

# IRIAN

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# IRIAN

## BULLETIN OF IRIAN JAYA DEVELOPMENT

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P A R T    I

ANTHROPOLOGY, THE STUDY OF CULTURE

## DONGENG TENTANG BUAH MONYET

Yorem Ke  
ed. by Musa Lazarus

This story is about a young boy who offers to help an old woman pick walnuts from a tall tree. While climbing he sees human bones hanging from the upper limbs of the tree, and realizes that the woman wants to eat him instead of the nuts. He distracts her, and escapes to his village, where he informs his parents of what he has seen. Later, the old woman is invited to a village feast and is thrown into the fire in which a pig is roasting. This is her reward for having captured and killed village children who had heretofore been thought lost in the jungle. This story is from the Kentuk area.

Di jaman dulu, pada suatu siang hari kira-kira pukul 12:00, duduklah seorang anak di rumah seorang nenek tua. Nenek tua ini bukan nenek anak itu. Nenek tua itu sedang mencari buah monyet untuk dimakan.

Ketika nenek itu tiba di rumah, anak itu berkata, "Nenek, buah itu bagus untuk kita makan." Nenek itu menjawab, "Aku tak mempunyai cucu. Kalau aku punya cucu, ia tentu dapat membawa buah monyet ini bersama dengan nenek." Lalu anak itu menjawab, "Nenek, apakah yang engkau katakan kepada saya? Saya bisa meman-jat pohon matoa, pohon mangga, pohon kelapa, pohon pinang, dan lain-lain. Nenek, besok pagi kita berdua pergi bersama-sama untuk mengambil buah itu." Kemudian nenek itu berkata, "Nah, cucu, buatlah api untuk membakar buah monyet ini." Lalu anak itu ber-

sama-sama dengan nenek tua itu membuat api. Kemudian mereka membakar buah monyet itu, dan memakannya bersama-sama. Sementara mereka sedang makan buah monyet ini, nenek tua itu berkata, "Besok pagi-pagi sekali kita pergi mengambil buah itu, sebab bila siang hari pohon itu menjadi licin batangnya." Selesai mereka makan buah monyet itu, anak itu pulang ke rumah orang tuanya, yaitu ayahnya, untuk tidur.

Pada keesokan harinya, pagi-pagi sekali anak itu pergi dengan nenek tua itu untuk memetik buah monyet. Setelah mereka sampai di dekat pohon buah monyet itu, nenek tua itu berkata, "Cucu, kalau engkau memanjat pohon ini, janganlah engkau melihat ke atas, sebab di atas sana ada lebah, dan kalau engkau melihat ke atas, nanti engkau akan disengat lebah itu." Nenek tua ini sebenarnya menipu anak kecil tadi. Sebab di atas dahan dan ranting-ranting pohon buah monyet ini banyak bergantung tulang-tulang manusia, yang sebenarnya digantungkan di situ oleh nenek tua itu sendiri. Tulang-tulang ini berasal dari orang-orang yang mati dimakan oleh nenek tua itu sendiri.

Ketika anak itu memanjat pohon buah monyet itu dan melihat ke atas, tampaklah olehnya tulang-tulang yang bergantung di dahan-dahan dan ranting-ranting pohon buah monyet itu. Anak itu merasa takut sekali dan ia berkata dalam hati, "Wah, nanti nenek tua itu pasti akan memakan aku." Lalu dicarinya akal agar ia terhindar dari bahaya yang sedang mengancamnya sekarang.

Kemudian anak itu memetik sebuah buah monyet lalu dilemparnya jauh-jauh dari pohon itu, sambil berteriak: "Nenek, tolong ambilkan buah saya yang baik ada jatuh." Lalu nenek tua itu cepat-cepat mengambil buah yang jatuh itu dan kembali ke bawah pohon tadi. Hal ini berturut-turut sampai dua kali. Pada yang ketiga kalinya anak itu membuang buah monyet itu ke dalam lubang kayu. Kemudian nenek tua itu naik ke atas pohon kayu yang berlubang itu,

tetapi pohon itu bertambah tinggi sekali. Ketika melihat nenek tua itu sedang mencari buah dari dalam lubang kayu, anak itu cepat-cepat turun dari pohon buah monyet dan terus berlari menuju kampungnya. Ketika dilihatnya anak kecil itu berlari, maka turunlah nenek tua itu dari pohon kayu yang berlubang itu, dan dikejarnya anak kecil itu. Ketika sudah dekat dengan kampung, lalu nenek tua itu kembali lagi ke pohon buah monyet untuk mengumpulkan buah monyet itu, dan dibawanya pulang ke rumahnya.

Setibanya di rumahnya sendiri, anak kecil itu menunggu ibu dan bapanya yang sedang pergi ke kebun. Ketika ibu dan bapanya tiba di rumah, maka anak kecil itu memberitahukan kepada ibu bapanya, bahwa anak-anak yang dahulu hilang dan dicari-cari sebenarnya tidak hilang di hutan, melainkan dimakan oleh nenek tua. Anak itu juga berkata, bahwa ia baru saja melihat banyak tulang-tulang manusia bergantung di atas pohon buah monyet. Lalu bapa anak itu menjawab, "Biarlah, besok pagi kita harus berburu babi dan kita lihat nenek tua itu." Keesokan harinya pagi-pagi benar, mereka berburu babi di hutan. Mereka mendapat babi satu ekor. Kemudian babi itu dibawa ke kampung dan dipotong. Mereka membelah kayu dan membuat api yang besar sekali untuk membakar babi itu.

Kemudian seorang anak berlari ke hutan untuk memanggil nenek itu. Anak itu berkata, "Nenek tua, orang-orang kampung minta agar nenek sendiri datang dan memberitahukan apa-apa saja kemauan nenek." Nenek tua itu menjawab, "Nah, bawalah tempat daging babi nenek ini ke kampung." Tetapi anak itu berkata lagi, "Tidak, nenek, orang-orang kampung mau supaya nenek sendirilah yang membawa tempat untuk daging babi nenek." Lalu nenek tua itu pergi ke kampung tempat orang membakar babi. Setelah tiba di tempat itu, orang kampung berkata kepada nenek tua itu, "Nenek, taruhlah tempat daging babimu di situ dahulu. Tengoklah, ambilkan taring

babi." Dengan segera orang-orang kampung menangkap nenek tua itu bersama-sama untuk dibakar di dalam api yang besar itu. Waktu nenek itu ditangkap ia berteriak, "Tunggu sebentar. Jangan bakar aku dulu, nanti aku bicara dulu baru kalian boleh bakar aku." Kemudian orang-orang kampung semua berteriak, "Bicaralah cepat. Dulu anak-anak kampung sudah kau ambil untuk memetik buah monyet, dan sudah kau bunuh dan makan." Sesudah mereka berkata begitu, nenek tua itu dibakar di api dan hanguslah tubuh nenek tua itu, dan terbanglah menjadi burung-burung..

# KEMTUK KINSHIP<sup>1</sup>

Jelly van der Wilden  
Summer Institute of Linguistics

0. Introduction
1. Kinship terminology
  - 1.1 Terms of Ego's generation (0<sup>0</sup>)
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  - 1.3 Terms of the second ascending generation (+2<sup>0</sup>)
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2. Clans
  - 2.1 The nature of clans
  - 2.2 The clan leader
  - 2.3 Andua clans (friend clans)
3. Marriage
  - 3.1 Marriage restrictions
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  - 3.3 Divorce
  - 3.4 Polygyny
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4. Other aspects of kinship behavior
  - 4.1 Sago production
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  - 4.3 Childbirth
  - 4.4 Discipline
  - 4.5 Legal responsibility
5. The extension of kinship
6. Kinship charts

## 0. Introduction

The aim of this paper is to describe some aspects of Kentuk social structure including the kinship system, clan system, and various aspects of kinship behavior such as marriage. The present study is a working paper which reports findings and

suggests direction for further investigation.

# 1. Kinship terminology

## 1.1 Terms of Ego's generation (0°)

- aka : older sibling of the same sex  
parallel cousin who is the child of PaOlSib, i.e.  
FaOlBrCh, MoOlSiCh  
child of any moytrang or aytrang  
HuOlBr, WiOlSi
- sat : younger sibling of the same sex  
parallel cousin who is the child of PaYgSib, i.e.  
FaYoBrCh, MoYoSiCh  
child of any moysat or aysat  
YoSiHu, HuYoBr, HuYoBrWi (female speaking)  
WiSi, WiSiHu (male speaking)
- kemdet : brother (female speaking)
- kabui sro : sister (male speaking)  
HuSi, BrWi (female speaking)
- usu idi : maternal cross-cousin; child of any wate, e.g.  
MoBrCh
- tema idi : paternal cross-cousin; child of any nga nialo, e.g.  
FaSiCh
- mesa : WiBr, SiHu, WiBrWi (male speaking)  
HuSiHu (female speaking)
- ## 1.2 Terms of the first ascending generation (+1°)
- aya : father
- mia : mother, FaWi, wife of any wate, e.g. MoBrWi
- aysat : 1. male of ego's father's generation and clan whose  
direct ancestor is a younger sibling of ego's  
direct ancestor, e.g. FaYoBr  
2. spouse of female of ego's mother's generation and  
clan whose direct ancestor is a younger sibling  
of ego's direct ancestor, e.g. MoYoSiHu
- moysat : 1. female of ego's mother's generation and clan whose  
direct ancestor is a younger sibling of ego's  
direct ancestor, e.g. MoYoSi  
2. spouse of male of ego's father's generation and

clan whose direct ancestor is a younger sibling  
of ego's direct ancestor, e.g. FaYoBrWi

nga nialo : female of ego's father's clan and generation, e.g.  
FaSi

wate : male of ego's mother's clan and generation, e.g.  
MoBr

atamu : husband of any nga nialo, e.g. FaSiHu

aysio masi : father-in-law, i.e. HuFa, WiFa

moykabui

segla : mother-in-law, i.e. WiMo, HuMo

## 1.3 Terms of the second ascending generation (+2°)

babu : grandparent; also any person of ego's mother's or  
father's clans of the second ascending generation.

## 1.4 Terms of the first descending generation (-1°)

do : child  
child of siblings and cousins of the same sex as the  
speaker, i.e. BrCh, PaSibSoCh (male speaking)  
SiCh, PaSibDaCh (female speaking)

do kabung : son-in-law, i.e. DaHu

do kenin : daughter-in-law, i.e. SoWi

desui : SiCh, PaSibDaCh (male speaking)

na sui : BrCh, PaSibSoCh (female speaking)

temoy

nesip : used to specify child who is neither youngest or  
oldest

## 1.5 Terms of the second descending generation (-2°)

domdat : grandchild  
consanguineal relatives of the second ascending  
generation, e.g. ChCh, SibChCh, PaSibChChCh

## 1.6 Terms used by third person (e.g. as in "He is her uncle."):

betedon : brother of a female, i.e. substitute for kemdet

demanon : sister of a male, i.e. substitute for kabui sro

ndengon : sister of a female, i.e. substitute for sat kabung  
or aka kabung

## 2. Clans

### 2.1 The nature of clans

Kemtuk society is made up of patrilineal clans (sibs). A person is born into his father's clan and remains there. A woman does not become a member of her husband's clan.

In Kemtuk-Gressi there are around 45 different clans. Each clan has a different name, but there is no special meaning of the clan name. Some people know where their clan originated. One person told me that his clan originally came from the Nimboran area. After his clan had won a battle with another clan, they seized the opposition's land and the defeated clan had to retreat into the bush.

Each clan builds its houses in a group, so that the territory of a village is divided among different clans.

### 2.2 The clan leader

The clan leader is one of the most powerful men in the village. There would ordinarily be more than one clan leader in each village since there is more than one clan in each village. Clan members must give honor to him and he is the one who makes the decisions for the clan. When there is a problem or something has to be discussed the leader must be consulted.

The position of clan leader is passed down from a man to his oldest son. If a clan leader dies and his son is still too young, the younger brother of the deceased can be the temporary clan leader. The son of the original clan leader has to wait until the temporary clan leader is old before he can claim the

position of clan leader. It is said that long ago it was the custom that the eating of certain birds was prohibited for clan leaders, but nowadays this custom is not adhered to.

### 2.3 Andua clans (friend clans)

There sometimes exists a relationship between clans in which members of one clan refer to certain other clans as andua "friend clans". Marriage restrictions prevent a person from marrying a member of a friend clan. Informants describe the relationship between two such clans as that of mutual assistance: "They help each other like friends do." There is apparently no concept of having descended from a common ancestor. Thus far, I have found just three friend clans. Whether or not this should be described as a phratry system is not yet clear.

## 3. Marriage

### 3.1 Marriage restrictions

A number of restrictions are observed in the choice of a mate. First of all it is required that one marry out of his own clan. Further one is prohibited from marrying a member of his mother's clan, or one of his paternal grandmother's clan.

Further, as was mentioned in 2.3, one cannot marry a member of a friend clan.

The tendency seems to be that a clan will try to contract marriages with as many different clans as possible. This, of course, only includes those clans with whom clan members are allowed to marry. Presumably, the purpose of this system is to set up friendly alliances with as many other clans as possible.



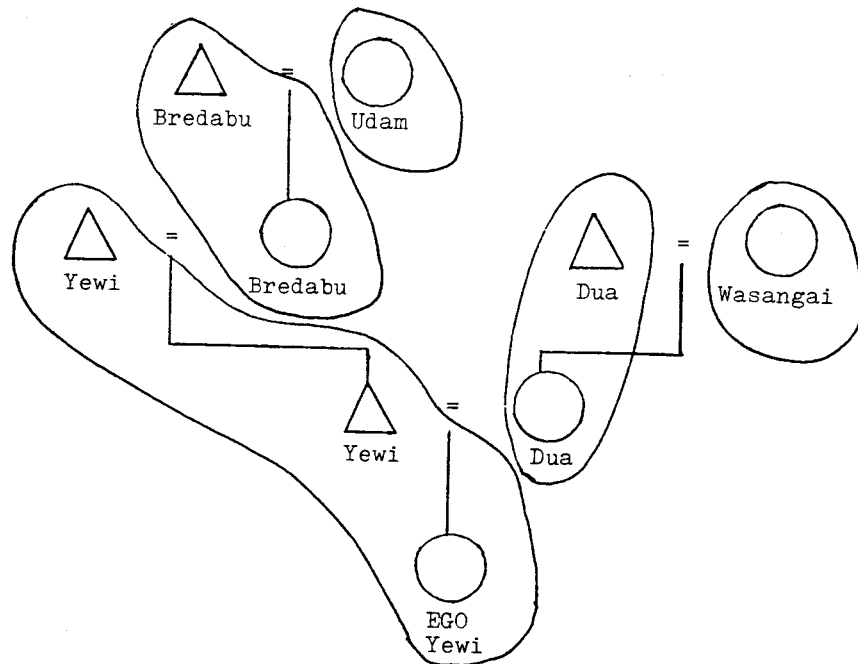


Figure 1: Marriage Restrictions  
Ego, who is a member of the Yewi clan, cannot marry Dua or Bredabu, but can marry Udam and Wasangai.

### 3.2 The marriage arrangement

When a boy wants to marry a girl, he first approaches her father, or, if the father is deceased, the male person who is responsible for her, namely her brother or her paternal uncles. The father (or other male responsible) then approaches the girl and asks her opinion of the match. If she agrees, her father, brothers, and paternal uncles go to the boy's village to discuss the brideprice with the boy's clan (or his family). A brideprice is usually worth about Rp. 100.000 in cash, certain kinds of stones (wada), and special antique beads (ngoy). There are four

different kinds of beads:

- (a) ngoy seglue
- (b) ngoy tugo
- (c) ngoy natu
- (d) ngoy jawang

They are distinguished by a difference in color. The ngoy seglue beads are the most important ones. These are an obligatory part of the brideprice, while the others are not. Sometimes a boy has to wait until after his sister is married before he can marry, because of a lack of stones or beads.

The girl's family can give a time limit in which the brideprice must be paid. The boy must live in the girl's village until the whole price is paid and must work in her father's garden. When the whole debt is paid the couple moves to his village and will start their own garden and build their own house.

If the father is not able to pay the whole brideprice, he is assisted by the head of the clan (degwenna) and all other members of the clan. If a woman's total bride price has not yet been paid when her daughter gets married, the daughter's brideprice will go to finish payment of the mother's brideprice.

The brideprice might be better called a progeny price because (1) if the woman does not produce children, she can be sent back and (most of) the brideprice must be returned; or (2) if the brideprice is not paid the children become members of the mother's clan.

When a wedding takes place the bride's clan is responsible for supplying pigs for the wedding feast. Each person gives as much as he is able. The wedding feast is not obligatory to the marriage, but is always desirable.

### 3.3 Divorce

The wife can be taken back by her clan if her husband's clan refuses to complete the payment of the previously agreed upon brideprice. If there are children, the father cannot consider these children as part of his clan; the children then become members of the mother's clan.

Another ground for divorce is barrenness. In this case, about 90% of the brideprice must be returned to the husband's clan if they have been married for only a short time, e.g. two years. But if they have been married for a long time, none of the brideprice is returned.

### 3.4 Polygyny

If a woman bears only daughters her husband will not divorce her, but he is apt to marry a second wife to provide himself with a male heir. Another ground for marrying a second wife is the possible sickness of the first wife, and her consequent inability to work.

### 3.5 Death of spouse

When a woman dies, her husband can marry her sister or some other woman in her clan, but this is not obligatory. If he does marry someone else from her clan, he will pay approximately half of the usual brideprice.

If a man dies, his brother or another male person from his clan can marry his wife but half of the usual brideprice has to be paid again. If a man dies and no one marries his widow, she moves to the house of her brother, or to the house of her oldest son if he is married. When a woman with young children dies, her husband is assisted in the care of the children by his parents, and if the maternal grandparents live in the same village, they

may also assist.

If the child does not have paternal grandparents, the father's sister cares for them. If there is no paternal aunt, then the moysat (MoYoSi, FaYoBrWi) and moytrang (MoOlSi, FaOlBrWi) care for them. Finally, if none of the preceding are living, then the mother's brother cares for them.

In the case of a girl who has lost her father, her brothers still have a stronger voice than her foster father in matters such as her marriage. In one case a girl was married to a certain young man. Before her marriage the girl had been living with her Father's Older Brother's son, since her parents had died when she was small. However, when her brother heard about the marriage, he came to her village to voice his disagreement with the terms of the marriage. Since the boy's family could not pay the brideprice all at once, the agreement had been made to give them a time limit in which to finish payment. However, since her brother disagreed with such an arrangement, the girl had to leave her husband's house and go back to her cousin's house.

## 4. Other aspects of kinship behavior

### 4.1 Sago production

Gathering and processing sago is usually done in groups. If a family is small they ask the help of other clan members, who must then be given a share of the sago.

### 4.2 Housebuilding

When a couple is married, they are assisted in housebuilding by the husband's brothers and the sons of his paternal uncles. When a person from another clan is asked to help with house-

building, he is paid for it. Any man would be expected to assist in building the house of the relative with whom he is living, e.g. if a bachelor lives with his mother's brother, he would be expected to help with housebuilding if such need arose.

#### 4.3 Childbirth

In childbirth, a woman is helped by the sisters of her husband. If the wife of her own brother helps her, her husband has to pay for her services. It is also common for the mother of the wife to come to her son-in-law's house when a birth is imminent in order to assist her daughter in the delivery.

#### 4.4 Discipline

There seems to be no rule regarding which relatives have rights or duties in regard to disciplining of a child. Even people of another clan can discipline a child, but they must then inform the parents.

#### 4.5 Legal responsibility

When an offense is committed against another party, the family and clan of the offender are responsible to see that appropriate compensation is made. A father and close paternal relatives would try to provide compensation but if they were not able to do so, other members of the clan would come to their aid. Hence, the clan is ultimately responsible for the behavior of its members, and also bears the shame of any misbehavior.

#### 5. The extension of kinship

In addition to consanguineal relatives and other members of one's own clan, consanguineal kinship terms may be used to refer

to other people who live in close proximity. Sometimes no affinal or consanguineal connection can be traced to these people or their clans. Parents tell their children how they have to refer to these people, but the children often don't know why they use a particular kinship term for a particular person, e.g. MoSi not MoSiCh. Usually the only relationship evident to the speaker is whether the kin relationship is supposed to be from the mother's or the father's side.

An individual must call the members of another clan by consanguineal kinship terms, if the ancestors of the first or second ascending generation were from the same clan. For example, a man calls all of the members of his paternal grandmother's clan by consanguineal kinship terms.

#### Notes

<sup>1</sup> This paper was written during a six week workshop conducted by the Summer Institute of Linguistics working in cooperation with Cenderawasih University, under the direction of Dr. and Mrs. Ken Gregerson. The workshop was held at the UNCEN-SIL center at Danau Bira, from April <sup>1</sup> until mid-May, 1976.

I wish to acknowledge Mrs. Gregerson's invaluable help and to express my gratitude for her many hours of consultation throughout the research and writing. I also wish to acknowledge the willing help of Yoram Ke and Martina Yewi, both Kentuk speakers from the villages of Merem and Demutim.

My husband and I began the study of Kentuk language and culture in February, 1975, and have spent seven months actually living in the village of Merem. Kentuk is spoken by approximately 2,500 people living in approximately 15 villages immediately south-west of Lake Sentani. It is part of sub-district Kentuk-Gressi, within the Jayapura district. Kentuk is probably originally a non-Austronesian language, but has been widely influenced by Austronesian languages. Anceaux classifies Kentuk in the Nimboran language family.



- |              |              |                    |
|--------------|--------------|--------------------|
| 1. babu      | 12. moytrang | 23. kabuisro sat   |
| 2. nga nialo | 13. aytrang  | 24. kabuisro trang |
| 3. atamu     | 14. wate     | 25. sat            |
| 4. aytrang   | 15. mia      | 26. aka            |
| 5. moytrang  | 16. tema     | 27. usu            |
| 6. aysat     | 17. idi      | 28. idi            |
| 7. moysat    | 18. aka      | 29. de             |
| 8. aya       | 19. trang    | 30. sui            |
| 9. mia       | 20. sat      | 31. do             |
| 10. moysat   | 21. aka      | 32. trang          |
| 11. aysat    | 22. sat      | 33. domdat         |

Figure 1. Kinship Terms  
EGO = Male

- |              |                  |            |
|--------------|------------------|------------|
| 1. babu      | 12. moytrang     | 23. sat    |
| 2. nga nialo | 13. aytrang      | 24. aka    |
| 3. atamu     | 14. wate         | 25. sat    |
| 4. aytrang   | 15. mia          | 26. aka    |
| 5. moytrang  | 16. tema         | 27. usu    |
| 6. aysat     | 17. idi          | 28. idi    |
| 7. moysat    | 18. aka          | 29. do     |
| 8. aya       | 19. trang        | 30. do     |
| 9. mia       | 20. sat          | 31. nasui  |
| 10. moysat   | 21. kemdet trang | 32. nasui  |
| 11. aysat    | 22. kemdet sat   | 33. domdat |

Figure 2. Kinship Terms  
EGO = Female

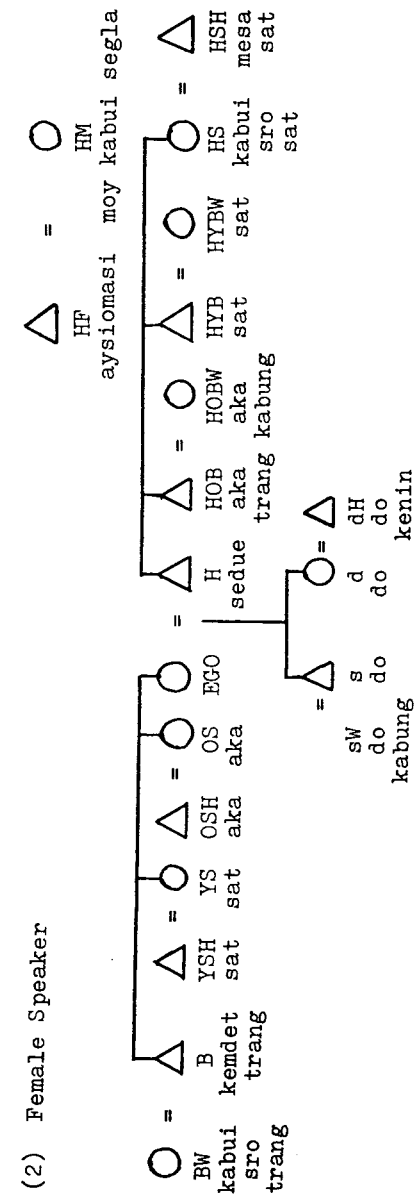
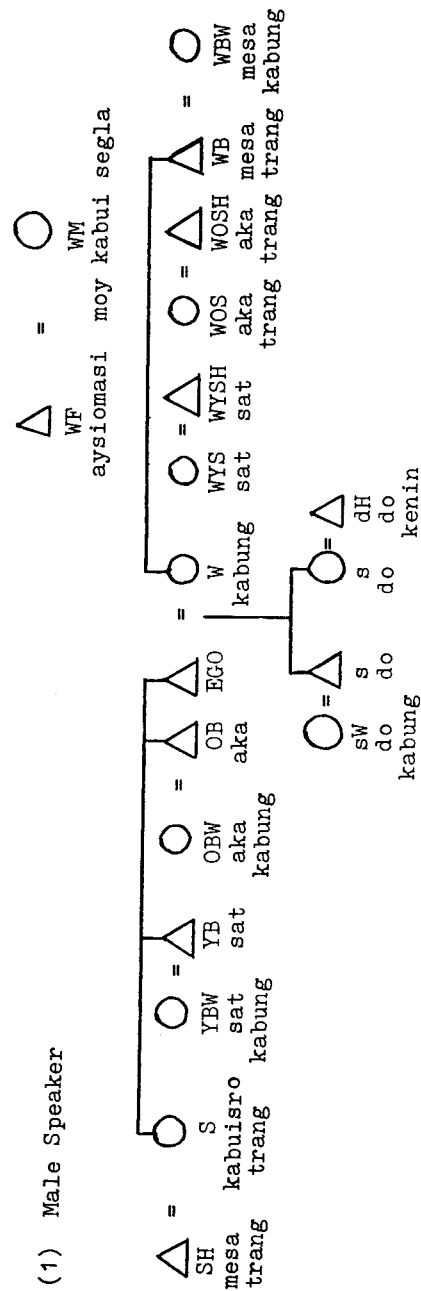


Figure 3. Affinal Kinship Chart

ISIRAWA KINSHIP AND EXCHANGE MARRIAGE<sup>1</sup>

Carol J. Erickson  
Summer Institute of Linguistics

- 0. Introduction
- 1. Kinship terms
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  - 1.2 Affinal
  - 1.3 Person categories
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- 2. Marriage and divorce
  - 2.1 Clan exogamy
  - 2.2 The ideal marriage--sister exchange
  - 2.3 Other acceptable marriages
  - 2.4 Polygyny
  - 2.5 Restrictions
  - 2.6 Relationships centered around children
  - 2.7 Divorce

## 0. Introduction

The Isirawa<sup>2</sup> kinship system could be characterized as a highly descriptive one. The Isirawa use 24 different kin terms for consanguineal kinsmen. Of these, three are extended to affinal kin plus an additional 19 are used for other affinal relatives. Of the 43 kinship terms, 15 are used to refer to relatives of more than one generation.

The Isirawa custom of exchange marriage is evident in their affinal kinship terminology. Even the terms used for consanguineal kin change to special terms if that person is part of the marriage exchange in which Ego is involved. Bilateral aspects of this basically patrilineal system show up also in this exchange. If a man has no sister, he may exchange certain other consanguineal

kinmen, even though they are not in his (father's) clan.

All kinship terms are used with a possessive pronoun<sup>3</sup> but in this paper only the basic kinship term itself is represented.

## 1. Kinship terms

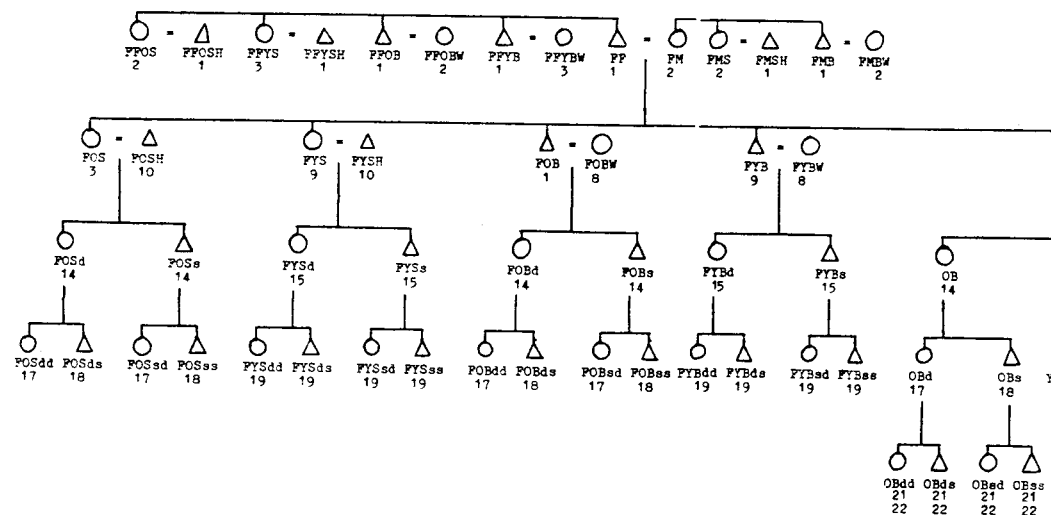
The Isirawa use a modified Iroquois Kinship terminology, i.e., all cousins are called by sibling terms except the children of mother's brother. Their terminology includes terms of speaker reference and terms of third person reference only. Terms of speaker reference include what Ego calls that relative when speaking about him in a direct sense. For example, 'He is my uncle' is speaker reference, but 'He is her uncle' is a third person reference to 'uncle'. When speaking about a third person, an Isirawa speaker can use either term, but often chooses the latter.

Following are a list of the terms and their referents. Terms of third person reference are in parenthesis following the appropriate term of speaker reference.

## 1.1 Consanguineal

<u>aikë</u> ( <u>ave</u> )	:	mother father's other wives
<u>aka</u>	:	older sibling (general term) mother's older sister's child father's older sibling's child
<u>anata</u>	:	older sister's child (female speaking) mother's younger sister's child's child
<u>anäive</u> ( <u>näiva</u> )	:	mother's brother's child
<u>anono</u> ( <u>nona</u> )	:	mother's younger sister
<u>avisraro</u>	:	father's mother, father's mother's sister father's father's older sister father's father's older brother's wife father's father's sister's husband

	father's mother's sister's husband
<u>esrara</u>	: father's father father's older brother father's father's brother father's mother's brother
<u>ëtopëya</u> ( <u>tërama</u> )	: younger sibling mother's younger sister's child father's younger sibling's child
<u>masëta</u>	: daughter older brother's daughter
<u>masrara</u>	: mother's father mother's mother's brother mother's father's brother mother's father's sister's husband mother's mother's sister's husband
<u>näinana</u>	: younger sibling's child (female speaking)
<u>orowa</u>	: son older brother's son
<u>papu</u> ( <u>neva</u> )	: mother's brother
<u>simitimoë</u>	: mother's younger sister's child (if he lives in Ego's village)
<u>take</u> ( <u>täte</u> )	: father (can be used for <u>wenu</u> , father's younger brother)
<u>tërama</u>	: older sister's child (male speaking)
<u>trifa</u>	: son's child daughter's child
<u>usraro</u>	: mother's mother mother's father's older sister mother's mother's older sister mother's father's brother's wife mother's mother's brother's wife
<u>wanënavi</u>	: mother's older sister mother's mother's younger sister mother's father's younger sister
<u>wenu</u> ( <u>wenava</u> )	: father's younger sibling
<u>werara</u>	: younger sibling's child (male speaking) older sister's child's child



KEY: (EGO = masculine)

1. esrara	10.
2. avigraro	11.
3. wanëno	12.
4. masrara	13.
5. usraro	14.
6. wanënavi	
7. take	
8. aike	15.
9. wenu	16.

# ISIRAWA KINSHIP / 25

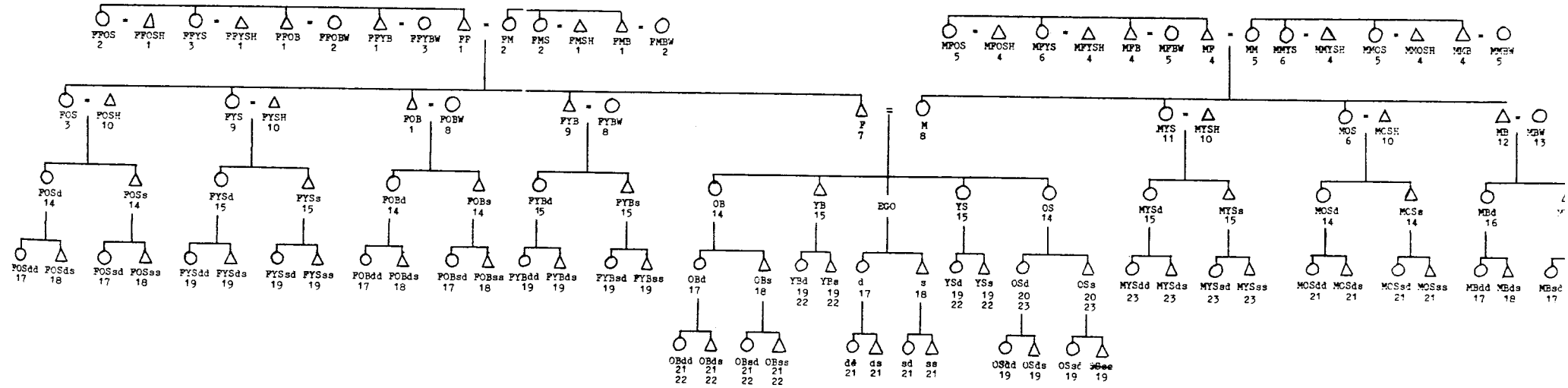


Figure 1  
Consanguineal Kinship Chart

KEY: (EGO = masculine or feminine. Exceptions noted in parentheses).

1. esrara	10. moeca	17. masëta
2. avigraro	11. anono	18. orowa
3. wanëno	12. papu	19. wëgara (if EGO is masculine)
4. masrara	13. anopevi	20. tërana (if EGO is masculine)
5. usraro	14. aka	21. trifa
6. wanënavi	fem: manuweruwo	22. nāinana (if EGO is feminine)
7. takë	mas: manuweriye	23. anata (if EGO is feminine, except for MoYoSiChCh)
8. aikë	15. ètopëya	
9. wenu	16. anāive	

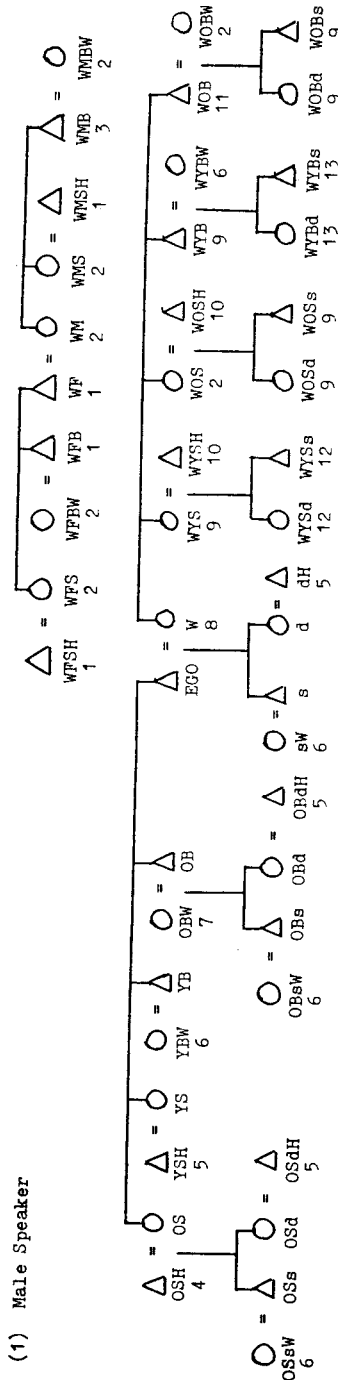


## 1.2 Affinal

The three consanguineal terms (marked here by \*) which are extended to affinal relatives, consanguineally apply to ego's first ascending and descending generation. Affinally they apply to people in ego's generation.

<u>afomoaë</u>	:	wife's younger sister's husband
<u>aikë*</u> ( <u>ave</u> )	:	older brother's wife
<u>anopevi</u>	:	mother's brother's wife
<u>ansrara</u>	:	husband's father husband's older brother general term for husband's male relatives of his parent's generation
<u>auwevi</u>	:	husband's older brother's wife
<u>avi</u>	:	wife
<u>masëta*</u>	:	husband's younger sister
<u>mare</u>	:	daughter's husband younger sister's husband older sister's daughter's husband
<u>moeca</u>	:	older sister's husband mother's younger sister's husband
<u>moite/moito</u> ( <u>wäcaë/wācanavi</u> )	:	reciprocal term used to call the other couple formed in a 'sister exchange' form of marriage
<u>nawesrë</u>	:	wife's older brother
<u>nitrë</u>	:	wife's younger sibling wife's older sister's child
<u>nupusu</u>	:	term used reciprocally by ego for the couple who were the opposite pair in the marriage exchange with one of ego's sisters (but not of ego himself)
<u>onfavi</u>	:	son's wife younger brother's wife older sister's son's wife
<u>penavi</u>	:	term used reciprocally by ego and his spouse for the parents of his child's spouse; term used reciprocally with sibling's spouse's siblings

(1) Male Speaker



(2) Female Speaker

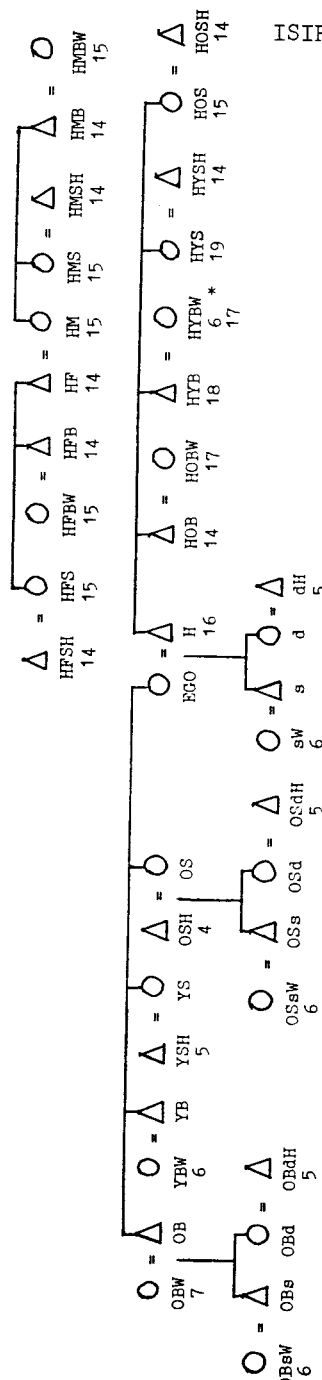


Figure 2. Affinal Kinship Chart

\* Seems to be 6 before puberty (engaged) and 17 after puberty (actually married)

## KEY

- |            |                      |                          |            |
|------------|----------------------|--------------------------|------------|
| 1. umena   | 6. onfavi            | 11. nawesre <sup>2</sup> | 16. upre   |
| 2. umenavi | 7. alĕ               | 12. mainana              | 17. auwevi |
| 3. soka    | 8. avi               | 13. triĕa                | 18. orowa  |
| 4. moeca   | 9. niĕr <sup>2</sup> | 14. ansara               | 19. masĕta |
| 5. mĕre    | 10. afoĕoĕe          | 15. wenuŕara             |            |

<u>soka</u>	: wife's mother's brother
<u>orowa*</u>	: husband's younger brother
<u>umena</u>	: wife's father wife's father's younger sibling
<u>umenavi</u>	: wife's mother wife's older sister wife's older brother's wife collective term for wife's female relatives of her parents' generation
<u>upre</u>	: husband
<u>wenusrara</u>	: husband's mother husband's older sister general term for husband's female relatives of his parent's generation

### 1.3 Person categories

Although the following terms are not classified as kinship terms, they do apply to a broader segment of Isirawa society and show relationships of a general nature.

<u>aprëmoaë</u>	: someone born on the same day and year as Ego
<u>avi</u>	: woman
<u>avi seräva</u>	: very old woman, white haired girl
<u>asimoaë</u>	: friend of either sex
<u>ë</u>	: man
<u>ë seräva</u>	: very old man, white haired
<u>ë siyana</u>	: bachelor
<u>ë saca</u>	: namesake
<u>ëvaca</u>	: people of Ego's generation
<u>kawica</u>	: friend, especially female
<u>känana</u>	: offspring, either human or animal
<u>mamuca</u>	: adult
<u>orotëra</u>	: boy
<u>saparamoaë</u>	: enemy

<u>sasamäira</u>	: widow
<u>siyana</u>	: married people who don't have children yet
<u>siyavura</u>	: unmarried girl
<u>tapënana</u>	: orphan
<u>tëra</u>	: human child, can also mean follower or student
<u>tëra cacavrë</u> <sup>4</sup>	: adopted boy
<u>tëra cacavru</u> <sup>4</sup>	: adopted girl
<u>tätara</u>	: stranger, foreigner

### 1.4 Linguistic Observations

#### 1.41 Morphology of kinship terms

Avi, tëra, srar, and moaë show up frequently in the kinship vocabulary and related terms.

Used as a suffix, avi follows its male counterpart to indicate 'his wife' as in wäcaë and wäcänavi, the exchange marriage terms, and umena and umenavi meaning 'wife's father and wife's mother', the latter perhaps better glossed as 'wife's father's wife'. Onfavi 'son's wife, or younger brother's wife' has no male counterpart but does refer to someone's wife. Sometimes avi is used to indicate the mother's side of the family as opposed to the father's. The term wanëno means 'father's older sister' and wanënavi 'mother's older sister'.

Tera used by itself refers to human children. It can be made specific with the prefix avi- 'girl' or oro- 'boy'. It can also be used with the name of a village to indicate the inhabitants of that village, e.g. Sarmi tëra 'a person from Sarmi', or the name of a teacher, e.g. Piter tëra 'Peter's students, or followers of Peter.'

The infix -srar- applies to father's older brother and

someone in the second ascending generation in consanguineal terms, but in affinal terms used by a female Ego to husband's older siblings (same generation) and to his relatives in the first ascending generation.

The suffix -moaë added to a noun creates a term that shows a relationship. For example, cacara 'ancestor' plus -moaë means 'a fellow clansman'; sapara 'arrow, war' plus -moaë means 'enemy'; and asi 'breast, milk' plus -moaë becomes 'friend'.

#### 1.42 Comparative aspects

Throughout the island of New Guinea, one's mother's brother seems to play an important role. In kinship terminology this generally shows up in a special descriptive term. Possible cognates are seen as far away as the south coast of Irian Jaya and the Sepik area of Papua New Guinea, coming from both Austronesian and Papuan language families.

In Isirawa papu is the speaker reference term for 'mother's brother' and neva is the third person reference term. Some possible cognates are: nawa from Kiman (Serpenti); baboeai from Segar (Oosterwal); aapi from Baruya (Lloyd); pap from Sepik Iwam (Rehburg); paap from Au (Scorza); and guapu, or noror papu 'ancestor' from Kunimaipa (Pence).

Looking further at some of the other kinship terms, the following possible cognates were found. The Isirawa term and meaning follow the number with each cognate, its language (proto-language form marked \*), and source following:

1. avi 'woman, or wife'. \*babih 'to be feminine' (Dempwolf); \*babine 'man's sister' (Milke); vavi, vavin Ansus (Anceaux); vavin, vavin Serui-Laut (Anceaux); vavin Papuma, Pom, Marau, Mor (Anceaux); babi, vavi, babin, vavin Wandamen (Anceaux); wik Sepik Iwam (Rehburg); and auwi 'mother' Kwoma (Laycock).

2. känana 'child'. \*hanak (Dempwolf); \*natu (Milke); kantana Seti (Laycock); kan Yil (Laycock); and kanaf Siliput (Laycock).
3. aikë 'mother', ave third person referent term. jaka Segar, Naidjbeej (Oosterwal); tata Mander (Oosterwal); jetti Ittik, Ittik Tor (Oosterwal); dadi Biak (Anceaux); dadi Wogamusin (Laycock); yaki Alu (Laycock); tete Yahang (Laycock); jaken Mountain Arapesh (Laycock); tata<sup>6</sup> Au (Scorza); and tama which, according to Anceaux, is found everywhere in Melanesia.
4. aka 'older sibling'. aka Segar, Naidjbeedj (Oosterwal); aja Ittik, Ittik Tor, Borabora, Waf, Daranto, Berrik Beeuw and Bonerif (Oosterwal); tjaka Kinghama (Serpenti); and aya Korafe (Farr).
5. afomoaë 'wife's younger sister's husband'. amoi Serui-Laut (Anceaux).
6. anäive 'mother's brother's child'. annaiti Segar (Oosterwal).
7. umenavi 'wife's mother'. moena Mander, Ittik, Ittik Tor (Oosterwal).
8. moeca 'older sister's husband'. tjomoeëdj Segar (Oosterwal); moesa Mander, Ittik, Ittik Tor, Berrik, Beeuw, Bonerif, Bora Bora, Waf, and Daranto (Oosterwal).

## 2. Marriage and divorce

### 2.1 Clan exogamy

Even though there is no word for 'clan' in Isirawa, the society is divided into patrilineal exogamous groups with from one to three family names. I have chosen to call these groups clans as opposed to lineages, since each has their own myth which describes their origins. There are special relationships between some groups, one being an old war alliance. These relationships

Amsira	-	.	+		+	+	+	+	+	+	+	+	+
Catifena <sup>1</sup>	+		-		+	+	+	+	+	+	+	+	+
Catifena <sup>2</sup>	+		-		-	+	+	-	+	+	+	+	+
Tavera	+		+		+	-	+	+	+	+	+	+	+
Seiro	+		+		+	-	+	+	+	+	+	+	+
Sewanorowa	+		+		-	+	+	-	+	+	+	+	+
Karowata	+		+		+	+	+	+	+	+	-	-	+
Taura	+		+		+	+	+	+	+	-	-	-	+
Paumne	+		+		+	+	+	+	+	-	-	-	+
Acoware	+		+		+	+	+	+	+	-	-	-	-
Wetati	+		+		+	+	+	+	+	-	-	-	-
Tesa	+		+		+	+	+	+	+	+	+	-	-

\* Airmati derivation  
° Sobei derivation

Figure 3. Clans in Amsira (+ = permissable to marry; - = not permissable to marry)

After marriage, patrilocal residency is the rule. A child always takes his father's name, and is born into his father's clan. An exception occurs if no bride-exchange has been, or will be, paid. In this case there is matrilineal residency, the children becoming members of their mother's clan while retaining their father's family name.

Clan membership supersedes actual consanguineal ties. When a woman marries, she becomes a member of her husband's clan. If he dies, she could marry back into the clan in which she was born. Because of levirate marriage, the above would probably be an exception to the rule. A child who is adopted out of his clan, however, can marry back into the clan into which he was born but cannot marry anyone in his adoptive clan.

## 2.2 The ideal marriage--sister exchange

An Isirawa man can marry as early as the age of 17, but often waits until he is 20 or 25 years old. The bride, though, is often between 12 and 16. Ideally both marriage partners are from the same village but cannot be from the same clan or descendants of the same grandparents.

An ideal sister exchange is one in which two men, each desiring a wife, trades his younger sister for the other's (awācāuna). A new relationship is then formed in which the brothers and sisters drop their consanguineal kinship term for each other and from then on refer to each of the members of the other couple (that is, brother and sister-in-law, or sister and brother-in-law) as moite (masculine) and moito (feminine). Their children will refer to each other by this term, as will the

grandchildren of each of these unions. There is no intermarriage among those with this relationship even if they could marry into that clan.

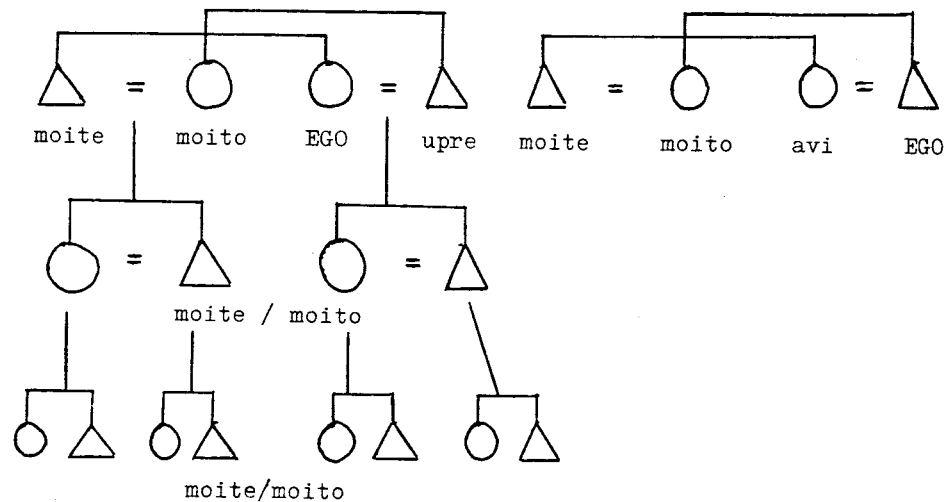


Figure 4: Sister Exchange-1

If a man has no younger sister, he can exchange an older sister, his mother's brother's daughter (anäive), his mother's younger sister's daughter, or his father's younger sibling's daughter. It should be noted here that of these alternative exchange women, only his father's brother's daughter is from his own clan, so providing an exchange woman is not necessarily the responsibility of Ego's clan, but of his bilateral kinsmen. The girl in question can be 'exchanged' before puberty but would remain in the home of her parents until the age of puberty. The promised husband is expected to bring food, clothing and money to

the girl's father. If he doesn't, this could be grounds for 'annulling' the marriage.

There is another exchange relationship in which the members call each other nupusu. This term is used reciprocally by Ego for the couple who were the opposite pair in the marriage exchange of one of Ego's sister's (but not of Ego himself) as shown in Figure 5.

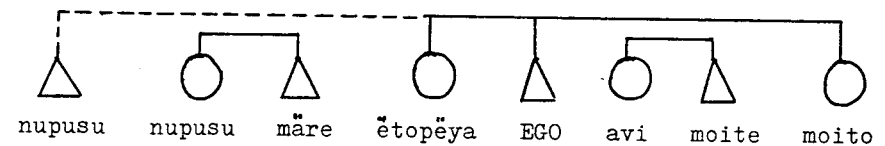


Figure 5: Sister Exchange-2

In recent years a man has been allowed to marry without this direct exchange, as long as he promises to give back one of his daughters to his wife's family as an exchange. In this case a man will give a pig or cassowary to the bride's father as a kind of earnest and will live with her relatives until his daughter comes of age.

## 2.3 Other acceptable marriages

### 2.31 Elopement

If a young man is unable to offer a woman in exchange for a bride, if her father or family disapproves of the union, or if he can't pay the earnest the couple may elope. Either partner of the marriage may initiate it. The verb for elope (srowan) literally means 'to grab' or 'to steal'. The couple runs into the jungle for a period of time and when they return they are

recognized as a new family unit. A euphemism for elopement is fanyava 'they ran into the jungle'. Once back in the village the husband will negotiate with his wife's family for some kind of exchange or payment. About six months ago, a young couple got married this way and returned to the village. There was no talk about payment, so the bride's paternal grandfather sent a letter to the young man and asked for either a girl for exchange, or Rp. 50,000 (approximately US \$125.00). If he refuses to pay, they (the new couple) will probably move to a different village rather than face the disapproval of the bride's family.

#### 2.32 Husband adoption

If there is no actual or promised bride exchange, the husband must come to live with the family of the bride and become a member of her clan, along with any children produced by the marriage. There are two cases in Amsira where men from other language groups have married Isirawa women and because of the above reason have stayed and been adopted into their wives' clans retaining their family name. This is not the same as the couple who stays with the girl's family until they provide an exchange woman.

#### 2.33 Sororate

If Ego's wife dies, his mother-in-law (umenavi) bakes some sago and passes it to his wife's younger sister (nitрэ) who in turn gives it to Ego. This, as a symbol of a new marriage relationship, does not occur except in a sororate marriage among the Isirawa. (In contrast, in the Tor area this is the typical ceremony for all marriages, Oosterwal, 1961:100).

If Ego's deceased wife has no younger sister, or if she is already married, Ego could marry any of his other affinal

relatives whom he calls nitрэ, i.e. his wife's older sister's daughter or his wife's older brother's daughter. In a sororate marriage, no exchange or payment is needed because it is the responsibility of the deceased woman's family to 'fill the gap' (moana kākātrэyana) that the dead woman left.

#### 2.34 Levirate

As in the Tor district (Oosterwal, 1961:114) the levirate is a common form of remarriage and here also it is a junior-levirate type (meaning that a widow marries the younger brother of her deceased husband). If a man's older brother dies, he is expected to take the widow as his wife. The junior levirate system is evident in the kinship terminology in that take 'father' can also be used for 'father's younger brother'. The junior levirate system is extended to say that if any of Ego's cousins, whom he calls aka 'older brother' dies (and these cousins are physically older than Ego), he could also marry their widows. Three of the polygynist's marriages in Amsira fit into this category.

If none of the above are available, a woman can also marry her husband's mother's brother's son, her husband's father's younger sibling's son, or her husband's mother's younger sister's son.

#### 2.4 Polygyny

##### 2.41 Statistics

In October of 1973, of the 48 married men in the village of Amsira, 35 men had only one wife, 9 men had 2 wives, and only 4 men had 3 wives. The wives in some cases lived together in the same house. In one instance they had separate houses next to each other in the same village, and in another instance, one man

had one wife in one village, and another in a different village two hours walking distance away. In the two and a half years since the above survey, there has been little change. Now there are 42 married men, out of which 30 have one wife, seven have two wives, and two have three wives. Of the present monogamous marriages, four of them were polygynous but the other spouse has since died. Some of the men have had up to four wives at one time, but one or two of them are now deceased.

The only prestige connected with having many wives may be that the man is rich, for their attitude seems to be summed up in the phrase, "If they can afford them, they can have them!"

#### 2.42 Sororal Polygyny

Among the polygynist marriages in the village of Amsira at least one involves a man who has married wives who are sisters. It would seem that while it may not be a common practice, at least there is no stigma attached to it.

#### 2.43 Relationships within a polygynistic marriage

The order in which a man marries his wives is important to the wives and children. A first wife calls any succeeding wife ëtopëya, meaning 'younger sister', while a second or third wife would refer to the previous wife (or wives) as aka 'older sister'. Each of the children refer to any of their father's wives as aikë 'mother'. However, all the children of the previous wife are called aka 'older sibling' even though they may be younger. Each of the wives will call any of the children in this unit 'my son' or 'my daughter'.

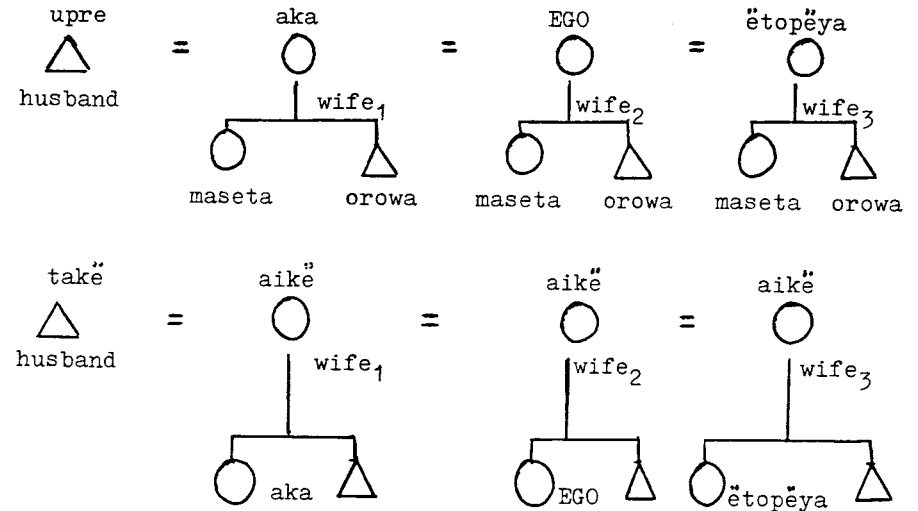


Figure 6: Multiple Wives

#### 2.5 Restrictions

A mother-in-law and her son-in-law or her daughter-in-law cannot call each other by their 'earth' names, although they can call each other by the appropriate kinship term or by their 'Christian' names. Up to about ten years ago a woman could not eat in the presence of her son-in-law, but now it is not uncommon.

There are restrictions on who can prepare sago for a man in addition to his wife. Those whom he calls aikë, aka, anopevi, anono, and wenu can prepare and offer him sago.

#### 2.6 Relationships centering around children

Another interesting aspect of the Isirawa marriage is the

special relationship between the parents of a couple and between the siblings of each spouse, i.e. Ego's mother and father call Ego's parents-in-law penavi and vice versa. The people within this relationship are responsible to help in the event that Ego and his wife run into financial difficulties or have no food. They help them for the sake of Ego's children. This gives a rather interesting bilateral twist to a basic patrilineal system.

#### 2.61 Child rearing

A child spends most of his first year in the 'cloth' that is used for carrying children. In Isirawa the name given to this cloth is the same as the one for 'womb'. Fathers also carry the child in the cloth and play with him.

Little or no physical discipline is seen before the child is at least 6 or 8 years of age, but before that time many verbal reprimands (fafasiosa) are given. The physical discipline is usually administered by the parents in the form of pulling the ears or hitting with a broom. A child can also be disciplined by his mother's brother, his father's younger siblings, and their children (if they are older than Ego).

#### 2.62 Foster children

In the case of the death of a wife, the husband will first look to his younger sister to take care of the children, then his younger brother and after that his deceased wife's brothers. This is not called adoption since the child remains with his kin. For example, one man is raising two cousins (his father's younger sister's child and his mother's younger sister's child), both of whom he calls by the kinship term ētopēya 'younger sibling'.

#### 2.63 Adoption

A child is given for adoption when the father can find no one in his family to care for him, or when a widow remarries and she feels her children are too many for her new husband to care for.

Multiple births seem to be considered undesirable. In the case of twins, it is a common practice for one of the babies to be given to someone else. In the past, or as is still sometimes practiced in the interior, the second of the twins is thrown into a river.

When a child is adopted, he takes on the name of his adopted parents, belongs to their clan, and the history and taboos of that clan are his, just as if he were born into it. He still has some ties with his 'real' family and often can be found in either house. The child, though, is considered so much a part of his adopted family and clan that he can marry into the clan into which he was born, if the two clans have that type of relationship. One man in Amsira has married his 'real' father's brother's daughter in this way.

#### 2.7 Divorce

If a girl's father is unhappy about the marriage (for example, his daughter has had to move to a village quite a distance away), he can call her back, and repay the brideprice, whether it was in the form of an exchange, promise, or money.

Other reasons for divorce originate with the couple themselves, the two main reasons being laziness of the partner and cruelty. Cruelty can include wife beating and the wife is free to go home after the third time her husband beats her. Perhaps that is why there is so much excitement in the village when a



husband beats his wife.

Divorcees are accepted in the community. Since there is often a shortage of women, the woman will probably remarry quite quickly, although it will be more difficult for her former husband. When a woman marries into a family, she takes on her husband's name and clan and can therefore marry back into the clan into which she was born, but not into her own consanguineal kin if they share a common ancestor in the second ascending generation.

### Notes

<sup>1</sup> Information for this paper was gathered through intermittent stays in Amsira between October 1973 and March 1976. I wish to acknowledge the help of my many friends in Amsira who share their way of life with me, and especially Filipus Mamawiso who helped with the final analysis. I also want to thank Marilyn Gregerson for her valuable suggestions and comments while drafting this paper.

<sup>2</sup> Isirawa (also known as Saberi) is the name of a group of about 2,000 people located on the north coast of Irian Jaya, between the sub-district town of Sarmi and the Apawar river. Oosterwal (1961) includes them in his 'western interior Sarmi' groups. The people have slowly been migrating to the coast, although there are many garden villages one or two days walking distance inland from the coast. The Isirawa live principally on wild sago, supplemented by kankung and other leafy greens, bananas, papaya, manico, and taro. Their protein intake is limited to wild jungle hen eggs, small fish, fresh water shrimp, sago grubs, and an occasional wild pig or crocodile. The phonemes are a, ä [a], e, ë [u], i, o, ö [ɔ], u, p, t, k, f, h, m, n, s, r [ʀ], v [b], w, and y.

<sup>3</sup> The possessive prefixes are as follows:

1st singular <u>wä-</u>	1st dual <u>nenef-</u>	1st plural <u>nenfë(v)-</u>
2nd singular <u>of-</u>	2nd dual <u>ofnaf-</u>	2nd plural <u>ofë(v)-</u>
3rd singular <u>of-</u>	3rd dual <u>efnaf-</u>	3rd plural <u>efë(v)-</u>

For a further description of the possessive in Isirawa, see "Form and Meaning in the Isirawa Noun Phrase" by Hiroko Oguri in this volume.

<sup>4</sup> The singular form of the Isirawa verb indicates masculine or feminine object, even when the verb is nominalized. See "Complexity in Isirawa Verbs" by Hiroko Oguri and Anne M. Cochran, From Baudi to Indonesian.

<sup>5</sup> According to Milke (1968:160), \*natu, the Proto-Oceanic term for child has many variations and is present in all major regions of Oceania. He feels though that this kinship term is totally unknown in Indonesia. If one looks at the following derivatives: naro Pak; nati Pala; nitu Mera Lora; nate Kusae; rau, rei Songosor; and naha Bunay (Mapiä), one could speculate that kānana and the Isirawa term for 'son' orowa could also be derived from it.

<sup>6</sup> In Au this actually means 'father's younger brother's wives' or 'mother's younger sisters and their husbands'. The author of the Au article feels that the great emphasis placed on the role of 'big brother' in the Au society was the reason they borrowed the Neo-Melanesian term meaning 'small papa' or 'small mama'.

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## P A R T II

Abbreviations and symbols

△	male
○	female
	parent-child relationship
—	sibling relationship
=	marriage relationship
M	mother
F	father
S	sister
B	brother
s	son
d	daughter
O	older
Y	younger
H	husband
W	wife

## INITIAL PHONOLOGICAL INVESTIGATION

## BAUZI PHONOLOGY

David Briley  
Summer Institute of Linguistics

- 0. Introduction
- 1. Phonological word
- 2. Syllable
  - 2.1 Syllable types
  - 2.2 Syllable distribution
  - 2.3 Syllable combinations
- 3. Phonemic segments
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  - 3.3 Consonants
  - 3.4 Vowels
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- 4. Vocoid interpretation
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  - 4.2 [u] and [i]
- 5. A morphophonemic process

## 0. Introduction

This paper<sup>1</sup> is a report on the initial investigations of Bauzi<sup>2</sup> sound patterns. So far as I can determine this constitutes the first such description of the language. The theoretical basis for this paper is based on the hierarchical model developed by K. L. Pike (1967). Thus, Bauzi phonology is seen as phonological layers arranged into an hierarchical order.

The phonological word, the highest level studied thus far, the syllable and phoneme are described in this paper.

## 1. Phonological word

The phonological word (PW) is chosen as a reference point to describe underlying stress and syllable patterns. Stress placement is summarized in the rule below:

'S S 'S S 'S S

Stress occurs on the first syllable ('S) of a PW and reoccurs on alternating syllables thereafter, but with decreasing relative prominence ('S.. 'S, etc.).

Stress sequences in PWs of as many as six syllables are illustrated under Section 2.3. PWs are not necessarily coterminous with morphemes, and a single PW may contain more than one morpheme.

## 2. Syllable

The syllable can be described as a single mora of timing with a simple nucleus of one vowel, an optional consonant onset and an optional consonant coda.

## 2.1 Syllable types

The syllable types are V, VC, Cv, and CVC. All syllable types may individually constitute one syllable PWs. Examples are:

V	/i/	['i]	'to sleep'	'tidur'
VC	/om/	['ɔm]	'you'	'kamu'
CV	/ke/	['k <sup>h</sup> ɛ]	'stone'	'batu'
CVC	/māt/	['māt <sup>h</sup> ]	'yesterday'	'kemarin'

## 2.2 Syllable distribution

All syllable types have been observed to occur in all positions of up to three syllable PWs. The following have not been observed to occur in four syllable PWs: VC in second syllable

position, CVC in third syllable position. Current data are not sufficient to definitively establish syllable distribution into PWs of more than four syllables.

## 2.3 Syllable combinations

## 'SS

V.V	['aɛ]	'bush knife'	'parang'
CV.VC	['t <sup>h</sup> ɛut <sup>h</sup> ]	'strong'	'kuat'
CV.V	['fɛɔ]	'peak'	'puncak'
CV.CV	['t <sup>h</sup> asu]	'to hang up'	'bergantung'
V.CV	['ula]	'to touch'	'menyentuh'
VC.CV	['ɔmt <sup>h</sup> ɔ]	'nose'	'hidung'
CVC.CV	['namda]	'sow'	'babi betina'
CVC.CVC	['bɔsdam]	'young man'	'anak laki2'
V.CVC	['asum]	'belly'	'perut'
CV.CVC	['nɛɣhut <sup>h</sup> ]	'fat'	'gemuk'
V.VC	['ɛut <sup>h</sup> ]	'point'	'ujung'

## 'SS'S

V.CV.CV	['ik <sup>h</sup> i''bi]	'waist band'	'ikat pinggang'
V.CV.CVC	['ulɔ''hɔt <sup>h</sup> ]	'same'	'sama'
CV.V.CV	['k <sup>h</sup> ɔɛ''nā]	'small'	'kecil'
CV.CV.V	['k <sup>h</sup> isa''u]	'tongs'	'tang'
CV.CV.CV	['nut <sup>h</sup> a''bɛ]	'wind'	'angin'
CV.CV.CVC	['k <sup>h</sup> ɛbi''t <sup>h</sup> ɛm]	'cliff'	'karang'
CV.VC.CV	['baum''su]	'to bury'	'mengubur'
CV.V.CVC	['sia''kam]	'hog'	'babi'
CV.CVC.CV	['diham''bɛ]	'tomorrow'	'besok'
V.CV.V	['ige''a]	'to laugh'	'tertawa'
V.V.CV	['ou''su]	'to lay down'	'melepaskan'
V.CVC.CV	['ɛk <sup>h</sup> ɛm''bu]	'ankle'	'mata kaki'
V.CVC.CVC	['asim''but <sup>h</sup> ]	'heavy'	'berat'

V.V.VC	[au <sup>w</sup> 'ɛt <sup>h</sup> ]	'hand'	'tangan'
V.VC.CV	[aum <sup>w</sup> 'bu]	'thumb'	'ibu jari'
CVC.CV.CV	[vamɛ' 'su]	'straight'	'lurus'
CVC.CV.V	[damfa' 'u]	'grass'	'rumput'
CV.V.V	[nau <sup>w</sup> 'a]	'nose piece'	'sekatan alat'
VC.CV.CV	[ambɛ' 'dɛ]	'ripe'	'masak'
VC.CV.CVC	[adna' 'mat <sup>h</sup> ]	'child'	'anak'

'SS' 'SS

V.CV.V.CV	[idɔ' 'alɛ]	'hungry'	'lapar'
CV.CV.V.CV	[t <sup>h</sup> ɔgɔ' 'ilɛ]	'gift-child'	'anak kasih'
CV.CV.VC.CV	[vage' 'amsu]	'rafter'	'rusuk'
CV.CV.CV.CV	[k <sup>h</sup> ɛla' 'hasɔ]	'[type of ] bird'	'[macam] burung'
CV.CV.CV.V	[but <sup>h</sup> ɔ' 'baɛ]	'scar'	'bekas luka'
CV.V.CV.V	[saɛ' 'k <sup>h</sup> ɛɔ]	'bracelet'	'gelang'
CV.V.CV.VC	[k <sup>h</sup> ai' 'mɛɔt <sup>h</sup> ]	'hot'	'panas'
CV.V.V.CV	[k <sup>h</sup> ɔa' 'ilɛ]	'rotten'	'busuk'
CV.V.CV.CV	[dʒia' 'kahu]	'to jump'	'meloncat'
V.V.CV.VC	[ei' 'mɛɔt <sup>h</sup> ]	'sharp'	'tajam'
V.CVC.CV.CV	[ihim' 'lɔsɔ]	'vine'	'tanaman anggur'
V.V.CV.CV	[au' 'bɛsu]	'blind'	'buta'
V.V.V.CV	[au <sup>w</sup> ' 'ɛsi]	'to capture'	'menawan'
V.CV.CV.CVC	[ava' 'hɛt <sup>h</sup> ɔt <sup>h</sup> ]	'front'	'muka'
V.CV.CV.CV	[usa' 'habu]	'heel'	'tumit'
VC.CV.CV.CV	[ɛk <sup>h</sup> ɔɔ' 'bulɛ]	'wet'	'basah'
V.CV.CV.V	[aha' 't <sup>h</sup> au]	'beard'	'janggut'
V.CV.CV.VC	[amɔ' 'mɔit <sup>h</sup> ]	'another'	'yang lain'

'SS' 'SS' 'S

V.V.V.CV.CV	[au <sup>w</sup> ' 'ɔhɔ' ' 'lɛ]	'window'	'jendela'
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'SS' 'SS' 'SS

V.V.CV.V.CV.CV	[au' 'mei' ' 'viva]	'six'	'enam'
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## 3. Phonemic segments

Bauzi has thirteen consonant phonemes: /t,k,b,d,g,m,n,f,v,s,z,h,l/ and six vowel phonemes: /i,e,ä,a,u,o/. The consonant phonemes contrast in manner of articulation as to voiceless and voiced stops, nasals, flat and grooved fricatives and lateral. The stops contrast as to labial, alveolar, and velar points of articulation. The nasals contrast as to labial and alveolar points of articulation. Vowels contrast as to high, mid and low tongue heights and front and back tongue positions.

## 3.1 Distinctive features

The nineteen Bauzi phonemes may be identified by seven distinctive features. These are found in Figure 1. They are: lingual, labial, syllabic (syll.), continuant (cont.), sonorant (son.), nasal (nas.), voicing (voi.). Plus (+) and minus (-) mark the values on each of these phonological dimensions.

syll. cont. son. nas. voi.					Lingual		Labial
					-back	+back	
-	-	-		-	t	k	
-	-	-		+	d	g	b
-	+	-		-	s	h	f
-	+	-		+	z		v
-	+	+	+	+	n		m
-	+	+	-	-	l		
+					i	u	high
+					e	o	mid
+					ä	a	low

Figure 1: Segment and Feature Chart

## 3.2 Contrastive sets

/t/ and /d/		
/tama/	'[type of] fish'	'[macam] ikan'
/dama/	'friend'	'teman'
/tate/	'to cut'	'potong'
/tade/	'to sew'	'menjahit'
/k/ and /g/		
/kohu/	'bread fruit'	'sukun'
/gohu gohu/	'heart beat'	'pukulan hati'
/anekeha/	'hand'	'tangan'
/begeha/	'[type of] arrow'	'[macam] anak panah'
/t/ and /s/		
/toha/	'back'	'punggung'
/soa/	'body'	'badan'
/vatu/	'to carry'	'membawa'
/tasu/	'to hang up'	'bergantung'
/d/ and /z/		
/doho/	'pig'	'babi'
/zohobut/	'short'	'pendek'
/bode/	'navel'	'pusat'
/bozeham/	'[type of] banana'	'[macam] pisang'
/s/ and /z/		
/susu/	'to join'	'bersatu'
/zu/	'to cough'	'berbatuk'
/nusu/	'to sit'	'duduk'
/duzu/	'to stand'	'berdiri'
/f/ and /v/		
/fa/	'to snap'	'bertepuk'
/va/	'to take'	'mengambil'
/foa/	'arrow'	'anak panah'
/voa/	'louse'	'kutu'
/f/ and /b/		
/fä/	'[type of] fish'	'[macam] ikan'
/bä/	'axe'	'kapak'

/feebut/	'skin disease'	'penyakit kulit'
/beete/	'slow'	'lambat'
/m/ and /b/		
/muma/	'snake'	'ular'
/bumatae/	'hole'	'lobang'
/ama/	'who'	'siapa'
/aba/	'rain'	'hujan'
/m/ and /n/		
/muma/	'snake'	'ular'
/numa/	'house'	'rumah'
/mau/	'knife handle'	'tangkal pisau'
/nau/	'to smell'	'berbau'
/n/ and /d/		
/nubu/	'flesh'	'daging'
/dubu/	'older sibling'	'kakak'
/dekene/	'to weave'	'menenun'
/bakede/	'to plant'	'menanam'
/n/ and /l/		
/na/	'cargo'	'barang'
/la/	'to go'	'pergi'
/una/	'to squeeze'	'memeras'
/ula/	'to touch'	'menyentuh'
/g/ and /h/		
/gohu gohu/	'heart beat'	'pukulan hati'
/hohu/	'[spirit name]'	'[nama semangat]'
/k/ and /h/		
/kohu/	'bread fruit'	'sukun'
/hohu/	'[spirit name]'	'[nama semangat]'
/i/ and /e/		
/niba/	'here'	'disini'
/neba/	'seed'	'biji'
/ile/	'[type of] fish'	'[macam] ikan'
/ele/	'name'	'nama'

/ä/ and /a/

/ämo/	'[type of] bird'	'[macam] burung'
/amo/	'charcoal'	'arang'
/näbä/	'[type of] bird'	'[macam] burung'
/neba/	'seed'	'biji'

/e/ and /ä/

/emo/	'poison tree'	'pohon beracun'
/ämo/	'[type of] bird'	'[macam] burung'
/e/	'name'	'nama'
/ä/	'to eat'	'makan'

/a/ and /o/

/ahula/	'heart'	'hati'
/ohula/	'head'	'kepala'
/vao/	'water'	'air'
/voa/	'louse'	'kutu'

/o/ and /u/

/toha/	'back'	'punggung'
/tuha/	'[type of] bird'	'[macam] burung'
/viso/	'to take'	'ambil'
/bisu/	'to lie down'	'berbaring'

## 3.3 Consonants (-syll.)

## 3.31 Labials

/b/ Labial con-continuants.

- [p] Voiceless bilabial stop occurs in coda position of a closed syllable word medially preceding a voiceless segment.

/mabso/	'[mapsɔ]	'bamboo'	'bambu'
/subte/	'[supt <sup>h</sup> ɛ]	'to fall'	'jatuh'
/nebso/	'[nɛpsɔ]	'sugarcane'	'tebu'

- [b] Voiced bilabial stop occurs word initially and medially.

/bume/	'[bumɛ]	'bird'	'burung'
/beke/	'[bek <sup>h</sup> ɛ]	'full'	'penuh'

/nubu/

['nubu]

'flesh'

'daging'

/ikibi/

['ikhi''bi]

'waist band'

'ikat pinggang'

/f/ Voiceless labial continuants.

- [h] Voiceless glottal fricative alternates with [f] intervocalically following a stressed back vowel.

/auhole/ ['au<sup>w</sup>'ɔhɔ''lɛ] ~ ['au<sup>w</sup>'ɔfɔ''lɛ] 'five' 'lima'

- [f] Voiceless labiodental fricative occurs word initially and medially.

/foto/	['fɔt <sup>h</sup> ɔ]	'to erase'	'menghapus'
/fu/	['fu]	'to return'	'kembali'
/bifo/	['bifɔ]	'blister'	'lepuh'
/fefo/	['fɛfɔ]	'to shed'	'mengalirkan'

/v/ Voiced labial continuants.

- [v<sup>w</sup>] Voiced labiodental fricative with rounding occurs word initially preceding [u] and [ɔ].

/voa/	['v <sup>w</sup> ɔa]	'louse'	'kutu'
/vusuu/	['v <sup>w</sup> usu]	'to grasp'	'memegang'
/vo/	['v <sup>w</sup> ɔ]	'to throw out'	'membuang'

- [v] Voiced labiodental fricative occurs word initially preceding front and low vowels and medially preceding back low vowel.

/veme/	['vɛmɛ]	'dog'	'anjing'
/vama/	['vama]	'crocodile'	'buaya'
/ava/	['ava]	'flower'	'bunga'
/fisiva/	['fisi''va]	'to die'	'meninggal'

/m/ Labial nasals.

- [m] Voiced bilabial nasal occurs word initially, medially and finally.

/muma/	['muma]	'snake'	'ular'
/amo/	['amɔ]	'charcoal'	'arang'
/nom/	['nom]	'down'	'kebawah'
/bume/	['bumɛ]	'bird'	'burung'

## 3.32 Non-back linguals

/t/ Voiceless non-back lingual non-continuants.

- [t<sup>h</sup>] Voiceless aspirated alveolar stop occurs word initially,

medially and finally.

/toha/	[t <sup>h</sup> sha]	'back'	'punggung'
/tom/	[t <sup>h</sup> ɔm]	'up'	'keatas'
/ete/	[ɛt <sup>h</sup> ɛ]	'leaf'	'daun'
/buto/	[buthɔ]	'sore'	'luka pedih'

/d/ Voiced non-back lingual non-continuant.

[d] Voiced alveolar stop occurs word initially and medially.

/doho/	[dɔhɔ]	'pig'	'babi'
/date/	[dathɛ]	'male'	'laki-laki'
/bode/	[bɔdɛ]	'navel'	'pusat'
/tade/	[t <sup>h</sup> adɛ]	'to sew'	'menjahit'

/s/ Voiceless non-back lingual continuants.

[s] Voiceless alveolar spirant occurs word initially, medially, and finally.

/sete/	[sɛthɛ]	'to lose'	'kehilangan'
/nusu/	[nusu]	'to sit'	'duduk'
/viso/	[visɔ]	'to take'	'ambil'
/gus/	[gus]	'bird [type]'	'[macam] burung'

/z/ Voiced non-back lingual continuants.

[dʒ] Voiced alveopalatal affricate occurs word initially and medially preceding high front vowel /i/.

/zie/	[dʒiɛ]	'path'	'jalanan'
/zi/	[dʒil]	'to climb'	'naik'
/bozit/	[bɔdʒith]	'red'	'merah'
/bouzi/	[boudʒi]	'fish [type]'	'[macam] ikan'

[dz] Voiced alveolar affricate occurs elsewhere word initially and medially.

/zagusu/	[dzagu'su]	'to bite'	'menggigit'
/zaibut/	[dzai'buth]	'dull'	'dempak'
/nuzuba/	[nudzu'ba]	'floor'	'lantai'
/duzu/	[dudzu]	'to stand'	'berdiri'

/n/ Lingual nasal continuants.

[n] Voiced alveolar nasal occurs word initially and medially.

/neba/	[nɛba]	'seed'	'biji'
--------	--------	--------	--------

/niba/	[niba]	'here'	'disini'
/banauha/	[bana'uha]	'sternum'	'tulang dada'
/bohunu/	[bɔhu'nu]	'buttocks'	'pantat'

/l/ Non-nasal lingual sonorants.

[l] Voiced alveolar lateral occurs word initially and medially.

/lahi/	[lahi]	'wife'	'isteri'
/loha/	[lɔha]	'upper arm'	'lengan atas'
/aliso/	[ali'sɔ]	'vein'	'pembuluh darah'
/balim/	[balim]	'earthquake'	'gempa bumi'

### 3.33 Back linguals

/k/ Voiceless back lingual non-continuant.

[k<sup>h</sup>] Voiceless aspirated back velar stop occurs initially and medially preceding back vowels.

/kohu/	[k <sup>h</sup> ɔhu]	'bread fruit'	'sukun'
/kuku/	[k <sup>h</sup> uk <sup>h</sup> u]	'chicken'	'ayam'
/fako/	[fak <sup>h</sup> ɔ]	'eye'	'mata'
/kamia/	[k <sup>h</sup> ami'a]	'axe'	'kapak'

[kh] Voiceless aspirated velar stop occurs initially and medially preceding front vowels and finally.

/ke/	[k <sup>h</sup> ɛ]	'stone'	'batu'
/kilat/	[k <sup>h</sup> ilath]	'tall'	'tinggi'
/oketo/	[ɔk <sup>h</sup> ɛ'thɔ]	'to turn over'	'terbalik'
/nohubak/	[nɔhu'bak <sup>h</sup> ]	'jungle'	'hutan'

/g/ Voiced back lingual non-continuant.

[g] Voiced velar stop occurs word initially and medially preceding front and high back vowels.

/geme/	[gɛmɛ]	'bird [type]'	'[macam] burung'
/gihobut/	[gi <sup>h</sup> ɔ'buth]	'blue'	'biru'
/kugui/	[k <sup>h</sup> uguw'i]	'to dance'	'menari'
/giaha/	[gia'ha]	'shoulder'	'bahu'

[ɛ]~[k] <sup>3</sup> Back velar stop varies from voicing to voicelessness preceding mid and low back vowels.

/gaha/	[kaha] ~ [gaha]	'green'	'hijau'
/gago/	[kagɔ] ~ [gagɔ]	'to speak'	'berbicara'



/ogoma/	['ɔgɔ'ma]	~ ['ɔkɔ'ma]	'fist'	'tinju'
/gae/	['gæɛ]	~ ['kæɛ]	'scorpion'	'kalajengking'

## /h/ Glottal continuants.

- [h] Voiceless glottal fricative occurs initially, medially, and finally.

/hae/	['haɛ]	'feces'	'isi perut'
/heia/	['heiy'a]	'crocodile'	'buaya'
/toha/	['thɔha]	'back'	'punggung'
/moh/	['mɔh]	'to refuse'	'menolak'

## 3.4 Vowels (+syll.)

## 3.41 Non-back vowels

## /i/ High non-back vowels.

- [i<sup>y</sup>] High front unrounded vocoid with palatal transition occurs intervocalically and word initially preceding other vowels.

/ie/	['i <sup>y</sup> ɛ]	'bird [type]'	'[macam] burung'
/ia/	['i <sup>y</sup> a]	'firewood'	'kayu api'
/oia/	['ɔi <sup>y</sup> 'a]	'mother'	'ibu'
/boia/	['bɔi <sup>y</sup> 'a]	'to fly'	'terbang'

- [i] High front unrounded vocoid occurs elsewhere word initially, medially and finally.

/ita/	['itha]	'shadow'	'bayang <sup>2</sup> '
/iso/	['isɔ]	'tongue'	'lidah'
/bisu/	['bisu]	'to lie down'	'berbaring'
/gili/	['gili]	'to rub'	'menggosok'

## /e/ Mid non-back vowels.

- [e] Mid front unrounded vocoid occurs word initially and medially preceding /i/ and /a/.

/eaki/	['ea'k <sup>h</sup> i]	'bird [type]'	'[macam] burung'
/lokea/	['lɔkhe'a]	'rat'	'tikus besar'
/eimeot/	['ei'mɛɔth]	'sharp'	'tajam'
/bea/	['bea]	'grub'	'tempayak'

- [ɛ] Lower mid front unrounded vocoid occurs elsewhere (and

fluctuates with [e] preceding /ha/).

/esu/	['ɛsu]	'to stay'	'tinggal'
/ele/	['ɛlɛ]	'name'	'nama'
/femo/	['fɛmɔ]	'banana'	'pisang'
/busehä/	['busɛ'hä] ~ ['buse'hä]	'wing'	'sayap'

## /ä/ Low non-back vowels.

- [ä] Low front unrounded vocoid occurs initially, medially and finally.

/ämo/	['ämə]	'bird [type]'	'[macam] burung'
/mät/	['mäth]	'yesterday'	'kemarin'

## 3.42 Back vowels

## /u/ High back vowels.

- [u<sup>w</sup>] High back rounded vocoid with labial transition occurs initially and medially preceding other vowels.

/bue/	['bu <sup>w</sup> ɛ]	'become large'	'menjadi besar'
/bui/	['bu <sup>w</sup> i]	'bird [type]'	'[macam] burung'
/kugui/	['khugu <sup>w</sup> 'i]	'to dance'	'menari'
/uibae/	['uwi'baɛ]	'fish [type]'	'[macam] ikan'

- [u] High back rounded vocoid occurs elsewhere word initially, medially, and finally.

/una/	['una]	'to squeeze'	'memeras'
/ulo/	['ulɔ]	'cloud'	'awan'
/agute/	['agu'thɛ]	'to break'	'mematah'
/ehu/	['ɛhu]	'to bathe'	'mandi'

## /o/ Mid back vowels.

- [o] Mid back rounded vocoid occurs initially and medially preceding /u/.

/ouha/	['ou'ha]	'knee'	'lutut'
/loube/	['lou'bɛ]	'banana [type]'	'[macam] pisang'
/ouda/	['ou'da]	'to align'	'meluruskan'
/gougia/	['gou'gia]	'coffin'	'peti mayat'

- [ɔ] Lower mid back rounded vocoid occurs elsewhere.

/ohe/	['ɔhɛ]	'to breathe'	'menafasi'
-------	--------	--------------	------------

/oketo/	[ <sup>o</sup> khɛ''thɔ]	'to turn over'	'terbalik'
/zohobut/	[ <sup>dzɔ</sup> hɔ''but <sup>h</sup> ]	'short'	'pendek'
/kibo/	[ <sup>k</sup> hibɔ]	'to detour'	'belokan'

/a/ Low back vowels.

[a] Low back rounded vocoid occurs initially, medially and finally.

/asi/	[ <sup>a</sup> si]	'to sneeze'	'bersin'
/ala/	[ <sup>a</sup> la]	'sun'	'matahari'
/bato/	[ <sup>b</sup> athɔ]	'to dig'	'menggali'
/loha/	[ <sup>l</sup> oha]	'upper arm'	'lengan atas'

### 3.5 General restrictions on segments and features

In Section 2.1 syllable types were described. In the present section segment distribution within the syllable may be stated in terms of the following formula:

$$(C_1) V (C_2)$$

We may now specify the members of the consonant - vowel classes as follows:

V represents any vowel.

C<sub>1</sub> represents any consonant.

C<sub>2</sub> represents only /b, t, k, m, s/.

We may restate some separate aspects of these conditions on occurrences for C<sub>2</sub> as follows:

1. A consonant is labial if it is a syllable final (.) nasal.

$$[-\text{syll.}] \longrightarrow [+labial] / [+nasal]$$

Examples are:

/migim/	[ <sup>m</sup> igim]	'knife'	'pisau'
/tom/	[ <sup>t</sup> hɔm]	'up'	'keatas'

2. A non-nasal consonant is voiceless in syllable final position.

$$[-nas.] \longrightarrow [-voi.] / \_\_\_\_$$

Examples are:

/mabso/	[ <sup>m</sup> apsɔ]	'bamboo'	'bambu'
/sutba/	[ <sup>s</sup> uthba]	'ladder'	'tangga'

/mät/	[ <sup>m</sup> äth]	'yesterday'	'kemaren'
/nohubak/	[ <sup>n</sup> ɔhu''bak <sup>h</sup> ]	'jungle'	'hutan'

3. A consonant is alveolar if it is a syllable final spirant.

$$[-\text{syll.}] \longrightarrow \begin{matrix} [+lingual] \\ [-back] \end{matrix} / \begin{matrix} [+cont.] \\ [-\_\_\_\_] \end{matrix}$$

Examples are:

/ohustot/	[ <sup>o</sup> hus''thɔth]	'in back of'	'dibelakang'
/fasba/	[ <sup>f</sup> asba]	'arrow shaft'	'tangakai anak panah'
/gus/	[ <sup>g</sup> us]	'bird [type]'	'[macam] burung'

Some further phonetic detail is added by the following general processes:

1. Following /h/ vowels tend to be laryngealized. This is restated in the following formula:

$$V \longrightarrow \check{V} / h \_\_\_\_$$

Examples are:

/aha/	[ <sup>a</sup> h <sup>h</sup> ]	'mouth'	'mulut'
/banauha/	[ <sup>b</sup> ana''uh <sup>h</sup> ]	'sternum'	'tulang dada'

2. Vowels are lengthened in word final position. This is restated in the following formula:

$$\check{V} \longrightarrow \bar{V} / \_\_\_\_ \#$$

Examples are: (this detail was deleted from previous phonetic data)

/dige <sup>h</sup> i/	[ <sup>d</sup> igɛ''hi:]	'bow'	'busur'
/bohunu/	[ <sup>b</sup> ɔhu''nu:]	'buttocks'	'pantat'

A very restricted bit of phonetics turns up in the nasalization of vowels following /h/ in these forms:

/hutebi/	[ <sup>h</sup> uthɛ''bi]	'spider'	'laba-laba'
/hohu/	[ <sup>h</sup> ɔhu]	'[spirit name]'	'[nama semangat]'

Historically, these glottal fricatives /h/ were probably true nasal consonants.

## 4. Vocoid interpretation

## 4.1 Vocoid clusters

From two to three vocoids have been observed in sequences across syllable boundaries. They are summarized pair-wise in Figure 2.

ii	ie	-	ia	iu	io
ei	ee	-	ea	eu	eo
ai	ae	-	aa	au	ao
ui	ue	uä	ua	uu	uo
oi	oe	-	oa	ou	oo

Figure 2. Vocoid Sequences

Examples of the above vowel sequences are:

/biibat/	['bii''bath]	'thin'	'tipis'
/fieda/	['fiɛ''da]	'underneath'	'dibawah'
/tia/	['thia]	'sago'	'sagu'
/fiu/	['fiu]	'ironwood'	'kayu besi'
/bio/	['biɔ]	'neck'	'leher'
/meida/	['mei''da]	'one'	'sesatu'
/beete/	['bɛ:''thɛ]	'weak'	'lemah'
/lokea/	['lɔkhe''a]	'rat'	'tikus besar'
/feu/	['fɛu]	'to blow'	'bertiup'
/feo/	['fɛɔ]	'peak'	'puncak'
/fait/	['faith]	'bad'	'tidak baik'
/dae/	['daɛ]	'language'	'bahasa'
/naaba/	['naa''ba]	'foot'	'ujung kaki'
/naufe/	['nau''fɛ]	'to smell'	'berbau'
/nao/	['naɔ]	'leg'	'kaki'
/kugui/	['kʰuguw''i]	'to dance'	'menari'
/sue/	['suwɛ]	'clothing'	'pakaian'
/muä/	['muwä]	'[river name]'	['nama kali]'
/vua/	['vuwä]	'fire'	'api'
/suusu/	['suu''su]	'to cover'	'menutupi'
/auchole/	['auw''ɔho''lɛ]	'five'	'lima'
/toi/	['thɔi]	'bird [type]'	['macam] burung'
/toe/	['thɔɛ]	'markings'	'tulisan'
/loa/	['lɔa]	'rope'	'tali'
/tousu/	['thou''su]	'to aim'	'membidik'

/doole/      ['dɔ:''lɛ]      'to hiccup'      'tersedu'

The bases for claiming these clusters as sequences of two or three nuclei are: (1) a sequence of two simple nuclei is two mora's timing; a sequence of three nuclei is three mora's timing; (2) these are not glides. There are the non-suspect clusters /oa/ and /oe/; there are reverse sequences: /ei/ and /ie/; /ai/ and /ia/; /ui/ and /iu/; /oi/ and /io/; /ea/ and /ae/; /eu/ and /ue/; /eo/ and /oe/; /au/ and /ua/; /ao/ and /oa/; /uo/ and /ou/.

## 4.2 [i] and [u]

High front vocoids are phonemicized as /i/, never as /y/ since there is never a contrast between vowel and semivowel function. Furthermore, occurrences of [i] are all susceptible to interpretation within established syllable and PW patterns as /i/. See under /i/ in the vowel section above for a description of the allophones of /i/.

High back vocoids are clearly interpretable as /u/ in all instances, except the form [wibae] 'fish [type]' '[macam] ikan', in which the stress would apparently be on the wrong syllable if [w] were viewed as /u/. For example [u'ibae] violates the regular first syllable stress pattern. Even so, there is no contrast between [wibae] and \*['ui''bae], the latter not occurring. So even in this solitary instance the sequence could be interpreted as an underlying /uibae/ ['ui''bae] with a stress adjustment rule in that PW initial environment which shifts stress to the right. In any case it is the only instance of [u] initial before another vowel. It appears that [wibae] complicates the description no matter what route is chosen. The interpretation /uibae/ will be adopted here as most consistent with general phonemic patterns. Also see under /u/ in the vowel section above for a description of the allophones of /u/.

## 5. A morphophonemic process

Word medially /t/ is deleted before /d/, /n/, and /l/. This is restated below:

$$t \longrightarrow \emptyset / x \_\_ \begin{Bmatrix} d \\ n \\ l \end{Bmatrix}$$

(x = another segment in the same PW)

Examples are:

/teut/ + /-de/	/teude/	'to cause to be strong'
		'menjadi kuat'
/teut/ + /-na/	/teuna/	'strength'
		'kekuatan'
/teut/ + /-le/	/teule/	'become strong'
		'bikin kuat'

Notes

<sup>1</sup> Work on the Bauzi language began in December, 1975 by my wife, Joyce and me under the auspices of the Summer Institute of Linguistics in cooperation with Cenderawasih University. Initial investigations were carried out mainly in Danau Bira with the help of language informants from Sololibusi. Isak and Tomat, two young men from Agoiogo, have been our main language teachers. The data upon which this description is based were collected over a five month period. I wish to express my appreciation to Ken Gregerson for reading early drafts of this paper and making helpful suggestions.

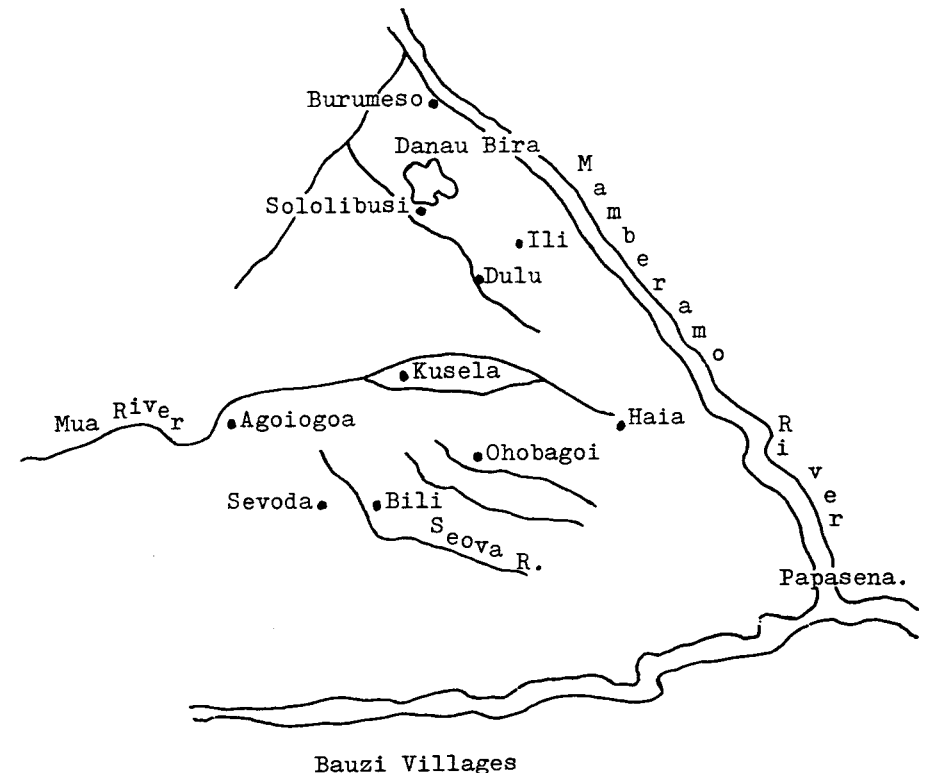
<sup>2</sup> Bauzi is spoken by an estimated 1000 people living in approximately twelve villages located north of Buremeso on the Mamberamo River, to Bili in the south. A partial listing of village names is located in the map below.

<sup>3</sup> The devoicing of this allophone, on the surface of it, may appear unusual, but recent work on tongue root effects in phonology (Gregerson, 1976) describes the mechanism whereby tongue root retraction co-occurs with vowel lowering and devoicing of consonants, among other features. Tongue root advancement, on

the other hand, creates requisite conditions for raised and advanced tongue blade position and the unimpeded air flow which yields consonant voicing as in the [g] allophone.

References

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 Gregerson, Ken, 1976. Tongue root and register in Mon-Khmer. Papers from the First International Conference on Austroasiatic Linguistics. Honolulu: University of Hawaii Press.



CENTRAL SENTANI PHONOLOGY<sup>1</sup>

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- 0. Introduction
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- 2. The syllable
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## 0. Introduction

The Sentani language<sup>2</sup> has three dialects--East, Central, and West--as designated by Sentani speakers themselves. Cowan (1965) classifies the language as Non-Austronesian, and part of the Sentani-Demta group of languages. Voorhoeve (1969) goes further, and places this group of languages in the Central and South New Guinea Phylum (Trans New Guinea) on the basis of linguistic cognates and cultural similarities between them and the Asmat people, located along the south coast of Irian Jaya, Indonesia.<sup>3</sup>

While Cowan's analysis of Sentani was based on the Eastern dialect, this report is based on the speech of the Central Sentani dialect, specifically the village of Puyo Besar.<sup>4</sup> Certain phonemic dissimilarities exist between the two dialects, even though the relationship is very close. Unlike Cowan, I have made no attempt to cover the morphophonemic structures.

## 1. The phonological word

The phonological word (PW) is established as the domain of a single stress peak. The placement of this peak is predictable by the following general rules:<sup>5</sup>

- (1) a. Stress occurs on the penultimate syllable when the word ends in an open syllable (S<sub>open</sub>).
- b. Stress occurs on the ultimate syllable when the word ends in a closed or laryngealized syllable (S<sub>closed</sub> or laryngealized).

These rules generate the following polysyllabic PWs (where S = syllable):

- (2) S' S<sub>open</sub>
- S S' S<sub>open</sub>
- S S' S<sub>closed</sub> or laryngealized (ʔ)
- S S S' S<sub>closed</sub> or laryngealized (ʔ)

Numerous monosyllabic forms exist, of course, but so far no unambiguous instances of four and five syllable sequences have been found.

The forms in (3) a - e illustrate the varieties of syllable sequences detailed above.

- |                             |            |               |                 |
|-----------------------------|------------|---------------|-----------------|
| (3) a. S                    | /fa/       | 'anak'        | 'child'         |
|                             | /haʔ/      | 'darah'       | 'blood'         |
|                             | /u/        | 'tidak ada'   | 'there is none' |
| b. S' S <sub>open</sub>     | /e.ne/     | 'pinggir'     | 'edge'          |
|                             | /hē.kē/    | 'kebun'       | 'garden'        |
|                             | /ka.ni/    | 'tanah'       | 'earth'         |
| c. S S' S <sub>open</sub>   | /pe.ta.ka/ | 'sabuk'       | 'loin cloth'    |
|                             | /te.ta.ta/ | 'kotoran'     | 'dirt'          |
|                             | /to.ma.u/  | 'pintu'       | 'door'          |
| d. S S' S <sub>closed</sub> | /o.hen/    | 'lebah'       | 'bee'           |
|                             | /fo.ken/   | 'pendek'      | 'short'         |
|                             | /ti.aʔ/    | 'perkumpulan' | 'meeting'       |

e. S S  $\acute{S}$ <sub>closed</sub> /a.fo.gaʔ/ 'burung hantu' 'spirit bird'

## 2. The syllable

Central Sentani has three basic syllable types:

(4) V	/u/	'tidak ada'	'there is none'
	/o/	'pohon'	'tree'
CV	/ha/	'tali'	'rope'
	/pu/	'air'	'water'
	/fi/	'sagu'	'sago'
CVC	/nen/	'cacing'	'[type of] worm'
	/haʔ/	'darah'	'blood'
	/fen/	'paruh'	'bill/beak'

These syllables combine to manifest the PW patterns summarized above in (2). Restating S as C and V sequences, we may now record the following combinatory possibilities:

(5) S	V	/u/	'tidak ada'	'there is none'
		/o/	'pohon'	'tree'
	CV	/mi/	'kutu'	'louse'
		/ka/	'ikan'	'fish'
		/to/	'lakilaki'	'man'
	CVC	/kin/	'betis'	'calf (of leg)'
		/toʔ/	'telur'	'egg'
		/fen/	'paruh'	'bill/beak'
$\acute{S}$ <sub>open</sub>	$\acute{V}$ .V	/au/	'kapur'	'betel lime'
		/ii/	'api'	'fire'
	$\acute{V}$ .CV	/ika/	'arang'	'charcoal'
		/afo/	'setengah'	'half'
		/ana/	'ibu'	'mother'
	CV.V	/toa/	'tuan'	'sir'
		/miʔ/	'perempuan'	'woman'
		/neʔ/	'dia/mereka'	'he/they'
	CV.CV	/hëkë/	'kebun'	'garden'
		/hëtë/	'mati'	'dead'
		/fëli/	'dahi'	'forehead'
$\acute{S}\acute{S}$ <sub>open</sub>	V. $\acute{V}$ .CV	/eina/	'didalam'	'in'
		/aana/	'dibawah'	'under'
		/uuma/	'rambut'	'hair'

V.CV.V	/afau/	'bahasa'	'language'
	/afau/	'jauh'	'far'
	/əpëu/	'penyu'	'turtle'
V.CV.CV	/apulu/	'lobang'	'hole'
	/ifale/	'barat'	'west'
	/upëna/	'jawaban'	'answer'
CV.CV.CV	/hokolo/	'muda'	'young'
	/fëtëli/	'kakerlak'	'cockroach'
	/tamene/	'pisau'	'knife'
CV.CV.V	/hokou/	'kantung'	'bag'
	/hahai/	'merah'	'red'
	/tomau/	'pintu'	'door'
CV. $\acute{V}$ .CV	/peiko/	'busuk'	'bad'
	/neuma/	'bersih'	'clean'
	/meuke/	'kanan'	'right'
$\acute{S}\acute{S}$ <sub>closed</sub> V.CVC	/ihaʔ/	'duri'	'thorn'
	/ohen/	'lebah'	'bee'
	/iyem/	'lurus'	'straight'
CV.CVC	/helen/	'banyak'	'many'
	/himen/	'gabus'	'type of fish'
	/pukun/	'kancing'	'knot'
$\acute{S}\acute{S}\acute{S}$ <sub>closed</sub> V.CV.CVC	/afogaʔ/	'burung hantu'	'spirit bird'

In addition to the syllable types already mentioned, Central Sentani also contains a very limited number--three so far--of VC syllables. Two of these are Vowel + Nasal combinations, and the other is a laryngealized vowel (interpreted as Vowel + Glottal). These are:

[em fau]	/en fau/	'pisang'	'banana'
[miʔ an]	/miʔ an/	'bujang'	'bachelor'
[riaʔ]	/tiaʔ/	'perkumpulan'	'meeting'

Because of the paucity of these syllable types, they are clearly a marginal pattern.

### 2.1 Limitations on possible patterning of syllables

The patterns of stress alternation, as reflected in the definition adopted above for PW in Section 1, limit the length of

PW to two or three syllables, i.e., all phonological strings longer than three syllables are actually nothing more than a repetition of the basic two or three syllable stress pattern. Theoretically this could lead to an analysis resulting in two or more PWs manifesting one morpheme, but to date no unambiguous examples of this possibility have been discovered.<sup>6</sup>

CVC patterns, phonemically, are limited to isolation or word final position (see Section 3.22 for a discussion of the interpretation of medial nasals and surface CVN syllable patterns). This, together with the virtual non-occurrence of VC patterns proves restrictive to the generation of syllable combinations.

3. The phonological segments

3.1 The distinctive features and allophonic variants

The following chart summarizes the segmental phonemes of Central Sentani:

syll. cont. son. nas. voi.					Lingual		Labial
					-back	+back	
-	-	-		-	t	k	p
-	+	-		-		h	f
-	+	+	+	+	n		m
-	+	+	-	+	l		
-	+	+	-	+	y		w
+	+	+	-	+	i	u	high
+	+	+	-	+	e	ě	o
+	+	+	-	+	æ	a	low

Figure 1: Segmental Phonemes

3.11 Consonants

/p/ Labial, non-continuant, non-sonorant, non-nasal, non-syllabic consonant.

[p <sup>h</sup> ]	Voiceless, bilabial, aspirated stop occurs word initially only.			
[paga]	/paka/	'bahu'	'shoulder'	
[pe]	/pe/	'dua'	'two'	
[peikhə]	/peiko/	'busuk'	'bad'	

[b]~[ɸ] Voiced bilabial stop or fricative occurs word medially and syllable initially.

[agobɸ]~[agobɸ]	/akopɸ/	'teman'	'friend'	
[ɛbɛu]~[ɛbɛu]	/ɛpɛu/	'penyu'	'turtle'	
[fobɛbɛ]~[fobɛbɛ]	/fopepe/	'pimping'	'sword grass'	

/t/ Front, lingual, non-continuant, non-sonorant, non-nasal, non-syllabic consonant.

[t<sup>h</sup>]<sup>7</sup> Voiceless, aspirated, alveolar stop occurs intervocally before front vowels.

[a ɾithi]	/a titi/	'minta'	'ask'	
[nothe]	/hote/	'piring'	'plate'	
[athe]	/ate/	'pergi'	'go'	

[d] Voiced alveolar stop occurs after phonetic syllabic nasal. See comments under Section 3.22 for my handling of syllabic nasals.

[ɛlu ɾandan]	/ɛlu tanatan/	'pancak'	'apex'	
[ɛnda he]	/eneta he/	'sekarang'	'now'	
[nɛnde]	/nenete/	'mungkin'	'maybe'	

[ɾ] Voiceless alveolar flap occurs word initially and intervocally before middle and back vowels.

[noɾo]	/noto/	'sayap'	'wing'	
[pɛɾaga]	/petaka/	'sebuk'	'loin cloth'	
[ɾo]	/to/	'orang'	'person'	

/k/ Back, lingual, non-continuant, non-sonorant, non-nasal, non-syllabic consonant.

[k<sup>h</sup>] Voiceless, aspirated velar stop occurs in word initial position, and unexpectedly, contiguous to /i/.

[k <sup>h</sup> ai]	/kai/	'perahu'	'canoe'	
[hikhali]	/hikali/	'lurus'	'straight'	
[peikhə]	/peiko/	'busuk'	'bad'	

- [g] Voiced velar fricative occurs in syllable initial position intervocalically, but not contiguous to /i/.  
 [yogu] /yoku/ 'anjing' 'dog'  
 [aga] /aka/ 'kakak' 'older sibling'  
 [hëgë] /hëkë/ 'kebun' 'garden'
- [g] Voiced velar stop occurs following a syllabic nasal. See Section 3.22 for my handling of syllabic nasals.  
 [mëngëi] /më nëkei/ 'kuku' 'claw'  
 [manga fa] /~~man~~aka fa/ 'gadis' 'young girl'  
 [yango] /yanako/ 'orang hutan' 'bush man'
- [ʔ] Glottal stop occurs word finally only.  
 [haʔ] /haʔ/ 'darah' 'blood'  
 [həʔ] /həʔ/ 'garam' 'salt'  
 [heʔ] /heʔ/ 'batas' 'boundary'

/h/ Back, lingual, non-sonorant, non-nasal, non-syllabic, consonantal continuant.

- [s] Voiceless alveolar spirant occurs after V syllable /i/, after /n/, and dissimilates in words beginning with [h].  
 [isei] /ihe/ 'pintar' 'clever'  
 [mansë] /manahë/ 'dingin' 'cold'  
 [hasale] /hahale/ 'cepat' 'fast'
- [h] Voiceless glottal spirant occurs word and syllable initial, except for context mentioned under [s] above.  
 [nahibi] /nahipi/ 'terus' 'straight'  
 [huʔ] /huʔ/ 'matahari' 'sun'  
 [ɛhe] /ehe/ 'ya' 'yes'

Following the common process of historical change, it is possible that [s] was the original phonetic characteristic, now being replaced by [h] in all environments where it has not been reinforced by a tongue feature such as /i/, or affected by dissimilation or nasal voicing.

/f/ Labial, non-sonorant, non-nasal, non-syllabic, consonantal continuant.

- [f] Voiceless labiodental fricative occurs word and syllable initially.

[foi]	/foi/	'baik'	'good'
[fi]	/fi/	'sagu'	'sago'
[afo]	/afo/	'setengah'	'half'

/n/ Lingual nasal consonantal continuant.

- [ŋ] Velar nasal occurs before velar consonants. See Section 3.22 on syllabic nasals.  
 [yango] /yanako/ 'orang hutan' 'bush man'  
 [mengei] /me nekei/ 'kuku' 'claw'  
 [kə ungu] /kə unuku/ 'sapu' 'broom'
- [ŋ<sup>w</sup>] Velar nasal with high rounded offglide occurs after V syllable /u/ medially within words or compound words.  
 [kə neun<sup>w</sup>e] /kə neune/ 'panggil' 'call'  
 [hu reun<sup>w</sup>e] /hu teune/ 'mendorong' 'shoot'  
 [waun<sup>w</sup>e] /waune/ 'berkata' 'speak'
- [ɲ] Alveopalatal nasal<sup>8</sup> occurs after /i/ which manifests a medial V syllable, within words or compound words.  
 [foine mogale] /foine mokale/ 'memperbaiki' 'fix'  
 [həine koge] /həine koge/ 'tawan' 'arrest'  
 [mageifia] /makei na/ 'di mana' 'where'
- [n] Alveolar nasal occurs word and syllable initial and freely varies with [ŋ] and [m] in syllable and word final position.  
 [na] /na/ 'kabut' 'fog'  
 [nano] /nano/ 'pusat' 'central'  
 [nea pan] /nea pan/ 'tidak' 'no'

/m/ Labial nasal consonantal continuant.

- [m] Labial nasal occurs word and syllable initial, and freely fluctuates with [ŋ] and [n] in syllable and word final position.  
 [moni] /moni/ 'lapar' 'hungry'  
 [name] /name/ 'tiga' 'three'  
 [yun] [yur] [yum] /yum/ 'kepala' 'head'

See Section 3.2 for comments on this neutralization of nasals.

/l/ Non-nasal, non-syllabic lateral, sonorant, consonantal continuant.

- [l] Voiced lateral occurs syllable initial.



[nolo]	/nolo/	'ular merah'	'red snake'
[yalo]	/yalo/	'lengan'	'upper arm'
[melen]	/melen/	'daging'	'meat'

Only one example has been found of [l] in word initial position:

[lɛgei]	/lɛkei/	'kuat'	'strong'
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/y/ Non-nasal, non-syllabic lingual continuant.

[dʒ] Voiced alveopalatal stop occurs after a nasal, and following /i/ which manifests a V syllable.

[idʒɛm]	/iyen/	'lurus'	'straight'
[oidʒo]	/oiyo/	'ayam'	'chicken'
[senindʒa]	/Seninya/	'Hari Senin'	'Monday'

In this last example, dʒa is really ya 'day'.

[y] Unstressed alveopalatal semivowel occurs initially in CV and CVC syllables.

[yo]	/yo/	'kampung'	'village'
[yun]	/yun/	'kepala'	'head'
[kuyɛle]	/kuyele/	'mencuci'	'wash'

/w/ Non-nasal, non-syllabic labial continuant.

[w] Unstressed bilabial semivowel occurs initially in CV and CVC syllables.

[weʔ]	/weʔ/	'tikus'	'rat'
[wali]	/wali/	'hidup'	'life'
[ɛwole]	/ɛwole/	'dia sudah pulang'	'he went home'

### 3.12 Vowels

/i/ Non-consonantal, non-nasal, sonorant continuant, in high lingual position.

[ɪ] High front open vocoid freely varies with [i] before nasals.

[fɪŋgi]	~[fɪŋgi]	/finiki/	'tebal'	'thick'
[kɪŋ]	~[kɪŋ]	/kin/	'betis'	'calf (of leg)'
[fɪnda lau]	~[fɪnda lau]	/finida lau	'bintang'	'star'

[i] High front close vocoid occurs as the nucleus of all syllable types.

[hiʔ]	/hiʔ/	'lain'	'other'
[miʔ]	/miʔ/	'isteri'	'wife'
[pai]	/pai/	'[macam binatang]	'[type of animal]'

/e/ Non-consonantal, non-nasal, sonorant continuant, in mid lingual position.

[ɛ] Mid front open vocoid occurs before consonantal continuants.

[idʒɛm]	/iyen/	'lurus'	'straight'
[hele hele]	/hele hele/	'tipis'	'thin'
[hɛn]	/hen/	'[macam cacing]	'[type of worm]'

[e] Mid front close vocoid occurs before stops, other vocoids, and word finally.

[feu]	/feu/	'roti'	'bread'
[heʔ]	/heʔ/	'batas'	'boundary'
[ebe]	/epe/	'belanga'	'pot'

/ɛ/ Non-consonantal, non-nasal, sonorant continuant in low lingual position.

[ɛ] Low front close vocoid occurs in all vocalic slots.

[hɛʔ]	/hɛʔ/	'garam'	'salt'
[ɛrɛ]	/ɛrɛ/	'dendam'	'grudge'
[afɛu]	/afɛu/	'bahasa'	'language'

/a/ Non-consonantal, non-nasal, sonorant continuant in low back position.

[a] Low back open vocoid occurs in all vocalic slots.

[aye]	/aye/	'burung'	'bird'
[haʔ]	/haʔ/	'darah'	'blood'
[khɛla]	/kɛla/	'dunia'	'world'

/e/ Non-consonantal, non-nasal, sonorant continuant in central mid position.

[ɛ] Central mid open vocoid occurs in all vocalic slots.

[heʔ]	/heʔ/	'mas kawin'	'bride price'
[kheleu mon]	/keleu mon/	'putih'	'white'
[elu]	/elu/	'gunung'	'mountain'

/u/ Non-consonantal, non-nasal, sonorant continuant in high back position.

[u] High back open rounded vocoid occurs in all syllabic slots.

[unulu]	/unulu/	'jiwa'	'spirit'
[huʔ]	/huʔ/	'matahari'	'sun'
[ahau]	/ahau/	'jauh'	'far'

[u<sup>g<sup>w</sup></sup>] Rounded high back open vocoid with [g<sup>w</sup>] or [b<sup>w</sup>] off-glide occurs when [u] stressed occurs between two non-stressed vowels.

[uug <sup>wa</sup> ]	/uua/	'badan'	'body'
[eub <sup>wa</sup> ]	/eua/	'mulut'	'mouth'
[ka iug <sup>wa</sup> ]	/ka iua/	'pancing'	'fish hook'

/o/ Non-consonantal, non-nasal, sonorant continuant in mid back position.

[o] Mid back open rounded vocoid occurs in all syllabic slots.

[hoʔ]	/hoʔ/	'kelapa'	'coconut'
[o]	/o/	'pohon'	'tree'
[ogo]	/oko/	'bulan'	'month'

### 3.11 Vowel sequences

The following chart outlines the variety of vowel sequences which can occur across syllable boundaries. Further data will no doubt provide evidence of further variety. In contrast, as only nasals and glottal stop can form the closure of a CVC pattern, and as these patterns are limited phonemically to word final position, no consonant sequences occur.

	i	e	æ	a	ə	o	u
i	+	+	+	+	+	+	+
e	+	+	+	+	-	-	+
æ	+	-	-	-	-	-	+
a	+	-	-	+	-	-	+
ə	+	-	-	-	-	-	+
o	+	-	-	+	-	+	+
u	+	+	+	+	+	+	+

Figure 2. Vowel Sequences

### 3.2 General phonological conditions

Certain general features characterize the nasal consonants of Central Sentani. These are outlined below.

#### 3.21 Nasal assimilation

The following rules govern nasal assimilation:

- (a) When words with a final nasal consonant are uttered in isolation, that final nasal is predominantly velar.
- [+ nasal]  $\longrightarrow$  [+ velar] / \_\_\_\_\_ #
- (b) When words with a final nasal consonant are uttered in a string, those nasals assimilate to the rounding and point of articulation of the following consonant.

[nasal]  $\longrightarrow$   $\left[ \begin{smallmatrix} \alpha \text{back} \\ \alpha \text{labial} \end{smallmatrix} \right]$  / \_\_\_\_\_ . C

(where  $\alpha$  = identical; +/- = value for a feature; "dot". = syllable division)

Example: [ɛm fæu] /en fæu/ 'pisang' 'banana'

- (c) Nasals assimilate to the advancement position and rounding of preceding high vowels which manifest a V syllable type.

[+ nasal]  $\longrightarrow$   $\left[ \begin{smallmatrix} \alpha \text{front} \\ + \text{high} \end{smallmatrix} \right]$  / \_\_\_\_\_ V  
+ syllable type V

Thus,  $\left\{ \begin{smallmatrix} \tilde{n} \\ \eta \end{smallmatrix} \right\}$  occur following V syllable  $\left\{ \begin{smallmatrix} i \\ u \end{smallmatrix} \right\}$ .

Examples: [i kēun<sup>wə</sup>] /i kēunē/ 'memberi' 'give'  
[eiŋa] /eina/ 'didalam' 'in'

#### 3.22 Syllabic nasals

In Central Sentani a great number of homorganic syllabic nasal plus voiced stop clusters occur phonetically. These are open to three different interpretations: (a) nasal plus consonant sequence; (b) prenasalized stops; or (c) nasal plus phonetically elided vowel plus stop. To choose alternative (a) would be to posit a great number of consonant clusters, a feature quite

uncharacteristic of the language as a whole. Alternative (b) does no more than state that these combinations occur with no explanation of their homorganic nature. I have chosen Alternative (c) for the following reasons:

1. It shortens the inventory of phonemes.
2. It reflects more accurately the general patterns of clustering.
3. It explains and unifies the morphology, e.g.  
erē -rē-m -bo -nde  
 look-I -him-one time-agreement particle  
 'I will see him.'  
erē -u -nē -bo -nde  
 look-you-him-one time-agreement particle  
 'You will see him.'
4. It conforms to phonetically predicted patterns of syllabification of nasals, i. e. nasal plus vowel reduces to syllabic nasal.
5. It explains the restriction of nasal and stop to homorganic pairs where they are suspiciously interdependent.

Rules for syllabification:

1. Vowel elision occurs when a vowel, of the exact phonetic quality as the vowel in the preceding syllable, occurs between a nasal and a stop, nasal, or sibilant, e.g.  
ereremebonde is pronounced eremebonde BUT ereremibonde is unaffected.
2. Once the elision occurs, the nasal assimilates to the rounding and point of articulation of the stop, nasal, or sibilant. In return, the stops assume the voicing characteristics of the nasal, e.g.  
 /anaken/ < \*anken < [angen]
3. When the elided vowel is one on which the normal word stress falls, the stress moves back one syllable toward the beginning of the word, e.g.  
 /kamāpu/ < [kāmbu]

Rule restrictions:

1. Vowel elision cannot occur in the initial syllable of a word except in the cases where that word forms the second unit of a compound word with one meaning, e. g.  
mē nēkēi 'kuku' 'claw' is reduced to [mēngēi] BUT  
 hand  
makei na 'di mana' 'where' is unaffected.  
 where at
2. Two elisions in a row cannot occur, e.g.  
erē -mē-mē-bonde reduces to erē -m -mē-bonde only.  
 look -he-me look-he-me  
 Notice that the first mē is affected, but not the second.

#### 4. Suggested orthography

Because of the influence of the national language, Bahasa Indonesia, in the Sentani area, and because it is believed that literateness in one's own language should lead to increased ability to read in another, I am proposing that the Sentani orthography should, as much as possible, comply with the orthographic requirements of Bahasa Indonesia. Suggested symbols, therefore, are:

Phoneme	Bahasa Indonesia	Central Sentani
/t/	[t]	t
	[d]	d
	[r]	r
/k/	[k]	k
	[g]	k
	[g]	g
	[ʔ]	ʔ
/p/	[p]	p
	[b]	b
/h/	[s]	s
	[h]	h

Phoneme		Bahasa Indonesia	Central Sentani
/f/	[f]	f	f
/n/	[n]	ng	ng
	[n <sup>w</sup> ]	-	n
	[ɲ]	ny	n
	[ɳ]	n	n
/m/	[m]	m	m
/l/	[l]	l	l
/y/	[dʒ]	j	j
	[ɣ]	y	y
/w/	[w]	w	w
/i/	[ɪ]	i	i
	[i]	i	i
/e/	[ɛ]	é	é
	[e]	é	é
/æ/	[æ]	-	á
/a/	[a]	a	a
/ẽ/	[ẽ]	e	e
/u/	[u]	u	u
	[u <sup>ɛbw</sup> ]	-	u
/o/	[o]	o	o

Elided vowels will not be reintroduced. Naturally, considerable testing will need to be carried out before any orthography is accepted.

#### Notes

<sup>1</sup> This study has been carried out under the auspices of Cenderawasih University and the Summer Institute of Linguistics, Indonesia Branch. Grateful acknowledgement is extended to Dr. Kenneth Gregerson for his assistance with analytical details. Research was carried out over a period of two months.

<sup>2</sup> Speakers of the Sentani language live along the north coast of

the Indonesian province of Irian Jaya. Their villages are scattered along the shores, and on the islands, of Lake Sentani, located adjacent to the capital city of Jayapura.

<sup>3</sup> Voorhoeve's comparison is based primarily on Cowan's description of the Eastern dialect. It is interesting to note, however, that while the Eastern and Western dialects share a similar origin story--that of originating from the east--the Central dialect maintains a tradition of arising from a hole in the ground on the island of Ifale.

<sup>4</sup> I would like to gratefully acknowledge the patient assistance of Rudi Sekoi and Beris Monim who provided the data upon which this report is based. Information was also contributed by Eli Yoangka of Ifale, who was able to provide us with further insight.

<sup>5</sup> This rule was first pointed out by Cowan (1965:9).

<sup>6</sup> Under the general heading of "ambiguous" morphemes I have included compound words, verbs (with heavy morphology), and words which contain syllabic nasals.

<sup>7</sup> Two examples do not comply with this analysis: hatoo 'belalang' 'grasshopper', and retara 'kotoran' 'dirt'. Further investigation of these forms is necessary.

<sup>8</sup> One example, oñeu 'gempa bumi' 'earthquake' does not lend itself to this analysis. Further investigation may clarify the interpretation of this form.

#### References

- Cowan, H.K.J., 1965. Grammar of the Sentani Language. Verhandelingen. 'S-Gravenhage, Netherlands: Martinus Nijhoff.  
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