THE NDU LANGUAGE FAMILY

(Sepik District, New Guinea)

Dissertation
Presented for the Degree
of
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May, 1962.
This work is entirely based on original research, except where specific acknowledgement is made of material or information contributed by others. This is not to deny an enormous debt of gratitude to the large number of people who made my work possible—a debt which is paid, as far as such a debt can ever be, by the acknowledgements in the preface.

D. C. Haycock
Preface

This thesis 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, in press) and my own brief article 'The Sepik and its Languages' (*Australian Territories* 1, 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 thesis, show the grammatical and lexical interrelationshi 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 forthcoming Survey, the map on page 23, I am very grateful to Dr. Capell, to the South Pacific Commission, and to the cartographer, Mr. Edgar Ford.

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.
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PART I:

ORIENTATION
1. THE SEPIK DISTRICT

1.1. Area and Administration

1.1.1. 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.

1.1.2. 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).

1.1.3. 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 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 area (a) 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 Mountains (b) - offer good hunting and agricultural

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(a) 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.

(b) 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 1921) 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.
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 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 (subdistrict 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.

1.3. 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

(a) Some previous information is available for many languages of this area; see 1.4, below.
Mountains, the Middle Sepik river areas, and some parts of the coastal plain. Elsewhere the concentration of population drops off sharply.

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

(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 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.

Table II

Major Sepik Languages Surveyed: Location and Number of Speakers.

<table>
<thead>
<tr>
<th>Language</th>
<th>Location (subdistricts)</th>
<th>Speakers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ndu-Family</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abalum</td>
<td>Maprik</td>
<td>29,188</td>
</tr>
<tr>
<td>Boikin</td>
<td>Wewak and Maprik</td>
<td>17,332</td>
</tr>
<tr>
<td>Iatmul</td>
<td>Ambunti and Angoram</td>
<td>7,887</td>
</tr>
<tr>
<td>Sawos</td>
<td>Maprik</td>
<td>1,804</td>
</tr>
<tr>
<td>Manambu</td>
<td>Ambunti</td>
<td>1,448</td>
</tr>
<tr>
<td>Ngala</td>
<td>Ambunti</td>
<td>134</td>
</tr>
<tr>
<td>Yelogu</td>
<td>Ambunti</td>
<td>63</td>
</tr>
<tr>
<td>Other Languages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abau</td>
<td>Ambunti</td>
<td>2,600</td>
</tr>
<tr>
<td>Iwam</td>
<td>Ambunti</td>
<td>1,160</td>
</tr>
<tr>
<td>Wogamusin</td>
<td>Ambunti</td>
<td>336</td>
</tr>
<tr>
<td>Mayo</td>
<td>Ambunti</td>
<td>704</td>
</tr>
<tr>
<td>Kwoma</td>
<td>Ambunti</td>
<td>2,236</td>
</tr>
<tr>
<td>Angoram</td>
<td>Angoram</td>
<td>3,986</td>
</tr>
<tr>
<td>Kambot</td>
<td>Angoram</td>
<td>4,383</td>
</tr>
<tr>
<td>Buna</td>
<td>Angoram</td>
<td>935</td>
</tr>
<tr>
<td>Murik</td>
<td>Angoram</td>
<td>872</td>
</tr>
<tr>
<td>Arapesh</td>
<td>Maprik and Wewak</td>
<td>17,791</td>
</tr>
</tbody>
</table>

(Figures calculated from 1958-1959 census).
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 (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 hooks on Sepik art, mostly primary sources, have been included in the bibliography. The well-known '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). 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°17'3 4°12' S) and larger 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 European values learnt from officials, missionaries and traders. Ceremonial dances - 'singsings' (a) 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.
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. (a) As this work is not generally available, a

(a) For a comparable, though less extensive, published work, see Capell 1952.
summary of the testing material, in the approximate order of testing, 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
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 ('can/cannot')
Ability/Inability constructions
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

(a) The order of testing was frequently varied to suit the particular language being studied, or according to the ability of the informant.
specifically oriented to the languages, and especially the non-Melanesian languages\(^{(a)}\) 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
- 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

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(a) For the best brief statement of structural differences between Melanesian and non-Melanesian languages, see Ray 1927.
2.4. Texts

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

2.4.1.1. '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.

2.4.1.2. '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

2.5.1. Eliciting was conducted Neo-Melanesian, or Melanesian Pidgin, hereafter called simply Pidgin.(a) All informants spoke Pidgin, but, in the upper Sepik areas, with varying degrees of competence.

2.5.2. 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.

2.5.3. 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.

2.6. Informants

2.6.1. 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.

2.6.2. Depending on their length of absence from their home community, young informants had a tendency to use

(a) Spelling of Pidgin words in this work generally follows that of Mihalic 1957.
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 23 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

<table>
<thead>
<tr>
<th>Day</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 1</td>
<td>Noun list and selected adjuncts</td>
</tr>
<tr>
<td>Day 2</td>
<td>Initial verb testing</td>
</tr>
<tr>
<td>Day 3</td>
<td>Verb list and adjective testing; adjective list</td>
</tr>
<tr>
<td>Day 4</td>
<td>Further verb testing; interrogatives</td>
</tr>
<tr>
<td>Day 5</td>
<td>Equation statements; applicative forms</td>
</tr>
<tr>
<td>Day 6</td>
<td>Remaining grammatical testing; situational texts</td>
</tr>
<tr>
<td></td>
<td>Tape-recording commenced</td>
</tr>
<tr>
<td>Day 7</td>
<td>Tape-recording completed</td>
</tr>
<tr>
<td>Day 8</td>
<td>Obtaining and tape-recording of free texts</td>
</tr>
</tbody>
</table>
### Table IV

Material elicited in 1959-1960 survey

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

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

(b) G = some grammatical material; L = lexicostatistical list; M = manual testing; T = free texts; W = word lists. * indicates that the material was tape-recorded.
Table V

Material tape-recorded in Sepik languages

<table>
<thead>
<tr>
<th>Language</th>
<th>Recorded time (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ndu-Family:</strong></td>
<td></td>
</tr>
<tr>
<td>Abelam (Maprik dialect)</td>
<td>105</td>
</tr>
<tr>
<td>Abelam (Wosera dialect)</td>
<td>120</td>
</tr>
<tr>
<td>Boikin (Kwusaun dialect)</td>
<td>120</td>
</tr>
<tr>
<td>Boikin (Yengoru dialect)</td>
<td>15</td>
</tr>
<tr>
<td>Iatmul (Nyaura dialect)</td>
<td>120</td>
</tr>
<tr>
<td>Iatmul (Tambunum dialect)</td>
<td>30</td>
</tr>
<tr>
<td>Manambu</td>
<td>120</td>
</tr>
<tr>
<td>Ngala</td>
<td>180</td>
</tr>
<tr>
<td>Yelogu</td>
<td>45</td>
</tr>
<tr>
<td><strong>Other languages:</strong></td>
<td></td>
</tr>
<tr>
<td>Abau</td>
<td>150</td>
</tr>
<tr>
<td>Iwam</td>
<td>120</td>
</tr>
<tr>
<td>Wogamusin</td>
<td>150</td>
</tr>
<tr>
<td>Mayo</td>
<td>150</td>
</tr>
<tr>
<td>Kwoma</td>
<td>180</td>
</tr>
<tr>
<td>Angoram</td>
<td>255</td>
</tr>
<tr>
<td>Kambot</td>
<td>120</td>
</tr>
<tr>
<td>Arapesh (Muhiang dialect)</td>
<td>60</td>
</tr>
</tbody>
</table>
Sepik District Languages
Reproduced by permission.
Ndu Family Languages coloured.
3. TERMINOLOGY AND ABBREVIATIONS

3.1. Terminology

3.1.1. 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.

3.1.2. Phonetic terminology and symbolisation throughout follow Trager 1958.

3.2. Abbreviations and Symbols

3.2.1. 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

3.2.1.2. 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.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>consonant phoneme</td>
</tr>
<tr>
<td>N</td>
<td>syllable nucleus</td>
</tr>
<tr>
<td>P</td>
<td>predicate</td>
</tr>
<tr>
<td>S</td>
<td>semivowel phoneme</td>
</tr>
<tr>
<td>V</td>
<td>vowel phoneme</td>
</tr>
<tr>
<td>n</td>
<td>noun</td>
</tr>
<tr>
<td>np</td>
<td>noun phrase</td>
</tr>
<tr>
<td>ov</td>
<td>verb with bound pronoun object</td>
</tr>
<tr>
<td>pn</td>
<td>pronoun</td>
</tr>
<tr>
<td>-pn</td>
<td>bound pronoun</td>
</tr>
<tr>
<td>sv</td>
<td>verb with bound pronoun subject</td>
</tr>
<tr>
<td>v</td>
<td>verb</td>
</tr>
<tr>
<td>vb</td>
<td>verb base</td>
</tr>
<tr>
<td>vs</td>
<td>verb stem</td>
</tr>
<tr>
<td>xv</td>
<td>verb lacking bound pronoun subject</td>
</tr>
<tr>
<td>/ /</td>
<td>encloses phonemes</td>
</tr>
<tr>
<td>[ ]</td>
<td>encloses phonetic transcriptions and pn series</td>
</tr>
<tr>
<td>{ }</td>
<td>encloses morphemes</td>
</tr>
<tr>
<td>a { }</td>
<td>encloses allomorphs when cited as such</td>
</tr>
<tr>
<td>.</td>
<td>morpheme separator</td>
</tr>
<tr>
<td>[]</td>
<td>phonological phrase marker</td>
</tr>
<tr>
<td>/</td>
<td>pause with slightly rising intonation</td>
</tr>
<tr>
<td>//</td>
<td>pause with sharply rising intonation</td>
</tr>
<tr>
<td>#</td>
<td>pause with falling intonation</td>
</tr>
<tr>
<td>...</td>
<td>hesitant pause</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>allative ('towards')</td>
</tr>
<tr>
<td>Ab</td>
<td>ablative ('from')</td>
</tr>
<tr>
<td>Ag</td>
<td>agentive ('with', 'by means of')</td>
</tr>
<tr>
<td>C</td>
<td>comitative ('along with')</td>
</tr>
<tr>
<td>F</td>
<td>future</td>
</tr>
<tr>
<td>G</td>
<td>gender/number marker (Manambu)</td>
</tr>
<tr>
<td>L</td>
<td>locative ('in', 'at')</td>
</tr>
<tr>
<td>S</td>
<td>sentence-medial marker</td>
</tr>
<tr>
<td>O</td>
<td>object</td>
</tr>
<tr>
<td>O₁</td>
<td>first object</td>
</tr>
<tr>
<td>O₂</td>
<td>second object</td>
</tr>
<tr>
<td>P</td>
<td>past</td>
</tr>
<tr>
<td>Pr</td>
<td>present</td>
</tr>
<tr>
<td>T</td>
<td>time suffix ('at' with time words)</td>
</tr>
<tr>
<td>( )</td>
<td>encloses noun and verb bases</td>
</tr>
</tbody>
</table>

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 ABELENI (JOSERA 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 'Bukni' (/bwkny/ = Arapesh)\(^{(a)}\)

4.12. 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/), Hamu-Kundi (/mamw kwdy/), and Kamu-Kundi (/kamw kwdy/).\(^{(b)}\) 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 Hamu dialect. It appears likely, however, that isoglosses drawn on the basis of other dialect differences\(^{(c)}\) would yield at least slightly differing results. Therefore the geographical names are retained here.\(^{(d)}\)

\(^{(a)}\) Kaberry 1941 gives a Kalabu pronunciation [ambola:m] (page 234); Malemole (Maprik informant) pronounced it [ambolas].

\(^{(b)}\) Kaberry 1941 and personal observation. /kwdy/ = 'speech', 'language'.

\(^{(c)}\) Such as /ñeky/ versus /wyn/ for 'blood'; the presence or absence of interrogative forms in verbs; intervocalic /k/ versus /kn/; /-rAn/ versus /-rol/ in conditional forms (Maprik area), or their absence (Wosera); presence or absence of special possessive forms in pronouns.

\(^{(d)}\) 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.
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 (/malAmalA/), aged about 37, and Markus, aged about 22, from the nearby villages of Maprik No. 1 and Neligum (/nAlsksm/) 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 (/malAkAyn/) and Pano (/panAw/), from the nearby villages of Kunjingini No. 1 and Abusit (/avocot/) 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;

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 '/kena/' whose' and '/kade/
'who' the morphemes {n3} 'possessive' and {d3} 'third
person singular' may perhaps be recognised, and it would also be possible to assign /kə-/ and /kA-/ to a single morpheme; but as these constructions have no other parallels in the language, and as the /-de/ element of /kAde/ does not vary for person, as might be expected if it were the morpheme {de}, /kənA/ and /kAde/ have been treated as indivisible morphemes.
Similarly, /nAgw/ 'children, people' is possibly derivable (irregularly!) from /nAn/ '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.
4.34. Non-productive inner-layer constructions in verb stems have also not been analysed; thus /warewA/ 'quarrel' and /waryA/ '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 /ware/ 'go up' and /warep/ '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 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 head-word; 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 syllabic and nuclear structure of the phrase. For the purpose of predicting stress patterns, a ranking of syllabic nuclei must be assumed (Table VI).

<table>
<thead>
<tr>
<th>Table VI</th>
<th>Ranking of Syllabic Nuclei</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Complex</td>
<td>aw</td>
</tr>
<tr>
<td>nuclei</td>
<td>ay</td>
</tr>
<tr>
<td>Simple</td>
<td>a</td>
</tr>
</tbody>
</table>


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 **unstress**. 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 ['], secondary stress by
["], unstress unmarked)

Phrases of one syllable: /dû/ 'man', /mû/ 'tree',
/kû/ 'small yam species', /mák/ 'frog species'
Phrases of two syllables: /mûne/ 'you', /nûbo/ 'hair'
/nûvô/ 'clamshell', /cápû/ 'lime gourd', /kêpûa/
'ground', /kûla/ 'axe', /vê tô/ 'two', /kwpûk/
'three', /jêpmûn/ 'stinging nettle'
Phrases of more than two syllables: /kákûwto kwà/
'I shall eat', /kákâmûnægwa/ 'you will eat',
/gêrâkâmûnægwa/ 'you will cry', /mû gâge/ '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 [J] 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**

<table>
<thead>
<tr>
<th>Consonant Phonemes</th>
<th>p</th>
<th>t</th>
<th>c</th>
<th>k</th>
</tr>
</thead>
<tbody>
<tr>
<td>vl. unaspirated stops</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vd. prenasalised stops</td>
<td>b</td>
<td>d</td>
<td>j</td>
<td>g</td>
</tr>
<tr>
<td>vd. nasal continuants</td>
<td>m</td>
<td>n</td>
<td>ŋ</td>
<td>ŋ</td>
</tr>
<tr>
<td>vd. continuants</td>
<td>v</td>
<td>r</td>
<td>l</td>
<td></td>
</tr>
</tbody>
</table>

**Semivowel Phonemes**

<table>
<thead>
<tr>
<th></th>
<th>w</th>
<th></th>
<th>y</th>
<th></th>
</tr>
</thead>
</table>

**Vowel Phonemes**

- High: ə
- Back: A
- Front: a
- Low: a

(Positions of articulation for consonant and semivowel phonemes: bilabial, alveolar, palatal, velar)
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 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:


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/, /mecC/, /pater/ - /patet/, /cCeter/, /kwArAC/, /twan/, /AverybAty/.

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.

<table>
<thead>
<tr>
<th>Phoneme</th>
<th>has allophone in environment except</th>
</tr>
</thead>
<tbody>
<tr>
<td>/p/</td>
<td>[p=] voiceless in all occurrences as noted in 5.61, and 5.62, bilabial fortis stop</td>
</tr>
</tbody>
</table>


| /t/ | [t=] voiceless in all occurrences as noted in 5.61, alveolar fortis stop |


| /c/ | [ç] voiceless phrase-initially as noted in 5.61 prepalatal groove affricate |

| [ʃ=} voiceless alternating unaspirated prepalatal phrase-finally; fortis stop |

[ʃ] voiceless alternating prepalatal groove fricative phrase-finally
<table>
<thead>
<tr>
<th>Phoneme</th>
<th>has allophone in environment except</th>
</tr>
</thead>
<tbody>
<tr>
<td>(/c/)</td>
<td>[g] weakly voiced preceded and form of the followed by N in preceding the same phrase</td>
</tr>
</tbody>
</table>

Examples: /cat/ [ˈcatː] 'fly' (insect), /ceər/ [ˈceəɾː] 'tomorrow', /wacA/ [ˈwaɾːɡ] 'dog', /kwc/ [k=wuɾː] ~ [k=wuɾ] 'salt, poison', /mac/ [ˈmaɾːɡ] ~ [m=ɾːɡ] 'rain' /k/ [k=] voiceless in all as noted in unaspirated velar fortis stop occurrences 5.61, 5.62 and 5.64


| /b/     | [mb=] voiced in all as noted prenasalised occurrences in 5.63 unaspirated bilabial lenis stop |


| /a/     | [nd=] voiced in all occurrences as noted prenasalised in 5.63 unaspirated alveolar lenis stop |

<table>
<thead>
<tr>
<th>Phoneme</th>
<th>has allophone</th>
<th>in environment</th>
<th>except</th>
</tr>
</thead>
<tbody>
<tr>
<td>(/d/)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>/j/</td>
<td>[ⁿj=ⁿ] voiced</td>
<td>in all</td>
<td></td>
</tr>
<tr>
<td></td>
<td>prenasalised occurrences</td>
<td>in 5.63</td>
<td></td>
</tr>
<tr>
<td></td>
<td>unaspirated</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>prepalatal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>lenis stop</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(For typographical reasons, the phonetic symbol is henceforth simplified to [ⁿj=ⁿ])</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/g/</td>
<td>[ⁿg=ⁿ] voiced</td>
<td>in all</td>
<td></td>
</tr>
<tr>
<td></td>
<td>prenasalised occurrences</td>
<td>in 5.63</td>
<td></td>
</tr>
<tr>
<td></td>
<td>unaspirated</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>velar lenis stop</td>
<td></td>
<td></td>
</tr>
<tr>
<td>/m/</td>
<td>[ⁿ] voiced</td>
<td>in all</td>
<td></td>
</tr>
<tr>
<td></td>
<td>bilabial nasal occurrences</td>
<td>5.74</td>
<td></td>
</tr>
<tr>
<td></td>
<td>continuant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phoneme</td>
<td>has allophone</td>
<td>in environment</td>
<td>except</td>
</tr>
<tr>
<td>---------</td>
<td>---------------</td>
<td>----------------</td>
<td>--------</td>
</tr>
<tr>
<td>/n/</td>
<td>[n] voiced</td>
<td>in all</td>
<td>as noted</td>
</tr>
<tr>
<td>alveolar nasal occurrences in 5.65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>/ŋ/</td>
<td>[ŋ] voiced</td>
<td>in all</td>
<td></td>
</tr>
<tr>
<td>prepalatal nasal occurrences</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>/r/</td>
<td>[ɾ] voiced velar</td>
<td>in all</td>
<td>as noted</td>
</tr>
<tr>
<td>nasal continuant occurrences in 5.64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>/v/</td>
<td>[ʙ] voiced</td>
<td>in all</td>
<td></td>
</tr>
<tr>
<td>bilabial fricative occurrences</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Examples: /və/ [bi] 'spear', /kavy/ [k=əbi] 'fish species', /kayvəɾə/ [k=əɾəɾə] 'wait for'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>/ɾ/</td>
<td>[ɾ] voiced</td>
<td>in free</td>
<td></td>
</tr>
<tr>
<td>alveolar fricative alternation with next in all occurrences</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>/ɾ/</td>
<td>[ɾ] voiced</td>
<td>in free</td>
<td></td>
</tr>
<tr>
<td>alveolar flap alternation with preceding</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Phoneme has allophone in environment except (/r/)  

Examples: /rap/ [ræp] 'pus', /rem/ [rem] 'bury',  
/warə/ [warə] 'grass', /bərə/ [mb̥ɛ̆rə] 'they two', /karə/ [k=æɾə] 'pig tusk'

/l/ [l] voiced in all  
prepalatal occurrences  
lateral  
continuant

Examples: /lə/ [lə] 'she', /lapw/ [læp=wə] 'banana',  
/bælə/ [mb̥=ælə] 'pig', /məl/ [məl] 'leech'

5.75. Vowels. The low number of vowel phonemes in Wosera (three vowel phonemes plus syllabic occurrences of two semivowel 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.

5.76. Vowels as simple nuclei.

<table>
<thead>
<tr>
<th>Phoneme</th>
<th>has allomorph</th>
<th>in environment</th>
<th>except</th>
</tr>
</thead>
<tbody>
<tr>
<td>/e/</td>
<td>[e] higher mid</td>
<td>after non-</td>
<td>unrounded central palatal consonants</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>vocoid</td>
</tr>
<tr>
<td>/u/</td>
<td>[u] lower high</td>
<td>after palatal</td>
<td>unrounded front consonants</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>vocoid</td>
</tr>
</tbody>
</table>
Phoneme has allophone in environment except (/ə/)

Examples: /təpə]/ [t=ep^g=ɛ] 'mouth', /kəby/ [k=^m_b=ɛ] 'basket', /nəbə/ [n=^m_b=ɛ] 'head hair', /ŋãgwa/ [ŋ^q=w^d] 'tobacco', /ŋãΔ/ [ŋ^q=ɔ] 'banana leaf'

/ɛ/ [ ɛ ] advanced after non-
higher low palatal
central unrounded consonants
vocoid

[ɛ] advanced after palatal
lower mid central consonants and
unrounded vocoid /y/

[ɔ] advanced after /w/
lower mid back rounded vocoid

Examples: /kəm^]/ [k=^m ɔ] 'bamboo species', /m=tk^]/
[m ək=ɔ] 'small', /ŋəg^]/ [ŋ^q=ɔ] 'sister',
/yalan/ [y^l^n] 'bark string', /k^v^p^p^k/[k^w^2^p^o^k] 'bow', /w^p^w^y/ [w^p^w^y] 'loincloth'

/ɔ/ [ ɔ ] higher low in all for very
back unrounded occurrences slight
vocoid modification

following palatal consonants or semivowels

(This vowel is accompanied by a slightly greater
degree of length than /ə/ or /ʌ/.
Examples: /abə/ [æ̃m-b=ə] 'bandicoot', /adəkəw/ [æ̃n-d=ək=ʌ] 'skull', /nagət/ [næ̃n-g=ət=] 'story', /gwəbə/ [ŋg=w æ̃m-b=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.

<table>
<thead>
<tr>
<th>Phoneme sequence</th>
<th>has phonetic value</th>
<th>in environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>/a/+/w/</td>
<td>[u(w)]</td>
<td>in all occurrences; see 5.94</td>
</tr>
<tr>
<td>/ə/+/y/</td>
<td>[i(y)]</td>
<td>in all occurrences; see 5.94</td>
</tr>
<tr>
<td>/ʌw/</td>
<td>[ʌu(w)]</td>
<td>in all occurrences</td>
</tr>
<tr>
<td>/ʌy/</td>
<td>[ʌɪ(y)]</td>
<td>in all occurrences</td>
</tr>
<tr>
<td>/aw/</td>
<td>[æu(w)]</td>
<td>in all occurrences</td>
</tr>
<tr>
<td>/ay/</td>
<td>[æɪ(y)]</td>
<td>in all occurrences</td>
</tr>
</tbody>
</table>

Examples: /wne bale wa/ [wuñm-b=æ̃luwə] 'my pig there'.
Semivowels. A class of semivowels (phonemes which have both vocoid and contoid allophones) is set up simplify description in various parts of the language. For example, the morphology of [ŋg=⁵wu] 'water', [ŋg=⁵wɔt=] 'to the water', [n̩d=⁵u] 'man', [n̩d=⁵uwɔt=] is most easily explained if the base morphemes are phonemicised as /gw/ and /dw/ respectively, in which case a suffix {⁻⁵ʌt} 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 $S_1S_2$. $/w/$ is also non-syllabic after $/p b m k g y/$ when $V$ or $S$ follows.

5.78.

<table>
<thead>
<tr>
<th>Phoneme</th>
<th>has allophone</th>
<th>in environment</th>
<th>except</th>
</tr>
</thead>
<tbody>
<tr>
<td>$/w/$</td>
<td>[w] $\sim[/y]$ voiced</td>
<td>in non-syllabic occurrences</td>
<td>as noted in 5.76</td>
</tr>
<tr>
<td></td>
<td>velarised rounded</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>or unrounded</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>bilabial</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>continuant</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[wu] allophone [w]</td>
<td>in sequences</td>
<td></td>
</tr>
<tr>
<td></td>
<td>plus lower high</td>
<td>$[/C$ and $C_1-C_2$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>back rounded vocoid</td>
<td>$/p b m k g y/$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$[/w]$ allophone [w]</td>
<td>in sequences</td>
<td></td>
</tr>
<tr>
<td></td>
<td>plus high back</td>
<td>$[/C$ and $C\sim$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>rounded vocoid</td>
<td>$/p b m k g y/$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[u] lower high</td>
<td>in other</td>
<td></td>
</tr>
<tr>
<td></td>
<td>back rounded vocoid</td>
<td>syllabic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[u] high back vocoid</td>
<td>in other</td>
<td></td>
</tr>
<tr>
<td></td>
<td>in the sequence $C-C$</td>
<td>syllabic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$[/u], C-V$ and $C-y$</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Phoneme has allophone in environment except (/w/)

(For allophones following vowels, see 5.76)

Examples:


/y/ [y] voiced in non- as noted palatal syllabic in 5.76 continuant occurrences

[yɛ] allophone [y] in sequences [-C] plus lower high and [ ]

front unrounded

[yɛ] allophone [y] in sequences [-C] plus lower high and [ ]

front unrounded

vocoid

[l] lower high in sequence

front unrounded C₁-C₂ where C vocoid is not a palatal C *

[i] high front in sequence

unrounded vocoid C-[ ], C-V and C-w

*Occurrences of [l] in this environment are assigned to the phoneme /œ/ when C₁ is a palatal consonant.
(For allophones following vowels, see 5.76)

Examples:

Non-syllabic occurrences: /yamAy/ [yæmæː] 'smell',

/vya/ [viæ] 'fight', /tyA/ [tɪæ] 'give (to speaker)'

5.8. Syllable and Phrase Structure

5.8.1. 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.

5.8.1.1. 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 /æ/ 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: /ma/ 'imperative marker', /te/ 'stand', /va/ 'break ground', /mac/ 'rain', /ac/ 'catfish', /get/ 'scratch'

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

SV: /ya/ 'fire', /yA/ 'make', /wA/ 'say', /wak/ 'look after', /kwan/ 'slept'

VS: /kaw/ 'eats', /yAW/ 'breaks ground', /may/ 'taro', /gayt/ 'to the village'

SVS: /yaw/ 'comes', /yAw/ 'makes', /kway/ 'give', /kWAYkWAY/ 'frog species'

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

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 /η/ do not occur phrase-initially. Phonemes /p/ and /ʌ/ are comparatively rare in phrase-initial position, though they do 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 C(NC)N....

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 5.9.

5.82.4. The sequences SS or WV 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 /kr/ should be noted (in /dekrə/ 'spider'). The sequence is relatively common in the Abelam dialect, in positions where the Wosera form has only /k/; compare Mk /ykə/ - W /ykə/ 'good', Mk /waykə/ - W /waykə/...
'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 /deŋa/, it would be possible to regard /ŋ/ in Wosera as an allophone of /g/, although this analysis would not be supported by patterning, as /g/ would them 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:

/Κορμα/ 'ground', /σερμα/ 'spittle', /τερμα/ 'coconut', /βαρμω/ 'moon', /μαρμα/ 'possum',
/γεραπμυν/ 'carved bird', /καχνα/ 'peel (vegetables)',
/κοκνα/ 'vulva', /ικνα/ 'urine', /κακκανα/ 'show', /ιακνα/ 'smoke', /τεπγα/ 'gecko', /ιατμω/ 'gecko' (lizard species), /κατω/ 'fence', /κακπαι/ 'bad', /μαπρεκ/ 'Maprik' (village name)(a),
/βαλβαλ/ 'jews-harp'

5.9. Morphophonemics

5.91. For the sake of simplicity of morphological description, it is convenient to depart from strict

(a) 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 [mapruk] is used when informants are speaking Pidgin, but may well have been derived from European usage.
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 [ë], [i], [u], 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 -C in other positions. As morpheme-final /ë/ also occurs, the phone [ë] is always taken to be the phoneme /ë/ in environment C+C, C+S across morpheme boundaries when no phrase-final form of the first morpheme has been recorded without [ë].

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 ñ/ and S is /w/.

Examples: /wany gwɔɔ/ [æ b ɔ ʌ l ɔ ʌ l ɔ ]  'in this water there are many fish and eels'

/wanbwa/ [wænæ ɔ bɔɔ] 'on the ear', /mənə wan ɔ ʌ l ɔ ʌ l ɔ ʌ l ɔ / [mænu w ænuwɔɔ] '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 sequenced are pronounced as a single phoneme within the phrase. Examples: /ma kwf tiyA/ [måk=wut=ĩ] 'fetch [it] and give [it] to me', /vækkwten/ [באק=ווטן] 'I heard (/væk/ 'hear'), /ðiy yakwa/ [ðiy åk=wo] 'they come'.

5.94. Elision of /ə/. /ə/ is written in the sequences ø+V/(where + indicates a word boundary), although it is frequently elided within the phrase, with or without compensatory lengthening of the V. Examples: /wnə apA/ [wünaep=ə] 'my father', /məne acA/ [męna=əc] 'your mother'.

5.95. Change of /t/ to /r/. Morpheme-final /t/ changes to /r/ (usually manifested as the allophone [ɾ]) 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} ~ {bəɾə} in the phonological environments given above; but a{bəɾə} 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 subclass 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 /kádo/ 'who' and /kammw/ 'what' are interrogative morphemes which share many of the characteristics of free pronouns, and are therefore included in the list. /kado/ also functions as demonstrative 'which'.

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

6.22.23. 'Pronoun' throughout means 'personal pronoun' (excluding /kado/ and /kammw/) as occurring in the following list, unless the context specifies otherwise.
### 6.22.3 List of allomorphs of personal pronouns

<table>
<thead>
<tr>
<th>English</th>
<th>Free Pn</th>
<th>Bound PnI</th>
<th>Verbal PnII</th>
</tr>
</thead>
<tbody>
<tr>
<td>'I'</td>
<td>wno</td>
<td>wte ~ wt</td>
<td>wno ~ wn</td>
</tr>
<tr>
<td>'you' -m.</td>
<td>mene</td>
<td>mene ~ men</td>
<td>mene ~ men</td>
</tr>
<tr>
<td>'you' -f.</td>
<td>hene</td>
<td>hene ~ hen</td>
<td>hene ~ hen</td>
</tr>
<tr>
<td>'he'</td>
<td>de</td>
<td>de ~ d</td>
<td>de</td>
</tr>
<tr>
<td>'she'</td>
<td>le</td>
<td>le ~ l</td>
<td>le</td>
</tr>
<tr>
<td>'we two'</td>
<td>ane</td>
<td>te ~ t</td>
<td>te</td>
</tr>
<tr>
<td>'you two'</td>
<td>bene</td>
<td>bene ~ ben</td>
<td>bene ~ ben</td>
</tr>
<tr>
<td>'they two'</td>
<td>bere ~ bet</td>
<td>bere ~ ber</td>
<td>bere ~ bet</td>
</tr>
<tr>
<td>'we'</td>
<td>nane-nene</td>
<td>nane-nan</td>
<td>nane ~ nan</td>
</tr>
<tr>
<td>'you'</td>
<td>gwne</td>
<td>gwne ~ gwn</td>
<td>gwne ~ gwn</td>
</tr>
<tr>
<td>'they'</td>
<td>day</td>
<td>dare-dar</td>
<td>dare</td>
</tr>
<tr>
<td>['who']</td>
<td>kade</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>['what']</td>
<td>kamw</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

[pnI] allomorphs {wte - wt} replace final /o/ of preceding morpheme, and final /a/ 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.

\[
P_1 = \{wa\}_1 \quad \text{or [pnII]} \\
P_2 = v
\]

6.23.1. \{wa\}_1 ~ \{w\}_1 ~ \emptyset ~ \{g\}_3 \quad \text{or [pnII] 'invariable predicate'}

Distribution of allomorphs: \{wa\} and \{w\} are in free variation after word-final /a/; substitutes [pnII] occur in affirmative equational questions; a \{wa\} occurs in all other locational, existential and equational sentences, except for some occurrences of a \{g\}_3 (see below, 6.23.12).

Examples: /mene wa/ 'you there' (attracting attention)
/wne bale w/ 'this is my pig'
/wne [ luluai wa/ 'I am the luluai'
/ane [ mene wayka wa/ 'we two are your younger brothers'
/wany bale [] wne [ wayka na bale w/ 'this pig is the pig of my younger brother'
/mene [ luluai mene/ 'are you the luluai?'
/gwne [] wne ane [] gwne/ 'are you all my elder brothers?'

6.23.11. The form /de/ (third person) of [pnII] occasionally replaces second or other third person forms:
Examples: /bene [] wne ane [] vetyk bene/ 'are you two
/bene [] wne ane [] vetyk de/ 'my two elder brothers?'
/bet [] mene [] ane, wayka de/ 'are they two your brothers?' and substitutes

6.23.12. Allomorphs {wa} ~ {y} have been found to be optionally replaceable by zero in a few cases:
Examples: /wne bale/ 'my pig'
/y [] ane [] mene [] ane vetyk/ 'yes, we two are your two elder brothers'
/gwne [] kade gwne/ 'who are you [all]?'
/gwne [] kade/

6.23.13. For {wa} in negative equational statements, see 6.31.1.

6.23.14. All allomorphs of {wa} and substitutes are invariable for time, and {wa} ~ {y} ~ {∅} for person.
Examples: /Any na la ya a n dw / wne apa wa/ 'that man who came yesterday was my father'
/Any kwamy / wne bale wa/ 'that meat was [is from] my pig'

6.23.2. Verb. A verb (v) is a predicate containing affixes. A verb base is a verb minus affixes. A verb stem (vs) is a minimal base. A subjected verb (sv) is a verb containing S^3; a non-subjected verb (xv) is a verb which does not contain S^3.

6.23.3. Verb morphology.
6.23.31. [-kwA] (-gwA) [-w] 'present tense suffix'
Distribution of allomorphs: [-gwA] occurs after bound pronoun forms /mene/, /fene/, /bene/, /gwen/ and /nene/ 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 [-kwA] in both subjected and non-subjected verbs. It replaces final /e/ of the preceding morpheme.

[-kwA] occurs in all other environments.

Present verb = + vb + [-pnI] + {kwA}
Note: {mene} 'we' has allomorph {na} before a{gwA}
{fene} 'you' (f.) frequently has allomorph {ie} before {gwA}
{daa} 'they' frequently has allomorph {daa}
Examples:

Non-subjected verbs: 
/wne kə.kwA/ 'I eat'
/day vya.kwA/ 'they fight'
/ane hərek.gwA/ 'we two swallow'
/mene yəw/ 'are you coming?'
/mene v,w/ 'do you see?'

Subjected verbs: 
/day vya.dare.kwA/)
/day vya.də.kwA/ ) 'they fight'
/any takwa ə kə.le.kwA/ 'this woman eats'
/hə ə dawle y.de.kwA/ 'sun goes down'
/takwa həagw ə te.də.kwA/ 'the women (young women) remain'
/gəra.mene.gwA/ 'you are crying'

6.23.31.1. In the Māprīk dialect a{-w} occurs in all functions of a{-kwA} and a{gwA}, no distinction is made between xv and sv, or between statements and questions.

Examples: 
/wne kə.w/ 'I eat'
/ane kə.t.w/ 'we two eat'
/yəba j mene y.w/ 'where are you going?'
/gay.r wne y.w/ 'I am going to the village'

6.22.32. {-n} ~ {-ən} ~ {-ən} ~ {-ən} ~ {-ək} ~ {-ək} ~ {-ək} ~ {-ək}
'past tense suffix'

Distribution of allomorphs: {-n} ~ {-ən} ~ {-ən} occur in statements, {-k} ~ {-ək} ~ {-ək} in questions.
{-n} and {-k} occur after [pnI] forms, after base-final vowel or unstressed semivowel, and irregularly after /y/ 'go'.

{-οn} and {-οk} occur after base-final consonant

{-άn} and {-άk} occur after base-final stressed semivowel

Past \( v = + \text{vb} + [\text{pnI}] + \{-n\} \)

Examples:

**xv:**
/ber̓e vya.n/ 'they two fought'
/ber̓e vya.k/ 'did they two fight?'
/mene gy.αk/ 'did you tie [it]?'
/wane rap.εn/ 'I stood up'

**sv:**
/wane [ kà.wte.n/ 'I ate'
/gwne [ kà.gwne.k/ 'did you [all] eat?'
/nane [ gay.bà [ kwa.nane.n/ 'we slept in the village'
/nane [ bale [ wla.nane.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:

/wane kà.k/ 'I ate'
/day y.k/ 'they came'
/takwa [ kademw [ tw.αk/ 'the woman cooked the food'
6.23.33. {-kA-} ~ {-gA-} ... {-kWA}_2 ~ {-gWA}_2 'future suffix' 'marker'.

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

{-kA-} occurs in all other environments

{-kWA}_2 ~ {-gWA}_2 occur under the same conditions as {-kWA}_1 ~ {-gWA}_1 and requires the same allophones of [-pni], but it is treated as a different morpheme because of the non-occurrence of a question allomorph in this environment.

Future v = v + {-kA-} + [-pni] + [-kWA]_2

Examples: /nane y.ka. na.gwa/ 'we shall go'
/wa.ka.wto.kwa/ 'I shall talk'
/kya.ka.te.kwa/ 'we two shall die'
/gəra.ka.ñena.gwa/ 'you (f.) will cry'

6.23.34. {mA} 'imperative marker'

Imperative v = + {mA} + v

Examples: /mA və/ 'look!
/mA ware/ 'go up'
/mA ñegwc tyə/ 'give [me] tobacco'
/ñegwc mə kway/ 'give [him] tobacco'

6.23.34.1. {mA} 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 connexion with the verb base). More usually, however,
it forms a phrase with the verb base.

6.23.35. \{ka-\} 'prohibitive prefix'.

Prohibitive \(v = + \{ka-\} + vb + [pnII]\)

Examples:/wde \(\text{pakw},\text{wte},\text{kwa} \{\text{ka,ka mene}/ 'I hide food so that you should not eat'\)
/kwaje \(\{\text{ka,ka de}/ 'the flying fox should not eat [the bananas]'\)
/\text{ka,vya de} \(\text{wan} \text{my} \text{va} \text{ker,ay} \{\text{ka,vya de}/ '[be careful] lest it hit [you], this tree in falling, [be careful] lest it hit you'\)

6.23.36. \{-kə\} - \{-gə\} 'intensive suffix'.

Distribution of allomorphs:\{-gə\} occurs after base-final \(\text{A}^k/\)
\{-kə\} occurs in all other environments

Intensive \(v = + vb + \{-kə\} + [pnII]\)

Examples: /cərə \(\text{ya,ke mene} \text{cərə} \{\text{ka,ke mene}/ 'if you [plan to] come tomorrow, tomorrow you will [be able] to eat'\)
/\text{ka,ke dare}/ 'they intend to eat'

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

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 = 

\[ +\{\text{yAbA}\} + \{\text{wa}\} - \{w\} \equiv [\text{pnII}] \]

Examples: 
/\text{wne} [\text{luluai}] \text{yAbA} \text{wa}/ 'I am not the luluai'

/\text{wne} [\text{me}e \text{wayka}] \text{yAbA} \text{wa}/ 'we two are not your younger brothers'

/\text{Any my} [\text{vetyk}] [\text{tapw}] \text{yAbA} \text{wa}/ 'these two trees are not black palms'

/\text{bene} [\text{wne ane}] \text{yAbA} \text{bene}/ 'are you two not my elder brothers?'

6.31.11. The [\text{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: /\text{Any my} [\text{i no}] [\text{tapw}/ 'this tree is not a black palm'

6.31.2. Present negative \( xv = +\{\text{yAbA}\} + \text{vb} +\{\text{-y}\}_1 \pm [\text{pnII}] \)

Present negative \( sv = +\{\text{yAbA}\} + \text{vb} +[-\text{pnI}]_y +\{-\text{y}\}_1 +[-\text{kwa}]_1 \)

Examples:

\( xv: \) /\text{wne yAbA} [\text{ka.y}]/

'\text{I do not eat}'

/\text{wne yAbA} [\text{ka.y wne}]/
sv: //wne yaba I ka.wte.kwa.y/ 'I do not eat'
    /mene yaba I y.mene.gwa.y/ 'are you not going?'

6.31.3. Past negative =+{kapwk} + past v
xv: [no xv forms recorded; xv forms may possibly not occur in this construction]
sv: /wne apa [] kapwk ya.de.n/ 'my father did not come yesterday'
    /wne bale [] kapwk I ve.mene.k/ 'did you not not see my pig?'

6.31.4. Future negative =+{yaba} + future v + {-y}
Examples: /cere [] yaba [] ka.kwte.kwa.y/ 'tomorrow I shall not eat'
    /mene [] yaba [] ya.kw.mene.gwa.y/ 'are you not going to come?'

6.31.41. This construction is comparatively rare.
The imperative negative construction (6.31.6) usually appears in the function of future negative.
6.31.5. Imperative negative = + vb + {marek}
    = + vb + {bak}
Examples: /gera marek/ ) 'do not cry!'
    /gera bak/ )

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 imperative negative construction (6.31.6) sometimes appears in the function of imperative negative: /kathy I ka.ke mene/ 'do not eat!'
Intensive negative =

= \{\text{katy}\} + \text{vb} + \{-\text{kə}\} + [\text{pnu}]

Examples: \(/\text{cere I katy I ka.ke wn/} \ '\text{tomorrow I shall not eat}'\)

\(/\text{katy I kway.ke nane I kakəmw/} \ '\text{we will not give [you] food}'\)

6.32. Verb prefixes.
6.32.1. \{a-\} 'here'.

Indicates that the action of the verb is taking place in the immediate vicinity.

Examples: \(/\text{wne I a.v.wta/} \ '\text{I have seen it here'}\)

(I have found it)

\(/\text{y I a.te.kwa/} \ '\text{yes, [it] is nearby'}\)

\(/\text{wne lapw I any.ba ra.kwa I mënə lapw I a.ra.kwa/} \ '\text{my banana-tree is there, your banana-tree is here'}\)

6.32.2. \{wa-\}'there'.

Indicates that the action of the verb is taking place at a distance.

Examples: \(/\text{wa.vya.wte.n/} \ '\text{I have shot [it]}'\)

\(/\text{wne bale I wa.vya.mënə.k/} \ '\text{did you kill my pig?} \ [\text{owner was not present; the action took place elsewhere}]\)

6.32.21. See 6.62.33. regarding another function of \{wa-\}.

6.33. Multiple-stemmed bases.
6.33.1. \{-kway\} ∞ \{-tyA\} 'benefactive marker'.

\( vb =+vs + \{-kway\} \)

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

\{-kway\} occurs in all other environments

Examples: /mene kwAlpek / yA.kway.wte.kwA/ 'I make a bow for you' (lit. 'I make-give your bow')
/wne \[ mene vy \[ kyñ.kway.kA.wte.kwA/ ('I shall make a spear for you'
/yata.kway.kA.wte.kwA/ 'I shall carry[it] for you'

/wne gw [ ma tw.tyA/ 'draw water for me!'  

6.33.11. \{kway\} ∞ \{tyA\} appears as an independent vs meaning 'give'; but the occurrences as a benefactive marker include some (such as /yata.kway.kA.wte.kwA/, above) where the concept of 'giving' is not present.

6.33.2. \{-re\} 'continuous action marker'.

\( vb =+vs + \{-re\} \)

Examples: /wne\[ yA.re.kwA/ 'I come to stay'; 'I am still coming'
/wn \[ le \[ kA.re.kwA/ 'she is still eating'
\{re\} 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 {ma}. Examples: /ma n dy kwa.k/ 'we went and slept'
/ma y ta gy/ 'go and get [it] and tie [it]!!'
/ma ware ve/ '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?')
/nəgwc/ 'tobacco' (/nəgA 'banana leaf', /kwc/ '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 takwa/ 'men and women', 'people'. Repetitions of a noun or noun phrase are also regarded as being in apposition.
Examples: /takwa ңəgw ién takwa ңəgw ید ңəgw/ 'the young women remain' (lit. 'women-children women-children they stand)
/wany bale ښ wany acA ښ warya,ber/ '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:

- /\textbf{\textit{any/}} 'this' (nearby)
- /\textbf{\textit{wany/}} 'that' (distant)
- /\textbf{\textit{yany/}} 'which?'
- /\textbf{\textit{wa/}} 'that' (pointing)

6.42.21. It is possible, but not necessary, to regard /\textbf{\textit{wa/}} 'that' as an additional function of \{\textbf{\textit{wa}}\}.

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:

- /\textbf{\textit{nakwrak/}} ~ /\textbf{\textit{nak/}} 'one'
- /\textbf{\textit{vetyk/}} 'two'
- /\textbf{\textit{kwpwk/}} 'three'
- /\textbf{\textit{vetyk vetyk/}} 'four'
- /\textbf{\textit{tabak/}} 'five' (? abbreviation of /\textbf{\textit{taba nak/}} 'one hand?'
- /\textbf{\textit{kayk/}} ~ /\textbf{\textit{kayk nakhwarak/}} 'six'
- /\textbf{\textit{kayk vetyk/}} 'seven'
- /\textbf{\textit{kayk kwpwk/}} 'eight'
- /\textbf{\textit{kayk vetyk vetyk/}} 'nine'
- /\textbf{\textit{taba vetyk/}} 'ten'
- /\textbf{\textit{nakwrak my/}} 'twenty'
- /\textbf{\textit{my vetyk/}} 'forty'
- /\textbf{\textit{my vetyk vetyk/}} 'eighty'
'how much?', 'how many?'

6.42.3.1. 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 /taba naka/ 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.

6.42.4.1. [-nA] \( \cap \) [-kw] \( \cap \) [-\text{\textael}] 'possessive suffix'.

Distribution of allomorphs: [-nA] occurs with most nouns, particularly those which can be regarded as 'animate'

[-kw] occurs with third person free pronouns

[-\text{\textael}] occurs with remaining free pronouns and with nouns regarded as 'inanimate'

Examples /takwa.nA I fan/ 'the woman's child'

/dA\text{\textael}.kw I bale/ 'their pig'

/mene] kwalpek/ 'your bow'

/wna apA.nA I takwa/ 'my father's wife'

/dekw a\text{\textael}.nA ga/ 'his elder brother's house'

6.42.4.1.1. In the category of possessives must also be placed /k\text{\textael}/ 'whose': /\text{\textael} I k\text{\textael} bale/ 'whose pig is that?'

6.42.4.1.2. 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 
[-A], possibly a contraction of [-nA] in forms such as */mene.nA/.

6.42.5. Examples of attributes and attributive phrases:

/wane [ ykwn.] vy/ 'my good spear'
/wany [ gele balə] 'that black pig'
/wany nw [ kəprəy] nw wa/ this firewood is bad firewood'
/kənə [ nema gA] kwpk/ 'whose[are these] three big houses?'
/wane waykə.nA balə vətyk/ 'my younger brother's two pigs'
/bere [ wane waw vətyk] /'they two are my mother's brothers'
/yany [ takwa.nA 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 {-øt}₁ {-At}₁ {-r}₁ {-ør}₁ {-Ar}₁ {∅}

'first object suffix'.
Distribution of allomorphs: \{-r\} ~ \{-ər\} ~ \{-ər\}

occur when a vowel or semivowel follows in the same phrase (see 5.95)

\{-t\} and \{-r\} occur after base-final /a/, /a/ or unstressed semivowel, with some free pronouns (see 6.5.11), and irregularly with /cepe/ 'skin'

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

\{-ət\} and \{-ər\} replace base-final /ə/, occur after base-final stressed semivowel and with some free pronouns (see 6.5.11)

\{-ə\} occurs with objects regarded as 'inanimate' (see 6.86)

Examples:

/ẅne \[ cepo. t \] vya.kwa/ 'I hit myself'

(lit. 'I hit [my] skin')

/ẅne \[ han.ət \] kanyak.gwa/ 'I scold the child'

/mene \[ any dw.ət \] ma wacati/ 'you remove this man!'

/ẅne wacə.t \[ kamw.ke \] mene vya.w/ 'why are you hitting my dog?'

/ŋagwc \[ ma kway\] 'give [him] tobacco!'

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

wne. t ~ wna. t
mene. t
 hàne. t
d. t

an. t
bene. t
gwne. t
bere. t
day. t
1. At
kamw. At
kade

6.51.12. Bases ending in /ŋ/ have allomorphs ending in /ʃg/ before {-t}:

/kan/ - /kag.øt/ 'hand drum'
/nan/ - /nag.øt/ 'sago'

6.51.2. {-kø}2 ~ {-ge}2 'second object suffix'.
Distribution of allomorphs: {-ge} occurs after base-final /k/

{-kø} occurs in all other environments.

Examples: /wne [ kwAlpe.øgø keø tø.kwa/ 'I put a string on my bow'

/wne [ mæønø.kø kædæØwø kwa.kø.øtø.kwa/ 'I shall give you food'

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

/wne [ ñægøc [ kwa.kø.øtø.kwa [ wne aøtø.t/ 'I give tobacco to my father'

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

/mæønø.kø [ ykwn [ yø.øtø.kwa/ 'I am sorry for you'
/wne [ meøw.økø [ vekw.kwa/ 'I remember something'
6.51.23. For another function of {-ko}^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. \{maw\} 'must'.

Occurs with present sv with allomorph \{-w\}^2.

Examples: /han [- mawka.d.w/ 'the child must eat' /wne [- mawa y.wn.w/ 'I must go'

6.52.12. \{baka\} 'purposelessly'.

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

Example: /wne [- baka wte.kwa/ 'I stroll'

6.52.13. \{dawle\} 'down'.

Occurs with verbs expressing motion to indicate downward direction of movement.

Examples: /balus [- dawle y.kwa/ 'the plane lands' /matw [- dawle y.an gw.b/ 'the stone sank in the water'

6.52.14. \{wabel\} 'back'.

Occurs with verbs to indicate returning direction.

Examples: /wne [- wabel y.kwa/ 'I go back' /wne [- wabel ya.kwa/ '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 \{-ba\} (see 6.52.3), although the first (base) morpheme is not recognisable as a noun.

- apw, apw: 'always'
- bēla: 'now', 'today'
- bēla, ket: 'slightly later'
- waykA: 'later today'
- cēre, ma: 'tomorrow or the next day'
- kynA: 'in the future'
- talA: 'in the past'
- talA, ba: 'a long time ago'
- cēre: 'tomorrow'
- ma: 'two days hence'
- wale, ūa: 'three days hence'
- całe, ūa: 'four days hence'
- malēkwa, ūa: 'five days hence'
- nāle: 'yesterday'
- dēken: 'two days ago'
- dēken, ba: 'some time ago'
- gērabw: '(in the) afternoon'
- gan, bwa: '(in the) morning'
- je, 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 /yany capak/ 'what time?' (= 'when?'), and /apw/ with /katyk/ 'how many?' and numerals:

/yany capak [ mene ] qat [ ve . mene . k ]/ 'when did you see him?'

/apw katyk [ mene ] vyak . k/ 'how many times did [he] hit you?'

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

6.52.22. Substancess with suffix [-ba] also fill this slot; for discussion of this morpheme and its allomorphs, see 6.52.31.

Examples:

/wne [ nale . ba ] yan/ 'I went yesterday'

/wne apa [ gan . ba ] ya . de . n/ 'my father came in the night'

6.52.23. 'Time' adverbs occur in apposition:

/nale gerabw [ vyad . n / 'he hit me yesterday afternoon'

/cere ganbwa [ y . ka . wte . kwA ]/ 'I shall go tomorrow morning'

6.52.3. 'Place adverbs'. This slot is filled mainly by substantives with suffixes [-ba] and [-t]. 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:
abA 'here', 'hence'
aga 'hither'
waba 'there'
jabA 'over there'
kwalmaka 'nearby'
apA 'distant' (motion towards)
apA.ba 'distant' (stationary)
yAba 'where', 'hence'

Examples: /wnA abA ya.kwA/ 'I come from here'
/wnA aga y.kwA/ 'I go to this place'
/abA v.wte.n/ 'I saw it here'
/de jaba r.Aw/ 'there he is'(dialect form)
/kwalmaka te.kwA/ 'it is nearby'
/vy apAk y.kwA/ 'the arrow goes a long way'
/apAk.ba te.de.kwA ygay ve.ka/ 'he is a long way away; I cannot see him'

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

6.52.31.1. It is suggested that the present free variation in most occurrences of {-ba} 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 Wasera /bala/ - Kwusaun /bwala/ 'pig' in Part IV). The only contrast recorded is /gan.ba/ 'at night' - /gan.bwa/ (also /gabwa/) 'in the morning'.

Examples:

'Time' adverbs: /male.bwa/ 'yesterday'
/gan.ba/ 'at night'
/gan.bwa/ 'in the morning'

'Place' adverbs: /ya.ba/ 'by the fire'
/taba.ba/ 'on the hand'
/gay.ba/ 'in the village'

6.52.31.2. {-bwa}, like /yaba/ 'where, whence', indicates 'place whence' as well as 'place where':
/yaba mene ya.w/ 'where have you come from?'
/wane avecret.ba ya.kwax/ 'I have come from Abusit'

6.52.32. {-t}_2 ~ {-et}_2 ~ {-at}_2 ~ {-r}_2 ~ {-ar}_2 ~{-g}_3
\in {}{-ka}_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)
\sim {}{-g}_3

{}{-ka}_3 occurs with free pronouns and with animate substantives, {}{-g}_3 after base-final /k/.

(Note that this distribution contrasts with that of
Examples: /wne ] gay. r y. kwA/ 'I go to the village'
/wany dw ] wne. ke ] ya. kwA/ 'that man is coming to me'
/ane ] gw. at ] y. ka. te. kwA/ 'we two will go to the water'
/cere ] bag. et ] y. ka. wte. kwA/ 'tomorrow I will go to the bush'
/ane ] y. ka. ne. ga ] ne ] dw. na ] gay. t/
'will you (f.) go to your husband's village?'

6.52.33. { -AL A} ~ { -LA} 'comitative/locational suffix'.
Distribution of allomorphs: { -LA} occurs after base-final /a/ with substances

{ -AL A} 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 { -bA} when occurring with inanimate substantives; also that substantives with this suffix are commutable with 'manner' adverbs as well as with 'place' adverbs.

Examples: /apwy ] my. AL A ] te. kwA/ 'a bird is on the branch'

/men. AL A ] kade ] t. w/ 'who is standing near you?'

cere ] any takw. AL A ] y. ka. wte. kwA/
'tomorrow I shall go with this woman'

6.52.33.2. /cokət/ 'along with' may occur preceding forms with suffix {−AlA}:

/ane / cokət / men. AlA / y.ka.te.kwa/ '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'
- **petepete** 'quickly' (running)
- **rekaba** 'excessively'
- **gwabe** 'half'
- **gwabe gwabe** 'only partly' (cf. Pidgin 'hap hap tasol')
- **malA** 'only'
- **aga** 'thus'
- **yga** 'how?'

Examples: /ya.bA / ya.ñene.gwa.y / bary/ 'you (f.) did not come quickly'

/wne / petepete / y.kwa/ 'I go quickly',
'I run'

/ya / rekaba / verek.w/ 'the fire is burning fiercely' ({−w} for {−kwA}, dialect)

/mac / rekaba / vyA.y.../ 'rain having fallen
heavily'

'/hene [] yga  y.w/ 'how [by what route] do you [f.]
go?'

'/baile [] yga [] ra.ke  hene/ 'how do you set about
cutting up a pig?'

'/wne [] aga [] ra.kwa/ 'I cut it up thus'

6.52.42. { -t } 3 - { -et } 3 - { -at } 3 - { -r } 3 - { -er } 3 - { -ar } 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: /kamw.at [] hene [] vyak/ 'what did you hit
[him] with?'

'/mygwA.t [] de vyak [] kama.t [] de vyak []
kwla.t [] de vyak/ 'did he hit [you]
with a stick, a knife, or an axe?'

'/taba.t [] vyak.de.n/ 'he hit [me] with his hand'

6.52.43. { -ke } 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: /kamw.ke [] hene [] warya.k/ 'why [what for]
did you two fight?'

'/wne [] hene.ke [] kety,kawte,kwa/ 'I shall
dance for you'
6.53. Attribute-verb constructions. Any attribute may appear in construction with /yA/ 'make' or /te/ '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 /yA/ is the commonest morpheme for indicating predication of attributes; /te/ 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 yA.kWA/ 'the man is good' (/ykwn dw/ 'good man')
/wne wapwy / kapray yA.n/ 'my loincloth is torn' (/kapray / wapwy/ 'bad loincloth')
/kəpma / kar yA.n/ 'the ground is soft' (/kar kəpma/ 'soft ground'
/wapwy / ńeky / yA.kWA/ 'the loincloth is red' (/ńeky / wapwy/ 'red loincloth'
/wne wapwy / gw / takwa/ 'my loincloth is wet' (/gw wapwy/ 'wet loincloth'
/kama / baka te.kWA/ 'the bamboo [container] is empty' (/baka / kama/ 'empty bamboo')
6.53.11. As will be seen from the examples above, /yA/ 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 /yA/ and /tə/ is expressed by the 'invariable predicate negative' (see 6.31.1):

/wany  dw [ ykwn ] yaba wa/ 'that man is no good'
/kapma [ kat ] yaba wa/ 'the ground is not soft'
/wapwy [ gw ] yaba wa/ '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 [ bar yA.kwa/ 'the man is sick'

- /bar yA.kwa [ dw/ 'sick man'
/takwa [ kade yA.kwa/ 'the woman is hungry'
- /kade yA.kwa [ takwa/ 'hungry woman'
/wne [ papwy [ yA.wte.kwa/ 'I tell lies'
- /papwy yA.kwa [ dw/ 'a liar'
/wne [ calerkw yA.kwa/ 'I am tired'
- /calerkw yA.kwa [ dw wa/ 'he is a tired man'
/my [ vak yA.kwa/ 'the tree is heavy'
- /vak yA.kwa [ my/ 'heavy tree'
/ragwa yA.n [ kwat/ 'heavy post'
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: /wne bat yABA wA/ 'I am not sick'
/wne kade yABA wA/ 'I am not hungry'
/kwat vak yABA wA/ 'the post is not heavy'

6.6. Sentences with more than one Verb

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

/wany nale ya,n dw wne apa wA/ 'that man who came yesterday is my father'
/wa,tew;a,kwA kwa,t ma dawle y/ 'go down to that stream down there'
/na,ara,kwA takwa kadew; tw,an/ '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. {-kọ́} 'in order to'.

For allomorph ic distribution and another function, see
6.22.36.

Construction = + vb + {-ke\(^2\)} + v

Examples: /wwo ya.kwA \(\text{ve.}\text{ke}\)/ 'I come to see'
/wwo ka.\(\text{ke}\) ya.kwA/ 'I am about to eat'
/ane \(\text{kapma}\) \(\text{kapma}\) ve.\(\text{ke}\) ya.kwA/ 'We two are seeing each other' (lit. 'we two another another to see, make')
/de ya.de.n \(\text{what}\) wa.\(\text{ke}\)/ 'he came to talk to me'

/wwo \(\text{y.}\text{ka.}\text{wte.kwA}\) ve.\(\text{ke}\)/ 'I shall go to see'

6.62.11. The occurrence of this construction when the main verb is /ya/ '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:

/ka.\(\text{ke}\) wne ya.w/ 'I shall go'
/wne \(\text{ve.}\text{ke}\) ya.w/ 'I shall see'
/ane \(\text{y.}\text{ke}\) ane ya.w/ 'we two shall go'

6.62.12. Morpheme {-ke\(^2\)} may also be recognised in the apparently non-productive construction /ka.kemw/ 'food' (ka.\(\text{ke}\) mw/ 'thing for eating').

6.62.2. \{ware\(-\}\) ... \{are\(-\}\) 'discontinuous reciprocal prefix'

Construction = + \{ware\(-\}\} + vb\(^1\) + \{are\(-\}\} + v\(^1\)

Example: /ane \(\text{ware.}\text{ve}\) \(\text{are.}\text{ve.kwA}\)/ 'we two see each other'
6.62.21. Informants for the Wosera dialect denied that this morpheme occurred with bases other than /ve/ 'see', but examples were recorded from the Maprik dialect with the verbs /vekw/ 'hear' and /veya/ 'fight'. Compare also the probable occurrence of the first element of the morpheme in /warya/ 'fight' and /varwA/ 'quarrel'.

6.62.3. 'Competence' constructions with /ve/ '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} +{-y} + verb /ve/

Examples: /mene [ kwalpek ] ya.kwa.y / mene v.w/ 'do you know how to make a bow?'

/raene [ wt [ yata.kwa.y ] raene v.w/ 'do you [f.] know how to make a net bag?'

/wane [ wt [ yabA ] yata.kwA / v.wte.kwa.y/ 'I do not know how to make a net bag'.

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

/ma vya.kwa.y / ve/ 'try and kill [it]'!

/ma ya.kwa.y / ve/ 'try and make [it]'!

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

Construction =+{wa-} + v

Examples: /wne [ kwalpek ] wa.ya.wte.kwa/ 'I know how to make a bow'
1\yn® 0 \yn® \wv® k\yn®.\ka® \we®.\k\w® / 'I shall know how to sharpen a spear'

6.62.41. See 6.32.2. for another function of prefix \{ \wv® \}.  

6.62.5. \{ \y\ka® \} 'inability'.  

Construction = + \vb® + \{ \y\ka® \} + verb /\y\ka®/  

Examples: /\y\ka® / \y\ka® \y\ka® / \y\ka® \y\ka®.\k\w®/ 'we two cannot carry the tree'

/b\y\ka® / \y\ka® \y\ka® / \y\ka® \y\ka® w/ 'can\'t you two carry this tree?'

/w\y\ka® / \y\ka® \y\ka® \y\ka® / \y\ka® \y\ka® / 'I cannot chop firewood'

6.62.51. The sequence /\y\ka® \y\ka®/ is homophonous with /\y\ka® \y\ka®/ '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. \([-y]\_2 \sim \{-\gamma\} \propto \{-\upsilon\gamma\} \propto \{-\upsilon\kappa\upsilon\}\) 'invariable sentence-medial xv suffix'.

Distribution of allomorphs: \([-y]\) occurs after base-final /\(\alpha/\) or /\(a/\), excluding those bases with which \([-\upsilon\gamma\} \) or \([-\upsilon\kappa\upsilon\} \) appear

\([-\gamma]\) occurs after other bases (excluding those bases with which \([-\upsilon\gamma\} \) or \([-\upsilon\kappa\upsilon\} \) appear), replacing base-final /\(\epsilon/\) and
irregularly replacing base-final /y/ in /ky/ 'copulate'

{-tAy} occurs after the following stems: /rɔ/ 'remain'

/y/ 'go' (/yAy/ also occurs)
/yA/ 'come' (yay/ also occurs)
/kwa/ 'sleep' (kway/ also occurs)

{-tɔkAy} occurs after the following stems: /vɔ/ 'see' (/vətAy/ occurs in the Maprik dialect)
/takA/ 'leave behind'
/yA/ 'make' (/yAy/ occurs in the Maprik dialect)
/kA/ 'eat' (/kA,y/ also occurs)

6.72.1 No contrast has been observed between bases occurring with morphologically conditioned allomorphs of {-y}. 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 /vɔ/ 'see' and /vA/ 'dig' have a sentence-medial form /vAy/ (/vAy/ /vA.y/); but /vɔ/ also occurs in the form /vətɔkAy/ where confusion could arise. (The form */vAtekAy/ occurs nowhere in the Wosera corpus). Similar homophonous and potentially homophonous forms are:

/kA/ /kA.y/ 'eat' /kA/ /kA.y/ 'copulate'

(recorded */kA.təkAy/)
/\text{y}/ :/\text{y.Ay}/ 'go' - /\text{yA}/ :*/\text{yA.y}/ 'make'  
\text{recorded form} /\text{yA.tekAy}/)  
/\text{ra}/ :/\text{ra.y}/ 'possess' - /\text{re}/ :*/\text{rAy}/ 'remain'  
\text{recorded form} /\text{re.tay}/)  
Examples: /\text{wne} [\text{re.tay}] [\text{ka.kwa}]/ 'I sit down and eat'  
/\text{cere ya.y} [\text{kaakemw} [\text{keray.ko mene}]/ 'when you come tomorrow you will receive food'  
/\text{wne ya.y} [\text{wne ka.n}]/ 'I came and ate'  
/\text{jeba} [\text{ya.tekay} [\text{re.tay}] [\text{ka.kal.wto.kwa}]/ 'I worked for a long time; [now], having sat down, I shall eat'  
/\text{mene} [\text{felekAy} [\text{ykwn} [\text{ya.kal.mene.gwa}]/ 'if you swallow [it] you will be well'  

\text{6.72.2} \{-y\}_2 \text{ 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 \{-ka\} 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).}  

\text{6.72.3} \text{ 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: /ane / war=\w=\y / vy\=\a,\=d\=e,\=n/

'we two were quarrelling and he hit me'

6.73. \{-ka\} \(\rightarrow\) \{-ga\} 'successive sentence-medial sv suffix'.

Distribution of allomorphs: \{-ga\} occurs after allomorphs \{-\=n=\=e-\}, \{-n=\=a-\} and \{-d=\=a-\} of pronouns /\=n=\=a\=e/,

/n=\=a\=e/ and /d=\=a\=y/ respectively

\{-ka\} occurs in all other environments.

Construction = + vb + \{pni\} + \{-ka\}

6.73.1. \{-ka\} 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.b=\=a I war.\=a I caky.n=\=a.g=\=a I sister I fater I daw=\=e y.dar=\=e.n/ 'when we had gone up to the village and the nuns and the priest went down'

/vy\=\a.wte.\=k=\=a I gera.\=k=\=a.mene.gwa

'I shall hit you and you will cry'
/we<mawle 1 kagel  ya.de.ka/ vywa.wte.n/ 'I became angry and hit him' (lit. 'my belly having became hot I hit him')

'same subjects': /jebA 1 ya.wte.ka/ calekw ya.kwa/
'I worked a long time and am tired'

/kwa.ka.wte.kwa/ 'when I have eaten I shall go to sleep'

6.74. {-w} 3 'simultaneous sentence-medial sv suffix'.
Distribution: {-w} replaces final /a/ of preceding [-pni:] forms

Construction = + vb +{-ka} + [-pni:] +{-w} 3

6.74.1. {-ka} 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 {-ka} 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': /mane 1 wa.man.w I vekw.ka.wte.kwa/

'you talk and I shall listen'

temane.w I v.wte.n/ 'you were standing up and I saw you'

/r.wt.w I ma ka/ 'while I am sitting down, you eat!'
'same subjects':

/wen  d.at  v.wt.w  kwla  kway.ka.wte.kwa/

'If I see him I shall give him an axe'

/mene  d.at  ve.men.w  kwla  ma kway/

'if you see him give him an axe!'

/vya.t.w  gera.ka.le.kwa/ 'if we two hit her, she will cry'

/wen waca  vya.men.w  men.t /

/vya.ka.wte.kwa/ 'if you hit my dog I shall hit you'

/wonem taim  marit.ben.w  wen  wa.wte.kwa/ pater/ 'when to people get married I speak to the priest'

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

/v.wte.n  te.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 =+[yaba]+ sentence-medial form

Examples: /wene  yaba  ka.tekay  wayka  ka.ke wen/ 'I have not eaten, I intend to eat later'

/de yaba vya.y  bak a y.de.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. \{-kA\} negative = vb + \{kapwk\} + /ya/ + sentence-medial \{-kA\} form

Examples: /wne bale I kway kapwk [ya.de.kA] vya.wte.n/ 'as he did not give me my pig, I hit [him]' 
/ya kapwk [ya.mene.gA] y.wte.n/ 'as you did not come, I went'

6.75.3. \{-w\} negative = vb + \{yAbA\} + \{wa\}

Examples: /mene I fierek I yAbA wa I kya.kA.mene.gwA/ 'if you do not swallow [it] you will die'
/wne I fierek I yAbA wa I kya.kA.wt.w/ 'if I do not swallow [it], I shall die?'

6.76. Sentence-medial forms in other constructions.

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

A few examples will suffice:

'/mA war,ay ve/ 'go up and see!'
/mene kwalek [yaAbA] ya.kway.kway [ve.tekay]
  wne aPaKe [y.wte.n] / 'as I did not know how 
  to make a bow for you I went to my father'
/wne aPa [wakwaNe.d.w [ce] kyN.kwA.y ] 
  ve.kA.wte.kwA/ 'as my father has shown [me],
  tomorrow I shall [be able to] sharpen
  [a spear]'
/kagole [ya.de.kA] wne [mene.Ke] ya.wte.n/ 
  'as he was angry, I came to you'

6.78.2. 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 / nək / kwle / wrəpə.nə.gə bəle /
kwle ər.əy / nək / vya.əkə.nə.gə /

'having gone down we rounded up and killed one pig that we had been (following?)'
The object slot is filled by /nək / kwle /
wrəpə.nə.gə bəle/ '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} in particular is comparatively rare.

6.82. 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.

6.82.1. '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 pe télé ły tay f l -gay.r ya-ka, na-gwA/ 'the hunt having gone quickly we [then] came back to the village'

6.82.2. '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 (/bela/ 'now') or by the use of a base + /re/ 'sit, remain' (see 6.33.2).

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

6.82.4. '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) intiative forms are used to express simple futurity.

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

8.83. 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
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.

6.83.1. 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.

6.83.2. 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:

/\wne ³nan ³k³de ³vy³a. ³de. ka ³de ³gera.w/

'who hit my child [so that] he is crying?'

6.84. 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 connexion 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 /ya/ 'make, do, act' is used in a sentence-medial form:

/wne / ya.wte.ka / de / wp ya.kwa/ 'I frighten him' (lit. 'I having acted he fright makes')

6.85. Gender. Gender in Wosera is 'natural' as far as large animate beings are concerned; thus, male beings require verbal agreements with the pronoun /de/; female beings agreements with the pronoun /le/. 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 /cayka/ 'cassowary' (m.) with /cayka/ 'praying mantis' (f.). With inanimates, the masculine pronoun is usually used, except for the following recorded cases with feminine pronouns: /na/ 'sun', /kway/ 'river', /kwc/ 'salt (water), sea', /wy/ 'sword grass'.

6.85.1. 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).
6.86. 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 \{-\} of \{-t\}\_1 are concerned: thus /wacA/ 'dog' has been recorded as 'first object' with both allomorphs \{-t\} and \{-\} of \{-t\}\_1, while /bale/ 'pig' has been recorded as first object only with \{-\}. Even substantives denoting human beings may occasionally occur with allomorph \{-\}; see the example in 6.83.2, where /n\an/ 'child' so occurs.

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

6.82.1. Fixed word orders.

6.82.11. 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.
6.82.12. In verb-verb constructions (6.62) the dependent verb precedes the main verb, except in the case of the construction with {\{-kэ\}_{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 morphemes and the imperative marker {\{ma\}} precede the entire construction.

6.82.13. 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.

6.82.14. 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.

6.82.2. 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

6.82.21. 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: /cere [ wne ] y,kA,wtA,kwa/ 'I shall go tomorrow'

/yAyaBA [ wne vA,k/ 'I saw a wallaby'

(emphasis, in reply to the question: 'what did you see?')

6.82.22. 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

6.82.23. 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.
6.82.24. 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.

6.82.3. 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:  
/yany capak | menel.t | vyak/ 'when did he hit you?'
/bale | yga | ra.ka mena/ 'how do you cut up a pig?'

6.82.31. Where no interrogative word occurs, any subject S2 always immediately precedes the verb complex. The order of other slots remains the same as in statements.

Example:  
/wne kwaleigh | yalkwa.y | mena | v.w/  
'do you know how to make a bow for me?'

6.82.32. /ka.de/ 'who' may occur in sentences with either statement or question word order:
6.88. 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 connexion of the items.

6.88.1. 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/:

/bale [de ya.de.n/ 'the pig came'
Nor does it apply to short noun phrases:
/\dw\ takwa/ 'people', /\kwc\ dw/ 'sorcerer'

6.88.2. **Length as a conditioning factor.** No phrases of more than six syllables have been recorded.

6.88.3. **Constructions forming phonological phrases.**

Subject to the above restrictions, the following constructs form phrases at normal speed of utterance:

\[ S_2 + \text{monosyllabic or disyllabic v complement} + \text{monosyllabic or disyllabic v noun subject} + \text{monosyllabic or disyllabic v attribute} + \text{noun verbal adverb} + \text{monosyllabic or disyllabic v intentive v constructs} \]

\[ \{-m\}\ + \ v \]

\[ \text{noun or free pn} + \{-w\} \]

6.88.31. 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.

6.88.32. The following sequences do not 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 object or adverb slot

6.88.33. 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 morphemes and 'verbal adverbs' are listed, as well as the imperative marker {-ma}.

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 position of both elements in discontinuous morphemes is shown.

6.93. Order of presentation is alphabetical: /A/ follows /a/, /a/ follows /d/, /f/ 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 112.
## MORPHEME INVENTORY

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<th>Reference</th>
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(Morpheme Inventory 2)

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<td>AllomorPHS</td>
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<td>FunctioN</td>
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### Morpheme Inventory 4

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<td>free</td>
<td>'inability'</td>
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7. WOSERA ABELEM TEXTS

7.1. Texts from Situational Testing

7.11. Dialogue: 'A man hit me'.

A 1 dw n\textit{kwr\textit{a}k} \( (vya)de.\textit{kA} \) \( (ya)wte.\textit{n} \)
\begin{itemize}
  \item man one \( (hit)he.\textit{S} \) \( (come)I.\textit{P} \)
\end{itemize}

\begin{itemize}
  \item 2 \( (ya)y \) \( (wa)wte.\textit{n} \)
  \item \( (come)S \) \( (cry\ out)I.\textit{P} \)
\end{itemize}

B 3 /\textit{k\textit{a}d\textit{e}} \( (vya)k \)
\begin{itemize}
  \item who \( (hit)P \)
\end{itemize}

A 4 /\textit{ny} \( (vya)n \)
\begin{itemize}
  \item this man \( (hit)P \)
\end{itemize}

B 5 /\textit{y\textit{a}ny \textit{c\textit{a}p\textit{a}k} \ de} \( (vya)k \)
\begin{itemize}
  \item what time he \( (hit)P \)
\end{itemize}

A 6 /nale \( g\textit{\textit{e}r\textit{a}b\textit{w}} \)
\begin{itemize}
  \item yesterday afternoon \( (hit)he.\textit{P} \)
\end{itemize}

B 7 /\textit{my\textit{g\textit{w\textit{a}}}t} \ de \( (vya)k \)
\begin{itemize}
  \item 8 /\textit{k\textit{a}m\textit{A}t} \ de \( (vya)k \)
\end{itemize}
\begin{itemize}
  \item (stick)Ag he \( (hit)P \)
  \item (bamboo)Ag he \( (hit)P \)
\end{itemize}
9 (kwla) t || de (vya)k ≠
(axe)Ag - he (hit)P

A 10 (taba)t || (vya)de,n ≠
(hand)Ag (hit)he.P

B 11 (kwA)bwa de (vya)k // 12 (makA)bA de (vya)k //
(shoulders)L he (hit)P (head)L he (hit)P

13 (taba)bwa de (vya)k // 14 (matw)bwa de (vya)k ≠
(hand)L he (hit)P (chest)L he (hit)P

A 15 apA wetyk || (kwp)bA (vya)de,n ≠
times two (back)L (hit)he.P

B 16 kamw.ke || bene (waryA)k ≠
what for you two (fight)P

A 17 (nale)bA || bale || kway || kapwk || (yA)de.kA ||
(yesterday)T pig give not (make)he.S

(vya)wte.n ≠ 18 wne mawle || kagel (yA)de.kA ||
(hit)I.P my belly hot (make)he.S

(vya)wte.n ≠
(hit)I.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]. 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 /tyA/ 'give (to speaker)' would have been used.
7.12. Dialogue: 'We shall catch fish'.

A 1 Any (gw)ba \(\exists\) ac de (t)w //
    this (water)fish he (stand)Pr

B 2 Any (gw)ba \(\exists\) ac lay \(\exists\) wagy lay \(\exists\) (te)kwA #
    this (water)fish some eel some (stand)Pr

A 3 wne \(\exists\) cere \(\exists\) ac (kera)da.kwA \(\exists\) (gw)at \(\exists\)
    I tomorrow fish (catch)they.Pr (water)A

(y)ka.wte.kwA #
(go)F.I.F

B 4 wany gw \(\exists\) kwamama \(\exists\) yga \(\exists\) cay \(\exists\) (vaty)ke te //
    that water deep how stream (cross)intensive we two

A 5 ane \(\exists\) cere \(\exists\) waba \(\exists\) (kwake (ya)w #6 cay \(\exists\)
    we two tomorrow there (sleep)to (make)Pr 6 stream

(vaty)ka.te.kwA \(\exists\) gw \(\exists\) (kelok)d.w #
(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.
This water is deep, how should we cross the stream?

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


7.12.21. Note the construction in 3:/ac (kara)dα,kwa \ (gw)at/ 'to the fish they-catching water'; see 6.61.

7.13. Dialogue: 'It is cold'.

A 1 ypma (yA)kwa / ya [ mα (yamwkgA) ≠
cold (make)Pr fire imperative (make)

B 2(ñw)\ yAba wA/ katy [ (yamwkgA)ke wne ≠
(waod) not predicate not (make)intensive I

A 3(kwajeA)\ (tyA)mon.w [ (y)ka.wtew,kwa (bag)et \ (axe) (give)you.S (go)F.I.F (bush)A

(ñw) (velo)ke ≠
(wood) (cut)to

B 4 wa kaprA,dy (ñw)A wA / mα (kwcaty) ≠
this bad.excrement (wood) predicate imperative (throw)

5 ykw (ñw)\ mα (t ak) ≠ 6 (ña)ba \
good (wood) imperative (place) (sun)L
ma (tak)Ay ¹  (ypwn)d.w ≠

imperative (place)S (become dry)he.S

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, /kapray.dj/ 'bad.excrement' is an intensified form of /kapray/ 'bad'.

7.14. Dialogue: 'I want to see your drum'.
A 1 wne (y)ke (yA)wte.kwA # 2 (tyA)men.w || kanj ||
   I (go)to (make)I,Pr (give)you,S drum

   (kwrxy)ka.wte.kwA ≠ 3 wne (y)Ay || kanj ||
   (take)(go)F.I.F I (go)S drum

   (ve)ka.wte.kwA # 4 (kwr)(ya)y || (wakwacfno)men.w ||
   (see)F.I.F (take)(come)S (show)you,S

   (ve)tekay || (y)ka.wte.kwA ≠
   (see)S (go)F.I.F
B 5 any (vwy)(cepe) y (pwn)en # 6 nane y (ykwn)et
this (lizard)(skin) (break)P we (good one)0

(kera)y (tapA)ke nan # 7 nane
(fetch)S (attach)intensive we we

A 7 (vwy)(cepe) y yada wa # 8 cepe (y)ka, na, gwa
(lizard)(skin) not predicate tomorrow (go)F, we,F

(bag)et (kwr)ke / (kwr)(ya)y (tapA)kwa #
(bush)A (take)to (take)(make)S (attach)Pr

A 9 wne (vwy)(cepe) a(ra)kwa / (kway)ka, wte, kwa
I (lizard)(skin) here(own)Pr (give)F, I, F

men,At #
you, 0

B 10 (cepe)t (tyA)men, w nene (baden) (kway)ka, wte, kwa//
(skin)0 (give)you, S your (exchange?) (give)F, I, F

A 11 wne (cepe)t (kway)wt,w makal (Akane)et
my (skin)0 (give)I, S small (knife)0

(tyA)ka, men, gwa #
(give)F, you, F
A 13 ma (vya)kwA.y we...(vakwdy) (yA)w // 14 ma (by) (kwt)\\
imperative (hit) try...(sound) (make)Pr imperative sap (take)

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.
7.14.21. For the 'attempted action' construction in 13, see 6.62.32.
7.14.22. The construction in 14 (sentence-final verb plus predicate marker \{wa\}) 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 nane || bale || (wla)nane.n / 2 (wla)y || (kẹle)n.ọ.ga
we pig (hunt)we.P (hunt)S (wound?)we.S
(y)de.n / 3 (vya)n.ọ.ga pay / (wli rèp)ay (y)ay /
(go)he.P (spear)we.S thus (get up?)S (go)S
waba (ra)kwa ≠ 4 nane || kwara || (y)kwa ≠ 5 kwara (y)ay
there (stay)Pr we back (go)Pr back (go)S
(kera)ka,na,gwa ∉ wany bale ≠ 6 pay (vya)(takA)nA.gA ∉
(get)F,we,F that pig thus (spear)(leave)we,S

(y)(ra)kwa ∉ 7 (vya)y ∉ (war)Ay ∉ wany bale ∉
(go)stay)Pr (spear)S (go up)S that pig

kwakenwk ∉ (kwbyka)na,gwa ∉ 8 kwakenwk ∉ (kwbyka)na,gwa
? (catch?)we,Pr ? (catch?)we,Pr

wany bale ≠ 9 (kwbyka)y / (ra)ka,na,gwa ≠ (ra)y (da)y ∉
that pig (catch?)S (cut)F,we,F (cut)S (go down)S

nak kwle ∉ (wręęę)na,gA bale / kwle (wr)Ay ∉ nak ∉
one again (follow?)we,S pig again (follow)? one

(vya)ka,na,gwa ≠ 11 (vya)y / nak (gy)Ay (yat)Ay /
(spear)F,we,F (spear)S one (tie)S (carry)S

(gay)r (y)ka,na,gwa ≠ 12 (gay)r (yat)Ay (y)Ay /
(village)A (go)F,we,F (village)A (carry)S (go)S

wantu (te)dA,r,w / orait ∉ wantu (te)dA,r,w / nana (racya)w...
two (stand)they,S well two (stand)they,S we (divide)Pr

(wla)ke (y)ke (ya)kwa ≠ 13 (wla)y (ya)y /
(hunt)to (go)to (make)Pr (hunt)S (come)S
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 /dakwa/ for 'woman' in this text and the next (instead of the elicited and more usual form /takwa/) is inexplicable.

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

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

1 nane (gay)ba (kwa)nane.n / 2 (kwa)y kwy (kwa)y /
we (village)L (sleep)we.P (sleep)S ? (sleep)S

yawy (yA)ke (taw)nane.n ≠ 3 yawy (tamy)nane.n ≠
garden (make)to (chop)we.P garden (prepare)we.P

4 yawy (tamy)Ay / ka (kwa)nane.n ≠ ka (kwa)y /
garden (prepare)S mami (plant)we.P mami (plant)S

ka (va)y / (gay)ba (war)Ay / (caky)nane.n ≠
mami (dig)S (village)L (go up)S (line)we.P

6 (gay)ba (war)Ay (caky)na.ga / sister / fater /
(village)L (go up)S (line)we.Pr sister father

dawle (y)dare.n ≠ 7 dawle (y)Ay nane ka / dw wala /
down (go)they.P down (go)S our mami man also
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 \(=\) 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 /dakwa/ = /takwa/, see 7.23.23.

7.24.24. /mawks ty/ is a place name, but it is uncertain whether it refers to another village (there is no village of this name in the official village directory), or 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.
9. OUTLINE GRAMMAR OF BOIKIN (KWUSAUN DIALECT)

9.1. Introduction

9.11. Boikin, or Boiken (probably intended for */pwayken/ or */bwayken/) 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 (/yawykə/), originally from Kwusaun (/kwɔːsən/) village (about 9 miles southwest of Wewak), aged about 53 years;

Hwanduo (/kwadwa/), originally from Uragembi (/wɾægəbə/) 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 Uregambi); 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)

Suek jā (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 (/wʌkyʌmʌgw/) from Sima (/cəm/) 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 Munjiharanji (Munji), about 11 miles southeast of Yangoru, and from Turingi, about 16 miles SSE of Yangoru, but the corpus is too small for any valid conclusions on dialect divergences 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   | m b n d n̂ y n̂ g p r c k m n n̂ n̂ v l l |
| I    | m b n d n̂ y n̂ g p r c k m n n̂ n̂ v l l |
| PF   | - - - - - - - p m t n c n k n m n n̂ n̂ |

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 n̂ n̂ v r l w y a e A/, 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 pharyngal spirant [h] or a velar spirant [x];
the position and degree of frication depend on the speaker
and/or on the dialect.

9.31.4. In the sequences /wa/ and /wa/ the vowel is
rounded much more than in Wosera; where the vowel carries
primary stress labialisation may be completely lost
following /b p k g m/: thus, /bwale/ 'pig' = [p=Io]

9.31.5. In the Yangoru dialect the phonemes /p t c k/ all
have allophone [?] (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.

9.32. Sound Correspondences 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 \{\text{nA}\} and the \{\text{na}\} 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 \{\text{nwA}\} 'I' refers to the class represented by the column in which the allomorph occurs.

9.41.1.1. Major Pronominal Allomorphs and Object Forms.

<table>
<thead>
<tr>
<th>English</th>
<th>Free Pn</th>
<th>Object</th>
<th>re series</th>
<th>na series</th>
<th>ne series</th>
</tr>
</thead>
<tbody>
<tr>
<td>'I'</td>
<td>nwA</td>
<td>nwA.kj</td>
<td>re</td>
<td>na</td>
<td>ne</td>
</tr>
<tr>
<td>'you' -m.</td>
<td>me.na</td>
<td>me.kj</td>
<td>ma</td>
<td>ma</td>
<td>me</td>
</tr>
<tr>
<td>'you' -f.</td>
<td>fe.na</td>
<td>fe.kj</td>
<td>fi</td>
<td>fi</td>
<td>fe</td>
</tr>
<tr>
<td>'he'</td>
<td>de</td>
<td>de.kj</td>
<td>de</td>
<td>de</td>
<td>de</td>
</tr>
<tr>
<td>'she'</td>
<td>ny</td>
<td>ny.kj</td>
<td>ny</td>
<td>ny</td>
<td>ny</td>
</tr>
<tr>
<td>'we two'</td>
<td>nane</td>
<td>nane.kj</td>
<td>nane</td>
<td>nane</td>
<td>nane</td>
</tr>
<tr>
<td>'you two'</td>
<td>bere</td>
<td>bere.kj</td>
<td>bere</td>
<td>bere</td>
<td>bere</td>
</tr>
<tr>
<td>'they two'</td>
<td>bere</td>
<td>bere.kj</td>
<td>bere</td>
<td>bere</td>
<td>bere</td>
</tr>
<tr>
<td>'we'</td>
<td>nane</td>
<td>nane.kj</td>
<td>nane</td>
<td>nane</td>
<td>nane</td>
</tr>
<tr>
<td>'you'</td>
<td>gwre</td>
<td>gwre.kj</td>
<td>gwre</td>
<td>gwre</td>
<td>gwre</td>
</tr>
<tr>
<td>'they'</td>
<td>dy</td>
<td>dy.kj</td>
<td>dy</td>
<td>dy</td>
<td>dy</td>
</tr>
</tbody>
</table>

9.41.1.1.1. The form /berA/ 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 \{wa\}; equation statements are expressed by simple juxtaposition (with optional pn of the \{na\} series in questions), non-equation by juxtaposition plus the negative \{mapm\}. Examples: /me] nw.kw [] yapA ma/ 'are you my father?'

/awA] nwA me\_kwa] yapA/ 'yes, I am your father'

/mapm] nwA me\_kwa] yapA mapm] nwA] dwa napA/ '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 \(v = +vb + \{-w\} \pm \{na\}\)

Examples: /nwA] kA.w/ 'I am eating'

/nwA] v.w/ 'I see'

/kyA.w na/ 'I am dying'

9.43.2. Future \(v\{\_k\} + vb + \{-k\} \pm \{y\}\)

Examples: /me] d\_kA\_y\_kA\_y\_k/ 'if you see him you will give him an axe'

/nwA] kA yA\_kA\_y/ 'I shall set about eating'

9.43.21. Morpheme \{-k\} corresponds to Wosera \{-ka\}, but is used to form futures rather than intentives. The verb /yA/ '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 + {-cbñ}
Example: /nwA / kl,cbñ/ 'I ate'

9.43.4. Intensive v = + vb + {wa} + {nñ} + {ya} + {-wñ}
Examples: /mø,ksñ / vya na ya,w/ 'I am about to hit you'
/ny,ksñ / vya,wa ya,w/ '[I] am about to hit her'
/nwA,ksñ / vya,wa ma ya,w/ 'are you about to hit me?'

9.43.41. The exact function of {wa} in these forms is uncertain. It appears more frequently in past contexts than in future. Intensive 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-j} + {m-j} + vb
Distribution of allomorphs: {m-j} occurs only with stem
/ya/ 'come'

{a-j} occurs in all other environments
Examples: /ma a,y/ 'you go!', /a,ɾe/ 'stay!',
/m,ya/ 'come!'

9.43.51. The imperative may also be expressed by second person pn forms /ma/, /ña/, /bera/. /waɾe/ + vb:
/bera ka/ '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 = + {kay} + vb + {-y} + {-ñy}
(For the distribution of {-y} and {-Ay}, see 9.47).
Examples: /nwa kAy ka.y/ 'I do not eat'; 'I have not eaten'
/nwa kAy v.ay/ 'I do not see'; 'I have not seen'

9.44.2. Future negative = + {kAy} + future v
Example: /nwa kAy ka.kn/ 'I shall not eat'

9.44.3. Past negative = + {kAy} + vb + {-knAy}
Example: /nwa ka.knAy/ 'I did not eat'

9.44.4. Intentive negative = [not recorded]

9.44.5. Imperative negative = + vb + {kapw}
Examples: /gera 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 (/nwa,kwa/ and /nwa,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:

<table>
<thead>
<tr>
<th>M</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>нapa</td>
<td>kyapa</td>
</tr>
<tr>
<td>yанapa</td>
<td>yалypa</td>
</tr>
<tr>
<td>wанapa</td>
<td>wалypа</td>
</tr>
</tbody>
</table>

'one'
'which'
'this'
The conceptualisation of gender in Kwusaun is similar to that of Wosera; see 6.35.

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

{-kn} 'first and second object suffix; allative suffix'
{-re} 'agentive and comitative suffix'
{-no} 'locational suffix'

9.46.1. The forms of pronouns with suffix -kn are given in 9.41.11.

9.47. Sentence-Medial Forms. The sentence-medial suffix for 'same subjects' is {-y} {-ay}, suffixed to vb or vb + {wa}; 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 dwa napə [nwa.kn] [(vyA)wa.y rən] [mə.kn] [(bwly)wa yə]#

man one 1.0 (hit)wa.S ? you.0 (talk)wa.make

B 2 kanana [mə.kn] [(vyA)wa(yA).w //

who you.0 (hit)wa. (make)Pr

A 3 mən wa [dwa] [də] [(nwa.kn] [(vyA)wa (yA)cən]#

that there man he 1.0 (hit)wa. (make)P
when he you.0₁ (hit)wa. (make)Pr

yesterday morning he he I.0₁ (hit)wa (make)Pr

which (thing)Ag he you.0₁ (hit)wa (make)Pr

(tree)Ag he you.0₁ (hit)wa (make)Pr (axe)Ag he

(me.ken) (vyA)wa (ya)w // 9 (kama)re de me.ken

(you.0₁) (hit)wa (make)Pr (knife)Ag he you.0₁

(vely)wa (ya)w //

(cut)wa (make)Pr

(hand)Ag he I.0₁ hit

(what)L he hit (head top)L he hit

(chest)L he hit ? L he hit
13 (tabA)ne de vya //
(hand)L he hit
A 14 ca verykŋ / nw.kwA (wma)ne de ɗ vya #
times two I. possessive (back)L he hit

B 15 (gava)knŋ / bere ɗ ka waryŋ #
(what) for you two? fight

A 16 nwA / bwale napŋ / cekwa (kwa)ren / de kA #
I pig one before (give)?S he not

nwA, knŋ / napŋ / (kwa)Ay / (nw, kwA / bwale jamA #
I.02 one (give)S I. possessive pig lack

17 nane / (wabwly) / de nwA, knŋ / vya #
we two (quarrel) he I.01 hit

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.

9.48.21. The usual phrase for 'when' is /ynewa caγ/ 'what time', not simply /ynewa/ 'what', as in 4. The
same morpheme for 'what' occurs in 11.
9.48.22. The form /gawA/ 'which, what' in 6 is in free
variation with /gavA/ in 15. A number of words with
intervocalic /p/ or /pw/ have variant forms with /v/:
thus also /yaμA/ - /yaA/ 'father', /napA/ - /nava/ 'one'.
10. OUTLINE GRAMMAR OF IATMUL (NYAURA DIALECT)

10.1. Introduction

10.1.1. 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.

10.1.2. The name Iatmul (probably intended for */yatmer/ 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' (/nawra/), 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 (/bwany/), aged about 22
Joe, aged about 25
Thomas, aged about 23
Yaman, aged about 50, 'tultul' of Yamanambu village.
10.22. A few pages of material were elicited also from Luwe (/lway/), 'luluai' from Mindimbit, and from Gwundege (/gwdegy/) 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, except where otherwise specified.

10.3. Phonology of Iatmul

10.31. The phonemes of Iatmul are /ptckbdjgmnn yrvleawə/. It will be noticed that the phonemes of Wosera are identical. All phonemes and their distribution are also similar to those of Wosera, but the following important differences should be noted:

/c/ has allophones [č] and [č] in free variation phrase-initially, and allomorph [č] in intervocalic position.

/k/ has allophone voiced velar spirant [γ] in free variation with [K] between vowels and semivowels.

/v/ has allophone [p^w] following /m/ (the phoneme sequence */pw/ does not occur).

/r/ has only allophone [ɾ], never the flap [ɾ].

/l/ has allophone voiced alveolar flap [I] in phrase-initial position, and allophone [I] in free variation with allophone [ɾ] intervocally.

10.31.1. The sequence /wa/ labialised only velar
consonants; after /b m/ it is pronounced as a single phone [o].

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 prenasalised 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 [ɾ] of the phoneme /l/. The conditions under which this occurs have not been fully determined; 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.

<table>
<thead>
<tr>
<th>English</th>
<th>Free Pn Object</th>
<th>Poss.</th>
<th>-wn series</th>
<th>-wa series</th>
</tr>
</thead>
<tbody>
<tr>
<td>'I'</td>
<td>wn</td>
<td>w.gat</td>
<td>wn.ₐ</td>
<td>-wn</td>
</tr>
<tr>
<td>'you'-m.</td>
<td>men</td>
<td>mé.gat</td>
<td>men.ₐ</td>
<td>-men</td>
</tr>
<tr>
<td>'you'-f.</td>
<td>ñen</td>
<td>ñé.gat</td>
<td>ñen.ₐ</td>
<td>-ñen</td>
</tr>
<tr>
<td>'he'</td>
<td>de</td>
<td>de.kat</td>
<td>de.na</td>
<td>-de</td>
</tr>
<tr>
<td>'she'</td>
<td>le</td>
<td>le.kat</td>
<td>le.ra</td>
<td>-le</td>
</tr>
<tr>
<td>'we two'</td>
<td>an</td>
<td>a.gat</td>
<td>an.ₐ</td>
<td>-∅</td>
</tr>
<tr>
<td>'you two'</td>
<td>bet</td>
<td>bé.kat</td>
<td>bé.ra</td>
<td>-bet</td>
</tr>
<tr>
<td>'they two'</td>
<td>bet</td>
<td>bé.kat</td>
<td>bé.ra</td>
<td>-bet</td>
</tr>
<tr>
<td>'we'</td>
<td>nen</td>
<td>nén.gat</td>
<td>nén.ₐ</td>
<td>-nén</td>
</tr>
<tr>
<td>'you'</td>
<td>gwt</td>
<td>gw.gat</td>
<td>gw.ra</td>
<td>-gwt</td>
</tr>
<tr>
<td>'they'</td>
<td>dy</td>
<td>dy.gat</td>
<td>dy.na</td>
<td>-dy</td>
</tr>
</tbody>
</table>

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', /jₐ/, must arise from */dyₐ/*. 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 {wa} is a suffix {-ma} - {-nₐ} - {-ñₐ} -{-∅}.

Distribution of allomorphs: {-ma} occurs after word-final /p/;
{-nₐ} occurs after word-final /t/;
{-ñₐ} occurs after word-final /c/
[-ŋA] occurs after word-final /k/
[-ɬ] occurs after word-final semivowel and nasal consonant
[-ɭ] occurs in all other environments

Examples: /wan / kə.nə bak.ŋA/ 'whose pig is that?'
/wan / wə.nə kəcə.nə / gəy.ə/ 'that is my cousin's house'
/wan / kə.nə wərə/ '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 + {-rəkə} + [-wn]
Examples: /bət / kə.ɾəkə.bət/ 'they two are eating'
/də / kə.ɾəkə.də/ 'they are eating'

10.43.11. /rəkə/ 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 + {-vəy} + {-kə} + [-wn]
Examples: /wən / kə.ɾəy.kə.wən/ 'I shall eat'
/an / kə.ɾəy.kə/ 'we two shall eat'

10.43.3. Past v = + vb ± [-wn]
The vb without bound pronoun suffix occurs in questions.
Examples: /w.gat nak geraww vyΛ.de/ 'he hit me yesterday afternoon'
/mo.gat kade vyΛ/ 'who hit you?'

10.43.4. Imperative $v = +{a-3} + vb$
Examples: /men a.ka/ 'you eat!', /a.re/ '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.ka 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 {-wn} in the first person. It is uncertain whether this {-w} is merely a contraction of {-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 re.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: /anA kə.rəkə.nən/ 'we do not eat'

10.44.2. Future negative = +{anA} + vb + {-kA} + {-wn}

Example: /wn anA kə.kə.wn/ 'I shall not eat'

10.44.3. Past negative = +{anA} + past vb

Example: /nak anA kə.wn/ 'yesterday I did not eat'

10.44.4. Intensive negative = + {anA} + intensive vb

Example: /anA kə.kə yəl.wn/ 'I am not about to eat'

10.44.5. Imperative negative = +{kəy} + vb + {-kA}

Example: /mən kə.kə/ '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 Ndo-family language pattern of different negatives for different tenses. The morpheme {kəy} occurring with the imperative is also the morpheme for general negation:

/kəy mənə nəyək anə wn/ 'no, I am not your father'

10.45. Possession. Possession in nouns is indicated by the suffix {-na}. 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} fulfills the functions of first and second object suffix, allative suffix and suffix corresponding to Wosera {-kə}.

Allomorph {-at} occurs after word-final /k/, {-gat} with various pronoun forms (see 10.41.1), {-kat} in all other
environments.

10.46.1. Noun suffix {\{-ba\}} fulfills the functions of locational, ablative and temporal suffix.

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 {\{-ka\}}, 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 \( v = + \text{vb} + [-\text{wa}] + \{-\text{yan}\} \)

Negative conditional \( = + \text{vb} \pm \{\text{lapmaq}\} + /y/ + [-\text{wa}] \)
+ \{\{-\text{yan}\}\}

Examples: /wan | keka\text{mak}\eta | lap\text{maq} | y.m\text{a.yan} | kya.k\text{e} \n\text{ya.men}/ 'if you do not swallow this [medicine] you will die' 

/\text{an} | wan maresin | keka\text{mak}\eta | ry\text{a.yan} | kwae.k\text{e} \text{ya}/ 'if we two swallow this medicine we shall be well'

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

A 1 k\text{e}\text{ta} \text{fan} | w.g\text{at} | (vy\text{a})vak(y\text{a})\text{d}\text{e} | me.g\text{at} | one human I.0 | (hit)to (make)he you.0
(bw)mak (ya)wn ≠
(say) to (me) I

B 2 me.gat [ kade ] vya //
you.0₁ who hit

A 3 kegy (man) [ w.gat vya ≠
this (man) here I.0₁ hit

B 4 me.gat [ adajwbel ] (vya)de ≠
you.0₁ when (hit) he

A 5 w.gat [ nak gerabw ] (vya)de ≠
I.0₁ yesterday afternoon (hit) he

B 6 me.gat [ (meda)ba de ] (vya)de // 7 (jaga)ba //
you.0₁ (what) he (hit) he (axe) Ag
(vya)de // 8 (kama)ba (vya)de // 9 (kwra)ba //
(hit) he (bamboo) Ag (hit) he (fist) Ag
(vya)de //
(hit) he

A 10 w.gat [ ( taboo)ba ] (vya)de ≠
I.0₁ (hand) Ag (hit) he
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 /warya/ in 19 is the verb stem for 'quarrel', or whether it is verb-stem /wa/ 'talk' plus /-rya/ '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 three villages of Avatip (/ave təp/ 'big coconut'), Malu (/marw/), and Yambon (/yAbwn/ '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 (/mAnAbw/) 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.
11.3. Phonology of Manambu

11.3.1. The phonemes of Manambu are /p t c k b d j g m n ñ v r w y a e 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.

11.3.1.1. All phonemes may occur phrase-finally, although vowels other than /ə/ are rare in this position (see 11.3.2).

11.3.1.2. Prenasalised stops /b d j g/ have devoiced allophones [m̩ b ŋ d ŋ j ŋ g] in phrase-final position.

11.3.1.3. Phoneme /r/ has allophones alveolar flap [ɹ] and alveolar lateral flap [l] 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.

11.3.1.4. Phonemes /p t k/ are slightly aspirated intervocalically.

11.3.1.5. Except in monosyllables, /w/ has phrase-final allophone [ɣ] in the sequences /pw bw kw gw/.

11.3.1.6. Phoneme-sequence /wa/ is pronounced as a single phone [ə] in stressed positions following alveolar stops.

11.3.2. Sound Correspondences with Wosera.

11.3.2.1. 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 /kə/ - M /kə/ 'eat', W /nə/ - M /nə/ '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 {wə} 'I' refers to the whole series represented by that allomorph.
11.41.1. Major Pronominal Forms.

<table>
<thead>
<tr>
<th>English</th>
<th>Free</th>
<th>([-wn])</th>
<th>([-w])</th>
<th>([-\text{twA}])</th>
<th>(O_1)</th>
<th>(O_2)</th>
<th>Poss.</th>
</tr>
</thead>
<tbody>
<tr>
<td>'I' -m.</td>
<td>wn</td>
<td>wn</td>
<td>w - (\text{aw})</td>
<td>twA</td>
<td>wn.Am</td>
<td>wn.Ak</td>
<td>wn.A</td>
</tr>
<tr>
<td>'I' -f.</td>
<td>wn</td>
<td>(\emptyset)</td>
<td>w - (\text{aw})</td>
<td>twA</td>
<td>wn.Am</td>
<td>wn.Ak</td>
<td>wn.A</td>
</tr>
<tr>
<td>'you' -m.</td>
<td>(\text{men})</td>
<td>(\text{men})</td>
<td>(\text{men})</td>
<td>(\text{men})</td>
<td>(\text{men}).Am</td>
<td>(\text{men}).Ak</td>
<td>(\text{men}).A</td>
</tr>
<tr>
<td>'you' -f.</td>
<td>(\text{(\text{hen})})</td>
<td>(\text{(\text{hen})})</td>
<td>(\text{(\text{hen})})</td>
<td>(\text{(\text{hen})})</td>
<td>(\text{(\text{hen})}.Am)</td>
<td>(\text{(\text{hen})}.Ak)</td>
<td>(\text{(\text{hen})}.A)</td>
</tr>
<tr>
<td>'he'</td>
<td>(\text{(\text{de-d})})</td>
<td>(\text{(\text{de})})</td>
<td>(\text{(\text{da})})</td>
<td>(\text{(\text{da})})</td>
<td>(\text{(\text{da})}.kam)</td>
<td>(\text{(\text{da})}.kek)</td>
<td>(\text{(\text{da})}.ka)</td>
</tr>
<tr>
<td>'she'</td>
<td>(\text{(\text{re-r})})</td>
<td>(\emptyset)</td>
<td>(\emptyset)</td>
<td>(\text{(\text{ra})})</td>
<td>(\text{(\text{re})}.kam)</td>
<td>(\text{(\text{re})}.kek)</td>
<td>(\text{(\text{re})}.ka)</td>
</tr>
<tr>
<td>'we two'</td>
<td>an</td>
<td>an</td>
<td>tek</td>
<td>(\text{(\text{ba})})</td>
<td>(\text{(\text{an})}.Am)</td>
<td>(\text{(\text{an})}.Ak)</td>
<td>(\text{(\text{an})}.A)</td>
</tr>
<tr>
<td>'you two'</td>
<td>ber</td>
<td>ber</td>
<td>ber</td>
<td>berA</td>
<td>ber.Am</td>
<td>ber.Ak</td>
<td>ber.A</td>
</tr>
<tr>
<td>'they two'</td>
<td>keber</td>
<td>ber</td>
<td>ber</td>
<td>berA</td>
<td>ber.Am</td>
<td>ber.Ak</td>
<td>ber.A</td>
</tr>
<tr>
<td>'we'</td>
<td>(\text{(\text{han})})</td>
<td>an</td>
<td>(\text{(\text{ba})})</td>
<td>(\text{(\text{bana})})</td>
<td>(\text{(\text{han})}.Am)</td>
<td>(\text{(\text{han})}.Ak)</td>
<td>(\text{(\text{han})}.A)</td>
</tr>
<tr>
<td>'you'</td>
<td>gwr</td>
<td>gwr</td>
<td>gwr</td>
<td>gwra</td>
<td>gwra.Am</td>
<td>gwra.Ak</td>
<td>gwra.A</td>
</tr>
<tr>
<td>'they'</td>
<td>day</td>
<td>dy</td>
<td>da</td>
<td>dana</td>
<td>day.Am</td>
<td>day.Ak</td>
<td>day.A</td>
</tr>
</tbody>
</table>

11.41.11. The allomorphs of \{wn\} in the \([-w]\) column have the following distribution: \{-aw\} replaces final /ə/ of stems

\{-w\} occurs with all other stems
\{-tw\} is in free variation with \{-aw\} and \{-w\}

11.41.12. Allomorphs \{-d\} and \{-r\} of \{\text{de}\}'he' and \{\text{re}\}'she' occur in phrase-final position.

11.41.13. Allomorphs \{keber\} and \{ber\} of \{ber\}'they two' are in free variation in most contexts; the longer form
however always occurs where ambiguity with \{\text{ber}\} '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 \{\text{wa}\} occurs; free pns occur as predicate markers in affirmative and interrogative equational sentences, and are replaced by \{\text{ma}\} in sentences expressing non-equation.

Examples: /ke,de \{\text{nan}\ d\} dw \text{nan}/ 'this child is a male child'

/ke,ber my \{\text{kabw}\ ber}/ 'these two trees are kapok trees'

/ke,dy my \{\text{kabw}\ ma}/ 'these trees are not kapok trees'

/wn \{\text{men.}\ de\} acay \text{ma}/ 'I am not your father'

11.43. Verbs. The Manambu verb is more complex than that of other members of the Ndv 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 [-twañ]. Person is also partially expressed by the morpheme \{-de\}_2, which expresses gender and number. The distribution of the allomorphs of this
morpheme, whether agreeing with subject or object, is as follows:

{-da} occurs agreeing with singular, masculine, first or second person subject or object

{-bar} occurs agreeing with dual first or second person subject or object

{-dy} occurs agreeing with plural first or second person subject or object

{-φ} 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 + {-na} + {-da} + [-wn]

Examples: /wn / kə.na.de.wn/ 'I am eating'
            /de / kə.na.d/ 'he is eating'
            /an / kə.na.bar.an/ 'we two are eating'

11.43.2. Future v = + vb + {-ke} + {na} + {de} + [-wn]

Examples: /man / və.kə.na.de.man/ 'are you (m.) going to eat?'
            /nən / kə.kə.na.ŋən/ 'are you (f.) going to eat?'
            /wn / və.kə.na.wn/ 'I (f.) am going to see

11.43.3. Past v = + vb + {de} + [-wn]

Examples: /an / kə.bar.an/ 'we two ate'
            /gwr / və.dy.gwr/ 'did you all see?'
            /dy / və.dy/ 'they saw'
11.43.4. Imperative \( v = + \{a^-\} + vb \)
Example: /mən a.ks/ 'you eat!'

11.43.41. Two irregular imperatives occur: /may/ 'go'
and /mAy/ 'come', from stems /y/ 'go' and /ya/ 'come'.

11.43.5. Intensive \( v = + vb + \{-kər\} \)
Example: /wn || və.kər/ 'I want to see'

11.43.6. This morpheme corresponds to Wosera \(-kə\) in
two-verb constructions as well as in intensive forms:
/an || ya.ma.ber.an || ber.ək || və.kər/ 'we two have
come to see you two'

11.44. Negatives.

11.44.1. Present negative \( = + vb + \{mə\} \)
Future negative \( = + vb + \{mə\} \)
Examples: /mən || və mə/ 'do you not see?' 'will you not see?'

/wn || paper || kə m/ 'I shall not eat later'

11.44.2. Past negative \( = + \{mə\} + vb \)
Example: /nər || wn ma kə/ 'yesterday I did not eat'

11.44.3. Imperative negative \( = + vb + \{mə\} \)
( + vb + \{wayk\}
Examples: /mən || paper || kə m/ 'do not eat later!'

/gwn || kə wayk/ 'do not eat!''

11.44.4. Intensive negative \( = + \{mə\} + intensive v \)
Example: /wn || m || və.kər/ 'I do not intend to see'

11.44.5. A 'prohibitive' form may be mentioned here:
Prohibitive \( v = + vb + \{də\}_2 + \{-bwa\} \)
Examples: /də || kə,də,bwa/ 'he must not eat'
Verbs with Bound Object Marker. A present tense forms occurs in which a bound object is expressed.

Present \( ov = + \text{vb} + [-\text{twA}] + \{ -\text{de}_2 \} + [-\text{wn}] \)

The morpheme \( -\text{de}_2 \) and the pronouns of the \( [-\text{wn}] \) series agree with the object for person, number and gender.

Examples:

\( /\text{wn} \} v\text{e}.\text{twA}.\text{de}.\text{men}/ 'I see you (m.)' \)
\( /\text{wn} \} v\text{e}.\text{twA}.\text{m}\text{en}/ 'I see you (f.)' \)
\( /\text{wn} \} v\text{e}.\text{twA}.\text{d}/ 'I see him' \)
\( /\text{m}\text{en} \} v\text{e}.\text{m}\text{enA}.\text{ber}.\text{an}/ 'do you see us two?' \)
\( /\text{ber} \} v\text{e}.\text{berA}.\text{wn}/ 'they two see me (f.)' \)

For full paradigms of this construction, see Appendix B.

Noun and Pronoun Morphology.

Possession. Possession is expressed only in pronouns; where the possessor is expressed overtly by a noun, the appropriate possessive pn form must follow it: \( /\text{ke}.\text{de} \} \text{dw} \} \text{de},\text{ka} \} \text{bal} \} \text{d}/ 'that man's pig'. Many constructions however permit of possession being expressed by the use of the noun or noun phrase as attribute:

\( /\text{ke}.\text{de} \} \text{bal} \} \text{wn},\text{a},\text{de} \} \text{acay} \} \text{bal} \} \text{d}/ 'that pig is my father's pig'

Possessive suffixes agree for gender with the object possessed. The column marked 'Possessive' in 11.46.1 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 {-de}, {-ber} and {-dy} of {-de}₂ are suffixed to the form marked as 'possessive'; for feminine possessed objects in the singular, - ka ∞ -∅ is suffixed to these possessive forms. (Allomorph -∅ occurs only after /de,ka/ 'his' and /re,ka/ 'her'). Examples: /wn.A.de bal/ 'my (male) pig'
/wn.A.kA bal/ 'my (female) pig'
/re.kA bal/ 'her (male or female) pig'
/wn.A bal/ 'my (male or female) pig'
/men.A.ber bal/ 'your two pigs'
/de.kA.dy bal/ '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 {-Am} and {-Ak} are given 11.41.1. In nouns, these suffixes replace the final vowel, if any, of stems. {-Ak} 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:

{-Ar} 'agentive suffix'. Occurs only with nouns, replacing final V, if any, of stems.
{-Ab} {-b} 'locative suffix' ('place where' and 'place whence'). Occurs only with nouns, allomorph {-b} occurring only after stem-final V.
Example: /ke.de na.b / kamy / camacam / te.na.d/ 'are there many fish in this river?'

{awA} 'comitative suffix'. Occurs with nouns and pronouns, replacing final V, if any, of stem.

Examples: /takw.awa/ '(along) with the woman';
/wn.awa/ '(along) with me'

11.47. Attributes.

11.47.1. Many common attributes in Manambu are reduplicated, with or without a connective morpheme {ka-}. Examples are:

/wamA.kA.wam/ 'white', /gere.kA.gor/ 'black',
/nekA.yekA/ 'red', /vyA.vyA/ 'right (hand).

/kama.cam/ 'many'.

11.47.2. Demonstratives /ke/ 'this', /ceke/ 'which?' (distant), and /ake/ '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:

/ke.de dw/ 'this man', /ke.r takw/ 'this woman',
/ke.dy bal.dy/ 'these pigs', /ceke.ber / my.ber/

'which two trees?'

11.48. Sentence-Medial Forms. The sentence-medial suffix for 'same subjects' is {an} - {en} - {n} suffixed to the vb.
Distribution of allomorphs: \{-\A\} replaces base-final \textipa{/a/}
\{-\n\} occurs after base-final \textipa{/a/} or \textipa{/\A/}
\{-\en\} occurs after base-final \textipa{C}

Examples: \textipa{/\wen\ da.n\ r.\an\ \k\ek\ew\at\ \k\en.n\a.\de.\wn/}
'I sat down and, seated, eat'
\textipa{/\wen\ rap.\en\ \y.\de.\wn/} 'I got up and went'

11.48.1. Verb stems in the above examples are \textipa{/da/}
'sit down', \textipa{/r\e/} 'be seated', and \textipa{/rap/} 'get up'.

11.48.11. The negative of this form is expressed by
\textipa{\{\ma\}} 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: \textipa{/\wen\ da(r.\aw)\ \m\en\ \k\ek\ew\at\ \k\en.n\a.\de.\m\en/}
\textipa{\{r.e.t\w\}}
'I sat down and am sitting while you eat food'
\textipa{/\\hen\ da\ r.e.\\hen\ \r\e\ \k\ek\ew\at\ \k\en.n\a/}
'are you (f.) sitting while she eats food?'

11.48.21.1. The occurrence of \textipa{/da/} 'sit down' without
affixes is comparable to these use of vb alone in \textipa{\sun-}
ambiguous contexts in other Ndu-family languages. Alternatively, /da+/ro/ 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:

/men / rap,em / te,men / wn v,aw/ 'you got up and are standing, I see you'

11.48.22. 'Resultative' construction = +vb +[-twA] +{-rek}

Examples: /wn / yawy / kw. twA.rek / cem / cwkwy.na.dewwn/ 'I have been working in the garden and am tired' (lit. 'I garden having worked skin I tire')

/dAy / kwr.dana.rek / cem / cwkwy.na.dy/ 'they have been working and are tired'

11.48.23. 'Conditional' construction =+vb + [-twA]

Examples: /an / men.am / vyA.tek / ar men / gera.ke.na.de.man/ 'If we two hit you then you will cry'

11.48.23.1. The future morpheme {-ke-} occasionally appears in this construction (compare 6.74.1) where the reference is to a non-immediate action:

/wn / men.am / vyA.ke.twA / men / gera.ke.na.de.man/ '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 {na} preceding the verb, except for the conditional form, which requires the
following construction:

Negative conditional = + vb + {-marek} + [-twA]
Example: /re | ke maresin | ke.marek.rA | ar re | kya.kə.nA 'if she does not take (=eat) this medicine, then she will die'

11.49. Test from Situational Testing: 'A man hit me'.

A1 wn | dw nak | wn.am | (vyA)da.rek | arek | men.ak |
I man one I.0₁ (hit)he.S so? you.A

(yareky)ker | (ya)na.de.wn ≠
(inform?)to (come)Pr.G.I

B 2 men.am | ceka.da.dA.d | (vyA)na.d //
you.₀₁ who (hit)Pr.he

A 3 ke.de dw | wn.am | (vyA)da.de.wn ≠
this.G man I.0₁ (hit)he.G.I

B 4 men.am | akəceke.r.hέ | (vyA)da.de.men //
you.₀₁ which.G day (hit)he.G.you

A 5 de | nar gerabw | (vyA)da.de.wn ≠
he yesterday afternoon (hit)he.G.I

B 6 men.am | agwajav.ar | (vyA)da.de.men //
you.₀₁ what.Ag (hit)he.G.you
7 men am (my)ar (vyA)da,de,men // 8 ay (kwl)ar you.01 (tree)Ag (hit)he,G.you or (axe)Ag

(vyA)da,de,men // 9 ay (arep)ar (vyA)da,de,men // (hit)he,G.you or (knife)Ag (hit)he,G.you

A 10 ma de (tab)ar (vyA)da,de,wn ≠

no he (hand)Ag (hit)he,G.I

B 11(men,am] awAm (vyA)da,de,men // 12 (ab)am you.01 what.01 (hit)he,G.you (head)0.1

(vyA)da,de,men // 13 ay (mapy)m (vyA)da,de,men // (hit)he,G.you or (chest)0.1 (hit)he,G.you

14 ay (tab)am (vyA)da,da,men //

or (hand)0.1 (hit)he,G.you

A 15 de jab vyel (bwn)am (vyA)da,de,wn ≠

he times two (back)0.1 (hit)he,G.I

B 16 awajav,ak ber (waryA)na,ber,ber //

what for you two (fight)Pr,G.you two

A 17 tayr wn bal (kwy)twa,d arek de bekim //

before I pig (give)I.he so? he return
ma kway # 18 arek [] (waryλ)ber.an #
not gift so? (fight)G.we two

19 (waryλ)kw / a wn.am [] (vyλ)dλ.de.wn #
(fight)? so? 1.O_1 (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 {arek}, gloosed throughout as 'so', frequently occur between clauses. The second form, {arek}, may possibly contain the
sentence-medial morpheme \{ -rak \} (see 11.48.22), and mean something like 'these things being so'.

11.49.22. Allomorphs of \{ da \} throughout have been marked for convenience as 'G'.

11.49.23. The form /cəkədədəd/ in 2 is inexplicable, though it parallels predicative possessive forms; cf. /wn.Δ.Δ.Δ.Δ/ 'mine'. Compare Boikin (9.48, sentence 2), where /kənana/ similarly shows a possessive form.

11.49.24. The word /bekim/ in 18 is Pidgin for 'return'. In the same sentence, /kwəy/ must be noun rather than verb, as the verb form is regularly /kwy/; compare /vən/ 'to spear' and /vəy/ 'spear'.
12. OUTLINE GRAMMAR OF THE NGALA LANGUAGE

12.1. Introduction

12.1.1. 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 speakers of an Ndu-family language are the Iatmul-speaking inhabitants of Brugnowi, 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).

12.1.2. The name Ngala (ŋaŋa/) is the native name of the village; the administrative name Swagup is taken from the
name used by various linguistic communities further downstream: [sɔgap], [sɔkapə], [sɔkəvet]. 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 (/kwʌmwaɪ/) 
Merelbey (/mɛrɛrbɛɪ/) 

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 ŋ f r l w y a ə ʌ/. The absence of /d/ and /η/ should be noted.

12.23. The following notes on the distribution of some allophones are relevant:

/c/ has allophone [ɺ] phrase-finally, allophones [ʃ] and [ɺ] in free variation phrase-initially, and allophones [ʂ] and [ɺ] 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:

\[
\begin{align*}
/wa/ &- [wa] & /wa/ &- [wo], [o] \\
/ya/ &- [yæ] & /ya/ &- [ye] \\
/aw/ &- [aw], [ow] & /aw/ &- [ow] \\
/ay/ &- [æy] & /ay/ &- [ey], [e]
\end{align*}
\]

12.25. Palatalisation of vowels similar to that caused by /y/ is also caused by the palatal series of consonants /c j n l/, and labialisation similar to that caused by /w/ is caused by /f/.


12.26.1. W /t/ corresponds to Ng /t/ in word-initial and word-medial position, and to Ng /r/ in word-final position;

\[
\begin{align*}
W/\text{d}/ &\text{ corresponds to Ng }/\text{r}/ \text{ in all positions;} \\
W/\text{æ}/ \text{ in word-final position corresponds to Ng word-final }/\text{ʌ}/;
\end{align*}
\]

\[
W \text{ sequence }/\text{wy}/, \text{ and in two cases }W/\text{kwy}/, \text{ corresponds to Ng }/\text{f}/ \text{ or }/\text{fy}/;
\]

\[
W \text{ sequence }/\text{pm}/ \text{ corresponds to Ng }/\text{pw}/;
\]

\[
W \text{ sequence }/\text{pw}/ \text{ corresponds to Ng }/\text{f}/ \text{ or }/\text{fw}/;
\]

12.26.2. It should also be noted that a Wosera sequence of the pattern VGS frequently corresponds to Ngala (V)SC; where S is /y/, the consonant may be palatalised:

\[
W/\text{gɛnɔ}/ - \text{Ng }/\text{gyŋ}/ 'tail'; W/\text{vɛtyk}/ - \text{Ng }/\text{fyt}/ 'two'.
\]
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.

### English | Free | [aw] series | [w] series | [-wn] series
---|---|---|---|---
'I' - m. | wn | aw | w | wn
'I' - f. | ñen | an | ne - n | ñen
'you' - m. | men | am | me - m | men
'you' - f. | yn | an | yn | yn
'he' | kər | ar | re - r | r
'she' | yn | a | yn | yn
'we two' | āyn | āyn | āyn | āyn
'you two' | ben | abe - ab | ben | ben
'they two' | (kə)ber | abe - ab | ber | ben
'we' | nan | ane - an | na | nən
'you' | gwn | age - ag | gwn | gwn
'they' | rar | ara - ar | ra | rer

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 */ñe/ might be expected. Similarly, allomorph {ber} of */kæber/ 'they two' is not a misprint, although */ber/ 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 */ker/ 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 */kæke kag/, kaba kag/, /kanke kag/, agreeing with subjects for singular, dual and plural number. A morpheme {wa} occurs with predicated adjectives: */gw / peca wa/ '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 [waw/yaw] 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:

<table>
<thead>
<tr>
<th>Stems</th>
<th>Reduplicated Forms</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>kA</td>
<td>kA kA</td>
<td>'eat'</td>
</tr>
<tr>
<td>twkA</td>
<td>twkA twkA</td>
<td>'drink'</td>
</tr>
<tr>
<td>te</td>
<td>te te</td>
<td>'stand'</td>
</tr>
<tr>
<td>tAyf</td>
<td>tAyf tAyf</td>
<td>'see'</td>
</tr>
<tr>
<td>kwr</td>
<td>kwr kwr</td>
<td>'get'</td>
</tr>
<tr>
<td>kwAW</td>
<td>kwAW kwAW</td>
<td>'give'</td>
</tr>
<tr>
<td>fwk</td>
<td>fwk fwk</td>
<td>'hear'</td>
</tr>
<tr>
<td>gare</td>
<td>gare gare</td>
<td>'cry'</td>
</tr>
<tr>
<td>tw</td>
<td>tw tw</td>
<td>'cook'</td>
</tr>
<tr>
<td>fwlA</td>
<td>fwlA fwlA</td>
<td>'blow fire'</td>
</tr>
<tr>
<td>wayn</td>
<td>wayn wayn</td>
<td>'build (house)'</td>
</tr>
<tr>
<td>kAC</td>
<td>kAC kAC</td>
<td>'make (arrow or spear)'</td>
</tr>
<tr>
<td>fALa</td>
<td>fALa fALa</td>
<td>'go down'</td>
</tr>
<tr>
<td>fALa</td>
<td>fALa fALa</td>
<td>'cough'</td>
</tr>
<tr>
<td>fwrAC</td>
<td>fwrAC fwrAC</td>
<td>'forget'</td>
</tr>
<tr>
<td>tyA</td>
<td>tyA tyA</td>
<td>'stroll'</td>
</tr>
<tr>
<td>tAKA</td>
<td>tAKA tAKA</td>
<td>'sharpen (knife)'</td>
</tr>
<tr>
<td>fyA</td>
<td>fyA fyA</td>
<td>'hit'</td>
</tr>
</tbody>
</table>

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 \{\texttt{ma}\}.

12.33.3. Present \(v = + [\texttt{aw-}] + \texttt{vb} + [\text{object}] + \texttt{way/\text{yaw}}\) All possible combinations occur.

Examples:  
/\texttt{wn} \| \texttt{aw.kak\text{a}}/ 'I eat' 
/\texttt{wn} \| \texttt{aw.kak\text{a}.yaw}/ 'I eat' 
/\texttt{wn} \| \texttt{aw.tayf}/ 'I see' 
/\texttt{wn} \| \texttt{aw.fy\text{a}.men.yaw}/ 'I hit you' 
/\texttt{wn} \| \texttt{aw.tayf.ber.way}/ 'I see them two'

12.33.4. Future \(v = + \texttt{vb} + [-\text{wn}] + [\text{object}] + \{\text{way/\text{yaw}}\}\) All possible combinations occur.

Examples:  
/\texttt{gar\text{e}.men.way}/ 'you will cry' 
/\texttt{wn} \| \texttt{fy\text{a}.wn.men.way}/ 'I shall hit you' 
/\texttt{men} \| \texttt{ya.men.yaw}/ 'are you coming?'

12.33.5. Past \(v = [\text{\textit{w-}}/\text{\textit{aw-}}] + \texttt{vb} + [\text{object}] + \{\texttt{bayn}\} + \{\texttt{way/\text{yaw}}\}\) All possible combinations occur, although forms with \{\texttt{way/\text{yaw}}\} are less frequent.

Examples:  
/\texttt{wn} \| \texttt{w.ka.bayn}/ 'I ate' 
/\texttt{ker} \| \texttt{re.fy\text{a}.wn.bayn}/ 'he hit me' 
/\texttt{men} \| \texttt{am.y.bayn}/ 'did you go?'

12.33.6. Intentive \(v = + \texttt{vb} + \{\texttt{n}\} + [\text{aw-}] + \{\text{\textit{wa}}\}\) Bound pn objects do not occur with this form; the full object form ('emphatic') is used.

Examples:  
/\texttt{men} \| \texttt{fy\text{a}.n am.wa} \| \texttt{wn.gam}/ 'do you want to hit me?' 
/\texttt{gwn} \| \texttt{ka.n ag.wa}/ 'are you going to eat?'
12.33.7. Imperative $v = + ma + vb \pm [\text{object}]$

Examples:
- /bən /ma,ka/ 'you two eat!'
- /yn /ma, fyA,ya/ 'you (f.) hit her!' 
- /mA, feA,le/n/ '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 /kapw/) in past/present negatives is optional.

12.34.1. Past/Present negative =

$$= + vb \pm \{kafw\} + \{wta\} + [-wn] \pm [\text{object}] \pm [-way]$$

All possible combinations occur.

Examples:
- /wn /kaka /wta, wn, way/ 'I am not eating'
- /kəe/ fyA /wta, rər, wn, way/ 'he did not hit her'

12.34.2. Future/Intensive negative =

$$= + \{mak\} + vb + [-wn] \pm [\text{object}] \pm [-way]$$

All possible combinations occur.

Examples:
- /wn /mak /fyA, wn, yA, wn, way/ 'I shall not hit her'
- /Ayn/ mak /kA, yA, wn, way/ 'we two shall not eat'

12.34.3. Imperative negative = $+\{ma\} + vb \pm [\text{object}]\pm [-way]$ 

Examples:
- /ma fyA, rA, wn, way/ 'do not hit them!'
- /mA ka, way/ 'do not eat!'

12.34.4. Note that neither prefixed pn forms nor the morpheme yaw 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:

{-gAmj} 'first object suffix' ('emphatic'). Occurs with pns.

{-gAp} 'first object suffix'. Occurs occasionally with nouns.

{-n} - {-en} 'second object and agentive suffix'. Occurs with nouns and pns.

{-tAb} 'reflexive suffix'. Occurs with pns. ('I hit myself', etc.)

{-bA} 'possessive suffix'. Occurs with nouns and pns.

{-ken} - {-oken} 'allative and locative suffix' ('place where' and 'place whither'). Occurs with nouns and pns.

{-bA} 'ablative suffix' ('place whence'). Occurs with nouns and pns.

{-wa} 'comitative suffix'. Occurs with nouns and pns.

{-waken} 'close to'. Occurs with nouns and pns.

{-nakwaIk} '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 || rata || (fyafyA)wn. bavn || men.en ||
I one (hit)I.P you.0

aw(wlak)men 

I(tell)you

B 2 kwaya || re(fya)men. bavn 
who he(hit)you.P

A 3 rata || (fyA)wn. bavn 
one (hit)I.P

B 4 acenaga || re(fya)men. bavn 
when he(hit)you.P

A 5 nalA ganganw || re(fya)wn. bavn 
yesterday morning he(hit)I.P

B 6 (myA)n || re(fya)men. bavn || 7 (my)en kayt ||
(what)Ag he(hit)you.P (tree)Ag or

kafw kayt || (kwla)n kayt || kafw (kapelA)n //
not or (axe)Ag or not (bush-knife)Ag

A 8 (waca)n || re(fya)wn. bavn 
(hand)Ag he(hit)I.P
B 9 (ja)ken || re( fyA)m.e, bavn ≠ 10 (makapwa)ken ||
(where)L    he(hit)you.P    (head)L

re( fyA)m.e, bavn ≠ 11 (wyaf)ken || re( fyA)m.e, bavn/
he(hit)you.P    (chest)L    he(hit)you.P

kafw (waca)ken ≠
not (hand)L

A 12 (ypwa)ken || re( fyA)wn, bavn || kepe fyt ≠
(back)L    he(hit)I.P    times two

B 13 (myA)becak || beN(wafyA)bavn ≠
(what)for?    you two(fight)P

A 14 wn bwala || (kwakwaw) wta.wn.r || wacaKe ||
I    pig    (give) not.I.he    later?

(kwakwaw) wta.wn ≠ 15 ayn || ayn(wakwany)bavn ||
give    not.I.    we two we two(quarrel)P

na atayn || ayn(wafyA)bavn ≠
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. /ratA/ 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°04'9" E 4°18'8" 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 (/yA1Akw/) 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 Afareka (/afarekA/). Owing to the brief time span and the necessity for
recording, 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 k b d j g m n ŋ f r l w y a e A/. These are identical with those of Wosera, except for /f/ in place of Wosera /v/, and the absence of /ŋ/. A phone [ŋ] does not occur in recorded material, but may nevertheless represent a phoneme in the language; items in which Wosera has /ŋ/ were not included in the testing.

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 j 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).


/f/ corresponds to Wosera /v/ and intervocalic /p/ or /pw/;

/ry/ frequently corresponds to Wosera /la/ in
word-final position;

/y/ frequently corresponds to Wosera word-final /a/, with or without palatalisation of preceding /d n/ to /j ŋ/.

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 Yelagu 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 pron allomorphs occurring in the same column as this allomorph.


<table>
<thead>
<tr>
<th>English</th>
<th>Free</th>
<th>Bound</th>
<th>Poss.</th>
<th>Object</th>
<th>Emphatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>'I'</td>
<td>wny</td>
<td>wn</td>
<td>wn.A</td>
<td>wn.AR</td>
<td>wny.dy</td>
</tr>
<tr>
<td>'you' - m.</td>
<td>məny</td>
<td>mən</td>
<td>mən.A</td>
<td>mən.AR</td>
<td>məny.dy</td>
</tr>
<tr>
<td>'you' - f.</td>
<td>ŋəny</td>
<td>ŋən</td>
<td>ŋən.A</td>
<td>ŋən.AR</td>
<td>ŋəny.dy</td>
</tr>
<tr>
<td>'he'</td>
<td>də</td>
<td>d</td>
<td>də.kənə d.AR</td>
<td>də.dy</td>
<td></td>
</tr>
<tr>
<td>'she'</td>
<td>lə</td>
<td>l</td>
<td>lə.kənə l.AR</td>
<td>lə.ly</td>
<td></td>
</tr>
<tr>
<td>'we two'</td>
<td>any</td>
<td>an</td>
<td>an.A</td>
<td>an.AR</td>
<td>any.dy</td>
</tr>
<tr>
<td>'you two'</td>
<td>bəny</td>
<td>bən</td>
<td>bən.A</td>
<td>bən.AR</td>
<td>bəny.dy</td>
</tr>
<tr>
<td>'they two'</td>
<td>bəre</td>
<td>bər</td>
<td>bər.A</td>
<td>bər.AR</td>
<td>bəre.bəry</td>
</tr>
<tr>
<td>'we'</td>
<td>ŋəny</td>
<td>ŋən</td>
<td>ŋən.A</td>
<td>ŋən.AR</td>
<td>ŋəny.dy</td>
</tr>
<tr>
<td>'you'</td>
<td>gwny</td>
<td>gwnt</td>
<td>gwnt.A</td>
<td>gwnt.AR</td>
<td>gwnt.ady</td>
</tr>
<tr>
<td>'they'</td>
<td>jy</td>
<td>j</td>
<td>jy.kə</td>
<td>j.kəAR</td>
<td>jy.jy</td>
</tr>
</tbody>
</table>
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 /næny/ /n/ 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.

13.31.13. The palatalisation in the form for third person plural occurs in all allomorphs; compare Iatmul, 10.41.12.

13.32. 'Predicate marker'. Equation statements and predication of adjectives require in Yelogu the pn series [-wn] + {wa}. In questions {wa} does not occur. Negation is expressed by {wakyc}.

Examples: /fy mwy.d/ 'the spear is good'
/a.le my jaba my.1/ 'that tree is an ironwood tree'
/a.ber my jaba my.ber/ 'those two trees are ironwood trees'
/a.jy my jaba wakyc/ 'those trees are not ironwood trees'

13.33. Verbs.

13.33.1. Present v = + vb ± [-wn]

Examples: /wny kA/ 'I am eating'
/gora.men/ 'you are crying'
13.33.2. Future \(v = + \, vb + \{\text{-ka} \} + \{\text{-wn}\}\)
Examples: /cery kA,ke,wn/ 'I shall eat tomorrow'
          /me fe,ke/ 'are you going to see?'
(The /me/ in the second example is a not very common abbreviation of /men/, 'you'.)

13.33.3. Past \(v = + \, vb + \{\text{-k}\}\)
Example: /wny kA,k/ 'I ate'

13.33.4. Imperative \(v = +\{\text{m}A\} + vb\)
Example: /mA kA/ 'you eat'

13.33.5. Intentive \(v = + \, vb + \{\text{-k}\} + \{y\} + \{\text{-wn}\}\)
          \(= + \, vb + \{\text{-wn}\} + \{y\}\)
Examples: /wny kA,k y/ 'I am going to eat'
          /wny kA,k,wn y/ 'I am going to eat'

(/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:

\{\text{-ar}\}  'object and allative suffix'. Occurs with nouns and pns; see 13.31.1.

\{\text{-nA}\}  'possessive suffix'. Occurs with nouns and pns; for allomorphs when occurring with the later, see 13.31.1.

\{\text{-way}\} 'comitative suffix'. Occurs with nouns and pns.
\{-be\} 'ablative suffix' ('place whence'). Occurs with nouns.

\{-k\} Recorded only in /mo.dek/ 'for what', 'why'.

Examples: /mon.ar \ fyl.ke.wn/ 'I shall hit you'
/caby.na \ gay.ar \ wny y.wn/ 'I am going to the village of Chambri'
/wny \ yalakw.na \ gay.be \ wny te.k/ 'I remained in the village of Yelogu'
/beny \ any.be \ takwa.way \ many y.k/ 'did you go with this woman here?'
/any dw \ ac \ mdo.k \ fyl.k/ 'why did that man hit the dog?'

13.35. Sentence-medial forms. The sentence-medial marker for 'same subjects' is usually \{-t\} suffixed to the vb, although /yä.y/ 'having worked' (vb /yä/) was also recorded. A form for 'different subjects', with suffixes + [-wn] + \{ka\} \& \{-ga\} \& \{-∅\}, occurs in present tenses when the action of both verbs is simultaneous. For the distribution of allomorphs of \{-ka\}, see Appendix B, page 288; with this suffix the bound allomorph of /any/ 'we two' and /hany/ 'we' is /-ba/ (compare the Manambu forms).

Examples: /y.ay \ cekwa.wn y/ 'I have finished work and I am going to sleep'
/any \ maresin \ kwr.te \ mwy te.ke.men/
'if you take this medicine you will be
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

15.1.1. 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

15.2.1. 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 Highland 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 connexion between them; thus, 'five' and 'hand' give the same sememe in Ndũ-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 been therefore omitted from the list, and the reasons for the omission in each individual case is 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. New 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

<table>
<thead>
<tr>
<th></th>
<th>Mk</th>
<th>p</th>
<th>t</th>
<th>c</th>
<th>d</th>
<th>g</th>
<th>n</th>
<th>g</th>
<th>v</th>
<th>e</th>
<th>\</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Wp,v</td>
<td>W</td>
<td>t,r</td>
<td>c</td>
<td>d</td>
<td>g</td>
<td>n</td>
<td>g</td>
<td>v</td>
<td>e</td>
<td>e,A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>p,v</td>
<td>t,r</td>
<td>c,k</td>
<td>d</td>
<td>g</td>
<td>n</td>
<td>g</td>
<td>v</td>
<td>e</td>
<td>e,A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>p</td>
<td>t,r</td>
<td>c</td>
<td>d</td>
<td>g,j</td>
<td>n</td>
<td>g</td>
<td>v</td>
<td>e</td>
<td>a</td>
<td>e</td>
<td></td>
</tr>
<tr>
<td>Ng</td>
<td>p</td>
<td>t,r</td>
<td>c</td>
<td>r</td>
<td>g</td>
<td>n</td>
<td>-</td>
<td>f</td>
<td>e</td>
<td>A</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>p,v</td>
<td>t,r</td>
<td>c</td>
<td>d</td>
<td>g</td>
<td>n</td>
<td>g</td>
<td>v</td>
<td>e</td>
<td></td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Yg</td>
<td>p</td>
<td>t,r</td>
<td>c</td>
<td>d</td>
<td>g</td>
<td>n</td>
<td>g</td>
<td>v</td>
<td>e</td>
<td>A</td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Y</td>
<td>p</td>
<td>t,r</td>
<td>c</td>
<td>d</td>
<td>g</td>
<td>n,\h</td>
<td>-</td>
<td>f</td>
<td>e</td>
<td>A</td>
<td></td>
<td>A</td>
</tr>
</tbody>
</table>

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,
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 ŋ 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 /a/ after semivowel. Words which in some members of the Ndu family end in /y/ or /w/ usually end in /ya/ or /wa/ in Yenqaru; this 'additional' /a/ 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 /e/ 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/. Items 185 and 143 show the same correspondence in Nyaura and Ngala respectively, although it is doubtful whether the Ngala word is to be counted as cognate with the other languages, as /gera/ also occurs. For examples of this feature in Kanambu, 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. 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. It will be found, however, that many of the items marked as 'unreliable' have not in fact been used for computation, simply because satisfactory equivalents were not obtained.

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 dwA (a), Yg dwA (a), Y dw (a).
2. 'woman' Mk takwA (a), W takwA (a), N takwA (a),
   M takw (a), Ng takwA (a), K takwA (a),
   Yg ta (a?), Y takwA (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 [ho], which may correspond to the last three
   phonemes /-kwA/.
3. 'child' Mk ñan (a), W ñan (a), N ñan (a), M ñan (a),
   Ng ñan (a), K ñan (a?), Yg ñan (a), Y ñan (a).
   The K form has the wrong final phoneme, but is
   counted as cognate.
4. 'old man' Mk kwalēpA dw (a), W añewA dw (b),
   N awt dw (c), M apade dw (d), Ng nwpc (e),
   K dwatdA dwA (f), Yg fary dwA (g), Y akwade dw
   (h).
5. 'father' Mk yapA (a), W apa (a), N ñayk (b),
   M acay (c), Ng kəlaw (d), K yapA (a),
   Yg yawA (a), Y yafA (a).
   For explanation of the W form, see 15.32.1. The
   occurrence of /v/ and /f/ in the Yg and K forms
may indicate a proto-form */yapwA/. Additional equivalents */cacia/ and */tat/ were recorded for N and Ng respectively.

6. 'mother' Mk nwA (a), W nwA (a), N ŋemay (b),
   M amay (c), Ng nwA (a), K nwA (a), Yg nwA (a),
   Y nwA (a).

7. 'sibling, same sex, older' Mk nema dw (a), W aña (b),
   N ŋamwn (c), M mam (d), Ng pape (e), K maše
   (f), Yg ace (g), Y amw (h).

   The Mk form means 'big man', the K form means 'big'.

8. 'sibling, same sex, younger' Mk waykA (a), W waykA
   (a), N cabw (b), M ŋemwc (c), Ng kAya (d),
   K ŋemway (c?), Yg waykA (a), Y ŋemwac (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 ŋagAY (a), W ŋagAY
   (a), N ŋagAY (a), M jackwar (b), Ng namde (c),
   K wakese (d), Yg ŋega (a?), Y ŋegayA (a?).

   The (a) forms are possibly from */ńan/ 'child' +
   */kAY/; compare Ng kAya (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 wne (a), W wne (a), N wn (a), M wn (a), Ng wn (a) K nwa (b), Yg wne (a), Y wny (a).
   The occurrence of Ng /nHEN/ 'I (f)' should be noted.

12. 'you (masculine singular)' Mk mene (a), W mene (a), N mën (a), M mën (a), K mën (a), K mene (a), Yg mene (a), Y menny (a).
   For second person singular forms, see supplementary items at the end of this list.

13. 'he' Mk de (a), W de (a), N de (a), M de (a), Ng re (a), K de (a), Yg de (a), Y de (a).
   For 'she', see supplementary items at end.

14. 'we two' Mk ane (a), W ane (a), N an (a), M an (a), Ng Ayn (b), K nane (c), Yg nane (c), Y any (a)
   The Ng form could conceivably belong to the (a) group, arising from */any/ or */Any/.
   The K and Yg forms should be compared with those under item 17.

15. 'you two' Mk bene (a), W bene (a), N bet (a?), M ber (a?), Ng ben (a), K bere (a?), Yg bere (a?), Y bery (a).
   The forms with /r/-/t/ are counted as cognate because of the parallels with forms under item 18, although these are the only instances of /n/-/r/ correspondences.

16. 'they two' Mk bet (a), W bet (a), N bet (a), M ber (a), Ng ber (a), K bere (a), Yg bere (a), Y bery (a).
17. 'we' Mk nanə (a), W nane (a?), N nen (a?), M ŋan (a?), Ng nan (a), K nane (a), Yg nane (a), Y ŋany (a?). 
   A form /nane/ also occurs in W. The doubtful cognates are inexplicable.

18. 'you (plural)' Mk gwne (a), W gwne (a), N gwt (a), M gwə (a), Ng gwn (a), K gwre (a), Yg gwre(a), Y gwny (a).
   Compare item 15.

19. 'they' Mk dəy (a), W dəy (a), N dəy (a?), M dəy (a), Ng rər (a?), K dəy (a?), Yg dəə (a?), Y jy (a?)
   With the Ng form compare W bound morpheme /-dərə/, and with the Y form N bound morpheme /-jə/.
   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 aywa (b), M kwəpwəə (c), Ng rərwy (d), K - , Y yakəvaŋa (e), Y -

21. 'head' Mk makə (a), W maka (a), N maka (a), M abw (b), Ng makəpwa (a), K kwəkə (c), Yg kwək (c), Y abw (b)
   A compound /makə kwəkə/ also occurs in K; in this the first element is cognate with the (a) forms.

22. 'hair of head' Mk nəbe (a), W nəbe (a), N nəbe (a), M nəb (a), Ng ŋəge (b), K nəbe (a), Yg nəbe (a), Y nəbe (a).
The Ng form also translates 'cassowary feathers'.

23 'eye' Mk mny (a), W mny (a), N mny (a), M myr (a?), Ng myl (a?), K mny (a), Yg mnyλ (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 /nː/ in the Y form.

24 'nose' Mk tamwA (a), W tama (a), N dama (a?), M tam (a), Ng tamwA (a), K tama (a), Yg tamwA (a), Y tamwA (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 naby (a), W naby (a), N naby (a), M wk (b), Ng naby (a), K naby (a), Yg naby (a), Y nêby (a?)

The initial phoneme of the Y form is inexplicable.

27 'tongue' Mk tekqalən (a), W tekale (a), N tekat (a?), M tekaler (a), Ng tekan (a?), K tekqale (a), Yg tekalək (a?), Y tekary (a).

The final phonemes of the queried forms are inexplicable.

28 'chin' Mk tak (a), W taky (a), N gagapa (b), M tekə ap (c), Ng tak (a), K takapa yapə (a), Yg tak (a), Y kerekerə (d).
The morpheme for 'bone' (item 51) is recognisable in the M and K forms.

29 'throat, neck' Mk kwale (a), W kwale (a), N gwale (b), M kwar (a), Ng tewan (c), K kwAbwy yabo (d), Yg nek (e), Y alemgy (f).

The fact that the N form represents a non-cognate with similar meaning is proved by the occurrence of Mk /gale/ 'branch' (item 86), where W again has /kwale/.

30 'nape' Mk kamwk (a), W kwk (b), N mak (c), M kwkA mak (c), Ng cepab (d), K kwbwa yapa (e), Yg kwbwa mak (c), Y mak (c).

The morpheme is taken as being /mak/, 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 mistranslation.

31 'elbow' Mk kwaty mwk (a), W kwaty mwk (a), N kwary tabA (a), M kwaty (a), Ng waca tewal (a?), K tabA kwary (a), Yg tabA kwaryA (a), Y katy tabA (a).

The compared morpheme is /kwary/ and cognates; other morphemes in the phrases translate 'arm' or 'joint'. The final /w/ of the Ng form must arise from palatalisation of /r/.

32 'arm' Mk tabA (a), W tabA (a), N tabA (a), M tab (a), Ng waca (b), K tabA (a), Yg tabA (a), Y tabA (a).
§ 33 'fingernail' Mk wla (a), W wla (a), N velacw (b),
M wryn (a?), Ng wlav (a?), K yrëdë (c),
Yg nëbya (d), Y tw (e).
The /ry/ of M probably corresponds to the /la/ of the Mk form; this correspondence is frequent in Y. The Yg form also translates 'tooth' (item 26).

34 'palm' Mk kwyã tabà (a), W kwyã tabòk (a), N yat tabà (b), M yare tab (b), Ng waca fyà (a),
K tabì makwyàq (a?), Yg nwa tabà (c), Y yat tabà (b).
The compared form is /kwyã/ and cognates; this appears to mean 'fat' (see item 48). Compare also 'sole' (item 44).

35 'chest' Mk mwñã (a), W matw (b), N mwarawà (c),
M navì (d), Ng wyàf (e), K temkå (f),
Yg kwâvy (g), Y derw (h).
The Mk form also means 'breast' (item 36); informants made no distinction.

36 'breast (of woman)' Mk mwñã (a), W mwñã (a), N mëñã (a?), M mwñ (a), Ng mwñ (a), K mwyn (a?),
Yg myà (b), Y mwñã (a).
A form /mëñã/ 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 byà (a), W byà (a), N yat (b), M ñemab (c),
Ng kapy (d), K yary (e), Yg yare (b), Y yary (b).
Compare and contrast the (c) forms with items 34.
and 44.

S 38 'navel' Mk karajen (a), W mameluk (b), N araje (a?),
M ñanwr (c), Ng yay (d), K wpwp (e), Yg ary (f?),
Y yaraj (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 (c), M ban (c),
Ng yqwa (d), K wmony (e), Yg kwk (b),
Mg ywA (f), Y bwAñager (f).

For the N-M cognate, compare items 88 and 72.

40 'buttocks' Mk pate (a), W palw (b), N makwt (c),
M jwvy (d), Ng nabw (e), K geyyara (f),
Yg dyagera (g), Y dyabw (h).

The K form really means 'tailbone'. In the Yg and
Y forms, the word for 'excrement' (/dyA/, /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
/jogoro/ 'leg' also occurs in Yg; compare Mk /jogot/
'leg of bird'.

42 'thigh' Mk dawa (a), W dawa (a), N dawa (a), M daw (a),
Ng rawab (a), K dawa (a) Yg da (a), Y akwa (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 /tabA/ 'hand'.

44 'sole' Mk kwA man (a), W kwA man (a), N yap man (b), M yare man (b), Ng -, K wma man (c), Yg kwde 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 nəbe (b), Y ywy (a).

For slight semantic shifts, compare items 22 ('hair of head') and 92 ('feather').

46 'skin' Mk cəp (a), W cəp (a), N cəbe (a?), M cəp (a)

Ng guC (b), K baka (c), Yg bage (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 /bage/ was also recorded for N (compare the Yg form).

47 'blood' Mk wyn (a), W ŋęky (b), N yarəkwyn (a?), M ŋęky (b), Ng wyň (a), K wyn (a), Yg wyn (a), Y ŋęky (b).

A form /ŋęky/ was also recorded for Mk. Compare item 110 ('red').

48 'fat (n.)' Mk kwA (a), W kwA (a), N kwA (a), M vær (b), Ng ty (c), K kwA (a), Yg kwA (a), Y mapA (d).

Compare items 34 and 44.
49 'heart' Mk wra ḟan (a), W kwʌmw ḟan (b), N mawk (c), M awtək (d), Ng pwɔw (e), K twɔɛkə (f), Yg mwɔləby (g), Y kwac (h).

A form/twɔɛk/ (cf. K) was also recorded for Yg; in this /-ɛk/ 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 wtmy̩ (a), N wpmy̩ (a), M wɔɛpy (a), Ng ƙakəp (b), K wrɛpmyəw (a), Yg ʃpɔya (a), wrɔpmy (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 ʃɒʊ (a), W ʃɒ (a), N ʃə (a), M ap (a), Ng abə (a?), K ʃapə (a?), Yg ʃə (a), Y apəkə (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' Mk wɔscə (a), W wɔscə (a), N kawə (b), M kwɔlək (b?), Ng - , K wɛscə (a), Yg wɔscə (a), Y kwɔlək (b?)

For the (b) forms and the patterning of V and S, see also items 19, 87 and 133.

53 'dream' Mk ʃapə (a), W yə (b), N ʃəmat (c), M yə (b), Ng kwʌm (d), K ʃəmərə (c), Yg ʃəmərə (c).
Y ygan (b?)

54 'sun' Mk ña (a), W ña (a), N ña (a), M ña (a), Ng ña (a), K ña (a), Yg ña (a), Y nekwá (b).

U 55 'moon' Mk bapmw (a), W bapmw (a), N bwap (a), M bapw (a), Ng kamwá (b), K bwapwá (a), Yg bwapwá (a), Y bwapwá (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 Ḟkwan (a?).

A form /kwan/ also occurs in Ng; compare the Y form, and also item 88.

57 'cloud' Mk ŋet (a), W ŋet (a), N baw (b), M ɲer (c), Ng twbw (d), K ɲere (a), Yg ɲere (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 bwatbw (c), Ng gaw (d), K bwawaw (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 ale (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 yawɛɛA (a), W yawYA (b), N yawYA (b), M yawy (b), Ng yawA (c), K kwɛɛA (d), Yg ayA (e),
Y ape (f).

Additional Yg forms recorded: /ɛɛA/, /atawYA/.
Some elements (/ya-/, /co/) 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 nəbək (a), Ng peke (c), K nəbwə (a), Yg cək
   (d), Y nəbw (a).
71 'bush' Mk bəŋ (a), W bəŋ (a), N kwape (b), M kwarəb (c),
   Ng maw (d), K kəba (e), Yg kəba (e), Y cəkəpa
   (b?)
72 'wind' Mk wymwt (a), W wymwt (a), N mwr (a), M mar (a),
   Ng bale (b), K mwrw (a), Yg mwre (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 gives 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 */kwyña/ + /ya/, with subsequent
palatalisation of the /n/; but there is no evidence
for this.

75 'smoke' Mk yacña (a), W yacña (a), N yaky (a), M yaky
   (a), Ng yaky (a), K yakny (a), Y yakyə (a),
   Y gada (b).

These forms suggest a proto-form */yakny/, 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 bwa (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 nbelaf (b), K yab (a), Yg yab (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 mya (a), Y my (a).

79 'bark' Mk my cœpe (a), W my cœpe (a), N cœbe my (a?),
    M cœpe my (a), Ng my gwc (b), K my baka (c),
    Yg mya bagœ (d), Y my cœfy (a).
The above forms all translate 'tree skin'; see
    'skin', item 46.

80 'leaf' Mk my yage (a), W my yage (a), N my gage (b),
    M my ñegœ (c), Ng my ñegœ (c), K my ñenage (d),
    Yg mya ñegœ (c), Y my gaga (b).
A W form /my gage/ was also recorded. Mk, W and
    N all have /ñegœ/, 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 ñede my (b),
    M ñede my (b), Ng ñer kœp (b?), K nwa my (a),
    Yg nwa mya (c), Y my nyde (b?).
The (b) forms mean 'middle'. The presence of /kəp/ in place of /my/ in the Ng phrase is unusual; it is possibly a borrowing from Wogamusin. The occurrence in Y of /ny/ where other languages have /na/ has been observed in a few instances.

82 'tree stump' Mk bap my (a), W maw my (b), N agwa my (c), M maw my (b), Ng makavar (d), K my bap (a), Yg my ba'va (a), Y maw my (b).

83 'root' Mk my mygy (a), W mygy (a), N dep my (b), M pega my (c), Ng fay (d), K my peregy (e), Yg peregy (e), Y my depw (b).

In W at least /dep/ 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 /dep/ and /mygy/ forms was made arbitrarily. The following list shows the rejected forms: W dep my (b), N jwgwp my (c), M myj my (a), Y my mygy (a).

84 'flower' Mk mawAy (a), W mawAy (a), N mway (a?), M mawAy (a), Ng pwarpwa (b), K my jw (c), Yg mawYa (a?), Y my je (c).

The VS patterning of the N and Yg forms is unusual.

85 'fruit' Mk cek (a), W cek (a), N cek (a), M teko (b), Ng yanegar (c), K cek (a), Yg cek (a), Y ceky (a).
86 'branch' Mk my gale (a), W kwale my (b), N my cade (c), M ba my (d), Ng my rēkē (e), K my dagw (f), Yg mya cēba (g), Y my ba (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 /warə/, W /warə/, K warə, Yg /warə/.

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 /kn/, probably as a crystallisation of an earlier free variation of final stops (cf. Iatmul). It can be explained as arising from */kwcn/* - */kwych/* - (*/kwykn/*) - /kwypm/.

89 'dog' Mk wacə (a), W wacə (a), N warə (b?), M ac (a), Ng pyəp (c), K warə (b?), Yg warə (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 gyũ (a), K gəny (a), Yg gənyʌ (a), Y gyũ (a).
91 'bird' Mk apwy (a), W apwy (a), N wavy (a), M wapy (a),
   Ng afy (a), K wavy (a), Yg wavyʌ (a), Y wafy (a).
92 'feather' Mk ywy (a), W ywy (a), N ywy (a) M ywy (a),
   Ng wyləɡe (b), K ywy (a), 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 bədə (b), M bəd (b),
   Ng gwy (c), K bədə (b), Yg gək (a), Y nake (d).
94 'wing' Mk payk (a?), W ykgʌ (a), N wyəw (b), M pap (c),
   Ng təbʌ (d), K ykə (a), Yg yk (a), Y ykyfəfʌ (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.
95 'snake' Mk kabwʌy (a), W kabwʌy (a), N kabwʌy (a),
   N kabay (a?), Ng mapweɛɛ (b), K kabwʌy (a),
   Yg kabwʌy (a), Y kabay (a?)
   The M and Y forms do not correspond with the other
   forms in the second vowel.
For item 96, see page 247.
97 'fly (n.)' Mk cat (a), W cat (a), N cat (a), M car (a),
   Ng kwʌl (b), K car (a), Yg care (a), Y car (a).
'mosquito' Mk kwya (a), W kwya (a), N kwya (a?), M kovy (a?), Ng cevya (b?), K mekyse (c?), Yg kya (a), Y kawya (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 */kwaya/., or */kya/.

'louse' Mk nemw (a), W nemw (a), N bakwa (b), M tegyn (c), Ng nan (d), K kamale (e), Yg neka (f), Y neka (f).

'rope' Mk bagwy (a), W bagwy (a), N yaw (b), M bajege (a), Ng tap (c), K kep (d), Yj bagwy (a), Y yabagy (a).
Additional forms recorded are W /kepe/ (d) and Ng /y/.

'grass skirt' Mk kwar (a), W kwar (a), N kwarw (a), M kwar (a), Ng kwar (a), K kwaro (a), Yg karo (a), Y mw (b).

'good' Mk ykw (a), W ykw (a), N apna (b), M vyaketa (c), Ng af (b?), K yka (a), Yg yke (a?), Y mwy (d).
The expected (b) cognate in Ng would be */apna/.
103 'bad' Mk kapray (a), W kapray (a), N kapray (a),
M kwvərapa (b'), Ng rəca (c), K yade (d),
Yg yədəvək (d), Y kəfəy (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 nema (a), W nema (a), N nema (a), M nema
(a), Ng pwta (b), K made (c), Yg made (c),
Y cəmy (d).

A K form /walamany/ 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 makwal (a), W makal (a), N mak (a?),
M kwacə (b), Ng ŋan (c), K cəpə (d),
Yg cəvəbək (d?), Y pwayne (e).
The K and Yg forms should be compared with entries
under 'long' (106). The additional forms /yədekən/ 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 cəmyən (a), W - , N cəpəmə (c), M cəmykəcəmy
(a), Ng jəkyn (d), K cəpədə (c), Yg cəvərmə (c),
Y -

107 'short': Mk wap (a), W pawtək (b), N taby (c),
M pawkəpə (b?'), Ng pəkəp (c), K mwəkə (d),
Yg gərək (e), Y -
The M form, like most common M adjectives, is reduplicated (/paw.kə.pə), 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 kuAkYa (a), W bar (b), N yərəkwyn kat (c), M bar (b), Ng fyalw (c), K bware (b), Yg bware (b), Y kAya/k (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 kAde (a), W kAde (a), N wde (b), M yAcaMa (c), Ng kAka (d), K wde (e), Yg wde (b), Y kAde (a)

110 'red' Mk gwava (a), W ŋeky (b), N yərəkwyn (c), M ŋekyŋeky (b), Ng gwaf (a), K wyn (c), Yg wyde (c?), Y ŋeky (b)

Compare 'blood', item 47. The yg form is probably from /wyn/ + /de/.

111 'white' Mk wama (a), W wama (a), N cawn (b), M wamAkwawam (a), Ng walwap (c), K bwa (d), Yg wamwA (a), Y wamwA (a)

Most of the above forms are words for white objects; thus /wama/ is 'white cockatoo', /cawn/ 'white heron', /bwa/ 'fog' (item 58).

112 'black' Mk gèle (a), W gèle (a), N gəp-page (a), M ʒerger (a), Ng gəlA (a), K gèle (a),
Yg gərə (a), Y gərə (a)
The final /p/ of the N forms results from assimilation to the initial phoneme of /paga/, an allomorph of /baga/ 'skin'.

113 'hot' Mk (fire) (a), W káqəly (b), N kəqəkə (c), M kwəkwənə (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 ɣpəma (a), W ɣpəma (a), N ɣpəmy (b), M ɣəker (c), Ng ɣəkel (c), K ɣpəma (a), Yg ɣəgwək (d), Y ɣpə (a)

115 'blind' Mk mynə kya (a), W mynə kya (a), N mynə kya (a), M myr kwəkənə (b), Ng myl pəsə (c), K mynə kya (a), Yg mynəwəvək (d), Y mytyjəjəj (e)
The (a) forms all mean 'eye has died', and are counted as cognate. The Ng form means 'eye bad'.

116 'deaf' Mk wagəte (a), W wagəte (a), N wan təve (b), M wan tepmə (b), Ng wan pəsə (c), K wagəte (a), Yg wəbwək (d), Y wan də tec (e)
The morpheme for 'ear' (item 25) probably occurs in all forms. The Ng form means 'ear bad'.

117 'full' Mk cəkerəkə (a), W yat (b), N təta (c), M kəvəwnə (d), Ng kəkel (e), K cəpəkə (f),
For the (b) correspondence, compare forms under 'palm' (item 33). An additional form /fety/ was also recorded for Y.

118 'quickly' Mk very (a), W petepete (b), N kwata (c), M yaperyaper (b?), Ng rawarawa (d), K waca (e), Yg kwarybyan (c?), Y aka (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 tekydra (a), W reka (b), N kwpy (c), M jabwa (d), Ng karwa (e), K oekwa (f), Yg vare (g), Y fajana (h).

120 'new' Mk kwla (a), W kwla (a), N jagwa (b), M kwla (a), Ng kagale (c), K kagale (c), Yg kagale (c), Y kwny (d).

A Mk form /gwalA/ (c?) was also recorded.

121 'rotten' Mk apma (a), W jagwa (b), N lwvwn (c), M pwkw (d), Ng -, K nwkwla (e), Yg byakak (f), Y nefaça (g).

Additional forms: Mk kwabw ñave, N negena, M akwy.

U 122 'right hand' Mk ykw twa (a), W ykw twa (a), N yaky daba (b), M yyally taba (c), Ng yaktten (b), K dwa twa (d), Yg yakyle twa taba (b),
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 abwkAy tabA (b), M aky tab (a), Ng akA (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 kA (a), M kA (a), Ng kA (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 /re/.

126 'stand up' Mk tA (a), W tA (a), N rekA (b), M tA (a), Ng tA (a), K tA (a), Yg tA (a), Y tA (a)
These forms translate 'be standing'; for 'stand up' = 'arise', see additional items at the end of this list.
127 'sit' Mk ra (a), W ra (a), N re (a), M re (a),
    Ng yalky (b), K ra (a), Yg ra (a), Y re (a)
128 'speak' Mk bwl (a), W bwl (a), N gabwl (a?), M bwr
    (a), Ng w1A (b), K bwlé (a), Yg bwl (a),
    Y bwl (a)
129 'call' Mk wa (a), W wa (a), N wa (a), M ce (b),
    Ng fôtayf (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 yaga (a), W pëtepëte y (b), N pëpe (b),
    M gëvan y (c), Ng këfe (d), K wàca y (e),
    Yg - , Y fëk pëk 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), Y y (a), Y y (a)
    This form is also the normal word for 'go'.
132 'give me' Mk tya (a), W tya (a), N kwy (b), M kwy
    (b), Ng kway (b), K kwy (b), Yg kwya (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 kwya
    (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 /rəkak/. See also 'shoot' (165), and 'kill (pig)' (224).

136 'break' (tr.) Mk pwkə (a), W pək (a), N pagwk (a?), M kayk (b), Ng takwter (d), K twy (e), Yg pəgək (a), Y wyagerəp (f)
The N and Yg forms are counted as (a) cognates because of the occurrence of W allomorphs /pəŋ/ /pəŋ/ in /pəŋən/ '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 vyə (a), M vyə (a), Ng fyə (a), K vyə (a), Yg vyə (a?), Y fyə (a)
Compare items 135, 165 and 224. The lack of correspondence in final vowels is unusual; Yg appears to make a distinction between /vyə/ 'hit' and /vyə/ 'kill, spear', and K a distinction between /vyə/ 'hit, kill, spear' and /vyə/ '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 vakere (a), W vakere (a), N - , M vaker (a), Ng rēfaĉa (b), K talaĉa (c), Yg takyā (d), Y vakere (a)

139 'sleep' Mk ce kwa (a), W ce kwa (a), N cēw kwa (a), M ce kw (a), Ng cya kwa (a?), K ce kwa (a), Yg ce kwa (a), Y -

All /ce/ 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 ve (a), W ve (a), N ve (a), M ve (a), Ng tayf (a?), K ve (a), Yg ve (a), Y fe (a)

The Ng form apparently contains a prefix.

142 'hear' Mk vekrw (a), W vekw (a), N wk (b), M wak (b), Ng fwk (a), K kwa (a?), Yg kwa (a?), Y fekē (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 gēra (a), W gēra (a), N gēra (a), M gēr (a), Ng gēra (a), K gēra (a), Yg gēra (a), Y gērə (a)

A Ng form /gēra/ was also recorded.

144 'singsing (v.)' Mk kēty (a), W kēty (a), N vēre (b), M - , Ng fāc (c), K kēr (a), Yg kēry (a), Yg kēryā (a),
'cook (food)' Mk tw (a), W tw (a), N kwat (b),
M kwat (b), Ng tw (a), K tw (a), Yg yAta (c),

Compare next.

'burn (grass)' Mk tw (a), W tw (a), N tw (a),
M avete (b), Ng temwe (c), K twA (a), Yg twA (a), Y tw (a)

Compare previous item; it is probable that two
distinct morphemes (compare K forms) have
coalesced in Mk and W.

'blow (fire)' Mk yapw (a), W yave (a?), N vorek (b),
M vajeky (c), Ng fwlw (d), K yabele (e),
Yg yarek (f), Y car (g)

A form /vorek/ (b) was recorded for Mk, with the
meaning 'ignite, cause to burn'.

'laugh' Mk wagy (a), W wagy (a), N cek (b), M waj (a), Ng walekwa (c), K cagy (d), Yg cagy (d),
Y wagy (a)

Compare some forms for 'joke' (item 177).

'be afraid' Mk wp ya (a), W wp ya (a), N vakaw (b),
M yag (c), Ng toto (d), K wpm kwa (a),
Yg wk ya (a?), Y -

The final consonant of the Yg form does not
correspond, but the construction with /ya/ 'make'
is identical, and it has been counted as an (a)
cognate.
150 'scratch (skin)' Mk gøre (a), W gøre (a), N ger (a), M ger (a), Ng kwəkyəl (b), K gərkə (a), Yg gøre (a), Y ger (a).

151 'throw'
Not used; satisfactory equivalents could not be obtained for most of the languages.

152 'swim' Mk vere (a), W vere (a), N vacəry (b), M pwə (c), Ng -, K vere (a), Yg kəraw y (d), Y vere (a)

153 'wash (oneself)' Mk yak (a), W yakw (a), N yakw (a), M yakw (a), Ng cəke (b), K yaknə (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 kwəke (b), Ng kwəkəl (c), K vəykəy (d), Yg wla (e), Y kwak (b)
Additional for Y: /kwrəkw/ (c?)

155 'smell (tr.)' Mk yama (a), W yamə (a), N jagw (b), M -, Ng -, K yama (a), Yg yama (a), Y yama (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)

157 'go up (hill)' Mk ware (a), W ware (a), N wəkəy Ng (b), M ware (a), K ware (a), Ng ware (a), Y ware (a)
The Ng form shows some resemblances to the (a) cognates, but not sufficient for a positive identification.

\[ 158 \] 'go down (hill)\) Mk dawle y (a), W dawle y (a), N da y (a), M da (a), Ng fəkəle (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), H: rəpe tyakw (d), Ng yafəlaw (e), K pəkwəm (f), Yg wrakwə (g), Y yafətek (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 kwre (a), W kwre (a), N kw (a), M -, Ng -, K kwre (a), Yg kwre (a), Y wələky (b)

\[ 161 \] 'carry (on shoulder)\) Mk yate (a), W yate (a), N wara (b), M yat (a), Ng kwkwə (c), K yare (a), Yg ara (d?), Y wate' (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 balekw (a), W rete (b), N cøreka kaly (c), M ragwcə (d), Ng cəkole kafə (e), K wakwkwə (f), Yk kacala (g), Y rakwte (h)

163 'pull' Mk təbəre (a), W -, N rak (b), M ragə (c), Ng rykəkəlaw (d), K lərəkaryə (b?), Yg rakare (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 wrə (a), Ng akəkəkəl (c), K pəwə (a), 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 vya (a), M vy (b), Ng øəf (c), K vya (a), Yg kale (d), Y øə (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 /vya/ (137).

166 'bite' Mk nəbyt yə (a), W paka (b), N var (c), M vəte (c), Ng akə (d), K cyə (e), Yg tyə (f), Y wat (g)
The Mk phrase means 'make with teeth'.

167 'vomit' Mk gwyA (a), W gwyA (a), N gwyA (a), M gwy (a), Ng gwyA (a), K gwyA (a), Yg gwyA (a), Y gwyA (a).

168 'cough' Mk yar kala (a), W walyA (b), N yak ker (a), M yar kar (a), Ng alw kala (c), K yar ya (a), Yg yare kere (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 tekwyA (a), W pale (b), N pagwk (c), M vyacar (d), Ng tefan (e), K vy (f), Yg pege (c?), Y fwke (h)

Compare forms for 'break' (item 136); see also the note to this item.

170 'name' Mk y (a), W y (a), N ce (b), M ce (b), Ng ce (b), K ce (b), Yg ce (b), Y y (a)

171 'straight'

Not used; most of the equivalents obtained mean simply 'good'.

172 'crooked' Mk ḥseqwA (a), W agwa (b), N gelak (c), M tepwrek (d), Ng -, K -, Yg tawrek (e), Y -

The Ng form recorded means 'not straight', and is not therefore used. A Mk additional form /ragwa/ was recorded.

173 'ripe' Mk ak (a), W (ak (a), N ak (a), M rawne (b), Ng akw (a), K nekwA (c), Yg nekwa (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' throughout.

175 'dry' Mk gw kapwk (a), W yrəpwn (b), N pw (c),
       M cəpərkə (d), Ng kwəkw (e), K pwa (f),
       Yg Ḃəka (g), Y gw wəkyc (h)
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'.

176 'heavy' Mk vat (a), W vak (a), N vary (a), Μ vət (a),
       Ng nwm (b), K vəkə (a), Yg (vəkXa)Y fək (a)
All forms except that of Ng are counted as cognate, in spite of the non-correspondence of final consonants.

177 'joke' Mk kwəkəwə (a), W waga (b), N kəcə (c),
       M rək (d), Ng tətə (e), K kəwə ləbə (f),
       Yg cəgy (g), Y kədy (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 warə (a), W wə (b), N wərəθə
       K wə(b), Yg (c?), M wə (b), Ng kəpə fəə (d), Y kw (e),
       Y wə (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 wla (a), W wla (a), N rayra (b), M wi (a), Ng fawla (a), K wla (a), Yg wla (a), Y wraie (a?)

The Y form has /r/ in place of the expected /l/.

180 'go out' Mk ala (a), W gwade (b), N wakay (c), M wak (c), Ng fak (d), K wle (e), Yg ala (a), Y vale (f)

181 'bury' Mk rem (a), W rem (a), N vagw (b), M takae (c), Ng teka (c?), K takna (c), Yg gw (d), Y take (c)

Compare with the N form the morphemes for 'dig hole' (182) and 'break ground' (197).

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 wager (a), W wager (a), N waget (a), M wage (a), Ng wager (a), K yakw (b), Yg wager (a), Y wagay (a?)

The M and Y forms lack the expected /r/.

184 'swallow' Mk ērek (a), W ērek (a), N makna (b), M-, Ng twkan (c), K malka (d), Yg ērek (a), Y kwek (e)

185 'cut (rope)' Mk kerek (a), W cekw (b), N karek (a),
M patap (c), Ng fyapwt (d), K rakwa (e),
Yg kerek (a), Y ceke (b)

186 'tie (rope)' My gy (a), W gy (a), N cagy (a?),
M tétak (b), Ng fyawar (c), K gy (a),
Yg gy (a), Y gy (a)

187 'draw water' Mk tw (a), W tw (a), N tw (a), M tw
(a), Ng tw (a), K twa (a), Yg twa (a),
Y tw (a)

188 'who' Mk kade (a), W kade (a), N kada (a), M ce (b),
Ng kwaya (c), K kana (a?), Yg kena (a?),
Y kade (a)

189 'what' Mk camw (a), W kamw (b), N meda (c), M agwa
(d), Ng mya (e), K gapwa (f), Yg yake (g),
Y pwakwa (h)

190 'where (at)' Mk yaba (a), W yaba (a), N adama,ba (b),
M ake,b (c), Ng ja,ken (d), K yana,wa,ne (e),
Yg yna kakwa (f), Y kaneba (g)

191 'when' Mk yany fa (a), W yany capak (a), N ada jebela
(b), M ake,ceke,f ne (c), Ng acal magel (d),
K yana,wa cay (e), Yg yna ya (a?), Y kyta (f)
The compared forms are actually the morphemes for
'which'; the phrases translate 'what day?', 'what
time?', etc.

192 'above, on top')
'under' (stationary)

Not used; no satisfactory equivalents obtained.
193 'upon' (movement) 'underneath'

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 lwacak (d), K kwar (e), Yg bwa (f), Y ca (g)

197 'dig up (ground)' Mk va (a), W va (a), N va (a), M vacwkw (a?), Ng cal (b), K va (a), Yg va (a), Y paw (c)

Compare 181 and 182. An additional K form, /pw/, was recorded.

198 'far' Mk cék̆a (a), W ceka (a), N reyera (b), M cēke (a), Ng kelya (c), K cēka (a), Yg cēka (a), Y afele (d)

A form /cep̆era/ also occurs in N.

199 'near' Mk waleba (a), W kwaymak̥a (b), N gwayâbe (c), M arewyan (d), Ng keten (e), K kwpabwa (f), Yg kavaka (f), Y pwacemwadet (g)

200 'many' Mk aryge (a), W kâpeyryn (b), N nema cakwak (c), M camacam (d), Ng tefen (e), K mabek̥a (f),
Yg kavwayk (g), Y -

The N form literally means 'large quantity'.

U 201 'how much' Mk yaga (a), W katy (b), N agama (c), M kac (b?), Ng keñak (d), K yampka (e), Yg yakanaayk (f), Y katyka (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 keny (a), W any (b), N kan (a), M kedy (a), Ng ker (a), K men (a), Yg men (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 wany (a), W wany (a), N wan (a), M ada (b), Ng - , K wany (a), Yg wan (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 nak (a), W nak (a), N keta (b), M nak (a), Ng nak (a), K napa (c?), Yg yakwarek (d), Y nakwaade (a)

A longer form /nakwrak/ occurs in both Mk and W.

The K form is probably not cognate.
'two' Mk vetyk (a), W vetyk (a), N velolék (a),
M vety (a), Ng fyt (a), K veryk (a),
Yg veryk (a), Y vety (a)
The /-le/ of the N form arises from the palatalisation of /t/-/r/ before /y/.

'three' Mk kwpg (a), W kwpg (a), N kwpg (a),
M mwpwr (b), Ng mwpwl (b), K mwpwlyk (b),
Yg nwgwlék (c), Y kwak (a)

'four' Mk vetyk vetyk (a), W vetyk vetyk (a),
N AynA (b), M ary (c), Ng ary (c), K naA (d),
Yg naA (d), Y pety pety (e)
A Yg form /karekare/ also occurs; neither this nor the Y form appears to correspond to the (a) cognates.

'five'
Not used; 'five' is 'hand' or 'one hand' in all the languages.

'six, seven, eight, nine'
Not used; these numbers are very unreliable in Ndu-family languages, and informants were frequently confused when supplying them. Essentially, counting begins again at five, 'six' being 'hand one', 'seven' 'hand two', etc; but /taba nak/ and equivalents may be understood to mean either 'one hand' ('five') or 'hand one' ('six').

'ten'
Not used; yields 'hand two' in all the languages.
216 'twenty' Mk man taba vətyk (a), W nakwək my (b),
 N kata,de my (b), M dw my nak (c), Ng rw nak (d), K dwa my napa (c), Yg -, Y dw nakwadə(d)
 Cognates are here scored for structural parallels.
The forms translate: Mk 'leg hand two', W, N 'one (tree?)', M, K 'man (tree?) one', Ng, Y 'man one'.
The morpheme /my/ is probably not the morpheme for 'tree'.

217 'and'
Not used; 'and' is rarely overtly expressed,
and when expressed is identical with 218 'together with'.

218 'together with' Mk wala (a), W wala (a), N wə (b),
 M wə (b), Ng wə (b), K le (c), Yg wa (b), Y -.
Additional forms recorded: N wya, Ng waken, nakwak,
 Yg kwa, nayk, naykwa.

219 'fight' Mk waryə (a), W waryə (a), N waryə (a),
 M waryə (a), Ng wafyə (b), K waryə (a),
 Yg waryə (a), Y waryə (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 way (b), M kaw (c),
 Ng əfəwk (d), K nəby (a), Yg 'nəbyə(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 vacña (b), M vy (c?), Ng fyà (a), K vyà (a), Yg vyà(â), Y vyà (a)
Compare items 135, 137 and 165, and the notes thereto.

225 'stick' Mk my gwà (a), W my gwà (a), N jéky (b), M-, Ng-, K-, Yg my à gorok (d), Y pego (e)
For M, Ng and K, only the morpheme for 'tree' was recorded for this item. An additional form /bago/ (e) was recorded for Mk, and an additional form /my takw/ for Y. Se also 'branch' (item 86).

226 'talk to me' Mk wa (a), W wa (a), N wa (a), M wa (a), Ng włe (b), K bwłe (c), Yg wakwà (a), Y wa (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 yàbà wa (b), N kày (c),
The negative morphemes occurring as complete utterances have been selected throughout.

230 'other' Mk -, W kapwa (a), N -, M kavaw (a), Ng bosom (b), K-, Yg kavyak (a?), Y wayna (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 */kapwa/; the Yg form is far more doubtful after the first three phonemes.

231 'few'

Not used; all languages translate 'one one' except K (navayki), Yg (jewa), and possibly Ng (nakcan nakcan). The selection of 'one one' forms by informants may have been influenced by the phrase in the language of interrogation: Pidgin 'wanpela wanpwla' = 'few'.

232 'breathe'

Not used; elicited forms unreliable.

233 'spit' Mk cermen (a), W cermen (a), 'N-, M cer (a)
Ng ceru (a?), K cermy (a?), Yg cermya (a?), Y cerfegw (a?)

The above are noun forms; verbs recorded were W cwa, M ce, K cwa, Yg cwa. The correspondences
after the first three phonemes are irregular but not impossible. The Y form is however doubtful; /cafy/ corresponds to K /cepmy/, 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/twlsk/, 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 kamyA (a?), K kwamwy (a), Y kwamwyA (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.  

(Item 96, 'fish', was inadvertently omitted above; see below:)

96 'fish' Mk gw kwamy (a), W ac (b), N kamy (a), M kamy (a), Ng ac (b), K kapy (c), Yg pwa kwamyA (a), Y kwamwy (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).

**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 bale (a), W bale (a), N bar (a), N bar (a), Ng bwal (a), K bwa (a), Yg bwal (a), Y bwal (a)

The regular sound-correspondences in this series suggests 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 ga (a), W ga (a), N gay (a), M wy (b), Ng gay (a), K ga (a), Yg ga (a), Yg kay (a)

Compare also 'village', A 3. A form /ga/ also occurs in W.

A 3 'village' Mk gay (a), W gay (a), N gay unp (b), M tep (c), Ng wya (d), K wya (d), Yg -, Y kay (a)

A 4 'stand up (arise)' Mk rapm (a), W rap (a), N 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 tepm (b), Yg kwdy (a), Y kwdy (a)
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.

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.\(^{(a)}\) 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:

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.

\(^{(a)}\) 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 work.
TABLE IX

Ndu-Family Cognate Count and Items Compared

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TABLE X

Cognate Percentages and Time-Depths in Years

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(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 percent, between family and stock at 36 percent. In the Ndu family, only Ngala shares cognates with other languages at percentages lower than the family level; however, the family level of 36 percent is within the range of error of most of the Ngala figures, and it is therefore justifiable to include Ngala for convenience into 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
18. INTERNAL RELATIONSHIPS IN THE NDU FAMILY

18.1. Introduction

18.1.1. The fact of the relationship of languages of the Ndu(a) 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

18.2. The order of the languages in the columns of Tables IX and X (page 252) 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 percent 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 independently.

(a) 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.
since that time.

1823. 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 percent, 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 on a word-list taken from lower-river Iatmul dialects would show a much lower percentage. In the diagram on page 259 *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.

1824. 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 (\(\text{Epsilon}\)) 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. (a)

18.5. 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 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).

18.6. 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. (b)

18.25. Table XI shows the comparison of significant differences.
structural features, but, in the absence of an established method of morphostatistics, no attempt is made at quantifying these.

**TABLE XI**

<table>
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<td>16</td>
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<td>a</td>
<td>mA</td>
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<td>a</td>
<td>me</td>
</tr>
</tbody>
</table>

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 (/yA/ etc.) occur normally in predication of adjectives.
5: Morpheme \( \{wA\} \) occurs in predication of adjectives.
6: Affirmative equation statements require free pronoun.
7: Affirmative equation statements require \( \{wA\} \).
8: Affirmative equation statements expressed by juxtaposition (A=B).

(Continued on page 260)
DIAGRAM I
Relationships of the Languages of the Ndù Family in Family Tree Form

*Alpha

*Beta

*Delta

*Epsilon

BOIKIN

ABELAM

NGALA Kwusaun Yengorù Maprik Wosera YELOGU SAWOS MANAMBU Nyaura

Posited proto-languages, thus: *Alpha.
Languages, thus: BOIKIN.
Dialects, thus: Kwusaun.
(Key to Table IX, continued)
9: Pronoun object follows verb, without object suffix.
10: Agreement with object in verbs.
11: Masculine/feminine agreement in possessive pronouns.
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 connexion 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 tradition(a) that they came to their
present position from the northeast, migrating overland
through the Washkuk Mountains. If a general northward

(a) 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 were 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.
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.
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 (a), to see whether it is possible to add another family to the largest linguistic group in New Guinea.

(a) When the material collected by S.A. Wurm during 1958-1959 is published.
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 Wogamusin, 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.

'\textit{man}': W ndu, Wm namot, K wuluk, A pando, Ar aman,
Kw ma, M tama, Wn tam, I enkam, Ab ur

'\textit{woman}': W takwa, Wm ucin, K ber, A anmandaken, Ar nemata, W
Kw mima, M ta, Wn taw, I wik, Ab sa

'I': W wune, Wm jak, K ri, A ame, Ar ai, Kw an,
M an, Wn se, I ka, Ab hakwe

'you': W mane, Wm u, K wun, A mi, Ar ina, Kw me, M ne,
Wn tay, I ki, Ab hugwe

'he': Wnde, Wm min, K mañ, A- men, Kw re, M ra, Wn te,
I si, Ab hukwe, Ar enin)

'nose': W tama, Wm ngum, K pam, A masik, Ar ngwasinga,
Kw sumwondj, M rangi, Wn bolj, I nomwos,
Ab kasau

'water': W ngwi, Wm arum, K mendema, A alem, Ar ambal,
Kw ukwu, M okw, Wn yok, I op, Ab hu

'fire': W ya, Wm zak, K pendema, A war, Ar nif, Kw hi,
M ker, Wn kur, I par, Ab ya

'tree': W mi, Wm - , K mwop, A ytornga, Ar lawank,
Kw me, M me, Wn mbotom, I palkap, Ab nou
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(a); 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, linguistic evidence is at least partially

(a) 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.
supplemented by conclusions to be drawn from distribution, ethnography and terrain, and some hypotheses about migration can be made, 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 connexion 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 have traditions of origin in the mountains to the northeast.

12.23.1. 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 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.\(^{(a)}\)

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 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,

\(^{(a)}\) 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.
unless the detour overland by the Boikin was spread over a period of time long enough for seafaring traditions to be entirely obliterated.\(^{(a)}\) 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 Leonhard Schulze 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

\(^{(a)}\) A possibility which cannot be entirely discounted.
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 villages. 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 Range 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

(a) 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.
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 Hāuser Rivers from the direction of Netherlands New Guinea (a); even southward from the western Torricelli Ranges (b). But to attempt to chase the Ndu family as far as this must fail for 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.

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

(a) Unlikely; the country is very difficult to traverse.

(b) 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.
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.

*******
APPENDIX A

Pidgin Translations of Wosera Texts

1. A Pig Hunt (see page 127)

Mambawan pastaim... nambawan pastaim mipela i go raunim pik na mipela i siutim wampela 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 wampela pik mipela kisim... painim na mipela kisim wampela. 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 wampela 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 wampela 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 wampela pik bilong man, i nogat, yumi kambek long ples, yumi kisim rin, lainim, pasim wampela 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 story-telling 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 131)

Pastaim mipela i stap long ples, mipela i stap long ples, orait, yumj i godaun long... yumj godaun long bus na yumj katim bus. Yumi katim bus pinis, yumj planim mami yumj planim mami pinis, i drai nau, yumj kamautim. Yumi kamautim, kisim io go antap long ples, orait, yuml\textsubscript{ainim}, yuml\textsubscript{ainim} 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. Crait, 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. 'Intentive' 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 comparison 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 syntactical role. (See 6.82).
WOSTRA

Bases: /kA/ 'eat', /ya/ 'come', /gəra/ 'cry', /ve/ 'see', /y/ 'go'.

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<th>Present Interrogative</th>
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<td>(xv = kA,w)</td>
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<td>wne   kA,wn.w</td>
</tr>
<tr>
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<td>mene  kA,men,w</td>
</tr>
<tr>
<td>ñene  gəra,ñe,gwa</td>
<td>ñene  kA,ñen,w</td>
</tr>
<tr>
<td>de    kA,de,kwa</td>
<td>de    kA,d.w</td>
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<td>day   kA,dar.w</td>
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<table>
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<th>Past Interrogative</th>
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<td>(xv = kA,k)</td>
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<td>de    kA,de,n</td>
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<td>le    kA,le,k</td>
</tr>
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<td>ane   kA,te,k</td>
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<tr>
<td>bere  kA,bere,n</td>
<td>bere  kA,bere,k</td>
</tr>
<tr>
<td>nane  kA,nane,n</td>
<td>nane  kA,nane,k</td>
</tr>
<tr>
<td>day   kA,dare,n</td>
<td>day   kA,dare,k</td>
</tr>
</tbody>
</table>
### Future

<table>
<thead>
<tr>
<th>Stem</th>
<th>Future Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>wne</td>
<td>ka.kawte.kwa</td>
</tr>
<tr>
<td>mene</td>
<td>ka.ka.mene.gva</td>
</tr>
<tr>
<td>nene</td>
<td>ka.ka.nene.gwa</td>
</tr>
<tr>
<td>de</td>
<td>ka.ka.de.kwa</td>
</tr>
<tr>
<td>le</td>
<td>ka.ka.1e.kwa</td>
</tr>
<tr>
<td>ake</td>
<td>ka.ka.te.kwa</td>
</tr>
<tr>
<td>bene</td>
<td>ka.ka.bene.gwa</td>
</tr>
<tr>
<td>bere</td>
<td>ka.ka.bere.kwa</td>
</tr>
<tr>
<td>nane</td>
<td>ka.ka.nane.gwa</td>
</tr>
<tr>
<td>gwne</td>
<td>ka.ka.gwne.gwa</td>
</tr>
<tr>
<td>day</td>
<td>ka.ka.dar.kwa</td>
</tr>
</tbody>
</table>

### Sentence-Medial I

<table>
<thead>
<tr>
<th>Stem</th>
<th>Sentence-Medial I Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>wne</td>
<td>ya.wte.ka</td>
</tr>
<tr>
<td>mene</td>
<td>ya.mene.ga</td>
</tr>
<tr>
<td>nene</td>
<td>ya.nene.ga</td>
</tr>
<tr>
<td>de</td>
<td>ya.de.ka</td>
</tr>
<tr>
<td>le</td>
<td>ya.le.ka</td>
</tr>
<tr>
<td>ake</td>
<td>ya.te.ka</td>
</tr>
<tr>
<td>bene</td>
<td>ya.bene.ga</td>
</tr>
<tr>
<td>bere</td>
<td>ya.bere.ka</td>
</tr>
<tr>
<td>nane</td>
<td>ya.na.ga</td>
</tr>
<tr>
<td>gwne</td>
<td>ya.gwne.ga</td>
</tr>
<tr>
<td>day</td>
<td>ya.dar.ka</td>
</tr>
</tbody>
</table>

### Sentence-Medial II

<table>
<thead>
<tr>
<th>Stem</th>
<th>Sentence-Medial II Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>wne</td>
<td>yo.wt.w</td>
</tr>
<tr>
<td>mene</td>
<td>yo.men.w</td>
</tr>
<tr>
<td>nene</td>
<td>yo.nen.w</td>
</tr>
<tr>
<td>de</td>
<td>yo.d.w</td>
</tr>
<tr>
<td>le</td>
<td>yo.l.w</td>
</tr>
<tr>
<td>ake</td>
<td>yo.t.w</td>
</tr>
<tr>
<td>bene</td>
<td>yo.ben.w</td>
</tr>
<tr>
<td>bere</td>
<td>yo.ber.w</td>
</tr>
<tr>
<td>nane</td>
<td>yo.nan.w</td>
</tr>
<tr>
<td>gwne</td>
<td>yo.gwn.w</td>
</tr>
<tr>
<td>day</td>
<td>yo.dar.w</td>
</tr>
</tbody>
</table>

### Sentence-Medial II (Intentive)

<table>
<thead>
<tr>
<th>Stem</th>
<th>Sentence-Medial II Intentive Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>wne</td>
<td>y.k.wt.w</td>
</tr>
<tr>
<td>mene</td>
<td>y.ko.men.w</td>
</tr>
<tr>
<td>nene</td>
<td>y.ko.nen.w</td>
</tr>
<tr>
<td>de</td>
<td>- (not recorded)</td>
</tr>
<tr>
<td>le</td>
<td>- (not recorded)</td>
</tr>
<tr>
<td>ake</td>
<td>- (not recorded)</td>
</tr>
<tr>
<td>bene</td>
<td>y.ko.ben.w</td>
</tr>
<tr>
<td>bere</td>
<td>- (not recorded)</td>
</tr>
<tr>
<td>nane</td>
<td>- (not recorded)</td>
</tr>
<tr>
<td>gwne</td>
<td>y.ko.gwn.w</td>
</tr>
<tr>
<td>day</td>
<td>y.ko.dar.w</td>
</tr>
</tbody>
</table>

As the last two paradigms are perfectly regular, the unrecorded forms can be assumed to be */y.ka.d.w/,
*/y.ka.l.w/,*/y.ka.t.w/, */y.ka.ber.w/ and */y.ka.nan.w/ respectively.
MAPRIK  
(Bases: /kA/ 'eat', /ya/ 'come')

<table>
<thead>
<tr>
<th>Present Negative</th>
<th>Past Affirmative (Xv = kA.k)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Affirmative = kA.k)</td>
<td>(Negative = Present Negative)</td>
</tr>
<tr>
<td>wne  ka.wre.n</td>
<td>wne  ka.wre.k</td>
</tr>
<tr>
<td>mene  ka.mene.n</td>
<td>mene  ka.mene.k</td>
</tr>
<tr>
<td>ñene  ka.ñene.n</td>
<td>ñene  ka.ñene.k</td>
</tr>
<tr>
<td>de  ka.de.n</td>
<td>de  ka.de.k</td>
</tr>
<tr>
<td>le  ka.le.n</td>
<td>le  ka.le.k</td>
</tr>
<tr>
<td>ake  ka.ake.n</td>
<td>ake  ka.ake.k</td>
</tr>
<tr>
<td>bene  ka.bene.n</td>
<td>bene  ka.bene.k</td>
</tr>
<tr>
<td>bere  ka.bere.n</td>
<td>bere  ka.bere.k</td>
</tr>
<tr>
<td>nane  ka.nane.n</td>
<td>nane  ka.nane.k</td>
</tr>
<tr>
<td>gwno  ka.gwno.n</td>
<td>gwno  ka.gwno.k</td>
</tr>
<tr>
<td>day  ka.day.n</td>
<td>day  ka.day.k</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sentence-Medial I</th>
<th>Sentence-Medial II (Conditional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>wne  ka.wre.kA</td>
<td>wne  ka.wre.k</td>
</tr>
<tr>
<td>mene  ka.mene.kA</td>
<td>mene  ka.mene.krel</td>
</tr>
<tr>
<td>ñene  ya.ñene.kA</td>
<td>ñene  ya.ñene.krel</td>
</tr>
<tr>
<td>de  ya.de.kA</td>
<td>de  ya.de.krel</td>
</tr>
<tr>
<td>le  ya.le.kA</td>
<td>le  ya.le.krel</td>
</tr>
<tr>
<td>ake  ya.ake.kA</td>
<td>ake  ya.ake.krel</td>
</tr>
<tr>
<td>bene  ya.bene.kA</td>
<td>bene  ya.bene.krel</td>
</tr>
<tr>
<td>bere  ya.bere.kA</td>
<td>bere  ya.bere.krel</td>
</tr>
<tr>
<td>nane  ya.nane.kA</td>
<td>nane  ya.nane.krel</td>
</tr>
<tr>
<td>gwno  ya.gwno.kA</td>
<td>gwno  ya.gwno.krel</td>
</tr>
<tr>
<td>day  ya.day.kA</td>
<td>day  ya.day.krel</td>
</tr>
</tbody>
</table>

Some dialects in the Maprik area have suffix /-ran/ in conditional forms; thus /ka.wre.an/, /ka.mene.ran/, etc. In the /wne/ and /bere/ forms the /r/ of the suffix is replaced by that of the pronoun.
**KVUSAUN** (Bases: /ka/ 'eat', /kya/ 'die')

<table>
<thead>
<tr>
<th>Future</th>
<th>Present*</th>
</tr>
</thead>
<tbody>
<tr>
<td>nwa</td>
<td>kya.w na</td>
</tr>
<tr>
<td>mne</td>
<td>kya.w ma</td>
</tr>
<tr>
<td>ñene</td>
<td>kya.w ña</td>
</tr>
<tr>
<td>de</td>
<td>kya.w de</td>
</tr>
<tr>
<td>ny</td>
<td>kya.w ny</td>
</tr>
<tr>
<td>nane</td>
<td>kya.w nane</td>
</tr>
<tr>
<td>bere</td>
<td>kya.w bere</td>
</tr>
<tr>
<td>bero</td>
<td>kya.w bero</td>
</tr>
<tr>
<td>nane</td>
<td>kya.w nane</td>
</tr>
<tr>
<td>gwre</td>
<td>kya.w gwre</td>
</tr>
<tr>
<td>dy</td>
<td>kya.w dy</td>
</tr>
</tbody>
</table>

*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: /kæ/ 'eat', /vya/ 'hit', /gora/ 'cry', /g/ 'go', /kakam/ 'swallow', /wk/ 'hear')

<table>
<thead>
<tr>
<th>Present</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>wn</td>
<td>kæ.vay.kæ.wn</td>
</tr>
<tr>
<td>men</td>
<td>kæ.vay.kæ.men</td>
</tr>
<tr>
<td>ñen</td>
<td>kæ.vay.kæ.ñen</td>
</tr>
<tr>
<td>de</td>
<td>kæ.vay.kæ.de</td>
</tr>
<tr>
<td>le</td>
<td>kæ.vay.kæ.le</td>
</tr>
<tr>
<td>an</td>
<td>kæ.vay.kæ</td>
</tr>
<tr>
<td>bet</td>
<td>kæ.vay.kæ.bet</td>
</tr>
<tr>
<td>bet</td>
<td>kæ.vay.kæ.bet</td>
</tr>
<tr>
<td>nen</td>
<td>kæ.vay.kæ.nen</td>
</tr>
<tr>
<td>gwt</td>
<td>kæ.vay.kæ.gwt</td>
</tr>
<tr>
<td>dy</td>
<td>kæ.vay.kæ.dy</td>
</tr>
</tbody>
</table>
Near Past | Remote Past
---|---
wn ke wn | wn y wa
men ke men | men y ma
ñen gera ñen | ñen y ña
de vy de | de y da
le gera le | le y la
an ke | an y rya
bet wp bet | bet y ba
bet wp bet | bet y ba
nen wt nen | nen y na
gwt wk gwt | gwt y gwa
dy ke dy | dy y ja

Allomorphs /wp/ and /wt/ of /wk/ 'hear' are conditioned by the following phoneme.

<table>
<thead>
<tr>
<th>Conditional Affirmative</th>
<th>Conditional Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>wn kekamaka wa yan</td>
<td>wn kekamaka y wa yan</td>
</tr>
<tr>
<td>men kekamaka ma yan</td>
<td>men kekamaka y ma yan</td>
</tr>
<tr>
<td>ñen kekamaka ña yan</td>
<td>ñen kekamaka y ña yan</td>
</tr>
<tr>
<td>de kekamaka da yan</td>
<td>de kekamaka y da yan</td>
</tr>
<tr>
<td>le kekamaka la yan</td>
<td>le kekamaka y la yan</td>
</tr>
<tr>
<td>an kekamaka rya yan</td>
<td>an kekamaka y rya yan</td>
</tr>
<tr>
<td>bet kekamaka ba yan</td>
<td>bet kekamaka y ba yan</td>
</tr>
<tr>
<td>bet kekamaka ba yan</td>
<td>bet kekamaka y ba yan</td>
</tr>
<tr>
<td>nen kekamaka na yan</td>
<td>nen kekamaka y na yan</td>
</tr>
<tr>
<td>gwt kekamaka gwa yan</td>
<td>gwt kekamaka y gwa yan</td>
</tr>
<tr>
<td>dy kekamaka ja yan</td>
<td>dy kekamaka y ja yan</td>
</tr>
</tbody>
</table>

MANAHBU (Bases: /ke/ 'eat', /re/ 'sit', /ve/ 'see', /kw/ 'fetch', /vy/ '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** | **Past**
---|---
wñ ke.[ko].na.də.wn | wn ke.də.wn
wn ke.[ko].na.wn | wn ke.wn
men ke.[ko].na.də.men | men ke.də.men
ñen ke.[ko].na.ñen | ñen ke.ñen
de ke.[ko].na.d | de ke.d
re ke.[ko].na | re ke
an ke.[ko].na.ber.an | an ke.ber.an
ber ke.[ko].na.ber.ber | ber ke.ber.ber
ber ke.[ko].na.ber | ber ke.ber
ñan ke.[ko].na.dy.ñan | ñan ke.dy.ñan
gwr ke.[ko].na.dy.gwr | gwr ke.dy.gwr
day ke.[ko].na.dy | day ke.dy

*Forms with infix /-ke-/ are future. The infixes /de-/, /-ber-/ and /-dy-/, as well as /-zero/, agree with the subject for number and gender (see 11.43.1).*

**Sentence-Medial I** | **Sentence-Medial II**
---|---
and **Conditional**
wñ r.əw (rə.tw) | wn kwt.twə.[rek]
wn r.əw (rə.tw) | wn kwt.twə.[rek]
men rə.men | men vya.menə.[rek]
ñen rə.ñen | ñen vya.ñenə.[rek]
de rə.de | de rə.de.[rek]
re rə | re vya.rə.[rek]
an rə.tek | an vya.ba.[rek]
ber rə.ber | ber vya.berə.[rek]
bar rə.ber | ber vya.berə.[rek]
ñan rə.ba | ber vya.bana.[rek]
gwr rə.gwr | gwr vya.gwrə.[rek]
day rə.dy | day vya.dana.[rek]

*Forms with suffix /-rek/ are conditional.*
Verbs with bound object

<table>
<thead>
<tr>
<th>Subject, all persons:</th>
<th>object 'you' (m.sg.)</th>
<th>Subject, all persons:</th>
<th>object 'you' (f.sg.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>wn</td>
<td>ve, twe.de.men</td>
<td>wn</td>
<td>ve, twe.hen</td>
</tr>
<tr>
<td>wn</td>
<td>ve, twe.de.men</td>
<td>wn</td>
<td>ve, twe.hen</td>
</tr>
<tr>
<td>men</td>
<td>ve, mena.de.men</td>
<td>men</td>
<td>ve, mena.hen</td>
</tr>
<tr>
<td>ñen</td>
<td>ve, ñena.de.men</td>
<td>ñen</td>
<td>ve, ñena.hen</td>
</tr>
<tr>
<td>de</td>
<td>ve, da.de.men</td>
<td>de</td>
<td>ve, da.hen</td>
</tr>
<tr>
<td>re</td>
<td>ve, ra.de.men</td>
<td>re</td>
<td>ve, ra.hen</td>
</tr>
<tr>
<td>an</td>
<td>ve, ba.de.men</td>
<td>an</td>
<td>ve, ba.hen</td>
</tr>
<tr>
<td>ber</td>
<td>ve, bera.de.men</td>
<td>ber</td>
<td>ve, bera.hen</td>
</tr>
<tr>
<td>ber</td>
<td>ve, bera.de.men</td>
<td>ber</td>
<td>ve, bera.hen</td>
</tr>
<tr>
<td>ñan</td>
<td>ve, bana.de.men</td>
<td>ñan</td>
<td>ve, bana.hen</td>
</tr>
<tr>
<td>gwr</td>
<td>ve, gwra.de.men</td>
<td>gwr</td>
<td>ve, gwra.hen</td>
</tr>
<tr>
<td>day</td>
<td>ve, dana.de.men</td>
<td>day</td>
<td>ve, dana.hen</td>
</tr>
</tbody>
</table>

Subject 'he': object, all persons

<table>
<thead>
<tr>
<th>Subject 'he': object, all persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>de</td>
</tr>
<tr>
<td>de</td>
</tr>
<tr>
<td>de</td>
</tr>
<tr>
<td>de</td>
</tr>
<tr>
<td>de</td>
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<tr>
<td>de</td>
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<tr>
<td>de</td>
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<td>de</td>
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<tr>
<td>de</td>
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<tr>
<td>de</td>
</tr>
<tr>
<td>de</td>
</tr>
<tr>
<td>de</td>
</tr>
</tbody>
</table>

Subject 'she': object, all persons

<table>
<thead>
<tr>
<th>Subject 'she': object, all persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>re</td>
</tr>
<tr>
<td>re</td>
</tr>
<tr>
<td>re</td>
</tr>
<tr>
<td>re</td>
</tr>
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<td>re</td>
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<td>re</td>
</tr>
<tr>
<td>re</td>
</tr>
<tr>
<td>re</td>
</tr>
<tr>
<td>re</td>
</tr>
</tbody>
</table>

In passing, it may be mentioned that the translation of 'you two see yourselves' is /ber bora.ber ve,bera.ber,ber/.
NGALA (Base: /fyA/ 'hit')

Forms are given with bound object pronouns
/men/ 'you' (m.sg.), /rər/ 'they', or /yn/ 'she', in word-final position.

<table>
<thead>
<tr>
<th>Present</th>
<th>Future</th>
<th>Future Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>wn</td>
<td>aw. fyA, men</td>
<td>wn. fyA, wn, men, way</td>
</tr>
<tr>
<td>Ṣẹn</td>
<td>an. fyA, yn</td>
<td>Ṣẹn fyA, źẹn, yn, way</td>
</tr>
<tr>
<td>men</td>
<td>am. fyA, yn</td>
<td>men fyA, men, yn</td>
</tr>
<tr>
<td>yn</td>
<td>an. fyA, rər</td>
<td>yn fyA, yn, rər</td>
</tr>
<tr>
<td>ker</td>
<td>ar. fyA, men</td>
<td>ker fyA, r, men</td>
</tr>
<tr>
<td>yn</td>
<td>an. fyA, men</td>
<td>yn fyA, yn, men</td>
</tr>
<tr>
<td>Ayn</td>
<td>Ayn, fyA, men</td>
<td>Ayn fyA, yan, men</td>
</tr>
<tr>
<td>ben</td>
<td>abe, fyA, yn</td>
<td>ben fyA, ben, yn</td>
</tr>
<tr>
<td>ber</td>
<td>abe, fyA, yn</td>
<td>ber fyA, ben, yn</td>
</tr>
<tr>
<td>nan</td>
<td>ane, fyA, men</td>
<td>nan fyA, nan, men</td>
</tr>
<tr>
<td>gwn</td>
<td>age, fyA, rər</td>
<td>gwn fyA, gwn, rər</td>
</tr>
<tr>
<td>rar</td>
<td>ara, fyA, men</td>
<td>rar fyA, rar, men</td>
</tr>
<tr>
<td>Past</td>
<td>Future Negative</td>
<td></td>
</tr>
<tr>
<td>wn</td>
<td>w. fyA, men</td>
<td>wn. fyA, wn, men, way</td>
</tr>
<tr>
<td>Ṣẹn</td>
<td>ne, fyA, yn</td>
<td>Ṣẹn fyA, źẹn, yn, way</td>
</tr>
<tr>
<td>men</td>
<td>me, fyA, yn</td>
<td>men fyA, men, yn</td>
</tr>
<tr>
<td>yn</td>
<td>yn, fyA, rər</td>
<td>yn fyA, yn, rər, way</td>
</tr>
<tr>
<td>ker</td>
<td>re, fyA, men</td>
<td>ker fyA, r, men, way</td>
</tr>
<tr>
<td>yn</td>
<td>yn, fyA, men</td>
<td>yn fyA, yn, men</td>
</tr>
<tr>
<td>Ayn</td>
<td>Ayn, fyA, men</td>
<td>Ayn fyA, yan, men, way</td>
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<tr>
<td>ben</td>
<td>ben, fyA, rər</td>
<td>ben fyA, ben, rər, way</td>
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<tr>
<td>ber</td>
<td>ber, fyA, rər</td>
<td>ber fyA, ben, rər, way</td>
</tr>
<tr>
<td>nan</td>
<td>na, fyA, yn</td>
<td>nan fyA, nan, yn</td>
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<tr>
<td>gwn</td>
<td>gwn, fyA, yn</td>
<td>gwn fyA, gwn, yn</td>
</tr>
<tr>
<td>rar</td>
<td>ra, fyA, men</td>
<td>rar fyA, rar</td>
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<table>
<thead>
<tr>
<th>Present/Future</th>
<th>Sentence-Medial</th>
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<tbody>
<tr>
<td>wny ka.[ke].wn</td>
<td>wny ka.wn.ga</td>
</tr>
<tr>
<td>meny ka.[ke].men</td>
<td>meny ka.men.ga</td>
</tr>
<tr>
<td>ñeny ka.[ke].ñen</td>
<td>ñeny ka.ñen.ga</td>
</tr>
<tr>
<td>de ka.[ke].d</td>
<td>de ka.de.kà</td>
</tr>
<tr>
<td>le ka.[ke].l</td>
<td>le ka.le.kà</td>
</tr>
<tr>
<td>any ka.[k:].an</td>
<td>any ka.ba</td>
</tr>
<tr>
<td>ñeny ka.[ke].ñen</td>
<td>ñeny ka.ba</td>
</tr>
<tr>
<td>gwny ka.[ke].gwn</td>
<td>gwny ka.gwn.ga</td>
</tr>
<tr>
<td>jy ka.[ke].j</td>
<td>jy ka.jy.kà</td>
</tr>
</tbody>
</table>
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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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