), M $m\acute{e}n$ (a), K $m\acute{e}n$ (a), K $m\acute{e}n\acute{e}$ (a), Yg $m\acute{e}n\acute{e}$ (a), Y $m\acute{e}ny$ (a)

For second person singular feminine forms, see supplementary items at the end of this list.

13. 'he' Mk $d\acute{e}$ (a), W $d\acute{e}$ (a), N $d\acute{e}$ (a), M $d\acute{e}$ (a), Ng $r\acute{e}$ (a), K $d\acute{e}$ (a), Yg $d\acute{e}$ (a), Y $d\acute{e}$ (a)

For 'she', see supplementary items at end.

14. 'we two' Mk $a\acute{n}\acute{e}$ (a), W $a\acute{n}\acute{e}$ (a), N $a\acute{n}$ (a), M $a\acute{n}$ (a), Ng $\Delta y\acute{n}$ (b), K $n\Delta n\acute{e}$ (c), Yg $n\Delta n\acute{e}$ (c), Y $a\acute{n}y$ (a)

The Ng form could conceivably belong to the (a) group, arising from */ $a\acute{n}y$ / or */ $\Delta n y$ /. The K and Yg forms should be compared with those under item 17.

15. 'you two' Mk $b\acute{e}n\acute{e}$ (a), W $b\acute{e}n\acute{e}$ (a), N $b\acute{e}t$ (a?), M $b\acute{e}r$ (a?), Ng $b\acute{e}n$ (a), K $b\acute{e}r\acute{e}$ (a?), Yg $b\acute{e}r\acute{e}$ (a?), Y $b\acute{e}ny$ (a)

The forms with /r/ - /t/ are counted as cognate because of the parallels with forms under item 18, although these are the only clear instances of /n/ - /r/ correspondences.

16. 'they two' Mk $b\acute{e}t$ (a), W $b\acute{e}t$ (a), N $b\acute{e}t$ (a), M $b\acute{e}r$ (a), Ng $b\acute{e}r$ (a), K $b\acute{e}r\acute{e}$ (a), Yg $b\acute{e}r\acute{e}$ (a), Y $b\acute{e}r\acute{e}$ (a)

17. 'we' Mk *nənə* (a), W *nɫnə* (a?), N *nən* (a?), M *ñan* (a?),
Ng *nan* (a), K *nənə* (a), Yg *nənə* (a), Y *ñany* (a?)
A form /*nənə*/ also occurs in W. The doubtful cognates are inexplicable.
18. 'you (plural)' Mk *gwnə* (a), W *gwnə* (a), N *gwt* (a),
M *gwr* (a), Ng *gwn* (a), K *gwrə* (a), Yg *gwrə* (a),
Y *gwny* (a)
Compare item 15.
19. 'they' Mk *dɫy* (a), W *dɫy* (a), N *dy* (a?), M *dɫy* (a),
Ng *rɫr* (a?), K *dy* (a?), Yg *dyɫ* (a?), Y *ɟy* (a?)
With the Ng form compare W bound morpheme /-*dɫrə*/, and with the Y form N bound morpheme /-*ɟɫ*/. The correspondence of patterns CS and CVS is recorded in a few other instances; compare items 87 and 133.
20. 'all' Mk *akwy* (a), W *akwy* (a), N *aywɫ* (b), M *kwpwɟw* (c),
Ng *rɫrwy* (d), K - , Y *ɟɫkəvɫɫ* (e), Y -
21. 'head' Mk *makɟɫ* (a), W *makɫ* (a), N *makɫ* (a), M *abw* (b),
Ng *makɫpɫ* (a), K *kwəkəkɟ* (c), Yg *kwəkək* (c),
Y *abw* (b)
The Ng form is probably a compound of (a) and (b) reflexes. A compound /*makɟ.kwəkəkɟ*/ also occurs in K; in this the first element is cognate with the (a) forms.
22. 'hair of head' Mk *nəbə* (a), W *nəbə* (a), N *nəbə* (a),
M *nab* (a), Ng *ñəgə* (b), K *nəbə* (a), Yg *nəbə* (a),
Y *nəbə* (a)
The Ng form also translates 'cassowary feathers'.
23. 'eye' Mk *myny* (a), W *myny* (a), N *myny* (a), M *myr* (a?),
Ng *myl* (a?), K *myny* (a), Yg *mynyɫ* (a), Y *myñy* (a)
For the M form, compare items 15 and 18; the Ng form could conceivably have arisen from this, with palatalisation of /r/ to /l/, in the same way as the palatalisation of /n/ to /ñ/ in the Y form.
24. 'nose' Mk *təmɫ* (a), W *təmɫ* (a), N *dəmɫ* (a?), M *təm* (a),
Ng *təmɫ* (a), K *təmɫ* (a), Yg *təmɫ* (a),
Y *təmɫ* (a)
The initial phoneme of the N form is inexplicable.
25. 'ear' Mk *wan* (a), W *wan* (a), N *wan* (a), M *wan* (a),
K *wan* (a), Yg *wan* (a), Y *wan* (a)
26. 'tooth' Mk *nəby* (a), W *nəby* (a), N *nəby* (a), M *wk* (b),

Ng nəby (a), K nəby (a), Yg nəbyλ (a), Y nəby (a?)

The initial phoneme of the Y form is inexplicable.

27. 'tongue' Mk təkɲələn (a), W təkələ (a), N təkət (a?),
M təkələr (a), Ng təkən (a?), K təkɲələ (a),
Yg təkələk (a?), Y təkəry (a)

The final phonemes of the queried forms are inexplicable.

28. 'chin' Mk tak (a), W taky (a), N gagapλ (b), M təkλ əp
(c), Ng tak (a), K takɲapλ yapλ (a), Yg tak (a),
Y kəkəkərə (d)

The morpheme for 'bone' (item 51) is recognisable in the M and K forms.

29. 'throat, neck' Mk kwələ (a), W kwələ (a), N gwələ (b),
M kwar (a), Ng təwan (c), K kwəbwy yabə (d),
Yg nək (e), Y ələmgy (f)

The fact that the N form represents a non-cognate with similar meaning is proved by the occurrence of Mk /gələ/ 'branch' (item 86), where W again has /kwələ/.

30. 'nape' Mk kəmwk (a), W kək (b), N mak (c), M kwkλ mak
(c), Ng cəpəb (d), K kwbwa yapλ (e), Yg kwbwa mak
(c), Y mak (c)

The morpheme is taken as being /mək/, and the K and Yg forms counted as non-cognate accordingly. In the former the morpheme for 'bone' (item 51) may be recognised, so that the phrase is probably a slight mis-translation.

- S 31. 'elbow' Mk kwaty mwk (a), W kwaty mwk (a), N kwary tabλ
(a), M kwaty (a), Ng wacλ təkwal (a?), K tabλ
kwary (a), Yg tabλ kwaryλ (a), Y katy tabλ (a)

The compared morpheme is /kwary/ and cognates; other morphemes in the phrases translate 'arm' or 'joint'. The final /l/ of the Ng form must arise from palatalisation of /r/.

32. 'arm' Mk tabλ (a), W tabλ (a), N tabλ (a), M tab (a),
Ng wacλ (b), K tabλ (a), Yg tabλ (a), Y tabλ (a)

- S 33. 'fingernail' Mk wlə (a), W wlə (a), N vələcw (b), M wryn
(a?), Ng wləf (a?), K yaɲdə (c), Yg nəbyλ (d),
Y tw (e)

The /ry/ of M probably corresponds to the /lə/ of the Mk form; this correspondence is frequent in Y. The Yg form also translates 'tooth' (item 26).

34. 'palm' Mk kwya taba (a), W kwya tabak (a), N yat taba (b), M yarə tab (b), Ng waca fya (a), K taba makwyaŋ (a?), Yg nwa taba (c), Y yatya taba (b)
The compared form is /kwya/ and cognates; this appears to mean 'fat' (see item 48). Compare also 'sole' (item 44).
35. 'chest' Mk mwñla (a), W matw (b), N mwarawa (c), M navy (d), Ng wyaŋf (e), K təmkla (f), Yg kwavy (g), Y pərw (h)
The Mk form also means 'breast' (item 36); informants made no distinction.
36. 'breast (of woman)' Mk mwñla (a), W mwñla (a), N məñla (a?), M mwñ (a), Ng mwñ (a), K mwyn (a?), Yg mya (b), Y mwñla (a)
A form /məñla/ also occurs in Mk. For loss of /w/ in the N form, see 15.32.2. The K form is irregular, but nevertheless probably cognate.
37. 'belly' Mk bya (a), W bya (a), N yat (b), M ñəməb (c), Ng kəpy (d), K yary (b), Yg yarə (b), Y yary (b)
Compare and contrast the (c) forms with items 34 and 44.
38. 'navel' Mk karəjən (a), W məməluk (b), N arəjə (a?), M ñənwər (c), Ng yay (d), K wpwp (e), Yg ary (f?), Y yarəj (a?)
The N and Y forms differ from the Mk form only in the initial phoneme, and are counted as cognate; the Yg form, while suggesting the possibility of an (a) cognate, is more remote, and is counted as non-cognate.
39. 'back' Mk bwgwn (a), W kwk (b), N bwny (e), M ban (c), Ng ypwa (d), K wmwŋ (e), Yg kwk (b), Y bwañlagər (f)
For the N-M cognate, compare items 88 and 72.
40. 'buttocks' Mk patə (a), W pəlw (b), N makwt (c), M jwvy (d), Ng nəbw (e), K gəny yapa (f), Yg dyagərə (g), Y dyabw (h)
The K form really means 'tailbone'. In the Yg and Y forms, the word for 'excrement' (/dyə/, /dy/) may be recognised.
41. 'leg' Mk man (a), W man (a), N man (a), M man (a), Ng rawa (b), K man (a), Yg man (a), Y man (a)
With the Ng form, compare item 42. The form /jəgərə/

'leg' also occurs in Yg; compare Mk /jəgət/ 'leg of bird'.

42. 'thigh' Mk dawλ (a), W dawλ (a), N dawλ (a), M daw (a),
Ng rawλb (a), K dawλ (a), Yg da (a), Y akwλ (b)

For the Yg form, compare item 2.

S 43. 'knee'

Not used; the same forms as for 'elbow' (item 31) recur, with /man/ etc. 'leg' in place of /tabλ/ 'hand'.

44. 'sole' Mk kwyλ man (a), W kwyλ man (a), N yap man (b),
M yarə man (b), Ng - , K wma man (c), Yg kwdə man
(d), Y yaty man (b)

Compare item 34, 'palm'; the N form here has /yap/ instead of /yat/ because of the following /m/.

- S 45. 'body hair' Mk ywy (a), W ywy (a), N ywy (a), M ywy (a),
Ng ywf (a), K ywy (a), Yg nəbə (b), Y ywy (a)

For slight semantic shifts, compare items 22 ('hair of head') and 92 ('feather').

46. 'skin' Mk cəpə (a), W cəpə (a), N cəbə (a?), M cəp (a),
Ng gwc (b), K bakλ (c), Yg bagə (d), Y cəfy (a)

Compare item 79 ('bark'). The N form has /b/ instead of an expected /p/ or /v/ but is counted as cognate. A form /bagə/ was also recorded for N (compare the Yg form).

47. 'blood' Mk wyn (a), W ñəky (b), N yλrakwyn (a?), M ñəky
(b), Ng wyñ (a), K wyn (a), Yg wyn (a), Y ñəky (b)

A form /ñəky/ was also recorded for Mk. Compare item 110 ('red').

48. 'fat (n.)' Mk kwyλ (a), W kwyλ (a), N kwyλ (a), M vər (b),
Ng ty (c), K kwyλ (a), Yg kwyλ (a), Y mapwλ (d)

Compare items 34 and 44.

49. 'heart' Mk wra ñan (a), W kwλmw ñan (b), N mawk (c),
M awtək (d), Ng pwpw (e), K twcəkŋ (f), Yg mwalaby
(g), Y kwac (h)

A form /twcək/ (cf. K) was also recorded for Yg; in this /-cək/ is probably the morpheme for 'fruit' (item 85). The Mk and W forms contain the morpheme for 'child' (item 3).

- U 50. 'liver' Mk wtmy (a), W wtmwñ (a), N wpmyn (a), M wtəpy

(a), Ng kakap (b), K wrəpmway (a), Yg wpyΛ (a),
wrəpwñ (a)

The morpheme is taken as being /wt/, etc.; this morpheme also occurs in words for 'urine'. The /p/ of the N and Yg forms arises from the assimilation of /r/ -/t/ to a following /p/ or /m/.

51. 'bone' Mk apΛ (a), W apΛ (a), N avΛ (a), M ap (a),
Ng abə (a?), K yapΛ (a?), Yg avΛ (a), Y apΛkΛ (a)

For the K form, see 15.32.1. The Ng form has /b/ instead of an expected /p/, but the correspondence is otherwise perfect.

52. 'sore' (n.) Mk wacə (a), W wacə (a), N kawyΛ (b),
M kwyaΛk (b?), Ng -, K wacə (a), Yg wacə (a),
Y kwayaΛk (b?)

For the (b) forms and the patterning of V and S, see also items 19, 87 and 133.

53. 'dream' (n.) Mk yapmə (a), W ygən (b), N cəmat (c),
M ygən (b), Ng kwam (d), K cəmarə (c), Yg cəmarə (c),
Y ygan (b?)

54. 'sun' Mk ña (a), W ña (a), N ña (a), M ñə (a), Ng ña (a),
K ña (a), Yg ña (a), Y nəkwΛ (b)

- U 55. 'moon' Mk bapmw (a), W bapmw (a), N bwap (a), M bapw (a),
Ng kamwΛ (b), K bwapwΛ (a), Yg bwavwΛ (a),
Y bwapwΛ (a)

56. 'star' Mk kwn (a), W kwn (a), N gwt (b), M twgwy (c),
Ng kwn (a), K kwn (a), Yg kwn (a), Y ðñkwən (a?)

A form /kwən/ also occurs in Ng; compare the Y form, and also item 88.

57. 'cloud' Mk ñət (a), W ñət (a), N baw (b), M gər (c),
Ng twbw (d), K ñərə (a), Yg ñərə (a), Y twbw (d)

For the (b) and (d) forms, see also item 58 ('fog').

58. 'fog' Mk bwy (a), W bwy (a), N baw (b), M bwatwbw (c),
Ng gaw (d), K bwΛ waw (c?), Yg kwgwn (e),
Y bwy (a)

59. 'rain' Mk mac (a), W mac (a), N mayk (a), M war (b),
Ng mac (a), K macñ (a), Yg mayk (a), Y wary (b)

The N and Yg forms show 'depalatalisation', as the phoneme /c/ is rare in word-final position in these languages.

60. 'night' Mk gan (a), W gan (a), N gan (a), M gan (a),
Ng gan (a), K gan (a), Yg gan (a), Y gan (a)

61. 'day'

Not used; the morpheme for 'sun' 54 occurs in all the languages of the Ndu family.

62. 'water' Mk gw (a), W gw (a), N gw (a), M gw (a), Ng gw
(a), K gw (a), Yg gw (a), Y gw (a)

63. 'pond' Mk kwan (a), W va.gw (b), N cak (c), M ar (d),
Ng alə (d), K pwa (e?), Yg tawbwa (f), Y vary (g?)

The (b) and (e) forms could conceivably be cognate, although the /p/ - /v/ correspondence usually occurs with the reverse distribution between W and K. The Y form could conceivably represent a compound */va-ary/, with which compare the (b) and (d) forms.

64. 'ground' Mk kəpma (a), W kəpma (a), N kəpma (a), M kəp
(a), Ng kəpw (a), K kəpma (a), Yg kəpma (a),
Y kəpwa

65. 'stone' Mk matw (a), W matw (a), N kabak (b), M kabak
(b), Ng ba (c), K ba (c), Yg ba (c), Y wary (d)

66. 'sand' Mk yawəɕa (a), W yawya (b), N yawya (b), M yawy
(b), Ng yaɲaw (c), K kwəɕa (d), Yg aya (e),
Y apə (f)

Additional Yg forms recorded: /vəɕə/, /atɲya/. Some elements (/ya-/, /-ɕə/) are possibly cognate if several morphemes are involved.

R 67. 'sea'

Not used.

R 68. 'island'

Not used.

R 69. 'shore'

Not used.

70. 'mountain' Mk nəbw (a), W nəbw (a), N dwy (b), M nəbwk
(a), Ng pəkə (c), K nəbwa (a), Yg cək (d),
Y nəbw (a)

71. 'bush' Mk baŋ (a), W baŋ (a), N kwapə (b), M kwərəb (c),
Ng maw (d), K kabɔ (e), Yg kabɔ (e), Y cakapɔ (b?)

72. 'wind' Mk wymwt (a), W wymwt (a), N mwr (a), M mar (a),

Ng balə (b), K mwrw (a), Yg mwrə (a), Y mwr (a)

The Mk and W forms are apparently compounds. The K form should end in /ə/ rather than /w/; the second /w/ has apparently been influenced by the first.

73. 'wind blows'

Not used; in most languages given simply a translation of 'wind comes'.

74. 'fire' Mk ya (a), W ya (a), N ya (a), M y (a), Ng ya (a),
K kwyña (b), Yg kwyña (b), Y ya (a)

Yg also has /ya/. The (b) forms could possibly be compounds of */kwyn/ + /ya/, with subsequent palatalisation of the /n/; but there is no evidence for this.

75. 'smoke' Mk yacñə (a), W yacñə (a), N yaky (a), M yaky
(a), Ng yaky (a), K yakŋy (a), Yg yakyɔ (a),
Y gadɔ (b)

These forms suggest a proto-form */yakŋy/, with loss of nasalisation, and palatalisation, in some of the languages.

76. 'ashes' Mk baw (a), W baw (a), N baw (a), M baw (a),
Ng pwpw (b), K baw (a), Yg bwɔ (c), Y baw (a)

The above forms translate 'white ashes'; compare the equivalents for 'cloud' (57) and 'fog' (58).

77. 'path' Mk yabw (a), W yabw (a), N yabay (a?), M yab (a),
Ng nəbəlɔf (b), K yabə (a), Yg yabə (a),
Y yabw (a)

The N form is unusual and inexplicable.

78. 'tree' Mk my (a), W my (a), N my (a), M my (a), Ng my
(a), K my (a), Yg myɔ (a), Y my (a)

79. 'bark' Mk my cəpə (a), W my cəpə (a), N cəbə my (a?),
M cəpə my (a), Ng my gwc (b), K my bakɔ (c),
Yg myɔ bəgə (d), Y my cəvy (a)

The above forms all translate 'tree skin'; see 'skin', item 46.

80. 'leaf' Mk my yagə (a), W my yagə (a), N my gagə (b),
M my ñəgə (c), Ng my ñəgə (c), K my jəɲagə (d),
Yg myɔ ñəgɔ (c), Y my gagɔ (b)

A W form /my gagə/ was also recorded. Mk, W and N all have /ñəgɔ/, with the specialised meaning of 'banana leaf'. The Ng word also means 'head hair' (item 22).

81. 'trunk' Mk gwa my (a), W gwa my (a), N ñədə my (b),
M ñədə my (b), Ng ñər kəp (b?), K nwa my (a),
Yg nwa myΛ (c), Y my nydə (b?)
82. 'tree stump' Mk bap my (a), W maw my (b), N agwΛ my (c),
M maw my (b), Ng makavar (d), K my bapΛ (a),
Yg my bavΛ (a), Y maw my (b)
83. 'root' Mk my mygy (a), W mygy (a), N dəp my (b), M pəgΛ my
(c), Ng fΛy (d), K my pərəgy (e), Yg pərəgy (e),
Y my dəpw (b)

The (b) forms mean 'middle'. The presence of /kəp/ in place of /my/ in the Ng phrase is unusual; it is possibly connected with Iwam /pəykəp/. The occurrence in Y of /ny/ where other languages have /ñə/ has been observed in a few instances.

In W at least /dəp/ means 'large roots', 'tap roots', while /mygy/ means 'small roots, suckers'; it was not always possible to ascertain whether these two meanings are present in the other languages, so the choice between /dəp/ and /mygy/ forms was made arbitrarily. The following list shows the rejected forms: W dəp my (b), N jwgpw my (c), M myj my (a), Y my mygy (a).

84. 'flower' Mk mawΛy (a), W mawΛy (a), N mwΛy (a?), M mawΛy
(a), Ng pwəpwΛ (b), K my jw (c), Yg mawyΛ (a?),
Y my jə (c)

The VS patterning of the N and Yg forms is unusual.

85. 'fruit' Mk cək (a), W cək (a), N cək (a), M təkə (b),
Ng yənəgər (c), K cəkŋ (a), Yg cək (a), Y cəkŋ (a)
86. 'branch' Mk my galə (a), W kwələ my (b), N my cadə (c),
M ba my (d), Ng my pəkə (e), K my dagw (f),
Yg myΛ cəbΛ (g), Y my bə (d?)

Compare the Mk and W forms with 'neck', item 29. The Y form shows the wrong vowel and is somewhat hesitantly counted as cognate with the M form.

87. 'grass' Mk wy (a), W wy (a), N wy (a), M nwgway (a?),
Ng - , K wy (a), Yg wy (a), Y wy (a)

The M form is an (a) cognate if it consists of more than one morpheme; compare cognates W /vy/ - M /vay/ 'spear'. All forms mean 'kunai' (sword-grass). The following generic names for grass were also recorded: Mk /warΛ/, W /warΛ/, K /warΛ/, Yg /warΛ/.

88. 'salt' Mk kwc (a), W kwc (a), N kwk (a), M kwac (a),

Ng - , K kwypm (a?), Yg kwyk (a), Y kwacə (a)

The K form has the final /pm/ instead of the expected /kŋ/, probably as a crystallisation of an earlier free variation of final stops (cf. Iatmul). It can be explained as arising from */kwcŋ/ - */kwycŋ/ - (*/kwykŋ/) - /kwypm/.

89. 'dog' Mk wacɒ (a), W wacɒ (a), N warɒ (b?), M ac (a),
Ng pyap (c), K warɒ (b?), Yg warɒ (b?), Y ac (a)

The (b) forms are very similar to the (a) forms, but are probably not cognate with them, as no parallels for /c/ - /r/ correspondences occur in this distribution. The Ng form is a borrowing from Wogamusin.

90. 'tail' Mk gəny (a), W gəny (a), N gəny (a), M gyn (a),
Ng gyñ (a), K gəny (a), Yg gənyɒ (a), Y gyñ (a)

91. 'bird' Mk apwy (a), W apwy (a), N wavy (a), M wapy (a),
Ng afy (a), K wavy (a), Yg wavyɒ (a), Y wavy (a)

92. 'feather' Mk ywy (a), W ywy (a), N ywy (a), M ywy (a),
Ng wyləgə (b), K ywy (a), Yg ywy (a), Y ywy (a)

Only Ng and Yg distinguish between 'feather' and 'body hair' (item 45, which see); the morpheme also translates 'fur'.

93. 'egg' Mk gək (a), W gək (a), N badə (b), M bad (b),
Ng gwy (c), K bwadə (b), Yg gək (a), Y nakə (d)

94. 'wing' Mk payk (a?), W ykɒɒ (a), N wyɒw (b), M pap (c),
Ng tabɒ (d), K ykŋ (a), Yg yk (a), Y ykyvavɒ (a?)

The morpheme is taken as being /yk/ in compounds. The Ng form means 'hand' (item 32) in the other languages of the Ndu family, but has here become specialised in meaning. The Y form could also be cognate with the M form, but the correspondence is not perfect. For N form compare 164 'fly' (v.).

95. 'snake' Mk kabwɒy (a), W kabwɒy (a), N kabwɒy (a),
M kabay (a?), Ng mapwəcə (b), K kabwɒy (a),
Yg kabwɒy (a), Y kabay (a?)

The M and Y forms do not correspond with the other forms in the second vowel.

96. 'fish' Mk gw kwamy (a), W ac (b), N kamy (a), M kamy (a),
Ng ac (b), K kapy (c), Yg pwa kwapmyɒ (a),
Y kwamy (a)

The N form is also specific for 'catfish', the commonest

fish in the Sepik River. The Yg form translates 'pond game' (see 'pond' 63).

97. 'fly' (n.) Mk *cat* (a), W *cat* (a), N *cat* (a), M *car* (a),
Ng *kwɔl* (b), K *car* (a), Yg *carə* (a), Y *car* (a)
98. 'mosquito' Mk *kwyɔ* (a), W *kwyɔ* (a), N *kəvyɔ* (a?),
M *kəvy* (a?), Ng *cəvyɔ* (b?), K *məkycə* (c?), Yg *kyɔ*
(a), Y *kawyɔ* (a?)

The similarity of the above forms, coupled with the fact that the sound-correspondences are irregular, is confusing. The Mk and W forms, which are identical with the words for 'fat' (item 48), may well have arisen from a form with medial /v/; but the initial /c/ of the Ng form and the medial /c/ of the K form are inexplicable, and these forms are counted as non-cognate. For Y, the expected (a) cognate would be */kwɔyɔ/, or */kyɔ/.

99. 'louse' Mk *ñəmɔ* (a), W *ñəmɔ* (a), N *bəkɔ* (b), M *təgyn*
(c), Ng *ñɔn* (d), K *kɔmɔlə* (e), Yg *ñəkɔ* (f),
Y *nəkɔ* (f)
100. 'rope' Mk *bagwy* (a), W *bagwy* (a), N *yaw* (b), M *bajəgə*
(a), Ng *tɔp* (c), K *kəpə* (d), Yg *bagwyɔ* (a),
Y *yɔbagy* (a)

Additional forms recorded are W /kəpə/ (d) and Ng /y/.

101. 'grass skirt' Mk *kwɔɔ* (a), W *kwɔɔ* (a), N *kwɔɔw* (a),
M *kwɔɔ* (a), Ng *kwɔɔ* (a), K *kwɔɔə* (a), Yg *karə*
(a), Y *mɔ* (b)
102. 'good' Mk *ykwɔn* (a), W *ykw* (a), N *apɔ* (b), M *vyakətɔ*
(c), Ng *afɔ* (b?), K *ykw* (a), Yg *ykwərə* (a?),
Y *mwy* (d)

The expected (b) cognate in Ng would be */apɔ/.

103. 'bad' Mk *kəpɔɔ* (a), W *kəpɔɔ* (a), N *kəpɔɔ* (a),
M *kwvərəpɔ* (b?), Ng *pəcɔ* (c), K *yɔdə* (d),
Yg *yɔdəvək* (d), Y *kɔvɔɔ* (a?)

The M form could conceivably be a (a) cognate. The absence of /r/ in the Y form is unusual, but the sequence /pr/ is equally unusual in Ndu-family languages.

104. 'big' Mk *nəmɔ* (a), W *nəmɔ* (a), N *nəmɔ* (a), M *nəmɔ* (a),
Ng *pwtɔ* (b), K *mədə* (c), Yg *mədə* (c), Y *cəmy* (d)

A K form /wələməny/ was also recorded. The Y form corresponds to forms which in other languages mean

'long' (item 106), and may be a mistranslation.

105. 'small' Mk *makwəl* (a), W *makəl* (a), N *mək* (a?), M *kwacə* (b), Ng *ñan* (c), K *cəpə* (d), Yg *cəvəbək* (d?), Y *pway* (e)

The K and Yg forms should be compared with entries under 'long' (106). The additional forms /*yədəkən*/ and /*cəbwək*/ were recorded for K and Yg respectively. The vowel of the N form does not correspond to that of the Mk and W forms. The Ng form also means 'child'.

106. 'long' Mk *cəmyŋ* (a), W - , N *cəpərə* (c), M *cəmykəcəmy* (a), Ng *jəkyn* (d), K *cəpərə* (c), Yg *cəvərə* (c), Y -

107. 'short' Mk *wap* (a), W *pawtək* (b), N *taby* (c), M *pawkəpa* (b?), Ng *pəkək* (c), K *mwaləkŋ* (d), Yg *gərək* (e), Y -

The M form, like most common M adjectives, is reduplicated (/paw.kə.pa/), and may correspond to the first element of the W form. The K form corresponds to words for 'small' (item 105) in other languages.

- U 108. 'sick' Mk *kyəkya* (a), W *bar* (b), N *yarakwŋn kət* (c), M *bar* (b), Ng *fyəlw* (c), K *bwarə* (b), Yg *bwarə* (b), Y *kayək* (d?)

The Y form suggests the Mk form, but the correspondence is not good. The N form contains the morpheme for 'blood' (item 47).

109. 'hungry' Mk *kədə* (a), W *kədə* (a), N *wdə* (b), M *yəcəna* (c), Ng *kəkə* (d), K *wdə* (e), Yg *wdə* (b), Y *kədə* (a)
110. 'red' Mk *gwəvə* (a), W *ñəkŋ* (b), N *yarakwŋn* (c), M *ñəkŋñəkŋ* (b), Ng *gwəf* (a), K *wŋn* (c), Yg *wydə* (c?), Y *ñəkŋ* (b)

Compare 'blood', item 47. The Yg form is probably from /wŋn/ + /də/.

111. 'white' Mk *wəmə* (a), W *wəmə* (a), N *cəwn* (b), M *wəməkəwəmə* (a), Ng *wəlwəp* (c), K *bwə* (d), Yg *wəmwə* (a), Y *wəmwə* (a)

Most of the above forms are words for white objects; thus /*wəmə*/ is 'white cockatoo', /*cəwn*/ 'white heron', /*bwə*/ 'fog' (item 58).

112. 'black' Mk *gələ* (a), W *gələ* (a), N *gəp pəgə* (a), M *gərgər* (a), Ng *gələ* (a), K *gələ* (a), Yg *gərə* (a),

Y gəry (a)

The final /p/ of the N form results from assimilation to the initial phoneme of /pagə/, an allomorph of /bagə/ 'skin'.

113. 'hot' Mk (fire) (a), W kagəly (b), N kəŋkəŋ (c),
M kwkwɳəɳə (c), Ng (fire) (a), K (fire) (a),
Yg ayk (d), Y (fire) (a)

The languages with the indication (fire) all have verbal constructions containing the morpheme for 'fire' ('fire makes', etc.), and have been counted as cognate with each other.

114. 'cold' Mk ypma (a), W ypma (a), N pəpmy (b), M nəkər (c),
Ng nəkəl (c), K ypma (a), Yg nəgwrek (d), Y ypa (a)

115. 'blind' Mk myny kya (a), W myny kya (a), N myny kya (a),
M myr kwəkəɳə (b), Ng myl pəɳə (c), K myny kya (a),
Yg mynyə vwək (d), Y mytyjəjy (e)

The (a) forms all mean 'eye has died', and are counted as cognate. The Ng form means 'eye bad'.

116. 'deaf' Mk wagətə (a), W wagətə (a), N wan təvə (b),
M wan təpəɳə (b), Ng wan pəɳə (c), K wəgərə (a),
Yg wəwrek (d), Y wan də tək (e)

The morpheme for 'ear' (item 25) probably occurs in all forms. The Ng form means 'ear bad'; cf. Yg form.

117. 'full' Mk cəkərəkŋ (a), W yat (b), N tata (c), M kavwɳə
(d), Ng kəkəl (e), K cəpykŋ (f), Yg wyəkək (g),
Y yary (b?)

For the (b) correspondence, compare forms under 'palm' (item 33). An additional form /fəty/ was also recorded for Y.

118. 'quickly' Mk vəry (a), W pətəpətə (b), N kwatə (c),
M yapəryapər (b?), Ng rawarawə (d), K wacə (e),
Yg kwarybyəɳ (c?), Y akə (f)

The M form may contain /ya/ 'come', in which case the remainder of the form corresponds to the W form. The Ng form consists of 'leg' (item 41) reduplicated; a form /caf/ was also recorded. The first element of the Yg form corresponds to the N form.

119. 'old' (house, etc.) Mk təkydrə (a), W rəkə (b), N kwpy
(c), M jabwə (d), Ng kapwə (e), K cəkwa (f),
Yg varə (g), Y vɳjəɳə (h)

120. 'new' Mk kwla (a), W kwla (a), N jagwa (b), M kwla (a),
Ng kagalə (c), K kagalə (c), Yg kagalə (c),
Y kwny (d)

A Mk form /gwalə/ (c?) was also recorded.

121. 'rotten' Mk ɫpma (a), W jagwa (b), N lwvwn (c), M pwkw
(d), Ng - , K nwkwa (e), Yg byakak (f),
Y nəvacə (g)

Additional forms: Mk kwabw ñave, N nəgəna, M akwy.

- U 122. 'right hand' Mk ykɲw twa (a), W ykw twa (a), N yaky daba
(b), M vyɫvyɫ taba (c), Ng yaktən (b), K dwa twa
(d), Yg yakylə twa taba (b), Y fəc taba (d)

Forms with /yak-/ are counted as cognates. The Mk and W forms mean 'good hand', the M form 'hitting hand' or 'spearing hand'. The meaning of /twa/ is uncertain; it occurs also with forms for 'left hand' (item 123), with which the above forms should be compared. Note also N /daba/ instead of the usual /taba/, 'hand'.

- U 123. 'left hand' Mk aky twa (a), W aky twa (a), N abwkɫy taba
(b), M aky tab (a), Ng akəc (c?), K yaky taba (d),
Yg aky twa taba (a), Y aky taba (a)

The Ng form suggests (a) forms, but is counted as non-cognate because of the lack of close correspondence. The K form should be compared with forms for 'right hand' (item 122).

124. 'eat' Mk ka (a), W ka (a), N kə (a), M kə (a), Ng kə (a),
K ka (a), Yg ka (a), Y ka (a)

125. 'drink water'

Not used; all languages except Yg have 'eat' 124 + 'water' 62. Yg has /rə/.

126. 'stand up' Mk tə (a), W tə (a), N rəkə (b), M tə (a),
Ng tə (a), K tə (a), Yg tə (a), Y tə (a)

These forms translate 'be standing'; for 'stand up' = 'arise', see additional items at the end of this list.

127. 'sit' Mk rɫ (a), W rɫ (a), N rə (a), M rə (a), Ng yɫky
(b), K rɫ (a), Yg rɫ (a), Y rə (a)

128. 'speak' Mk bwl (a), W bwl (a), N gabwl (a?), M bwr (a),
Ng wlə (b), K bwlə (a), Yg bwl (a), Y bwl (a)

129. 'call' Mk wa (a), W wa (a), N wa (a), M cə (b),
Ng fətɫyf (c), K wa (a), Yg wa (a), Y wa (d)

Compare 'talk to me' 226; the Y form may translate this rather than 'call'.

130. 'run' Mk *yagə* (a), W *pətəpətə y* (b), N *pərə* (b),
M *gəvən y* (c), Ng *kəfə* (d), K *wacə y* (e), Yg - ,
Y *vək pək y* (f)
The W and K forms mean 'go quickly'; see 'quick', item 118. A Yg form was recorded, but the phonemicisation and meaning are doubtful.
131. 'walk' Mk *y* (a), W *y* (a), N *y* (a), M *y* (a), Ng *y* (a),
K *y* (a), Yg *y* (a), Y *y* (a)
This form is also the normal word for 'go'.
132. 'give me' Mk *tyʌ* (a), W *tyʌ* (a), N *kwy* (b), M *kwy* (b),
Ng *kway* (b), K *kwy* (b), Yg *kwyʌ* (b), Y *kway* (b)
Compare the next item; only Abelam dialects distinguish between 'give (to first person)' and 'give (to non-first person)'.
133. 'give you' Mk *kway* (a), W *kway* (a), N *kwy* (a), M *kwy* (a),
Ng *kway* (a), K *kwy* (a), Yg *kwyʌ* (a), Y *kway* (a)
134. 'give him'
Not used; identical with previous item.
135. 'hit (with hand)'
Not used; forms identical with 'hit (with stick)' (item 137), except for Yg /*rəkək*/. See also 'shoot' (165), and 'kill (pig)' (224).
136. 'break' (tr.) Mk *pwkʌ* (a), W *pək* (a), N *pəgwək* (a?),
M *kayk* (b), Ng *takwtər* (d), K *twy* (e), Yg *pəgək*
(a), Y *wyagərəp* (f)
The N and Yg forms are counted as (a) cognates because of the occurrence of W allomorphs /*pəŋ*/ ~ /*pwŋ*/ in /*pwŋən*/ 'broken', a form which suggests, since intervocalic /*ŋ*/ is rare in W, a proto-form with medial /*g*/.
137. 'hit (with stick)' Mk *vya* (a?), W *vya* (a?), N *vyaʌ* (a),
M *vyaʌ* (a), Ng *fyʌ* (a), K *vyaʌ* (a), Yg *vya* (a?),
Y *vyaʌ* (a)
Compare items 135, 165 and 224. The lack of correspondence in final vowels is unusual; Yg appears to make a distinction between /*vya*/ 'hit' and /*vyaʌ*/ 'kill, spear', and K a distinction between /*vyaʌ*/ 'hit, kill, spear' and /*vya*/ 'shoot'. It is likely that two

originally distinct morphemes have coalesced into one in most of the languages; the distinctions are therefore ignored in the cognate count.

138. 'fall (from height)' Mk *vəkərə* (a), W *vəkərə* (a), N - ,
M *vəkər* (a), Ng *rəfλɑ* (b), K *tələkɑ* (c),
Yg *takya* (d), Y *vəkərə* (a)
139. 'sleep' Mk *cə kwa* (a), W *cə kwa* (a), N *cədw kwa* (a),
Ng *cya kwa* (a?), K *cə kwa* (a), Yg *cə kwa* (a), Y -
All /*cə*/ forms are counted as cognate, though the Ng form is doubtful. A Mk form /*wyde kwa*/ was also recorded. For the /*kwa*/ element, see next.
140. 'lie down' Mk *kwa* (a), W *kwa* (a), N *kwa* (a), M *kw* (a),
Ng *kwa* (a), K *kwa* (a), Yg *kwa* (a), Y *kwa* (a)
141. 'see' Mk *və* (a), W *və* (a), N *və* (a), M *və* (a),
Ng *tɔyf* (a?), K *və* (a), Yg *və* (a), Y *və* (a)
The Ng form apparently contains a prefix.
142. 'hear' Mk *vəkɲw* (a), W *vəkɲ* (a), N *wk* (b), M *wək* (b),
Ng *fɲk* (a), K *kɲɑ* (a?), Yg *kɲɑ* (a?), Y *vəkə* (a)
If the first syllable is taken as non-essential, possibly representing 'see', then the K and Yg forms are (a) cognates. The Ng form is regular.
143. 'cry' Mk *gərə* (a), W *gərə* (a), N *gərə* (a), M *gər* (a),
Ng *gərə* (a), K *gərə* (a), Yg *gərə* (a), Y *gərə* (a)
A Ng form /*garə*/ was also recorded.
144. 'singsing' (v.) Mk *kəty* (a), W *kəty* (a), N *vərə* (b),
M - , Ng *fλc* (c), K *kəry* (a), Yg *kəryɑ* (a), Y -
145. 'cook (food)' Mk *tw* (a), W *tw* (a), N *kwat* (b), M *kwat*
(b), Ng *tw* (a), K *tw* (a), Yg *yλkɑ* (c), Y -
Compare next.
146. 'burn (grass)' Mk *tw* (a), W *tw* (a), N *tw* (a), M *avətə*
(b), Ng *təmwə* (c), K *twɑ* (a), Yg *twɑ* (a),
Y *tw* (a)
Compare previous item; it is probable that two distinct morphemes (compare K and Yg forms) have coalesced in Mk and W.
147. 'blow (fire)' Mk *yapw* (a), W *yavə* (a?), N *vərək* (b),
M *vλjəkɲ* (c), Ng *fwlən* (d), K *yabələ* (e),
Yg *yərək* (f), Y *car* (g)

A form /vərək/ (b) was recorded for Mk, with the meaning 'ignite, cause to burn'.

148. 'laugh' Mk wagy (a), W wagy (a), N cək (b), M waj (a),
Ng waləkwa (c), K cagy (d), Yg cagyΛ (d),
Y wagy (a)

Compare some forms for 'joke' (item 177). Cf. also (b) and (d) forms.

149. 'be afraid' Mk wp yΛ (a), W wp yΛ (a), N vakaw (b),
M yag (c), Ng tətə (d), K wpm kwΛ (a),
Yg wk yΛ (a?), Y -

The final consonant of the Yg form does not correspond, but the construction with /yΛ/ 'make' is identical, and it has been counted as an (a) cognate.

150. 'scratch (skin)' Mk gərə (a), W gərə (a), N gət (a),
M gar (a), Ng kwakyal (b), K gərəkə (a),
Yg gərə (a), Y gər (a)

151. 'throw'

Not used; satisfactory equivalents could not be obtained for most of the languages.

- R 152. 'swim' Mk vərə (a), W vərə (a), N vΛcəry (b), M pwy (c),
Ng - , K vərə (a), Yg kərΛw y (d), Y vərə (a)

153. 'wash (oneself)' Mk yak (a), W yakw (a), N yakw (a),
M yakw (a), Ng cakə (b), K yakwΛ (a), Yg yakwak
(a), Y ykw (a?)

The Mk, Yg and Y forms are unusual, but probably cognate.

154. 'look for' Mk wakw (a), W - , N - , M kwakə (b),
Ng kwkwΛ (c), K vaykryΛy (d), Yg wla (e), Y kwak (b)

Additional for Y: /kwrakw/ (c?).

155. 'smell' (tr.) Mk yamΛ (a), W yamΛy (a), N jagw (b), M - ,
Ng - , K yamΛ (a), Yg yamΛ (a), Y yamΛ (a)

These forms are probably nouns, but they may be adverbs.

156. 'come' Mk ya (a), W ya (a), N ya (a), Ng ya (a),
K ya (a), Yg ya (a), Y ya (a)

- R 157. 'go up (hill)' Mk warə (a), W warə (a), N wakay (b),
M warə (a), Ng yΛwaray (a?), K warə (a), Yg warə
(a), Y warə (a)

The Ng form shows some resemblances to the (a) cog-

nates, but not sufficient for a positive identification.

- R 158.** 'go down (hill)' Mk dawlə y (a), W dawlə y (a), N da y (a), M da (a), Ng fəkələ (b), K da (a), Yg da (a), Y da (a)

The root morpheme is /da/; /y/ in the above forms simply means 'go'.

- 159.** 'turn (oneself)' Mk rawləkwə (a), W wələkwə (b), N rwgwamak (c), M rəpə tyakw (d), Ng yələw (e), K pəkwpm (f), Yg wrakwə (g), Y yavətək (h)

Some similarities are observable between M and Yg forms, as also between Ng and Y forms, but no identification is possible.

- 160.** 'hold (in hand)' Mk kwərə (a), W kwərə (a), N kwt (a), M - , Ng - , K kwərə (a), Yg kwərə (a), Y vələky (b)

- 161.** 'carry (on shoulder)' Mk yatə (a), W yatə (a), N warə (b), M yat (a), Ng kwkwł (c), K yarə (a), Yg arə (d?), Y watə (b?)

The Yg form could possibly be cognate, with loss of initial S, with the (a) or (b) forms, although this is unlikely, as initial S is usually retained in Yg. The Y form corresponds to the N form in all respects, except for the final vowel.

- 162.** 'push' Mk bələkw (a), W rətə (b), N cərəkə kaly (c), M ragwə (d), Ng cəkələ kafə (e), K wakkwə (f), Yg kacələ (g), Y rakwtə (h)

- 163.** 'pull' Mk təbərə (a), W - , N rak (b), M ragw (c), Ng rykəkələw (d), K lərakaryə (b?), Yg rakarə (b?), Y rakwaryə (b)

The root morpheme appears to be /-rak-/. An additional form, /aran/, was recorded for Yg.

- 164.** 'fly' (v.) Mk wrə (a), W wrə (a), N wyət (b), M wr (a), Ng akəkəkəl (c), K pəwrə (e), Yg wrəkə (a), Y wyə (b)

The suffixes and prefixes of the Yg and K forms cannot be explained, nor can the absence of a final consonant phoneme in the Y form. Most of the above forms, especially the (a) cognates, usually occur as part of a two-stem base (the second base being /y/ 'go'), or as sentence-medial verbs ('flying go'); here the base alone is given.

165. 'shoot' Mk vya (a), W vya (a), N vyΛ (a), M vy (b),
Ng cəf (c), K vya (a), Yg kalə (d), Y cə (c?)
Compare items 135, 137 and 224, and see the note to
item 137. The M form shows the expected reflex, but
cannot be cognate, as the cognate of Mk /vya/ is /vyΛ/
(137).
166. 'bite' Mk nəbyt yΛ (a), W pakΛ (b), N var (c), M vatə
(c), Ng akΛ (d), K cyΛ (e), Yg tyΛ (f), Y wat (g)
The Mk phrase means 'make with teeth'.
167. 'vomit' Mk gwyΛ (a), W gwyΛ (a), N gwyΛ (a), M gwy (a),
Ng gwyΛ (a), K gwyΛ (a), Yg gwyΛ (a), Y gwyΛ (a)
168. 'cough' Mk yar kələ (a), W walyΛ (b), N yak kər (a),
M yar kar (a), Ng alw kalΛ (c), K yar yΛ (a),
Yg yarə kərə (a), Y yar yary (a)
The first item in each of the above phrases is noun,
the second verb. Only the nouns are compared.
169. 'break (wood)' (tr.) Mk təkwyΛ (a), W palə (b), N pəgwk
(c), M vyΛcar (d), Ng təfan (e), K vy (f),
Yg pəgə (c?), Y vwke (h)
Compare forms for 'break' (item 136); see also the
note to this item.
170. 'name' Mk y (a), W y (a), N cə (b), M cə (b), Ng cə (b),
K cə (b), Yg cə (b), Y y (a)
171. 'straight'
Not used; most of the equivalents obtained mean simply
'good'.
172. 'crooked' Mk aŋəgway (a), W agwΛ (b), N gələk (c),
M təpwəkə (d), Ng -, K -, Yg tawrək (e), Y -
The Ng form recorded means 'not straight', and is not
therefore used. A Mk additional form /ragwΛ/ was
recorded.
- U 173. 'ripe' Mk ak (a), W ak (a), N ak (a), M rawnə (b),
Ng akw (a), K nəkwΛ (c), Yg nəkwΛ (c), Y -
The K form is a variant of the word for 'rotten' (item
121, which see).
174. 'wet'
Not used; yields constructions 'water' + 'make' through-
out.

175. 'dry' Mk gw kapwk (a), W yrəpwn (b), N pw (c),
M cəpərəkə (d), Ng kwɾɾɾkw (e), K pɾɾɾ (c), Yg rəka
(d?), Y gw wɾɾkyc (f)

The Mk and Y forms simply mean 'no water', and are included here only in the absence of more explicit forms, although the construction appears in frequent use meaning 'dry'. W also has a form /ypwɾɾn/.

176. 'heavy' Mk vat (a), W vək (a), N vary (a), M vat (a),
Ng nwm (b), K vəkɿ (a), Yg vək (a), Y vək (a)

All forms except that of Ng are counted as cognate, in spite of the non-correspondence of final consonants.

- U 177. 'joke' Mk kwɾɾɾɾɾɾ (a), W wəgy (b), N kəcɾɾ (c), M rək (d),
Ng tytɾɾ (e), K kwɾɾə ləbələ (f), Yg cəgy (g),
Y kɾɾɾy (h)

Compare 'laugh' 148; some forms are identical. The K form suggests the Mk one, but cognation cannot be established without a knowledge of the constituent morphemes.

178. '(skin) swells up' Mk warɾɾ (a), W wlə (b), N wtərə (c?),
M wlɾɾ (b), Ng kəpə fəfəl (d), K wlə (b),
Yg ykw (e), Y wɾɾ (f)

The W and N forms would be cognate if the latter could be shown to consist of two morphemes, when the /l/ -/t/ correspondence would be normal.

179. 'go in' Mk wlɾɾ (a), W wlɾɾ (a), N rəyɾɾɾ (b), M wl (a),
Ng fawlə (a), K wlɾɾ (a), Yg wlɾɾ (a), Y wɾɾɾlə (a?)

The Y form has /r/ in place of the expected /l/.

180. 'go out' Mk ala (a), W gwədə (b), N wakɾɾ y (c), M wak
(c), Ng fak (d), K wlə (e), Yg ala (a), Y valə (f)

181. 'bury' Mk rəm (a), W rəm (a), N vagw (b), M takə (c),
Ng təkɾɾ (c?), K takɿɾɾ (c), Yg gw (d), Y takə (c)

Compare with the N form the morphemes for 'dig hole' (182) and 'break ground' (197).

- U 182. 'dig hole' Mk va (a), W va (a), N va (a), M va (a),
Ng cal (b), K va (a), Yg va (a), Y va (a)

Compare items 181 and 197.

183. 'sweat' Mk wagərə (a), W wagərə (a), N wagət (a),
M wagə (a?), Ng wagərə (a), K yakw (b), Yg wagərə
(a), Y wəgy (a?)

The M and Y forms lack the expected /r/.

184. 'swallow' Mk *ñərəkɿ* (a), W *ñərək* (a), N *makɿɿ* (b), M - ,
Ng *twkən* (c), K *maləkɿɿ* (d), Yg *ñərək* (a),
Y *kwɿək* (e)
185. 'cut (rope)' Mk *kərəkɿ* (a), W *cəkɿ* (b), N *karək* (a),
M *pətəp* (c), Ng *fyapwt* (d), K *rakɿɿ* (e), Yg *kərək*
(a), Y *cəkə* (b)
186. 'tie (rope)' Mk *gy* (a), W *gy* (a), N *cagy* (a?), M *tətək*
(b), Ng *fyawar* (c), K *gy* (a), Yg *gy* (a), Y *gy* (a)
- S 187. 'draw water' Mk *tw* (a), W *tw* (a), N *tw* (a), M *tw* (a),
Ng *tw* (a), K *twɿ* (a), Yg *twɿ* (a), Y *tw* (a)
188. 'who' Mk *kɿdə* (a), W *kɿdə* (a), N *kɿdɿ* (a), M *cə* (b),
Ng *kwɿɿɿ* (c), K *kɿɿɿ* (a?), Yg *kənɿ* (a?), Y *kədə* (a)
189. 'what' Mk *cəmɿ* (a), W *kəmɿ* (b), N *mədɿ* (c), M *ɿgwɿ* (d),
Ng *myɿ* (e), K *gapɿɿ* (f), Yg *yɿkə* (g), Y *pwəkɿɿ* (h)
190. 'where (at)' Mk *yɿbɿ* (a), W *yɿbɿ* (a), N *ɿdɿmɿp.bɿ* (b),
M *əkə.b* (c), Ng *ja.kən* (d), K *yɿnəwɿ.nə* (e),
Yg *yɿɿ kəkɿɿ* (f), Y *kɿnəbɿ* (g)
191. 'when' Mk *yɿny ña* (a), W *yɿny cɿpɿk* (a), N *ɿdɿ jəbəlɿ* (b),
M *əkə.cəkə.r ñə* (c), Ng *acɿ magəl* (d), K *yɿnəwɿ cɿy*
(c), Yg *yɿɿ yɿ* (a?), Y *kytɿ* (f)

The compared forms are actually the morphemes for 'which'; the phrases translate 'what day?', 'what time?'.

192. 'above, on top' }
'under' } (stationary)

Not used; no satisfactory equivalents obtained.

193. 'upon' }
'underneath' } (movement)

Not used; no satisfactory equivalents obtained.

194. 'beside (a thing)' (stationary)

Not used; no satisfactory equivalents obtained.

195. 'beside (a thing)' (movement)

Not used; no satisfactory equivalents obtained.

(Items 192-195 involve comparison on the grammatical rather than on the lexical level, and are accordingly omitted from the list.)

196. 'stand up (a post)' (tr.) Mk yanw (a), W - , N ta (b),
M ataw (c), Ng lwacaf (d), K kwra (e), Yg bwΛ (f),
Y ca (g)

197. 'dig up (ground)' Mk vΛ (a), W vΛ (a), N vΛ (a),
M vΛcwkw (a?), Ng cal (b), K vΛ (a), Yg vΛ (a),
Y pΛw (c)

Compare 181 and 182. An additional K form, /pw/, was recorded.

198. 'far' Mk cəkηΛ (a), W cəkΛ (a), N rəvəra (b), M cəkə (a),
Ng kəlyā (c), K cəkΛ (a), Yg cəkΛ (a), Y avətac (d)

A form /cəpəra/ also occurs in N.

199. 'near' Mk waləbΛ (a), W kwəymakΛ (b), N gwaylbə (c),
M arəwyan (d), Ng kətən (e), K kapwΛbwΛ (f),
Yg kavakΛ (f), Y pwacəmwədət (g)

200. 'many' Mk arygə (a), W kəcəpəryn (b), N nəma cΛkwak (c),
M cΛmacΛm (d), Ng təfən (e), K mədəkη (f),
Yg kavwayk (g), Y -

The N form literally means 'large quantity'.

U 201. 'how much' Mk yΛgap (a), W katyk (b), N ΛgΛmΛ (c),
M kac (b?), Ng kəfiak (d), K yampkΛ (e),
Yg yΛkanΛyk (f), Y katykΛ (b)

The M form, with palatalisation of /ty/ to /c/, corresponds to the W form in all except the final /k/.

202. 'this (close)' Mk kəny (a), W Λny (b), N kΛn (a),
M kədy (a), Ng kər (a), K mən (c), Yg mən (c),
Y any (b?)

The /-dy/ and /-r/ finals of the M and Ng forms may arise from suffixed third person pronominal forms.

203. 'that (distant)' Mk wΛny (a), W wΛny (a), N wΛn (a),
M ədΛ (b), Ng - , K wΛny (a), Yg wΛn (a), Y -

204. 'here'

Not used; 'here' is usually translated by morphemes meaning 'at this (place)'.

205. 'there'

Not used; 'there' is usually translated by morphemes meaning 'at that (place)'.

206. 'one' Mk nΛk (a), W nΛk (a), N kəta (b), M nΛk (a),
Ng nΛk (a), K napΛ (c?), Yg yΛkwarək (d),

218. 'together with' Mk wɔlɔ (a), W wɔlɔ (a), N wɔ (b), M wɔ (b), Ng wɔ (b), K lə (c), Yg wɔ (b), Y -
Additional forms recorded: N wɔ, Ng wɔkən, nəkwɔk, Yg kwa, nəyk, nəykwɔ.
219. 'fight' Mk wɔryɔ (a), W wɔryɔ (a), N wɔryɔ (a), M wɔryɔ (a), Ng wɔryɔ (b), K wɔryɔ (a), Yg wɔryɔ (a), Y wɔryɔ (a)
220. 'blunt'
Not used; equivalents of 'not sharp' only were obtained for most of the languages.
221. 'sharp' Mk nəby (a), W nəby (a), N wɔy (b), M kaw (c), Ng fəfwk (d), K nəby (a), Yg nəbyɔ (a), Y -
The (a) forms mean 'tooth' (item 26).
222. 'understand (language)'
Not used; 'hear' occurred in all languages, possibly as a result of the phrase used in the language of interrogation (Pidgin: 'harim tokples').
223. 'float (wood)'
Not used; equivalents translated 'goes on water', 'stays on water', or 'tide carries'.
224. 'kill (pig)' Mk vya (a), W vya (a), N vacŋɔ (b), M vy (c?), Ng fyɔ (a), K vya (a), Yg vya (a), Y vya (a)
Compare items 135, 137 and 165, and the notes thereto.
225. 'stick' Mk my gwɔ (a), W my gwɔ (a), N jəky (b), M - , Ng - , K - , Yg myɔ gərək (d), Y pəgə (e)
For M, Ng and K, only the morpheme for 'tree' was recorded for this item. An additional form /bəgə/ (e) was recorded for Mk, and an additional form /my takw/ for Y. See also 'branch' (item 86).
226. 'talk to me' Mk wɔ (a), W wɔ (a), N wɔ (a), M wɔ (a), Ng wlə (b), K bwlə (c), Yg wakwɔ (a), Y wɔ (a)
Compare 'call', 129. In the Yg form the second morpheme (= 'give', 132) has been ignored, and the first morpheme counted as cognate with the (a) series.
- 227-228 'talk to you', 'talk to him'
Not used; results same as previous item.
229. 'not (negative)' Mk kapwk (a), W yɔbɔ wɔ (b), N kay (c),

M ma (d), Ng kafw (a), K mapm (d?), Yg kayΛ (c),
Y kapw (a)

The negative morphemes occurring as complete utterances have been selected throughout.

230. 'other' Mk - , W kapmΛ (a), N - , M kavΛbΛ (a),
Ng bəcəfəl (b), K - , Yg kavγΛk (a?), Y waynΛ (c)

'other' is frequently translated by the morpheme for 'one' in all the languages tested; where no other morpheme also was recorded the languages are marked with - . The W and M forms correspond, presupposing a form */kapwΛ/; the Yg form is far more doubtful after the first three phonemes.

231. 'few'

Not used; all languages translate 'one one' except K (navaykŋ), Yg (jəvə), and possibly Ng (nΛkcaŋ nΛkcaŋ). The selection of 'one one' forms by informants may have been influenced by the phrase in the language of interrogation: Pidgin 'wanpela wanpela' = 'few'.

232. 'breathe'

Not used; elicited forms unreliable.

233. 'spit' Mk cəpmən (a), W cəpmən (a), N - , M cəp (a),
Ng cəpyŋ (a?), K cəpmγ (a?), Yg cəpmγΛ (a?),
Y cəvygw (a?)

The above are noun forms; verbs recorded were W cwΛ, M cə, K cwΛ, Yg cwΛ. The correspondences after the first three phonemes are irregular but not impossible. The Y form is however doubtful; /cevy/ corresponds to K /cəpmγ/, but also to morphemes for 'skin' (item 46). Since the second element /-gw/ is 'water' (item 62), the word could be another translation of 'sweat' (item 183). The 'spittle' interpretation is however more likely, as no confusion was likely to arise in the eliciting of this item.

234. 'suck (breast)'

Not used; translated as 'eat breast' throughout, except for Yg /twlək/, with which compare the Yg morpheme for 'drink' (item 125).

235. 'meat' Mk kwamy (a), W kwamy (a), N kamy (a), M kyjav
(b), Ng kamwΛ (a?), K kwamwy (a), Yg kwamyΛ (a),
Y kwamwy (a)

The N form means primarily 'fish', river game being

more important to the Iatmul than land game. The Mk and W form for 'fish' is /gw kwamy/, 'water game'. The Y form has a distribution similar to the N form.

Additional Items

The following additional items, including some cultural terms, are given cognate letters but are not included in the cognate count.

- A 1. 'pig' Mk balə (a), W balə (a), N bak (a), M bar (a),
Ng bwal (a), K bwalə (a), Yg bwalə (a),
Y bwary (a)

The regular sound-correspondences in this series suggest that pigs were known to the speakers of the common ancestor language. A root morpheme for 'pig' containing phonemes /b/ (/p/) and /l/ (/r/) is found throughout New Guinea.

- A 2. 'house' Mk gΛ (a), W gΛ (a), N gΛy (a?), M wy (b),
Ng gΛy (a?), K gΛ (a), Yg gΛ (a), Yg kay (a?)
Compare also 'village', A3. A form /gΛ/ also occurs in W.

- A 3. 'village' Mk gay (a), W gay (a), N gΛypmΛ (b), M təp
(c), Ng wyΛ (d), K wyΛ (d), Yg - , Y kay (a)

- A 4. 'stand up (arise)' Mk rapm (a), W rap (a), N rap (a),
M rap (a), Ng - , K rapm (a), Yg - , Y rap (a)

- A 5. 'talk, speech' Mk kwdy (a), W kwdy (a), N kwdy (a),
M kwdy (a), Ng twp (b), K təpm (b), Yg kwdy (a),
Y kwdy (a)

- A 6. 'spear' Mk vy (a), W vy (a), N vy (a), M vay (a),
Ng fy (a), K vy (a), Yg - , Y fy (a)

- A 7. 'bow' Mk kwΛlpək (a), W kwΛlpək (a), N pəgə (b),
M əm (c), Ng yna (d), K cəpykŋ (e), Yg - , Y -

The bow is apparently a relatively late introduction (though pre-white contact) to speakers of Ndu-family languages, and the spear still remains the preferred weapon for hunting and fighting. Before pacification the Iatmul also used the spear-thrower, with light bamboo javelins, for tribal fighting in canoes.

- A 8. 'you (feminine singular)' Mk ñəne (a), W ñəne (a),
N ñən (a), M ñən (a), Ng yn (b), K ñəne (a),

Yg ynə (b), Y ñən (a)

A 9. 'she' Mk lə (a), W lə (a), N lə (a), M rə (a),
Ng yn (b), K ny (c), Yg y (b?), Y lə (a)

The occurrence of second and third person feminine singular forms in pronouns is a characteristic feature of Ndu-family languages. It is not otherwise common in New Guinea languages.

17. COMPUTATION OF LEXICAL RELATIONSHIPS

17.1. Introduction

17.11. This section consists almost entirely of tables and brief comments on them. The implications of the results are discussed further in section 18.

17.12. Table IX shows, in the upper half, the exact number of cognates shared by each language with every other in the word-list in section 16. The lower half of the table shows the number of items compared in each case. The items omitted from the Wurm list total 34, so that a maximum of 201 comparisons are possible; however, this figure is not actually reached because of the fact that satisfactory equivalents could not be obtained in each language for each item, the languages yielding the shortest lists of items obtained being Yelogu, Ngala and Kwusaun. The lowest number of comparisons made is 180 (Ng-Y), the highest 197 (Mk-N, Mk-K). The average number of comparisons is 190.8.

17.13. Table X shows, in the upper section, the percentage of cognates shared by each language with every other. The lower section shows 'time depth in years' (17.2.).

17.2. Lexicostatistical and Glottochronological Results

17.21. The technique of 'glottochronology' is now well-represented in linguistic literature, so no detailed explanation of the mechanics or the theory are given here.¹ In view of the controversial nature of the assumption that the 'basic vocabulary' of all languages is replaced at a constant rate, however, the 'time depth' figures in Table X are presented somewhat hesitantly, and should be read with caution. The figures may best be read as indicating degrees of relationship rather than years. In particular, the figures should not be compared, without due caution, with similar time-depth figures obtained for other languages, for the following reasons:

¹ For an account of the method and a summary of the literature to 1960, see Hymes 1960. Most of the major articles in the Hymes bibliography have been consulted, but are not, because of the large number, included in the bibliography at the end of this book.

(a) the word-list used differs in many fundamental aspects from all previous lists;

(b) there is no evidence, either positive or negative, that the assumption of a uniform vocabulary retention rate is valid, at least in an unmodified form, for languages of New Guinea;

(c) there is no evidence as to the value of the rate constant r , assuming the assumption mentioned in (b) to be valid, in New Guinea languages.

17.22. The rate constant r is taken as .81. Formulas and tables have been used as set out in Gudschinsky 1956.

TABLE IX

Ndu-Family Cognate Count and Items Compared

	<i>Ng</i>	<i>N</i>	<i>M</i>	<i>Y</i>	<i>Yg</i>	<i>K</i>	<i>Mk</i>	<i>W</i>
<i>Ng</i>	*	58	62	59	62	63	67	61
<i>N</i>	186	*	94	89	93	87	194	89
<i>M</i>	188	192	*	96	84	83	94	99
<i>Y</i>	180	185	186	*	84	86	103	105
<i>Yg</i>	188	195	194	187	*	120	112	108
<i>K</i>	188	194	193	187	195	*	108	105
<i>Mk</i>	189	197	195	188	198	197	*	154
<i>W</i>	186	195	192	186	195	193	196	*

TABLE X

Cognate Percentages and Time-Depths in Years

	<i>Ng</i>	<i>N</i>	<i>M</i>	<i>Y</i>	<i>Yg</i>	<i>K</i>	<i>Mk</i>	<i>W</i>
<i>Ng</i>	*	31.2 ±3.4	32.9 ±3.4	32.8 ±3.5	32.9 ±3.4	33.3 ±3.4	35.4 ±3.5	32.9 ±3.4
<i>N</i>	2730 ±210	*	48.9 ±3.6	48.1 ±3.7	47.7 ±3.6	44.8 ±3.6	45.2 ±3.6	50.3 ±3.6
<i>M</i>	2640 ±240	1690 ±160	*	51.6 ±3.7	43.3 ±3.6	43.0 ±3.6	48.3 ±3.6	51.5 ±3.6
<i>Y</i>	2640 ±240	1730 ±180	1560 ±160	*	44.9 ±3.6	46.0 ±3.6	54.8 ±3.6	56.5 ±3.6
<i>Yg</i>	2640 ±240	1750 ±170	1980 ±190	1900 ±190	*	61.5 ±3.5	56.5 ±3.5	55.4 ±3.6
<i>K</i>	2610 ±240	1900 ±180	2000 ±200	1840 ±180	1150 ±130	*	54.9 ±3.6	54.4 ±3.6
<i>Mk</i>	2490 ±260	1880 ±180	1720 ±170	1430 ±160	1350 ±140	1420 ±150	*	78.5 ±2.9
<i>W</i>	2640 ±240	1630 ±170	1570 ±160	1400 ±150	1420 ±170	1440 ±150		*

(The ± figures represent 'standard error' (7/10 confidence level.)

17.3. Significance of Table X

17.31. Table X does not, unmodified, give a completely accurate picture of the interrelationships of the languages of the Ndu family; however, certain conclusions may be drawn from it. In the first place, it is clear from Table X that the languages under scrutiny do in fact form a related group; the lowest percentage of cognates is 31.2 (*Ng-N*), well above the figure that would occur if chance or borrowing were the case rather than genetic relationship. In the second place, Table X provides the justification for calling this group a 'family' rather than a 'stock'. In Swadesh's terms (Swadesh 1954), the boundary between language and

family is at 81 per cent, between family and stock at 36 per cent. In the Ndu family, only Ngala shares cognates with other languages at percentages lower than the family level; however, the family level of 36 per cent is within the range of error of most of the Ngala figures, and it is therefore justifiable to include Ngala for convenience in the 'family', to avoid having to set up a 'stock' for one language.

17.32. For the significance of Table X in determining a possible 'family tree' for the Ndu family and in providing some evidence of the prehistory of the group, see **18.2.**

PART V:

THE NDU FAMILY IN PERSPECTIVE

PART 7

THE LNU FAMILY IN PERSPECTIVE

18. INTERNAL RELATIONSHIPS IN THE NDU FAMILY

18.1. Introduction

18.11. The fact of the relationship of languages of the Ndu¹ family has been established by the data in the preceding pages. This section attempts to estimate the degrees of relationship and to put forward some tentative suggestions on the internal history of the family.

18.2. Relationship

18.21. The order of the languages in the columns of Tables IX and X (pages 180 and 181) was chosen to outline the degrees of relationship of the languages. Thus it is immediately apparent, for example, that Ngala shares cognates with all the other languages at around the 32 per cent level (the exact average is 33.3, because of the unusually high figure for cognates shared with Maprik; see below, 18.3.). The natural conclusion to be drawn from this is that Ngala split off from the common ancestor of languages of the Ndu family (for convenience, this language may be called *Alpha; subsequent posited proto-languages will be called *Beta, *Gamma, etc.) at an early date, and has continued to develop largely independently since that time.

18.22. Nyaura (Iatmul) and Manambu must subsequently have split off from the remaining languages at a later time, at stages that may be called *Beta and *Gamma respectively. Both Nyaura and Manambu show almost identical cognate averages (47.2 and 47.8 per cent, respectively) with the remaining languages, and may have separated from them at the same time - i.e., *Beta may be the same as *Gamma; the fact that the percentage of cognates shared by them with each other is in the same range (48.9) suggests this. The slightly higher figure may however indicate a slightly later Manambu-Nyaura split; however, it may result simply from the fact that the Nyaura dialect of Iatmul adjoins the Manambu-speaking area. It is quite possible, for example, that a cognate count based

¹ The group, consisting of at least Mk, W, K, Yg, N and M, was called the 'Tuo language' by Kirschbaum (1921/1922), after the word for 'man' in Boikin. I have chosen the form Ndu, as having wider distribution. The phonetic spelling simplifies the matter of citation elsewhere.

on a word-list taken from lower-river Iatmul dialects would show a much lower percentage. In the diagram on page *Beta and *Gamma are tentatively separated, since 'two-way' splits are more common than 'three-way' splits; but the evidence for separating them is slight.

18.23. The low cognates yielded by Yelogu with Boikin dialects, and the relatively high cognate figures shared by Yelogu and Abelam dialects, suggests that Yelogu belongs rather with the latter group, so that a fourth stage (*Delta) may now be assumed, at which a division between Abelam dialects and Yelogu on the one hand, and Boikin dialects on the other hand, occurred. Shortly afterwards (*Epsilon) Yelogu must have split off from the Abelam dialects. The dialects of Abelam and the dialects of Boikin, of which Maprik-Wosera and Kwusaun-Yengoru are representative samples, developed subsequently.¹

18.24. In this reconstruction of a 'family-tree' for Ndu-family languages, there is no place for Sawos, for which evidence of the type presented for the other languages is lacking. As the affinities of Sawos would seem to be mainly with Abelam and Nyaura, however, it may be tentatively regarded as forming part of the *Delta split, with subsequent influence from Boikin plains dialects. (It should be remembered that Yelogu also shows some characteristic Boikin features, such as the 'devoicing' of initial prenasalised stops.)

18.25. The relationship thus posited, based on lexical similarities, is symbolised in Diagram I, which is drawn approximately to scale. Discrepancies in the cognate percentages are treated in 18.3.²

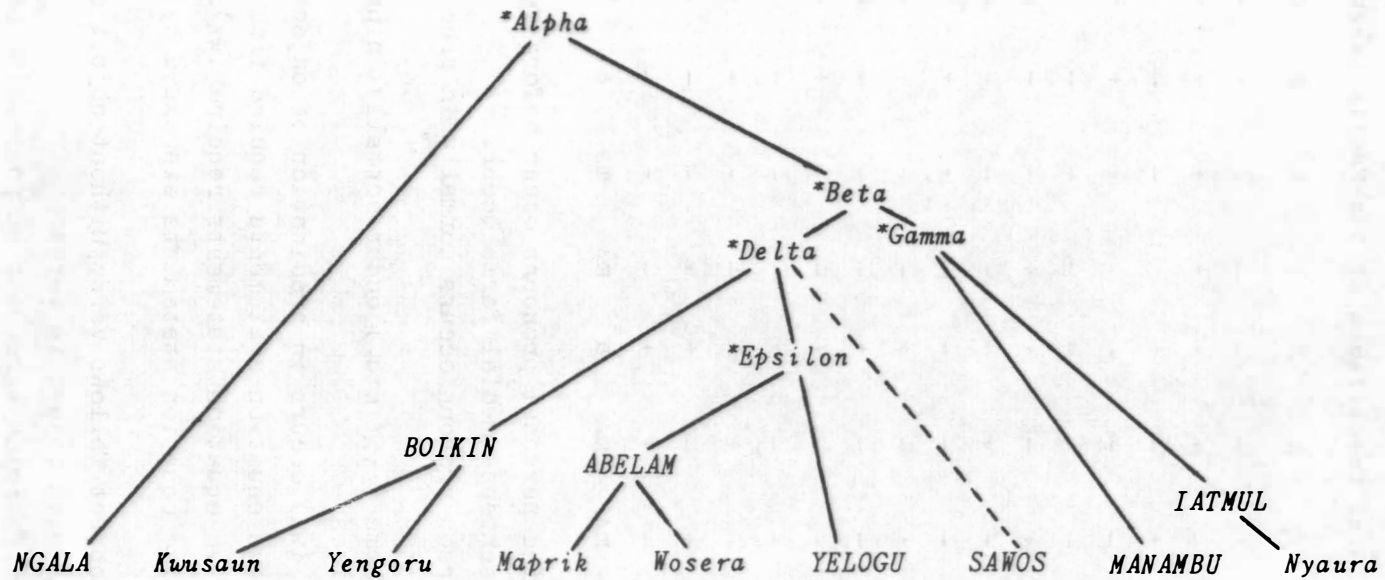
18.26. Table XI shows the comparison of significant structural features, but, in the absence of an established method of morphostatistics, no attempt is made at quantifying these.

¹ Maprik and Wosera have been counted as dialects of Abelam, and Yengoru and Kwusaun as dialects of Boikin, in spite of the fact that cognate percentages are much lower, especially in the latter case, than the .81 level set by Swadesh. For a discussion of this problem, see Wurm and Laycock 1961.

² Diagram I, and the figures on which it is based, differ slightly from those given in Laycock 1961 and Wurm and Laycock 1961, and should be taken as replacing them.

DIAGRAM I

Relationships of the Languages of the Ndu Family in Family Tree Form



Posited proto-languages, thus: **Alpha*.
Languages, thus: *BOIKIN*.
Dialects, thus: *Kwusaun*.

TABLE XI

Structural Comparisons of Ndu-Family Languages

Feature	Ng	N	M	Y	Yg	K	Mk	W
1	+	-	-	-	?	+	-	-
2	-	+	+	+	+	+	+	+
3	+	-	+	+	-	-	-	-
4	-	-	-	-	+	+	+	+
5	-	+	-	-	-	-	+	-
6	+	-	+	+	-	-	-	-
7	-	+	-	-	-	-	-	+
8	-	-	-	-	+	+	+	-
9	+	-	+	-	-	-	-	-
10	-	-	+	-	-	-	-	-
11	-	-	+	-	-	+	-	-
12	-	-	+	-	-	-	-	-
13	-	+	-	-	-	-	+	+
14	+	-	+	+	-	-	-	-
15	-	+	+	-	+	-	-	-
16	mΛ	mΛ	a	mΛ	mə	a	mə	mΛ

- 1: Abbreviated personal pronouns occur before verbs.
- 2: Special sentence-medial forms occur.
- 3: Third person pronoun occurs normally in predication of adjectives.
- 4: Verbal forms (/yΛ/ etc.) occur normally in predication of adjectives.
- 5: Morpheme {wΛ} occurs in predication of adjectives.
- 6: Affirmative equation statements require free pronoun.
- 7: Affirmative equation statements require {wΛ}.
- 8: Affirmative equation statements expressed by juxtaposition (A=B).
- 9: Pronoun object follows verb, without object suffix.
- 10: Agreement with object in verbs.
- 11: Masculine/feminine agreement in possessive pronouns.

(Continued on page 189)

(Key to Table XI, continued)

- 12: Masculine/feminine agreement in verbs (apart from agreement for person).
- 13: Possessive pronoun same as personal pronoun in non-third person forms.
- 14: Prenasalised stops occur phrase-finally.
- 15: Dual second person pronoun identical with dual third person pronoun.
- 16: Imperative prefix.

18.3. Mutual Interaction of Ndu-Family Languages

18.31. It will be noticed that there are some discrepancies between the figures in Table X and the representation of linguistic relationship in Diagram I. Thus, Wosera shares many more cognates with Nyaura than does Maprik, although both Maprik and Wosera are represented as bearing the same relationship to Nyaura. Again, the percentage of cognates shared by Yelogu and Manambu is higher than would be expected, in terms of their relationship. These discrepancies can be explained as the result of contact between the languages concerned subsequent to their separation. In most of the cases of unexpectedly high figures there is a close geographical connection between the languages concerned; thus Wosera shares more cognates with Nyaura, and Manambu and Yelogu than does Maprik, while Maprik shares more cognates with Yengoru and Kwusaun than does Wosera. Similarly, Kwusaun shares less cognates with Wosera, Maprik and Nyaura than does Yengoru. There remain, however, two instances which cannot be so explained. In the first place, Yelogu shares more cognates with Kwusaun than with Yengoru; if this is not pure chance, it can only be explained by assuming that speakers of Yelogu were once in contact with Kwusaun speakers and subsequently migrated to their present position through the Abelam-speaking area. The distribution of allophones of stops in Yelogu is similar to that of Boikin as a whole, a fact which makes this conjecture at least plausible; but it is impossible to be more definite. The second discrepancy is the high proportion of cognates shared by Maprik and Ngala, in contrast to the lower figure shared by Wosera and Ngala. Here an assumption of contact

is in part borne out by the Ngala tradition¹ that they came to their present position from the northeast, migrating overland through the Washkuk Mountains. If a general northward movement of the Ndu family is assumed (see 19.2.), then it is possible that at one stage Ngala speakers were immediately to the north or west of northern Abelam dialects, and that they migrated southwest, thus avoiding contact with speakers of southern Abelam dialects.

18.32. The internal relationships of the remainder of the languages of the Ndu family suggest that they have for a long while maintained the same relative positions as at present; this statement should not however be taken to imply that they have occupied the same geographical area as at present throughout their whole postulable history. An attempt at suggesting hypotheses for the migration of the Ndu family as a whole is made in 19.2.; here need only be mentioned a further tradition, known to some Abelam speakers, that their ancestors came to their present position from the direction of the Sepik River.

¹ Natives of all groups encountered were asked for traditions of migration; however, as informants were usually young, traditionally disoriented men, the usual response was that there was no such tradition; at other times mythical accounts ('out of a hole in the ground') were given. The Ngala tradition was recounted by older men, but should nevertheless, like most native information of this type, be treated with caution.

19. THE NDU FAMILY: CONCLUSIONS

19.1. Relationship with Other Languages

19.11. The word-lists obtained for the Ndu family languages have been carefully compared with those obtained for other languages surveyed, as well as with previous published material on Sepik languages. No similarities were found that could not be explained by chance or borrowing, and it is concluded that, on present evidence at least, the Ndu family is not related to any other known languages of the Sepik area. In view of the complexity of the linguistic situation in New Guinea, it was not considered likely that languages remote from the Ndu-family language area would be related; however, published word-lists of other major languages in New Guinea were cursorily examined, without these revealing any similarities which would repay closer study. However, in view of the fact the majority of languages in the central highlands of New Guinea have been shown to be interrelated (for example, Wurm 1960), a detailed comparison of languages of the Ndu family with those of the central highlands will be undertaken at a later date,¹ to see whether it is possible to add another family to the largest linguistic group in New Guinea.

19.12. The following brief word-list will illustrate the differences between a typical Ndu-family language (in this case Wosera) and other adjacent languages. The words chosen are ones in which all or most members of the Ndu-family share cognate forms. Spellings, including those of the Wosera forms, are phonetic. The languages are: W Wosera, Wm Watam, K Kambot, A Angoram, Ar Arapesh, Kw Kwoma, M Mayo, Wn Wongamusin, I Iwam, Ab Abau; except for Arapesh, to the north and northeast of Maprik, the languages lie along the Sepik River, beginning at the mouth. The Watam forms are from Pöch 1908.

'man': W ndu, Wm namót, K wuluk, A pondo, Ar aman,
Kw ma, M tamΛ, Wn tam, I ɛŋkam, Ab ur

'woman': W takwΛ, Wm uóin, K beŋ, A anmandəkən,
Ar nəmataʔw, Kw mima, M ta, Wn taw, I wik,
Ab sa

¹ When the material collected by S.A. Wurm during 1958-9 is published.

'I':	W wunə, Wm jak, K fi, A ame, Ar ai, Kw an, M an, Wn se, I ka, Ab hakwe
'you':	W mənə, Wm u, K wun, A mi, Ar ina, Kw mə, M nə, Wn tay, I ki, Ab hungwe
'he':	W ndə, Wm min, K mañ, A mən, Ar enin, Kw rə, M ra, Wn te, I si, Ab hikwe
'nose':	W tamə, Wm ngum, K pam, A masik, Ar ngwasingə, Kw sumwondj, M rangi, Wn bəliŋ, I nomwəs, Ab kasau
'water':	W ngwiə, Wm arúm, K mēndəmə, A aləm, Ar ambal, Kw ukwu, M əkw, Wn yək, I əp, Ab hu
'fire':	W ya, Wm zak, K pəndəmə, A wər, Ar nif, Kw hi, M kər, Wn kur, I par, Ab ya
'tree':	W mi, Wm - , K mwəp, A yirəŋgə, Ar lawank, Kw mə, M mə, Wn mbotəm, I parkap, Ab nou
'dog':	W wasə, Wm kióu, K lundəmə, A ndandə, Ar nəmbat, Kw asə, M walə, Wn wal, I ŋuwa, Ab nwoho
'bird':	W apwy, Wm górak, K əwan, A andəmbaleno, Ar wəŋge, Kw apwu, M əf, Wn yah, I owit, Ab ahne
'eat':	W ka, Wm am, K səmə, A əməŋ, Ar - , Kw ə, M ə, Wn mbe, I ai, Ab ra

19.12.1. The relationship of the other languages of the list to each other has not been established, but it is likely that Wn, I and Ab will prove related to each other, also, possibly, Wm and A may be interrelated; the relationship of M and Kw is less probable, in spite of some resemblances in the above list. The similarity of the words for 'tree' and 'bird' is probably to be explained by borrowing, as is the similarity of the word for 'dog' in W and Kw;¹ structural divergences appear too great for such close phonetic similarity to suggest genetic relationship.

19.2. Migration of the Ndu Family as a Whole

19.21. On linguistic evidence alone, a linguist cannot afford to be dogmatic on the history of the languages he is studying; and unfortunately other evidence is largely lacking in New Guinea. However, in the case of the Ndu family,

¹ The Mayo and Wogamusin forms for 'dog' should be compared with those of Manambu, Kwusaun, and Yengoru; here again borrowing from Ndu-family languages is probable.

linguistic evidence is at least partially supplemented by conclusions to be drawn from distribution, ethnography and terrain, and some hypotheses about migration can be put forward, subject to confirmation by further evidence.

19.22. Distribution. With the exception of a few villages whose location has changed slightly, all speakers of Ndu-family languages were inhabiting, at the time of first white contact about 75 years ago (NKWL 1886), the same regions as at present. It is safe to assume that they had been there a great deal longer, in view of the accommodation to terrain. The Abelam and inland Boikin groups are primarily agricultural communities, in contrast to the Iatmul and other river groups, who obtain most of their food by hunting and fishing. The plains dwellers are partly hunters, partly agriculturalists, while the coastal Boikin have learned to exploit the sea to some extent. Further, the Abelam have no knowledge of canoes, and fear the Sepik River if they visit it, while the Iatmul are completely at home in all kinds of dugout canoes. Considerable time must have elapsed for these differences between related groups to have emerged.

19.22.1. The shape of the area occupied by the Ndu family suggests a northward migration; in the Maprik area, for example, will be noticed a large 'bulge', in which Abelam speakers are surrounded by Arapesh speakers - a probable indication of penetration by the Abelam northwards into country already occupied by the Arapesh. It should be noted in this connection that the Ndu family is almost entirely surrounded by multiple-classifying languages (Arapesh, Urimo, Murik, Chambri); there is no evidence as yet for the interrelationship of these multiple-classifying languages, but it is possible that they may prove to be a related group which were split up by intrusion on the part of Ndu-family languages.

19.23. Ethnography and Culture. The sharp differences between members of the Ndu family in cultural respects have been mentioned in 12.22., so that little can be expected from cultural comparisons. However, some facts emerge. The virtual lack of the bow and arrow among speakers of Ndu-family languages has been commented on by most early writers (for example, Thurnwald 1917), as has been the presence of the spearthrower among the Iatmul. The spear is however the main weapon for all groups. If it is true that there is a correlation between mountain-dwelling and use of bow, plains- or swamp-dwelling and use of spear, then it is likely that the Ndu-family speakers did not come from

mountainous regions; other river-groups (such as the Mayo) have the bow and arrow, and the Mayo at least have traditions of origins in the mountains to the northeast.

19.23.1. Nor is it likely that the Ndu-family speakers came to their present position from the coast, either directly, penetrating inland (although all other indications suggest a northward migration), or indirectly, up the Sepik River and thence north. The coastal Boikin, for example, have no experience with seagoing vessels, and stand out in sharp contrast against the neighbouring speakers of Melanesian languages, who make long trips by outrigger canoe to outlying islands. It is unlikely that a group which arrived by sea and continuing to live on the coast would have lost the knowledge of seagoing craft. (It may be mentioned here that the Boikin word for the Melanesian outrigger canoe is a cognate of the Iatmul word for a dugout canoe: /val/).

19.23.2. A further cultural indication of northward migration from the Sepik is found in house-forms. The houses on the river, being built on stilts, cannot be adequately compared with those in the plains and mountains, which are built at ground level, although construction is similar (see Reche 1913); but the characteristic decorated gables of the Iatmul, Abelam and Boikin spirit houses show features which suggest a northern movement. For instance, on the river, where timber is plentiful, the gables reach their greatest height; in the plains areas, however, where timber is less plentiful, the spirit houses are lower, but an obvious attempt has been made to obtain the greatest height possible. Tradition of high buildings is the obvious explanation of the erection of these structures with unsuitable materials. Only in the Maprik mountain areas, where timber is again plentiful, do the spirit houses again approach the dimensions of those of the Sepik River.¹

19.24. Terrain. In discussing probable routes of migration, it is necessary to know which routes are possible. Before discussing these, however, a further fact in support of a migration north from the Sepik on the part of the Sawos, Abelam and Boikin may be mentioned. The grasslands which form the 'kunai' or 'plains' country to the south of Maprik, and north of the river, are considered by botanists to be

¹ Taken in isolation, this last fact could also suggest a southward migration from the Maprik area; but other evidence points strongly in the other direction.

anthropogenic (see CSIRO 1961:124), caused by extensive shifting cultivation and burning off of forested areas on the part of a large population.

19.25. Migration Routes. If we regard the northward migration of Sawos, Abelam and Boikin speakers from the Sepik as established, there still remains the question of the direction of movement of these groups, and of those on the river itself, before the Middle Sepik was reached. There are several main possibilities:

19.25.1. Migration Upstream from the Sepik Mouth. To assume a migration upstream from the mouth of the Sepik, and then north, is to assume a people familiar with seagoing craft (see 19.23.1.), which is unlikely to have been the case, unless the detour overland by the Boikin was spread over a period of time long enough for seafaring traditions to be entirely obliterated.¹ An overland route to the mouth of the Sepik, and then upstream by canoe, can almost be ruled out altogether, as the swamp country in the vicinity of the lower Ramu and Sepik is almost impassable.

19.25.2. Migration to the Sepik by a Tributary. As any overland route to the Sepik from the south is virtually impossible, owing to the nature of the terrain, any northern migration must have taken place along the southern tributaries of the Sepik. Those that are navigable to any extent by canoes are (in order upstream from the mouth): Keram, Yuat, Karawari, April, Leonard Schultze, Frieda, May. The possibility of a migration via a tributary upstream of the May River is discussed in 19.25.3.

19.25.21. None of the above tributaries can be excluded as a possible migration route, although the April and Leonard Schultze are unlikely, as the country through which they flow is uninhabited, because of the lack of wild foodstuffs in the area; it is unlikely that the nature of these rivers would have permitted a large migration. Probably the most likely tributary, in terms of the distribution of the Iatmul at least, is the Karawari River (including the Krosmeri system), which joins the Sepik exactly in the middle of the Iatmul-speaking area, and almost due south of the whole bulk of Ndu-family population. Iatmul villages exist on the banks of the Karawari and Krosmeri, and the names of villages further upstream show similarities to those of Ndu-family

¹ A possibility which cannot be entirely discounted.

villages.¹ The chain of rivers in the Karawari-Krosmeri river system would have provided an excellent migration route for a large body of people moving on a broad front. If this were in fact their migration route, it is likely that the starting point was not in the Central Ranges themselves, where quite different cultural patterns to those of the Ndu family prevail, but in the foothills at the head of the Karawari and Krosmeri Rivers.

19.25.3. Migration Downstream from the Upper Sepik. There are no indications, either positive or negative, as to whether the Sepik itself could have been used as a route by Ndu-family speakers. The presence of a few words borrowed from Ndu-family languages in upper Sepik languages (including even Abau /*ya*/ 'fire'?) suggests contact, but could also be the result of multiple borrowing, from one language to the next; or else, as the Abau have a tradition of having come upstream, the result of the Abau having contacted an Ndu language much further downstream.

19.25.31. The migration routes which link up with the upper Sepik are many: down the May River; overland along the May River; down the Sepik itself, partly by canoe, partly overland, from the Western Highlands; along the Green and Häuser Rivers from the direction of Netherlands New Guinea;² even southward from the western Torricelli Ranges.³ But to attempt to chase the Ndu family as far as this must fail for the lack of evidence, and any suggestions made must remain conjecture. In the last analysis, the family cannot be traced with certainty further than to the Middle Sepik, where the Iatmul still live.

¹ The area south of the Iatmul region was not visited, so it is not known whether further Ndu-family languages exist there. The village-names of the languages marked on the map as Yerakai and Wasare are very much like those of Manambu and Iatmul.

In support of a Karawari migration, it should also be noted that the Iatmul expansion since European contact has been both east and west along the Sepik River, a fact which suggests an entry from the south.

² Unlikely; the country is very difficult to traverse.

³ Unlikely; apart from the fact that the country is swampy and difficult to traverse, there is the fact that a group living in mountains would have been much more likely to have followed the mountain chain eastward of westward than to have gone south towards the swamps and river.

19.3. Conclusion

19.31. The present work represents the most extensive documentation of any linguistic group in New Guinea published to date, although far more detailed analyses of individual languages have been undertaken. The interrelationship of languages of the family has been demonstrated on the lexical and structural level, and materials provided for further comparative study. The final section has attempted to relate, briefly, the linguistic evidence with that of other disciplines. The resulting hypotheses, that the Ndu family as a whole must have migrated from some point south of the Sepik, and probably south of the Middle Sepik, and thence north to the coast, obviously require examination in the light of any other evidence that becomes available, but in the meantime such conjectures may serve as a basis for further study.

APPENDICES

APPENDIX A

PIDGIN TRANSLATIONS OF WOSERA TEXTS

1. A Pig Hunt (see page 93)

Nambawan pastaim... nambawan pastaim mipela i go raunim pik na mipela i siutim wanpela em i godaun, em i godaun... em i go long bus. Em i go long bus, mipela raunim tispela pik i no stap, tispela pik mipela siutim longen, em i no stap, mipela no painim em long kisim, mipela i no kisim. Orait, mipela raunim gen, siutim wanpela pik milepa kisim... painim na mipela kisim wanpela. Orait mipela kisim i go long ples mipela kukim, katim, mipela gipim long ol meri, ol meri i kaikai. Ol meri i kaikai na mipela go raunim gen wanpela pik bilong man na mipela laik i painim ol tisp... tispela pik ol i kukim tispela pik pasim mipela go raunim, nogat, i kambek yumi dilim tispela pik yumi gipim ol meri ol i kaikai. Orait, ol meri i kaikai, ol... ol i katim tispela pik i stap, mipela go raunim wanpela pik gen bilong man. Orait mipela i go long ol man raunim tispela pik i no stap long bus mipela i kambek mipela dilim mipela gipim ol meri kaikai tispela pik. Orait, ol meri kaikai tispela pik, orait yumi go raunim gen wanpela pik bilong man, i nogat, yumi kambek long ples, yumi kisim rin, lainim, pasim wanpela pik bilong ples. Orait em bilong... tispela pik, tispela pik mipela pasim long ples, em bilong ol man. Orait, tispela wan... wanpela pik mipela i pasim tispela pik mipela laik raunim wanpela pik long bus em tispela pik mipela laik gipim long tambaran. Mipela laik gipim long tambaran, orait, na mipela raunim, nogat, orait, nau mipela i laik painim long wanpela bus, baimbai yumi gipim tispela pik yumi painim long bus baimbai mipela gipim long tambaran na baimbai yumi i kukim na tambaran i kaikai tispela pik. Ating em i pinis bilongen.

Free Translation of Pidgin Text

First of all before... first of all before we went to hunt a pig, and we shot one and it went down, it went down... it went into the bush. It went into the bush, we hunted it but it was not there, this pig that we had shot, it was not there, we did not find it and get it, we did not

get it. Well, we hunted again, shot a pig and caught it... found and caught one. So we took it to the village, cooked it, cut it up, and we gave it to the women, the women ate. The women ate, and we went off again to hunt a pig for the men, and we wanted to look for this pig they... this [first] pig they cooked and tied up, we went hunting, no [we did not find one], we came back and distributed this [first?] pig, gave it to the women and they ate. Well, the women ate, they... cut this pig, and we went off again to hunt a pig for the men. So we went off to hunt this pig that was not in the bush, we came back and distributed it, we gave the women to eat of this pig. So, the women ate the pig, and we went off to hunt a pig for the men, [but] there was none, so we came back to the village, took rings, displayed them, and tied up a village pig. So this belonged... this pig we tied up in the village, this belonged to the men. Well, this one... one pig we tied up - we wanted to hunt a pig in the bush so we decided to give this pig to the tambaran (=spirit ancestor). We decided to give it to the tambaran; then we went off hunting - no luck - but we did expect to find one in the bush somewhere, so later we gave this pig we found in the bush, later we gave it to the tambaran, and we cooked it and the tambaran ate this pig. I think that is the end of it.

Notes

The story does not coincide well with the Wosera text, but this may be due to the confused nature of the storytelling in both Wosera and Pidgin versions. The main difficulty is in deciding just how many pigs are involved.

2. The Yam-Planting Cycle (see page 96)

Pastaim mipela i stap long ples, mipela i stap long ples, orait, yumi i godaun long... yumi godaun long bus na yumi katim bus. Yumi katim bus pinis, yumi planim mami; yumi planim mami pinis, i drai nau, yumi kamautim. Yumi kamautim, kisim i go antap long ples, orait, yumi lainim, yumi lainim yam... mami. Yumi lainim i stap, Sister, Fater i godaun long ples. I godaun long ples, mami wantaim ol meri i kisim piksa, i kisim piksa long mipela. Orait, Fater, Sister i kambek long Mauketi.

Free Translation of Pidgin Text

Previously we were staying in the village, we were staying in the village, then we went down to... we went down to

the bush and cleared the bush. We cleared the bush and planted mami (=small yam species). We planted mami, and when they were ripe, we dug them out. We dug them out, took them up to the village, and we displayed them, we displayed the yams... mami. We displayed them, the nuns and the priest went down to the village. They went down to the village, and took photographs of the mami and all the women, they took photographs of us. Then the priest and the nuns came back to Mauketi.

Notes

It will be noticed that this version translates the Wosera text more accurately than the previous text.

APPENDIX B

SUBJECTED VERB FORMS IN NDU-FAMILY LANGUAGES

In this appendix, major subjected verb forms are given for all the languages of the Ndu family recorded. 'Intensive' forms are however excluded, as are forms containing pronominal allomorphs which also occur, as a series, as free morphemes or as predicate markers. Negative forms which consist of a positive verb plus a free morpheme are excluded, and free negative morphemes are not shown in the negative forms given.

All forms in these paradigms have actually been recorded. However, where a paradigm is not complete for a given verb base, the missing forms are inserted with another base. A list of bases occurring in each set of paradigms is given with each language.

The order of forms follows that of the grammars, and paradigms are set out in the same order as the pronouns in the pronoun lists. It should be remembered that the second form in Manambu and Ngala paradigms is a first person feminine. Free pronoun forms are given to assist comparisons with the bound allomorphs.

The corresponding non-subjected forms are given with the Wosera paradigms, since in this language the distinction between subjected and non-subjected verbs plays a syntactic role. (See 6.82.)

WOSERA

Bases: /kʌ/ 'eat', /yʌ/ 'come', /gəɾʌ/ 'cry', /və/ 'see', /y/ 'go'

Present Affirmative
(xv = kʌ.kwʌ)

wnə	kʌ.wtə.kwʌ
mənə	gəɾʌ.mənə.gwʌ
ñənə	gəɾʌ.ñənə.gwʌ
də	kʌ.də.kwʌ
lə	kʌ.lə.kwʌ
ənə	kʌ.tə.kwʌ
bənə	gəɾʌ.bənə.gwʌ

Present Interrogative
(xv = kʌ.w)

wn	kʌ.wn.w
mən	kʌ.mən.w
ñən	kʌ.ñən.w
də	kʌ.d.w
lə	kʌ.l.w
ənə	kʌ.t.w
bənə	kʌ.bən.w

bərə kλ.bərə.kwλ
 nλnə kλ.nλ.gwλ
 gwne gərə.gwne.gwλ
 dλy kλ.dλrə.kwλ

Past Affirmative
 (xv = kλ.n)

wnə kλ.wtə.n
 mənə kλ.mənə.n
 ñənə kλ.ñənə.n
 də kλ.də.n
 lə kλ.lə.n
 anə kλ.tə.n
 bənə kλ.bənə.n
 bərə kλ.bərə.n
 nλnə kλ.nλnə.n
 gwne kλ.gwne.n
 dλy kλ.dλrə.n

Future

wnə kλ.kλ.wtə.kwλ
 mənə kλ.kλ.mənə.gwλ
 ñənə kλ.kλ.ñə.gwλ
 də kλ.kλ.də.kwλ
 lə kλ.kλ.lə.kwλ
 anə kλ.kλ.tə.kwλ
 bənə kλ.kλ.bənə.gwλ
 bərə kλ.kλ.bərə.kwλ
 nλnə kλ.kλ.nλ.gwλ
 gwne kλ.kλ.gwne.gwλ
 dλy kλ.kλ.dλ.kwλ

Sentence-Medial II

wnə v.wt.w
 mənə və.mən.w
 ñənə və.ñən.w
 də və.d.w
 lə və.l.w
 anə və.t.w
 bənə və.bən.w
 bərə və.bər.w
 nλnə və.nλn.w
 gwne və.gwn.w
 dλy və.dλr.w

bərə kλ.bər.w
 nλnə kλ.nλn.w
 gwne kλ.gwn.w
 dλy kλ.dλr.w

Past Interrogative
 (xv = kλ.k)

wnə kλ.wtə.k
 mənə kλ.mənə.k
 ñənə kλ.ñənə.k
 də kλ.də.k
 lə kλ.lə.k
 anə kλ.tə.k
 bənə kλ.bənə.k
 bərə kλ.bərə.k
 nλnə kλ.nλnə.k
 gwne kλ.gwne.k
 dλy kλ.dλrə.k

Sentence-Medial I

wnə ya.wtə.kλ
 mənə ya.mənə.gλ
 ñənə ya.ñə.gλ
 də ya.də.kλ
 lə ya.lə.kλ
 anə ya.tə.kλ
 bənə ya.bənə.gλ
 bərə ya.bərə.kλ
 nλnə ya.nλ.gλ
 gwne ya.gwne.gλ
 dλy ya.dλrə.kλ

Sentence-Medial II
 (*Intensive*)

wnə y.k.wt.w
 mənə y.kə.mən.w
 ñənə y.kə.ñən.w
 də - (not recorded)
 lə - (not recorded)
 anə - (not recorded)
 bənə y.kə.bən.w
 bərə - (not recorded)
 nλnə - (not recorded)
 gwne y.kə.gwn.w
 dλy y.kə.dλr.w

As the last two paradigms are perfectly regular, the un-

recorded forms can be assumed to be */y.kə.d.w/, */y.kə.l.w/, */y.kə.t.w/, */y.kə.bər.w/ and */y.kə.nən.w/ respectively.

MAPRIK

Bases: /kλ/ 'eat', /yɑ/ 'come'

Present Negative
(Affirmative = kλ.k)

wne	kλ.wrə.n
mənə	kλ.mənə.n
ñənə	kλ.ñənə.n
də	kλ.də.n
lə	kλ.lə.n
anə	kλ.tə.n
bənə	kλ.bənə.n
bərə	kλ.bərə.n
nənə	kλ.nənə.n
gwnə	kλ.gwnə.n
dly	kλ.dλ.n

Past Affirmative (xv = kλ.k)
(Negative = Present Negative)

wne	kλ.wrək
mənə	kλ.mənək
ñənə	kλ.ñənək
də	kλ.dək
lə	kλ.lək
anə	kλ.tək
bənə	kλ.bənək
bərə	kλ.bərək
nənə	kλ.nənək
gwnə	kλ.gwnək
dly	kλ.dλk

Sentence-Medial I

wne	kλ.wrəkλ
mənə	kλ.mənəkλ
ñənə	yɑ.ñənəkλ
də	yɑ.dəkλ
lə	yɑ.ləkλ
anə	yɑ.təkλ
bənə	yɑ.bənəkλ
bərə	yɑ.bərəkλ
nənə	yɑ.nənəkλ
gwnə	yɑ.gwnəkλ
dly	yɑ.dλkλ

Sentence-Medial II
(Conditional)

wne	kλ.wrəl
mənə	kλ.mənərəl
ñənə	kλ.ñənərəl
də	kλ.dərəl
lə	kλ.lərəl
anə	kλ.tərəl
bənə	kλ.bənərəl
bərə	kλ.bərəl
nənə	kλ.nərəl
gwnə	kλ.gwnərəl
dly	kλ.dλrəl

Some dialects in the Maprik area have suffix /-rən/ in conditional forms; thus /kλ.wr.ən/, /kλ.mənə.rən/, etc. In the /wne/ and /bərə/ forms the /r/ of the suffix is replaced by that of the pronoun.

KWUSAUN

Bases: /kʌ/ 'eat', /kya/ 'die'

Future

nwa	kʌ.rə.kwʌ
mənə	kʌ.mʌ.kwʌ
ñənə	kʌ.ñʌ.kwʌ
də	kʌ.də.kwʌ
ny	kʌ.ny.kwʌ
nʌnə	kʌ.nʌnə.kwʌ
bərə	kʌ.bərə.kwʌ
bərə	kʌ.bərə.kwʌ
nənə	kʌ.nənə.kwʌ
gwərə	kʌ.gwərə.kwʌ
dy	kʌ.dy.kwʌ

*Present**

nwa	kya.w nʌ
mənə	kya.w mʌ
ñənə	kya.w ñʌ
də	kya.w də
ny	kya.w ny
nʌnə	kya.w nʌnə
bərə	kya.w bərə
bərə	kya.w bərə
nənə	kya.w nənə
gwərə	kya.w gwərə
dy	kya.w dy

*Not strictly a subjected verb, as this series of pronouns is treated in Boikin as a series of free pronouns; however, it is included for comparison.

IATMUL

Bases: /kə/ 'eat', /vʏʌ/ 'hit', /gərə/ 'cry', /y/ 'go', /kəkʌmakŋʌ/ 'swallow', /wk/ 'hear'

Present

wn	kə.rəkʌ.wn
mən	kə.rəkʌ.mən
ñən	kə.rəkʌ.ñən
də	kə.rəkʌ.də
lə	kə.rəkʌ.lə
ən	kə.rəkʌ
bət	kə.rəkʌ.bət
bət	kə.rəkʌ.bət
nən	kə.rəkʌ.nən
gwt	kə.rəkʌ.gwt
dy	kə.rə.kʌ.dy

Future

wn	kə.vʏy.kʌ.wn
mən	kə.vʏy.kʌ.mən
ñən	kə.vʏy.kʌ.ñən
də	kə.vʏy.kʌ.də
lə	kə.vʏy.kʌ.lə
ən	kə.vʏy.kʌ
bət	kə.vʏy.kʌ.bət
bət	kə.vʏy.kʌ.bət
nən	kə.vʏy.kʌ.nən
gwt	kə.vʏy.kʌ.gwt
dy	kə.vʏy.kʌ.dy

Near Past

wn	kə.wn
mən	kə.mən
ñən	gərə.ñən
də	vʏʌ.də
lə	gərə.lə
ən	kə

Remote Past

wn	y.wʌ
mən	y.mʌ
ñən	y.ñʌ
də	y.dʌ
lə	y.lʌ
ən	y.ryʌ

(Continued on page 208)

(Near Past, continued)

bət wp.bət
 bət wp.bət
 nən wt.nən
 gwt wk.gwt
 dy kə.dy

(Remote Past, continued)

bət y.ba
 bət y.ba
 nən y.na
 gwt y.gwa
 dy y.ja

Allomorphs /wp/ and /wt/ of /wk/ 'hear' are conditioned by the following phonemes.

Conditional Affirmative

wn kəkaməkɲa wɔ.yan
 mən kəkaməkɲa mɔ.yan
 ñən kəkaməkɲa ñɔ.yan
 də kəkaməkɲa dɔ.yan
 lə kəkaməkɲa lɔ.yan
 an kəkaməkɲa rɔ.yan
 bət kəkaməkɲa bɔ.yan
 bət kəkaməkɲa bɔ.yan
 nən kəkaməkɲa nɔ.yan
 gwt kəkaməkɲa gwɔ.yan
 dy kəkaməkɲa jɔ.yan

Conditional Negative

wn kəkəməkɲa y.wɔ.yan
 mən kəkəməkɲa y.mɔ.yan
 ñən kəkəməkɲa y.ñɔ.yan
 də kəkəməkɲa y.dɔ.yan
 lə kəkəməkɲa y.lɔ.yan
 an kəkəməkɲa y.rɔ.yan
 bət kəkəməkɲa y.bɔ.yan
 bət kəkəməkɲa y.bɔ.yan
 nən kəkəməkɲa y.nɔ.yan
 gwt kəkəməkɲa y.gwɔ.yan
 dy kəkəməkɲa y.jɔ.yan

MANAMBU

Bases: /kə/ 'eat', /rə/ 'sit', /və/ 'see', /kwt/
 'fetch', /vyɔ/ 'hit'

Paradigms with bound pronoun object are also given, in sufficient combinations; it is impossible to give, in a short space, forms for the combination of every subject with every object.

Present/Future

wn kə.[kə].nɔ.də.wn
 wn kə.[kə].nɔ.wn
 mən kə.[kə].nɔ.də.mən
 ñən kə.[kə].nɔ.ñən
 də kə.[kə].nɔ.d
 rə kə.[kə].nɔ
 an kə.[kə].nɔ.bər.an
 bər kə.[kə].nɔ.bər.bər
 bər kə.[kə].nɔ.bər
 ñan kə.[kə].nɔ.dy.ñan
 gwr kə.[kə].nɔ.dy.gwr
 dɔy kə.[kə].nɔ.dy

Past

wn kə.də.wn
 wn kə.wn
 mən kə.də.mən
 ñən kə.ñən
 də kə.də
 rə kə
 an kə.bər.an
 bər kə.bər.bər
 bər kə.bər
 ñan kə.dy.ñan
 gwr kə.dy.gwr
 dɔy kə.dy

Forms with infix /-kə-/ are future. The infixes /də-/,

/-bər-/ and /-dy-/, as well as /-∅/ (zero), agree with the subject for number and gender (see 11.43.1.).

Sentence-Medial I

wn	r.Λw	(rə.tw)
wn	r.Λw	(rə.tw)
mən	rə.mən	
ñən	rə.ñən	
də	rə.də	
rə	rə	
an	rə.tək	
bər	rə.bər	
bər	rə.bər	
ñan	rə.bΛ	
gwr	rə.gwr	
dΛy	rə.dy	

Sentence-Medial II and Conditional

wn	kwt.twΛ.	[rək]
wn	kwt.twΛ.	[rək]
mən	vyΛ.mənΛ.	[rək]
ñən	vyΛ.ñənΛ.	[rək]
də	rə.dΛ.	[rək]
rə	vyΛ.rΛ.	[rək]
an	vyΛ.bΛ.	[rək]
bər	vyΛ.bərΛ.	[rək]
bər	vyΛ.bərΛ.	[rək]
bər	vyΛ.bΛΛΛ.	[rək]
gwr	vyΛ.gwrΛ.	[rək]
dΛy	vyΛ.dΛΛΛ.	[rək]

Forms with suffix /-rək/ are conditional.

Verbs with Bound Object

*Subject, all persons;
object 'you' (m. sg.)*

wn	və.twΛ.də.mən
wn	və.twΛ.də.mən
mən	və.mənΛ.də.mən
ñən	və.ñənΛ.də.mən
də	və.dΛ.də.mən
rə	və.rΛ.də.mən
an	və.bΛ.də.mən
bər	və.bərΛ.də.mən
bər	və.bərΛ.də.mən
ñan	və.bΛΛΛ.də.mən
gwr	və.gwrΛ.də.mən
dΛy	və.dΛΛΛ.də.mən

*Subject 'he'; object,
all persons*

də	və.dΛ.də.wn
də	və.dΛ.wn
də	və.dΛ.də.mən
də	və.dΛ.ñən
də	və.dΛ.d
də	və.dΛ
də	və.dΛ.bər.an

*Subject, all persons;
object 'you' (f. sg.)*

wn	və.twΛ.ñən
wn	və.twΛ.ñən
mən	və.mənΛ.ñən
ñən	və.ñənΛ.ñən
də	və.dΛ.ñən
rə	və.rΛ.ñən
an	və.bΛ.ñən
bər	və.bərΛ.ñən
bər	və.bərΛ.ñən
ñan	və.bΛΛΛ.ñən
gwr	və.gwrΛ.ñən
dΛy	və.dΛΛΛ.ñən

*Subject 'she'; object,
all persons*

rə	və.rΛ.də.wn
rə	və.rΛ.wn
rə	və.rΛ.də.mən
rə	və.rΛ.ñən
rə	və.rΛ.d
rə	və.rΛ
rə	və.rΛ.bər.an

(Continued on page 210)

(Subject 'he'; object, all
persons, continued)

də və.dʌ.bər.bər
də və.dʌ.bər
də və.dʌ.dy.ñan
də və.dʌ.dy.gwr
də və.dʌ.dy

(Subject 'she'; object,
all persons, continued)

rə və.rʌ.bər.bər
rə və.rʌ.bər
rə və.rʌ.dy.ñan
rə və.rʌ.dy.gwr
rə və.rʌ.dy

In passing, it may be mentioned that the translation of
'you two see yourselves' is /bər bərʌ.bər və.bərʌ.bər.bər/!

NGALA

Base: /fyʌ/ 'hit'

Forms are given with bound object pronouns /mən/ 'you'
(m.sg.), /rər/ 'they', or /yn/ 'she', in word-final position.

Present

wn əw.fyʌ.mən
ñən ən.fyʌ.yn
mən əm.fyʌ.yn
yn ən.fyʌ.rər
kər ər.fyʌ.mən
yn ən.fyʌ.mən
ʌyn ʌyn.fyʌ.mən
bən əb.fyʌ.yn
bər əb.fyʌ.yn
nən ən.fyʌ.mən
gwn əg.fyʌ.rər
rʌr ərʌ.fyʌ.mən

Future

wn fyʌ.wn.mən
ñən fyʌ.ñən.yn
mən fyʌ.mən.yn
yn fyʌ.yn.rər
kər fyʌ.r.mən
yn fyʌ.yn.mən
ʌyn fyʌ.ʌn.mən
bən fyʌ.bən.yn
bər fyʌ.bən.yn
nən fyʌ.nən.mən
gwn fyʌ.gwn.rər
rʌr fyʌ.rər.mən

Past

wn w.fyʌ.mən
ñən nə.fyʌ.yn
mən mə.fyʌ.yn
yn yn.fyʌ.rər
kər rə.fyʌ.mən
yn yn.fyʌ.mən
ʌyn ʌyn.fyʌ.mən
bən bən.fyʌ.rər
bər bər.fyʌ.rər
nən nə.fyʌ.yn
gwn gwn.fyʌ.yn
rʌr rʌ.fyʌ.mən

Future Negative

wn fyʌ.wn.mən.way
ñən fyʌ.ñən.yn.way
mən fyʌ.mən.yn.way
yn fyʌ.yn.rər.way
kər fyʌ.r.mən.way
yn fyʌ.yn.mən.way
ʌyn fyʌ.ʌn.mən.way
bən fyʌ.bən.rər.way
bər fyʌ.bən.rər.way
nən fyʌ.nən.yn.way
gwn fyʌ.gwn.yn.way
rʌr fyʌ.rʌr.mən.way

YELOGU

Base: /kʌ/ 'eat'

Present/Future

wny	kʌ. [kə]. wɪ
məny	kʌ. [kə]. məɪ
ñəñy	kʌ. [kə]. ñəɪ
də	kʌ. [kə]. d
lə	kʌ. [kə]. l
any	kʌ. [k]. əɪ
bəny	kʌ. [kə]. bəɪ
bərə	kʌ. [kə]. bərə
ñany	kʌ. [kə]. ñəɪ
gwny	kʌ. [kə]. gwn
jy	kʌ. [kə]. j

Sentence-Medial

wny	kʌ. wɪ. gʌ
məny	kʌ. məɪ. gʌ
ñəñy	kʌ. ñəɪ. gʌ
də	kʌ. d. kʌ
lə	kʌ. l. kʌ
any	kʌ. bʌ
bəny	kʌ. bəɪ. kʌ
bərə	kʌ. bərə. kʌ
ñany	kʌ. bʌ
gwny	kʌ. gwn. gʌ
jy	kʌ. jy. kʌ

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BIBLIOGRAPHY

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- A* - Anthropos
- AA* - American Anthropologist
- IAE* - International Archive of Ethnography
- IJAL* - International Journal of American Linguistics
- JRAI* - Journal of the Royal Anthropological Institute
- MBA* - Micro-Bibliotheca Anthropos
- MDS* - Mitteilungen aus den deutschen Schutzgebieten
- MSOS* - Mitteilungen des Seminars für orientalische Sprachen
- O* - Oceania
- PM* - Petermanns Geographische Mitteilungen, later Petermanns Mitteilungen
- ZAOS* - Zeitschrift für afrikanische und ozeanische Sprachen
- ZE* - Zeitschrift für Ethnologie

Sources containing linguistic material, and those providing valuable information on the distribution of languages, are indicated as follows:

- * - scattered lexical items
- ** - large number of lexical items
- *** - extensive lexical items
- # - some structural indications
- ## - many structural indications
- ### - extensive structural indications; grammar
- ⊙ - indications of distribution
- ⊙⊙ - extensive indications of distribution

The name of the language concerned usually precedes these symbols. Where no language name precedes, it is to be assumed that the language is unidentifiable or outside the area of immediate interest, or else that a large number of languages are involved.

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