A COMPARATIVE ẸDO PHONOLOGY

BY

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A thesis in the Department of
LINGUISTICS & NIGERIAN LANGUAGES

Submitted to the Faculty of Arts
in partial fulfilment of the requirements for the
degree of
DOCTOR OF PHILOSOPHY
of the

UNIVERSITY OF IBAI

There seems to be a trend in the field of linguistics generally that anything not theoretical is not interesting ... The idea that any description that does not contribute to theory is of no interest is one that linguists in a developing country cannot subscribe to.

Ayọ Bamgbọṣe

Linguistics in a developing country.
(an inaugural lecture delivered at ~~the~~ University of Ibadan on 27 October 1972).

Abstract

This thesis is in three parts. In Part I there are two sections. In the first section, the geographical area of the Ẹdo languages is delimited. This is followed by a classification of Ẹdo languages.

In the second section of Part I, sounds and features of general phonetic interest in the Ẹdo languages investigated are discussed.

In Part II, phonemic statements of the eleven languages which form the basis of this work, are presented. The languages are (1) Ẹgẹnẹ; (2) Urhobo; (3) Bini; (4) Aoma; (5) Auchi; (6) Avhianwu; (7) Ghotuọ; (8) Ibilo; (9) Uhami; (10) Ehuẹun; and (11) Ukue.

In Part III, the general directions of sound shifts from Proto-Ẹdo to contemporary Ẹdo languages are discussed. This is followed by a body of Proto-Ẹdo and other reconstructions.

An English-Proto-Ẹdo, etc. index is given at the end of the reconstructions. This makes the location of items in the reconstructions easier.

Acknowledgements

It is impossible to mention everybody personally by name. I wish, therefore, to thank generally all who have helped me one way or the other during the course of this work —— including my informants (whose names I give in the introduction) and the kind people who provided me with accommodation during my travels on the field.

In particular, however, I would like to mention the late Rev. Imẹvhọre Ẹdeki and Mr. Aigboje Higo. They urged me to accept a University scholarship to do research. In this regard, I must mention my parents, especially my father, Mr Marcus Elugbe: in spite of his poor condition, he allowed me to leave my job at Agbor to take up research.

I am also indebted to the staff of the Department of Linguistics and Nigerian Languages, University of Ibadan, and in particular to my supervisors, Professor Carl Hoffmann, and Mr. B.O.W. Mafeni for their patient guidance and advice.

I wish to thank Professor Kay Williamson, a colleague, and Mr. Ian Maddieson, a former colleague, for their help in reading different parts of the draft

and making invaluable suggestions.

Mr. Ṣọgun Ojoabuo and Miss Funmilayo Adeogun typed this thesis; Miss Fẹmi Odumosu helped with the proof-reading; and Mr. Ṣọgun Akinyẹmi of Federal Surveys, Lagos, drew the maps. I am very grateful to all of them.

I wish to thank my wife Mrs. Stella Shekara Elugbe for her patience and understanding, especially during the closing months of the preparation of this work.

Finally, I thank God Almighty for His grace and pray that he may bless all my benefactors.

Certification

I certify that this work was carried out by Mr. B.O. Elugbe in the Department of Linguistics and Nigerian Languages, University of Ibadan.

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Corrigendum

Due to an error in the pagination, there is no page 520 so that page 521 follows directly upon page 519.

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Preface

Although the existence of an Ẹdo group of languages had been well known for a long time, the exact geographical spread of the group and the internal relationships within the group remained largely undefined until Williamson (1967).

In the first part of this thesis, the geographical extent of the Ẹdo languages is delimited and a classification given. The geographical delimitation of the Ẹdo area is based both on personal field experience and on other writers' reports. The classification is based solely on linguistic evidence which is presented in Part III.

The first part of the thesis also contains a brief discussion of the sounds and phonetic features of general interest which have been found in the languages investigated. Perhaps the most interesting feature here is breathy voice in Ibilo.

In Part II, phonemic statements are given of eleven languages which form the basis of this thesis. These phonemic statements are presented in a purely

traditional format, though the analysis is at the systematic phonemic level. No theoretical claims are made in this work, but the tone systems of Ẹgẹnẹ, Urhobo, Auchi, and even Ehuẹun have aspects which, if confirmed by further study (using a larger corpus of data and, possibly, instruments), have interesting implications for tonal typology.

In Part III, the comparative method is applied to data (collected personally by this writer) from the eleven languages investigated. This leads to the reconstruction of Proto-Ẹdo vocabulary.

It is hoped that this work has clarified certain questions of comparative Ẹdo. For here is one more area of African language classification based, not on chance resemblances, but on a true application of the comparative method to a phonetically dependable body of data.

PART I: INTRODUCTION and PHONETICS

A. INTRODUCTION

The Ẹdo languages and the Ẹdo-speaking peoples

Ẹdo languages are spoken in at least three of the twelve states of Nigeria. These are the Rivers, Mid-western, and the Western States. If one includes Kwara State (cf. below), the figure increases to four.

That some Ẹdo languages are spoken outside the Mid-west is not a well-known fact. Although Talbot (1932) had mentioned the existence of an Ẹdo-speaking people in the eastern section of the Niger Delta, Westermann and Bryan (1952) make no reference to any such group of Ẹdo languages, though they do note that 'Kukuruku' dialects are also spoken in "Igbira Division, Kabba Province" (cf. below).

However, the fact that Ẹdo-speaking peoples are spread over a fairly wide area was discovered relatively early. For example, Temple (1919) documented the existence of an Ẹdo-speaking (Unẹmẹ) tribe on the eastern bank of the Niger across from the Okpella/Wepa Wanọ country. The existence of an Ẹdo-speaking Sibi tribe in "Kabba Division" was also noted in the same work (p.249) though, again, no list is given of the Sibi villages.

In what follows, the Ẹdo-speaking peoples and their languages are discussed under four headings according to state.

(i) The Rivers State (Delta Ẹdo)

There are three subgroups of Ẹdo-speaking peoples in the Rivers state (cf. fig. 1):

Atisa (Epie),
Engenni (Ẹgẹnẹ), and
Degema (including Ọbọnọma)

The first mention of this group is probably that by Talbot (1932) although, in Talbot (1926), there are indications that the existence of Ẹdo-speaking peoples in the Eastern Niger Delta is recognized. Talbot gives an account of what the Engenni Chief he met said to him. According to him, the Engenni chief disclaimed any relationship with "Sobo". But the Degema were a break-away branch of the Engenni, a fact later corroborated by the Degema.

The linguistic evidence available puts the relationship between the Engenni and the Degema on the one hand and 'Ẹdo' on the other beyond doubt. But the chief's claim to be autochthonous points at the fact that he was not aware of any outside links, a situation that would arise from the Engenni having been in the Delta for a very long time.

Although Talbot calls Atisa (Epie) Ijaw-speaking, Wolff (1959b) correctly classified Atisa as Ẹdo-speaking. According to him (pp. 34-35):

> ... Yenagoa [is] the village of the Atisa enclave ... Degema is spoken in two small villages - Opu Degema and

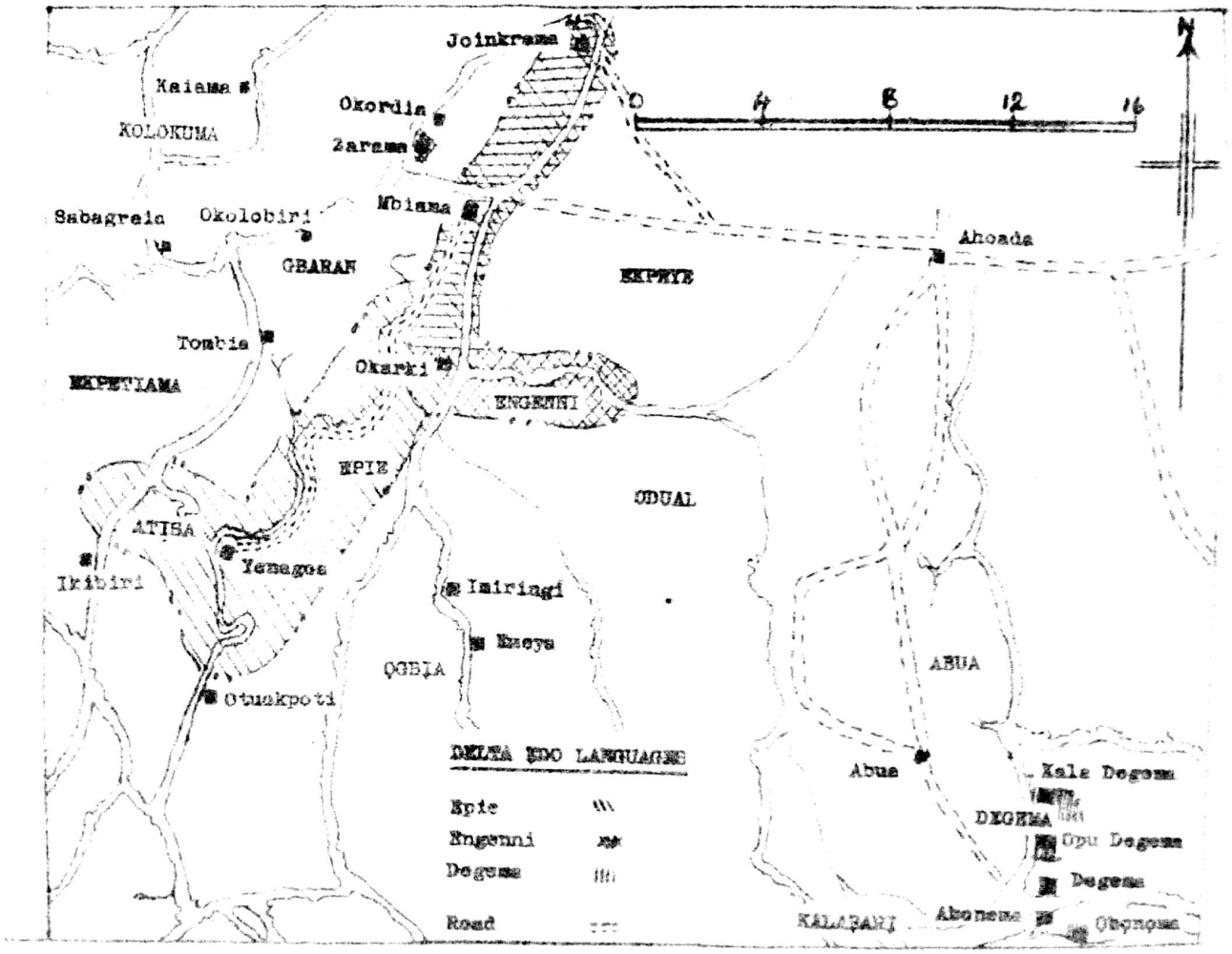

Fig.1. Edo-speaking areas of Rivers State.
(Map by courtesy of K. Williamson)

> Kala Degema - located just north of the Kalabari capital of Abonnema and the administrative center of Degema. It is thus an enclave in the Kalabari speech area ... Another small settlement of Degema speakers... is located outside the town of Abua on the mainland ... The town of Engenni lies northeast of Emelego... The Atisa enclave lies northwest of Oloibiri ... in the village of Yenagoa and environs.

He concludes (p. 36) that:

> The Kwa Branch of Niger-Congo is represented in the Delta by two of its sub-groups. (A) Edo with four languages, (1) Atisa, (2) Degema... (3) Urhobo, (4) Isoko. Engenni, a fifth Ẹdo language of the Delta, is not included here ...

Fig. 1 is a map of the Ẹdo-speaking areas of the Rivers state of Nigera.

Following Wescott (1962), the term Delta Ẹdo is now used for Epie (spoken by the Atisa), Dẹgẹma, and Ẹgẹnẹ (spoken by the Engenni).

(ii) The Mid-west State

The majority of Ẹdo languages are spoken in the Mid-western state of Nigeria. Starting from the south (Delta Province) northwards, the Ẹdo-speaking peoples of Mid-western Nigeria include:

1. The South-western Ẹdo
2. The North-central Ẹdo, and
3. The North-western Ẹdo, (cf. Fig. 2).

1. South-western Edo

This is made up of five groups of Ẹdo-speaking peoples (following Hubbard (1952)):

(a) Ẹrụwa (Erohwa, Arokwa),

(b) Isoko,

(c) Evhro,

(d) Okpẹ, and

(e) Urhobo (Sobo)

According to Hubbard, the Ẹrụwa claim that:

> ... they are the original inhabitants of the land, have an immense history behind them, have never lived anywhere else, have no connection whatever with Benin... p. 96.

This is interesting in view of the Engenni claim to be autochthonous (cf. above p.17).

Hubbard further suggests that the Urhobo claim "We come from Benin" which he usually got in answer to inquiries about the origin of the Urhobo must be taken with caution. He implies that it was often given in an attempt to associate themselves with Benin, then a powerful city (p. 72):

> ... this answer is in fact so frequently given and by so many different people in the various clans that one comes to the conclusion that it is not necessarily true, but is chiefly given with the object of impressing the foreign inquirer of the personal and clan importance of the one who answers.

From Hubbard's account, it would appear that the history of most of the Ẹdo-speaking peoples of this area is a long one (just as for Delta Ẹdo). In fact, as he saw it (though this is nowhere explicitly stated) the linguistic evidence would suggest that only the Okpẹ have a fairly recent history in this area:

> Okpe contrasts with the other four in possessing fewer points of resemblance to them, and more to Bini. p. 139.

Historical evidence backing up this linguistic pointer is discussed on p.236ff. According to this account, the Okpẹ are descendants of Igbozɛ, a prince of the royal family of Benin. He settled up the Forcados river. Later, he had an Igbo visitor, Chief Olomu. Somehow, Olomu persuaded Igbozɛ to name him heir apparent to Igbozɛ's kingdom.

When Igbozɛ died, his kingdom was torn in strife between supporters of Olomu (mostly his Igbo tribesmen who had followed him there and made their homes with the Okpẹ) and the supporters of Igbozɛ's eldest son. The latter broke away and travelled westwards; later still, some others broke away and settled to the south of Sapele in 'Jekiri' land.

This account is interesting because it explains why, according to Carl Hoffmann (personal communication), there are some lexical items of Igbo origin in Okpẹ.

It also explains the similarity to Bini noted by Hubbard and very often claimed by some Okpẹ speakers. However, the linguistic evidence available, though still scanty and hardly conclusive, puts Okpẹ ~~within~~ among the South-western Ẹdo languages rather than with Bini.

The internal relationship between the languages of the Ẹdo-speaking peoples of this area (approximately Urhobo East and West Divisions of Delta province) is very difficult to determine. That they form a valid sub-group within Ẹdo is not in doubt; but it is difficult to say which of the languages may be treated as dialects of the same language. It would appear that one is dealing with a continuum from Okpẹ to Ẹrụwa through Evhro, Urhobo, and Isoko.

The Evhro and Okpẹ seem able to speak both Urhobo and their mother tongue, a fact made possible by their living in a predominantly Urhobo country. Moreover, Urhobo is written and used in schools in this area; it is also a means of communication between the Urhobos, the Itsekiri, the Okpẹ, and the Evhro.

Hubbard (op. cit.) has also written about "Sobo clans of Ijoh origin" (p.255 ff.) and "Sobo clans of Ibo origin" (p.268 ff.). This, in addition to what has been said before, suggests that, apart from Ẹdo-speaking peoples who ~~had~~ have been in this area for a long

time, there are some whose origin is Benin and others whose origin is either Ịjọ or Igbo. The latter are Ẹdo only by language, not by origin.

2. North-central Ẹdo

It is not clear yet how far northwards from Benin City the North-central Ẹdo languages stretch. It is interesting to note that the present writer started with the idea (or hypothesis) that only Bini, Esan and Ora were North-central Ẹdo. A comparison of lexical items and sound correspondences has shown that, on the basis of some common innovations, the Iyẹkhee and the Ghotuọ must be regarded as speaking languages of the North-central sub-group of Ẹdo (see the tentative classification below).

As far as can be determined on the evidence available, the Ẹdo peoples who must be regarded as speaking one form or the other of a language of the North-central sub-group are:

(a) Bini (approximately Benin East and West Divisions)
(b) Esan (approximately Ishan Division)
(c) Ora
(d) Iuleha
(e) Emai — Ọwan Division
(f) Ivhimiọn
(g) Ivhiadaobi[1]

1. This clan is, in fact, Iyẹkhee-speaking.

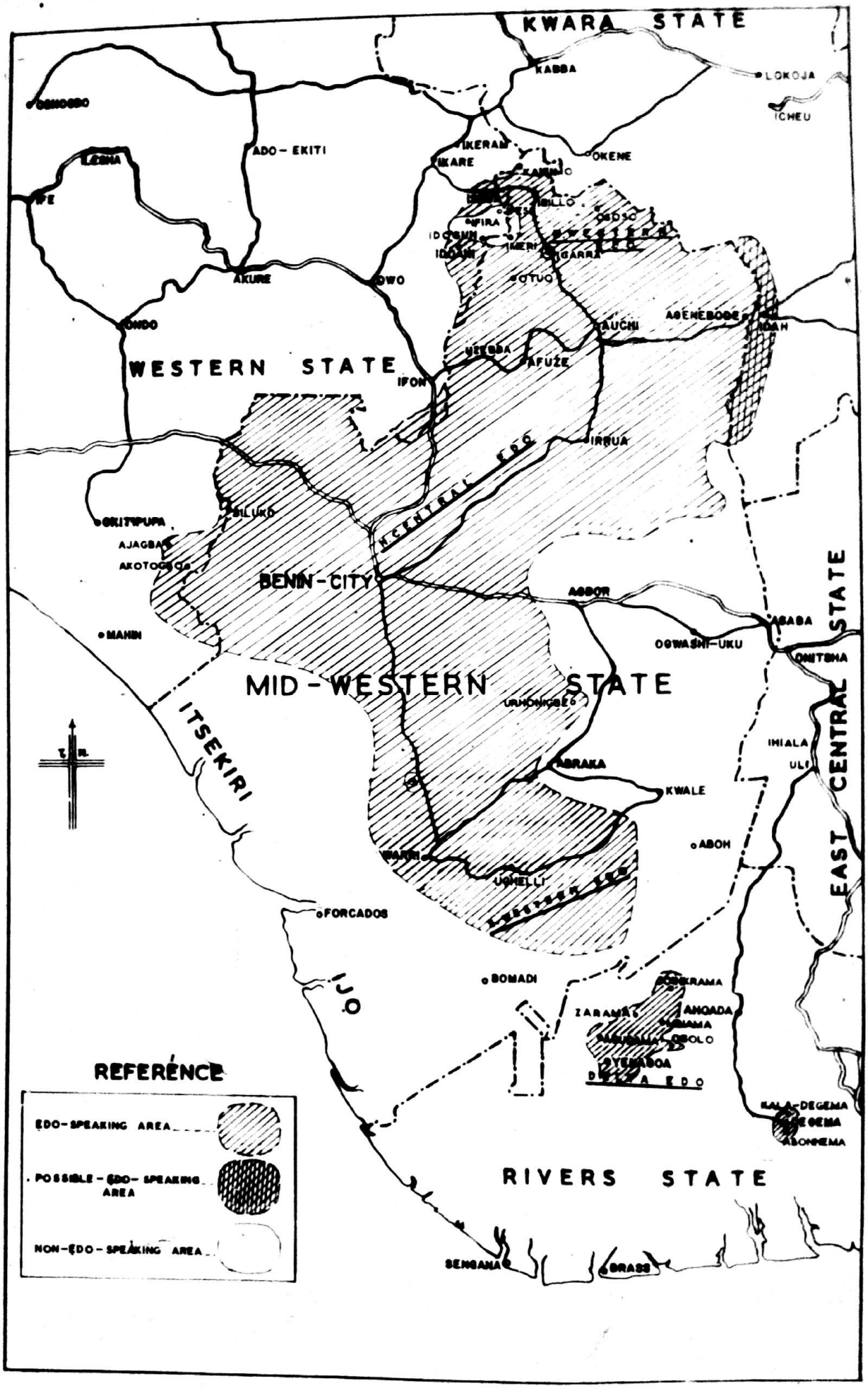

FIG. 2 EDO-SPEAKING AREAS OF SOUTHERN NIGERIA

(h) Ghotuọ (Ọwan Division).

(i) Iyẹkhee (Etsakọ Division and parts of Owan).

(j) Inẹmẹ (scattered all over Akoko-Ẹdo and Etsakọ Divisions; also in parts of Ishan).

In Laver (1966), a comprehensive list is given of the "Etsakọ-speaking" peoples of Afẹmai Division. Iyẹkhee is the name these peoples call themselves and their language, and it will be used in any reference to the so-called Etsakọ language or people. There are, in Etsakọ Division, people who dọ not speak Iyẹkhee - for example the people of North Ibie clan and Okpella clan. Etsakọ as a Divisional name includes these two clans but excludes the Iyẹkhee-speaking peoples of Owan Division. Laver estimates the Iyẹkhee to be about 120,000.

* The list of North-central Ẹdo just given should, possibly, include North Ibie, Okpella (Etsakọ Division); Igwẹ, Sebe-Ogbẹ (Ọwan Division); and Ikpeshi, Atẹ, Sasaru, Enwa, Aakwọ (Akuku), and Ọsọsọ (Akoko-Ẹdo Division); but this cannot be exactly determined until more data are available.

3. North-western Ẹdo

Part of this is in Akoko-Ẹdo Division while the other part is in the Akoko Division of the Western State. The part of North-western Ẹdo in the Mid-west covers approximately the area of Akoko-Ẹdo Division.

The languages in the south of the Division - Ikpeshi, Atẹ, Sasaru, Enwa, Aakwọ (spoken at Akuku), and Ọsọsọ - may not belong here (cf. above).

The rest of the Division is inhabited by (a) The Ọkpẹ, whose main town is Ọkpẹ. An Ọkpẹ dialect is spoken in the Idesa section of Otuọ town. This is common knowledge in Otuọ. The Idesa do not feel they are Ọkpẹ. The historical evidence is that they fled to Ọkpẹ at some point to escape the wrath of the Ọba of Benin. By the time they returned, they had, as it were, exchanged their Ghotuọ language for Ọkpẹ.

It is of interest to note that the other sections of Ghotuọ corroborate this explanation. For example, some claim they fled to a village, Ipele, near Ọwọ. It seems that they managed to retain their language because the language they found at Ipele was radically different from theirs[1].

The existence of an Ọkpẹ speaking section in Ghotuọ may account for the occasional occurrence in Ghotuọ of lexical items that are clearly North-western innovations. If this is true, one can safely hypothesize that Ọkpẹ truly belongs to North-western Ẹdo.

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1. Apart from all this, Ghotuọ people sing in a language that is clearly Ora. This makes meaningful singing difficult for the younger generation. The reasons for this have not been determined and are beyond the scope of this work.

(b) The Ọkpamheri[1], who form the largest group in Akoko-Ẹdo Division. The main Ọkpamheri towns are Ibillo, Lampẹsẹ (actually 'irlakpẹsẹ'), Somorika, Ugboshi (now Igboọla-Salẹ), Ikiran (Ile and Oke), Imọga, and Ọja.

Mention must be made of Imeri (Yoruba-speaking) and Igarra (Ebira-speaking). The people of Igarra call their language Ẹtụnọ but there is no doubt that it is an Ebira (Igbirra) dialect. The town of Igarra is the administrative headquarters of Akoko-Ẹdo Division and it is completely surrounded by Ẹdo-speaking country. Kakumọ and Anyaran on the northern fringes of the Division are 'Kakumọ'-speaking. To the best of my knowledge, 'Kakumọ' has not been classified, but it is definitely not Ẹdo.

(iii) Western State

The fact that Ijagbẹ (Ijagba) and Uhọbẹ (Sọbẹ) are Ẹdo-speaking villages of Ọwọ Division, Western State, is well-known (cf. Bradbury 1957). What is not often mentioned is the existence of Ẹdo-speaking peoples in the northeastern parts of Ọwọ Division and in southwestern Akoko Division of the Western State.

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1. The name Ọkpamheri ("we are one") is political in origin. It was coined to arouse a feeling of oneness among the Ọkpamheri who felt the Igarra, aided by the Ọkpẹ, both non-Ọkpamheri, were oppressing them and depriving them of amenities and opportunities. The name is based on linguistic unity.

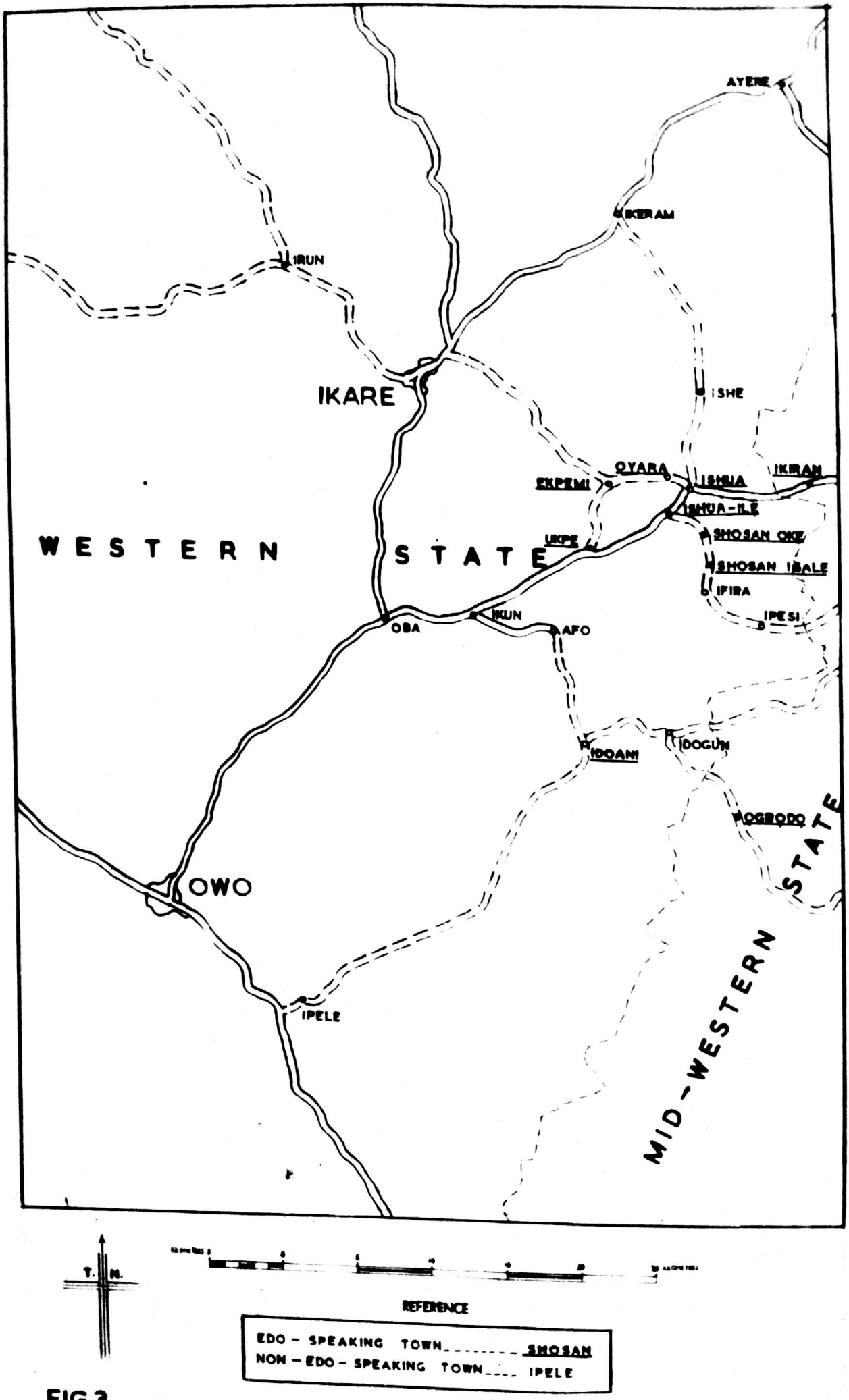

FIG.3 --- EDO-SPEAKING AREAS OF OWO AND AKOKO DIVISIONS OF WESTERN STATE.

The first clear mention of these languages is probably that of Williamson (1967). In Ọkẹ (1970, p.7) we learn that, among others, "... Epimi, Ishua ... and Ido-ani" speak "non-Yoruba mother-tongues". But:

> It has not yet been ascertained how many of these are actually different languages rather than dialects of a non-Yoruba language.

Thus this cannot be taken as an instance of an explicit mention of Ẹdo-speaking peoples in this area.

In Elugbe (1971), a more detailed but far from complete account is given of the Ẹdo languages of this area. The Ẹdo-speaking peoples of the area are the Uhami (who live in the two Ishuas, probably in Shosan, and in Ọyara); the Ehueun (who live in Ẹkpinmi (Ẹkpẹmẹn)); the Ukue (who live in a string of villages together called Ukpe or Ikpe); and the Iyayu. Iyayu and the Idoani dialect of Yoruba exist side by side in Idoani. All these are clearly shown in Fig. 3, p.28.

Other Ẹdo-speaking villages are mentioned in Ọkẹ (op. cit.). But these speak a "BINI mother-tongue" and they are:

> ... Ajagba, Akotogbo, Gbelebu and Iju-Osun, all in the Ẹsẹ-Odo District Council area of Okitipupa Division (Western State). p.15.

These, like Ijagbe and Uhọbẹ, are thus, properly speaking, of the North-central Ẹdo group. On the other hand, the languages of northern Ọwọ and southern Akoko Division will be collectively referred to in this work as the Ọssẹ

sub-group of Ẹdo. In Table 1 are given 1963 census figures for the Ọssẹ-speaking clans of Ọwọ and Akoko Divisions.

TABLE 1

POPULATION FIGURES FOR OSSE (EDO)-SPEAKING AREAS OF WESTERN STATE

Town/Village	Local/District Council	1963 Figures
Idoani (Iyayu)	Irekari	9,979*
Ukpe (Ukue)	Ukpe/Ẹkpinmi	5,702
Ekpinmi (Ehuẹun)		5,766
Ishua (Uhami)	Ishua	10,069
Shosan (Uhami?)	Ilelabọ	914
	Total	about 32,000

*This figure includes the Yoruba-speaking section of Idoani.

(iv) Kwara State

There are references in the literature to Ẹdo-speaking peoples who, reportedly, are to be found in Kabba Province of Kwara State and, more specifically, on the eastern bank of the Niger (cf. Fig. 2).

Kwara State was part of the former Northern Region of Nigeria. The creation of Kwara State has not, as far as I know, altered the geographical boundaries of Kabba Province. This means that mention of Kabba Province in the literature is immediately referable to present-day Kabba Province, unless there were boundary changes at

an earlier stage.

The first hint that some Ẹdo-speaking people may be in Kabba Province and on the eastern bank of the Niger is probably that of Temple (op. cit.). On the Ẹdo tribe in Kabba area we read (p. 249) that:

> The **Sibi**, who are also of the Ẹdo group, occupy four villages in the Kabba Division, but the majority of the tribe are situated in Southern Nigeria.

It is impossible to say at the moment who the Sibi are or what villages they occupy in Kabba Division. The Sibi (whoever they may have been) probably did not live in Igala Division of Kabba Province unless one is to interpret Division in this context to mean province. This is unlikely, however, because Temple gives an account of a different Ẹdo tribe on the eastern bank of the Niger:

> The Onemi [most likely Uneme (plural: Ineme)-BE] are a small tribe who inhabit a district between Lagos and Benin [!-BE], which they left early in the eighteenth century to escape the slave-raids of the King of Edo. They joined with another tribe, probably the Upila [again, most likely the Okpella/Ukpilla of Etsako Division of the Mid-west-BE], and crossed the Niger. They lived on roots and by hunting, but lost so many men - probably at the hands of the original inhabitants... - that they crossed the river again, but were driven out by the Filane [Fulani-BE] and finally, on the advent of the British, a section of the tribe crossed the river once more and settled in South Kabba. The tribe is, therefore, still divided. p.248.

All the facts point to the Inẹmẹ. They are known to be the most widely scattered of North Ẹdo peoples. The mention of "Upila", moreover, means that they must have crossed the river from about the position of present-day Agenegbodẹ, which is approximately opposite Idah. If this were the case, it would be understandable why Temple specifically mentioned South Kabba: Idah is in the southernmost part of Kabba Province where it makes a thin inroad down the territory on the eastern bank of the Niger.

Westermann and Bryan (op.cit.) say that "Kukuruku dialect cluster" is also spoken in "Igbira Division, Kabba Province". Unfortunately, no mention is made regarding what areas of Igbirra Division are Ẹdo-speaking.

Later, still, Bradbury (1957) notes that:

> ... the Inẹmẹ (about 6,000) who live in a number of scattered villages in the Etsakọ and North-West Ẹdo areas, ... have further settlements east of the Niger. p.13.

The clearest and most convincing evidence of all is that of Boston (1968). Boston notes that the clans in the metropolitan area of the Igala kingdom are Igala:

> ... by assimilation and not by origin. The majority of them ... are of immigrant stock, and their founders are said to have come from other tribal groups ... To a smaller extent the Ẹdo-speaking peoples across the Niger (Kukuruku) are also represented amongst these immigrant groups... p.102.

From Boston's Table 11, p.103, we gather that the place of origin of these Ẹdo-speaking peoples across the Niger is "Kukuruku" and that their tribe of origin is "Inẹlẹ". A village by the name "Inẹnẹ" is shown on the map on page 149, though no attention is drawn to it as an Ẹdo-speaking village. It may not necessarily be Ẹdo-speaking, however, because, as Boston claims, the assimilation of these immigrant groups is complete:

> They have adopted both the Igala language, and Igala forms of ceremony and ritual. p. 102.

But one of the titles held by some of the "guardians of the land" in the Igala kingdom is undoubtedly of "Kukuruku" origin:

> "Auchi of Ikelegu" p.99.

Even so, the problem remains: do these Ẹdo peoples still speak their original language, or is every trace of their origin to be found only in their oral traditions of origin? That question is likely to remain unanswered until someone with a linguistic bias conducts a first-hand investigation.

The problem also remains whether there are indeed any Ẹdo-speaking peoples in Kabba and Igbirra Divisions. Unless the boundaries between Igbirra Division and Akoko-Ẹdo Division were adjusted at some point <u>after</u> Temple (1919) and Bradbury (1957), which is very unlikely,

at least to judge by Bradbury's map, the conclusion may well be that both Temple and Bradbury are wrong in this regard. As far as is known to the present writer, there are no Ẹdo-speaking villages in either Kabba Division or Igbirra Division.

Classification of Ẹdo Languages

The Family tree

Eleven languages are investigated in this work and they form the primary basis of any claims that may be made.

In Part III of this work, reconstructions have been made to Proto-Ẹdo (PE), Proto-South Ẹdo (PSE), and Proto-North Ẹdo (PNE) levels.

As can be seen from Fig. 4, the PE node split into two: a South branch and a North branch (cf. C.S. 206 - C.S. 212 for PSE and C.S. 221 - C.S. 249 for PNE).

It would appear that after the PE split, the South Ẹdo branch quickly split up again. This would explain why there are relatively fewer innovations to support PSE than for PNE. Moreover, this early splitting of the South Ẹdo branch may explain why claims of autochthony are common among the Ẹdo-speaking peoples of the South branch (cf. the Engenni claim, p. 17 above and the Ẹrụwa claim, p. 20). Such claims are unheard of in the North.

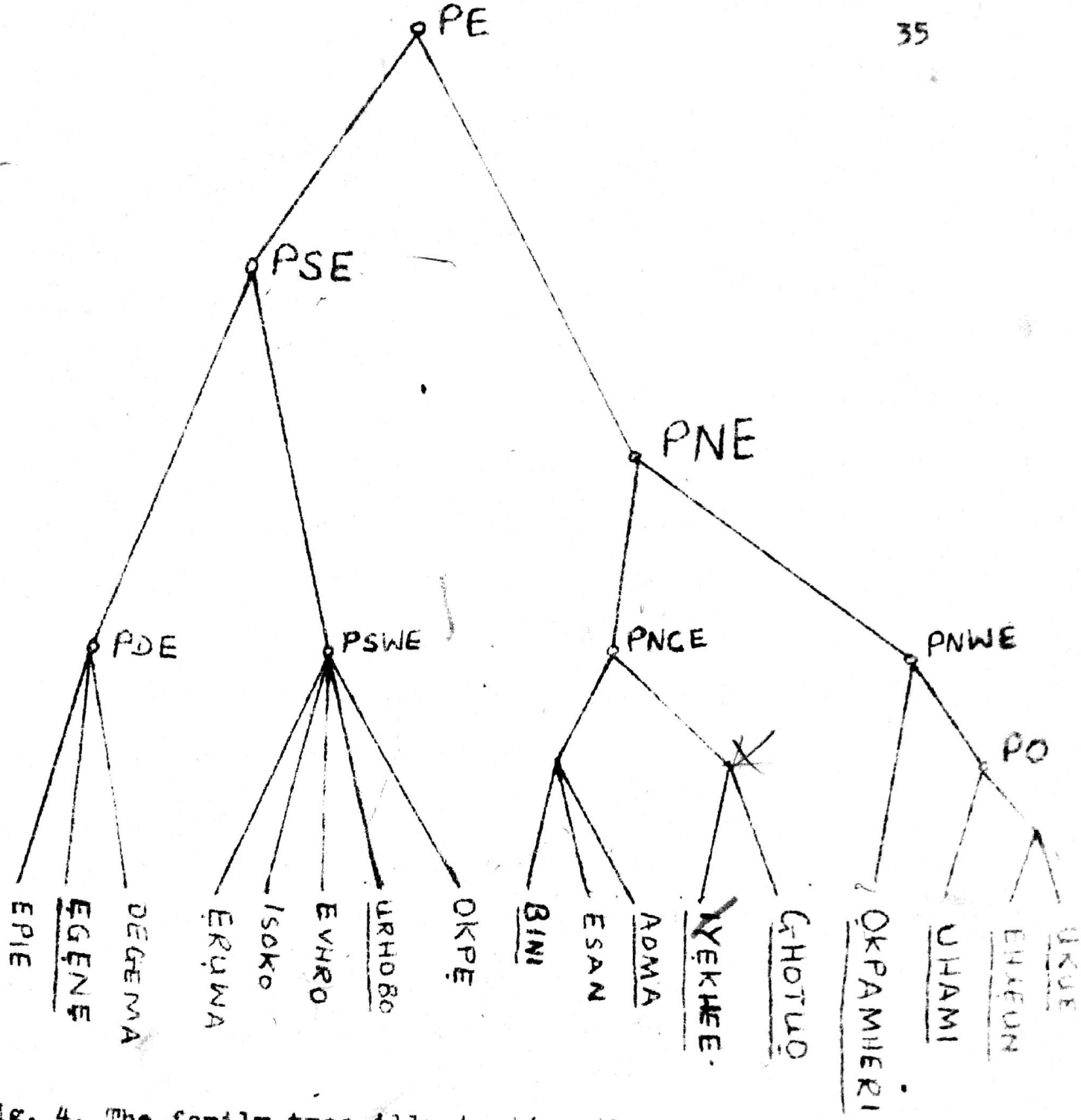

Fig. 4. The family tree illustrating the historical development of the Edo languages. Languages investigated for this work are underlined. Iyekhee is represented by two of its dialects - Auchi and Avhianwu; Okpamheri by one of its dialects - Ibilo. A number of Edo languages have been left out because their exact placing on this tree is not clear.

The South Ẹdo branch split into two: Delta and South-western Ẹdo. Although no evidence is produced here for the validity of the Delta node (only one language was taken from the Delta Ẹdo sub-group), the validity of the group is not in doubt at all (cf. Thomas and Williamson 1967). PSWE reconstructions are from C.S. 213 to C.S. 220.

The North Ẹdo branch has a more recent history; its branching is also more complex. It split into a North-central and a North-western branch. PNCE reconstructions are from C.S. 250 to C.S. 266; and PNWE reconstructions are from C.S. 267 to C.S. 274.

The North-western branch split again into two: an Ọkpamheri branch (only this is clear at the moment) and an Ọssẹ branch. Proto-Ọssẹ (PO) reconstructions are from C.S. 275 to C.S. 285.

Some nodes are recognized but unnamed below those that have been named. For example, there is an Ukue/Ehuẹun node below the PO node and the Ghotuọ-Iyẹkhee and Bini-Esan, etc. nodes below PNCE. No direct evidence is produced for these but they are, to judge from sound correspondences and vocabulary, quite valid.

Other minor nodes will probably appear while some present nodes will be found to have more branches when data are available on more of the languages. However,

the main nodes that have been postulated are quite valid from the point of view of my data.

Classification

There is overall agreement that the Ẹdo languages belong to the (eastern sub-branch of the) Kwa branch of Niger-Congo (cf. Westermann (1927); Westermann and Bryan (1952); Jescott (1962); Greenberg (1963); Voegelin and Voegelin (1964); and Williamson (1967)).

What has not always been clear is the territorial extent of the Ẹdo languages and the internal sub-groupings within Ẹdo itself. The first of these problems has been discussed above. The second will be briefly considered below and a highly tentative classification given. No claims will be made to a final solution and it is only hoped that some light will have been thrown on the issue of the classification of Ẹdo languages.

Ẹdo is classified under Kwa-languages group (g) in Westermann (op.cit.). No further details are given.[1] But according to Westermann and Bryan (op.cit.), "Bini (Edo)" consists of:

BINI	Language.
ISHAN	Dialect Cluster?

1. On page 82, however, the reader is asked to see Westermann's article 'Das Edo' in Mitteilungen des Seminars für Orientalische Sprachen XXIX. I have not been able to obtain a copy of this and no reference is made to it here.

KUKURUKU Dialect Cluster.
SOBO Dialect Cluster. p.87

Sobo is said to include "Urhobo, Isoko, Erohwa, Evhro, and Okpe", following Hubbard (op. cit.). There is no mention of Delta Ẹdo languages, or of the Ẹdo languages of Akoko Division and the northeastern parts of Ọwọ Division. The inadequacy of the writers' knowledge regarding Ishan and 'Kukuruku' is borne out by the fact that Ishan is doubtfully a dialect cluster while 'Kukuruku' is - without any question marks. There is, of course, no such language as 'Kukuruku'. The name is political in origin and was given to three Districts, each of which is now a Division. Today's Akoko-Ẹdo Division, Etsakọ Division, and Ọwan (formerly Ivbiọsakọn) Division were then a single division referred to as 'Kukuruku Division'. About the late fifties, the political leaders of the area raised such a fuss over the name that it was changed to Afẹmai (some people write Afẹnmai) Division. Afẹmai, I assume, is Afẹ 'house' plus mhai 'our', meaning 'our home', 'our land'. Later on when Akoko-Ẹdo became a Division, the name Afẹmai came to mean simply Etsakọ and Ivbiọsakọn. Even now that each of these has become a Division, the name is still frequently used by the inhabitants of the area.

Needless to say, the anger expressed by the political leaders of 'Kukuruku' over the name could not have expressed fully the ordinary citizen's hatred for and detestation of the name.

The peoples of the three Divisions speak related but different languages (cf. above). By contrast, Ishan (actually Esan) is a cluster of fairly homogeneous dialects.

The Delta Ẹdo languages are mentioned, however, by Wolff (op. cit.). Wescott (op.cit.) used the name Delta Ẹdo to refer to Yenagoa, Degema, and Engenni; it was adopted by Williamson (op. cit.) and will be used here to refer to Epie (Atisa), Dẹgẹma, and Ẹgẹnẹ (Engenni).

Greenberg (op. cit.) makes no mention of 'Delta' in his list of Kwa sub-group (e) - Ẹdo-languages. Only "Bini, Ishan, Kukuruku, Sobo" are listed.

In 1964, Voegelin classified Yoruba and Ẹdo together in a Yoruba-Ẹdo sub-branch of Kwa. This classification is not defended anywhere in the work; nor can it be defended. Yoruba and Ẹdo are sufficiently diverse to be classified differently as sub-branches of Kwa. If an Igbo sub-branch is recognized, an Ẹdo sub-branch will have to be recognized.

The first comprehensive classification of the Ẹdo languages is that of Williamson (op. cit.). Williamson divides the Ẹdo languages into:

Group 1. Delta Ẹdo

Group 2. Southern Ẹdo

Group 3. Central Ẹdo

Group 4. Northern Ẹdo

These groups contain sub-groups, the most diverse of which are those of group 4. In 1970, Professor Williamson wrote a paper (unpublished typescript) in which she gave a more detailed account of Northern Ẹdo languages. The paper is titled 'Northern Ẹdo'.

The classification that will be presented below has benefitted a great deal from Williamson (1967 and 1970). However, as will be shown below, it differs in a number of points from that of Professor Williamson. It is based, essentially, on the research carried out for this work.

Classification of Ẹdo languages

The Ẹdo group (Greenberg's group (e)) may be further sub-divided into four subgroups.

South Ẹdo { I Delta Ẹdo
II South-western Ẹdo

*North Ẹdo { III North-central Ẹdo
IV North-western Ẹdo

I Delta

1. Epie (Atisa)
2. Ẹgẹnẹ (Engenni)
3. Degema

II South-western

4(a) Okpẹ

(b) Urhobo

(c) Evhro

(d) Isoko

(e) Ẹrụwa

(a)-(e) is considered a continuum here and it is not clear what the exact internal sub-divisions are.

III North-central

5. Bini

6. Esan (Ishan)

7. Emai-Iuleha-Ora (including Ivhimiọn)

8. Iyẹkhee (including Ivhiadaobi)

9. Ghotuọ

10. Unẹmẹ

This is a list that is likely to increase (cf. p.25 above).

IV North-western

A 11. Ọkpamheri

B Ọssẹ

12. Uhami-Iyayu

13. Ukue-Ehuẹun

Note that IV A is likely to expand when more data become available. A and B are equally important branches of North-western.

Notes on the classification

This classification, which owes a lot to Professor Williamson's field notes, nevertheless differs in some aspects from her classifications of 1967 and 1970, some of which are discussed below.

(a) The inclusion of Ghotuọ in North-central (Williamson's 'Central'). This is quite legitimate, looking at the evidence available. Ghotuọ does not share the innovations in sound development that are found in North-western and though some innovations in vocabulary found in the North-western languages are found in Ghotuọ, these may have come in through the Idesa (Ọkpẹ)-speaking section of the town, or directly from Ọkpamheri, etc. Ghotuọ shares North-central innovations both of vocabulary and of sound correspondences.

(b) The creation of a large Ọkpamheri cluster which includes languages like Ọja and Ẹmarlẹ (Somorika) which are separately listed in Williamson (1967). The present classification agrees in principle with Williamson (1970) where a large Ọkpamheri group has different subgroups.

(c) The recognition of a continuum in the South-western (Williamson's 'Southern') Ẹdo area. Williamson names Urhobo, Isoko, and Ẹrụwa separately, noting that the classification of Ẹrụwa was subject to further research. Okpẹ is not mentioned apparently because it

was regarded as a dialect of Urhobo. It seems sufficiently different, however, to warrant separate mention. Evhro is also not mentioned; it is mentioned here only on the evidence of Hubbard (op. cit.).

Although Hubbard comments on the inter-relationship of the five languages, his comments cannot be taken too seriously since they are not based on any linguistic evidence. Even so, what he says may be a pointer to the sub-divisions to be expected within South-western Ẹdo. According to him (p. 139):—→

> ... Isoko, Erohwa, and Evhro resemble one another and contrast in this respect with Urhobo.

Hubbard then notes that there is some striking similarity between Urhobo and Isoko, adding that Ẹrụwa and Evhro were <u>very</u> similar though he could not say if they were one language. But Okpẹ contrasted, in his view, with the other four.

<u>On the choice of languages in this work</u>

The languages included in this work are, numbering from Delta Ẹdo northwards:

1. Ẹgẹnẹ
2. Urhobo
3. Bini
4. Aoma
5. Auchi

6. Avhianwu
7. Ghotuọ
8. Ibilo
9. Uhami
10. Ehuẹun
11. Ukue

The initial list included only:

Ẹgẹnẹ (from Delta Ẹdo)

Urhobo (from South-western Ẹdo)

Bini, Auchi, Ghotuọ } (from North-central Ẹdo)

Ibilo (from North-western Ẹdo) and

Uhami (from Ọssẹ, a sub-branch of North-western)

Thus one language was taken from Delta, one from South-western, three from North-central, and two from North-western[1].

The original list of seven was increased to eleven as time went on for various reasons. For example, because my data on Uhami were not satisfactory,

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1. At the time of picking these languages, I was working on a hypothesis that Auchi, Ghotuọ, Ibilo, and Uhami were all North-western (or what, following Williamson (1967), I called Northern) Ẹdo. Thus I thought I was taking one language from North-central and four from North-western!

a situation created by the attitude of the Uhami people to their language, I went back to Akoko Division of the Western State to take data on one of the other languages - Ehueun - at Ekpinmi. The Ekpinmi were found to be better educated and more enthusiastic about their language than their Ishua counterparts. They hoped my study of their language would reveal something of their origin which they said was of Edo. I also met a student, a native speaker of Ukue (spoken at Ukpe), at the African Church Teacher Training College, Ekpinmi, and I took four hundred items of the Ibadan wordlist from him. To this were added a few verb stems.

Avhianwu I included when, after working with an Iyekhee speaker from Fugar, I discovered the occurrence of [p] in his dialect where the Auchi have [f]. Only four hundred items were collected using the Ibadan wordlist.

Aoma was included because I had about four hundred items from an Aoma speaker from Iuleha clan of Owan Division of the Mid-west.

As can be seen from the second part of this work, little has been said beyond giving inventories of phonemes for Aoma, Avhianwu, and Ukue. The inclusion of these languages, particularly of Avhianwu and Ukue,

has been very fortunate for this work as evidenced by the tables of sound correspondences.

The languages

Ẹgẹnẹ is the name by which the Engenni people call themselves. The name is used in this work to refer to the language as well. There are three dialects of Ẹgẹnẹ corresponding roughly to the three subgroups of the clan. These are Inedua (the northern group); Ogua (the middle group); and Ediro (the southern group). My informant said there were hardly any differences between the dialects. But, according to Thomas (1969),

> The Ediro dialect differs from the other two dialects in a number of lexical items, but the grammar and phonology are almost identical. p.9.

My informant was Mr. Samuel Ofuru of Independence Hall, University of Ibadan. He comes from Okarki and speaks the Ediro dialect of Ẹgẹnẹ. The population of Okarki is given as 1,612 (1963)[1]. That of Okarki Local Council is given as 3,740. Mr. Ofuru claimed that there was mutual intelligibility between Ẹgẹnẹ and Epie. He said this was particularly true of

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1. All population figures in this work are taken from the Population census of Nigeria, 1963.

Agụdịama, Akẹnfaị, and Yẹnẹgụẹ [redacted] dialects of Epie.

Urhobo, as a language, is not as homogeneous as the literature implies. The term Urhobo (what is often written 'Sobo') has sometimes been used to include Okpẹ and Evhro. But even in its narrow sense, Urhobo is a language with many dialects. The dialect analysed here is that of Agbarho clan, very often wrongly called Agbado, Agbarhu, etc. The population of Agbarho clan is 14,925, while that of Orho, Agbarho, the village where the data on Urhobo were collected, is 2,737.

Agbarho is the central or standard dialect of Urhobo and is understood by everyone. Urhobo people whom I talked to, both from Agbarho and from Warri Township, all confirmed this[1]. My informants were Messrs. Ezekiel Ucho and Benson Eshegba, both of Local Authority School, Orho, Agbarho, via Warri.

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1. Cf. Kelly (1969) for a different view. Apart from my experience in the field, I have talked to undergraduates of the University of Ibadan who say independently and unanimously that Agbarho is the central dialect of Urhobo. They do say, however, that Agbọn clan (said to be central by Kelly's informants) speak a dialect of Urhobo which is very close to, if not virtually identical with, Agbarho - a fact that seems confirmed by Kelly's examples of Agbọn items.

Nowhere in the Ẹdo area is there as much homogeneity as in Benin City and its environs where Bini is spoken. My informant, Mr. Moses Airẹn Amayo of Balewa Hall, University of Ibadan, comes from Odighi village some thirty miles west of Benin City. He does not like the idea of my calling his Bini a dialect of Bini because, he says, there is no difference whatsoever between his Bini and that spoken in Benin City. The population of Odighi village is 1,270.

Aoma is spoken by the Aoma of Iuleha clan. The principal town of Iuleha clan is Uzebba whose inhabitants call themselves and their town Aoma. The population of Iuleha clan as a whole is 23,673. My informant was Mr. Samuel Ilẹọgbẹn, formerly of Independence Hall, University of Ibadan, Ibadan.

Auchi is spoken at Auchi. It is a dialect of Iyẹkhee, often called Etsakọ in the literature. Avhianwu is also a dialect of Iyẹkhee. Avhianwu is spoken in Fugar, Ogbona, and surrounding settlements. My informant for Auchi was Mr. Momoh Kadiri of Kuti Hall, University of Ibadan, and my informant for Avhianwu was Mr. Sunday Okomilo (20) of College Library, Anglican Grammar School, Okpella.

A comprehensive list of Iyẹkhee dialects (based on clans) is given in Laver (op. cit.). The population of Auchi is 13,599 while that of Fugar (Avhianwu clan) is 6,551.

Ghotuọ is spoken at Otuọ (often written Otwa). I am a native speaker myself although my informant was Mr. Dele Arekamhẹ, formerly of Independence Hall, University of Ibadan, Ibadan. Two languages are spoken at Otuọ: Idesa (a dialect of Ọkpẹ, seven miles away in Akoko-Ẹdo Division), and Ghotuọ. People who live around the Ọba's market in Otuọ have only to walk a couple of yards across a narrow lane to find they no longer understand the language of their fellow Ghotuọ. A dialect of Ghotuọ is spoken at Ikao. The population of Ghotuọ is 15,162 (including the minority Idesa section).

Ibilo (usually written with a double 'l') is a dialect of Ọkpamheri (cf. above, p.27). My Ibilo informant was Mr. J.T.D. Orisanaiye of Annunciation College, Irrua. The population of Ibillo is 6,764.

Uhami is spoken at both Ishua-Ilẹ and Ishua-Oke. The Ishua people told me their language is also spoken at Shosan. I could not confirm this, but

Uhami is definitely spoken at Ọyara. My informant was Mr. P.A. Longẹ of Local Authority Modern School, Ishua-Ilẹ. The population of Ishua is given as 10,069 (including Ọyara). That of Shosan is 914.

Ehuẹun is spoken at Ẹkpinmi. My informant was Mr. A.O. Rotimi of African Church Teacher Training College, Ẹkpinmi. The population of Ẹkpinmi is 5,766, while that of Ukpe (where Ukue is spoken) is given as 5,702. The four hundred-odd items I have on Ukue were taken from Mr. Benjamin Adejubẹ of the same address as Mr. Rotimi.

B. PHONETICS

Consonants

There are many consonants of phonetic interest in the Ẹdo languages. In what follows, a sound will be discussed in as much detail as is allowed by my data if the sound is of particular phonetic interest while a sound will not be discussed beyond its mere mention where such a sound is of no particular interest.

Consonants in Ẹdo languages fall into five groups; (1) stops (including affricates); (2) nasals; (3) fricatives; (4) rolls (trills), taps and laterals; and (5) approximants (including frictionless continuants and so-called semi-vowels).

As will be seen below, subgroupings exist within these groups. Features such as fortis-lenis and breathy voicing exist and are primarily responsible for the subgroupings.

Although reference may, occasionally, be made in this section to the phonological status of certain sounds, a detailed discussion of the phonological patterning of sounds is reserved for the second part (Phonology) of this work.

Investigation into the phonetic nature of these sounds was mostly auditory. Some instrumental investigation was also undertaken. The instrumental

TABLE 2

PHONETIC CHART OF CONSONANTS IN THE EDO LANGUAGES

	Bi-labial	Labio-dental	Dental	Alveolar	Post-Alveolar	Palato-Alveolar	Palatal	Velar	Labia-lized Velar	Labial-Velar	Glottal
STOPS Plosive	p b		t̪ d̪	t d			c ɟ	k g		kp gb	
lenis	b̥h							kh gh		kph gbh	
implosive	ɓ			ɗ							
affricate				ts dz		tʃ dʒ					
NASALS	m			n			ɲ	ŋ	ŋʷ	ŋm	
tap/lenis	m̥h			n̥							
br. -vd.	hm			hn							
FRICATIVES	ɸ β	f v		s z	ʃ	ʃ ʒ		x ɣ	xw ɣʷ		
br. -vd.		hv		hz		hʒ					
LATERALS				l							
tapped				l̥							
br. -vd.				hl							
ROLL/TRILL				r̥ r							
TAP				ɾ̥ ɾ							
APPROXIMANTS	ʋ	ʋ		ɹ			y			w	h
weak							yh			wh	
nasalized	ʋ̃	ʋ̃		ɹ̃			ỹ			w̃	h̃

evidence presented is not a true reflection of the instrumental work done: it is far less. This is because, at the time of undertaking the investigations, there were not many instruments in the phonetics laboratory at the University of Ibadan that were capable of turning out results that one can publish with confidence.

Evidence from other writers will be cited where necessary, either to confirm my findings or merely to show that other views exist apart from mine.

The approach here is functional. In other words, I am not concerned with the "noises" of Ẹdo languages, or with sounds in isolation; rather, I am concerned with Ẹdo sounds as seen against the background of an ultimate phonological system. The labelling and symbolization of sounds reflect this approach.

Sound symbols will not be enclosed in square brackets; all sounds are phonetically transcribed unless otherwise indicated.

1. Stops

There are a total of twenty-two stops in the languages investigated. The stops fall into three groups: plosives, affricates, and implosives. The special case of the labial-velars will also be separately discussed.

(a) Plosives

Some plosives are voiceless and others are voiced. Auditorily, the difference between the voiceless and the voiced plosives in the Ẹdo languages is that the glottis is in an open state during the closure phase of the voiceless, and in a state of voicing during the same phase of the voiced plosives. Slight aspiration was noticed with the voiceless plosives but this is nowhere significant in the Ẹdo languages.

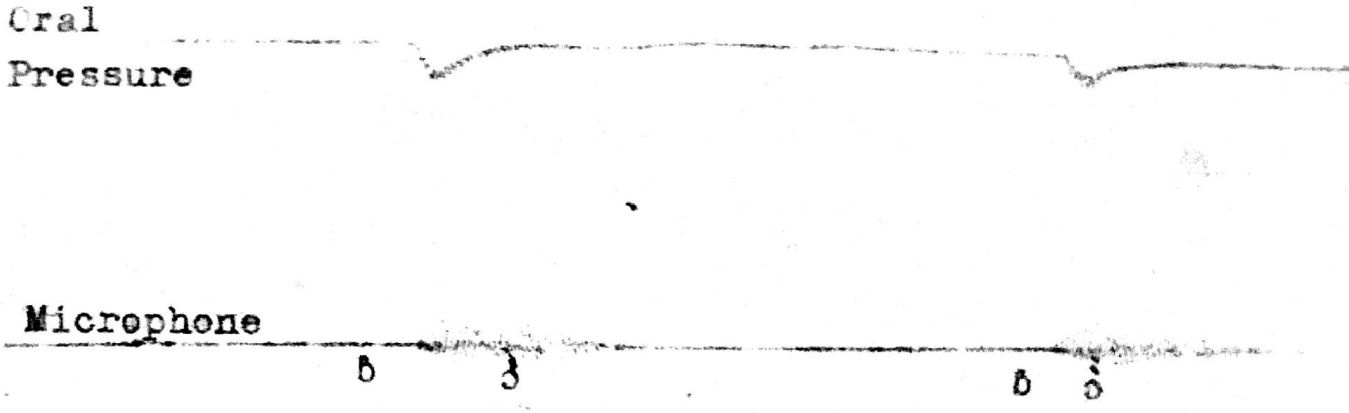
Plosives were also noted to be either strongly articulated (fortis) or weakly articulated (lenis). This feature also occurs in other manners of articulation and this is discussed below.

(b) Affricates

The difference between an affricate and an ordinary plosive is in the manner of release: gentle and gradual for the affricate, sudden for the plosive.

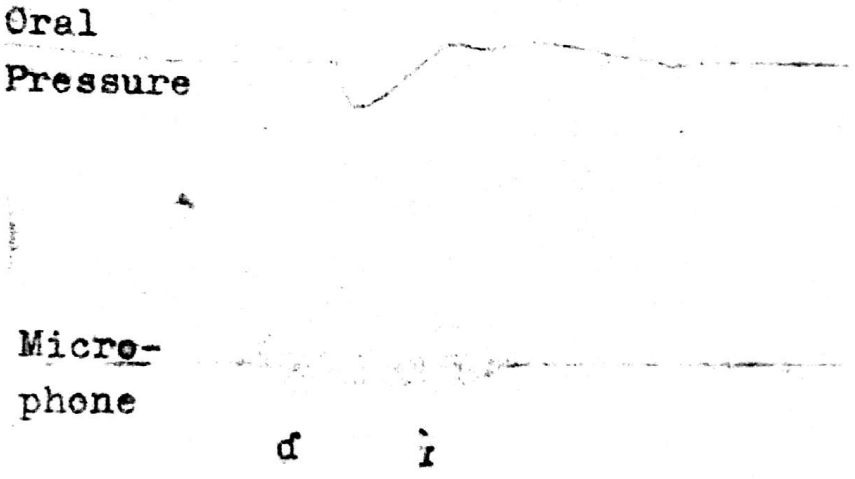
Affricates were identified at two points of articulation: the alveolar and the palato-alveolar. Hence ts and dz occur in addition to the more common tʃ and dʒ. In no Ẹdo language investigated was a contrast found between an alveolar affricate and a palato-alveolar one.

All the affricates are produced on a pulmonic egressive airstream. Phonologically, each affricate functions as a single consonant element.



S. OFURU (Ẹgẹnẹ) ɓɜ̀ 'to roof (house)' 15 Feb. 73.

Fig. 5. Oscillomink tracings of the utterance ɓɜ̀ (said two times consecutively) illustrating voicing onset relative to oral release and also negative oral pressure.



S. OFURU (Ẹgẹnẹ) dì 'to eat' 15 Feb. 73.

Fig. 6. Oscillomink tracings of dì illustrating voicing and negative oral pressure.

(c) Implosives

There are two clearly implosive sounds in the Ẹdo languages investigated. By implosive here is meant a stop sound produced on a glottalic ingressive airstream, with or without vocal cord vibration. Thus I recognize voiced as well as unvoiced implosives[1].

The two implosives are the voiced bilabial implosive ɓ, and the voiced alveolar implosive ɗ.

Oscillomink tracings of ɓ (fig. 5) reveal that it is not voiced all through. Voicing would usually coincide with the oral release or it would start a little before oral release.

In the case of ɗ, voicing constantly preceded the oral release (fig. 6)[2]. In intervocalic position, both were voiced all through (fig. 7 and fig. 8).

(d) The labial-velar stops

Generally, there are no labial-velar implosives in the Ẹdo languages investigated. However, in Thomas (1969), kp and gb are listed, along with ɓ and ɗ, as

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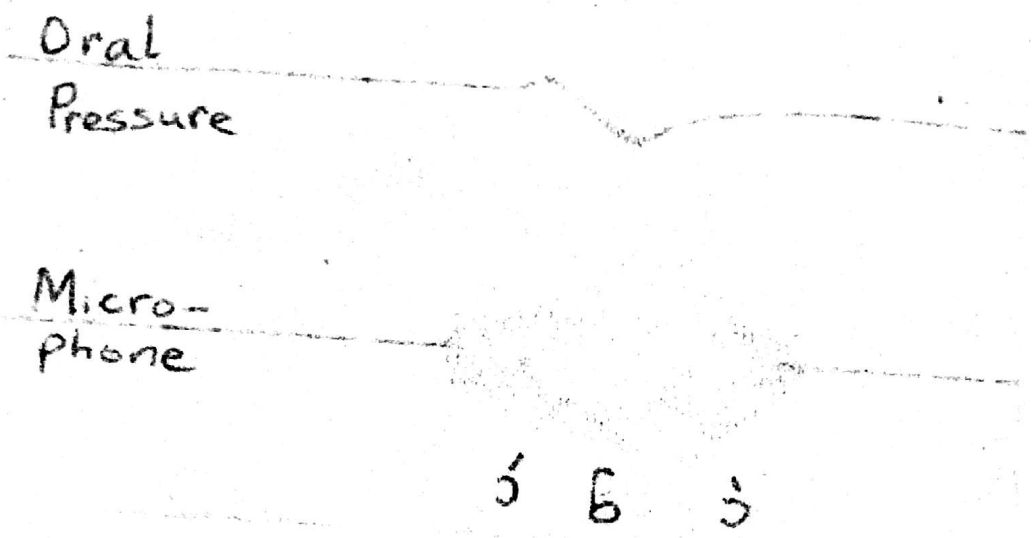
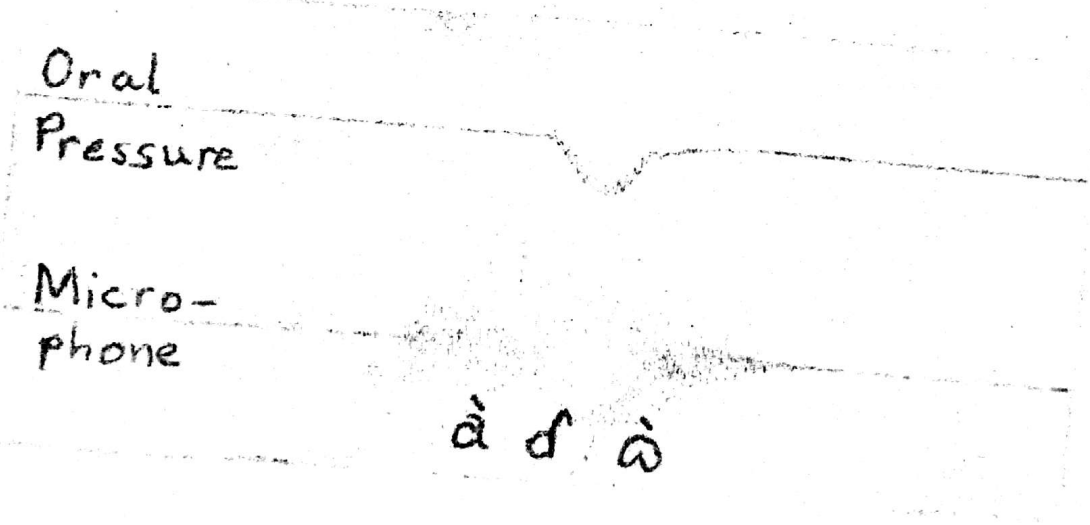
1. Though some have used the term voiceless interchangeably with unvoiced in connection with implosives (notably Greenberg, 1970), the term unvoiced will be consistently used here, the term voiceless being reserved for a sound produced with open glottis.

2. Given that these facts are true, it is difficult to explain the difference in glottal timing between ɓ and ɗ. Neither of them has an unvoiced counterpart in Ẹgẹnẹ where they occur.



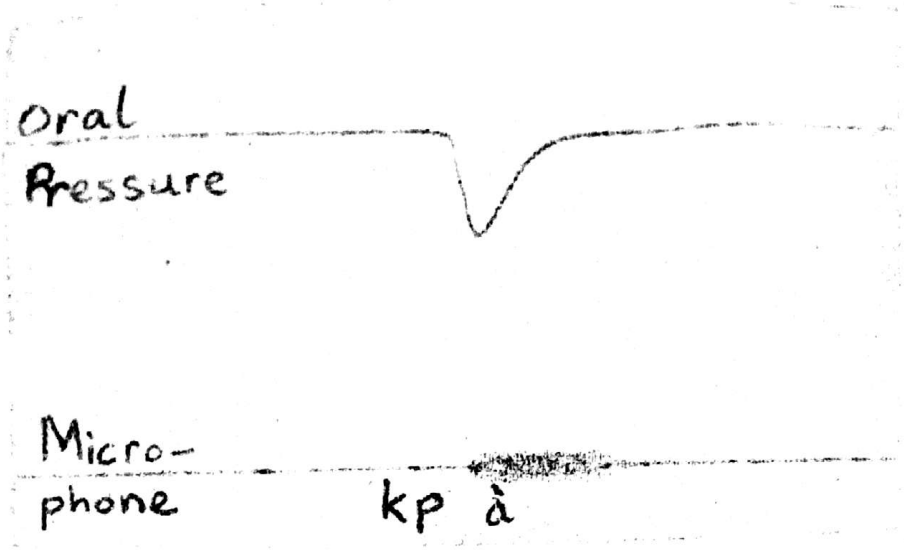
S. OFỤRU (Ẹgẹnẹ) óɓò 'hand' 15 Feb. 73.

Fig. 7. Oscillomink tracings of óɓò 'hand' illustrating complete voicing of ɓ intervocalically.



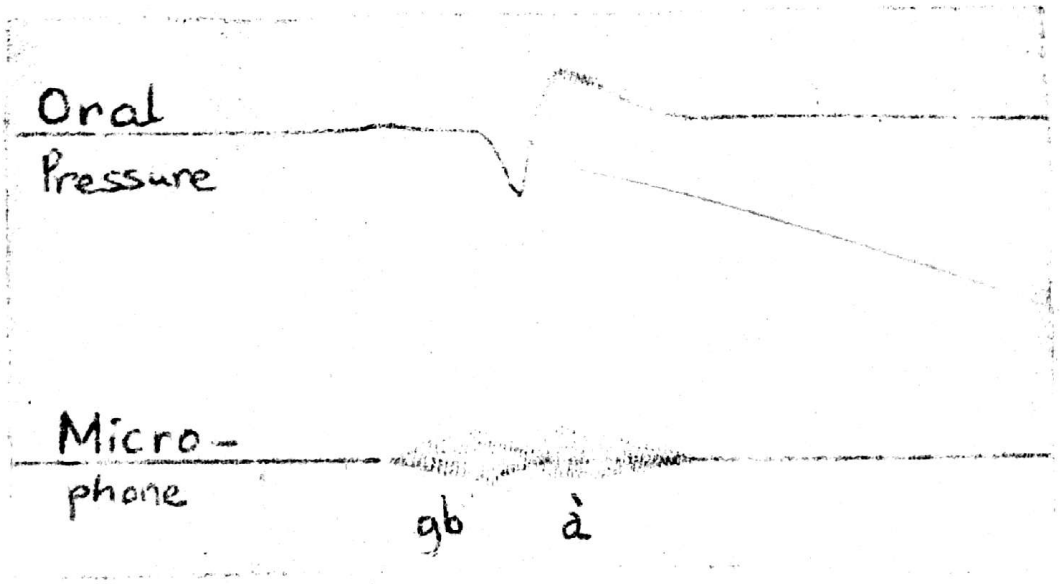
S. OFURU (Ẹgẹnẹ) àɗò 'eye' 15 Feb. 73

Fig. 8. Oscillomink tracings of àɗò 'eye' illustrating complete voicing of ɗ intervocalically.



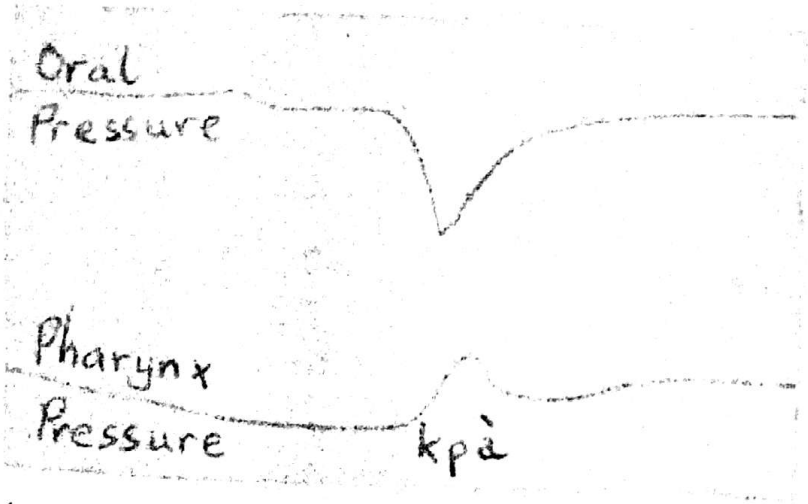
S. OFURU (Ẹgẹnẹ) kpà 'to peel (off)' 15 Feb. 73.

Fig. 9. Oscillomink tracings of kpà illustrating negative oral pressure and voicelessness.



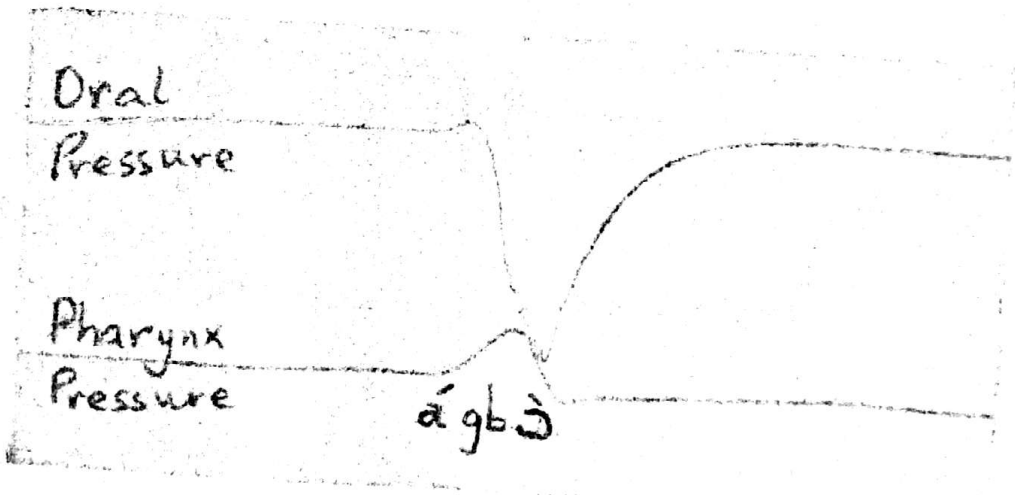
S. OFURU (Ẹgẹnẹ) gbà 'tell, report' 15 Feb. 73.

Fig. 10. Oscillomink tracings of gbà illustrating negative oral pressure and voicing.



S. OFURU (Ẹgẹnẹ) kpà 'to peel' 15 Feb. 73.

Fig. 11. Oscillomink tracings of kpà illustrating positive pharynx pressure during the production of kp.



S. OFURU (Ẹgẹnẹ) ágbò 'thigh' 15 Feb. 73.

Fig. 12. Oscillomink tracings of ágbò illustrating positive pharynx pressure during the production of gb.

implosives. This is not surprising since even I had recorded these as implosive before undertaking any instrumental investigation of these sounds.

Fig. 9 and fig. 10 also tended to confirm my earlier recording of these sounds. However, in view of fig. 11 and fig. 12 where pharyngal pressures are taken along with oral pressures, it is clear that these are not implosives but labial-velars said on a combination of airstreams: an ingressive velaric airstream, and an egressive pulmonic airstream. The former is responsible for the rarefaction in the oral chamber and the latter for the positive pressure in the pharyngal chamber.

Labial-velars in Bini are discussed in Ladefoged (1968). The labial-velars in the other languages are also likely to involve at least two airstreams. Detailed instrumental investigation will be required to ascertain this.

The fortis-lenis dimension which was mentioned in the case of plosives also occurs with the labial-velars, but only in the case of two Iyẹkhee dialects, Auchi and Avhianwu. In these two languages, the fortis-lenis pairs kp: kph and gb: gbh were found. The functional load of the lenis series of labial-velars is very low in both languages.

2. Nasals

Two states of the glottis are significant in the nasals of the Ẹdo languages: voice and breathy voice. There are thus voiced nasals as well as breathy-voiced nasals. The voiced nasals also fall into fortis and lenis sets.

Breathy-voiced nasals occur only at the labial and alveolar points of articulation. Thus the bilabial nasals m, mh, and hm occur along with the alveolar nasals n and hn.

Only Ibilo, of the languages investigated, employs this feature of breathy voicing. But breathy voicing may be a feature of Ọkpamheri, a closely related group of Northern Ẹdo languages of which Ibilo is one.

A tapped alveolar nasal, ɳ, also occurs. On the analogy of mh, this may be seen as a lenis alveolar nasal in some of the systems such as Ibilo. Hence, in the phonological sketches, this is written /nh/ where it is a phoneme.

Other nasals that occur are the voiced palatal nasal ɲ, very often a variant of y̰; and ŋ, the voiced velar nasal, which is usually labialized, giving ŋ͡w, a free variant of w̰.

The voiced labial-velar nasal ŋ͡m occurs. It is different from ŋ͡w, being produced without any lip rounding. It occurred only in Urhobo of the languages investigated.

3. Fricatives

The feature of breathy-voicing mentioned above with nasals also occurs with fricatives and, as will be seen below, with laterals. Among fricatives, it occurs at three points - the labio-dental, the alveolar, and the palato-alveolar, so that we have:

f v hv;

s z hz; and

ʃ ʒ hʒ.

This means that with reference to fricatives, three states of the glottis are significant: breath, voice, breathy voice.

The Urhobo sound ʒ is more of a post-alveolar than a palato-alveolar. This may be why it is written 'dj' in the Urhobo orthography. Although this representation also gives the impression that it is an affricate, I have it in my data as fricative. My informants usually accepted ʒ. Affricates do not normally occur in Urhobo except that tʃ and dʒ are in free variation with c and ɟ respectively.

Labialized velar fricatives xʷ and ɣʷ occur. In the case of Urhobo, occurrences of ɣʷ have been transcribed as $w^{\downarrow}$ (Ladefoged 1968). The voiced velar fricative is labialized, as I found, where it occurs before /u/ whether or not this /u/ has become non-syllabic in the surface form.

4. Rolls, Taps, and Laterals

All rolls (trills) in the Ẹdo languages are alveolar. Some are voiceless. In Bini both the voiceless and the voiced alveolar rolls occur. These are r̥ and r. r̥ also occurs in Urhobo. These rolls do not occur nasalized.

There are various types of taps in Ẹdo languages.[1] There are plain alveolar taps - voiceless and voiced. These are usually intervocalic variants of the alveolar rolls. Tapped nasals and laterals also occur.

n̥, the tapped alveolar nasal, occurs. In a system such as that of Ghotuọ, or even Ibilo, it would be sufficient to say it is the lenis alveolar nasal.

There is also the tapped alveolar lateral l̥. It would also be sufficient to call it the lenis alveolar lateral in a system that makes extensive use of the fortis-lenis distinction.

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1. See Abercrombie (1967) for a definition of 'tap', which must be clearly differentiated from 'flap'.

These two are sounds that keep puzzling investigators in the Ẹdo field. In Elugbe (1969), I noted that the sound which I transcribed as r̃ - a nasalized alveolar tap - was probably wrongly symbolized and named as, for the brief period of its duration, it involved complete closure. Though not stated at the time, I implied that a "nasalized tap" is an impossible segment. If the velum is lowered and there is complete oral closure, we have a nasal. The tapped alveolar nasal (the lenis alveolar nasal) is essentially the same as the so-called nasalized tap of Ịká.

The tapped lateral, ɺ, is the same sound that elsewhere has been described as ɾ, "a sound intermediate between r and l"[1] and "a flapped r with lateral on-glide,"[2] ɺ occurs in Urhobo, Aụchi, Ghotuọ, and Ibilo. In none of these did I find it flapped.[3] I understand, however, that a truly flapped variety of this sound exists in ideolectal variation with the tapped variant in Isoko (Mafeni, personal communication).

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1. Melzian (1937) p. xi.
2. Kelly (1969)
3. Just in case Kelly means tapped by "flapped", I would say we have observed the same phenomenon but differ as to the labelling of it.

Investigation has revealed that the movements that achieve ɺ are the same as those for l: they are only faster (i.e. more quickly executed) for ɺ. This means simply that ɺ is of shorter duration than l. Palatographic evidence reveals that the point of articulation is the same for both sounds. There is also probably greater force of articulation in the case of l.

It should be noted that even auditorily, the tapped laterals differ in length from language to language, the Urhobo one being the shortest and the Ibilo one the longest. The Auchi and Ghotuọ ones are intermediate between these two extremes.

The other type of lateral so far unmentioned is hl, the breathy-voiced alveolar lateral which occurs in Ibilo (see under Breathy voice below).

5. Approximants

The palatal and labial-velar approximants, y and w respectively, are the most common approximants in the Ẹdo languages. Their nasalized counterparts ỹ and w̃ also occur.

In Ghotuọ, weak types of these approximants, yh and wh, also occur. wh occurs in Ibilo as an allophone of its stronger, more common counterpart, w.

The spread bilabial approximant which occurs in Urhobo and Bini is peculiar. Even before back rounded vowels, the lips are observably spread for this sound, especially in Urhobo where it is more spread. In Bini, it is labio-dental before front unrounded vowels. However, the same symbol ʋ is used for all the varieties of this sound. In both Urhobo and Bini, this sound becomes nasalized before significantly nasalized vowels.

In the dialect of Bini analysed here, the tapped nasal and the tapped lateral do not occur. However, the voiced alveolar approximant ɹ occurs. It becomes nasalized before significantly nasalized vowels.

During the production of this sound, there is only a token movement of the tip of the tongue towards the teeth ridge. Even so, this sound retains a lateral quality which may mean that the egressive airstream makes its exit round the sides of the raised tongue tip. It is possible that this feeling is heightened by a depressing of the front of the tongue.

Breathy voice

Two types of phonation are linguistically significant in every Ẹdo language: breath and voice. In Ibilo, however, breathy voice is also significant.

Breathy voice involves a stricture of the vocal cords which is not as close as for normal voice. Consequently, following the (comparatively turbulent) high rate of flow of air from the lungs, the vocal cords simply "flap in the breeze" (Catford, 1964). This high rate of flow of air also results in "a notable fricative hiss" (Heffner, 1950). This means - and it has been observed in the Ibilo cases - that breathy-voiced sounds are accompanied by some amount of friction.

In Ibilo, this feature occurs in nasals, fricatives, and laterals. Thus there exist labio-dental fricatives f, v, hv; the alveolar fricatives s, hz; and the palato-alveolar fricatives ʃ, hʒ. A voiced alveolar fricative occurs in free variation with a voiced alveolar affricate dz. It is clear that three states of the glottis are distinctive (see below for contrasts).

There are no voiceless nasals and no voiceless laterals in any of the Ẹdo languages investigated. Among these two classes of sounds only voice and breathy voice are significant. The following table of

nasals and laterals is taken from Ibilo:

mh	n̥	l̥
m	n	l
hm	hn	hl

(cf. table of consonants, p. 52)

Breathy-voiced sounds in Ibilo tend to have voiced initial phases in intervocalic position. In initial position, they have a voiceless initial phase.

The examples given below are phonetically transcribed. They are examples of minimal contrasts between voicing, breathy voicing, and voicelessness.

[mɛ̀̃]	'conceive, be pregnant'
[hmɛ̀̃]	'be ripe'
[fɔ̀]	'be tired'
[vɔ̀]	'smell'
[hvɔ̀]	'behead'
[sà]	'sting'
[hzà]	'bore a hole'
[là]	'be fat'
[hlà]	'run'

Fortis-lenis

In some Ẹdo languages[1], the distinction between fortis and lenis sounds is significant. In other words apart from the distinction based on glottal activity within each type of stricture, there is also a distinction based on mode of stricture. Thus, of velar plosives in Auchi, there is not only the k : g contrast but also the k : kh contrast.

TABLE 3

CHART OF CONSONANT CONTRASTS INVOLVING A FORTIS-LENIS OPPOSITION

		Bi-labial	Alveolar	Palatal	Velar	Labial-velar
Stop	fortis	b			k g	kp gb
	lenis	bh			kh gh	kph gbh
Nasal	fortis	m	n			
	lenis	mh	n*			
Lateral	fortis		l			
	lenis		l*			
Approx.	fortis			y		w
	lenis			yh		wh

*These only by analogy within the relevant system:
n is a tapped alveolar nasal while
l is a tapped alveolar lateral.

1. cf. John Laver (1967).

Kymograph tracings taken as far back as 1970 revealed two basic differences between a fortis sound and its lenis congener: muscular tension and duration.

In terms of duration, the stop phase for a fortis plosive was generally longer than that of a lenis plosive (voiced or voiceless). The release of the fortis plosive would then be more forceful (or explosive) than that of the lenis.

In the case of nasals the difference in duration was also instrumentally measurable. The lenis bilabial nasal, mh, was clearly not as firm of articulation as its fortis counterpart. This difference is true for the alveolar nasals n : n̥ and the laterals l : l̥.

In 'Ghotuǫ, w and y (IPA[j]) differ in this respect from wh and yh respectively, the former being strong and the latter relatively weak. For example, the lip rounding accompanying w is greater than for wh. The accompanying velar approximation is also more prominent for w than for wh.

Fortis and lenis labial-velars also occur in both Auchi and Fugar. The difference in length is there but it is not clear what other differences there are or what are the articulatory correlates of these differences.

The table on p. 69 is a summary of all the fortis-lenis contrasts found in the Ẹdo languages.

Vowels

The following ten vowels were identified during the course of this investigation:

[i, ɪ, e, ɛ, a, ə, ɔ, o, o, u].

However, no Ẹdo language distinguishes more than nine oral vowel phonemes and none employs less than seven oral vowels.

Where the system is a seven-vowel one, the vowels employed are usually i, e, ɛ, a, ɔ, o, and u. An eight-vowel system such as that of Ibilo would add o, while the optimum nine-vowel system would add ɪ and o to the seven vowels already mentioned (Ẹgẹnẹ is the only example).

The half-open central unrounded vowel ə was identified only in Ẹgẹnẹ where it is an allophone of /a/.

The approximate articulatory positions of these vowels are shown on fig. 13.

Nasalized Vowels

In the Ẹdo languages investigated, nasalization of vowels may be significant or not. In other words, some of the languages have a feature of significant nasalization while it is predictable in others.

Where significant nasalization occurs, the significantly nasalized vowels tend to be lower (in terms of tongue height), and possibly more central, than their oral counterparts. For example, ẽ and õ are distinctive in Urhobo and are therefore different in the sense mentioned above from the oral e and o in the same language.

Vowels that occur after breathy-voiced consonants have breathy-voiced beginning; they are not breathy-voiced all through.

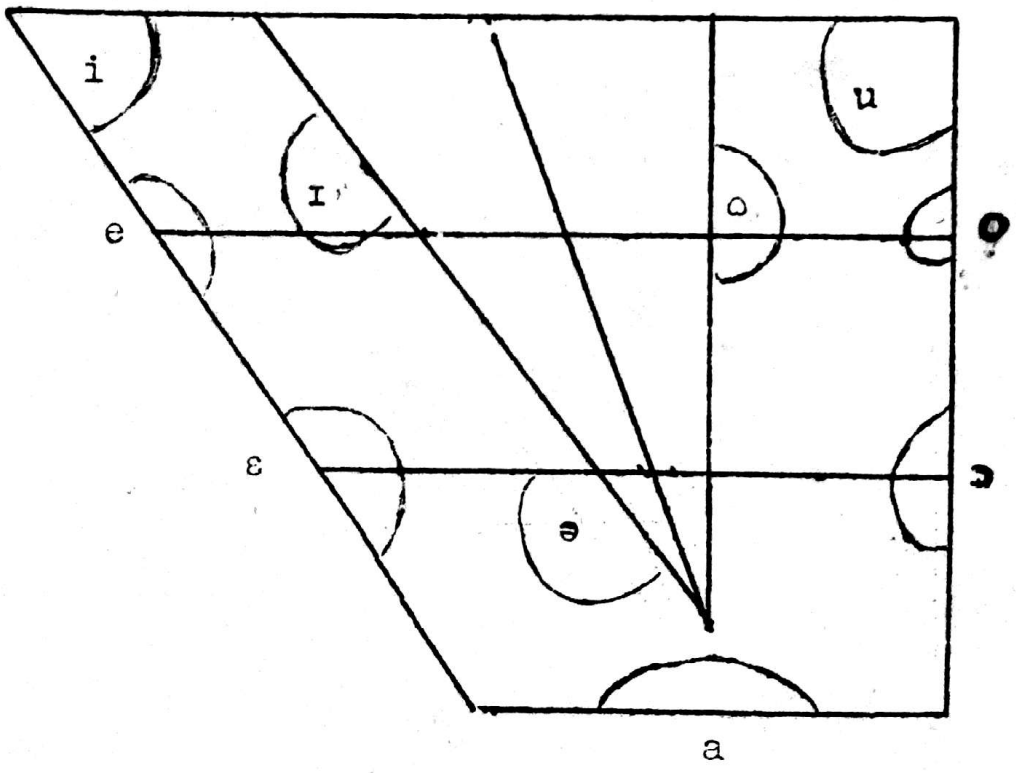


Fig.13 Approximate plotting of the vowels of the Ẹdo languages on a cardinal vowel figure.

Vowel harmony

In three of the Ẹdo languages investigated, vowel harmony is a very prominent feature. The three languages are Ẹgẹnẹ, Urhobo, and Ibilo. The feature of vowel harmony is observable in the verbal and noun systems of these languages.

In a number of the other Ẹdo languages, traces of vowel harmony are to be found in the patterning of vowels in nouns and in the way plurals are formed (cf. the different phonological sketches in the Phonology part of this work).

The two mutually exclusive sets of vowels are:

1. i, e, o, u (relatively higher set), and
2. ɪ, ɛ, a, ɔ, ɔ (relatively lower set).

No research has been undertaken by the present writer into the physiological differences between these two sets. There is no doubt, however, that tongue height for set 1 is relatively higher than for set 2. The possible involvement of tongue root retraction or advancement (cf. Stewart (1967)) is an aspect of these vowels about which nothing can be said here.

It is implied in fig. 13 that tongue height for ɪ and ɔ is higher than for e and o. This plotting is purely auditory, but it is interesting in so far as it suggests that vowel harmony in ~~these languages~~ Ẹgẹnẹ and Ibilo is of the "cross-height" type (cf. Stewart (1971)) and, therefore, of the same type as is found in Akan, Igbo, etc.

PART II: PHONOLOGY

GENERAL

Syllable Structure

The syllable structure in any Ẹdo language may be approached from two levels: the phonetic and the phonemic.

At the phonemic level, there are two types of syllable structure in any of the Ẹdo languages investigated : CV and V,[1] where C is any consonant (i.e. a syllable-initial contoid or non-syllabic vocoid) and V is any vowel (i.e. any syllabic vocoid-- there are no syllabic contoids at this level in any of the languages investigated in this work).

At the phonetic level, [C_1C_2V] syllable structures occur. The phonemic interpretation of these is given under the appropriate heading in each individual phonological sketch below. It should be noted at once that only four sounds occur at [C_2]: [ɻ], [r], [y], and [w]. The latter two, [y, w], result from glide rules: [y] from /i, ɪ / and [w] from /u, ɔ /.

[1] Cf. Odumosu (1973) who argues that in Ẹruwa (not among the languages investigated here) CCV syllable structures must be admitted at the phonemic level. Even she suggests, however, that /CCV/ syllables were probably historically developed from */CVCV/.

[ɻ] occurs at C_2 in Urhobo, but not [r] which occurs in the same C_2 position in Ẹgẹnẹ and Ukue. In both Ẹgẹnẹ and Ukue, [ɻ] does not occur. In each of the languages (Ẹgẹnẹ, Urhobo, and Ukue), a vowel is postulated between [C_1] and [C_2] for reasons given under each language. Generally, the reasons are those of limitation in distribution, predictability, and possibility of alternate pronunciations. It is of interest to note that Ẹgẹnẹ is the southernmost of the eleven languages investigated while Ukue is the northernmost.

It was noted above that there are no syllabic contoids in any of the Ẹdo languages under consideration. At the phonetic level, however, they occur. In Ẹgẹnẹ, the syllabic nasals [m̩] and [n̩] occur. For reasons given under 'Ẹgẹnẹ', these are interpreted as a nasal plus a vowel in the underlying forms.

All Ẹdo languages have nasalized vowels - [$\tilde{V}$] - at the phonetic level.

Consonant Contrasts

The chart below represents the totality of contrasts found in the eleven languages investigated. Any two consonants from the chart will be found to contrast in at least one of the languages, unless otherwise stated in the notes following the chart or in the phonological sketches.

	Labial	Dental	Alveolar	Palatal	Velar	Labial-velar
Impl.	ɓ		ɗ			
Plosive	p b	t̪ d̪	t d	c ɟ	k g	kp gb
Lenis	bh		ts dz		kh gh	kph gbh
Nasal	m		n	ɲ	ŋʷ	ŋm
Lenis	mh		n̥			
Br.-vd.	hm		hn			
Fricat.	ɸ β	f v	s z ɻ	ʃ ʒ	x ɣ	
Br.-vd.		hv	hz	hʒ		
Lateral			l			
Tapped			ɾ			
Br.-vd.			hl			
Roll			rh r			
Approx.	ʋ		ɹ	y	h	w
weak				yh		wh
Nsd.				ỹ		w̃

Labio-dental

NOTES:

ɓ and ɗ occur only in Ẹgẹnẹ.

The dental plosives occur only in Ukue.

The lenis labial-velar stops occur only in Auchi and Avhianwu (Fugar) (both dialects of Iyẹkhee).

Breathy-voiced sounds occur only in Ibilo.

Only Urhobo and Ibilo have contrasts in which palatal stops/fricatives are opposed to other non-palatal stop/fricatives. (Note that c and ɟ stand for [c], [ɟ] as well as [tʃ] and [dʒ] respectively on the chart. They are often in free variation).

Languages with the velar stops kh, gh, do not have [x] and [ɣ], whether as phonemes or as allophones.

Languages with the lenis bilabial nasal, [mh], do not have the nasalized (spread) bilabial approximant, [ṽ] (not shown on the chart).

Contrast between the bilabial and the labio-dental columns of the fricatives occurs in Urhobo, Ehuẹun, and Ukue. In Urhobo and Ukue, both f and v occur, but only one of Φ and β occurs. In Ehuẹun, however, the four, Φ , β , f, v, occur. [z] does not contrast with [dz]. Some of the languages have dz, others z. s contrasts with ts in Auchi and Ibilo.

ʃ occurs in Ukue but s does not.

[ỹ] does not contrast with [ɲ] and [w̃] does not contrast with [ŋʷ]: [ỹ] and [w̃] occur in some, [ɲ] and [ŋʷ] in other languages.

The voiced alveolar approximant (with lateral on-glide) [ɹ] occurs only in Bini while [l] occurs in a number of the other languages.

In Ghotuọ, the only language which contrasts fortis approximants with lenis ones, there is no contrast between ʋ and wh.

Analyses of Particular Sounds

Some of the sounds found in the Ẹdo languages presented difficulties of analysis. The most common were:

(i) The palatal plosives [c] and [ɟ]

(ii) The palato-alveolar fricatives [ʃ] and [ʒ]

(iii) The palatal nasal [ɲ] and

(iv) The (labialized) velar nasal [ŋʷ/ŋ].

(i) The two sounds [c] and [ɟ] have been given phonemic status in Urhobo. In Ẹgẹnẹ, they have been analyzed as allophones of /t/ and /d/ respectively.

In the others, they are allophones of /k/ and /g/ respectively. The analysis adopted depends on the facts of the particular language. Comparison with the other languages will often corroborate or, occasionally, cast doubt on such an analysis.

To take a concrete example, the item 'laugh' is recorded as follows:

[gyè]	Bini	/gia/
[gyè]	Auchi	/gia/
[ɟâ]	Ghotuọ	/gìà/
[ɟà]	Uhami	/gia/
[ɟà]	Ehuẹun	/gìà/

The phonemic transcriptions of these are written in the right column. Indeed, facts from other Ẹdo languages justify this analysis.

On the other hand, the item 'choose' is recorded as follows:

[zɛ̀]	Bini	/zɛ/
[dzɛ̀]	Auchi	/dzɛ/
[zɛ]	Ghotuo	/zɛ́/
[ɟɛ̀]	Uhami	/gia/
[ɟɛ̀]	Ehuẹun	/gìɛ̀/

It is clear from the phonemic transcription on the right that sounds which obviously developed from a common source are interpreted as though they had developed from different sources. This is of little or no consequence to the individual languages. For purposes of comparison, however, it has the effect of blurring similarities between cognate items. It is interesting from the point of view of phonemic (phonological) change in so far as it shows how re-phonemicization takes place through the adopting of one rule by some languages and the omitting of the same rule by others.

/c/ and /ɟ/ have phonemic status only in Urhobo.

(ii) The palato-alveolar fricatives [ʃ], [ʒ]

The problem here is parallel to the first - only less complex. In languages where [si] does not contrast with [ʃi], or [si] does not occur but [ʃi] occurs instead, [ʃ] is analysed as an allophone of /s/. The same applies to [ʒ]. Another consideration is distribution: the palato-alveolars hardly occur before back vowels. In Urhobo and Ibilo, they are given phonemic status.

(iii) The palatal nasal [ɲ]

This presents a problem of the same nature as the preceding two. In Bini, for example, /y/ becomes [ɲ] before a nasalized vowel. In some of the other languages, it contrasts with /y/, but is regarded as a surface realization of a base sequence /ni/; thus it is an allophone of /n/. To take a concrete example, the item for 'wine/palm wine' is recorded as:

[àɲɔ̃́]	Bini	/ayɔ̃́/
[áɲɔ̃̌]	Auchi	/ánio/
[ā̀ɲɔ̃̀]	Ghotuọ	/anìò/
[ɛ̀ɲɔ̃̀]	Uhami	/enio/

Again, the two possibilities mentioned above are exemplified though the items are cognates and clearly derived from a common source.

(iv) The (labialized) velar nasal [ŋ^{w}/ŋ]

In none of the Ẹdo languages investigated does [ŋ] occur without labialization. This is partly because it does not occur anywhere other than before [ŭ] where it is automatically labialized - [ŋ^{w}]. The problem here is again that of interpretation under

different conditions. In Bini, [ɒ^{w}] is an allophone of /w/ before nasalized vowels. In Auchi, [ɒ] is an allophone of /m/ before /u/.

Fortis-Lenis in the Consonant Contrasts

A complete chart of the fortis-lenis contrasts established in all the languages investigated has been given above (Part I, p. 69). The idea here is to mention briefly some of the cases in which there is no direct phonetic evidence for a fortis-lenis opposition but in which comparison with other languages will reveal some evidence or possibility of a former (or developing) fortis-lenis distinction. One language, Ẹgẹnẹ, is completely unrewarding in this sense and will no longer be mentioned in this summary.

There is phonetic evidence for nine pairs of contrasting fortis-lenis sounds. As mentioned above, languages which have kh and gh do not have x and ɣ. Clearly, the opposition /k-kh/, /g - gh/ parallels the opposition /k ~ x/, /g ~ ɣ/, the latter being a more recent development (cf. the postulated Proto-Ẹdo consonant system).

The /kp - kph/, /gb - gbh/ contrast occurs only in Auchi and Avhianwu and is unparalleled elsewhere.

The /m - mh/ contrast is paralleled in Urhobo and Bini by an [m - ṽ] one ([ṽ] being an allophone of /vh/), while the /n - nh/ contrast is paralleled by [n - ɾ̃] in Bini, and [n - r] in Ehuẹun and Ukue. Note that in all three languages, [n] is an allophone of /l/, in Bini, [ɾ̃] is an allophone of /rl/ ([ɹ]). It is interesting that the distribution in Urhobo with /l/ and /rl/ having [n] and [n̩] as allophones respectively before nasalized vowels is paralleled in Bini by the distribution with /l/ and /rl/ ([ɹ]) having [n] and [ɾ̃] respectively as allophones in similar environments.

The contrasting fortis-lenis pairs of glides y/yh, w/wh, occur only in Ghotuọ. In Ibilo, yh occurs but not y. In addition, both [w] and [wh] occur as allophones of /w/.

Vowels

At the phonemic level, two types of vowels are distinguished with respect to nasalization in Ẹdo languages; oral vowels and significantly nasalized vowels. Phonetically, nasalized vowels occur in all

Ẹdo languages since even oral vowels become (slightly) nasalized in positions after nasal consonants.

Predictable nasalization is not discussed here.

Not all Ẹdo languages employ significant vowel nasalization. Only five of the eleven do so. They are Urhobo, Bini, Aoma, Ehuẹun, and Ukue. Generally, /e/ and /o/ are not significantly nasalized except in Urhobo. Otherwise, the vowels regularly significantly nasalized are: [ĩ, ɛ̃, ã, ɔ̃, ũ]. This means that, at the phonemic level, Urhobo has seven nasalized vowels while Bini, Aoma, Ehuẹun, and Ukue each have five. Since all the above-mentioned languages employ systems of seven oral vowels, Urhobo has a total of fourteen vowels, Bini, Aoma, Ehuẹun, and Ukue twelve, Ẹgẹnẹ nine, Ibilo eight, and Auchi, Ghotuọ, and Uhami seven each. These facts are summarized below:

Language	Oral vowels	Nasalized vowels	Total
Ẹgẹnẹ	i,ɪ,e,ɛ,a,ɔ,o,ọ,u	———	9
Urhobo	i, e,ɛ,a,ɔ,o, u	ĩ,ẽ,ɛ̃,ã,ɔ̃,õ,ũ	14
Bini	i, e,ɛ,a,ɔ,o, u	ĩ, ɛ̃,ã,ɔ̃, ũ	12
Aoma	i, e,ɛ,a,ɔ,o, u	ĩ, ɛ̃,ã,ɔ̃, ũ	12
Auchi	i, e,ɛ,a,ɔ,o, u	———	7
Avhianwu	i, e,ɛ,a,ɔ,o, u	———	7

Languages	Oral vowels	Nasalized vowels	Total
Ghotuọ	i, e,ɛ,a,ɔ,o, u	———	7
Ibilo	i, e,ɛ,a,ɔ,o,ọ u	———	8
Uhami	i, e,ɛ,a,ɔ,o, u	———	7
Ehuẹun	i, e,ɛ,a,ɔ,o, u	ĩ, ɛ̃, ã, ɔ̃, ũ	12
Ukue	i, e,ɛ,a,ɔ,o, u	ĩ, ɛ̃, ã, ɔ̃, ũ	12

In none of these languages do significantly nasalized vowels occur in noun prefix position: this is a distributional restriction on the occurrence of significantly nasalized vowels.

Vowel Harmony

There is a feature of vowel harmony in some Ẹdo languages. Where the number of oral vowels exceeds seven, there ~~must be~~ is always vowel harmony in the verbal system: Ẹgẹnẹ and Ibilo. Only Urhobo, among those languages with seven oral vowels, has vowel harmony in the verbal system.

Even where there is no evidence of vowel harmony in the verbal system, however, there may be harmony in the patterning of vowels in nouns. This is most clearly observable where plurals are formed by alternating

the prefix vowel of the noun. Where this feature exists in the formation of plurals, it has been discussed in detail under the relevant language. These languages are: Urhobo, Auchi, Avhianwu, Ghotuo, and Ibilo. The most difficult languages in which to find evidence for the possible previous existance of vowel harmony are Uhami and Ukue.

The picture that emerges from examining the operation of vowel harmony in the different languages is the division of the vowels (disregarding details for the moment) into two harmonizing sets in which a vowel of a noun prefix is more likely to be from the same set as the vowel of the stem and the vowel of a subject/object pronoun is also more likely to be from the same set as the vowel of the verb stem than from a different set. The two sets are, roughly:

I		II	
i	u	ɪ	ɑ
e	o	ɛ	ɔ
		a	

This is a simplified picture and reference should be made to the individual languages.

Significant Nasalization and Its Influence on the Analysis

It will be suggested later that there was significant (vowel) nasalization in Proto-Ẹdo. For now, it is sufficient to recall that some Ẹdo languages employ significant nasalization (of vowels) while others do not. It will be seen from examining their consonant systems that this fact brings about phonemicization of different sorts and in different directions.

For example, in the phonemic chart of Urhobo consonants, we have /l/, /rl/ but not */n/ and */nh/. In the Ghotuọ one, by contrast, we have /l/, /rl/, /n/, and /nh/. The factor that makes the difference is the occurrence of significant nasalization in Urhobo and its absence in Ghotuọ. It is thus impossible to say in Ghotuọ that [n] occurs only before nasalized vowels. Comparison of those languages with significant vowel nasalization with those without it will reveal parallel differences in consonant charts.

Another example is with the glides. Ẹgẹnẹ has /y/, /ỹ/, /w/, and /w̃/. Urhobo has no */ỹ/ and */w̃/. Again, the occurrence of significantly nasalized vowels in Urhobo allows one to say that /y/ and /w/ become nasalized before /Ṽ/; not so in Ẹgẹnẹ where the reverse

is the case and vowels are automatically nasalized after nasal consonants.

Tone

Of the eleven languages investigated only Ghotuọ clearly contrasted three levels of tone. That of Ẹhuẹun is arguably a three-level tone system. Auchi contrasts two level tones, while the others contrast two levels plus a downstep feature. The different tone systems are discussed under the phonological sketches. The distribution of the different systems is summarized below:

(a) Two level tones, no downstep : Auchi, Avhianwu[1]

(b) Three level tones, no downstep: Ghotuọ, Ehuẹun

(c) Two tones plus downstep : Ẹgẹnẹ, Urhobo, Bini, Aoma, Ibilo, Uhami, and Ukue[2].

In Auchi, a predictable third level occurs (see below). In Ghotuọ, the three levels are not predictable and the limitations that apply to a downstep do not apply to the mid tone in Ghotuọ. In languages of group (c)

1. Laver (1969) analyses the neighbouring Aviele (Agbẹdẹ) dialect of Iyẹkhee as having a two tones plus downstep system. Cf. Stewart (1971): "As far as it is known downstep occurs in all those Kwa languages which have only two basic tone levels..." p. 184.

2. Based on lexical evidence only.

there are limitations on the third (downstep) level. After a downstepped high, every subsequent high in the same tone group is either of the same level or lower in pitch. Ẹhuẹun, which might also be considered as belonging to group (c), is analysed as a group (b) system because of the lack of limitation on the mid tone (see under Ẹhuẹun).

Another difference between the third level of group (b) and the downstep of group (c) is the fact that, in all languages of group (c), with the exception of Urhobo and Bini, only two levels are identified at the lexical level. Indeed, even in Urhobo and Bini, the third (downstep) level does not occur frequently.

It will be found that in some of the languages, on the basis of my data, automatic downstep does not occur; at least, not in the way it is in Bini where it is unmistakable.

Another minor point worth mentioning about the tones of groups (a) and (c) above is the fact that unless there is downstep, the level of the high tone is as high as the mid level of a three tone discrete level system such as Ghotuọ, Ehuẹun - or even Yoruba. Thus in the following items, tone patterns that are of identical realization are High-Low (HL) in the two-tone systems and Mid-Low (ML) in the three tone systems:

Ẹgẹnẹ	ɔ́bɔ	'hand'	[- _] HL
Ụchi	ɔ́bɔ	'hand'	[- _] HL
Ibilo	ɔ́́bɔ	'hand'	[- _] HL ; but
Ghotuọ.	ghobɔ̀	'hand'	[- _] ML
Ehuọun.	owɔ̀	'hand'	[- _] ML

The following minimal pair shows what happens when there is downstep. The example is from Urhobo:

/égbã̀/ [- _] 'a sub-branch of a bunch (of bananas/plantain)'

/é!gbã́/ [¯ -] 'jaw'

The Ẹgẹnẹ system has been analysed as a two tones plus upstep system by Thomas (1969). Arguments for the analysis here are presented under Ẹgẹnẹ below. The foregoing is a brief summary and it is necessary to refer to the individual phonological sketches below.

A Note on Verbs and Nouns

Any verb in an Ẹdo language is usually of a consonant plus vowel (CV) structure. Disyllabic verbs are of CVCV or CVV structure. In some of the languages, such as Ọma or Ghotuọ, V or VCV verbs occur through loss of initial consonants. (Cf. C.S. 18 'sleep' and C.S. 44 'eat').

A noun (many nouns are formed from verb stems) is usually of V-CV structure (the hyphen separates the

prefix from the stem). Polysyllabic nouns are of the structure V-CVCV, V-CVV, etc. In contrast to the verbs, nouns do not have initial consonants (this does not take into account the possibly epenthetic gh at the beginning of some Ghotuọ nouns).

As most nouns are disyllabic an investigation of the tone patterning on disyllabic nouns and their behaviour in the completive (noun plus noun) phrase was carried out in most of the languages. On the other hand, most verb stems were either monosyllabic or disyllabic. Unlike the nouns, the verbs are not classifiable on the basis of tone patterns. The tone of any verb depends on the context; all monosyllabic verbs would behave the same way in the same context and all disyllabic verbs would behave the same way. Hence in the comparative series tone is not marked on verb stems in any of the languages.

ẸGẸNẸ

1. Syllable Structure

An Ẹgẹnẹ syllable is either of CV or V structure. Every V carries significant pitch (tone).

Examples:

/ɗa/	'drink (wine)'	CV
/eki/	'market'	V-CV
/ówótu/	'rat'	V-CV-CV

There are two types of evidence in the data suggesting the occurrence of syllables of CCV structure. Examples will be given below and a case made for dismissing each. The first case involves [r] while the second involves [y] and [w].

(i) Cases of CrV:

[òkró] 'shoe'

[úkròmú] 'okro'

[ɛ́krà] 'star'

These cannot be cases of */C_1C_2V/. In the first place, the C_2 element in all such cases is /r/. Secondly, only velars (and very likely bilabials - no example occurs in my data) occur in C_1 position in

such syllables. And, thirdly, alternate pronunciations are possible in which vowels are restored between C_1 and C_2, especially in slow deliberate speech. The occurrence of phonetic clusters of this type must be a recent development in Ẹgẹnẹ.

Phonologically, the items above are:

/okóró/ 'shoe'

/úkuromú/ 'okra'

/ékara/ 'star'

It would appear from these three examples that the vowel to be elided must be identical with the vowel of the prefix. This is a highly speculative possibility which may be disproved by a larger corpus of data. If one considers cases where this rule should have applied but clearly did not, the possibility arises that these may be borrowed items. For example, /ukuru/ 'vagina' is [ùkùrù];

/ókoro/ 'it is short' is [ókòrò].

(ii) Cases of CyV and CwV

(a) CyV

[ùdyédirõ] 'palm wine'

[ivyèi] 'song'

[áfyà] 'room'

In the first example, we are dealing with a compound of /udi/ 'wine/beer (general)' and /édiro/ (place name). Literally, this means 'Ediro wine' or 'Ẹgẹnẹ wine'. In the other two examples, we are dealing with a similar process within a single stem: when /i/ (as in the first two examples) or / ɪ / (as in the third) are followed by non-close vowels and immediately preceded by a consonant, they become non-syllabic, yielding [y].

There are two ways of determining whether the glide [y] has come from /i/ or from / ɪ /. The first is by examining the prefix. If the prefix is /i, u, e, o/ [y] is from /i/; if the prefix is /ɛ, a, ɔ/, [y] is from / ɪ /. In verbs where there are no prefixes, the vowel immediately following the glide is sufficient clue:

[kyè] 'be under labour' /kie/

/e/ is from the /i/ set.

(b) CwV

[ɔbwákpà] 'buttocks'

[èswèì] 'axe'

[áɓwà] 'dog'

The first example above is a compound of [ɔ̀bó] (whose meaning is unclear) and [ákpà] 'faeces'. The /ʊ / in the first word has become a glide between /b/ and the following /a/. By comparison with the /i/ and /ɪ / situation, the items above are phonemically:

/ɔbɔ́ákpa/ 'buttocks'

/esuei/ 'axe'

/áɓʊa/ 'dog'

Again, the same rules apply for determining which vowel, /u/ or / ʊ /, underlies the glide [w]. All this means that there is conditioned overlapping here, [y] and [w] being assigned to different phonemes - /i/, / ɪ /, or /y/ and /u/, / ʊ /, or /w/ respectively - in different environments. Note that none of these glide rules is obligatory.

Phonetically, there are syllabic nasals in Ẹgẹnẹ. They occur only in final position. It can be predicted where they will occur; in slow speech they do not occur at all.

The syllabic nasals are two: [m̩] and [n̩]. [m̩] occurs finally where a following /u/ or /o/ becomes optionally lost. Similarly, [n̩] occurs where a final /i/ or /ɪ/ which it immediately precedes is optionally lost.

Examples: [m̩]

[ùtòm̩]	from	/utomu/	'head'
[ùɗùm̩]	from	/uɗumu/	'navel'
[ɔ̀tàm̩]	from	/ɔtamo/	'penis'
[ànàm̩]	from	/anamo/	'meat'

[n̩]

[èsèn̩]	from	/eseni/	'fish'
[ɛ̀sán̩]	from	/ɛsánɪ/	'pepper'
[ɛ̀kpàn̩]	from	/ɛkpanɪ/	'horn'

One or two facts about cases of [m̩] and [n̩] emerge:

(a) The word in which they occur must be at least <u>three</u> syllables long.

(b) The vowel to be lost must be on low tone, which is automatically transferred to the nasal now become syllabic.

The vowel of the stem preceding the syllabic nasal will usually determine which vowel has been lost: whether /i/ or /ɪ/ in the case of [n̩] or /u/ or /o/ in the case of [m̩].

2. Consonants

	ɓ		ɗ				
p	b	t	d	k	g	kp	gb
	m		n				
f	v	s	z				
			l				
			r		y		w
					ỹ		w̃

Stops

/ɓ/ is [ɓ], a voiced bilabial implosive:

/ɓɔ/, [ɓɔ̀] 'to roof'

/áɓɑa/, [áɓwà] 'dog'

/ɗ/ is [ɗ], a voiced alveolar implosive:

/ɗɪ/, [ɗɪ̀] 'eat'

/uɗumu/, [ùɗùm̩] 'navel'

/p/ is [p], a voiceless bilabial plosive

/pɪ/, [pì], 'squeeze oneself into an already crammed seat'

/apapáa/, [àpàpáà], 'groundnut'

This phoneme carries a very low functional load.

/b/ is [b], a voiced bilabial plosive:

/bi/, [bi], 'be dark, black'

/abɔra/, [àbɔ̀rà], 'blood'

/t/ is [t], a voiceless alveolar plosive. Before /i/ or /ɪ/, it is in free variation with [tʃ], a voiceless palato-alveolar affricate. If the sequence /tiV/ or /tɪV/ occurs, however, the result is always [tʃV]:

/ti/, [tì/tʃì], 'play'

/átíémɛ/, [átʃémɛ̃̀] 'my brother/sister'

/ɔtɔ/, [ɔ̀tɔ̀], 'ground'

/d/ is [d], a voiced alveolar plosive. The distribution of its allophones is parallel to that of /t/.

/di/, [dì/dʒì], 'hide, save'

/dɪɔ/, [dʒɔ̀], 'sharpen'

/édɛ/, [édɛ̀], 'river'

Note again how we may determine whether /i/ or /ɪ/ has been lost in cases such as [dʒɔ̀] : /ɔ/ is of the /ɪ/ set as shown under 'Syllable Structure' above.

/k/ is [k], a voiceless velar plosive:

/kie/, [kìè], 'be in labour'

/kɔ/, [kɔ̀], 'pluck'

/ǒkáa/, [ókáà], 'senior/elder'

/g/ is [g], a voiced velar plosive:

/ga/, [gà], 'separate'

/egi/, [ègì], 'season'

/kp/ is [kp], a voiceless labial-velar stop:

/kpɔ/, [kpɔ̀], 'tie child on the back'

/ákpa/, [ákpà], 'faeces'

/gb/ is [gb], a voiced labial-velar stop:

/gbe/, [gbè], 'go'

/gbɔ/, [gbɔ̀], 'bark (of dog)'

/agba/, [àgbà], 'jaw'

Nasals

/m/ is [m], a voiced bilabial nasal:

/ma/, [mã̀], 'mould'

/ímo/, [ímõ̀], 'children'

/udumu/, [ùdùm̩], 'navel'

For the occurrence of the syllabic nasal [m̩], see under 'Syllable Structure' p. 97 ff.

/n/ is [n], a voiced alveolar nasal:

/ne/, [nɛ̀], 'endure'

/nɔ/, [nɔ̀], 'beat'

/eseni/, [èsèn̩], 'fish'

For the occurrence of the syllabic nasal [n̩], see under 'Syllable Structure' p. 97ff.

Fricatives

/f/ is [f], a voiceless labio-dental fricative:

/fɪ/, [fɪ̀], 'be tight (of something tied)'

/fɔ/, [fɔ̀], 'be clean'

/ɛ́fa /, [ɛ́fà], 'belly, stomach'

/v/ is [v], a voiced labio-dental fricative:

/vɪɛ/, [vyɛ̀], 'cry'

/va/ , [và], 'butcher'

/ɔ́vɔ/, [ɔ́vɔ̀], 'one'

/s/ is [s], a voiceless alveolar fricative. Before /i/ or /ɪ/, it is [ʃ], a voiceless palato-alveolar fricative. A sequence /siV/ or /sɪV/ always yields [ʃV]:

/sɪ/, [ʃɪ], 'deny'

/ísioni/, [íʃòn̩], 'five'

/óso/, [ósò], 'soul'

/z/ is [z], a voiced alveolar fricative. The distribution of its allophones is parallel to that of /s/:

/zi/, [ʒì], 'bury'

/óziee/, [óʒèè], 'hunger'

/za/, [za], 'escape'

Lateral, Roll, Approximant

/l/ is [l], a voiced alveolar lateral:

/la/, [là], 'creep'

/ólo/, [ólò], 'friend'

/r/ is [r], a voiced alveolar roll. It carries a very low functional load.

/karɪ/, [kàrì], 'carve (wood)'

/dire/, [dîrè], 'cook'

/ɛ́saarᵒ/, [ɛ́sààrɔ̀], 'mosquito'

It never occurred word-initially in my data. Although this is sufficient ground for doubt as to its phonemic status, it can be established that it contrasts with /l/, /n/, /ɗ/, /t/ and /d/ in analogous environments.

/y/ is [y] (IPA [j]), a voiced palatal approximant:

/yi/, [yì], 'come'

/oyó/, [òyó], 'who?'

/ỹ/ is [ỹ], a voiced nasalized palatal approximant:

/ỹa/, [ỹà̃], 'be caught in a net'

/ỹɔᵒ/, [ỹɔ̀ɔ̃̀], 'drink (water)'

/ɛỹanɪ/, [ɛ̀ỹà̃n̩], 'neck'

/w/ is [w], a voiced labial-velar approximant:

/wɪ/, [wì], 'break (of day)'

/wu/, [wù], 'die'

/wa/, [wà], 'find (something lost)'

/owṍtu/, [ɔ̀wṍtù], 'rat'

/w̃/ is [w̃], a voiced nasalized labial velar approximant:

/w̃ɪỹɛ/, [w̃ɪ̀ỹɛ̀], 'dodge'

/w̃ɔ/, [w̃ɔ̀], 'be low (of river)'

/ɛw̃ɛɪ/, [ɛ̀w̃ɛ̀ɪ̀], 'bee'

3. Phonemic Contrasts Amplified

Note: Contrasts in the items below are not necessarily minimal.

ɓ~p~b~kp~gb~m~v

/ɓa/ 'multiply, spread (of sore)'

/apapáa/ 'groundnut'

/ba/ 'by-pass in order to avoid (someone/something)'

/kpa/ 'peel (yams, scales etc.)'

/gba/ 'search for; remove from water'

/ma/ 'mould'

/va/ 'cut animal to pieces; butcher'

ɗ~t~d~l~n

/ɗa/ 'drink (wine)'

/ta/ 'go'

/da/ 'collect (rain water)'

/la/ 'creep'

/na/ 'and'

k~g~kp~gb

/ka/ 'stop (of rain)'

/ga/ 'separate'

/kpa/ 'peel'

/gba/ 'search for'

l~r

/eɓili/ 'oil'

/ófirí!fíri/ 'darkness'

r~ɗ~t~d~n

/irií/ 'thread'

/iɗii/ 'rope'

/ediro/ 'language/place name'

/ini/ 'name'

/ti/ 'play'

m~w̃~ỹ

/mɔ/ 'bear (fruit)'

/w̃ɔ/ 'be low (of river)'

/ỹɔɑ/ 'drink (water)'

y~ỹ

/ya/ 'be in a place'

/ỹa/ 'be caught in a net (of fish, etc.)'

w~w̃

/wɪ/ 'break (of day)'

/w̃ɪỹɛ/ 'dodge'

4. Vowels

Ẹgẹnẹ has nine oral vowel phonemes. These are /i, ɪ, e, ɛ, a, ɔ, o, ɔ̰, u/. [ə] also occurs as an allophone of /a/ where /a/ occurs with any of /i, e, o, u/.

Most of these vowels contrast minimally:

/gbi/ 'knit'

/gbe/ 'go'

/gbɛ/ 'steer with paddle'

/gba/ 'search for'

/kɔ/ 'pluck'

/ko/ 'call'

/kɔ̰/ 'wrap up'

/ku/ 'fold'

/fi/ 'soak through (of water)'

/fɪ/ 'be tight'

/sɪ/ 'deny'

/sɪɛ/ 'tap (wine)'

Any of these vowels is automatically nasalized after a nasal consonant (including /ỹ/ and /w̃/).

/mi/ 'I', —— [mĩ]

/mɪɪ/ 'be cold' —— [mɪ̃ɪ̃]

/me/ 'my (possessive)' —— [mẽ]

/ma/ 'mould' —— [mã]

/mɔ/ 'bear (fruit)' —— [mɔ̃]

/uw̃oni/ 'mouth' —— [ùw̃õn̩]

/nɑ/ 'beat' —— [nɑ̃]

/mu/ 'treat sore with hot water' —— [mũ]

Allophones of /a/ occur in the following:

/ɔɓó na ɓɔ́/ 'doctor is roofing'—[ɔ̀ɓó nã̀ ɓɔ́]

/ɔɓó na dó/ 'doctor is stealing'—[ɔ̀ɓó nə̀ dó]

/abadifíéni/ 'duck' —— [àbədifyéní]

The last item is probably a compound of /aba/ and a second item. According to my informant, /aba/ means 'ostrich'; but there are clearly no ostriches in the Rivers State.

5. Vowel Harmony

The nine vowels of Ẹgẹnẹ fall into two sets of harmony. One of them, /a/, is partly neutral as will be shown below.

set I		set II	
i	u	ɪ	ʊ
e	o	ɛ	ɔ
(a)		a	

The working of vowel harmony in Ẹgẹnẹ is examined below with reference to two structures: the noun and the verb phrase (the subject pronoun plus verb stem).

(a) The Noun

Unlike some other Ẹdo languages, Ẹgẹnẹ does not form its plurals by alternating the prefix vowel of the noun. However, the patterning of vowels in nouns reveals that

(i) if a stem contains any of the vowels /i, e, o, u/, the prefix must also be from the same set;

(ii) if the stem contains any of the vowels /ɪ, ɛ, a, ɔ, ʊ/, the prefix vowel is also of the same set, except that it cannot be /ɪ/ or /ʊ/ as these two

do not occur in prefix position.

These two conditions rule out the occurrence of items such as */idʊ/, */ɪfɔ/, */ʊba/ etc.

Examples:

(i)	/utomu/	'head'
	/ebili/	'oil'
	/uɗi/	'wine/beer (general)'
	/úle/	'banana'
	/ikpu/	'grass'
	/okílolo/	'matchet'
(ii)	/aɗɛ/	'day'
	/ɛ́da/	'beans'
	/ɔmɪsɪ/	'sleep (n.)'
	/ɔ́vʊra/	'female'
	/ágbɔ/	'thigh'

It has been noted above that [ə] occurs as an allophone of /a/ where it compounds with words or stems with /i, e, o, u/. This is not common and there are only three instances in my data:

/abadifiéni/ 'duck' —— [àbə̀dìfyéní]

for a discussion of this, see above, p. 108.

/egburugba/ 'story' —— [ègbùrùgbə̀]

This is a loan from Ịjọ /egberi/ 'story' plus /gbá/ 'tell' (Kay Williamson: personal communication).

/ófau/ 'buffalo (bush cow)' —— [ófəù]

[ə] does not normally occur in stems and I can find no explanation for this example.

Exceptions

There are two exceptions noted in my data:

/ókia/ 'goat' and

/ókáa/ 'senior, elder'

These two may have arisen through the introduction of a rule preventing the occurrence of /ɒ/ in noun prefix position. Normally, in such cases, to maintain the harmony /ɒ/—› /ɔ/. Occasionally, if it became /o/, the vowel of the stem also changed, to keep the harmony. In these two cases, if /ɒ/ → /o/, the partial neutrality of /a/ would render any radical change in the stem unnecessary. C.S. 90 *ɒ-kɪɒ 'he-goat' would appear to be supporting evidence for some of the arguments here.

(b) The Verb Phrase

Within the verb phrase, the vowels pattern as shown above. When /a/ goes with set I, it is realized as [ə].

The basic elements of the verb phrase are the subject (in this case the subject pronoun) and the verb stem. Elements outside this will be mentioned only in passing except where attention is being drawn to [ə] as an allophone of /a/. While the stem vowels fall neatly into two harmony sets, it will be found that each subject position has its alternation possibilities depending on the person and number of the subject pronoun. Thus:

i ~ ɪ	:	mí	dó	'I' stole'
		mɪ́	dó	'I bought'
		mí	gbé	'I went'
		mɪ́	gɛ́	'I wrote'
		í	dó	'they stole'
		ɪ́	dó	'they bought'
u ~ o	:	bú	dó	'you stole'
		bó	dó	'you bought'

ɓú gbí 'you knitted'

ɓó ɗá 'you drank (wine)'

o ~ ɔ : ó dó 'he stole'

ó dɔ́ 'he bought'

ó gú 'he pushed'

ó gɛ́ 'he wrote'

The following subject pronouns are invariable:

/enɨ́/ 'we'

/ɓá/ 'you (pl)'

e.g. enɨ́ dɔ́ 'we bought'

ɓá dɔ́ 'you (pl.) bought'

enɨ́ gbé 'we went'

ɓá gbé 'you went'

ɓá gbí 'you knitted'

enɨ́ ɓɔ́ 'we roofed'.

Other tenses are usually formed by the introduction of certain particles that again obey the harmony rules:

si ~ sɪ (future)

ó si dó 'he will steal'

ó sɪ dɔ́ 'he will buy'.

na (present continuous)

í	na	dó	'they are stealing'	—— [í nɛ̃ dó]
í	na	dó	'they are buying'	—— [í nã dɔ́]
ɓá	na	dó	'you are stealing'	—— [ɓá nɛ̃ dó]
ɓá	na	dɔ́	'you are buying'	—— [ɓá nã dɔ́]
ení	na	dó	'we are stealing'	—— [èní nɛ̃ dó]
ení	na	dɔ́	'we are buying'	—— [èní nã dɔ́]

The vowel of /na/ is progressively assimilated to the vowel of the prefix —— i.e. the subject pronoun o ~ ɔ —— in the following examples:

ó	na dó	——>	[ó nɔ̃ dó]	'he is stealing'
ó	na gbé	——>	[ó nɔ̃ gbé]	'he is going'
ó	na dɔ́	——>	[ó nɔ̃ dɔ́]	'he is buying'

6. Tone System

Ẹgẹnẹ operates a two tone plus downstep system[1]. Phonemically, high tone is marked / ´/, downstep with

[1] Cf. Thomas (1969) who has analysed the same system as two tones plus upstep. Although her analysis is plausible, if somewhat confusing, the analysis proposed here is more in line with my data.

/ a raised exclamation mark / ! /, and low is unmarked.

Minimal pairs of lexically contrastive tone are rare. There is only one such example in my data:

/akpa/ 'bag' ——— [àkpà] (LL)

/ákpa/ 'faeces' ——— [ákpà] (HL)

Here low contrasts minimally with high.

There is apparently no automatic downstep. Thus when two highs are separated by a low, I heard both highs as equally high - i.e. of the same pitch. If my observation is correct, then this is a significant way in which this differs from other 'two tones plus downstep' systems. (Cf. 'Urhobo', 'Ibilo', and 'Auchi' for similar systems; cf. 'Bini' for a classic case of 'two tones plus downstep').

/ɔ́ gbɔdɛ́/ [- _ -] 'he swept'

/mí sɪ: gbɔ́dɛ/ [- _ - _] 'I shall sweep'

There are no lexical items (nouns) whose tone sequence is high-downstep. However, the presence of non-automatic downstep is conspicuous in the flow of speech. For example:

(i) /átíɛ́!mɛ́mɔsɪ/ [¯ ¯ - _ _] 'my brother'

(ii) /átíɛ́!mɛ́móká!ámɔsɪ/ [¯ ¯ ¯ - - - _ _ _] 'my elder brother'.

In (i), above, there is only one occurrence of (non-automatic) downstep. In (ii), there are two occurrences. In the face of evidence such as this, the postulation of a downstep feature seems more in order than an upstep feature.

What one might call an upstep feature does occur tonetically, however:

(iii) /éde nó!yíkótɪ nɛ| kó!ló mɛ/

'The man who came to court is my friend'

In the last sentence, we note that twice before a downstep a high tone is upstepped — i.e. rises above the level of the last (previous) high. The second instance (on /kó-/) is preceded by a low tone and a pause. We may explain this in terms of new high starting a new tone group and immediately followed by a downstepped high. The first case is also preceded by a low tone. But it is not clear if there is a pause preceding though /nó!yíkótɪ nɛ/ may be a dependent clause.

One way of explaining all this is to say that there is a feature of automatic upstep which does not require

to be marked at the phonological level because it is predictable:

a high tone preceded by a low tone is upstepped if it is (immediately) followed by a downstep; a high tone preceded by another high and followed by a downstep is <u>not</u> similarly upstepped.

This explains why there is no upstepping in (i) and (ii) above, whereas there is in example (iii).

Thomas (op. cit.) argues that there is automatic upstep as well as an "upstep toneme" in Ẹgẹnẹ. Of automatic upstep she says (p. 22):

> A H [high] tone is upstepped before a L [low] tone within the phonological clause but not across phonological clause boundaries.

This is clearly different from the automatic upstep mentioned above. And it suggests that Dr. Thomas' data may be different from the data on which the present analysis is based - even in tonetic terms. For the rule quoted above implies that the tonetic output of what are here simply called high-low (HL) nouns is [¯ _] and not [- _]. Thus (since she marks both types of upstep with an acute accent), 'money' is <u>ẹ́nùmà</u> (p. 194). This is tonetically [¯ _ _]. In my data, this is simply /énoma/ [- _ _].

Of "upstep toneme" she writes (p. 23):

> At certain points in the grammatical system a h [upstep] tone occurs not preceding a L tone [i.e. preceding a non-upstep high - BE.]. Therefore it is necessary to introduce into the system an upstep toneme which is phonologically not predictable.

This is ironically closer to what has been called 'automatic upstep' here since (according to the analysis here) automatic upstep occurs before a downstep and following a low tone. What is not clear from Dr. Thomas' definition is whether this upstep which occurs "not preceding a L tone" would still occur if the preceding tone were high.

Dr. Thomas' data would suggest that this is possible. Indeed, that possibility is one of the strongest cases made for upstep. A particular example is given of a high-high noun (ịgbo 'net') which became high-upstep in a particular context (p. 23):

mi do ịgbó dhẹmesè 'I wove the net bigger'

[- - - - -]... [sic!].

This example implies the occurrence of a higher high after a high and it does, assuming the pitch representation is correct, make a plausible case for 'upstep'. However, there is no such case in my data. In fact, 'automatic upstep', as defined here, precludes

the sequence [_ - ¯] (LMH) since it does not occur following a high tone, while the example just cited from Thomas (op. cit.) suggests such a sequence and is used as a case for 'upstep'.

Even so, why is it that in none of her examples illustrating the upstep toneme do we have two upstep tonemes within the same phonological clause?[1]. She herself introduces a condition that precludes this (p. 24): "Another H tone cannot be upstepped [after an upstepped high tone of either type - BE] until an actual L tone (not an elided L tone) has interposed". The example given to illustrate this strengthens existing doubts. It is reproduced in full here (p. 24):

Example: Compare the initial tone of
ifufomu in the following:

ífùfómù 'sandfly' ógbò ífùfómù 'back of a sandfly'.[2]

The suggestion is that the high tone on i of ífùfómù is not upstepped in the second case because, though it still precedes a low tone (and, therefore, ought to be upstepped), it is not preceded by an "actual low tone" but by an

1. Cf. ex. (ii), p.115 with two occurrences of downstep.
2. Note that Dr. Thomas omits elided tones from tonetic representations

elided low tone. The alternative, that a fusion of low and high in that order yielded a downstep, is apparently not considered.

In general, Dr. Thomas and the present writer are agreed on one or two points: the absence of downdrift (automatic downstep) and the presence of upstep one way or the other. It is impossible to say more than this here since (1) she worked with an informant who speaks the Inedua dialect while the present writer worked with an informant who speaks the Ediro dialect though, according to Dr. Thomas "The Ediro dialect differs from the other two [Inedua and Ogua] dialects in a number of lexical items, but the grammar and phonology are almost identical" (p. 9); (2) it must be admitted that she worked with a larger corpus of data and had the opportunity of examining Ẹgẹnẹ grammar in great detail.

The difference between Dr. Thomas' work and that here is not only one of analysis, however, but also one of data. Note, for example, her description of upstep and the way it differs from that of the present writer. Such a difference of data may be a result of the dialectal differences just mentioned above.

7. The Completive Phrase

An examination of the completive phrase (using disyllabic nouns) reveals more facts about the operation of tone in Ẹgẹnẹ. These facts also have some bearing on the issue of 'upstep' or 'downstep' in Ẹgẹnẹ. There are four noun groups (of disyllabic nouns) according to their tonal shapes:

(i) LL

(ii) LH

(iii) HL

(iv) HH

Although only one item occurred in group (ii) (among disyllabics, that is), and only this is used in the examples, the possible combinations (sixteen in all) were taken, revealing the following (disregarding elision):

(i) LL + LL —> LHLL

+ LH —> LHLH

+ HL —> LHHL

+ HH —> LHH!H

(ii) LH + LL —› LHLL
+ LH —› LHLH
+ HL —› LHHL
+ HH —› LHH!H

(iii) HL + LL —› H!HLL
+ LH —› H!HLH
+ HL —› H!HHL
+ HH —› H!HHH

(iv) HH + LL —› HHLL
+ LH —› HHLH
+ HL —› HHHL
+ HH —› HHH!H

The facts emerging from this picture show that:

(a) Nouns in the second place of the completive phrase structure are unaffected by any tonal changes — unless they happen to be HH nouns preceded by another high tone (H) when the HH becomes H!H.

Note that highs in the second place of structure, while remaining high (H), may in fact be at the level of downstepped highs, being preceded by a downstepped high. Cf. (iii) above.

(b) Of nouns in the first place of the structure, only the tone of the second syllable is changed, the initial tone remaining constant.

(c) The tonal changes occurring in the second syllable of the first noun are of the following nature:

if it is a low tone, it changes to high;

if it is high, it is unchanged.

Thus one could postulate a floating high tone that perturbs low tones to high, leaving highs unperturbed. There is a fact here suggesting the (earlier?) occurrence of automatic downstep (contrary to the suggestion above): when this floating high tone fuses with a low tone which it perturbs to high, the resulting high, if preceded by an initial high, is non-automatically downstepped.

Thus:

HL + H + LH ——› H!HLH

/ákɪ + H + owú/ ——›/á!kɪowú/ [¯ - _ -] 'pot of cotton'

The occurrence of non-automatic downstep in the combinations given also lends support to an analysis postulating two tones and downstep rather than two tones

plus upstep.

The facts in (a) - (c) above may be summarized thus:

L —› H/L — +TT

—› ꜜH/H — +TT

H —› ꜜH/TH+H —

(where T is any tone, + is plus juncture, and the floating high tone is not shown).

Examples

L L	L L	L HL L	
/ɔɓɔ	+ ɔɓɑ/	—› / ɔɓɔ́ɔɓɑ /	'hand of doctor'
H L	L H	H ꜜHL H	
/íbi	+ owú /	—› /íꜜbíowú/	'seeds of cotton'
H H	H H	H HHꜜH	
/úgú	+ ódó/	—› /úgúóꜜdó/	'mountain of mortars'.

URHOBO

1. Syllable Structure

The syllable structure of Urhobo is phonologically V or CV. Every V carries significant pitch (tone).

Examples:

V	-CV	
o	-bɔ	'hand'
ó	-ka	'maize'
ɔ	-lɛ̃́	'yam'
	ve	'to promise'

At the phonetic level there is evidence that, taken superficially, would suggest the postulation of C_1C_2V-structure syllables. A sufficiently broad or deep approach, however, reveals evidence tc the contrary.

There are two types of evidence in the data suggesting the occurrence of C_1C_2V structure: (i) items in which C_2 is a tapped lateral [ɺ] (written r in Urhobo orthography since it does not contrast with a voiced alveolar roll in the language). In such items, C_1 is either a labial consonant or a voiceless velar plosive, (ii) items in which C_2 is [y] or [w].

(i) This type of syllable structure seems, from all indications, to be a new development in the sound system of the language. It is uneconomical at this stage to set

it up as a structure at the phonological level. There are three reasons for this. The first is the limitation, both at C_1 and at C_2, of such cases. In the second place, the elided vowel can, in some cases, be restored or recovered in the pronunciation of the native speaker. Thirdly, there are cases of free variation such as

[ɛ̀kɛ́ɬɛ́] ~ [ɛ̀kɬɛ́] 'shortness'

[ɔ̀kìɬì] ~ [ɔ̀kɬì] 'he-goat'

On the basis of these two examples, we may generalize that the underlying form of a $[C_1C_2V]$ structure in Urhobo is $/C_1V_1C_2V_2/$ where V_1 is the same as V_2 and C_1 and C_2 both fulfil the conditions mentioned under (i) above. The following items are thus systematically analysed as shown below:

[ébɬɪ̀] ⟨ /ébirlì/ 'darkness'

[ìbɬɛ̀ɣè] ⟨ /iberleghe/ 'mud'

[èʊɬì] ⟨ /evhirli/ 'oil'

It would appear from these examples that the two vowels at V_1 and V_2 must also be on identical pitch.

Lending support to this analysis is the occurrence of -bi as the stem for 'dark, black' and of -vhi, -bhi as the stem for 'oil' in many other Ẹdo languages.

(ii) In these cases, [CyV] is seen as having derived from /CiV/ while [CwV] is from /CuV/. Since there is significant nasalization in Urhobo, there are cases of [Cỹṽ] and [Cw̃ṽ] that are similarly derived from /Cĩṽ/ and /Cũṽ/ respectively.

This analysis is supported by cases where the same process operates across a morpheme boundary.

/íìbí + ɔlɛ́/ 'yam seeds' ⟶ [íbyɔ́nɛ̀]

Other examples are:

/viɛ/	'cry, weep'	[vyɛ̀]
/guɔlɔ̃/	'climb'	[gwɔ̀nɔ̃̀]
/rlĩɛ̃/	'know'	[n̩ỹɛ̃̀]
/digũɛ̃/	'kneel'	[dìgw̃ɛ̃̀]

These glide rule processes are not obligatory in Urhobo.

2. Consonants

p	b			t	d	c	ɟ	k	g	kp	gb
	m										ŋm
ph		f	v	s	z	sh	zh	kh	gh		
					l						
					rl						
					rh						
	vh						-y				w

Stops

/p/ is [p], a voiceless bilabial plosive. It occurred only in one item in my data and that is probably a loan.

/ɔpia/ 'matchet' —[ɔ̀pyà]

/b/ has two allophones:

[bn][1], a partially nasally exploded [b] before $\tilde{V}$[1]:

/bũ/ 'increase' —[bǹũ̀]

[b], a voiced bilabial plosive, elsewhere:

/bi/ 'row (boat/canoe)' —[bi]

/obɔ/ 'arm' —[ɔ̀bɔ̀]

/t/ has two allophones:

[tn] before $\tilde{V}$:

/tɛ̃/ 'fade, lose prestige' —[tǹɛ̀]

[t], a voiceless alveolar plosive, elsewhere:

/ta/ 'say' —[tà]

/ɔtɔ/ 'ground' —[ɔ̀tɔ̀]

---

1. Partially nasally exploded variants will be written [Pn] where P is any plosive and n represents partial nasal plosion. Such allophones occur before significantly nasalized vowels simply written V. This is done to make typing and, therefore, reading neater and easier.

/d/ has two allophones:

[dn] before $\tilde{V}$:

/dɔ̃/ 'grow lean' — [dnɔ̀̃]

[d], a voiced alveolar plosive, elsewhere:

/du/ 'have intercourse with' — [dù]

/ɔdɛ/ 'plantain' — [ɔ̀dɛ̀]

/c/ has two allophones:

[cn] before $\tilde{V}$:

/cɔ̃/ 'defend' — [cnɔ̀̃]

[c], a voiceless palatal plosive, elsewhere:

/ca/ 'keep quiet; behave well' — [ca]

/ɛ́!cɛ́/ 'door' — [ɛ́cɛ́!]

[cn] and [c] are in free variation with [tʃn] and [tʃ] respectively. [tʃ] is a voiceless palato - alveolar affricate.

/ɟ/ has two allophones:

[ɟn] before $\tilde{V}$:

/aɟã́/ 'bat' — [àɟnã̀]

[ɟ], a voiced palatal plosive, elsewhere:

/ɟu/ 'fan; allow, let (do something)' — [ɟù]

/eɟírlo/ 'cold, (n.)' — [èɟíɻò]

[ɟn] and [ɟ] are in free variation with [dʒn] and [dʒ] respectively. [dʒ] is a voiced palato-alveolar affricate.

/k/ has two allophones:

[kn] before $\tilde{V}$:

/kɔ̃/ 'plant; move out' — [kǹɔ̃]

[k], a voiceless velar plosive, elsewhere:

/ku/ 'pour' — [kù]

/eki/ 'market' — [èkì]

/g/ has two allophones:

[gn] before $\tilde{V}$:

/gũ/ 'state a case' — [gǹũ]

[g], a voiced velar plosive, elsewhere:

/ga/ 'worship, serve' — [gà]

/égodo/ 'compound' — [égòdò]

/kp/ has two allophones:

[kpn] before $\tilde{V}$: (this is a hypothetical allophone on the analogy of /gb/; no example in my data).

[kp], a voiceless labial-velar stop, elsewhere:

/kpa/ 'vomit' — [kpà]

/ékpu/ 'bag' — [ékpù]

/gb/ has two allophones:

[gbn] before $\tilde{V}$:

/gbõ/ 'be smelling; stink' — [gbǹõ]

[gb], a voiced labial-velar stop, elsewhere:

/gba/ 'tie' — [gbà]

/ogbodú/ 'vulture' — [ògbòdú]

Nasals

/m/ is [m], a voiced bilabial nasal:

/me/	'plait (hair)'	— [mɛ̃]
/ɔmɔ́/	'child'	— [ɔmɔ̃́]

/ŋm/ is [ŋm], a voiced labial-velar (not to be confused with labialized velar) nasal; it carries a very low functional load

/ŋmi/ (usually with osho 'fear') 'be afraid, fear'-[ŋmĩ̀]

/aŋmá/	'cloth'	— [àŋmã́]

Fricatives

All fricatives are very slightly nasalized before nasalized vowels. Hence each has at least two allophones:

a slightly nasalized allophone before Ṽ, and

a non-nasalized allophone elsewhere.

/ph/ is [Φ], a voiceless bilabial fricative:

/phã/	'expand'	— [Φã̀]
/pho/	'jump'	— [Φò]
/aphíá/	'knife'	— [àΦyá]

/f/ is [f], a voiceless labio-dental fricative:

/fɔ̃/	'be neat'	— [fɔ̃̀]
/fɔ/	'be quiet'	— [fɔ̀]
/úfi/	'rope'	— [úfi]

/v/ is [v], a voiced labio-dental fricative:

/vũ/	'uproot'	— [ṽù̃]
/vo/	'fetch water'	— [vò]
/ívɛ/	'two'	— [ívɛ̀]

/s/ is [s], a voiceless alveolar fricative:

/sɛ̃/	'refuse'	— [s̃ɛ̀̃]
/se/	'call'	— [sè]
/íꜜsɔ̃́/	'faeces'	— [ísɔ̃̀ꜜ]

/z/ is [z], a voiced alveolar fricative. I have it in only one stem: /ze/ 'to make sacrifice'.

/sh/ is [ʃ], a voiceless palato-alveolar fricative. I have no examples of its occurrence before nasalized vowels.

/zh/ is [ʒ], a voiced palato-alveolar fricative. It is in free idiolectal variation with a more fronted variety [ʒ+]. It does not occur before nasalized vowels in my data.

/s, z, sh, zh/ all contrast minimally. Cf. below.

/kh/ has four allophones:

[x], a voiceless velar fricative, before /i,u/:

/utékhurlu/ 'stone' — [ùtéxùɻù]

[x̃] before /ĩ,ũ/:

/ukhokhĩ/ 'navel' — [ùhòx̃ĩ̀]

[h], a voiceless glottal fricative, before other oral vowels:

/ɔ́khɔ/ 'fowl' — [ɔ́hɔ̀]

[ɦ̃] before other nasalized vowels:

/khɔ̃rlɛ̃/ 'fight' — [ɦ̃ɔ̀ɳɛ̀]

/gh/ has four allophones:

[ŋ], a voiced velar nasal, before /ũ/:

/íghũ/ 'shirt, robe, etc.' — [íŋwù̃]

[ɣ̃] before other nasalized vowels:

/ghɔ̃/ 'be stiff' — [ɣ̃ɔ̀]

[ɣ^{w}], a voiced labialized velar fricative, before /u/:

/ghu/ 'die' — [ɣ^{w}ù]

[ɣ], a voiced velar fricative, elsewhere:

/ghalɛ/ 'divide, share out' — [ɣàlɛ̀]

<u>Lateral, Roll, Approximant</u>

/l/ has two allophones:

[n], a voiced alveolar nasal, before Ṽ:

/lɛ̃/ 'defecate' — [nɛ̀]

/lɔ̃/ 'ask' — [nɔ̀]

[l], a voiced alveolar lateral, elsewhere:

/lɔ/ 'grind' — [lɔ̀]

/ólá!lɔ́/ 'grinding stone' — [ólálɔ́]

/rl/ has two allophones:

[ɳ], a tapped alveolar nasal, before Ṽ:

/rlã/ 'creep' — [ɳà̃]

[ɺ], a tapped alveolar lateral, elsewhere:

/rla/ 'go' — [ɺà]

/írlúó/ 'work' — [íɺwó]

/rh/ is [ɽ], a voiceless alveolar roll. It is not nasalized before nasalized vowels:

/rhõ/ 'to warm(again)' — [ɽ̥õ]

/rhɔ/ 'to survive' — [ɽ̥ɔ̀]

/orhíé/ 'river' — [òɽ̥yé]

/vh/ has two allophones:

[ṽ], before Ṽ:

/duvhũ/ 'pound' —[dṵ̃ṽṵ̀]

[ʋ], a voiced spread bilabial approximant, elsewhere:

/vhɔ/ 'carry' — [ʋɔ̀]

/ɛvhe/ 'goat' — [ɛ̀ʋè]

/y/ has two allophones:

[ỹ], before Ṽ:

/yã/ 'walk, go' — [ỹà̃]

[y], a voiced palatal approximant, elsewhere:

/ya/ 'write' — [yà]

/oyóma/ 'good' — [òyómà̃]

/w/ has two allophones:

[w̃], before ṽ:

/wɛ̃/ 'breathe' — [w̃ɛ̃]

[w], a voiced labial-velar approximant, elsewhere:

/wɛ/ 'you(sg.)' — [wɛ̀]

/owó/ 'stew' — [òwó]

There is neutralization of contrast between /gh/ and /w/ before /u/. Since there is friction in such items where either /gh/ or /w/ would be plausible, it is better to say that /w/ does not occur before /u/.

Cf. p.133 above.

3. Consonant Contrasts Further Exemplified

b ~ gb ~ kp ~ m ~ f ~ v ~ vh

/ɔbe/ 'leaf'

/gbe/ 'tell(story)'

/ukpe/ 'year'

/me/ 'plait(hair)'

/fe/ 'be rich'

/ve/ 'to promise'

/ɛvhe/ 'goat'

b ~ ph ~ f ~ v

/ɔbo/ 'native doctor'

/pho/ 'jump'

/fo/ 'fit; be fitting'

/vo/ 'fetch (water)'

t ~ d ~ c ~ ɟ ~ k ~ g ~ kh ~ gh

/tu/ 'summon'

/du/ 'take (woman) to bed'

/curlu/ 'tie'

/ɟu/ 'to fan; allow, let (do something)'

/ku/ 'pour'

/guɔlɔ̃/ 'like; look for'

/utékhurlu/ 'iron, metal'

/ghu/ 'die'

s ~ z ~ sh ~ zh

/se/ 'call'

/ze/ 'make sacrifice' ~~promise~~

/she/ 'cut'

/zhe/ 'like'

sh ~ zh ~ kh ~ gh ~ y ~ w

/sha/ 'break'

/zha/ 'suffer'

/kha/ 'play'

/gharlɛ/ 'divide, share out'

/ya/ 'write'

/owá/ 'load'

m ~ ŋm

/mi/ 'wring (clothes)'

/ŋmi/ 'be afraid'

l ~ rl ~ rh

/la/ 'run'

/lã/ 'to be'

/rla/ 'go'

/rlã/ 'creep'

/rha/ 'fly'

4. Vowels

There are seven oral vowel and seven nasalized vowel phonemes in Urhobo: /i, e, ɛ, a, ɔ, o, u/ and /ĩ, ẽ, ɛ̃, ã, ɔ̃, õ, ũ/ respectively.

The seven oral vowels contrast minimally:

/rhi/ 'be destined'

/rhe/ 'arrive'

/rhɛ/ 'wash (e.g. child)'

/rha/ 'fly'

/rhɔ/ 'survive'

/rho/ 'boil (in preparation for frying)'

/rhu/ 'cluster together'

There is a vowel, [ɑ], which occurs only in two items:

[ɔ́vɑ̀] 'one'

[ɔ̀sɑ̀] 'hawk'

This may be evidence that we are dealing with a system simplified from a nine vowel system which included */ɪ/ and */ɔ/. For a discussion of this point, see Part III of this work.

The nasalized vowels are less frequent in occurrence than their oral counterparts, /ẽ/ and /õ/ are particularly rare. In some cases, their status as phonemes rests on the analysis of [n] and [n̩] as allophones of /l/ and /rl/ respectively. Elsewhere, the evidence is clear:

/gbõ/	'to smell, stink'	— [gbnõ̀]
/fũẽ/	'heal'	— [fũ̀ẽ̀]
/yõ/	'hear'	— [ỹõ̀]
/úwẽ́/	'mosquito'	— [ú̃ẃẽ́]

As further evidence of significant nasalization in Urhobo (i.e. in some other dialects) one should mention the Agbọn dialect as analysed by Kelly (1969). Kelly does not have nasalized vowel phonemes on his chart (p. 156) but rather sets up a feature of nasality (p. 155). Kelly remarks that [l] and [n] are in free variation (a direct consequence of his analysis). In the analysis followed here, [n] is an allophone of /l/.

In the Ẹku dialect, nasal vowels are in free variation with oral ones in some items (Welmers: 1969).

Further examples of stems with nasalized vowels:

/lĩ/	'look'	— [nì̃]
/lẽ/	'defecate'	— [nè̃]
/lɛ̃/	'to pet (e.g. wife)'	— [nɛ̀̃]
/lã/	'to be (e.g. in a place)'	- [nà̃]
/dɔ̃/	'grow lean'	— [dnɔ̀̃]
/gbõ/	'smell, stink'	— [gbnõ̀]
/bũ/	'increase'	— [bnũ̀]

The nasalized vowels usually seem, auditorily at least, to be lower in terms of tongue height than their oral counterparts. This is particularly noticeable in the case of /ẽ/ and /õ/.

5. Vowel Harmony

Vowel harmony will be discussed in relation to nouns as well as the verb stem. Vowel harmony in the noun is less rigid than vowel harmony in the verbal system.

(i) The Noun

The main issue involved in the discussion of vowel patterning[1] (I prefer the term 'patterning' as

1. Following Kelly (1969a). Kelly may not have used the term in the same sense as it is used here.

being less technical and implying less rigidity) is the formation of the plural by alternating the prefix vowel of the noun. Urhobo noun stems are generally -CV(...) and every noun starts with a vowel.

The vowels of the stem divide into two sets: /i, e, o, u/ and /ɛ, a, ɔ/. The alternation, which effects the change to the plural through the changing of the prefix vowel, is conditioned by the stem.

For purposes of exposition, we call the /i, e, o, u/ set the raised (the R-set) and the /ɛ, a, ɔ/ set the lowered set (the L-set). -CR means that a particular stem contains i, e, o, or u. -CL means it has ɛ, a, or ɔ Since the seven oral vowels each have nasalized counterparts which pattern exactly like their oral counterparts, R includes /ĩ, ẽ, õ, ũ/ and L includes /ɛ̃, ã, ɔ̃/. There are no significantly nasalized vowels in the prefix position.

The prefix vowel alternations are summarized informally below. A symbol on the left changes to that on the right in the plural form. Exceptions are disregarded for the moment:

1. i, u are replaced by i in the plural:

$$\left.\begin{matrix} i \\ u \end{matrix}\right\} \longrightarrow i$$

2. e, o, are replaced by i if the stem is -CR, and e if -CL:

e, o ——› i/__CR
e/__CL

3. ɛ, a, ɔ, are replaced by e in the plural:

ɛ, a, ɔ ——› e

From 1:	/isha!gó/	› /isha!gó/	'calabashes'
	/úrhé/	› /írhé/	'trees'
	/ulũ/	› /ilũ/	'holes'
From 2:	/erhu/	› /irhu/	'caps, hats'
	/obele/	› /ibele/	'baskets'
	/ésha/	› /ésha/	'beans'
	/óshó/	› /éshó/	'penises'
	/erhũɛ̃/	› /irhũɛ̃/	'cows (zebu)'
From 3:	/ɛdɛ/	› /edɛ/	'days'
	/aɟã́/	› /eɟã́/	'bats'
	/ɔ́ka/	› /éka/	'maize'

There are a few exceptions to the rules above; there are two exceptions to rule 2 and three exceptions to rule 3. In the two exceptions to 2, o —›a where /e/ is expected:

/owɔ/ ⟩ /awɔ/ 'legs'

/obɔ/ ⟩ /abɔ/ 'hands'

The exceptions to 3 are those in which a, ɔ —⟩ɛ instead of the expected /e/:

/aphíá/ ⟩ /ɛphíá/ 'knives'

/agada/ ⟩ /ɛgada/ 'matchets'

/asõ/ ⟩ /ɛsõ/ 'nights'

/ɔbe/ ⟩ /ɛbe/ 'leaves'

It is important to note that although it is generally easy to predict the plural form of a noun, given the singular form, there are virtually no restrictions on vowel co-occurrence between prefix and stem. Thus there are many examples of a -CR stem with a prefix vowel from the L-set and vice versa:

/íɪsɔ̃́/ 'faeces'

/úshao/ 'okra'

/eyã/ 'saliva'

/orhɔ/ 'ear'

/ɛvhe/ 'kola nut'

/ɔbe/ 'leaf'

/aphópho/ 'wind'

/ɔrlĩ/ 'sun'

/asõ/ 'night'

In all these examples, there is crisscrossing of the two sets. In spite of this, however, there is a great regularity in the formation of plurals as shown by the rules given above.

Some nouns simply have no plural forms; for example:

/aphópho/	'wind'
/ɔrlĩ/	'sun'
/eki/	'market'

These are items which have no plural forms structurally and semantically.

By contrast, the following items have shapes that ordinarily are plural:

/í!sɔ̃́/	'faeces'
/ibí/	'charcoal'
/isha!gó/	'calabash'
/ésha/	'beans'

While one may argue that 'faeces', 'charcoal', and 'beans' are mass nouns and should be considered as being in the plural, the same thing cannot be said for 'calabash'. The question here is whether to use structural or semantic observations in determining the status of cases such as these. In other words, are we to conclude that these are already plural (i.e. they have no known

singular forms) or that they do have singular forms that happen to be identical with their plural forms? Either solution will be compatible with the data.

In the formation of plurals, there is one case of suppletion: /aye/ 'woman' > /eya/ 'women'.

(ii) The Verb

For purposes of exposition, the vowels of Urhobo are divided (as above) into two sets: an R-set and an L-set. These are now called sets 1 and 2 respectively:

set 1		set 2	
ɪ̃ i	ũ u	(ẽ e)	õ ɔ
(ɵ̃ e)	õ o	ɛ̃ ɛ	ã a

The arrangement of the two sets is not meant to reflect corresponding alternations. /e/ is placed in brackets because it may go with either set, depending on the part of the verb phrase we are dealing with. The parts of the verb phrase to be discussed are the prefix (the pronominal subject, whether monosyllabic or otherwise; the stem; and the extension (the pronominal object). Some harmonizing particles will also be mentioned.

Harmony affects virtually all pronoun subjects (see later for reservation), although the choice varies from person to person. In the pronoun subject position,

there are three cases of a raised versus lowered alternation:

/i/ ~ /e/

mi í se	'I am calling'
me é ta	'I am saying'

/e/ ~ /a/

e é se	'They (indefinite) are calling'
e é gũ	'They (indefinite) are stating (a case)'
a á dɛ	'They (indefinite) are buying'

/o/ ~ /ɔ/

wo ó fi	'you (sg.) are throwing (mud)'
o ó lĩ	'he is looking'
wɔ ɔ́ kɔ̃	'you are planting'
ɔ ɔ́ dɛ	'he is buying'

These examples show that, in the prefix position, /e/ goes with set 1 as well as set 2.

In the stem, however, /e/ behaves consistently as a set 1 vowel (cf. the examples above). This means that /e/ is basically a vowel of set 1 - the raised set.

In the pronoun object position, which is always <u>after</u> the verb stem, there is only one form of alternation: /e/ ~ /ɛ/:

e	sé	vhé	'they (indefinite) call me - I am called'
a	dɛ́	vhɛ́	'I am bought'
e	sé	wé	'You (sg.) are called'
a	dɛ́	wɛ́	'You are bought'
e	sé	rlé	'he is called'
a	dɛ́	rlɛ́	'it is bought'
e	sé	avhárlẽ	'we are called'
a	dɛ́	avhárlɛ̃	'we are bought'
e	sé	ovhãã́	'you (pl.) are called'
a	dɛ́	ovhãã́	'you are bought'
e	sé	ayẽ	'they are called'
a	dɛ́	ayɛ̃	'they are bought'

Note that in the plural pronominal object forms, /o/ and /a/ are invariable. Even in subject (prefix) position, /a/ is invariable in these plural forms; but note the /ĩ/ ~ /ẽ/ and /i/ ~ /e/ alternation:

avhárlĩ	í	se	'we are calling'
avhárlẽ	é	dɛ	'we are buying'
vhãã	á	se	'you are calling'
vhãã	á	dɛ	'you are buying'
ayĩ	í	se	'they are calling'
ayẽ	é	dɛ	'they are buying'

Some aspectual particles harmonize while others are invariable no matter to which set the vowel of the stem belongs.

The preverbal ce/ca marks the future:

mi cé se 'I shall call'

me cá dɛ 'I shall buy'

The postverbal rli/rle is the past tense marker:

mi sé rli 'I called'

me dɛ́ rle 'I bought'

If the verb phrase includes an object (which also always comes after the verb), the past tense marker is dropped. For example:

mi sé we 'I called you'

me gá wɛ 'I served you'

me dɛ́ ibí 'I bought charcoal'

As mentioned earlier, Urhobo is the only language, among those which operate seven-vowel systems, which has a feature of vowel harmony in the verb phrase. It is of interest to note that vowel harmony in Urhobo is in a transitory stage. For example, as seen above, the vowel /e/, as a prefix

vowel, belongs to the lower set. As a stem vowel, it belongs to the higher set. As for /a/, it is neutral in all positions but the stem where it behaves as a vowel of the lower set.

The behaviour of the nasalized vowels is also of interest: /ẽ/ and /õ/ occur (see above) and behave exactly as their oral counterparts!

All this suggests a system only recently reduced from (possibly (see Part III)) a nine-vowel system. It also suggests that, as with the other seven-vowel systems, vowel harmony may soon cease to be operational in Urhobo.

6. Tone

The essence of the tonal system of Urhobo seems to have been properly understood by Welmers (op. cit). Analysing the Ẹku dialect, Welmers noted that there were two significant levels. One point he left open because he was not quite clear on it: whether or not a third level (non-automatic downstep) existed. As far as

Welmers could see, only at the end of utterances was there a third level that was heard as downstep. This always turned out to be a low tone that had been upstepped. But Welmers himself had already suspected that some other Urhobo dialects would employ the feature of (non-automatic) downstep more widely. The Agbarho dialect of Urhobo is one such dialect.

The tone system of the Agbarho dialect is two tones plus downstep. Even in this dialect, however, (non-automatic) downstep is not a frequent occurrence and there is no downstepping of successive highs by intervening lows.[1]

Pairs of items which are tonally minimally distinct are not many:

/óshɔ́/	[˗˗]	'penis'
/oshɔ/	[__]	'fear (n.)'
/ukpé/	[_˗]	'bedroom'
/ukpe/	[__]	'year'

1. Apparently, the latter observation is also true for the Ẹ̀ku dialect or Welmers would not have said that "... the phenomenon of 'terracing'... within a phrase is not found." p.88.

In the Agbarho dialect as in the Ẹku dialect, a final low tone immediately preceded by a high tone is upstepped. This is predictable and does not require to be indicated in phonemic transcriptions of the language. In disyllabic nouns, this has the effect of blurring the distinction between high-low and high-downstep nouns. Careful listening, however, reveals the difference. For example, there is a minimal pair:

/égbã/ [‾ ‿] 'a sub-branch of a bunch (of bananas/ plantain)

/é!gbã́/ [‾ -] 'jaw'

in which high-low contrasts with high-downstep.

As mentioned above, non-automatic downstep is not a frequent occurrence and there is no terracing.

/me é ta/[_‾-] 'I am saying' (final low raised)

/me dɛ́ ému/ 'I bought food' (final low raised)[_‾‾_]

/ṹ!lĩ́ rlɔ́ i sé rlé/ 'His mother called him'

[‾ - - _ - -]

Notice how, in the last example, non-automatic downstep occurs once and the highs after the low tone are not lower than the preceding high.

Considering the rarity of the downstep, it becomes necessary to re-examine the role of consonants to see if they have any influence on tone. The result is negative as the following examples show:

/úgbɛ́!khɛ̃́/	'wall (of house)'
/ú!lĩ́/	'mother'
/ĩ́!ghó/	'money'
/é!sĩ́/	'horse'

What these examples show is that the downstepped syllable does not necessarily come after a voiced stop as in /é!gbã́/ 'jaw' or /ĩ́!bĩ́/ 'seeds'. The case of 'wall' shows that not every occurrence of high after a voiced stop - or even after /gb/ alone - is downstepped.

7. The Completive Phrase

Taking only disyllabic nouns into consideration, there are five tone groups of nouns:

(i) LL

(ii) LH

(iii) HL

(iv) H!H

(v) HH

Usually, the completive phrase is marked by the occurrence of /rĺ-/ between the two nouns of the phrase. Presumably, there was a vowel in this marker which has been elided. Considering the rules of vowel elision in the language, it could have been any vowel except /i, u/ or /o/. Recovering this vowel is difficult - perhaps

impossible? - because all Urhobo nouns start with a vowel. Even foreign names which start with consonants are reconditioned to suit the system by the prefixing of a vowel, in most cases /i/, to the name. A deep examination of Urhobo syntax may make it possible to recover the lost vowel. This is impossible with my data.

In effect, it is suggested here that the following process took place:

VCV+rlV́+VCV › VCV+rĺ+VCV › VCV+rlV́CV

That this is a common process (of elision) in Urhobo is attested to by the following examples (both are in the past tense):

/me dé ibí/ 'I bought charcoal' › /me díbí/

/ ɔ fɔrhɔ̃́ aŋmá/ 'He washed cloth' › /ɔ fɔrháŋmá/

Thus the vowel of the completive phrase marker is lost and the high tone coalesces with the tone of the following vowel.

In some cases, the completive phrase structure is marked simply by the occurrence of the high tone. The suggestion here is that this high tone developed from /rlV́/, the tapped lateral being subsequently lost after the loss of the vowel.

Examples

(a) /ulẽ/ rl- osho/ 'song of fear' > /ulẽrlósho/

(b) /ɔcɛ́ rl- elɛ̃/ 'pot of yams' > /ɔcɛ́rlélɛ̃/

(c) /úwẽ rl- úrhié/ 'mosquito of river' > /úwẽrlúrhié/

(d) /úrhé - aɟã/ 'tree of bats' > /úrhéáɟã/or/úrháɟã/

From the tonal point of view, examples (b) and (d) are significant. They show that the coalescing of high and low does not produce a downstep in Urhobo. In Ẹgẹnẹ and in Bini, a downstep would result from such coalescence. Indeed, in Ẹgẹnẹ (p.123), it is one of the arguments used to support the 'two tones plus downstep' analysis; there is no 'terracing' there.

By contrast in Urhobo, there is no terracing and the coalescence of high and low does not produce a downstep. The Urhobo system is therefore one that differs significantly from other 'two tones plus downstep' languages.* Moreover, the question arises whether the downstep that occurs occasionally in Urhobo actually owes its origin to a lost low tone. It is a question that cannot be answered here, but one whose answering may have theoretical implications since the current assumption is that a downstepped high usually originates from a lost (deleted/assimilated) low tone plus automatic downstep.

BINI

1. Syllable Structure

A Bini syllable is either of CV or V structure. Consonants (contoids and non-syllabic vocoids) occur at C while vowels (oral as well as nasalized syllabic vocoids) occur at V. Every V-element carries tone - i.e. significant pitch.

Examples: V —— CV

	ga	'worship'
	kĩ	'inspect'
e ——	tó	'hair'
ɔ ——	se	'friend'
a ——	yɔ̃́	'wine'

Vowel sequences occur within the same stem. Such sequences are of different types:

They may be identical vowels:

/kɛɛ/ 'reduce gradually'

/rhaa/ 'steal'

The sequence may be a glide /ae/ interpreted as /VV/ here. Its nasalized counterpart is /ãɛ̃/:

/okhúáe/ 'basket'

/úháe/ 'well (n.)'

/orhũãɛ̃/ 'in-law'

The sequence may be one of a close vowel /i, ĩ, u, ũ/ followed by another vowel. The close vowel often becomes nonsyllabic:

/ogie/ 'chief' —— [ògyè]

/ígúé/ 'village' — [ígwé]

/ífũɛ̃/ 'wing' —— [ífw̃ɛ̃]

This process also operates across morpheme boundary:

/evhi + egbé/ ——› [èʊyégbé] 'oil of body'

/ɛrhú + ɔbó/ ——› [èɾwɔ́bó] 'body of doctor'

These glide rule processes are not obligatory.

2. Consonants

p	b	t	d	k	g	kp	gb
	m						
f	v	s	z	kh	gh		
			l				
		rh	r				
	vh		rl		y	w	h

There are twenty-three consonant phonemes in Bini.

Stops

/p/ is [p], a voiceless bilabial plosive. It occurs only once in my data:

/ɔpia/ 'cutlass' —— [ɔ́pyà]

The other stops have partially nasally exploded allophones before significantly nasalized vowels. Though not complete, this feature is so strong that Ogieriaikhi (1968) speaks of "nasalized plosives" in Bini.

/b/ has two allophones:

[bn], before $\tilde{V}$:

/bã/ 'remove with force' —— [bnã̀]

[b], a voiced bilabial plosive, elsewhere:

/bɔ/ 'build' —— [bɔ̀]

/ebé/ 'book' [èbé]

/t/ has two allophones:

[tn], before $\tilde{V}$:

/tĩ/ 'fly' [tnĩ̀]

[t], a voiceless alveolar plosive, elsewhere:

/ti/ 'to boil (of water)' —— [tì]

/otɔ/ 'ground' —— [òtɔ̀]

/d/ has two allophones:

[dn] before $\tilde{V}$:

/dĩ/ 'be old' —— [dnì̃]

[d], a voiced alveolar plosive, elsewhere:

/ódó/ 'mortar' —— [ódó]

/k/ has two allophones:

[kn], before $\tilde{V}$:

/kĩ/ 'inspect' —— [knì̃]

[k], a voiceless velar plosive, elsewhere:

/ki/ 'be thick; congeal' [kì]

/okó/ 'boat (canoe)' —— [òkó]

/g/ has two allophones:

[gn], before $\tilde{V}$:

/gĩ/ 'leak' —— [gnì̃]

[g], a voiced velar plosive, elsewhere:

/gɔ/ 'be bent' —— [gɔ̀]

/ogie/ 'king, ọba — [ògyè]

/kp/ has two allophones:

[kpn] before $\tilde{V}$:

/kpã/ 'pluck' —— [kpnà̃]

[kp], a voiceless labial-velar stop, elsewhere:

/kpa/ 'vomit' —— [kpà]

/ikpɛ/ 'a type of seed' —— [ìkpɛ̀]

/gb/ has two allophones:

[gbn] before $\tilde{V}$:

/igbã/ 'thorn' — [ìgbnà̃]

[gb], a voiced labial-velar stop:

/gba/ 'tie' — [gbà]

/úgbó/ 'farm' — [úgbó]

Nasal

/m/ is [m], a voiced bilabial nasal:

/ma/ 'mould' — [mã]

/amɛ/ 'rain' — [àmɛ̀]

/ɔmɔ́/ 'child' — [ɔ̀mɔ̃́]

This analysis implies that a vowel after /m/ is automatically nasalized. Phonetically, however, only [ĩ], [ɛ̃], [ã], [ɔ̃], and [ũ] occur after /m/. As these are the vowels that may be significantly nasalized, the possibility of an alternative approach is raised: that of interpreting an item such as [mã] as /mã/, The analysis above is preferred, however, because it is simpler and because /m/ cannot be interpreted as an allophone of any other phoneme in the system.

Fricatives

The fricatives /f, v, s, z, kh, gh/ have slightly nasalized allophones [f̃, ṽ, s̃], etc, before (significantly) nasalized vowels.

/f/ has two allophones:

[f̃] before Ṽ:

/fã/ 'save, release' — [f̃ã̀]

/ofɛ̃́/ 'rat' — [ò f̃ɛ̃́]

[f], a voiceless labio-dental fricative, elsewhere:

/fe/ 'be rich' — [fè]

/fu/ 'be cool' — [fù]

/v/ has two allophones:

[ṽ] before Ṽ:

/vũɔ̃/ 'be full' — [ṽù̃ɔ̀̃]

/vã/ 'be loud (of drum)' — [ṽã̀]

[v], a voiced labio-dental fricative, elsewhere:

/vu/ 'uproot' — [vù]

/vɛ/ 'spread' — [vɛ̀]

/s/ has two allophones:

[s̃] before Ṽ:

/sã/ 'jump' — [s̃ã̀]

/asɛ̃/ 'saliva' — [àsɛ̃̀]

/asɔ̃́/ 'night' — [àsɔ̃́]

[s], a voiceless alveolar fricative, elsewhere:

/si/ 'pull' — [sì]

/sɛ/ 'surpass' — [sɛ̀]

/su/ 'escort' — [sù]

/z/ has two allophones:

[z̃] before Ṽ:

/zĩ/ 'be firmly rooted' — [z̃ĩ̀]

[z], a voiced alveolar fricative, elsewhere:

/zɛ/ 'choose' — [zɛ̀]

/zɔlɔ/ 'to remove seeds from inside a pod' — [zɔ̀lɔ̀]

/ɛzɛ/ 'river' — [ɛ̀zɛ̀]

/kh/ has two allophones:

[x̃] before Ṽ:

/khɔ̃/ 'struggle, fight' — [x̃ɔ̃̀]

[x], a voiceless velar fricative, elsewhere:

/khɔ/ 'resemble' — [xɔ̀]

/íkhíávhɔ/ 'okra' — [íxyáʋɔ̀]

/gh/ has three allophones:

[ɣ̃] before Ṽ:

/ghã/ 'be costly' — [ɣ̃à]

[ɣ^{w}], a voiced labialized velar fricative, before /u/:

/ghu/ 'die' — [ɣ^{w}ù]

[ɣ], a voiced velar fricative, elsewhere:

/ghe/ 'look' — [ɣè]

/igho/ 'horn' — [ìɣò]

Lateral, Trill, Approximant

/l/ has two allophones:

[n], a voiced alveolar nasal, before Ṽ:

/lĩ/ 'be short of something' — [nĩ̀]

/lɔ̃/ 'ask' — [nɔ̀̃]

/ulṹ/ 'mouth' — [ùnṹ]

[l], a voiced alveolar lateral, elsewhere:

/le/ 'cook' — [lè]

/lɔ/ 'grind, press' — [lɔ̀]

/rh/ is [r̥], a voiceless alveolar trill. It is not nasalized before Ṽ:

/rhie/ 'take — [r̥ìè]

/rhaa/ 'steal' — [r̥àà]

/ɛrhú/ 'hat/cap' — [ɛ̀r̥ú]

/rhã/ 'untie' — [r̥à̃]

/r/ is [r], a voiced alveolar trill. It is not nasalized before $\tilde{V}$:

/ri/ 'tie' —— [rì]

/ro/ 'praise' —— [rò]

/rĩɛ̃rĩɛ̃/'tasty, sweet' — [rĩ̀ɛ̃rĩ̀ɛ̃]

/vh/ has two allophones. It tends to be labio-dental before front vowels:

[ʋ̃], a nasalized voiced bilabial spread approximant, before $\tilde{V}$:

/vhɛ̃/ 'have' —— [ʋ̃ɛ̀]

/duvhũ/ 'pound' —— [dṳ̃̀ʋ̃ṳ̃̀]

[ʋ] elsewhere:

/vhɛ/ 'be wide' —— [ʋɛ̀]

/vhɔ/ 'uproot' —— [ʋɔ̀]

/vhu/ 'negotiate' —— [ʋù]

/rl/ has two allophones:

[ɹ̃] a voiced nasalized alveolar approximant before $\tilde{V}$:

/rlɛ̃/ 'know' —— [ɹ̃ɛ̃̀]

/arlɛ̃́vhɛ̃/ 'tongue, meat'-[ãɹ̃ɛ̃́ʋ̃ɛ̃̀]

[ɹ], a voiced alveolar approximant, elsewhere:

/rle/ 'eat' — [ɹè]

/rlo/ 'give out pus' — [ɹò]

/rlu/ 'do' — [ɹù]

/y/ has two allophones:

[ɲ], a voiced palatal nasal before Ṽ:

/yã/ 'tear apart' — [ɲà̃]

/ayɔ̃/ 'wine' — [àɲɔ̃́]

[y], a voiced palatal approximant, elsewhere:

/yi/ 'create' — [yì]

/yɔ/ 'wear' — [yɔ̀]

/iya/ 'hill' — [ìyà]

/w/ has two allophones:

[ŋw], a voiced labialized velar nasal before Ṽ:

/wɔ̃/ 'drink' — [ŋwɔ̀̃]

/owɛ̃/ 'sun' — [òŋ̀wɛ̀̃]

[w], a voiced labial-velar approximant, elsewhere:

/we/ 'open' — [wè]

/wɔ/ 'press, stifle' — [wɔ̀]

/owɛ/ 'leg' — [òwɛ̀][1]

1. There is probably a neutralization of contrast between /w/ and /ɣ/ before /u/. Since there is friction and /ɣ/ is normally very rounded before /u/, it is preferred here to say that /w/ does not occur before /u/.

/h/ has two allophones:

[h̃], a nasalized voiceless glottal approximant, before Ṽ:

/hɔ̃/ 'hear' —— [h̃ɔ̃̀]

/ohã́/ 'fear' —— [ɔh̃ã́]

[h] elsewhere:

/hɔ/ 'wash' —— [hɔ̀]

/ɔhá/ 'new wife' —— [ɔ̀há].

3. Consonant Contrasts Amplified

p ~ b ~ f:

/ɔ́pia/ 'cutlass'

/bi/ 'be overcast (of sky)'

/fi/ 'throw'

b ~ m ~ v ~ f ~ vh:

/baa/ 'burn'

/bã/ 'remove with force'

/ma/ 'mould'

/va/ 'butcher'

/vã/ 'shout; be loud (of drum)'

/fafa/ 'fade'

/fã/ 'save'

b ~ m~ᵛ~ f ~ vh (contd):

/vha/ 'meet'

/vhã/ 'measure'

t ~ d ~ k ~ g:

/ta/ 'say'

/da/ 'drink (wine)'

/ka/ 'carve'

/ga/ 'worship'

t ~ d ~ s ~ z:

/tĩ/ 'fly'

/dĩ/ 'be old'

/sĩ/ 'spin (thread)'

/zĩ/ 'be firmly rooted'

k ~ g ~ kp ~ gb ~ b:

/kɔ/ 'plant'

/gɔ/ 'be bent'

/kpɔ/ 'be abundant'

/gbɔ/ 'transplant'

/bɔ/ 'build'

k ~ g ~ kh ~ gh ~ h:

/ku/ 'be useless'

/gu/ 'allow, let'

/khu/ 'drive away'

/ghu/ 'die'

/hu/ 'to lather, foam'

s ~ z ~ kh ~ gh ~ h:

/sɛ/ 'surpass'

/zɛ/ 'choose'

/khɛ/ 'await; wait for'

/ghɛ/ 'negative particle'

/hɛ/ 'pack'

l ~ rh ~ r ~ rl:

/lo/ 'use'

/rho/ 'blaspheme; say forbidden things'

/ro/ 'praise'

/rlo/ 'give out pus (of boil, etc.)'

vh ~ y ~ w ~ gh:

/vhe/ 'be scarce'

/ye/ 'remember'

/we/ 'open'

/ghe/ 'look'

h ~ f: /hu/ 'lather, foam'

/fu/ 'be cool'.

4. Vowels

There are seven oral vowels and five significantly nasalized vowels in Bini.

The seven oral vowels contrast minimally:

/si/	'pull'	—— [sì]
/se/	'sew'	—— [sè]
/sɛ/	'surpass'	—— [sɛ̀]
/sa/	'hit, sting'	—— [sà]
/sɔ/	'tear'	—— [sɔ̀]
/so/	'short'	—— [sò]
/su/	'escort'	—— [sù]

The five nasalized vowels also contrast:

/lĩ/	'be short of something e.g. breath'	—— [nĩ̀]
/lɛ̃/	'defecate'	—— [nɛ̃̀]
/lã/	'to talk about someone; give'	—— [nã̀]
/lɔ̃/	'ask, question'	—— [nɔ̃̀]
/ulṹ/	'mouth'	—— [ùnṹ]
/sĭ/	'spin (thread)'	—— [s̃ĭ̀]
/sɔ̃/	'grow (of grass)'	—— [s̃ɔ̃̀]
/sũ/	'be sticky'	—— [s̃ũ̀]
/vhɛ̃vhɛ̃/	'be mad'	—— [ṽɛ̃̀ṽɛ̃̀]
/duvhũ/	'pound'	—— [dùṽũ̀]

5. Vowel Patterning

A limited number of Bini nouns form their plurals by prefix vowel alternation. The items are:

/ɔmɔ́/	'child'	—	/emɔ́/	plural
/ɔtɛ̃́ɛ̃/	'relation'	—	/etɛ̃́ɛ̃/	plural
/ɔvhã́ã/	'person'	—	/evhã́ã/	plural
/ógh̃́ĩã/	'enemy'	—	/égh̃́ĩã/	plural
/okhuo/	'woman'	—	/ikhuo/	plural
/okpiá/	'man, male'	—	/ikpiá/	plural
/ovhí-/	'child of, diminutive form of'	—	/ivhí-/	plural

These items suggest that, as in some other Ẹdo languages, pluralization in Bini was by prefix alternation. Moreover, that the two allomorphs of the said plural morph were /i/ and /e/. All that can be said from this meagre evidence is that an ɔ- prefix changed to /e/ and an o- prefix changed to /i/ or /e/.

Beyond this, there is no evidence of vowel harmony in Bini. Vowels generally co-occur freely, except that if a noun has a prefix ɔ, it is likely to have ɛ, a, or ɔ in the stem. Two examples in my data contravene this rule:

/ɔ-bó/ 'native doctor' (sg. and plural)

/ɔ-se/ 'friend' (sg. and plural).

6. Tone

Not much is available by way of literature on Bini tone. Still, considering the scarcity of literature on Ẹdo languages in general, what there is on Bini tone should be considered substantial.

Unfortunately, the existence of this material has thrown hardly any light on the tonal system of Bini. This is because most of the so-called analyses have been conflicting and uncertain. An attempt will be made below to summarize these analyses as a step towards providing an opportunity for comparison between the earlier analyses and that proposed here.

The Previous Analyses

Tone is discussed as part of the introduction to Melzian's Bini Dictionary (1937). According to Melzian, Bini has the following tones: high, low, mid, rising and falling, rising-falling and falling-rising (p. xii).

He goes on to discuss the first five of these tones under separate headings. The first is the high tone which he says is lower after a low tone than before a low tone. Repeated intervention of low tones between

high tones in the same sentence will yield a pattern which he represents graphically on page xiii : [˙.˙.˙].

Melzian next discusses the low tone. According to him, low tones are raised before high and between high tones. Graphically this gives something like [. ˙]. Coupled with terracing, this gives graphically: [˙.˙.]. In addition, final low tones are not level but falling.

Melzian has three levels of mid tone (p. xiii):

> ... the 1st following on a high tone, the second following on the first mid, and the third following on the second mid tone. High tones following any of these mid tones are assimilated to them. The interval between a high and mid and between two mid tones is not sufficiently wide to produce the impression of a high-low interval: it may vary between one and three tones. In a very few cases it has been necessary to mark mid tone after a low tone.

The falling tones are said to be elusive and can only with difficulty be distinguished from highs and mids. There is a high-fall and three mid-falls. The mid-falls may also be confused with the falling variant of the low tone (p. xiv):

> The difference between these mid-falls and the falling variant of the low tone is probably one of stress.

Melzian notes of the rising tone that it "rises to mid only". He seems to be in doubt whether in the

perfect forms of verbs with a rising tone the low start of the rise does not disappear entirely if an object or a verb follows: "some speakers seem to use a high tone only."

An examination of Melzian's dictionary entries reveals items which suggest that he meant the five tones he discussed to be phonemic. For example (p. 121):

lɔ (1) [˙] 'grind'

lɔ (2) [↗] 'iron, press'

though, in fact, these two items are homophones and both 'grind' and 'iron, press' should have been entered under an entry such as, say, lɔ [.]. These entries and others like them are wrong in that they tend to suggest the existence of verb groups classified according to their tonal shape or behaviour whereas all Bini monosyllabic verbs behave alike in identical environments (as do also all disyllabic verbs). These citations are, therefore, most ~~likely~~ probably from different structural positions.

As will be shown below, Melzian's observation that in the sequence high-low-high the second high is lower in pitch than the first because of the intervening low tone is of great significance. It is also a tribute to

Melzian's hearing of tone that he has so many levels of mid.

Hans Wolff (1959a : 25) notes that Bini has high /´/, mid /-/, low /`/, and six rising or falling tones.

Roger Wescott (1962) says (p. 52) that Bini has six phonemic tones (illustrated with /a/):

1	top	á
2	high	a̋
3	mid	ā
4	low	à
5	flat	a̱
6	bottom	a̰

We are told on the same page that all Bini tones are level with the exception of "the fourth, low tone, which is a short downglide from 4 to 5".

In tonetic terms, however, there are many more levels than six. Thus the word ẹ̀bé 'book' may, in isolation, have as many as

> ... 28 different tonetic renditions without any danger of ambiguity ... The one absolute requirement ... is that the second syllable should be higher in pitch than the first. p. 55.

Wescott concludes rightly (cf. below) that Bini, like Igbo, is a "terrace-tone" language.

Earnest Dunn (1968) posits four tonemes: two level and two gliding tones: high, low, rising /˘/, and falling /˜/ .

Terracing is noted by Dunn but described as a feature of statement intonation (p. 204: 2.2.1.). Low tones are lowered just as high tones are lowered so that the distance between high and low remains approximately unaltered.

Ogieriaixi (1970) writing at the phonetic level, has five pitches:

High ˊ
Low ˋ
Mid ˉ
Falling-Rising ˇ
Rising-Falling ˜ (p. 5)

The Bini System According to the Present Analysis

Bini is a 'two tones plus downstep' language in which terracing (downdrift) is very much in evidence. The main features of the system are:

(a) automatic downstep: a high tone preceded by a low

tone is a step lower than a preceding high tone in the utterance.

e.g. /ígaí/ 'cassava' [¯ _ -]
/ĭã dɛ́e/ 'they bought [¯ _ - _]

The effect of automatic downstep on an utterance as a whole is the lowering of high tones by successive steps until a final high tone may be almost as low as a low tone[1].

e.g. /ɔtĭ́yevhɛ̃́lṍkpiá/ 'my mother's brother'
[_ ¯ _ - - _ -]

/ĭã ghá kpolíku/ 'they will sweep dirt'
[¯ - _ - _]

In the following example, the final high is very low indeed:

/ĭã ghá dɔlíkpakpé!gbé/ 'they will sew skins'
[¯ - - - _]

(b) non-automatic downstep: a high tone following another high tone may be a step lower even when there is no evidence of an intervening low tone, synchronically or diachronically.

1. If low tones are lowered just as high tones are lowered (as implied by Melzian and stated by Dunn (cf. above)), it cannot be as conspicuous as the lowering of high tones. The possibility is not ruled out, though it has not been observed here.

e.g. /é!bó/ 'white man' [¯ -]

/ɔghá!á dɛ́/ 'he was buying' [_ ¯ - -]

The two features discussed under (a) and (b) are not unrelated independent features. They have been separated here only for purposes of exposition. For example, there are, in Bini, cases of non-automatic downstep which are traceable to a lost low tone. Even so, the convention of marking downstep by a raised exclamation mark /!/ will be consistently followed here and elsewhere. The alternative is to mark non-automatic downstep by placing an intrasyllabic low tone between the two highs.

The two significant levels, low and high, contrast minimally in a few pairs of items:

/ɔkpa/	[_ _]	'cook'
/ɔ́kpá/	[¯ ¯]	'one'
/elĩ/	[_ _]	'name'
/elĩ́/	[_ -]	'elephant'
/igho/	[_ _]	'horn'
/íghó/	[¯ ¯]	'money'
/ekɛ̃/	[_ _]	'sand'
/ekɛ̃́/	[_ -]	'egg'

7. The completive Phrase in Bini

The tonal characteristics of the completive phrase in Bini will be given below as further support for the analysis presented above.

The completive phrase is made up of two nouns juxtaposed. There is no intervening segmental morph. The meaning is always "A of B" where A and B are separate nouns and the order is /A + B/. Only disyllabic nouns are used in the examples that follow.

There are four possible tonal patterns on Bini disyllabic nouns at the systematic level[1]:

Low-Low (LL) — I

L-High (LH) — II

HL — III

HH — IV

Group II is by far the largest group.

The tonal changes that occur when any two nouns from any two of the groups enter this structure are regular and predictable. Usually, it is the second

1. Note that a noun such as é!bó is regarded as HLH systematically and excluded from this list. This group of nouns is not common: indeed, it is the only example of its type that occurs in my data.

tone of the first noun and the initial tone of the second noun of the structure that are affected.

With four groups, we have the possibility of sixteen combinations. In a structure such as

$$/V_1CV_2 + V_3CV_4/,$$

it is only V_2 and V_3 that are affected. V_4 is occasionally affected (usually a downstepped high would result from high) and this is discussed below. The changes that occur on V_2 and V_3 are summarized below (bracketed tones are elidable):

	... V_2	+	V_3 ...	
i.	L	+	L	> (H)H
ii.	L	+	H	> (H)H
iii.	H	+	L	> (H)H
iv.	H	+	H	> (H)H

Thus it may be possible to postulate a floating high tone which raises all lows in V_2 and V_3 to high.

i. (a) LL + LL : owɛ + ɔkpa > owɔ́kpa 'leg of cock'

(b) LL + LH : amɛ + egbé > amé!gbé 'water of body'

(c) HL + LL ékpo + irhu > ékpírhu 'bag of lice'

(d) HL + LH ékpo + ɔbó > ékpó!bó 'bag of native doctor'

Note the occurrence of apparently non-automatically downstepped highs in (b) and (d). These are the result of low tones which have been assimilated to high. This is possible only when a low tone on V_3 has been assimilated to high. This means that an automatically downstepped high becomes apparently non-automatically downstepped following assimilation- elision processes.

The significance of this observation is in providing further justification for the analysis presented here. It does show that other cases of non-automatic downstep must have resulted from the lowering effect of low tones which can in some cases, as above, be recovered and in others are irrecoverable.

ii. (a). LL + HL irhu + ɛ́kpo ⟩ irhúɛ́kpo 'lice of bag'

(b). LL + HH amɛ + úkó ⟩ amúkó 'water of calabash'

(c). HL + HL ɛ́kpo + ɔ́ka ⟩ ɛ́kpɔ́ka 'bag of maize'

(d). HL + HH ɛ́kpo + íghó ⟩ ɛ́kpíghó 'bag of money'

iii. (a). LH + LL etó + owɛ ⟩ etówɛ 'hair of leg'

(b). LH + LH etó + uhé ⟩ etú!hé 'hair of pubic part'

(c). HH + LL úkó + amɛ ⟩ úkámɛ 'calabash of water'

(d). HH + LH íghó + ayɔ̃́ ⟩ íghá!yɔ̃́ 'money of wine'

Note again, in (b) and (d), the non-automatic downstepping of the high tone V_4 because of the assimilation of a preceding low tone.

iv. (a). HH + HL íghó + ékpo ⟩ íghékpo 'money of bag'
(b). HH + HH ódó + ésĩ ⟩ ódésĩ 'mortar of horse'
(c). LH + HL ehó + óka ⟩ ehóka 'ear of maize'
(d). LH + HH ayɔ̃ + úkó ⟩ ayɔ̃́kó 'wine of calabash'

These examples have been given in the hope that they provide additional support for the 'two tones plus downstep' analysis presented here.

As can be seen above, the gliding tones of Melzian are not systematically recognized here. Nor is there support for Wescott's six toneme analysis. It would, perhaps, be a useful exercise to give an example of how Melzian's, Wolff's, and Dunn's gliding tonemes arose.

Melzian notes that low-high rising tones seem to be in idiolectal variation with high tones in certain environments. Yet, as shown above, there are, in his dictionary, entries such as:

lɔ (1) [˙] 'grind etc.' and

lɔ (2) [↗] 'iron, press'.

Examination of similar entries shows that Melzian often took items out of certain structural positions or

contexts and used such forms as 'citation' or 'dictionary' forms. Even a superficial examination of the Bini verb reveals that the tonal shape which a verb takes depends on the context in which it occurs, such as the tense. To take a simple case, [lɔ̀]— /lɔ/ — is the imperative form of both 'grind' and 'iron' and 'press'. If one added an object ('cloth') one would have:

/lɔ + ukpɔ̃/ 'iron cloth!' which is realized as [lɔ̀úkpɔ̀̃] [◡ - _].

'Buy cloth!' is [dɛ̀úkpɔ̀̃] [◡ - _]; or, with elision:

[dúkpɔ̀̃] [- _].

By contrast, the same stems are on high tone in the perfect.

Another source of gliding tones is the long vowel here interpreted as two vowels:

/éhɛ̃̀ɛ̃/ —› [éhɛ̃̂:] 'fish'

/owɔ́ɔ́ɔ/ —› [ówɔ̀ɔ̂:] 'eleven'

Examples of this type are rare.

There are other minor observations which are mentioned above and which are neither accepted nor refuted here. It is hoped, however, that the analysis presented here is sufficiently explicit in its own terms.

AOMA

1. Syllable Structure

An Aoma syllable is either of CV or V structure. Examples:

V	——	C V	
		t i	'fly'
		d e	'fall'
e	——	s ɛ̃	'saliva'
ɔ́	——	k a	'maize'

Phonetic [CyV] and [CwV] are interpreted as /CiV/ and /CuV/ respectively. That such phonetic sequences are in fact basically /CiV/ and /CuV/ is confirmed by the possibility of alternative pronunciations in which the vowels are restored. For example:

/hiɛ/ 'carry (load)' ——› [hyɛ̀] ~ [hìɛ̀]

/ékuɛ/ 'penis' ——› [ékwɛ̀]~ [ékùɛ̀]

2. Consonants

p	b		t	d	k	g	kp	gb
	m							
bh	f	v	s	z	kh	gh		
				l				
				r				
				rl		y	w	h

It may be possible to reduce this table, working with a larger corpus of data. As I have only the Ibadan 400 wordlist on this language, further investigation of distribution of allophones is impossible. Specifically, the 'phoneme' that may be found to be non-phonemic in a more systematic analysis is /m/: [m] may be an allophone of /bh/ before significantly nasalized vowels.

Stops

/p/ is [p], a voiceless bilabial plosive; it occurs only in one item in my data:

/ópia/ 'matchet' — [ópyà]

/b/ is [b], a voiced bilabial plosive:

/bã/ 'take off clothes, be naked' — [bà̃]

/óbɔ/ 'hand' — [óbɔ̀]

/t/ is [t], a voiceless alveolar plosive:

/ta/ 'say' — [tà]

/otɔ/ 'ground' — [òtɔ̀]

/d/ is [d], a voiced alveolar plosive:

/da/ 'drink (wine)' — [dà]

/ɔ́dĩɔ̃/ 'old person' — [ɔ́dɔ̃̀]

/k/ has two allophones:

[tʃ], a voiceless palato-alveolar affricate, before a sequence -iV or -ĩṼ; the close vowel is subsequently lost:

/kie/ 'call, summon' — [tʃè]

/kĩɛ̃kĩɛ̃/ 'be small' — [tʃɛ̃̀tʃɛ̃̀]

[k], a voiceless velar plosive, elsewhere:

/kɔ/ 'plant (v.)' — [kɔ̀]

/eki/ 'market' — [èkì]

/g/ has two allophones:

[dʒ], a voiced palato-alveolar affricate, before a sequence -iV or -ĩṼ; the close vowel is subsequently lost:

/gie/ 'send (someone to do something)' — [dʒè]

/ãgĩɛ̃/ 'reply (v.)' — [ãdʒɛ̃̀]

[g], a voiced velar plosive, elsewhere:

/gu/ 'tell' — [gù]

/ɔgɛdɛ/ 'banana' — [ɔ̀gɛ̀dɛ̀]

/kp/ is [kp], a voiceless labial-velar stop:

/kpa/ 'vomit' — [kpà]

/úkpɔ̃/ 'cloth' — [úkpɔ̃̀]

/gb/ is [gb], a voiced labial-velar stop:

/gbe/ 'beat (person)'- [gbè]

/ológbo/ 'cat' — [ɔ̀lógbɔ̀]

Nasal

/m/ has two allophones:

[ŋ], a voiced velar nasal, before a sequence -uV; the close vowel subsequently becomes non-syllabic:

/emuɛ/ 'ashes' — [èŋw̃ɛ̃̀]

(Note: In one item /mu/ 'take (one thing), catch', I recorded a free variation between [m] and [ŋ] thus recording this item [mũ̀]/[ŋũ̀]).

[m], a voiced bilabial nasal, elsewhere:

/mama/ 'learn' —— [mã̀mã̀]

/omu/ 'soup/stew' —— [òmṹ]

Cf. the comments on /m/ at the beginning of this section.

Fricatives

/bh/ is [β], a voiced bilabial fricative; it does not occur before nasalized vowels:

/bhiɛ/ 'give birth' —— [βi̇è]

/bhɔ/ 'jump' —— [βɔ̀]

/f/ is [f], a voiceless labio-dental fricative:

/fɔ/ 'be wet' —— [fɔ̀]

/fã/ 'be white' —— [fã̀]

/ófe/ 'rat' —— [ófè]

/v/ is [v], a voiced labio-dental fricative:

/vũɔ̃/ 'be full' —— [vũ̀ɔ̃̀]

/valɔ/ 'split (tr.)' —— [vàlɔ̀]

/s/ has two allophones:

[ʃ], a voiceless palato-alveolar fricative, before a sequence -iV or-ĩṼ; the close vowel is subsequently lost:

/ósio/ 'war' — [óʃò]

/sĩã/ 'walk' — [ʃ̀ã]

[s], a voiceless alveolar fricative, elsewhere:

/sa/ 'shoot' — [sà]

/ásɔ̃/ 'night' — [ásɔ̀̃]

/z/ is [z], a voiced alveolar fricative:

/zɛ/ 'choose' — [zɛ̀]

/ózi/ 'crab' — [ózi]

/kh/ is [x], a voiceless velar fricative:

/khɔĩ/ 'fight' — [xɔ̀ĩ]

/ókha/ 'story' — [óxà]

/gh/ is [ɣ], a voiced velar fricative:

/ghe/ 'see' — [ɣè]

/ólógho/ 'friend' — [ólóɣò]

Lateral, Roll, Approximant

/l/ has two allophones:

[n], a voiced alveolar nasal, before significantly nasalized vowels:

/lɛ̃/ 'defecate' — [nɛ̀̃]

/úlũ/ 'mouth' — [únù̃]

[l], a voiced alveolar lateral, elsewhere:

/lalɔ/ 'lick' —— [làlɔ̀]

/r/ is [r], a voiced alveolar roll:

/rɛma/ 'show (something to someone)' —— [rɛ̀mǎ]

/iro/ 'cheek' —— [irò]

/rl/ is [ɹ], a voiced alveolar approximant; it is nasalized before (significantly) nasalized vowels; it is not ~~sss~~ frequent in occurrence:

/ɛ́ɛrlɛ̃/ 'breast (female)' —— [ɛ́ɛ̃ɹɛ̃]

/y/ is [y], a voiced palatal approximant; it is [ɲ], a voiced palatal nasal before nasalized vowels:

/iyɔ̃/ 'honey' —— [ìɲɔ̀]

/éya/ 'yam' —— [éyà]

/w/ is [w], a voiced labial-velar approximant; it is likely that it is [w̃] before nasalized vowels; however, there is no example in my data:

/we/ 'put on (clothes)' —— [wè]

/áwa/ 'dog' —— [áwà]

/w/ carries a low functional load.

/h/ is [h], a voiceless glottal approximant; it is nasalized before nasalized vowels:

/éhĩɛ̃/ 'nail (finger or toe)' —— [éh̃ỹɛ̀]

/uhai/ 'well' —— [ùhàì]

3. Consonant Contrasts

Because of the small size of my data on this language, I am unable to provide an expansion of the consonant contrasts as has been done for some of the other languages.

4. Vowels

There are seven oral vowel phonemes in Aoma as exemplified below:

/bi/ 'be black'

/ébe/ 'leaf'

/dɛ/ 'buy'

/da/ 'drink (wine)'

/bhɔ/ 'jump'

/to/ 'burn (tr.)'

/ku/ 'pour'

There are five nasalized vowel phonemes:

/sĩ/ 'spin (thread)'

/vɛ̃/ 'blow (with mouth)'

/bã/ 'be naked'

/tɔ̃/ 'roast'

/fũ/ 'extinguish (tr.)'

5. Vowel Harmony

There is no evidence of vowel harmony in Aoma —— whether in the verb or in the noun. There are no limitations on vowel co-occurrence. In nouns, plurals are not formed by vowel prefix alternation.

6. Tone

The evidence from lexical items shows that only two levels are distinctive in Aoma. One cannot say with certainty whether or not there is also downstep. There were no 'high-downstep' items in my data and one would require more data to be able to say more about Aoma tones.

It was noted, however, that a final high tone on a noun was automatically falling. Thus:

/ɛsí/ 'horse' [ɛ̀sî]

/ɛ́gugú/ 'basket' [ɛ́gùgũ̂]

AUCHI

1. Syllable Structure

The syllable structure of Auchi is phonologically CV or V. Every V-element carries tone.

Examples:

V	—	C V	
		b ɛ	'harvest (fruit)'
		kh u	'pursue'
o	—	k ɔ	'vehicle'
í	—	n i	'elephant'

Auchi stems have vowel sequences. Such sequences may be simply double vowels:

/efɛɛ/ 'lies'

or sequences of different vowels:

/uyae/ 'tail'

/ɔdíɔ/ 'senior, elder'

/ífua/ 'wing (of bird)'

There are three possibilities in vowel sequences:

(a) identical vowels side by side — e.g. /efɛɛ/

(b) a glide /ae/ interpreted as two vowels: — /uyae/

(c) a close vowel followed by another vowel: /ɔdíɔ/ and /ífua/

Close vowels occurring between a preceding consonant and a following vowel in the stem tend to become non-syllabic. Thus:

/ɔdíɔ/ ——› [ɔ̀dyɔ̂]

/ífua/ ——› [ífwà]

This rule is not rigid, however, and one may hear [ɔ̀díɔ̀] and [ífʊ̀à] as well. In other words, the glide rule in Auchi is optional.

2. Consonants

p	b	t	d	k	g	kp	gb
		ts	dz	kh	gh	kph	gbh
		m		n			
		mh					
f	v	s					
				rl			
				r			
		vh			y		w

Stops

/p/ is [p], a voiceless bilabial plosive:

/ɔpia/ 'cutlass' —— [ɔ̀pià]

/ɔpɛpɛ/ 'measles' —— [ɔ̀pɛ̀pɛ̀]

/b/ is [b], a voiced bilabial plosive:

/bɛ/ 'harvest (fruit)' — [bɛ̀]

/ɔ́bo/ 'native doctor' — [ɔ́bɔ̀]

/t/ is [t], a voiceless alveolar plosive:

/ta/ 'say' — [tà]

/éto/ 'hair' — [étɔ̀]

/d/ is [d], a voiced alveolar plosive:

/dɛ/ 'buy' — [dɛ̀]

/údo/ 'stone' — [údɔ̀]

/k/ is [k], a voiceless velar plosive:

/kɔ/ 'plant' — [kɔ̀]

/uki/ 'moon' — [ùkì]

/g/ is [g], a voiced velar plosive:

/gɔ/ 'be bent' — [gɔ̀]

/ógiɛ/ 'laughter' — [ógìɛ̀]

/kp/ is [kp], a voiceless labial-velar stop:

/kpa/ 'vomit' — [kpà]

/íkpi/ 'python' — [íkpì]

/gb/ is [gb], a voiced labial-velar stop:

/gba/ 'tie' —— [gbà]

/úgbi/ 'seed yam' —— [úgbì]

/ts/ is [ts], a voiceless alveolar affricate.

Before /i/, it is in free variation with [tʃ], a voiceless palato-alveolar affricate:

/tsi/ 'snuff, smoke' —› [tsì] ~[tʃì]

The sequence /tsiV/ —› [tʃiV] —› [tʃV]. This happens even across morpheme boundaries:

/atsie/ 'alligator pepper'— [àtʃè]

/tsiɔtsiɔ/ 'rain continuously'- [tʃɔ̀tʃɔ̀]

/tsi + ódɛ/ 'clear the way' — [tʃódɛ̀]

/tsɛ/ 'come to pass' — [tsɛ̀]

/tso/ 'sew' — [tsò]

/dz/ has ~~a distribution~~ allophones parallel to ~~that~~ those of /ts/ so that it is:

[dʒ], a voiced palato-alveolar affricate, before /i/; /dziV/ —› [dʒV]:

/odzí/ 'crab' — [ódzî] - [ódʒî]

/irlidzía/ 'well' — [ịlịdʒâ]

[dz], a voiced alveolar affricate, elsewhere:

/dzɛ/ 'choose' —— [dzɛ̀]

/dzodzo/ 'be smart' —— [dzòdzò]

/kh/ is [kh], a voiceless lenis velar plosive:

/khi/ 'twist' —— [khi]

/khɛ/ 'await' —— [khɛ̀]

/gh/ is [gh], a voiced lenis velar plosive:

/ghi/ 'to roof' —— [ghi]

/eghɔghɔ/ 'joy' —— [èghɔ̀ghɔ̀]

/kph/ is [kph], a voiceless lenis labial-velar stop:

/kpha/ 'raise high' —— [kphà]

/ukpho/ 'mind' —— [ùkphò]

/gbh/ is [gbh], a voiced lenis labial-velar stop:

/ógbhɔ/ 'witchcraft' —— [ógbhɔ̀]

Both /kph/ and /gbh/ carry low functional loads.

Nasals

/m/ has two allophones:

[ŋ], a voiced velar nasal, before /u/; it is automatically labialized in this environment:

/mu/ 'catch' — [ŋũ]

/emuɛɛ/ 'ashes' — [èŋw̃ɛ̃ɛ̃]

[m], a voiced bilabial nasal, elsewhere:

/ma/ 'mould' — [mã]

/ɔ́mɔ/ 'child' — [ɔ́mɔ̃]

/mh/ is [mh], a voiced lenis bilabial nasal:

/mha/ 'we, us' — [mhã]

/mhɔ/ 'possess' — [mhɔ̃]

/aamhi/ 'wife' — [áàmhĩ]

/n/ has two allophones:

[ɲ], a voiced palatal nasal, before a sequence /-iV/; the close vowel then drops:

/nia/ 'tear away' — [ɲã]

/ɔ́niɔ/ 'crocodile' — [ɔ́ɲɔ̃]

[n], a voiced alveolar nasal, elsewhere:

/ni/ 'recover (from illness)' — [nĩ]

/úno/ 'mouth' — [únɔ̃]

Fricatives

/f/ is [f], a voiceless labio-dental fricative:

/fa/ 'cut (rope, thread, etc.)' — [fà]

/éfofo/ 'wind' — [éfòfò]

/v/ is [v], a voiced labio-dental fricative:

/va/ 'butcher (animal)' — [và]

/ovɔ/ 'sun' — [òvɔ̀]

/s/ has two allophones:

[ʃ], a voiceless palato-alveolar fricative before a sequence /-iV/; the close vowel then drops:

/siɛ/ 'be small' — [ʃɛ̀]

[s], a voiceless alveolar fricative, elsewhere:

/ásisi/ 'ant' — [ásìsì]

/sa/ 'break by placing weight upon' — [sà]

/su/ 'turn upside down (of cup, etc.)' — [sù]

Lateral, Roll, Approximant

/rl/ is [ɻ], a tapped alveolar lateral:

/rla/ 'close, cover (hole)' — [ɻà]

/aghárlɔ/ 'knife' — [àghá ɻɔ̀]

[l] does not occur in any of the Iyẹkhee dialects on which the present writer has information. These Iyẹkhee dialects are Auchi, Avhianwu (Fugar), Uzairue, and South Ibie.

/r/ is [r̩] or [r], voiceless/voiced alveolar roll in free variation. It is tapped in intervocalic position:

/re/ 'to swell (of river)' — [r̩è] ~[rè]

/erae/ 'fire' — [èr̩àè] ~[èɾàè]

/vh/ is [ʋ], a voiced labio-dental approximant. Before back rounded vowels, it tends to be bilabial:

/vhi/ 'beg for (something)' — [ʋì]

/vhovho/ 'back (child)' — [ʋòʋò]

/y/ is [y], a voiced palatal approximant:

/yɔ/ 'drink (water)' — [yɔ̀]

/uyae/ 'tail' — [ùyàè]

/w/ is [w], a voiced labial-velar approximant:

/wɔwɔ/ 'whisper' — [wɔ̀wɔ̀]

/wu/ 'to file, scrape' — [wù]

/úwe/ 'twenty' — [úwè]

3. Consonant Contrasts Amplified

p ~ b ~kp ~gb ~kph ~gbh ~m ~mh ~f ~v ~vh ~w

/papa/ 'to use hands or legs to spread (mix?) mud'

/ba/ 'vomit'

/gba/ 'tie'

/kpha/ 'raise high'

/égbha/ 'a type of [redacted] itching seed often called "devil bean"'

/ma/ 'mould'

/mha/ 'we, us'

/fa/ 'cut (rope, thread, etc.)'

/va/ 'butcher'

/vha/ 'you (pl.)'

/wa/ 'be lost'

t ~d ~k ~g ~ts ~dz ~kh ~ gh

/ta/ 'play a game of seeds'

/da/ 'drink (wine)'

/kaka/ 'be dry'

/ga/ 'worship'

/tsa/ 'shoot'

/dza/ 'straighten'

/khayɛ/ 'abuse'

/ghagha/ 'patch, mend'

s ~ts

/sa/ 'break by placing weight upon (e.g. glass)'
/tsa/ 'shoot'

r ~rl

/re/ 'swell, flood (of river)'
/rle/ 'eat'

vh ~y ~w

/vhɔ/ 'jump'
/yɔ/ 'drink (water)'
/wɔwɔ/ 'whisper'

4. Vowels

There are seven vowel phonemes in Auchi:

/i, e, ɛ, a, ɔ, o, u/.

These vowels contrast minimally:

/di/ 'tie' — [di̖]
/de/ 'fall' — [dè]
/dɛ/ 'buy' — [dɛ̀]
/da/ 'drink (wine)' — [dà]
/dɔ/ 'wrestle' — [dɔ̀]

/do/ 'weave' — [dò]

/du/ 'carry' — [dù]

None is significantly nasalized but they are automatically slightly nasalized after nasals.

/ni/ 'recover (from illness)' — [nì]

/ne/ 'guess' — [nè]

/nɛ/ 'defecate' — [nɛ̀]

/na/ 'run' — [nà]

/nɔ/ 'ask' — [nɔ̀]

/no/ 'use' — [nò]

/nu/ 'rub' — [nù]

5. Vowel Patterning in the Auchi Noun

Only faint traces of an earlier vowel harmony system exist in Auchi and these not in the verbal system but in the noun system. In Auchi, plurals are formed by altering the prefix vowels — the vowel before the first C - element of the noun.

There are two main alternants of the plural morpheme: /i/ and /e/. Another alternant, /a/, occurs in a few items relating to parts of the body.

~~Consequently,~~ Nouns with initial /i/ or /e/ are either already in the plural or are invariable. It is not so with initial /a/.

The vowels /i/ and /u/ are replaced by /i/ in the plural no matter what vowel is in the stem. But an /o/ prefix becomes /e/ if the stem is /ɔ/ or /a/; otherwise, it is /i/.

By contrast, /ɛ/ and /ɔ/ take /e/ plural whereas /a/, unaccountably, takes /i/ and, very occasionally, /e/. By way of summary:

1. o —> e/- Cɔ, a (C = any consonant)
2. a, o, u, —> i
3. ɛ, (a), ɔ, —> e

Thus:

/úkpe/	—	/íkpe/	'year'
/íyorlo/	—	/íyorlo/	'songs'
/aru/	—	/iru/	'lice'
/óvherle/	—	/ívherle/	'monkeys'
/okhɔ/	—	/ékhɔ/	'wars'
/énirli/	—	/énirli/	'names'
/éda/	—	/éda/	'rivers'
/ónɪɔ/	—	/énɪɔ/	'crocodiles'
/ákhe/	—	/ékhe/	'pots'

For certain parts of the body, /a/ is the plural morph:

/ɛrlo/ 'eye' : /arlo/ 'eyes'

/ovhɛ/ 'leg' : /avhɛ/ 'legs'

In discussing singular/plural forms, mention must be made of the bound morph /úkpV̩/. The vowel following it is usually the prefix vowel of the noun to which it is prefixed as singular. It is optional in most cases as evidenced by

/úkpɛrlo/ —› /arlo/ 'eyes' and

/ɛrlo/ —› /arlo/ 'eyes'

Instead of being dropped it may simply follow the noun into the plural form, itself undergoing the rules of pluralization:

/úkpɛrlo/ —› /íkparlo/

In the item below, however, no option seems possible:

/úkpamhi/ 'seed' —› /íkpamhi/ 'seeds'.

6. Tone

Auchi employs two significant levels of pitch: high and low. The levels contrast minimally in the

items below:

/ɔkpa/	'cock'	[_ _]
/ɔkpá/	'one'	[_ ˉ]
/aru/	'louse'	[_ _]
/áru/	'hat/cap'	[¯ _]

The level of the high tone is about as high as that called mid in Yoruba. Yoruba is a three level tone language.

There is no downstep (automatic or non-automatic) in Auchi. However, there is what one might call an 'upstep' feature. This automatic upstep feature is limited to particular constructions and need not be marked in underlying forms. The general pitch of an utterance as a whole is higher if it contains an upstepped tone. Upstep occurs in the negative construction as well as in non-final clauses:

(a) The Negative Construction

Here, the first tone of the verb phrase (that of the subject pronoun in the examples below) is upstepped from tonetic mid to high. All subsequent highs are of normal pitch.

(i) /i khé dɛ/ 'I am buying' [_ - _]

(ii) /í i dɛ́/ 'I am not buying' [¯ _ -]

(i) /i í dɛ́/ 'I bought' [_ - ╲]

(ii) /í vha dɛ́/ 'I did not buy' [¯ _ -]

The two negative constructions numbered (ii) show an upstepping of the initial tone. These are no cases of automatic downstep. Thus:

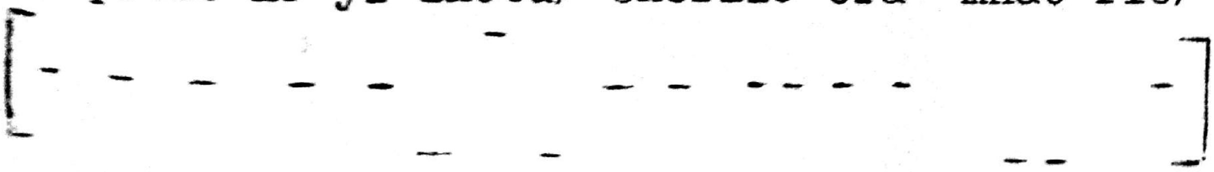
/í khe dɛ́/ 'I have bought' [- _ -]

The two highs separated by a low tone are of equal pitch.

(b) Non-final Phrases

The last high tone of a non-final phrase is upstepped. It is not clear if this happens only when the high tone is preceded by a low tone. The examples I have are cases in which the high affected is preceded by a low tone. In the following example:

/ókpótsó nɔ́ yí ikótu/ ɛ́kɛ́rlíɔ́ érá mhae rlɛ́/



'The woman who is in court is our father's sister',

the last high tone of the non-final phrase 'who is in court' is on /-kó-/ of /ikótu/ and this is upstepped. The pronunciation of this word out of this context is /ikótu/ [_ - _].

Falling tones occur and are interpreted as sequences where the evidence points in that direction. For example:

[ègwɛ̂] 'hoe' from /ɛgúɛ/

in which the underlying /u/ became non-syllabic and a gliding tone resulted. Another source is the final high tone in low-high nouns. A final high tone on a low-high noun is falling:

/atsí/ 'snuff' — [atsî]

/okú/ 'sea' — [òkû]

There is only one example of a high-high noun in my data and the final high is falling:

/ódzí/ 'crab' — [ódzî]

A final high tone in a past tense is also falling:

/i í dɛ́/ 'I bought' — [i í dɛ̂]

7. The Completive Phrase

When two nouns are juxtaposed in the completive phrase construction, certain predictable tonal changes occur. These changes are summarized below. There are four tone groups though only one item was found in the fourth (high-high) group:

I	LL	/ɔkpa/	'cock'
II	LH	/okú/	'sea'
III	HL	/éghi/	'tortoise'
IV	HH	/ódzí/	'crab'[1]

The tonal changes involved are:

(a) the second tone of the first noun is changed to high if it is not already high (when it is left unchanged);

(b) a noun in the second place of this structure retains its inherent tones — i.e. does not undergo any tonal changes. Consequently, the changes informally summarized below refer only to nouns in the first place of structure:

(i) LL ⟶ HH

(ii) HL ⟶ HH

1. My data do not include phrases involving this group in which only one item occurred.

LH nouns are not affected (the second tone is already high). However, the case of LL nouns involves more than the observation made in (a) above; for, by that observation, LL ought to yield LH. Apparently, the raised tone in turn raises the initial tone of the noun. Alternatively, one may say that both low tones are simultaneously affected.

One could postulate a floating tone that marks this structure. In that case, it would be logical to say that this floating 'tonorph' starts operating from the second tone of the first noun in the structure as indicated in (a) above. If it is applicable at this point, the preceding low is also raised. If its effect is blocked, as by the occurrence of a high in this position, it cannot affect the preceding low tone.

Examples:

(a) /ɛkɔ + iyɔ/ —› /ɛ́kɔ́iyɔ/ 'tooth of mother'
LL + LL —› H H L L

(b) /atsí + ísue/ —› /atsíísue/ 'snuff (of nose)'
LH + HL —› L HHL

(c) /éghi + amɛ/ —› /éghíamɛ/ 'tortoise of water'
HL + LL —› H H L L

(d) /ófe + éghi/ —› /ófééghi/ 'rat of tortoise'
HL + HL —› H H H L

(e) /éghi + okú/ —› /éghíokú/ 'tortoise of the sea'
HL + LH —› H H L H

Note that in (c)-(e) where, in a language such as Bini, downstep would have been expected, downstep does not occur.

AVHIANWU

1. Syllable Structure

An Avhianwu syllable is either of CV or V structure.

Examples:

V	——	C	V	
		d	i	'tie (rope)'
		k	ɔ	'sow (seeds)'
a	——	gb	a	'jaw'
ú	——	n	u	'mouth'

/CiV/ and /CuV/ sequences are sometimes optionally pronounced [CyV] and [CwV] respectively. For example:

/úkpófie/ 'nail (finger or toe)' — [úkpófyè] or [úkpófiè]

/ísue/ 'nose' —— [íswè] or [ísùè].

2. Consonants

p	b	t	d	k	g	kp	gb
		ts	dz	kh	gh	kph	gbh
	m		n				
f	v	s					
			rl				
			r				
	vh				y		w

Stops

/p/ is [p], a voiceless bilabial plosive:

/pi/ 'shoot' — [pì]

/ópe/ 'rat' — [ópè]

/b/ is [b], a voiced bilabial plosive:

/bie/ 'be black' — [byè]

/óbɔ/ 'hand' — [óbɔ̀]

/t/ is [t], a voiceless alveolar plosive:

/tɔ/ 'push' — [tɔ̀]

/eta/ 'lies' — [ètà]

/d/ is [d], a voiced alveolar plosive:

/do/ 'weave (cloth)' — [dò]

/ɛ́da/ 'river' — [ɛ́dà]

/k/ is [k], a voiceless velar plosive:

/kɔ/ 'sow (seeds)' — [kɔ̀]

/uki/ 'moon' — [ùkì]

/g/ is [g], a voiced velar plosive:

/gua/ 'dig' — [gwà]

/ágiɛ́dɔ/ 'hunter' — [ágyɛ́dɔ̀]

/kp/ is [kp], a voiceless labial-velar stop:

/kpanɔ/ 'vomit' — [kpànɔ̀]

/úkpo/ 'cloth' — [úkpò]

/gb/ is [gb], a voiced labial-velar stop:

/gbe/ 'kill' — [gbè]

/úgburlo/ 'feather' — [úgbùɻò]

/ts/ is [ts], a voiceless alveolar affricate. It is in free variation with [tʃ], a voiceless palato-alveolar affricate, before /i/. The sequence /tsiV/ becomes [tʃV]:

/atsi/ 'tobacco' — [àtsi] ~[àtʃi]

/tṣiere/ 'descend' — [tʃèrè]

/itsɔ/ 'faeces' — [ìtsɔ̀]

/dz/ is [dz], a voiced alveolar affricate;

/dzɛ/ 'choose' — [dzɛ̀]

/údzé/ 'axe' — [údzê]

It is likely that, just as with /ts/, /dz/ has a palato-alveolar allophone; there is no example in my data.

/kh/ is [kh], a voiceless lenis velar plosive:

/khia/ 'walk' —— [khyà]

/ékha/ 'stories' —— [ékhà]

/gh/ is [gh], a voiced lenis velar plosive:

/ghi/ 'send (someone to do something)' —— [ghɨ̀]

/óghue/ 'sleep (n.)' —— [óghwè]

/kph/ is [kph], a voiceless lenis labial-velar stop:

/kphei/ 'beat (drum)' —— [kphèì]

/ekphae/'horn' —— [èkphàè]

/gbh/ is [gbh], a voiced lenis labial-velar stop:

/ógbhɔ/ 'witch' —— [ógbhɔ̀]

/kph/ and /gbh/ carry very low functional loads.

Nasals

/m/ has two allophones:

[ŋ], a voiced velar nasal, before /u/:

/mu/ 'catch' —— [ŋ̀ũ]

/emuɛ/ 'ashes' —— [èŋ̀w̃ɛ̀]

[m], a voiced bilabial nasal, elsewhere :

/mi/ 'wring (clothes)' —— [mɨ̀]

/ómósi/ 'daughter' —— [ómɔ́si]

/mh/ is [mh], a voiced lenis bilabial nasal:

/mhi/ 'be tasty, sweet' —— [mhĩ̀]

/ɛmhɔ/ 'word' —— [ɛ̀mhɔ̃̀]

/n/ has two allophones:

[ɲ], a voiced palatal nasal before a sequence -iV; the /i/ then drops:

/ɔniɛ/ 'crocodile' —— [ɔ̀ɲɛ̃̀]

[n], a voiced alveolar nasal, elsewhere:

/nɔ/ 'ask, question' —— [nɔ̃̀]

/ínì/ 'elephant' —— [ínĩ̀]

Fricatives

/f/ is [f], a voiceless labio-dental fricative:

/fae/ 'pay (for something)' —— [fàè]

/áfófo/ 'wind' —— [áfófò]

/v/ is [v], a voiced labio-dental fricative:

/vɔ/ 'be full' —— [vɔ̀]

/èvá/ 'two' —— [èvá]

/s/ has two allophones:

[ʃ], a voiceless palato-alveolar fricative, before a sequence -iV; the /i/ then drops:

/siɛ/ 'be small' — [ʃɛ̀]

[s], a voiceless alveolar fricative, elsewhere:

/ɔ́mɔ́si/ 'female (child)' — [ɔ́mɔ̃́si]

/sɔ/ 'hear' — [sɔ̀]

Lateral, Roll, Approximant

/rl/ is [ɺ], a tapped alveolar lateral:

/rle/ 'eat' — [ɺè]

/ɛ́rlamhi/ 'meat' — [ɛ́ɺàmhĩ̀]

/r/ is [r], a voiced alveolar roll:

/rue/ 'salute' — [rwè]

/ɔ́rɔ/ 'guinea-fowl' — [ɔ́rɔ̀]

/vh/ is [ʋ], a voiced labio-dental approximant:

/vhɔ/ 'jump' — [ʋɔ̀]

/ɔ́vha/ 'room' — [ɔ́ʋă]

/y/ is [y], a voiced palatal approximant:

/yere/ 'return (intr.)' — [yèrè]

/ɔ́ɔya/ 'person' — [ɔ̂:yà]

/w/ is [w], a voiced labial-velar approximant:

/wɔ/ 'drink (water)' —— [wɔ̀]

/wayɛ/ 'reply (v.)' —— [wàyɛ̀]

3. Consonant Contrasts

It is not possible to amplify the consonant contrasts exemplified above because of the size of my data on this language. I have only the Ibadan wordlist of 400 basic items.

4. Vowels

There are seven (oral) vowel phonemes in Avhianwu. There are no significantly nasalized vowels; all vowels are automatically nasalized after nasal consonants. The seven vowels are /i, e, ɛ, a, ɔ, o, u/. They are exemplified below:

/di/ 'tie (rope)'

/de/ 'fall'

/dɛ/ 'buy'

/da/ 'drink (wine)'

/adɔguɔ/ 'duck'

/do/ 'weave'

/du/ 'carry (load)'

5. Vowel Harmony

There is no vowel harmony in the verb phrase. But there is evidence of vowel harmony in the way plurals of nouns are formed through vowel prefix alternation.

The plural of any noun (with a few exceptions) is formed by prefixing /i/ or /e/. An examination of this system of pluralization reveals a limited evidence of vowel harmony that I would call 'vowel patterning', since it is less rigid than vowel harmony implies (cf. p. 139).

The regular cases of pluralization reveal that:

1. $\left.\begin{matrix} i \\ u \end{matrix}\right\} \longrightarrow i$

/úrli/	>	/írli/	'ropes'
/úgba/	>	/ígba/	'thorns'
/íni/	>	/íni/	'elephants'
/irlumhi/	>	/irlumhi/	'grasses'

Note that, in the last two cases, it may be argued that these forms are already in the plural (i.e. they have no known singular forms).

2. {ɛ, ɔ} —› e

/ɛ́kɛ/ › /ékɛ/ 'eggs'

/ɛko/ › /eko/ 'cassava'

/ɔ́bo/ › /ébo/ 'native doctors'

/ɔ́ka/ › /éka/ 'maize'

1 and 2 are without exceptions and reveal that /i, u/ are opposed to /ɛ, ɔ/ within the system. By contrast, /e, a, o/ are neutral to some extent:

3. {a, o} —› i (if stem vowel is i or u)
—› e (if stem vowel is neither i nor u).

/aru/ › /iru/ 'lice'

/aki/ › /iki/ 'markets'

/ákhe/ › /ékhe/ 'waterpots'

/óbe/ › /ébe/ 'leaves'

/ora/ › /éra/ 'trees'

/ómhɛɛ/ › /émhɛɛ/ 'lizards'

There are quite a number of exceptions to these rules:

/agbedé/ › /igbedé/ 'needles'

/adɔguɔ/ › /idɔguɔ/ 'ducks'

/oké/ › /iké/ 'he-goats'

In a few items (relating to parts of the body), a plural affix /a/ is prefixed:

/ɛkɔ/ › /akɔ/ 'teeth'

/ó͡bɔ/ › /ábɔ/ 'hands'

/owɛ/ › /awɛ/ 'legs'

Note that whatever the vowel of the stem, e remains unchanged in plural forms:

/éni/ › /éni/ 'names'

/égbe/ › /égbe/ 'body'

/égbhae/ › /égbhae/ 'mats'

6. Tone

Two levels, high (/ ´/) and low (unmarked) have been identified in Avhianwu. There was no evidence of a third level in the lexical items collected. This makes it very similar to the Aũchi system in which only two levels are distinctive and there is no downstep, automatic or non-automatic.

The two levels contrast minimally in the following items:

/ɔkpa/ 'cock' [_ _]

/ɔkpá/ 'one' [_ -]

/aru/ 'louse' [_ _]

/áru/ 'cap' [¯ _]

It was noted that a final high tone on a noun was falling if all the other tones on the noun were also high:

/ɔ́mɔ́/ 'man' [ɔ́mɔ̃̂]

This feature was also noted with some low-high nouns:

/odí/ 'wall' [òdî]

But cf. /oké/ 'he-goat'

which I recorded as [òké]. There may be some error in my data. Cf. Auchi where the rule applies to both high and low-high nouns.

GHOTUǫ

1. Syllable Structure

There are two types of syllable structure in Ghotuǫ: CV and V. Only vowels (syllabic vocoids) occur at V. There are no nasalized vowels in underlying forms.

Examples:

V	——	C V	
		b ú	'be many'[1]
		é	'eat'
u	——	k ɔ̀	'he-goat'
i	——	s à	'debts'

Vowel Sequences

Vowel sequences occur in Ghotuǫ:

/ɔ̀wàà/	'smoothness; having no problems'
/káɔ̀/	'be quick'
/fíà/	'look/search for'
/lúɛ̀/	'press into pulp'

---

1. Although all monosyllabic verbs have the same tonal shape in citation forms, as do also all disyllabic verbs, and tone ought not, therefore, to be marked in base forms, the high tone will be consistently marked on all monosyllabic verbs and high-low /ˊ/ will be marked on disyllabic ones to avoid confusion with the unmarked mid tone.

The vowel sequences in the examples above fall into three groups:

(a) a sequence of two identical vowels;

(b) a sequence of two non-identical vowels (except those covered by c); and

(c) a close vowel followed by another vowel.

Only cases of (c) are further discussed below.

Where the first vowel of a sequence is a close vowel /i/ or /u/, this vowel may become nonsyllabic, yielding a glide:

/fíà/	'look for'	— [fyâ]
/lúɛ̀/	'press into pulp'	— [lwɛ̂]
/ɔpìà/	'cutlass'	— [ɔ̄pyà]
/irùè/	'nose'	— [ī̀rwè]

Thus /i/ becomes [y] and /u/ yields [w]. The processes by which these glides come to be are not obligatory. In analysing cases where the glide rules have applied, the underlying close vowel is assumed to have a tone identical with the following vowel (cf. /ɔpìà/ above). If a gliding tone is involved, the first part of the glide represents the tone of the underlying close vowel (cf. /fíà/, /lúɛ̀/ above).

This analysis is further justified by comparison

with other verb roots which are disyllabic both on the surface as well as in the deep forms:

/sɛ́hɛ̀/ ——› [sɛ́hɛ̀] 'shout'

not [sɛ́hɛ̂].

2. Consonants

p	b	t	d	k	g	kp	gb
	m		n				
	mh		nh				
f	v	s	z	kh	gh		
			l				
			rl				
			r				
	vh				y	w	h
					yh	(wh)	ñ

Stops

/p/ is [p], a voiceless bilabial plosive. It carries a low functional load:

/ìpɛ̀pɛ̀/ 'measles' —— [ìpɛ̀pɛ̀]

/b/ is [b], a voiced bilabial plosive:

/bɛ́/ 'pluck' —— [bɛ̂]

/àbò/ 'mat' —— [àbò]

/t/ is [t], a voiceless alveolar plosive:

/tí/ 'push' — [tî]

/otà/ 'tree' — [ōtà]

/d/ is [d], a voiced alveolar plosive:

/dú/ 'be blocked (of hole)' — [dû]

/odí/ 'wall' — [ōdí]

/k/ has two allophones:

[c], a voiceless palatal plosive, before a sequence /-iV/ so that /kiV/ —> [cV]

/kíà/ 'walk' — [cậ]

[k], a voiceless velar plosive, elsewhere:

/kó/ 'plant' — [kó̂]

/ùkì/ 'moon' — [ùkì]

/g/ has two allophones:

[ɟ], a voiced palatal plosive, before a sequence /-iV/ so that /giV/ —> [ɟV]:

/ògiè/ 'chief, ọba' — [òɟè]

[g], a voiced velar plosive, elsewhere:

/gá/ 'worship' — [gâ]

/ùgì/ 'basket' — [ùgì]

/kp/ is [kp], a voiceless labial-velar stop:

/kpí/ 'weave (cloth)' — [kpí]

/ɔ̀kpà/ 'cock' — [ɔ̀kpà]

/gb/ is [gb], a voiced labial-velar stop:

/ugbi/ 'yam seed' — [ūgbi]

/àgbɔ̀/ 'life, people' — [àgbɔ̀]

Nasals

/m/ is [m], a voiced bilabial nasal:

/míhi/ 'wring (clothes)' — [mḯhi]

/ɔmɔ̀/ 'child' — [ɔ̄mɔ̃̀]

/mh/ is [mh], a voiced lenis bilabial nasal:

/mhàmhà/ 'we' — [mhãmhã̀]

/umhɔ́/ 'seed' — [ūmhɔ̃́]

/n/ has four allophones:

[ɲ], a voiced palatal nasal, before a sequence /-iV/ so that /niV/ ⟶ [ɲṼ]:

/nìè/ 'take (from)' — [ɲ̂ẽ]

[ŋ], a voiced velar nasal, before a sequence /-uV/ so that /nuV/ ⟶ [ŋ̃wṼ]:

/núà/ 'to confess (evil deeds)' — [ŋ̃wã̂]

[~] (mere nasalization) if the second vowel of the stem is also /u/ so that

/núù/ —> [ŋṹũ̀] —> [ŋũ̂] —> [ũ̂] 'die'[1]

[n], a voiced alveolar nasal, elsewhere:

/níhì/ 'stretch' — [nĩ́hĩ̀]

/unù/ 'mouth' — [ū̃nũ̀]

/nh/ is [ṇ], a tapped alveolar nasal:

/nhìnhì/ 'he/she' — [ṇĩ̀ṇĩ̀]

/ɛnhà/ 'meat' — [ɛ̄̃ṇã̀]

Fricatives

/f/ is [f], a voiceless labio-dental fricative:

/fí/ 'throw' — [fî]

/fó/ 'be finished' — [fô]

/v/ is [v], a voiced labio-dental fricative:

/ví/ 'write' — [vî]

/vó/ 'fetch water' — [vô]

/s/ has two allophones:

[ʃ], a voiceless palato-alveolar fricative before a sequence /-iV/ so that /siV/ —> [ʃV]:

/sià/ 'deny' — [ʃâ],

1. Note that in entering forms such as this in the comparative series (Part III), the surface form is entered without prejudice, it is hoped, to the analysis adopted here. Cf., for example, C.S. 70.

[s], a voiceless alveolar fricative, elsewhere:

/sí/ 'draw, pull' — [sî]

/sá/ 'sting, bite (of snake)' — [sâ]

/z/ has two allophones:

[ʒ], a voiced palato-alveolar fricative before a sequence /-iV/ so that /ziV/ —› [ʒV]:

/zíè/ 'open' — [ʒê]

[z], a voiced alveolar fricative, elsewhere:

/ìzì/ 'millet' — [ìzì]

/zɛ́/ 'choose' — [zɛ̂]

/kh/ is [x], a voiceless velar fricative:

/khɛ́hɛ̀/ 'await' — [xɛ́hɛ̀]

/ɔ̀khɔ̀ɔ/ 'evil, sin' — [ɔ̀xɔ̀ɔ̄]

/gh/ is [ɣ], a voiced velar fricative:

/ghɛ́ɛ̀/ 'flirt' — [ɣɛ́ɛ̀]

/ìghà/ 'chains' — [ìɣà]

Lateral, Roll, Approximant

/l/ is [l], a voiced alveolar lateral:

/lɛ́/ 'go' — [lɛ̂]

/ɔ̀lɔ/ 'tortoise' — [ɔ̀lɔ̄]

/rl/ is [ɻ], a tapped alveolar lateral:

/rlú/ 'be dirty' — [ɻu]

/irlá/ 'fat' — [īɻá]

/r/ is [r], a voiced alveolar roll:

/ré/ 'swell (of river)' — [rê]

/ìrà/ 'father' — [ìrà]

/vh/ is [ʋ] a voiced bilabial (spread) approximant; it is in free variation with /wh/, a weak labial-velar approximant (hence it is put in brackets in the consonant chart (p. 222)):

/vhàà/ 'you (pl.)' — [ʋàà] ~ [whàà]

/ɛvhɔ̀/ 'giant rat' — [ɛ̄ʋɔ̀] ~ [ɛ̄whɔ̀]

/vh/ carries a low functional load.

/y/ is [y], a voiced palatal approximant:

/yí/ 'do' — [yî]

/ùyà/ 'tail' — [ùyà]

/yh/ is [yh], a voiced weak palatal approximant:

/uyhà/ 'family' — [ūyà]

/yh/ carries a very low functional load. It may be interesting to note that, in some of the few items in

which it occurs, there are archaic forms with /rl/. Thus:

/iyhà/ 'play, joke (n.)'

has an archaic form /irlà/.

/yhá/ 'run'

has an archaic form /rlá/.

/w/ is [w], a voiced labial-velar approximant:

/wó/ 'be strong' — [wô]

/àwɛ̀rɛ/ 'blacksmith' — [àwɛ̀rɛ̄]

/wh/ is [wh], a voiced, weak labial-velar approximant. Cf. /vh/.

/h/ is [h], a voiceless glottal approximant:

/hó/ 'look at' — [hô]

/òhì/ 'back' — [òhi]

/ñ/ is [ñ], a nasalized voiceless glottal approximant:

/oñɔ̀/ 'war' — [ōñɔ̃̀]

Only /i, ɛ, a, ɔ, u/ occur after /ñ/, a restriction that is not true for the nasals.

3. Consonant Contrasts Further Exemplified

p ~ b ~ kp ~ gb ~ m ~ mh ~ f ~ v ~ vh ~ w

/pàpàpà/ 'onomatopoeic for 'vivid''

/bá/ 'plait (hair)'

/kpá/ 'vomit'

/gbá/ 'tie (fence, bridge)'

/má/ 'mould'

/mháhɛ̀/ 'plan, measure'

/fá/ 'cut (rope, thread)'

/vá/ 'butcher (animal)'

/vhàà/ 'you (pl.)'

/wá/ 'pack'

t ~ d ~ k ~ g

/táɔ̀/ 'loosen'

/dá/ 'take, marry; wrestle'

/kákà/ 'be dry'

/gá/ 'worship'

s ~ z ~ kh ~ gh ~ h

/sɛ́hɛ̀/ 'shout'

/zɛ́/ 'choose'

/khɛ́hɛ̀/ 'await'

/ghɛ́ɛ̀/ 'flirt'

/hɛ́hɛ̀/ 'repair; plaster (wall)'

m ~ mh ~ n ~ nh ~ l ~ rl ~ r

/má/ 'mould'

/mháhɛ̀/ 'plan'

/ná/ 'give'

/nhánhà/ 'move (of ants)'

/lá/ 'flow (of water)'

/rlá/ 'become rotten'

/ráɔ̀/ 'beg'

vh ~ y ~ yh ~ w

/vhàà/ 'you (pl.)'

/ùyà/ 'tail'

/uyhà/ 'family'

/wá/ 'pack'

h ~ ñ

/òhɔ̀/ 'soup, stew (for eating ẹba etc.)'

/oñɔ̀/ 'war'

4. Vowels

There are seven vowel phonemes in Ghotuọ: /i, e, ɛ, a, ɔ, o, u/. They contrast minimally:

/sí/ 'draw, pull'

/sé/ 'crack (kernel)'

/sɛ́/ 'split'

/sá/ 'sting, bite (of snake); shoot, hit, etc.'

/sɔ́/ 'lay (egg)'

/só/ 'stitch, sew'

/sú/ 'drag, move (of snail)'

There are no significantly nasalized vowels in Ghotuọ though a vowel is automatically nasalized after a nasal. For example:

/má/ 'mould' ——[m̂ã̂]

/ino/ 'okra' —— [ĩn̄ȭ]

/enhènhè/ 'character, behaviour'— [ẽn̰ɛ̀n̰ɛ̀]

/e/ and /o/ occur less after nasal consonants than do the other vowels.

5. Vowel Harmony

There is no evidence of vowel harmony in the Ghotuọ verb system. The way plurals of nouns are formed, however, reveals a pattern that is faintly suggestive

of the existence of vowel harmony at some earlier stage.

Virtually all nouns are of V-CV structure, the initial vowel being the prefix. A few have an initial /gh-/ in their singular forms. (It is not clear yet whether this is a recent development in Ghotuọ or a remnant of some nounclass marker. The evidence from the data at present available to me and on which this work is based reveal nothing of this nature. This would suggest that it is possibly epenthetic. But evidence from other, uninvestigated Ẹdo languages may reveal that it is a case of retention rather than an innovation). The plural, as a general rule, is formed by changing the prefix (the first V) to the appropriate vowel. This change is effected irrespective of the presence or absence of the initial /gh-/ that occurs in some singular noun forms.

The rules of plural formation may be summarized as follows:

1. u, a, —> i
2. ɛ, ɔ, —> e
3. o —> i (if stem has i or u)
   —> e (elsewhere)

/i/ and /e/ are excluded from this summary because

/i/ and /e/ always remain unchanged and /i/ or /e/- prefix nouns are either already plural or have no known singular forms:

/ìsɔ̀/	'faeces'
/ìrà/	'father'
/ènùɔ̀/	'smoke'
/egho/	'money'
/èkhùà/	'cheeks'

Examples for rule 1:

/ùgbà/	——›	/ìgbà/	'thorns'
/ùgì/	——›	/ìgì/	'baskets'
/ùkasí/	——›	/ìkasí/	'spears'
/àbò/	——›	/ìbò/	'mats'
/ghàtète/	——›	/ìtète/	'scalps'
/alɔ̀kɔ̀/	——›	/ilɔ̀kɔ̀/	'darlings'

Exceptions to this are those in which /a/ changes to /io/:

/àmɛ̀/	——›	/ìòmɛ̀/	'waters'
/ghawà/	——›	/iowà/	'dogs'

Examples for rule 2:

/ɛdà/	⟶ /edà/	'rivers'
/ɛwɔ̀/	⟶ /ewɔ̀/	'gods, fetishes'
/ɔ̀sè/	⟶ /èsè/	'friends'
/ɔ̀kɔ/	⟶ /èkɔ/	'hills'

Exceptions to this are those in which ɛ ⟶ a:

/ɛ̀ò/	⟶ /àò/	'eyes'

Examples for rule 3:

/odí/	⟶ /idí/	'walls'
/ghorù/	⟶ /irù/	'hats/caps'
/otà/	⟶ /età/	'trees'
/òòsɛ̀/	⟶ /èèsɛ̀/	'saliva'
/ghobè/	⟶ /ebè/	'leaves, books'

Exceptions to this are those in which o ⟶ a instead of e:

/ghobɔ̀/	⟶ /abɔ̀/	'hands'
/ghòvɔ̀/	⟶ /àvɔ̀/	'legs'

With these compare /àò/ 'eyes'. These three items relate to parts of the body.

6. Tone

Ghotuọ has three tonemes : high, mid, and low. There is no downstep. High tone is marked ´ , low `, and mid is unmarked.

Although Ghotuọ makes extensive use of grammatical tone, it does not employ much lexical tone and it is, therefore, difficult to establish the three levels of tone by comparing minimal pairs of lexical items. In particular, the lexical distinction of mid from high is difficult. Thus minimally distinctive items such as

/òtà/ 'afternoon' [_ _] (LL)

and /otà/ 'tree' [- _] (ML)

are rare. The question of the lexical distinction of mid and high is the more intriguing because mid-high sequences in lexical items are in free variation with high-mid sequences. For example:

/ɔkpá/ (MH) ~ /ɔ́kpa/ (HM) 'lamp'

However, we do have:

/ɔ̀kpà/ 'cock'

/ɔ̀kpa/ 'one'

/ɔ̀kpá/ 'which?'

in which the three items contrast.

Even here, the two examples 'one' and 'which (one)' are suspect. However, since /ɔ̀kpá/ may occur both at the beginning as well as elsewhere in questions and its low-high tone pattern is invariable, it seems justifiable to use the pair as an instance of mid contrasting with high. Also, /ɔ̀kpá/ contrasts with /ɔ̀kpa/ in the following questions:

/ɔ̀kpɔ̀sɔ̀ ɔ̀kpa ɔ dá/ 'had he (only) one wife?'
L LL L M M H

/ɔ̀kpɔ̀sɔ̀ ɔ̀kpá ɔ dá/ 'which woman did he take (as wife)?'

There are, in Ghotuọ, lexical items such as:

/ùkasí/ 'spear'

/ɔ̀mɔ́ká/ 'orange'

in which the tonal sequence low-mid-high occurs, a situation that would be impossible if the third level were somehow analysable as downstep.

Grammatically, the three levels are easily established minimally. Thus, in the following clauses, three tenses are distinguished merely by changing the tone of the verb from low to mid to high.

(i) /okposo dɛ̀ ghobè/ 'woman (usually) buys book'

(ii) /okposo dɛ ghobè/ 'woman should buy book'

(iii) /okposo dɛ́ ghobè/ 'woman bought book'

Note that any monosyllabic verb in Ghotuọ will behave identically in the same tenses and all disyllabic verbs will also behave identically with each other in the same tenses.

Variants of the three tonemes occur:

all prepausal non-low tones are falling if they are realized on a verb, some particles, or on a pronoun.

/ɔ dɛ́/ 'he bought' [- ˥˩]

but /ɔ dɛ́ ukòdò/ 'he bought a pot' [- ˉ - _ _]

/sɛ́ mhɛ́/ '(of me), mine' [ˉ ˥˩]

but /sɛ́ mhɛ́ nhɔ/ 'it is mine' [ˉ ˉ ˥˩]

and /sɛ́ mhɛ́ nhɔ khɔ̀/ 'it is mine, please'

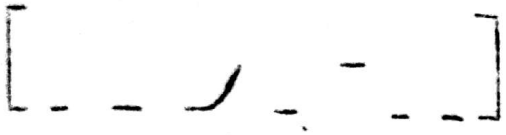
[ˉ ˉ - _]

Note that as a result of this rule, monosyllabic verbs which are cited without any following noun or verb have a high -falling tone on the surface (as in the various examples used above:

/é/ 'eat' [ê]

A low tone preceding another low tone across a morpheme boundary is a low-mid rising tone:

/òkpòsò dɛ̀ ukòdò/ 'woman is buying pot'



As mentioned above, Ghotuọ employs grammatical tone extensively. The investigation of the use of tone in Gh tuọ grammar is an interesting topic which is outside the scope of this work. Only the completive phrase is further discussed below.

7. The Completive Phrase

There are five types of disyllabic nouns in Ghotuọ, classified according to their inherent tone patterns:

I	LL :	/ɔ̀kpà/	'cock'
		/ɔ̀sɛ̀/	'friend'
II	LM	/ɛ̀gba/	'hoe'
		/àzɛ/	'witch, wizard'
III	ML	/usɔ̀/	'head'
		/otà/	'tree'
IV	MM	/ino/	'okra'
		/egho/	'money'

v. MH /uré/ 'snail'
/odí/ 'wail'

Groups I and III are the most common, though group I is in turn more common than group III.

The 'associative' particle in Ghotuǫ is sɛ́. It is invariable and means approximately 'of'. This particle marks the completive phrase, its place being between the two nouns of the structure.

In a completive phrase, all groups are invariable after the particle sɛ́. Before it, however, group I changes to MM and group III changes to MH. Groups II, IV and V are invariable even in this position. Thus:

/ɛ̀kpɛ̀ + sɛ́ + òkpòsò/ —› /ɛkpa sɛ́ òkpòsò/ 'skin of woman'

/ɔ̀sè + sɛ́ +unù/ —› /ɔse sɛ́ unù/ 'friend of mouth (i.e. not a true friend)'

and

/usɔ̀ + sɛ́ + otà/ —› /usɔ́ sɛ́ otà/ 'head of tree'

/otà + sɛ́ + ghèrà/ —› /otá sɛ́ ghèrà/ 'tree of fire (firewood)'.

Cf. groups II, IV and V:

/ɛ̀gba + sɛ́ + àzɛ/ —› /ɛ̀gba sɛ́ àzɛ/ 'hoe of wizard'

/egho + sé + ɛ̀gba/ —› /egho sɛ́ ɛ̀gba/ 'money of hoe'

/uré + sɛ́ + ugbo/ —› /uré sɛ́ ugbo/ 'snail of forest'.

There may be a case for interpreting this construction as a verbal construction since nouns before sɛ́ in it behave exactly as they do in the simple past tense which is marked by a high tone on the verb:

I /òkpòsò dɛ́ ɛ̀kpà/ —› /okposo dɛ́ ɛ̀kpà/ 'woman bought skin'.

II /otà gbé àzɛ/ —› /otá gbé àzɛ/ 'tree killed wizard'.

Should one interpret the completive phrase as a verbal construction, one would have to recognise /sɛ́/ as a verb. Whether there are sufficient grounds for such an approach is debatable and this will not be discussed further here.

IBILO

1. Syllable Structure

There are two types of syllable structure in Ibilo: CV and V.

Examples:

V	—	C V	
		d ɛ	'buy'
		gb e	'beat'
		bh a	'pluck'
ó	—	b ɔ	'hand'
é	—	sh a	'pepper'

Vowel sequences occur in Ibilo stems. There are three possibilities in such cases:

(a) a close vowel followed by another vowel of different quality (cf. i-iv below)

(b) two identical vowels (v-vi)

(c) a glide (interpreted as two vowels terminating in /i/) (vii-ix).

(i)	/uvie/	'song'
(ii)	/bia/	'give birth'
(iii)	/úsuo/	'nose'

(iv) /sɑa/ 'carry (load) on head'

(v) / khaá/ 'knife'

(vi) /ɔ́bhɔ́/ 'lizard'

(vii) /kpoi/ 'burn (tr.)'

(viii) /kpai/ 'sew'

(ix) /ɔ́rɔ́i/ 'neck'

In cases (a) (i.e. i-iv), the close vowel may, on occasion, become non-syllabic:

e.g. /bia/ 'bear (child)' —› [byà]

/úsuo/ 'nose' —› [úswò]

/sɑa/ 'carry (load)' —› [swà]

In the last two examples, we find [w] arising from both /u/ and /ɑ/. As a general rule, if the following vowel is [e] or [o], [w] is from /u/; otherwise, it is from /ɑ/. It should be noted that this problem does not arise with regard to /i/ and [y] when glide rules apply to the former. Though [ɪ] occurs, it is only as an allophone of /i/ (see under Vowels below).

2. Consonants

b	t	d	k	g	kp	gb
bh	ts	dz	kh	gh		
m		n				
mh		nh				
hm		hn				
f v	hv s	hz	sh	hzh		
		l				
		rl				
		hl				
		y	w	h	ɱ	

Stops

/b/ is [b], a voiced bilabial plosive:

/bi/ 'be dark' — [bì]

/ábɔ/ 'hands' — [ábɔ̀]

/t/ is [t], a voiceless alveolar plosive:

/ta/ 'be quick' — [tà]

/ǒtɔ́/ 'riches' — [ǒtɔ̀ɔ́]

/d/ is [d], a voiced alveolar plosive:

/dɔ/ 'eat quickly' — [dɔ̀]

/ɔdɛ/ 'tomorrow' — [ɔ̌dɛ̀]

/d/ carries a very low functional load.

/k/ has two allophones:

[c], a voiceless palatal plosive, before a sequence /-iV/ so that /kiV/ — [cV]:

/ukio/ 'he-goat' — [ûcò]

[k], a voiceless velar plosive, elsewhere:

/ki/ 'advise' — [kì]

/akɔ/ 'teeth' — [âkɔ̀]

[tʃ] is acceptable and sometimes used by native speakers in place of [c].

/g/ has two allophones:

[ɟ], a voiced palatal plosive, before /i/; a sequence /giV/ —› [ɟV]:

/ogi/ 'thief' — [ôɟì]

/agiɔ/ 'they' — [âɟɔ̀]

[g], a voiced velar plosive, elsewhere:

/ga/ 'bribe' — [gà]

/ogu/ 'rat' — [ôgù]

[dʒ] is acceptable and sometimes used by native speakers in place of [ɟ].

/kp/ is [kp], a voiceless labial-velar stop:

/kpi/ 'weave (cloth)' — [kpì]

/úkpo/ 'house' — [úkpò]

/gb/ is [gb], a voiced labial-velar stop:

/gbe/ 'beat' — [gbè]

/ógbɔrlɔ/ 'twenty' — [ógbɔ̀ɬɔ̀]

/bh/ is [bh], a voiced lenis bilabial plosive:

/bhɔ/ 'jump — [bhɔ̀]

/ɛ́bhi/ 'oil' — [ɛ́bhì]

/ts/ is [ts], a voiceless alveolar affricate:

/tsi/ 'be fed up' — [tsì]

/tsɔ/ 'drop' — [tsɔ̀]

/ɔtsa/ 'arrow' — [ɔ̂tsà]

/dz/ is [dz], a voiced alveolar affricate:

/dzi/ 'come' — [dzì]

/dzɔ/ 'throw' — [dzɔ̀]

/odzu/ 'louse' — [ồdzù]

[z] is acceptable and occasionally used by native speakers in place of [dz].

/kh/ is [kh], a voiceless lenis velar plosive:

/khɛnhɛ/ 'sell' —— [khɛ̀n̰ɛ̃]

/ékhúkhu/ 'crocodile' —— [ékhúkhù]

/gh/ is [gh], a voiced lenis velar plosive:

/ghamhi/ 'lift' —— [ghàmhĩ]

/ghɔghɔ/ 'be bent' —— [ghɔ̀ghɔ̀]

Nasals

/m/ is [m], a voiced bilabial nasal:

/mi/ 'press, wring (clothes)' —— [mĩ]

/mu/ 'catch' —— [mũ]

/ɔ́mɔ/ 'child' —— [ɔ́mɔ̃]

/mh/ is [mh], a voiced lenis bilabial nasal:

/mhɛ/ 'I' —— [mhɛ̃]

/ramhi/ 'fry' —— [ràmhĩ]

/hm/ is [hm], a breathy-voiced bilabial nasal. It starts with a voiceless phase in utterance initial position and with a voiced initial phase in intervocalic position. No special symbols will be used for these variants:

/hmɛ/ 'be ripe' —— [hmɛ̃]

/hmo/ 'graze (of cow, etc.)' —— [hmõ̀]

/ɔhmɛ/ 'mine' —— [ɔ́hmɛ̃̀]

/hm/ carries a low functional load.

/n/ has three allophones:

[ɲ], a voiced palatal nasal, before a sequence /-iV/ so that /niV/ ——› [ɲV]:

/nie/ 'take (from)' —— [ɲɛ̃̀]

/ɛ́nio/ 'wine' —— [ɛ́ɲõ̀]

[ŋ], a voiced velar nasal before a sequence /-uV/ or /-ʊV/. The close vowel subsequently becomes non-syllabic following glide rule processes:

/nʊɔ/ 'drink' —— [ŋw̃ɔ̃̀]

/ínue/ 'monkey' —— [íŋw̃ɛ̃̀]

[n], a voiced alveolar nasal, elsewhere:

/nɛ/ 'defecate' —— [nɛ̃̀]

/únu/ 'mouth' —— [únũ̀]

/nh/ is [n̩], a tapped alveolar nasal:

/nhɔ/ 'wrestle' —— [n̩ɔ̃̀]

/anha/ 'meat' —— [ân̩ã̀]

/hn/ is [hn], a breathy-voiced alveolar nasal with allophones as for /hm/:

/hnu/ 'hold' — [hnṵ̀]

/ihnánhɔ/ 'to-day' — [ɪhnãn̰ɔ̃̀]

Fricatives

/f/ is [f], a voiceless labio-dental fricative:

/fì/ 'complete' — [fì]

/ífɷa/ 'wing' — [ífwà]

/v/ is [v], a voiced labio-dental fricative:

/ve/ 'send' — [vè]

/vɔ/ 'stink' — [vɔ̀]

/ɷvá/ 'key' — [ɔ̀vá]

/hv/ is [hv], a breathy-voiced labio-dental fricative with allophones as for the breathy-voiced nasals (cf. /hm/ above):

/hvɔ/ 'to cut throat of (person); execute (in this way)' — [hvɔ̀]

/ɛ́hvɛ/ 'broken pot' — [ɛ́hvɛ̀].

/s/ is [s], a voiceless alveolar fricative:

/si/ 'hang' — [sì]

/úsuo/ 'nose' — [úswɔ̀]

/hz/ is [hz], a breathy-voiced alveolar fricative:

/hza/ 'bore (hole)' — [hzà]

/íhzihzi/ 'ants' — [íhzìhzì]

/sh/ is [ʃ], a voiceless palato-alveolar fricative:

/shi/ 'pull' — [ʃì]

/ósho/ 'rain' — [óʃò]

/hzh/ is [hʒ], a breathy-voiced palato-alveolar fricative with allophones as for /hm/:

/hzhi/ 'set in groups' — [hʒì]

/uhzhu/ 'tail' — [ûhʒù]

Lateral, Roll, Approximant

/l/ is [l], a voiced alveolar lateral:

/la/ 'be fat' — [là]

/shalɔ/ 'to hoe' — [ʃàlɔ̀]

/rl/ is [ɺ], a tapped alveolar lateral. It occurs more frequently than /l/ in Ibilo:

/rla/ 'go' — [ɺà]

/órlurlá/ 'cotton' — [óɺùɺâ]

/hl/ is [hl], a breathy-voiced alveolar lateral with allophones as for /hm/:

/hla/ 'run' —— [hla]

/ọhlɔ/ 'red, native pomade' —— [ộhlɔ̀]

/r/ is [r], a voiced alveolar roll:

/ri/ 'do' —— [rì]

/órɔ́i/ 'neck' —— [órɔ́ɪ̀]

/y/ is [yh], a voiced weak palatal approximant:

/ɔyitsó/ 'witch' —— [ɔ̀yhìtsó]

/oyó/ 'who?' —— [òyhó]

/y/ carries a low functional load.

/w/ is [w], a voiced labial-velar approximant, before /ọ/:

/ɔwọrlɔ/ 'crab' —— [ɔ̂wọ̀ɻɔ̀]

[wh], a voiced weak labial-velar approximant, elsewhere:

/wɛ/ 'say, tell' ——[whɛ̀]

/wo/ 'quarrel' ——[whò]

/h/ is [h], a voiceless glottal approximant:

/he/ 'cook' — [hè]

/hɔ/ 'cultivate (soil)' — [hɔ̀]

/ɛ́ha/ 'centre' — [ɛ́hà]

/ɦ/ is [ɦ], a voiceless nasalized glottal approximant:

/ɦi/ 'yes' — [ɦḯ]

/ɦu/ 'grind (cassava)' — [ɦṳ̀]

/ɨrlaɦɔ/ 'bee' — [ɨ̀làɦɔ̀]

It carries a low functional load and sometimes alternates with /h/ as in

[ɔ́ɦɔ̀] ~ [ɔ̂hɔ̀] 'sun'

3. Consonant Contrasts Amplified

b ~ bh ~ kp ~ gb ~ f ~ v ~ m ~ mh ~ hm

/ba/ 'vomit'

/bha/ 'pluck'

/kpai/ 'sew'

/gba/ 'spread (mat)'

/fariɛ/ 'untie'

/va/ 'split'

/ma/ 'mould'

/mha/ 'we'

/hmanha/ 'ours'

t ~ ts ~ s ~ d ~ dz ~ k ~ kh ~ g ~ gh

/ta/ 'be quick'

/tsa/ 'shine (of moon)'

/sa/ 'sting'

/da/ 'like, want'

/dza/ 'take'

/ka/ 'buy (liquid)'

/kha/ 'stammer'

/ga/ 'bribe'

/ghamhi/ 'lift'

n ~ nh ~ hn

/nɔ/ 'spend'

/nhɔ/ 'wrestle'

/ɳhnɔ́/ 'year'

f ~ v ~ hv

/fɔ/ 'to ache with tiredness'

/vɔ/ 'stink'

/hvɔ/ 'to execute (by cutting off head)'

s ~ hz ~ sh ~ hzh

/si/ 'hang; be fed up'

/hzihzi/ 'rub'

/shi/ 'pull, draw'

/hzhi/ 'set in groups'

r ~ l ~ rl ~ hl

/ramhi/ 'fry'

/la/ 'be fat'

/rla/ 'go'

/hla/ 'run'

y ~ w

/oyó/ 'who?'

/wo/ 'quarrel'

h ~ ɦ

/hu/ 'cover (with leaves); roost (of hen, etc.)'

/ɦu/ 'grind (cassava)'

4. Vowels

There are eight vowel phonemes in Ibilo /i, e, ɛ, a, ɔ, o, ɑ, u/. These eight vowels contrast minimally.

/dzi/ 'corn'
/dze/ 'fall'
/dzɛ/ 'germinate'
/dza/ 'take'
/dzɔ/ 'throw'
/dzo/ 'weave'
/dzɑ/ 'buy, sell'
/dzu/ 'tie'

After a nasal, a vowel in Ibilo becomes slightly nasalized; for example:

/mi/ 'press — [mĩ̀]
/me/ 'suck (breast)'- [mẽ̀]
/mhɔhzɛ/ 'sleep' — [mhɔ̃̀hzɛ̀]

The initial part of a vowel after a breathy voiced consonant is breathy-voiced. These allophones are not specially represented, either in phonemic or phonetic transcription.

The vowel /i/ has another allophone in addition to the above-mentioned. In prefix position before stems with /ɛ, a, ɔ, ɑ/, and also where it forms the second part of a glide whose first part is /ɛ, a, ɔ/ or /ɑ/, it is [ɪ], a lowered and more retracted variety. Thus:

/írlákia/	'egg'	— [ɪ́ɻácà]
/órói/	'neck'	— [órɔ̀ì]

[ɪ] does not occur in stems, except as in [órɔ̀ì] above. Occasionally, it occurs in the second CV of a stem. For example:

/ókpáti/	'leg'	— [ókpátɪ̀]
/ghamhi/	'lift'	— [ghàmhĩ]

5. Vowel Harmony

There is vowel harmony both in the noun and in the verb systems of Ibilo.

(a) Nouns

All nouns have a prefix and a stem. There is harmony in the way vowels co-occur in the prefix and in the stem. Generally, there are two sets and a stem vowel will usually take a prefix of the same harmony

set. The two sets are:

Set I		and	Set II	
i	u		ɛ	ɔ
e	o		a	ɔ

Examples: (Set I)

/iñi/ 'charcoal'

/óri/ 'oil palm'

/ute/ 'root'

/úrlo/ 'eye'

/éru/ 'cooking pot'

Set II

/ɛ́gbɛ/ 'body'

/ɔ́kpaá/ 'one'

/ɔgɔ/ 'basket'

/ɔkɔtɔ́/ 'toad'

The formation of plurals from singular forms is also governed by rules of vowel harmony. The rule may be summarized thus:

a singular prefix i, e, o, u changes to i in the plural;

a singular prefix ɛ, a, ɔ, ɔ changes to ɛ in the plural.

This generalization implies (correctly) that the nouns cited under set I above all have plural forms starting with /i/ while those cited under set II have plural forms starting with /ɛ/.

The various exceptions to this rule are mentioned below:

(i). There is a singular morph /írl-/ attached to the singular forms of some nouns. This disappears in the plural and the noun follows the normal plural formation pattern. For example:

/írlágia/	'jaw'	—› /ɛ́gia/ pl.
/írlávɔ/	'thigh'	—› /ɛ́vɔ/ pl.
/írlagbɛ/	'kolanut'	no plural form.
/írlásia/	'stone'	—› /ɛ́sia/ pl.
/írlákia/	'egg'	—› /ɛ́kia/ pl.
/írlánioa/	'a type of toad'	—› /ɛ́nioa/ pl.
/írlémhe/	'breast (female)'	—› /ímhe/ pl.
/írleto/	'buttocks'	—› /ito/ pl.
/írlédo/	'vagina'	—› /ído/ pl.
/írlehzhi/	'guineacorn'	no plural.

These examples are exhaustive with reference to my data. It should be noted that the vowel following /írl-/ is

either /e/ or /a/.

(ii). Prefix /a/ changes to /i/ (plural) in one case:

/akpo/ 'bag' ——› /ikpo/

This can be explained in terms of the stem vowel which is of set I.

(iii). /ọ/ (singular) ——› /a/ (plural) in one instance:

/ọ́bɔ/ ——› /ábɔ/ 'hands'

Cf. some of the other languages where the same thing occurs. Cf. C.S. 4.

(iv). There are invariable forms — i.e. forms which remain the same in both singular and plural. These are mostly what might be considered 'mass' nouns:

/únu/ 'mouth' (cf. /ínúkpo/ 'doorways')

/ébhi/ 'oil'

/énio/ 'wine'

/ọhzɔ/ 'soup, etc.'

There are many items in this class.

(v) Finally, there are a number of cases in which the vowels in a word generally violate the expected pattern:

/ésha/ 'pepper'

/ugbadó/ 'maize'

/órlurlá/	'cotton'	
/érína/	'needle'	
/ukhuhzagié/	'groundnut'	
/úsha/	'stick, tree'	(plural: /ísha/
/uhva/	'bone'	(plural /ihva/

Some of these, but certainly not all, may be explained in terms of borrowing.

(b). The Verb Phrase

The vowels of Ibilo fall neatly into two harmonizing sets (already given above) in every place of structure within the verb phrase. There are four places of structure involved: the subject pronoun; the aspect/tense mark (usually pre-verb); verb stem; and object pronoun.

At every place of structure in the verb phrase, all or at least one of the following alternations occur:

i ~ ɛ (first person sg. and third person pl. subject pronouns; future aspect marker).

e ~ a (first person pl. subject pronoun, indefinite subject pronoun, and second person pl. subject pronoun; continuous aspect marker).

o ~ ɔ (third person sg. subject pronoun; third person singular object pronoun).

u ~ o (second person singular subject pronoun)

Examples: (i) Subject pronouns

(a)	i ~ ɛ :	mhi	gbe	'I beat'
		mhɛ	khɔnhɔ	'I fought'
		i	gbe	'they beat'
		ɛ	dɛ	'they bought'
(b)	e ~ a :	mhe	gbe	'we beat'
		mha	dɛ	'we bought'
		e	dzu	'they (ind.) tied'
		a	kɔ	'they (ind.) planted'
		a	fo	'they (ind.) dried'
(c)	o ~ ɔ :	o	gbe	'he beat'
		ɔ	dɛ	'he bought'
		o	dzu	'he tied'
		ɔ	dzo	'he bargained'
(d)	u ~ o :	u	gbe	'you (sg.) beat'
		o	dɛ	'you bought'
		u	dzo	'you wove'
		o	khɔnhɔ	'you fought'

(ii) Pre-verb tense markers

/rlɪ/ ~ /rlɛ/, future aspect marker; past continuous markers.

ó	rli	gbe	'he will beat'
é	rlɛ	khɔnhɔ	'he will fight'
ó!	rlí	gbe	'he was beating'
ɔ́!	rlɛ́	khɔnhɔ	'he was fighting'

(iii) The verb stem

The examples so far given reveal that, in the stem, there is a neat division into two sets (as given above). The examples also reveal that harmony is controlled or initiated from the stem: in other words, the vowel of the stem determines from what set vowels in other places of structure in the phrase are chosen.

(iv) Object pronouns

The presence of an object in an Ibilo verb phrase is usually marked by the presence of /rli/ which is invariable (i.e. is not subject to rules of vowel harmony) and occurs immediately after the verb.

Only the third person singular object form has the alternation /o/ ~ /ɔ/ based on rules of vowel harmony. All other pronoun object forms are invariable.

o ~ ɔ : /u gbe rli o/ —› /u gbe rlo/ 'you beat him'

/ọ dɛ rli ɔ/ —› /ọ dɛ rlɔ/ 'you bought him/it'.

The following object forms are invariable:

/mhi/	'me'	/wa/	'you (pl.)'
/-i/	'you (sg.)'	/agiɔ/	'them'
/mha/	'us'		

Examples:

o	gbe	rlí mhi	'he beat me'
ɔ	dɛ	rlí mhi	'he bought me'
o	gbe	rlí i	'he beat you'
ɔ	dɛ	rlí i	'he bought you'
o	gbe	rlí mha	'he beat us'
ɔ	dɛ	rlí mha	'he bought us'
o	gbe	rlí wa	'he beat you (pl.)'
ɔ	dɛ	rlí wa	'he bought you'
o	gbe	rláagiɔ	'he beat them'
ɔ	dɛ	rláagiɔ	'he bought them'

6. Tone

Two levels of pitch are significant in Ibilo: high and low. The two levels contrast minimally:

/ɛ́bɛ́/ 'flat, carved piece of gourd for removing paste or mash from mortar' - [- -]

/ɛ́bɛ/ 'grass' — [- _]

/ɛbɛ/ 'pitcher (for water)' — [˥˩ _][1]

Note that the high is of the level commonly called 'mid', as, for example, the Yoruba mid or the Ghotuọ mid.

There is a third level of tone in Ibilo which is not identified in lexical items. The third level is of limited occurrence and is seen here (as in Ẹgẹnẹ, Urhobo, etc.) as (non-automatic) downstep. Synchronically, there is no evidence of automatic downstep. Downstep occurs in the following examples:

/ú! rlí gbe/ 'you were beating' [¯ - _]

/ó! rlɛ́ dɛ/ 'he was buying' [¯ - _]

/ó! rlí gbímí/ 'he was beating a wall' [¯ - - -]

1. A LL noun is high-falling-low [˥˩ _] in isolation. When it goes into a context, it is simply low-low.

The highs in the following, though separated by lows, are of equal pitch.

/udzé udzé/ 'axe of axe' [_ - _ -]

/ésha udzé/ 'pepper of axe'[- _ _ -]

The grammaticality of tone in Ibilo is attested to by

/u gbe/ 'you killed'

/u gbé/ 'you should kill'

/ú rli gbe/ 'you will kill'

/ú! rlí gbe/ 'you were killing'

The fact that the third ('downstep') level is limited in occurrence calls for re-examination of this feature. But the general situation, taking the other Ẹdo languages into consideration, would suggest that it is better (at least for now) to regard it as 'downstep'.

7. The Completive Phrase

Four tone groups were identified on disyllabic nouns: Low-low (LL); low-high (LH); high-low (HL) and high-high (HH). Examples are:

/amɛ/ 'water' (LL) —— [âmɛ̀]

/udzé/ 'axe' (LH) —— [ùdzé]

/únu/ 'mouth' (HL) —— [únù̃]

/ímí/ 'wall' (HH) —— [ímí̃]

It was noted that a low-low noun is high-falling-low on the surface (cf. /amɛ/ above and the various examples used so far.)

I have not been able to read any pattern in the data I collected on the Ibilo completive phrase. The tones seemed to change each time I listened afresh (with the exception of a few cases). Consequently, nothing more will be said here on the completive phrase in Ibilo.

UHAMI

1. Syllable Structure

Syllables are either of CV or V structure in Uhami.

Examples:

V		C V	
ɛ́	—	z ɛ	'blood'
á	—	b a	'market'
ú	—	k u	'iron'
u	—	d i	'rope'
		z e	'fall'
		r o	'abuse'

Vowel sequences occur in Uhami. There are three possibilities with such sequences:

(a) a close vowel followed by another vowel of different quality;

(b) the sequence /ai/ or /ae/ interpreted as two vowels, and

(c) two identical vowels.

In cases of (a), the close vowel is either /i/ or /u/. Both tend to become non-syllabic when they occur between a consonant and another vowel, but this is not an obligatory process. For example:

/ɛviɛ/ 'nail (finger or toe)' ——› [ɛ̀vyɛ̀] ~[ɛ̀viɛ̀] [1]

/ísue/ 'mosquito' ——› [íswè] ~[ísùè]

Two examples under (b) are:

/omái/ 'woman —— [òmã́ĩ̀]

/rae/ 'instigate someone to insult another' - [ràè]

Under (c), any two identical vowels may co-occur. There are not many examples:

/kɔɔ/ 'be heavy'

2. Consonants

b	t	d	k	g	kp	gb
m		n	ñ			
f	v	s	z	h		
		l				
		r				
			y	w		

Stops

/b/ is [b], a voiced bilabial plosive:

/bia/ 'give birth' —— [bya̋]

/ɔ́bɔ/ 'arm' —— [ɔ́bɔ̀]

1 Only forms with glides are given in subsequent examples

/t/ is [t], a voiceless alveolar plosive:

/ti/ 'push' —— [tì]

/ɔtɔ́/ 'wine (general)' —— [ɔ̀tɔ́]

/d/ is [d], a voiced alveolar plosive:

/da/ 'drink' —— [dà]

/ido/ 'vagina' —— [ìdò]

/k/ has two allophones:

[c], a voiceless palatal plosive, before /i/.

The sequence /kiV/ in the base becomes [cV] on the surface:

/kia/ 'walk' —— [cà]

/eki/ 'market' —— [ècì]

[k], a voiceless velar plosive, elsewhere:

/áke/ 'ground' —— [ákè]

/ákɔ/ 'day' —— [ákɔ̀]

/g/ has two allophones as for /k/:

[ɟ], a voiced palatal plosive:

/gi/ 'give a statement' —— [ɟì]

/gia/ 'laugh' —— [ɟà]

[g], a voiced velar plosive, elsewhere:

/gu/ 'die' — [gù]

/ɔgɛdɛ/ 'plantain' — [ɔ̀gɛ̀dɛ̀]

/kp/ is [kp], a voiceless labial-velar plosive:

/kpa/ 'guess' — [kpà]

/kpɔ/ 'vomit' — [kpɔ̀]

/ákpo/ 'bag' — [ákpò]

/gb/ is [gb], a voiced labial-velar plosive:

/gbe/ 'beat, kill' — [gbè]

/ugbó/ 'bush, forest' — [ùgbó]

Nasals

/m/ is [m], a voiced bilabial nasal:

/mi/ 'I' — [mĩ̀]

/ma/ 'mould' — [mã̀]

/dumu/ 'pound (in mortar)' — [dùmũ̀]

/n/ has two allophones:

[ɲ], a voiced palatal nasal before a sequence /-iV/ so that /niV/ ⟶ [ɲV]:

/nia/ 'tear' — [ɲã̀]

/enio/ 'palm wine' — [èɲõ̀]

[n], a voiced alveolar nasal, elsewhere:

/ni/ 'know' — [nǐ]

/na/ 'give' — [nā̀]

/únu/ 'mouth' — [únū̀]

Fricatives

/f/ is [f], a voiceless labio-dental fricative:

/fo/ 'be finished' — [fò]

/ɔfi/ 'rat' — [ɔ̀fì]

/v/ is [v], a voiced labio-dental fricative:

/va/ 'butcher' — [và]

/ovie/ 'king, ọba' — [òvyè]

/s/ has two allophones:

[ʃ], a voiceless palato-alveolar fricative, before a sequence /-iV/ so that /siV/ —> [ʃV]. Before /i/ not followed by another vowel, there is free variation between [s] and [ʃ].

/si/ 'pull' — [sì] ~ [ʃì]

/siɛ/ 'be tall' — [ʃɛ̀]

[s], a voiceless alveolar fricative, elsewhere:

/íso/ 'faeces' — [ísɔ̀]

/z/ is [z], a voiced alveolar fricative:

/zi/ 'come' — [zì]

/zo/ 'steal' — [zò]

/ézɛ/ 'blood' — [ézɛ̀]

/h/ has two allophones:

[x], a voiceless velar fricative before /i/ and /u/:

/hiɛ/ 'greet' — [xyɛ̀]

/hu/ 'be hot' — [xù]

[h], a voiceless glottal fricative, elsewhere:

/úhami/ 'the language, Uhami' — [úhàmĩ̀]

Lateral, Roll, Approximant

/l/ is [l], a voiced alveolar lateral:

/le/ 'to mock' — [lè]

/agúlo/ 'vulture' — [àgúlò]

/r/ is [r], a voiced alveolar roll:

/ri/ 'eat' — [rì]

/ro/ 'abuse' — [rò]

/érésu/ 'hat/cap' — [érésù]

/y/ is [y], a voiced palatal approximant:

/yɔ/ 'go' — [yɔ̀]

/úye/ 'twenty' —— [úyè]

/w/ is [w], a voiced labial-velar approximant:

/wɛ/ 'say' —— [wɛ̀]

/wɔ/ 'you (sg.)' —— [wɔ̀]

/owé/ 'mother' —— [òwé]

/ɦ/ is [ɦ̃], a voiceless nasalized glottal approximant:

/ɛ́ɦɔ/ 'smoke' —— [ɛ́ɦ̃ɔ̃]

/ɦ/ carries a very low functional load.

3. Consonant Contrasts Further Exemplified

b ~ k ~ g ~ kp ~ gb ~ m ~ f ~ v

/ba/ 'vomit'

/kari/ 'carve wood'

/gami/ 'be large'

/kpa/ 'guess'

/ɛ́gba/ 'stone'

/ma/ 'mould (pot, etc.)'

/fa/ 'wash'

/va/ 'butcher (animal)'

s ~ z ~ h

/sɔ/ 'put on clothes'

/zɔzɔ/ 'commit an offence'

/hɔ/ 'grind'

n ~ l ~ r

/na/ 'jump'

/la/ 'lock with padlock'

/rae/ 'instigate someone to insult another'

y ~ w ~ h ~ ɦ

/yɔ/ 'go'

/wɔ/ 'you'

/hɔ/ 'grind'

/ɛ́ɦɔ/ 'smoke'

4. Vowels

There are seven vowel phonemes in Uhami. They contrast in the items below:

/zi/ 'come'

/ze/ 'fall'

/zɛ/ 'sell'

/za/ 'take'

/zɔzɔ/ 'commit an offence'

/zo/ 'steal'

/zu/ 'roost (of fowl)'

Nasalized allophones of these vowels occur after nasal consonants:

/ni/ 'know' — [nĩ̀]

/énie/ 'snake' — [énɲ̃è]

/mɛ/ 'me' — [mɛ̃̀]

/na/ 'give' — [nã̀]

/kɔnɔ/ 'fight' — [kɔ̀nɔ̃̀]

/nio/ 'be dry (of pot on fire)' — [ɲõ̀]

/mu/ 'carry' — [mũ̀]

5. Vowel Harmony

There are no traces of vowel harmony in Uhami. There are no restrictions on vowel co-occurrence either within the word (mostly nouns of V-CV structure) or within the verb phrase. Consequently, this feature is not discussed here.

6. Tone[1]

Two levels of tone are clearly distinctive in Uhami: high and low. High contrasts with low in the following minimal pair:

/akɔ/ [_ _] 'tooth, teeth' (LL)

/ákɔ/ [- _] 'day' (HL)

A third level occurs in Uhami but it is not clear whether this third level should be analysed as a third significant (mid) tone or as a downstep. The latter analysis is tentatively adopted here for two reasons:

(i) only two levels occur on lexical items (with the exception of /ɔ́dɛ̄/ [¯ -] 'hunter' (which is a borrowing from Yoruba (cf. Yoruba: ọdẹ 'hunter')) where a third level, neither low nor high occurs).

(ii) the occurrence of the following sequences:

(a) /mí ! dɛ́/ [¯ -] 'I will buy'

(b) /ɔ́ kɔnɔ́/ [¯ _ -] 'he will fight'

Note the non-automatic downstep (a) and the apparently

1. My informants were very inconsistent with tone and this analysis must be taken as very tentative. Indeed, for the same reason, the completive phrase will not be discussed here, especially as they were more inconsistent with nouns than with verb phrases.

automatic downstep (b).

There is some inconclusive evidence for considering a 'mid' tone rather than a downstep: the occurrence of a LMH sequence:

[ù dōdé] [_ - ¯] 'you bought a house'

This sentence, however, derives from:

/u dé odé/ LHLH

In a language such as Bini, the final tone of this utterance rather than being higher than the second would have been downstepped because of assimilation to the preceding low tone. By contrast here, a sequence low-mid-high results, thus suggesting that this language is not subject to the restrictions that apply to the normal 'two tones plus downstep' languages.

But this is hardly sufficient argument to set up a mid tone especially since, in [ùdōdé], the 'mid' tone on [-dō-] actually derives from a coalescence of high (on the verb stem dé) and low (on the initial vowel of /odé/ 'house'). The occurrence of a 'mid' tone, as a result of the coalescence of high and low is a common feature of classical 'two tones plus downstep' languages. What is new here is that the high following this is not downstepped and does not even occur on the same level as the previous (downstepped) high. Rather, it is higher!

EHUẸUN

1. Syllable Structure

An Ehuẹun syllable is either of CV or V structure.

Examples:

V	——	C V	
		y ɔ̀	'go'
		t à	'jump'
o	——	f ɨ	'rat'
e	——	f ã̀	'belly (external)'
ù	——	b ɨ[1]	'night'

Vowel sequences occur within the same stem. Often, it is a sequence of a close vowel plus another vowel:

[ūvìè]	'song'
[ɦɨ̀ɛ̀]	'tear'
[ògūā]	'farm'
[ēgùè]	'tortoise'

In all these cases and similar ones, alternative pronunciations are possible, namely pronunciations in which

---

1. Note that LL ——> [˥˩]. When a low-low noun goes into any context, this fall is lost and it is simply [_ _]. Consequently, this fall is ignored in any discussion of tone.

the close vowels i/u become [y]/[w] and ĩ/ũ become [ỹ]/[w̃]:

[ūvyè]

[ñỹɛ̀]

[ògwā]

[ēgwè]

[ñw̃à] ~ [ñù̃à] 'to please'

2. Consonants

	b			t	d	k	g	kp	gb
ph	bh	f	v	s	z	h			
					l				
				rh	r				
							y		w

Stops

All stops are slightly nasally released before significantly nasalized vowels (here shown as V̰). Nasal plosion will be represented, as before, by an n immediately following the stop.

/b/ has two allophones:

[bn], before $\tilde{V}$:

/bɔ̃̀/[1] 'roof (with grass)' — [bnɔ̃̀]

[b], a voiced bilabial plosive, elsewhere:

/bà/ 'vomit' — [bà]

/ùbì/ 'night' — [ûbì]

/t/ has two allophones:

[tn] before $\tilde{V}$:

/tĩ̀/ 'push' — [tnĩ̀]

/tã̀/ 'be familiar with' — [tnã̀]

[t], a voiceless alveolar plosive, elsewhere:

/tà/ 'jump' — [tà]

/tù/ 'pour' — [tù]

/d/ has two allophones:

[dn], before $\tilde{V}$:

/dã̀/ 'be bright' — [dnã̀]

[d], a voiced alveolar plosive, elsewhere:

/dɔ̀/ 'suck' — [dɔ̀]

/ɛdɛ̀/ 'day' — [ɛ̄dɛ̀]

1. Note that, technically, tone ought not to be marked in phonemic transcription of verbs since they are not classified on the basis of tone. All monosyllabic verbs behave identically in the same environment as do all disyllabic verbs. However, as this is a three level tone language, low will be marked even in verb stems to avoid confusion with the unmarked mid. The convention of not marking tones on verbs is adopted in the comparative series.

/k/ has four allophones:

[cn], before /ĩ/;

[c] , a voiceless palatal plosive, before /i/ ;

[kn], before /ɛ̃, ã, ɔ̃, ũ/; and

[k] , a voiceless velar plosive, elsewhere.

If the sequence /kiV/ or /kĩV/ occurs, the close vowel /i/ or /ĩ/ is lost after /k/ —› [c] giving [cV] or [cnṼ].

/kĩ̀ã̀/	'walk'	— [cnã̀]
/kì/	'weave'	— [cì]
/kɔ̃̀/	'be satisfied'	— [knɔ̃̀]
/kɔ̀/	'bathe'	— [kɔ̀]
/kiɛ/	'split'	— [cɛ̀]

/g/ is [g], a voiced velar plosive, with allophones as for /k/.

/gĩ̀/	'trample on; march upon'	— [ɟnĩ̀]
/gì/	'come'	— [ɟì]
/gìà/	'laugh'	— [ɟà]
/gũ̀ã̀/	'be half cooked'	— [gnũ̀ã̀]
/gà/	'spread'	— [gà]

/gb/ has two allophones:

[gbn], before Ṽ:

/gbã̀/ 'spread (mat)' —— [gbnã̀]

[gb], a voiced labial-velar stop, elsewhere:

/gbè/ 'beat, kill' —— [gbè]

/ugbɔ̀rɔ̀/ 'twenty' —— [ūgbɔ̀rɔ̀]

Fricatives

/ph/ is [Φ], a voiceless bilabial fricative:

/phĩ̀ɛ̃̀/ 'untie' —— [Φỹɛ̃̀]

/ɔ̀phã/ 'grub found inside dead palm trees' —— [ɔ̀Φ̄ã̄]

/phɛ̀/ 'lick' —— [Φɛ̀]

/bh/ has two allophones:

[m], a voiced bilabial nasal, before Ṽ:

/bhɛ̃̀/ 'conceive' —— [mɛ̃̀]

/bhɔ̃̀/ 'bear (fruit)' —— [mɔ̃̀]

[β], a voiced bilabial fricative, elsewhere:

/bhà/ 'meet' —— [βà]

/bhɔ̀/ 'uproot (mushroom, etc.)' —— [βɔ̀]

/f/ is [f], a voiceless labio-dental fricative:

/fì/ 'cook' —— [fì]

/fã̀/ 'uproot (weeds)' —— [fã̀]

/v/ is [v], a voiced labio-dental fricative:

/vɛ̀̃/ 'spread (of sore, fire, etc.)' — [vɛ̀̃]

/òvɔ̀/ 'sun' — [ôvɔ̀]

/s/ has two allophones:

[ʃ], a voiceless palato-alveolar fricative before /i/ or /ĩ/. If followed by another vowel, the close vowel is lost so that /siV/ —› [ʃV]:

/sì/ 'pull' — [ʃi̊]

/sìɛ̀/ 'be tall' — [ʃɛ̀]

[s], a voiceless alveolar fricative, elsewhere:

/sɔ̀/ 'fell an opponent in a fight' — [sɔ̀]

/ìsɛ̀̃/ 'faeces' — [i̊sɛ̀̃]

/z/ is [z], a voiced alveolar fricative. [ʒ], the voiced palato-alveolar fricative that would have been expected as an allophone of /z/ by analogy to /s/, does not occur. Significantly, too, no sequence /zi(V)/ occurs in my data.

/zè/ 'fall' — [zè]

/zɔ̀/ 'sharpen' — [zɔ̀]

/alòzò/ 'guest' — [ālòzò]

It was not found before a nasalized vowel, and it carries a low functional load.

/h/ is [h], a voiceless glottal fricative. Before close vowels, it is in free variation with [x], a voiceless velar fricative. [h] is the symbol used here. It is nasalized before nasalized vowels:

/hĩ̀ɛ̃̀/	'open'	— [ɦỹɛ̃̀]
/hù/	'foam'	— [hù]
/hɔ̀/	'resemble'	— [hɔ̀]

Lateral, Roll, Approximant

/l/ has two allophones:

[n], a voiced alveolar nasal, before $\tilde{V}$:

/lɛ̃̀/	'defecate'	— [nɛ̃̀]
/olũ̀/	'mother'	— [ōnũ̀]

[l], a voiced alveolar lateral, elsewhere:

/lɛ̀/	'be tired'	— [lɛ̀]
/alòzò/	'guest'	— [ālòzò]

/rh/ is [ɹ̥], a voiceless post-alveolar fricative in free variation with [r̥], a voiceless alveolar roll. The symbol [r̥] is used here in phonetic transcription:

/rhɛ̀̃/ 'to strain off (from water, wine)' —— [rɛ̀̃]

/rhù/ 'ferment' —— [rù]

/ɔhɔ̀rhi/ 'man' —— [ɔ̄hɔ̀ri]

/r/ is [r], a voiced alveolar roll:

/rɛ̀̃/ 'rinse' —— [rɛ̀̃]

/rì/ 'eat' —— [ri]

/rùrà̃/ 'to parley, commune' —— [rùrà̃]

/y/ has two allophones:

[ỹ], a voiced nasalized palatal approximant, before $\tilde{V}$:

/yà̃/ 'climb' —— [ỹà̃]

/eyɔ̀̃/ 'wine' —— [ēỹɔ̀̃]

[y], a voiced palatal approximant, elsewhere:

/yɔ̀/ 'go' —— [yɔ̀]

/w/ has two allophones:

[w̃], a voiced nasalized labial-velar approximant, before $\tilde{V}$:

/wɔ̀̃gɔ̀/ 'be ripe' —— [w̃ɔ̀̃gɔ̀]

/àwà̃/ 'chin' —— [âw̃à̃]

[w], a voiced labial-velar approximant, elsewhere:

/wɛ̀/ 'say, tell' —— [wɛ̀]

/owɔ̀/ 'hand' —— [ō wɔ̀]

3. Consonant Contrasts Further Exemplified

b ~ k ~ g ~ kp ~ gb ~ ph ~ bh ~ f ~ v ~ w

/bã̀/ 'dress a palm tree (in preparation for tapping wine)'

/kã̀/ 'be sour'

/gã̀/ 'to hit the back of the hand with a conical snail shell (as in children's play)'

/kpã̀/ 'lick'

/gbã̀/ 'spread (mat)'

/ɔphã̀/ 'a grub found inside dead palm trees'

/bhã̀/ 'mould'

/fã̀/ 'uproot'

/vã̀/ 'butcher, cut to pieces'

/àwã̀/ 'chin'

s ~ z ~ l ~ rh ~ r

/sà/ 'shoot'

/zà/ 'take'

/là/ 'vie, struggle for'

/rhàrhɛ̀/ 'spread in the sun to dry (of clothes, etc.)'

/rà/ 'chew'

y ~ w ~ h

/ẏɔ̀/ 'go'

/owɔ̀/ 'hand'

/hɔ̀/ 'grind, cultivate'

4. Vowels

There are significantly nasalized vowels in Ehuẹun along with oral vowels. The oral vowels are seven in number and they contrast in the items below:

/sì/ 'pull'

/sè/ 'be injured'

/sɛ̀rɛ̀/ 'make'

/sà/ 'shoot'

/sɔ̀/ 'fell an opponent in a fight'

/sò/ 'hoe'

/sù/ 'be dear'

There are five nasalized vowel phonemes: /ĩ, ɛ̃, ã, ɔ̃, ũ/. /e/ and /o/ never occur nasalized. The five nasal vowels contrast minimally:

/bhĩ̀/ 'I' —— [mĩ̀]

/bhɛ̃̀/ 'conceive' —— [mɛ̃̀]

/bhà̃/ 'mould' — [mà̃]

/bhɔ̀̃/ 'bear (fruit)' — [mɔ̀̃]

/bhù̃/ 'carry' — [mù̃]

5. Vowel Harmony

There are apparently no restrictions on vowel co-occurrence in Ehuẹun either in the noun or in the verb phrase. Consequently, no more will be said about this here.

6. Tone

The tones of Ehuẹun do not submit easily to analysis. The whole system is probably in a fluid transitory stage. The tonetic facts will be presented briefly below as a first step to examining the system in terms of two possible analyses: a 'two tones plus downstep' analysis, and a 'three level tones' analysis.

When, after collecting noun items, these were examined to ascertain what tonal patterns occur on the nouns, it was found that, tonetically, the following occurred:

Low - low (LL)

Low - mid (LM)

Mid - low (ML)

Mid - mid (MM)

Mid - high (MH)

High - mid (HM)

Low-high (LH) and High-low (HL) and high-high (HH) did not occur.

When nouns were used in the completive (noun + noun) phrase, it was found that there was no difference between LM and MH groups: they behaved identically. Further examination of the informants revealed that, in lexical items, they did not distinguish between LM and MH, though they had pronounced some with LM and others with MH pattern. By contrast, ML and HM nouns did not behave identically in the completive phrase. Although only one item in my data occurs in the HM group, it is one of basic vocabulary:

/ógũ/ [¯ -] 'corpse'

The tonetic free variation noted between LM and MH in lexical items also occurs in the completive phrase. In this construction, only the noun in the first place of structure undergoes tonal changes. The tonetic

output of the different combinations as they occurred in my data are given below:

(a) LL + LL ——> MMLL
+ LM ——> LLLM/MMMH
+ ML ——> MMML
+ MM ——> MMMM
+ MH ——> MMMH/LLLM
+ HM ——> MMHM

(b) LM + LL ——> MHLL
+ LM ——> MHMH
+ ML ——> MHML
+ MM ——> MHMM
+ MH ——> MHMH
+ HM ——> MHHM

(c) ML + LL ——> MMLL
+ LM ——> LLLM/MMMH
+ ML ——> MMML
+ MM ——> MMMM
+ MH ——> LLLM/MMMH
+ HM ——> MMHM

(d) MM + LL ——> MMLL
+ LM ——> MMMH/LLLM
+ ML ——> MMML
+ MM ——> MMMM
+ MH ——> MMMH/LLLM
+ HM ——> MMHM

(e) MH + LL ——> MHLL/LMLL
+ LM ——> MHMH/LMLM
+ ML ——> MHML
+ MM ——> MHMM
+ MH ——> MHMH/LMLM
+ HM ——> MHHM

(f) HM + LL ——> HMLL
+ LM ——> HMMH
+ ML ——> HMML
+ MM ——> HMMM
+ MH ——> HMMH

LM and MH also behaved identically in verb phrases where they were used in the object position.

With these tonetic observations in hand, the system will be examined in terms of the two types of analyses mentioned above.

A two tones plus downstep analysis

If the hypothesis is advanced that the system whose facts are presented above is a 'two tones plus downstep' system, then a certain basic modification will have to be accepted: after a downstep (i.e. a lowered high) it is possible to have, immediately following within the same tone group, a higher high (or what one might call a 'step-up'). This is a rather difficult proposition to accept of a 'two tones plus downstep' language and one which could lead at once to a rejection of the two tones plus downstep analysis,

But the fact that LM and MH are free variants both in lexical items and in some places of grammatical structure is a point for not rejecting the downstep approach outright. For example, on the basis of the LM and MH alternation, it could be suggested that all LM and MH nouns are in fact /LH/ nouns. This would mean that:

[àkā] 'arm' (LM) is analysed as /aká/ (LH);
[ɔ̄kpá] 'lamp'(MH) as /ɔkpá/ (LH).

As a rule then, /LH/ ⟶ [LM] ~ [MH]
In other words, it is a question of where the

assimilation goes — forwards or backwards.

Instead of six groups of disyllabic nouns as we had tonetically, we would have five:

LL	(LL)
LH	(LM - MH)
HL	(ML)
H!H	(HM)
HH	(MM)

We are left with cases such as [HMMH] to explain. As shown above, HM + MH (also HM + LM) —› HMMH.

If we assume that a low tone between two highs is raised to mid, this would be explained:

HMMH ‹ H!HLH.

Indeed, with a simple rule, the surface forms shown under (a)-(f) above can be related automatically to base forms:

(i) For every M preceding H, write L

e.g.: MHLL ‹ LHLL

MHMH ‹ LHLH

(ii) For every M immediately after H but not immediately preceding H, write !H

e.g.: HMMH ‹ H!HLH

(iii) For every other M, write H

e.g.: MMML ⟨ HHHL.

Two questions are unanswered by this approach, one of which leads immediately to a three level tones analysis. Firstly, why is it that when

/H!HLH/ ——⟩ [HMMH] [¯ - - ¯]

the final high, in spite of the intervening !H and L, which are both realized as mid, is [H], i.e. [¯], a high as high as the initial high and higher than the two intervening 'mid' tones?. Secondly, when this analysis is applied outside the completive phrase, how is a sequence LMH as in

[ɔ̀ rē dé] [_ - ¯] 'he has bought'

to be explained?

These two questions constitute a serious objection to a two tones plus downstep approach.

A three level tone analysis

If this analysis be adopted, then Ehuọun has high, mid, and low tonemes at the tonemic level. This seems more plausible since the mid tone occurs as

frequently as either of high and low and the sequence [LMH] cited above would simply be /LMH/. Thus the phrase cited above would be, phonemically,

/ò re dɛ́/ 'he has bought'

i.e. low followed by mid followed by high, there being no restriction on the occurrence of mid and high.

It has been mentioned above that (though HL nouns do not occur) HM nouns behave differently from ML. In this approach, these are two different noun groups: the H in HM is high and the M is mid. The M of ML is mid. The mid tone in MH is the same as in ML and there is no need to explain away the mid tone in MH as deriving from low and that in ML as deriving from high tone. The situation whereby we have to admit overlapping in our tonal analysis is avoided.

Attractive as this approach seems, it leaves a basic question unanswered: why does LM alternate with MH ~~h[illegible]~~ ? And, in base forms, does one write /LM/ or /MH/ ? In concrete terms, why are

/òhàòde/ LLLM and

/ohaodé/ MMMH

the same: 'story of house' ?

Even so, the latter analysis is adopted and nouns in which LM alternate with MH will be written /LM/, Thus

[àkā] ~ [ākā́] 'arm' is written /àka/ (LM).

It could be suggested that this is a system which is in transition between a two tones plus downstep system and a three level tone system. It is possible, considering the general Ẹdo situation, that this is a system moving from two tones to three. That would imply that a third level is becoming significant. One way this could have happened is if automatic downstep was lost and non-automatic occurrences of downstep lost the restrictions traditionally placed on them.

On the other hand, the possibility that it is moving the opposite way — i.e. from three tones to two tones — cannot be ruled out. According to Stewart (1971):

> It would seem that there is a general tendency for Ewe-type three-tone languages without key lowering [downdrift-BE] to develop non-distinctive key lowering, for this to develop into distinctive key lowering, and for the resulting highly complex Yoruba-type system to be simplified by a merger of two of the basic tone levels and thereby to be converted into an Akan-type [two tones plus downstep-BE] system ... p.196.

Assuming that the system discussed here is undergoing the process postulated by Stewart, just at what point is it now ? The problem is that it does not appear to be at any of the points mentioned by Stewart, which is why the problem arose in the first instance. One will need more data on Ehuẹun to be able to answer some (or, possibly, all) of the questions raised by the system.

UKUE

1. Syllable Structure

There are two kinds of syllable structure in Ukue: CV and V.

Examples:

V	——	C V	
		g u	'die'
		t ɔ̃	'burn'
é	——	f ɛ	'urine'
ɔ́	——	k a	'maize'

The vowels /i/, /ĩ/, /u/, and /ũ/ may become non-syllabic by the operation of an optional glide rule, yielding [y], [ỹ], [w], and [w̃] respectively in the position preceded by a consonant and followed by another vowel of different quality within the same stem.

/ovie/	'king'	—— [ôvyè]
/ohĩɛ̃/	'fat'	—— [ôhỹɛ̃̀]
/huɛ/	'call'	—— [hwɛ̀]
/fũɛ̃/	'wash (things)'	— [fw̃ɛ̃̀]

In only two cases out of my limited data on this language does the sequence [-Cr-] occur:

[dró] 'eat it!'

Phonologically, this is not sufficient evidence for postulating the occurrence of */CCV/ syllables. In fact, [dró] derives from:

/di/ 'eat'

and /ói/ 'it'

An alternative way of saying 'eat it' is: [di ói] though my informant considered [dró] more appropriate.

There are two possible explanations here. Firstly, and more convincingly in view of the data available, [r] may have come in between /di/ and /ói/ as a 'linking r' so that

di + ói ——› diróì ——› dró 'eat it!'

The second explanation is that there is possibly a definite form of the third person singular pronoun 'it' which is [ró]; that would mean that [dró] derives from /di + ró/.

The other case of [Cr] is that of

/ébiri/ 'oil' ——› [ébrì]

It is perhaps significant that it is /i/ that is again elided in this case.

2. Consonants

b	th	dh	t	d	k	g	kp	gb
bh	f	v	rh		h			
				l				
				r				
						y		w

Stops

All stops are slightly nasally released before nasalized vowels ($\tilde{V}$) and nasal plosion will be shown, as before, with a following [n].

/b/ is [bn] before $\tilde{V}$:

/bãã/ 'be naked' —— [bnãã̀]

[b], a voiced bilabial plosive, elsewhere:

/ɔ́bu/ 'native doctor' —— [ɔ́bù]

/th/ is [tn+] before $\tilde{V}$:

/thɔ̃/ 'roast' —— [tn+ɔ̃̀]

[t+], a voiceless dental plosive, elsewhere:

/thi/ 'be boiling' —— [t+i̇]

/ɔ́tho/ 'rain' —— [ɔ́t+ò]

/dh/ is [dn+] before $\tilde{V}$:

/dhĩ/ 'cover (a hole)' — [dn+ì]

[d+], a voiced dental plosive, elsewhere:

/dhi/ 'come' — [d+i]

/dhɔ/ 'swell' — [d+ɔ̀]

/t/ is [tn] before $\tilde{V}$:

/tɛ̃/ 'bend' — [tnɛ̀]

[t], a voiceless alveolar plosive, elsewhere:

/áti/ 'thigh' — [áti]

/d/ is [dn] before $\tilde{V}$:

/dã/ 'be fatty (e.g. meat)' — [dnà]

[d], a voiced alveolar plosive, elsewhere:

/dɔ/ 'suck' — [dɔ̀]

/éédi/ 'breast (female)' — [éédi]

/k/ is [kn] before $\tilde{V}$:

/kũ/ 'paint' — [knù]

[k], a voiceless velar plosive, elsewhere:

/kɔ/ 'plant' — [kɔ̀]

If the sequence /kiV/ occurs, it is realized as [cV] so that /k/ becomes [c], a voiceless palatal plosive

before /-iV/:

/kia/ 'walk' —— [cà]

/g/ has allophones with a distribution parallel to that of /k/:

/gã/ 'leave' —— [gnã̀]

/gu/ 'die' —— [gù]

/gia/ 'laugh' —— [ɟà]

[tʃ] and [dʒ] are also acceptable for [c] and [ɟ] respectively.

/kp/ is [kpn] before $\tilde{V}$:

/ikpikpã/ 'bark (of tree)' —— [îkpìkpnã̀]

[kp], a voiceless labial-velar stop, elsewhere:

/kpe/ 'think' —— [kpè]

/akpo/ 'bag' —— [âkpò]

/gb/ is [gbn] before $\tilde{V}$:

/gbã/ 'spread (mat)' —— [gb̩nã̀]

[gb], a voiced labial-velar stop, elsewhere:

/gbe/ 'beat, kill' —— [gbè]

/ugboro/ 'compound' —— [ûgbòrò]

Fricatives

/bh/ has two allophones:

[m], a voiced bilabial nasal, before $\tilde{V}$:

/bhã/ 'mould' — [mà̃]

[β], a voiced bilabial fricative, elsewhere:

/bha/ 'be finished' — [βà]

/f/ is [f], a voiceless labio-dental fricative:

/fũ/ 'be clean' — [fù̃]

/fi/ 'cook' — [fi]

/v/ is [v], a voiced labio-dental fricative:

/vɔ̃/ 'be full' — [vɔ̀̃]

/uvi/ 'kernel' — [ûvi]

/rh/ has two allophones:

[ʃ], a voiceless palato-alveolar fricative, before /i/ or /ĩ/. The sequence /rhiV/ yields [ʃV]:

/rhi/ 'pull' — [ʃi]

/orhĩã/ 'stick' — [òʃã̂]

[ɻ̥], a voiceless post-alveolar fricative, elsewhere:

/rha/ 'to bore a hole' — [ɻ̥à]

/urhubhĩ/ 'tail' — [ûɻ̥ùmì̃]

/h/ is [h], a voiceless glottal fricative:

/hĩ/ 'to harvest grain' — [hì̃]

/ha/ 'yawn' — [hà]

/hu/ 'be ripe' — [hù]

Lateral, Roll, Approximant

/l/ has two allophones:

[n], a voiced alveolar nasal, before $\tilde{V}$:

/lĩ/ 'know' — [nì̃]

[l], a voiced alveolar lateral, elsewhere:

/le/ 'be hard' — [lè]

/ɛ́wɔli/ 'beard' — [ɛ́wɔ̀li]

/r/ is [r], a voiced alveolar roll:

/ɔ́rĩ/ 'his/hers' — [ɔ́rì̃]

/ro/ 'abuse' — [rò]

/fari/ 'tie (rope)' — [fàri]

/y/ has two allophones:

[ỹ], a voiced nasalized palatal approximant, before $\tilde{V}$:

/yã/ 'climb' — [ỹà̃]

[y], a voiced palatal approximant, elsewhere:

/yɔ/ 'go' — [yɔ̀]

/yire/ 'remember' — [yìrè]

/w/ has two allophones:

[w̃], a voiced nasalized labial-velar approximant, before $\tilde{V}$:

/wã/ 'mate (of dogs)' — [wà̃]

[w], a voiced labial-velar approximant, elsewhere:

/wɛ/ 'say' — [wɛ̀]

/éwɔli/ 'beard' — [éwɔ̀li]

3. Consonant Contrasts

Owing to the nature of my data on this language, I am unable to provide a consonant contrast picture such as that given for the other languages.

4. Vowels

There are seven oral vowel phonemes in Ukue: /i, e, ɛ, a, ɔ, o, u/. They are exemplified in the items below:

/dhi/ 'come'
/dhe/ 'fall'
/dhɛ/ 'sell; germinate'
/dha/ 'take'
/dhɔ/ 'swallow; throw'
/dho/ 'steal'
/ko/ 'be satisfied'
/ku/ 'pluck'

There are five nasalized vowel phonemes: /ĩ, ɛ̃, ã, ɔ̃, ũ/:

/bhĩ/ 'wring (clothes)'
/bhɛ̃/ 'conceive'
/bhã/ 'mould'
/bhɔ̃/ 'bear (fruit)'
/bhũ/ 'carry, catch'

5. Vowel Harmony

The evidence is that there are no restrictions on vowel co-occurrence either in the noun or in the verb phrase. There is thus no trace of vowel harmony.

6. Tone

Two significant levels of tone were attested to in Ukue — high and low. There is no evidence of a third level except in certain items which are evidently borrowed. E.g.

[ɔ̄lɔ́rṹ] [- ¯ -] 'God' (Cf. Yoruba: Ọlọ́run: 'God')

A larger corpus of data will be required for a deeper examination of Ukue tones. Note, however, that, as with Ehuẹun and Ibilo, nouns with a low-low tone pattern in the base are high-falling-low on the surface.
Thus:

/ovie/ 'king' (LLL) ——› [ôvyè] [◝ _].