SCHOOL OF ORIENTAL AND AFRICAN STUDIES

UNIVERSITY OF LONDON

A PHONOLOGICAL STUDY OF ẸDO (BINI) WITH SPECIAL REFERENCE TO THE VERBAL PHRASE

A THESIS SUBMITTED FOR THE DEGREE OF M.PHIL. OF THE UNIVERSITY OF LONDON

BY

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AUGUST, 1979.

ACKNOWLEDGEMENTS

I wish to make a special mention of my supervisor Professor Jack Carnochan, a linguist and authority on West African Languages. His help with this work dated from the time when the research recorded in this thesis was first contemplated about two years ago; and he never failed subsequently to assist me with his experience and advice as long as he was able. My sincere thanks are also due to Mr. Stone, the laboratory technician at the School, who painstakingly recorded my examples and assisted in the production of the Electro-Aerometer tracings.

In addition, I wish to express my gratitude to all those colleagues and native speakers of Ẹdo (Bini) here in London whose pronunciations I checked with mine and who gave most valuable advice. Finally, I must above all thank my wife Mrs. M. I. Emovon for her unfailing help and encouragement during the many months of preparation.

LIST OF ELECTRO-AEROMETER TRACINGS

1. [gí gĩ́]
2. [èxaeʋ̃ɛ̃]
3. [èmiaʋ̃ɛ̃]
4. [ógbɛmila]
5. [èk- ɣ̃́buɛ]
6. [ɔ̀m- érã]
7. [màn ɔ́]
8. [ànimó]
9. [mìmí àrọ]
10. [bũ̀ ɔ̃́kà]
11. [ìkṹ èma]
12. [gb- ẽ̀bé]
13. [xũ̀ɔ̃́]
14. [xíɛ̃]
15. [mùiỹã́]
16. [xũ̀ɔ̃́kà]
17. [ɔmɛ́w̃ã̀ɛ̃]
18. [ìṛ̃ɛ̃ũĩ]
19. [ì ɣá w̃ìná]
20. [gb- úgbo]
21. [òká, òkã́]
22. [úukpa]
23. [úhukpa]
24. [ìgbígbè]

C O N T E N T S

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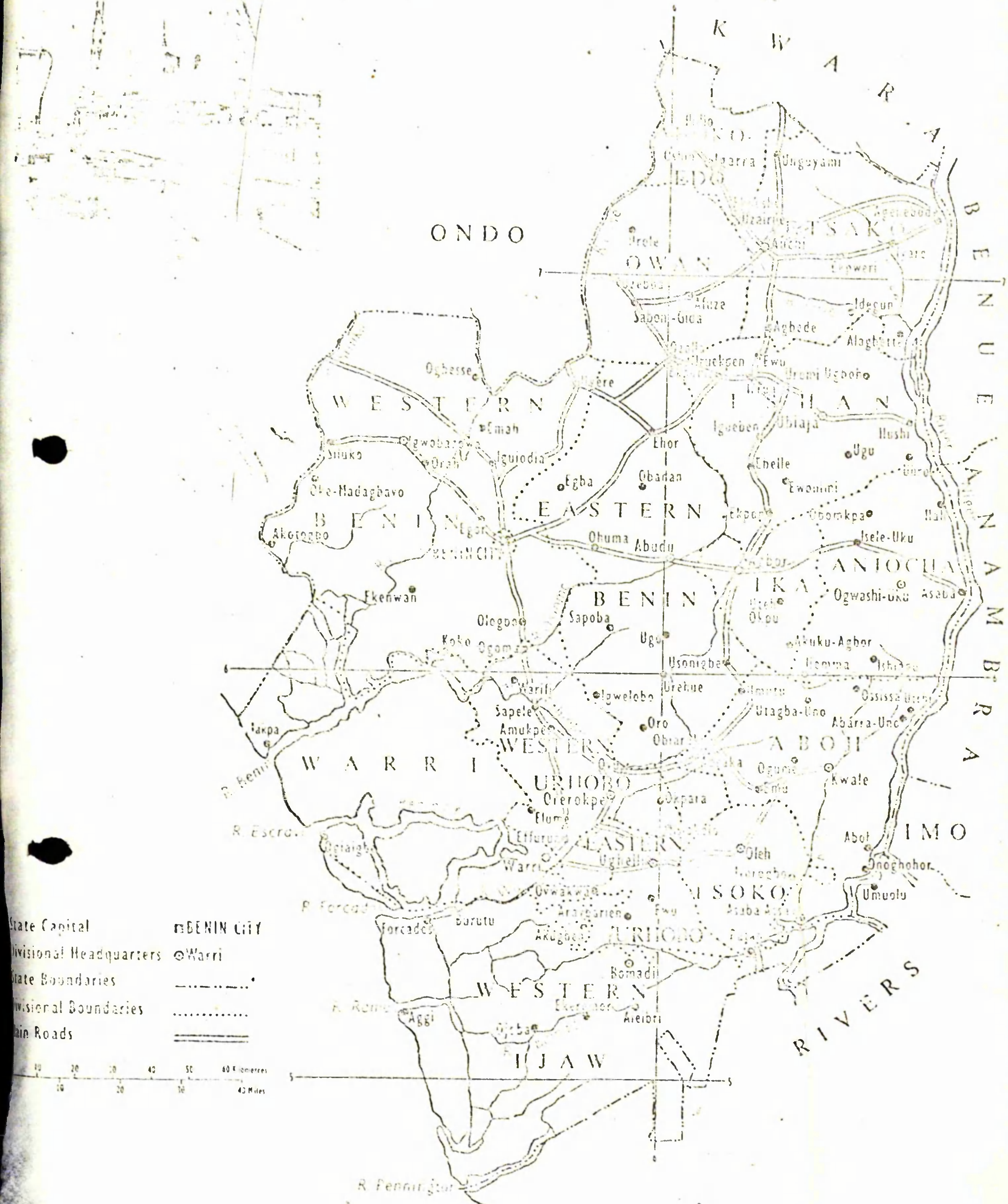
KWARA
BENUE ANAMBRA
ONDO
IMO
RIVERS
EDO
OWAN
ETSAKO
ISHAN
ANIOCHA
IKA
ABOH
ISOKO
WESTERN BENIN
EASTERN BENIN
WARRI
WESTERN URHOBO
EASTERN URHOBO
WESTERN IJAW
BENIN CITY
Unguyami
Afuze
Sabon-Gida
Agbede
Idegun
Ogbesse
Ehor
Igueben
Ubiaja
Ugu
Ilushi
Emah
Iguiodia
Egba
Obadan
Ewohimi
Ekpon
Obomkpa
Isele-Uku
Akotogbo
Oke-Madagbavo
Egor
Ohuma
Abudu
Ekenwan
Ogwashi-Uku
Asaba
Sapoba
Ugo
Olegbo
Koko
Akuku-Agbor
Usonigbe
Urehue
Igwelobo
Utagba-Uno
Abarra-Uno
Sapele
Amukpe
Oro
Kwale
Orerokpe
Okpara
Effurun
Warri
Ughelli
Oleh
Abol
Onoghohor
Umuolu
Ovwakwen
Forcados
Burutu
Akugbene
Bomadi
Aggi
Ojoba
Ekeremor
Aleibri
R. Benin
R. Escravos
R. Forcados
R. Ramos
R. Pennington
State Capital
▫BENIN CITY
Divisional Headquarters
⊙Warri
State Boundaries
Divisional Boundaries
Main Roads
60 Kilometres
40 Miles

ABSTRACT

This thesis sets out the results of research into the phonology of Edo (Bini), with emphasis on tonal behaviour. Although the study of tone has led me into the paths of grammar, this is not a complete grammar of the language. The study falls into two main parts. The first part is concerned with the problem of describing the phonemes of the language. Chapters one and two deal with the general aspect of the question. The second part, chapters three and four, examines the specific question of tones which are considered to be related to individual words in isolation and to words in phrases.

Arrangement of the Thesis

Chapter One, 'The Vowels', examines the features which characterize vowel sounds, and their distribution. Phonological features such as vowel patterning, nasalization, and contraction of vowels are shown to occur not only in verbs but in non-verbs as well.

Chapter Two, 'The Consonants' presents the description and then the distribution of the consonant phonemes. It investigates the tendency for kp and gb to be pronounced with an egressive airstream, and the problem of the /ṛ/ sound. A few consonants such as /r, s, gh, h/ are shown to be "weak" in that they elide in certain intervocalic positions. Also discussed here is the correspondence

between y and $\tilde{y}$; w and $\tilde{w}$; h and $\tilde{h}$; $\underset{\cdot}{r}$ and $\tilde{\underset{\cdot}{r}}$ which represents the absence versus the presence of nasalization.

Chapter Three is concerned with classification. First it deals with the criteria for setting up nominal classes and then examines particular subclasses of items in the verbal phrase. Besides, it points out several tonal morphological and syntactic features which distinguish nouns from verbs. These tonal differences underline the difficulty of finding a solution to the problem of a tonal classification of verbs.

Chapter Four, "Categories of the Verbal Phrase" examines the behaviour of tones related to the verbal phrase in a clause. The categories which are important to the analysis are: mood, transitivity, aspect, tense and polarity, and they show tone patterns which are not haphazard but follow a given scheme according to the items of each category.

The Name Ẹdo (Bini)

The name Ẹdo has four current definitions. First, it is the name of almost all the languages spoken in Bendel State, and part of Ondo and Rivers States of Nigeria (cf. map of Bendel State on page 7). That these languages are called a language group is in a sense due to the fact that people who speak any of them as their first language once belonged to the Ẹdo kingdom with its headquarters at Ẹdo (now Benin City), and their traditional system still shows evidence of both historical and cultural affinity.[1] Secondly, the natives who live in Benin City (capital of Bendel State), and the Benin Divisions call themselves Ẹdo; and thirdly, to these natives, Benin City itself is still Ẹdo. Fourthly, and this is the most important definition to this work, Ẹdo (according to the natives) is the name of their language.

But in view of the wider linguistic usage of the name Ẹdo (cf. my first definition), I shall follow here the current style of distinguishing Ẹdo as the name of a particular language spoken in Benin City and Benin Divisions, from other uses of the name, by writing Bini (from Benin) in parethesis after Ẹdo, i.e. Ẹdo (Bini).

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[1] A comparative study (cf. Elugbe 1973) which shows the state of the phonology of the twenty languages which make up the Ẹdo language group is indicative of a common origin; and one may establish Proto-Edo by comparing the dialect forms.

INTRODUCTION

Dialects

Ẹdo (Bini) is a language spoken in Benin City, Benin East and Benin West Divisions of Bendel State (formerly Midwest State) of Nigeria, with a few outlying groups stretching as far as Ishan and Etsako Divisions[2]. Since the last census of Nigeria was taken in 1963, that is about fifteen years ago, the exact number of speakers now is not known. However, the 1963 census shows that Ẹdo (Bini) is spoken by about a million people.

There is a noticeable tendency for people of the same area, particularly those that are apparently separated by rivers,[3] to speak certain accents that amount to different dialects. No study has been done to establish the degree and extent of this 'dialectal diversity', and here it suffices to say that the form of spoken Ẹdo (Bini) analysed here is (comparable to) that spoken in Benin City. This is also the type that is at present taught in schools and used in the writing of existing texts.

The Speakers of Ẹdo (Bini)

Speakers of Ẹdo (Bini) live in Benin East, Benin West

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[2] In fact there is a high degree of intelligibility between Ẹdo (Bini) and these two members of the Ẹdo language group.

[3] The areas referred to are Ìyékovía 'behind River Ovià', Ìyékorìọnvbọn 'behind Osomo River'.

Divisions, and Benin City capital of Bendel State of Nigeria. The area itself, approximately 4,000 sq. miles, is situated in a low lying plain in the south west of Nigeria, without lakes or big rivers. The immediate ethnic environment of Ẹdo (Bini) is composed of the Itsekiri to the south, the Ijaw to the west and south west, the Ika and Igbo to the east, and the Yoruba to the north and west.

The men are mostly farmers although in addition they cut palm fruits and do some hunting; the women do most of the trading in addition to other domestic duties, but in general the men are all prominent as carvers and brass smiths, and the women as weavers. Although the drift from rural to urban areas has intensified of recent years, many still do not leave home to work, particularly to other towns or countries.

The younger generation within the 10-30 age group speak Pidgin, but both the younger and the older generations speak some English with a heavy accent. Yoruba and Igbo (in that order of prominence) are sometimes heard, too.

The children go to school at the age of six, and, except for the first two years when they are taught in Ẹdo (Bini), are taught all subjects in English. Education beyond the primary school level is now available in most towns, and the pioneer students of the University of Benin graduated in June 1974.

Classifications

Ẹdo (Bini) has appeared in three main linguistic classifications:

(a) In Kay Williamson's classification of Ẹdo languages, later developed by Ben Elugbe (op. cit.), Ẹdo (Bini) belongs to group 3 (North Central Ẹdo). Group 3 consists of Ẹdo (Bini), Esan, Aoma, Iyekhee, and Ghotuo.

(b) The handbook of African languages Part II: languages of West Africa, by Dietrich Westermann and M. A. Bryan and published for the international African Institute by the Oxford Press, 1952, classifies Ẹdo languages as belonging to the Kwa branch of Niger-Congo. According to this classification, "Bini (Edo)" consists of:

Bini	Language
Ishan	Dialect cluster
Kukuruku[4]	Dialect cluster
Sobo	Dialect cluster

(c) In his classification, Joseph H. Greenberg, 1963, places the Ẹdo languages in the Kwa Sub-group (e). Subsequent writers have all agreed that the Ẹdo languages, and that includes Ẹdo (Bini), belong to the eastern Sub-branch of the Kwa branch of Niger-Congo.

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[4] This name is now obsolete, and the area it refers to now constitutes three Divisions of the Bendel State of Nigeria: Akoko-Edo, Etsako, and Owan.

Publications in Ẹdo (Bini)

Publications in Ẹdo (Bini) include a chapter in Northcote W. Thomas's Anthropological report on the Edo-speaking peoples of Nigeria, Part II, 1910; Dr. Hans Melzian's A Concise Dictionary of the Bini Language of Southern Nigeria, Paul Kegan, London, 1937.

The Church Missionary Society in Benin City has published Ẹdo (Bini) translations of the Commom Prayer Book, some books of the New Testament, and a collection of hymns. Alongside the publications of the Church Missionary Society were a dictionary and translations of Church literature published by the Roman Catholic Church.

Dr. Jacob U. Egharevba has written several books in Ẹdo (Bini), and among them are: Ekherhe vb itan Edo, C.M.S., Benin City, 1933; Okha Edo; Agbedogboyo; Ebe Imina; Urodagbon; Ihuan Edo; Ama Z'evbo omwan tawiri; Itan Edagbon mwen, Ibadan University Press in association with Ethiope Publishing Corporation, 1972.

Among recent publications are Ikpomwosa Osemwegie's Ekhara Edo, and Evinma Ogieiriaixi's Ibota Egbe 1 and 2, University of Lagos, 1973.

Previous Studies

Publications in English with details of Ẹdo (Bini) grammar fall into two categories. First are those written as companion pieces to anthropological reports

or to dictionaries. To this category belong the works of Northcote Thomas and Dr. Hans Melzian already mentioned.

Others are solely phonological studies and the main ones are the works of the following four linguists:

1. R. W. Wescot: 'The Metalinguistics of Bini: A West African Language, Anthropological Linguistics, Vol.2, No.6; Speech-Tempo and the Phonemics of Bini, Journal of African Languages, Vol. 4, Part 3, 1965; Tonal Icons in Bini, Studies in African Linguistics, Vol. 4, No.2, July 1973. By far the most extensive treatment of Ẹdo (Bini) grammar to have appeared up to the present is A Bini Grammar by Wescot, in which the first volume is devoted to the treatment of the phonology, and a section of volume III to the description of the verbal system. In addition to his investigation of the phonology and the verbal system, Wescot accounts for the nominal and other word classes which include adjectives and adverbs.

2. A brief but excellent phonetic analysis of Ẹdo (Bini) has appeared in P. Ladefoged's A Phonetic Study of West African Languages, Cambridge, 1964.

3. Between 1967 and 1975 when Evbinma Ogie (formerly Ogieiriaixi) served as a lecturer in Ẹdo studies at the University of Lagos, Nigeria, he published Edo Orthography, Lagos, 1972, and issued a number of study reports on different aspects of Ẹdo (Bini) phonology.

4. The last main research on Ẹdo (which includes Ẹdo (Bini), is Ben Elugbe's Ph.D. thesis titled A Comparative Edo Phonology, University of Ibadan, 1974.

All these works have thrown some light on the grammar of Ẹdo (Bini). The Roman Catholic Mission, Benin City, published a manuscript of Bini Vocabulary using an orthography on which their other publications were based. Their work shows seven oral vowels and twenty-three consonants. Alongside the publications of the Roman Catholic Mission[5] were works published by the Church Missionary Society. Their orthography does not differ from that of the Roman Catholic, except in its use of the same symbol in representing both the voiced alveolar trill and the voiced alveolar approximant. (/r/ and /ṛ/ are the letters used here).

In his introduction to the Bini Dictionary, Melzian (1937) distinguishes thirty-three sounds, twenty-six consonants and seven vowels; and where applicable gives what he considers the variant forms of each sound (cf. illustrated chart below). All vowel combinations are treated by Melzian as either diphthongs or triphthongs, ie. each vowel cluster is treated as monosyllabic; perhaps he considered there were no "vowel sequences".

In terms of modern segmental and prosodic analysis of speech sounds, Wescot (1963) may be rightly referred

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5 Some claim that the literature of the CMS was much earlier.

to as a pioneer in Ẹdo (Bini) language studies. In the first volume of his three-volume book, A Bini Grammar Wescot establishes twenty-four consonants, seven oral and five nasal vowels. This seems to form the basis for most modern research on Ẹdo (Bini), although later phonologists find exception to his view of a distinctive status for the 'alveolar nasal'.

In what seems a much wider study of Ẹdo (Bini) phonetics, Ogieriaixi (1968) identifies 'nasalized plosives'. In what remains of his work, he seems to have benefited by Wescot's improvement on earlier analyses. Elugbe (1973) contributes to Ogieriaixi's view of 'nasalized plosives' in the language, and he says that this is realized when a nasal sound slurs into an adjacent plosive at the point of release. According to Elugbe, /g/, for example, is realised as a voiced velar plosive with two allophones: [ᵑgn] before Ṽ and [g] elsewhere. My own experiment with the electro-aerometer shows that this is not necessarily so. The nasal slur at the point of release, when it occurs at all is too negligible to support the view of a nasal plosive and indeed is not more than what is realized when a plosive of other languages, say Igbo, precedes a nasal vowel. (Cf. E-A tracing .1. for [gi] and [g ĩ] compared.)

Finally, on tones, there is an overall agreement in all the studies that Ẹdo (Bini) is a "terraced tone language".

In spite of their contributions, there are of course some discrepancies, the main ones being:

1. Insufficient observation of tonal behaviour.

All the studies are faulty in this respect. The approach which is similar in all cases is that the analyst begins by giving the number of tones he believes there are in the language which he evidently bases on the tones of nouns. Other tonal characteristics: raising, downstep, elision, are either based on tones of nouns in genitive relationships or on tones of sentences, without details of tones of other word groups. For example, in Melzian's dictionary, p.xiii, Bini has the following tones: high, low, mid, rising, falling, rising-falling, and falling-rising. Melzian goes further to show graphically how these tones are represented in a sentence. He observes that repeated occurrence of low tones before high tones will yield a pattern in which each succeeding high tone is lower than its preceding high tone, and this he illustrates as ⌜ ˙ . ˙ . ˙ . ⌟. Further in this analysis, homophonous verbs are assigned high or low-high tones, which wrongly suggests that individual verbs in isolation have tones; whereas, as will be shown in this thesis, verbs with equal number of syllables behave alike tonally, and tones assigned to them in sentences are intended to express mood or tense and therefore are variable.

In Wescot's grammar (p.52) we are told that Ẹdo (Bini) has six phonemic tones which are level, except the fourth described as "a short downglide from 4 to 5". Writing at the tonetic level in the same grammar, he says there are many more levels than six, and example is given with the noun èbé 'book' which in isolation he says may have "as many as 28 different tonetic renditions without any danger of ambiguity .... The one absolute requirement, which is observed in all these variant pronunciations, is that the second syllable be higher in pitch than the first" (p.55). So far no one, and certainly not here, has contributed to this extreme view of up to 28 different tonetic forms of a LH noun in the language. However, he observes rightly that verbs, except "in the jussive", have no tones in isolation, but again his examples of tone-patterns of verbs in sentences are faulty in form as well as in function. (cf. chapter 4).

The same approach that seeks to analyse the tones of Ẹdo (Bini) on the basis of its nominal tones, without adequate observation of tones of other word groups, is also to be found in the analysis of Ogieiriaixi (1970) and Ẹlugbe (1973).

2. Transfer of orthography from the IPA

The orthography with which the churches published their literature was taught and used in all the then known places of education - the churches, schools, etc., as far

back as 1900, that is long before the first formal linguistic work (presumably Melzian's Dictionary, 1937) was published. And it must be said that the church orthography provided symbols for all the speech sounds in Ẹdo (Bini), with the exception of the nasal vowels. But for no stated reasons, and as if they were researching on an unwritten language, analysts who published their works after the church literatures, used orthographies which are a mixture of the church orthography (referred to as the 'traditional' orthography) and some IPA symbols which each selected individually.

The substitution of symbols in the orthography of a 'written' language seemed to pass unnoticed at the academic level until about the early seventies when the new orthography was introduced in churches, schools, and colleges, to replace the old. There was such a fuss over the change that the old orthography had to be restored.

The Present Study

The present study, though phonological, differs from any previous study in that it consciously explores (as an essential element of phonology as well as syntax) the limits to which the verbal phrase is determined by the grammatical tone structure, where the verbal phrase means the verb stem with or without elements corresponding to terms such as auxiliary, aspect marker etc. A further criterion used in establishing or distinguishing the verbal piece is structural; and the structure set up for

this study and based on the structure found in other languages is the single clause sentence - NP_1 V NP_2, where NP_1 is the subject, V is the verbal phrase and NP_2 is the object.

Before considering the verbal phrase in a single clause sentence, a good part of the thesis, in fact the first two chapters, is devoted to the analysis of the vowels and consonants. This is done partly because never, since the first Ẹdo (Bini) Church translations, has there been agreement between any two analysts on what exactly the speech sounds of the language are, or on how they should be represented. On the next page are nine examples of different sets and number of symbols that have been used at different times. A Committee for Ẹdo Studies was set up in 1976 to harmonize the conflicting theories and propose a 'standard' orthography; the committee's recommendation, part of which is adopted here, is entered under 'standard' in the tabulation. Secondly, I intend to show too that, phonologically, the only structural difference between a verbal phrase and, for example, a noun, is that all verbs begin with a consonant, and all nouns begin with a vowel. Although emphasis is on the verbal phrase, such other word groups as nouns, adverbs, and pronouns will form part of the analysis, but only in relation to the verbal phrase; for example, the structure of nouns that precede the verbal phrase or is preceded by the verbal phrase.

IPA	CMS	Catholic	Melzian 1937	Wolff 1952	Wescott 1962	Ladefoged 1964	Ogie 1970	Elugbe 1973	Standard 1976
p	p	p	p	p	p	p	p	p	p
b	b	b	b	b	b	b	b	b	b
t	t	t	t	t	t	t	t	t	t
d	d	d	d	d	d	d	d	d	d
k	k	k	k	k	k	k	k	k	k
g	g	g	g	g	g	g	g	g	g
kp	kp	kp	kp	kp	kp	kp	kp	kp	kp
gb	gb	gb	gb	gb	gb	gb	gb	gb	gb
m	m	m	m	m	m	m	m	m	m
f	f	f	f	f	f	f	f	f	f
v	v	v	v	v	v	v	v	v	v
s	s	s	s	s	s	s	s	s	s
z	z	z	z	z	z	z	z	z	z
x	kh	kh	x	x	kh	x	x	kh	kh
ɣ	gh	gh	ɣ	ɣ	gh	ɣ	gh	gh	gh
l	l	l	l	l	l	l	l	l	l
n	n	n	n	n	n	n	n	n	n
r	rh	rh	rh	r	rh	r	rh	rh	rh
r	r	r	r	r	r	ṛ	r	r	r
ʋ/β	vb	vb	ʋ	b	bh	ʋ	ʋ	vb	vb
▬	r	r	r	rl	rl	ɻ	ɾ	rl	rr
j	y	y	y	y	y	y	y	y	y
w	w	w	w	w	w	w	w	w	w

	IPA	CMS	Catholic	Melzian 1937	Wolff 1952	Wescott 1962	Ladefoged 1964	Ogie 1970	Elugbe 1973	Standard 1976
	h	h	h	h	h	h	h	h	h	h
	i	i	i	i	i	i	i	i	i	i
	e	e	e	e	e	e	e	e	e	e
	ɛ	ẹ	ẹ	ɛ	ɛ	ɛ	ɛ	ɛ	ẹ	ẹ
	a	a	a	a	a	a	a	a	a	a
	ɔ	ọ	ọ	ɔ	ɔ	ɔ	ɔ	ɔ	ọ	ọ
	o	o	o	o	o	o	o	o	o	o
	u	u	u	u	u	u	u	u	u	u
	Nasal	-n	-n	v	v	-n	v	-n	v	-n
Level Tones		-	-	7	3	6	-	5	2	2
	1	-	-	-	-	in	i	in	i	in
		-	-	-	-	ɛ̃n	ɛ̃	ɛ̃	ẹn	ẹn
	a	-	-	-	-	an	a	an	a	an
		-	-	-	-	ɔn	ɔ̃	ɔ̃	ọn	ọn
	u	-	-	-	-	un	u	u	un	un

In the first part of Chapter 3 I make a tonal classification of the nouns and examine how these tones may alter in the different phonological, syntactic, and morphological environments in which nouns are found. This has been necessary for two reasons. First, because in the NP_1 V NP_2 which is our unit of discussion in Chapter 4, I choose to restrict the NP to nouns. Secondly, and still linking up with Chapter 4, certain alternations that occur in the nominal tones when they are preceded by the verbal phrase may help us to account for the way some tenses are expressed.

Chapter 3 deals with the classification of nouns and verbs according to their tonal phonological, syntactic, and morphological structures, and so the second part of the chapter attempts a classification of the verbs. And the most problematic issue here has always been to find a formal criterion on which to base the classification, i.e. one that will be sufficiently constant, yet exhibiting phonological and syntactically variable aspects. Classification of verbs by tone as we did for nouns is impossible. As a matter of fact, a verb has no individual tones in isolation, and whatever tone is marked on it in a sentence is used to express mood or tense and therefore it varies from tense to tense, and from mood to mood.

Another technique of classifying verbs, judging by its occurrence in grammar books of some other languages,

is in terms of transitivity, which distinguishes between verbs that do or do not take objects. The most serious weakness of this method of clasification is that more often than not the two classes overlap when in actual usage a particular verb occurs both as transitive and as intransitive. Although the term transitivity will be discussed in chapter 4 as one of the categories of the verbal phrase, it is to be understood as referring to the use of the verb in the clause, and not to whether or not the verbs concerned are specified in all their occurrences to take an object.

In these circumstances it seems reasonable as we have done, to resort to classification by syllables to give the best phonological, morphological and syntactic class distinction. And for purposes of effective analysis it is proposed here in general that the syllables of the verbs discussed do not exceed two, and that they should be of the structures (a) CV (b) CV/V (c) CV/CV. The distinction between monosyllabic and disyllabic verb stems has syntactic implications. For example, a monosyllabic verb takes a L tone to express a single verb imperative mood and in a transitive a L tone to express the habitual/present tense; but H to express the past tense. A disyllabic verb, on the other hand, takes LL and LH/HH instead.

Examples:

A. monosyllabic verb stems

i. Imperative mood

gbè 'dance!'

ii. Habitual/present tense

ì gbe ebé 'I gather/am gathering leaves'

iii. Past tense

ì gbé èbé 'I gathered leaves'

B. Disyllabic verbs

i. Imperative mood

kpòlo 'sweep!'

ii. Habitual/present tense

ì kpolo odẹ́ 'I sweep/am sweeping the road'

iii. Past tense

ì kpoló òdẹ́ 'I swept the road'

Morphologically, certain disyllabic verbs are indeed two monosyllabic verbs combined to show that an action is repeated, e.g.

tẹ̀n 'to put in line'

tẹntẹn 'to put (several things) into line(s)'

Also, a verb may take a dependent morpheme as a suffix to express past tense in an intransitive construction or to express plurality.

Examples

i. ò dẹ́ + è 'he bought'

ii. ọ̀ dẹ̀ + lẹ́ + è 'he bought (manythings)'

The clasification of verbs on the basis of individual verb tone in isolation, which one finds in some other tone languages like Igbo and Yoruba has been proved to be impossible in Ẹdo (Bini) because, as in Hausa the verbal phrase has no primary tones; tones marked on verbs express tense (and sometimes mood) and therefore change from one tense formation to another. For my discussion of the verbal phrase in Chapter 4, therefore, I have chosen to group the verbal phrase into five categories, each consisting of terms with related systems:

Summary of categories of the verbal phrase.

Category 1 Mood:

(1) Indicative (ii) Interrogative (iii) Imperative

Category II Transitivity

(i) Transitive (ii) Intransitive

Category III Aspect

(i) Progressive (ii) Imperfect (iii) Perfect

Category IV Tense

(i) Habitual/Present (ii) Past (iii) Future

Category V Polarity

(i) Affirmative (ii) Negative.

Model

In analysing a language it has become the practice among certain linguists to follow a given model.

Sometimes this is possible and therefore done with good effect, that is when the language under study is similar in certain essential features to the language with which the model was originally set up. Some languages have sufficient in common for similar rules to apply.[6] But sometimes, too, the study becomes an elegant copy of the work on the model language.

While agreeing that tonal analysis is not a completely new aspect in linguistic studies, it must be said that existing models were not set up to deal with languages of the type we are dealing with here. If they took tone languages into consideration, they probably concerned themselves with the semantic aspect, not with the morphological and the syntactic, which are vital to Ẹdo (Bini) language. For example, a model based on English which in a verb like <u>come</u> expresses past tense by segmental substistution - <u>came</u>, must be markedly alien to Ẹdo (Bini) which expresses tense by tones, and the tones are not marked on individual verbs in isolation. Yet tense is basic to all grammars. To have based these studies on a particular model, therefore, could, at best, have meant twisting the facts of the language to meet the rules of the model, or vice versa; and this I have not done.

This is not to suggest that this treatment of the verbal phrase is not susceptible to any one of the existing methods of description set up by the models, but

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[6] R. Lees, a leading transformationalist and the author of 'The Grammar of English Nominalization (IJAL 26:3 Part 2, 1960) points out the close similarities between English and German Nominalization.

that it is not modelled on any. This means, first of all that in different sections we are going to see parallels of some methods which are thought best to deal with such sections; and secondly, that while certain deep underlying similarities may exist betwen any particular existing model and any one section of this work, no exemplication of any one model is intended.

In deciding at any stage what is the most suitable method on which to base a given analysis, the guiding principle has, as far as possible, been the facts of the language.

Sources

For this thesis, I have found it necessary to base my investigation on my own speech, i.e. taken myself as my informant. But I had opportunities of verifying conclusions reached with other Ẹdo (Bini) speakers, including:

My wife, who was in London part of the time when this thesis was being done (1977-78).

Mr. Jude Oronsaye, a student of Queen Elizabeth College, London (1978).

Mrs. Grace Obariase, a caterer, (1976-8).

These people showed particular interest in this work and were quite willing to help.

Material examined includes field recordings of

folktales, songs, and narrative prose and poems from different parts of Ẹdo (Bini) speaking area. The collections were sponsored by the University of Lagos (1974-5), before the present study was embarked upon.

Considering the capabilities and limitations of any one technique of phonetic observation, I had a great opportunity provided for me of comparing kinaesthetic evidence with the results of the instrumental technique of the Electro-Aerometer (E-A), on which to base my abstractions.

Terms Used

Phonology

As used here, the term phonology means the description of the syllable, the phoneme and other overlapping features of tone and juncture.

A Phoneme

A phoneme is a vowel V or a consonant C which enters into the structure of the syllable; phoneme is the smallest unit of the hierarchy and therefore has no structure.

Phonetic transcription

Phonetic transcription refers to a system of writing here which provides a symbol for each phoneme of the language, with additional symbols and marks to denote allophones. The phonetic transcription used here

is based on the IPA, except with changes as set out later under 'transcription'.

A Syllable

A syllable is an entity whose nucleus is a tone bearing vowel V, or a tone bearing vowel preceded by a consonant CV. Syllables are not delimited by space or hyphen. A sequence of two vowels is treated as two syllables ⌈V/V⌋ or ⌈CV/V⌋.

Consonant and Vowel Phonemes

There are twenty-two consonants, and twelve vowels in Edo (Bini). (cf. tables presented in chapter one pp. 46-7 and chapter two p. 87).

There are seven oral and five nasal vowels. Sequences occur (in the same word) of either two similar vowels, or two or three diverse vowels in which the first is very often a close vowel. On the evidence of spectrograms of recorded examples below, the sequences are analysed as a sequence of two or three vowels (according to the number of individual vowels); and additionally, as they frequently bear distinctive tones.

The Phonological Word

This is the unit that bears the tone pattern (the vowel bears the tone, and the word bears the tone pattern). The phonological word normally correlates with the

grammatical word and is delimited by word space and/or hyphen.

Juncture of Nouns and Verbs

(a) Noun plus Verb

All nouns begin with a vowel and end with a vowel, as /àmẹ/ 'water' VCV, but verbs have initial consonants and final vowels, as /gbé/ 'to dance'. The juncture of a noun plus a verb (VCV + CV) is therefore:

(i) not marked by a sequence of two vowels: /ɔ̀dẹ́ dèé/ [ɔ̀dɛ́ dèé] 'Odẹ is coming'

(ii) not phonetically marked by tonal or vowel elision: /ɔdẹ́ gbe/ [ɔ̀dɛ́ gbe] 'Odẹ is dancing'

(b) Verb plus Noun (CV + VCV)

The sequence of verb plus noun in the grammatical phrase has more possibilities, since we have here the phonological sequence of final V and initial V. This is dealt with in detail in chapter 3, but some examples are given below:

(i) When a CV verb ends in a close vowel, and the initial vowel of the noun is not identical with it, both vowels are pronounced, e.g.

/mìmi ạro/ [m̀ìmí ạrɔ̀] 'close (your) eyes' (E-A 9).

(ii) When a CV verb ends in a non-close vowel, one of four things happen, but it is difficult to find a rule to

account for which:

1. The vowel of the verb may be elided, e.g.
   /gbè ízẹ̀/ [gb-ízɛ̀] 'pound rice!'
   /kọ̀ ọ́kà/ [k-ɔ́kà] 'plant maize!'

2. The vowel of the noun may be elided, e.g.
   /hà osá/ [hā-sá] 'pay the debt!'

3. Both vowels may be pronounced, e.g.
   /khà ẹvbẹn yọ́ọ̀/ [xà ɛ́ʋɛ̃ yɔ́ɔ̀]
   idiom: 'place a curse on something'

4. In rare cases, the vowel of the verb may change to a closer vowel, e.g. /dò ẹ́wù/ [dū ɛwù] 'knit a dress'!

The Sentence Clause

The sentence clause usually correlates with the grammatical clause as it can become a member of a longer sentence, but as a sentence it is characterized by a final intonation with lessening of intensity, lowering of the pitch of the final tone and a final pause. There will be explanations and further examples in Chapter 4, but here is an example:

/ịrán ghâa wìlàm/ [ịrã̄ ɣaa wìnà]
'they were working'.

Morphology

Ẹdo (Bini) is full of morphology. It has a noun-class system based on vowel prefixes and suffixes whose meanings are sometimes known and sometimes doubtful (cf. Wescot, 1964). It also has a system of verb reduplication, developed for the purpose of showing that an action is repeated by more than one actor or upon more than one object (cf. analysis in Chapter 3). Some verbs also have plural suffixes and some, too, though not in transitive constructions, have past tense suffixes.

In word order, a verb precedes its object; adjectives (usually expressed in relative terms), follow the nouns they qualify. Tonal morphology is rich too as tones sometimes show distinction tenses, mood and polarity, Examples:

(a) Tense

/ì ḍẹlẹ ebé/ [ì dɛl-ebé] 'I buy books' (Habitual/Present)

/i ḍẹlé ẹbé/ [ì dɛl-ebé] 'I bought books' (Past).

(b) Mood

/ghá gbe/ [ghá gbe] 'keep dancing' (Imperative)

/ọ ghá gbe/ [ò ghá gbé] 'he is dancing' (Indicative)

/ghá gbe/ [ghá gbe] 'who is dancing?' (Interrogative).

(c) Polarity

/ì gbé/ [ì gbé] 'I am dancing' (Affirmative)

/ìí gbe/ [ì í gbe] 'I do not dance' (Negative).

Tones

In this thesis, the phenomena of vibration of the voice is referred to as pitch, and the term tone is used at the phonological level to classify the pitch of the individual syllables.

The surface unit of Ẹdo (Bini) can be reduced to a system by which each syllable is assigned one of two contrasting tones: low or high. Following are the phonetic realizations of the pitch phenomena:

i. A high tone syllable is marked with an acute accent, and has high pitch, e.g.

/íyę/ 'mother'

/ɛ́gogo/ 'clock'

ii. Where a high tone syllable is in downstep relation to a preceding high tone, it is marked with a vertical accent, e.g.

(a) in a word

/ébꜜó/ "white man": 'European'

(b) In a word group

/ówꜜ- ébꜜé/ "house of books": 'school'

(c) In a clause

/ì ɣáꜜá gbę/ 'I was dancing'

iii. A low tone is marked with a grave accent, e.g.

/àmɛ̀/ 'water'

/ọ̀ɣɔɣɔ̀/ 'joy'

iv. The first tone of a sentence is marked and then only changes are marked.

Tonal relationships may serve three purposes in Ẹdo (Bini):

1. They may distinguish the semantic meaning of one noun from another. Tones which distinguish the meaning of words are referred to as semantic tones, e.g.

(i) /ú̀khuvbùn/ 'above or topside'

(ii) /ù̀khúvbùn/ 'famine'

(iii) /ù̀khu̇vbun/ 'medicine'

In these three nouns the vowel and consonant segments are the same, but the tonal pattern of each is different: HHL, LHL, and LLL, and their meanings are different too.

2. To show grammatical relationships. Compare

(i) /ì dẹ ebé/ [ì d-ebé] 'I buy/am buying a book

(ii) /ì dẹ́ èbé/ [ì d-ébé] 'I bought a book'

The difference between (i) and (ii) is grammatical in the sense that while (i) expresses Habitual/Present tense, (ii) expresses past tense. Yet (i) and (ii) differ only in tones, referred to as grammatical tones.

3. To show morphological relationships

Verbal nouns of three types and of the structure prefix V NP are derivable with three different prefixes,

where the prefix is i, u or ọ, V is a verbal phrase and NP is a noun appropriate to the action of the verb stem. They are assigned low tones on every syllable, irrespective of the tones individual stems have in isolation. Examples

(i) /ìbowa/ 'house-building'
cf. bọ 'to build' ọ̀wá 'house'

(ii) /ùgbudian/ 'tsetse (fly)-killer'
cf. gbe 'to kill', ùdían 'tsetse (fly)'

(iii) /ọ̀dayọn/ 'a drunkard'
cf. da 'to drink' àyọ́n 'wine'

Tones

Two phonemic tones are marked:

High, V́

Low, V̀

In order to minimize the use of tone marks, we mark the first tone and then tonal changes. This means that a word could be marked differently when it occurs in two clauses with different word arrangements.

Phonetic

The phonetic transcription uses the IPA, except

y used in place of j, and

ɾ which has no equivalent IPA symbol.

Capital letters used as the initial letters in proper names have the same phonetic value as the corresponding small letters.

Nasalization

Nasalization is marked with a tilde over a nasalized consonant or vowel, but an oral sound in the vicinity of a nasal consonant is not overtly marked.

Following is example of a paragraph[7] transcribed as it would appear if it were used in the analysis. But first, it is written out in the traditional orthography in which it was originally published.

1. Orthography

Ovonramnen 1888

Idugbọe ovbi Adọlọ nọdiọn nọye Ovonramwẹn ra (ovonramwẹn Nọgba isi) rie ovam rie ọba lele erhae vbe ukpo 1888. ọ tan-ẹn, ọ fuọfua wowowo; aro ẹre ye winiwini, ọ kevbe bitiro kevbe urhunọkhua nọla gbo. Ekhọe ẹre magbe, emwin ivbe dae hiehie. Ọ titigbe vbe ọba, agbọn hia ke ghi ho ẹmwẹn ọnrẹn; ọ mose gbe ọ kevbe mu ariọba ẹre hẹn ẹsẹsẹmwẹnse.

2. Phonemic

Ìdúgbọwà, ovbí Adọlọ̀ ne ọ́dìọn nọ́ yé Ovonravbẹ̀n ra (Ovónravbẹ̀n nọ́ gba isi) rì ován, rí ọba lèlé era è vbe

[7] This paragraph is taken from Jacob U. Egharevba Ekherhe vbe ebe itan edo, C.M.S. Benin City, 1934, p.44.

ùkpó 1888. Ò táèn, ọ fuọfúa wòwowo, ajrro órrè yé winiwini, ọ kévbè ba ítirrò, kevbe uru nọ́ khúa nọ lá gboo ekhọe ọrre maá gbè, evbín i vbe da è hiéhié. Ò titi gbè vbe ọ́ba, àgbọn hía keghi ho evben ónrrèn, ọ mosé gbè, ọ kévbè mu aríọba ere hen esésevbense.

3. Translation.

"Idugbọe, the son of Adọlọ, who bore the title Ovonravben or Ovonravben (The Great), became king after his father in 1888. He was tall, light complexioned and had small eyes, dark eye lashes, and a sonorant voice. He was kind hearted and was not selfish at all. He was very popular as a king, and everybody loved him. He was very handsome and he began his reign in an orderly manner".

Translations

Literal translations are given in double quotation marks (" "); English equivalents are given in single quotation marks (' '), but introduced by a colon when given after a literal translation.

Example:

/rìe ré/ "take come": 'bring it'

Symbols Defined

V any vowel

C any consonant

n The nasal feature is transcribed by a 'n' following the oral counterpart of a vowel.

V́ The acute accent represents the high tone

V̀ The grave accent represents the low tone

V̀ A vertical accent represents a downstep.

/ / phonetic representation

( ) optional element

{ } select one of the items within the braces

~ indicates phonetic nasalization

(-) word boundary

\+ morpheme boundary

, phrase boundary

. sentence boundary

E-A Electro-Aerometer tracing.

CHAPTER ONE

SYLLABLE STRUCTURE

Defining the structure of Ẹdo (Bini) syllables makes it possible to state many generalities above sequential constraints in a simple fashion.

The syllable structure may be specified as either CV plus tone or V plus tone, C being a consonant and V being a vowel (oral, nasal or phonetically nasalized). Every phonological syllable has one vowel phoneme which bears a tone, i.e. every syllable has just one distinctive tone. Tone is not distinctive for consonants. Examples of the possible structures for the syllable are:

V	C V	
á	g a	'chair'
à	m ẹ	'water'

This implies that a phonological boundary occurs before the consonant but in a word with the structure CVCV, a syllable boundary occurs before both the first and the second consonants. It implies further that given a syllable of one phoneme only, that phoneme must be a vowel with a tone, but in a syllable of two phonemes the first phoneme must be a consonant and the second a vowel.

In the analysis that follows, the words we shall use to illustrate the structure of the syllable have the

following phonological forms:

(a) CV, e.g. [kà] 'count!'

(b) V, a single vowel syllable/word, e.g. [ì deé] 'I am coming', where [ì] is the first person singular subject.

(c) VCV, e.g. [ága] 'chair' (V initial and CV final).

(d) CVV, e.g. [kùe] 'accept!' (final V in a total structure of CV_1 V_2).

Vowel occurrences are as follows:

(a) CV

Any vowel-oral or nasal-may occur as V in a CV syllable, e.g.

/ba/ 'to watch' (oral V)

/ban/ 'to snatch' (nasal V)

Any consonant-oral or nasal-may occur as C; an oral vowel following a nasal consonant is nasalized, and such nasalization is marked by the presence of the nasal consonant (Cf. E-A 17 for [ɛ̃] in [ɔ m ɛ wãɛ̃]) and also compare /ba/ [ba] 'to watch' (oral C plus oral V) with /ma/[ma] 'to mould (nasal C plus nasalized' V).

(b) V

Any of the seven oral vowels in the language may occur as a single syllable/word (i.e. without a consonant preceding it). Restrictions on the occurrence of nasal vowels in similar environment are discussed later on in this chapter.

Examples:

1. [ì] denoting the first person singular subject as in [ì dée] 'I fell'
2. [è] denoting the third person (non-human) singular object, as in [tá è] 'say it'

(c) V_1 CV_2

The five nasal vowels do not occur as V_1, and no progressive nasalization occurs in this position. Therefore, V_1 is not nasalized even when the following C is a nasal consonant (Cf. E-A 6). (But see also the analysis on [ɛ̃] and [ã] . . . for the only exceptions of initial nasal vowels I have found.)

Any of the oral vowels may occur as V_1, e.g.

[íye] 'mother' [àmɛ] 'water'
[èmɔ] 'children' [ɔ̀wɛ] 'leg'

Both oral and nasal vowels may occur as V_2, as in

[òká] 'name of a village near Benin' (oral)
[òkã] 'nick-name' (nasal)

(d) CV_1V_2

Where CV_1 is oral, V_2 is also oral and cannot be nasal. Where CV_1 is nasal, V_2 is also nasal.

Examples given below to illustrate these sequences are arranged in four groups: i and ii are oral, with u

and i as V_1 respectively. iii and iv are nasal with un and in as V_1 respectively. Examples in group v are mixed, with o, a, o, an, on, as V_1:

(i) -u-	(ii) -i-
/gui/ 'to quarrel'	/wii/ 'to get lost'
/gue/ 'to be in possession of'	/gie/ 'to send for
/gue̩/ 'to be proficient'	/gie̩/ 'to laugh'
/gua/ 'to make yam heaps'	/wio/ 'to pull out'
/guo̩/ 'to shiver'	/-iu/ does not occur
/fuu/ 'to scramble for'	/vio̩/ to pack, of many things'
/guo/ 'to crumble'	/gia/ 'to cut, many times'

(iii)	(iv) -in-
/-uin/ does not occur	/hiin/ 'to climb'
/sue̩n/ 'to begin'	/gie̩n/ 'to burn'
/suan/ 'to vie for'	/guan/ 'to speak'
/khuo̩n/ to strip off grains of maize	/hian/ to be neat
/kuun/ 'to pack'	/-iun/ does not occur

(v) Examples of sequences of V_s other than those given in i-iv above.

/kae/ 'to carve'	/khae̩n/ 'to sieve'
/goe̩/ 'to bend'	/kho̩o̩n/ 'to be in need of'
/loo/ 'to make use of'	

The following conditions obtain in both V_1 and V_2

combined within the word, or across word boundaries:
(i) The two vowels agree in their specification of nasality, i.e. if one is a nasal or nasalized vowel, so is the other. This means amongst other things that a non-frequently nasalized vowel (e or o) cannot be a second vowel (V_2) when V_1 is a nasal vowel.

(ii) A sequence may be of identical vowels, e.g. /loo/ 'to make use of (something).

A sequence of two Vs between words may result in a similar sequence as described above, where the following conditions may obtain:

(a) V_1 (in this case the final V) may be a nasal V while V_2 is oral, e.g. /bùn ọ́kà/ 'break (a cob of) maize'

(b) V_2 in this case cannot be a nasal V as nasal vowels do not occur in initial position of such words, after a final V (E-A 20).

(c) Both V_1 and V_2 may be oral vowels, as in /ṛ̀u ágà/ 'make a chair!'

For details see sequences from word to word analysed under vowel contraction later on in this chapter.

The Vowel Phoneme System

The main features of the Ẹdo (Bini) vowel system are:
(i) The existence of twelve phonemic vowels: seven oral

and five nasal vowels. Phonetically all the seven oral vowels are nasalized in nasal environments. i.e. when they are immediately preceded by a nasal consonant or a nasal vowel. But there are greater restrictions on the nasalization of e and o. Nasality is marked by the tilde over a nasalized vowel following a nasal consonant or vowel that nasalizes it. (cf. the diagrams below and the section on the five nasal vowels (p.57) for further distinctions between the oral, nasal and nasalized vowels.)

(ii) The absence of diphthongs.[8]

(iii) The use of distinctive nasal vowels which nevertheless do not occur at word initial position. With regard to this feature, the language is similar to other members of the Ẹdo language group and to other members of the Kwa group of languages as well.

On the phonemic level the Ẹdo (Bini) vowel system reveals seven oral vowels and five nasal vowels, as shown below:

Oral Vowels

Front	Central	Back/Rounded	
i		u	close
e		o	half close

[8]Hans Melzian (1937) describes sequences of vowels as diphthongs and even triphthongs. But here sequences of two vowels are analysed as two vowels because they frequently bear distinctive tones. The system of transcribing tones is explained in chapter 3.

Front	Central	Back/Rounded	
ẹ		ọ	half open
	a		open

Nasal Vowels

Front	Central	Back	
in		un	close
ẹn		ọn	half open
	an		open

(iv) All nouns have vowel initial, while all verbs have consonant initial, e.g.

/kpòlo/ 'sweep!' /ìkpólò/ 'the act of sweeping'

/gìɛ/ 'laugh!' /ògíɛ/ 'laughter'

We shall first discuss the oral and then the nasal vowel phonemes, giving examples of the positions in which they occur. Regular references will be made to the vowel sequences, since these have sometimes been wrongly described as diphthongs and triphthongs.

The Seven Oral Vowels

The Seven Oral Vowels

1. /i/ is a close front unrounded vowel with two allophones:

(i) /i/ oral; in oral environments, e.g.

/bibi/ 'to grope'

(ii) /ĩ/ nasalized when immediately following a nasal consonant or vowel, e.g.

/mimi/ 'to close (of the eyes)'

Apart from this there are no very noticeable differences amongst the members of this phoneme; /i/ is pronounced with a fairly uniform tongue position in all its occurrences in the chain of speech.

Distribution

(a) /i/ denotes the first person singular subject, as in /ì dèé/ 'I am coming'

(b) Occurrences in words are as follows

Initial	=	/írù/	'shade'
Medial	=	/tìe/	'read!'
Final	=	/gi/	'allow!'

(c) Among Ẹdo (Bini) nouns that form their plurals by initial vowel alternation, four groups out of seven have /i-/ as the plural initial vowel and /e, o, or u/ as the singular initial vowel (see section on vowel patterning).

(d) All Ẹdo (Bini) syllables end in a vowel. As a result when a native speaker pronounces some foreign words with C. ending, as indeed they do with some personal names and other words loaned into the

language, they give it an -i suffix, e.g. [èdzóni] 'John'. (For details of the e- and -u prefix and suffix respectively, see separate analysis on the respective vowels.)

2. /e/ is a half close unrounded front vowel. It is represented phonetically by the symbol [e], e.g.

/kue/ [kùe] 'accept!'

/dede/ [dède] 'hug!'

There are no great differences in the pronunciation of members of this phoneme, although there is a tendency to pronounce [e] slightly more open in combination with [a], as in [tá è] 'say it', than with other vowels.

Distribution:

(a) [e] is one of the variant forms that denote the third person singular object and is also used to denote common gender, after words ending in [-a] or [-o] e.g.

/bá è/ [bá è] 'watch it!'

/ọ̀ dẹ́ è/ [ɔ́ dɔ́ è] 'he bought it'

(Although the verb 'to buy' is /dẹ/, it is pronounced [dɔ] before an object.)

(b) Following are [e] occurrences in words:

Initial = /èwá/ 'mat'

Medial = /ghèé/ 'look at!'

Final = /gbè/ 'dance!'

(c) A few nouns in the language form their plurals by alternating their /ɔ-/ singular initial V with /e-/, e.g.

/ɔ́ m ɔ́/ /ɛ́m ɔ́/ 'a child/children'

/ɔ̀mada/ /ɛ́mada/ 'scimitar bearer/s'

(d) In the phonological sequence of a final V followed by an initial V of a following word, /e/ as a final V is always elided before the initial V, e.g.

/ẹ̀fe íràn/ /ɛ́f- íràn/ 'their wealth'

/gbè íẹ̀e/ /gb - íẹ̀ɛ́/ 'pound rice!'

/ọ̀ re úwòwa/ /ɔ́ r- úwòwa/ 'he is inside'

A few particles in Melzian's dictionary written d-, t- l-, vb-, and hitherto considered to be nominal prefixes with irretrievable vowel, are explained here as separate words in which e or ẹn is elided (cf. examples below). Because these particles occur mainly before nouns, and therefore always before the initial V of the noun, e or ẹn is always elided before the nominal vowel initial and hence phonetically d-, l-, t-, and ʋ-. There are a few exceptions where the particles are used before adjectives with consonant initial, and here they are found to retain their e or ẹn, Compare:

(i) /lẹ̀n ọ dó ẹè/ /n- ɔ̀ dú ɛ̀e/ 'the one who knits It'

(ii) /lẹ́n pàpapa/ /nɛ́ pàpapa/ 'the one that is flat'

/lẹn/ is a relative particle which, in a relative construction is followed by a noun, pronoun, or in some cases an adjective.)

(e) Because all Ẹdo (Bini) nouns begin with a vowel, foreign words (names) with a consonant initial are sometimes prefixed with [e]. Thus:

[èdzɔ́nì] 'John'
[éwíndò] 'Window'

(There is no reason for the difference in the tone marks on e above).

(f) Finally e (like o) is restricted in its occurrence in a nasal environment, but where it does occur, it is nasalized, e.g.

/gbẹ̀n ebé/ [gb- ẽ̀bé] 'write a book!' (E-A 12)
/àmẹ erẹn/ [àm- ẽ́rɛ̃] 'hot water'
(cf. Nasalization for further analysis.)

3. /ẹ/ is a half open unrounded front vowel with two allophones:

(i) [ɛ] oral in oral environments, e.g.
/dele/ [dɛlɛ] 'buy (of many things)!'

(ii) [ɛ̃] nasalized, when immediately following a nasal consonant, e.g.
/èmẹ́ẹ̀/ [èmɛ̃́ɛ̀] 'monkey'

Distribution

(a) [ɛ] in isolation occurs as the third person singular subject of a negative imperfect construction, where it precedes the negative preverb also [ɛ], but with a H

tone, e.g.

/ẹ̀ẹ́ gbè ịzẹ̀/ [ɛ̀ ɛ́ gb- izɛ̀] 'she does not pound rice/ she is not pounding rice'

(b) Occurrences in words

Initial = /ẹ̀ghúghù/ 'crocodile'

Medial = /bẹ́ghe/ 'to see (something)'

Final = /dẹ/ 'buy!'

(c) Among the nouns that make singular-plural pairings by their initial vowel alternation, there is only one word in my data with ẹ- initial for singular and i- for plural:

/ẹ́ghelè/ /ịghelè/ 'man/woman of 35-50 years of age'

4. /a/ is an open central unrounded vowel with two allophones

(i) [a] oral; in oral environments, e.g.

[dàdá] 'to carry (of a heavy object)'

(ii) [ã] nasalized; when immediately following a nasal consonant, e.g.

[mãnɔ] 'to mould (of pots, etc.)'

There is a tendency to pronounce /a/ slightly more front when it occurs before [m] than when it occurs in other environments, e.g. Compare:

/àmẹ/ 'water', with /àkha/ 'weaver bird'

Distribution

(a) [a] denoting an indefinite personal pronoun, and this can as well be translated by the passive, e.g. /a ṛu ẹẹ́/ [à ṛú ɛ̀è] 'it was done' /à rú ạ̀ọ/ [à rú ạ̀ɔ̀] 'one who is blind'.

(b) Occurrences in words

Initial = [àsɔ̃] 'might'

Medial = [ɣ̃ae] 'to share, to divide'

Final = [gia] 'to cut many times or into many bits'

(c) [ã] denoting a contracted form of ghá, who (interrogative), e.g.

/ghá lọn/ [á̃ nɔ] 'who is it?'

5. /ọ/ is a half-open to open back rounded vowel with two allophones:

(i) [ɔ] oral; in oral environments, e.g.

/tọlọ/ [tɔlɔ] 'to itch (of the skin)'

(ii) [ɔ̃] nasalized; when immediately following a nasal consonant, e.g.

/mọmọ/ [mɔmɔ] 'to borrow'

Distribution

(a) [ɔ] denoting the third person singular common gender, and the subject of an affirmative construction, e.g.

/ọ́ deé/ [ɔ́ deé] 'he is coming'

/ọ̀ déè/ [ɔ̀ déè] 'he fell'

(b) [ɔ] denoting one form of the second person singular, in the object position, e.g.

/ò tue ó/ [ɔ̀ tu- ɔ́] 'he greets/is greeting you'

(c) Occurrences in words:

Initial = [ɔ́pìa] 'matchet'

Medial = [gɔe] 'to bend (not straight)'

Final = [hiɔ] 'to urinate'

6. /o/ is a half-close back rounded vowel. It is represented phonetically by the symbol [o].

Distribution

(a) Occurrences in words:

Initial = /ɔ̀sa/ 'God'

Medial = /èmórɔ̀/ 'new white-yams'

Final = /wùó/ 'to rub on something'

(b) In addition to [o], the /o/ phoneme has another allophone that varies in its degree of closeness. The closer member of the /o/ phoneme could belong to the /u/ phoneme as well. The tongue position is between that of the other member of the /o/ phoneme and the /u/ described below. Following are examples of the closer variant represented phonetically by the symbol [ʊ]:

/ò lɔ́ ẹ̀rẹ̀/ [ɔ̀lʊ́ ɛ̀ẹ̀] 'he used it'

/ò dɔ́ ẹ̀rẹ̀/ [ɔ̀ dʊ́ ɛ̀ẹ̀] 'he knitted it'

The environments in which [ʊ] occur are irregular. In some examples it would seem to occur in CV syllables where C is k, h, l, r, vb, d or s, but in some other examples of similar CV syllable structure, it is elided. Below are two groups of examples: A and B. In A /o/ is realized as [ʊ], but in B it is elided, yet the C + /o/ syllables in examples of both groups are similar, and so are the initial vowels following them across word boundaries.

Examples A

1. /ịràn kő ìkó [ịrã̀ kʊ̋ ikò] 'they held a meeting'
2. /ọ̀ hő èrán/ [ɔ̀ hʊ̋ erã̀] 'he gathered firewood'
3. /ọ̀ lò ẹ́rẹ̀/ [ɔ̀ lʊ̀ ɛ́rè] 'he used it'
4. /àṛo ázélù/ [arʊ̀ azelù] 'the shrine of azelu'
5. /ẹ̀vbò ọ̀vbán/ [ɛʋʊ̀ ɔʋã̀] 'one's place of birth'
6. /ọ̀ do òkhúáè/ [ɔ̀ dʊ́ oxuàe] 'he made a basket'
7. /ò só imotò/ [ɔ̀ sʊ́ imɔtò] 'he collided with a car'

Examples B

1. /ọ̀ kokó ikù sikokó/ [ɔ̀ kok-ı̄ku s̀ikokó] 'he gathered rubbish together'
2. /òhóhò éhẹ̀n/ [òhóh-ehɛ̃̀] 'a whole fish'
3. /ọ̀ rìló ẹè/ [ɔ̀ ril-ɛ́è] 'he tied them (several times)'
4. /úṛo òdẹ́/ [úr-odɛ́] 'foot path'
5. /mù vbovbo ọ́sà/ [mù ʋoʋ-ɔ́sà] 'tie it on Ọsa's back!'
6. /ódo ẹribò/ [ōd-ɛribò] 'eribo's mortar'
7. /ọ̀ só ìhúan/ [ɔ̀ s-ìhũ̃ã] 'he sang a song'

A comparison of A and B above proves that determining the environment in which /o/ is realized as [ɔ] is a complex problem which cannot easily be reduced to rules.

(c) Denoting an emphasizer, used after a noun, greetings, or as a reply to a person some little distance away, e.g.

/kóyọ o/ [kóyɔ́ o] 'hullo!'

/Ọgisṍ o/ [Ọgisó ọ́] 'Ogiso o''

(d) In some nouns that have [o-] as the initial syllable, there is ordinarily an [i-] alternant to form their plurals, e.g. /ọ̀khuo/ /ìkhuo/ 'woman women'

7. /u/ is a close back rounded vowel with two allophones

(i) [ũ] oral; in oral environments, e.g.

/tu/ [tu] 'cry!'

(ii) [ũ̃] nasalized; when immediately following a nasal consonant, e.g.

/imu/ [imu] 'bondage'

Distribution

(a) [ũ], denoting the personal pronoun of the second person singular subject, e.g.

/ù kúè/ [ũ kúè] 'You accepted'

/ù yeé deè [ũ yeé deè] 'you are still coming'

(b) Occurrences in words

Initial = /úto/ 'iron arrow head'

Medial = /yuo/ 'to pull out'

Final = /khu/ 'to drive, to pursue'

(c) Only two nouns with initial /ũ/, form their plurals by /ĩ-/ alternant. They are:

/ùkpógho/ /ìkpígho/ 'cowry cowries'

/úzɔ̌lá/ /ízɔ̀lá/ 'a seven-day week'.

The Five Nasal Vowels

We shall call the five vowels which are phonemic and have the full quality of nasality 'nasal vowels', while the five nasalized vowels which belong to the same phonemes as their oral cognate will be called nasalized vowels.

The nasalization of vowels in Ẹdo (Bini) as in practically all languages where nasal vowels or consonants occur, is very evidently the result of assimilation produced by a nasal consonant or a nasal vowel in the environment.

In all languages the nasal sounds always have assimilative effect on the following vowels at least. In other words the velum is somewhat lowered for a time, slightly before as well as after the articulation of the

nasal consonant or vowel, so that a small amount of air escapes through the nose as well as the mouth during the pronunciation of contiguous vowels . In such cases the nasalization of the vowels is more or less accounted for by the nasal consonant or vowel, and we should therefore think of these vowels as nasalized, not nasal vowels. The lexical evidence in the examples below shows that nasal vowels are distinct phonemes from their oral counterparts, and that nasalized vowels are allophones of the oral vowels:

/bùú iṛàn/ [bùu íṛã̀] 'meet them!'
/bùúɳiṛan/ [b̃ùṹ íṛã̀] 'confess their names!
(said to an adulterous woman)'.

The difference between the nasalized vowel and the nasal vowel is however not shown quite clearly in Electro-Aerometer tracings (again see above E-A 1, 10, 16, 17 references) where the N curve shows nasalization for both the nasal consonant and the nasalized vowels following a nasal consonant or vowel. The amplitude of the waves is not less for the nasalized vowel, and is as great for the nasal vowel as it is for the nasal consonant. The conclusion here is that in the V or CV syllables a nasalized vowel belongs to the same phoneme as its oral cognate and will therefore be represented by the same symbol as the oral vowel; whereas the nasal vowels belong

to different phonemes and will be represented by a different symbol.[9] The nasal vowel phonemes will be designated by placing 'n' after the symbol for the cognate oral vowel phoneme, thus: in, ẹn an ọn un.

The fact that the oral vowels belong to different phonemes from the nasal vowels, and that the distinction when they occur in identical position is used to differentiate meanings, may be shown by the following pairs of examples:

/gin/ 'to leak'
/gi·/ 'to allow (something to be done)'
/vẹn/ 'to wrestle'
/vẹ/ 'to open (of sore), to reveal (of secrets)'
/van/ 'to shout at someone'
/va/ 'to break into pieces (of kola nuts)'

Successive vowels agree in nasality, and successive nasal Vs are marked by writing 'n' after the last vowels and they are distinguished from the oral vowels phonemically, according to their meanings, e.g.

/họọn/ 'to grow, of leaves or hair'
/họọ/ 'to wash of clothes'

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[9] Admittedly, however, in these CV syllables where C is a nasal consonant, there is no distinction between oral and nasal Vs, e.g. there is /ma/ [m̄a], but no /man/ [m̄a] whereas there are both /da/ 'to drink' and /dan/ 'to hop'.

/buun/ 'to confess the name of a lover by an adultress'

/buu/ 'to meet (someone)'

Phonemic Status of the Five Nasal Vowels

1. /in/ is realized as a close front unrounded nasal vowel. It is pronounced with the same tongue position as the oral /i/.

[ĩ] does not occur in word initial position, but:

(i) as a single vowel of a CV syllable, e.g.
/hin/ [hĩ] 'to climb'.

(ii) as the first vowel in the following combinations of $-V_1V_2$ structures: -ian, -iẹn, -iọn, e.g.
/khian/ [xĩã] 'to walk'
/giẹn/ [gĩɛ̃] 'to burn'
/hiọn ṛọn/ [hĩɔ̃ṛɔ̃] 'to breathe'

2. /ẹn/ is realized as [ɛ̃] the half open unrounded front nasal vowel.

The vowel [ɛ̃] occurs in the following positions:

(i) as a single vowel of CV syllable, e.g.
/kpẹn/ [kpɛ̃] 'to harvest (of yams)'

(ii) as V_2 in the following CV_1CV_2 verbs structures [-ĩɛ̃, -ũɛ̃ -ãɛ̃,] e.g.
/siẹn/ [sĩɛ̃] 'to deny'

/huẹn/ [hu ɛ̃] 'to wake up somebody asleep'

/kaẹn/ [ka ɛ̃] 'to nail'

(iii) as in [ɛ̃ ɛ̃] and [ɛ̃ o] one of the only two forms of initial nasal vowels in the language used in reply to a yes/no question (cf/an/below):

/ẹ́ẹ̀n/ [ɛ̃́ ɛ̃̀] 'yes'

/ẹ́ǹ o/ [ɛ̃́ ò] 'no'

3. /an/ is realized as [ã] an open central unrounded nasal vowel. It occurs in the following four positions

(i) as a single vowel of a CV syllable, e.g.

/ban/ [bã] 'to snatch'

/yan/ [ỹã] 'to open' (for y nasalization cf. E-A 15).

(ii) as the first vowel in the following combination:

/taẹn/ [tãɛ̃] 'to be tall'

(iii) as the second vowel in the following combinations:

/bian/ [biã] 'to tear something into strips'

/vian/ [viã] 'to complain'

(iv) Exceptionally as V_1 and V_2 in a word, e.g.

/àán/ denoting a request from someone to somebody else to repeat what he has just said which was not understood.

With examples like /àán/ we could state that only two nasal vowels: /an/ (and ẹn already discussed) occur

in word initial position in the language.

4. /ọn/ is realized as [ɔ̃] a half open back rounded nasal vowel. It occurs in the following three positions:

(i) as a single vowel of a CV syllable, e.g.

/sọn/ 'to grow, of grass or hair'

/tọn/ 'to fell (a tree)'

(ii) as the second vowel in the following combinations: -iọn, -uọn, e.g.

/hiọn#rọn/ [hĩɔ̃rɔ̃] to breathe'

/khuọn/ [xũɔ̃] 'to strip the grains from a maize stalk'

(iii) in identical vowel combinations, e.g.

/hoọn/ [hɔ̃ɔ̃] 'to grow, of grass'

/doọn/ [dɔ̃ɔ̃] 'to trigger, of a gun'

5. /un/ is realized as [ũ], a close back rounded nasal vowel. It has the following occurrences:

(i) as a single vowel of a CV syllable, e.g.

/sun/ [sũ] 'to be sticky'

(ii) as the first vowel in the following combinations:

/-uan, -uẹn, -uọn,/ e.g.

/suan/ [sũã] 'to vie for'

/suẹn/ [sũɛ̃] 'to begin'

/ruan/ [rũã] 'to tie (of women's loin cloth)'

/khuọn/ [xũɔ̃] 'to strip the grains from a maize stalk'.

(iii) in identical vowel combination, e.g.

/buun/ [bũũ] 'to confess the name of a lover'

/kuun/ [kũũ] 'to pack'

The phonetic categories of closeness and nasality in /un/ are manifested as in examples i and ii and then iii and iv below, by [ŋ] and [ũ] respectively. In the phonological statement only one symbol is required for the close back item, and we use [ũ] for this. The realization of [ŋ] cannot be stated in terms of syllable - position, as both [ũ] and [ŋ] occur in the same position. Compare the following:

i	/ɔkún/	iii	/ɔsún/
ii	/ɔgún/	iv	/ùtún/

The /un/ in the first pair (i and ii) shares the quality of roundness with those in the second pair (iii and iv). But in the first pair /un/ is realized phonetically as a nasal and a velar sound [ŋ]; in the second pair /un/ is referred to as a phonetic close back rounded nasal vowel, and the absence of velar consonant is distinctively relevant here. The [ŋ] described here is like Yoruba [ŋ] in similar environment, and results from maintaining the velar closure and making a velic release, bringing the soft palate down, and releasing with 'nasal plosion'. Also see the English 'mutton' [mʌtn] and 'taken' [teikŋ].

In spite of the fact that the /un/ of /okun/ and /ogun/ become syllabic they are VCV. But phonetically (as the C is velar) when the soft palate is lowered the velar contact is maintained. E-A .11 shows that while there is nasality after the consonant only minor vibration is shown on the M line. These facts suggest that a phonetic formula for the vowel must include implications of nasal syllabicity and velarization. For this I suggest [n̩] as in [okn̩]. A corresponding formula for /ogun/ would be [ogŋ̩]. The second pair - /osun/ and /utun/ would remain in [osũ] and [utũ], respectively.

[osũ] and [utũ], respectively.

Vowel Patterning

Like other Ẹdo languages, Ẹdo (Bini) uses the alternation of initial vowels to indicate singular-plural opposition in some nouns. But phonetic plurals are not predictable because of the overlap between the allomorphs of the plural morphs: /i/ and /e/. For example, a number of nouns with initial [o] form their plurals with [e] initial, while others form theirs by [i], thereby lacking in harmony. (See table below.) From all that is known from the examination of the table, however, the movement is apparently towards frontness and closeness, i.e. all the nouns within the same group have back and/ or low vowels in the singular and are therefore differentiated from the plural forms which have either close vowel [i] or half close vowel [e] initials.

It is, however, difficult, on the basis of this singular/plural vowel patterning alone to speak of vowel harmony in the language. There is certainly no harmony of the type we find in Igbo, nor in the harmony based on the singular-plural initial vowel alternation easily demonstrable: nouns with initial /e/ and /a/ have no plural forms, and not all nouns with /i, e, o, o u/ have the plural forms, either.

What is not now known is whether or not all nouns once formed their plurals according to the pattern established in this data. In contemporary Ẹdo (Bini), however, singular/plural distinction is falling into disuse with a development towards a less differentiated system, at least in the speech of the younger generation.

Following is the total inventory of Ẹdo (Bini) nouns (based on Hans Melzian's dictionary, 1937) that operate singular/plural pairings by initial vowels only:

Group A: Initial/i/ Plural Formation

Initial Vowel	Singular	Plural	Gloss
i. ẹ-/i-	ẹ́ghelè	íghelè	'man/woman between 30 - 50 years old
ii. ọ-/i-	ọ̀kpakpata	ìkpakpata	player/s of the native harp
	ọ̀sohian	ìsohian	'maker/s of leather materials'

Initial Vowel	Singular	Plural	Gloss
	ọ̀makhe	ìmakhe	'potter/s'
	ọ̀gbehẹn	ighehẹn	'fisher man/men
	ọ̀ghumẹ	ìgbumẹ	'worshipper/s of the god okhuahe
	ọ̀sienvbenro	ìsienvbenro	'body' guard/s of the king
	ọ̀suohuan	ìsuohuan	shepherd/s
	ọ̀sẹkpoki	ìsẹkpoki	'maker/s of leather bags'
	ọ̀kpema	ìkpema	'drummer/s'
	ọkpezikẹn	ikpezikẹn	'the king's horn and calabash trumpeter/s
iii. o-/i-	òvbí	ìvbí	'child/children'
	okhuo	ikhuo	'woman/women'
	òkiekie	ìkiekie	'the one/s that come/s last'
	óloi	íloi	'the king's last wife/wives
	òkaṛọ	ìkaṛọ	'the one/s that come/s first'
	òkpiá	ìkpía	'man/men'
	ògún	ígún	'blacksmith/s'
iv. u-/i-	ukpogho	ikpigho	'a single cowrie/ cowries'

Initial Vowel	Singular	Plural	Gloss
	úzọ̀lá	ízọ̀lá	week/s
	ùsén[10]	ìsén	five/fives

Group B: Initial e- plural formation

i. i-/e-	iroghae	èroghae	'boys and men between 15 - 30 years of age'
	íhiẹn	éhiẹn	finger nail/s
ii. ọ-/e-	ọ̀díọn	èdíọn	'senior/s'
	ọ̀vbáàn	èvbáàn	'person/s
	ọ̀khaevbẹn	èkhaevbẹn	'chief/s'
	ọ̀mọ́	èmọ́	'child/children'
	ọ̀na	èna	'this/these'
	ọ̀mada	èmada	'the king's scimitar bearer/s'
	ọ́nìin	énìin	'that/those'
	ọ̀téẹ̀n	èténẹ̀n	'relative/s'
	ọ̀vbanbabe	èvbanbabe	'person/persons who practice wizadry'
	ọ̀waisẹ	èwaisẹ	'attendant/s of osu priest'

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10 Northcote W. Thomas, Anthropological report of the Edo-speaking peoples of Nigeria, London, 1910, part II. "ùsén (week) seems to be a singular formed by anaology from isen 'five' there being, according to native reckoning five days in the week, as they include the first day of the following week in giving the number".

Initial Vowel	Singular	Plural	Gloss
	ọ̀kẹ̀n	èkẹ̀n	'person/persons going or coming from the market'
	ọ̀guọvbandia	èguọvbandia	'personal servant/s'

Nasalization

Fundamental to the rule of nasalization in the phonology of Ẹdo (Bini) is the restriction on the nasalization of e and o about which Melzian, though without qualification writes: "Wth the exception of e and o, the vowels also occur nasalized, as the result of assimilation with preceding nasals, and also as separate phonemes." This investigation however reveals that phonetically, one may find these two half close vowels e and o nasalized. See for instance, E-A, 6, 5, 11 for the following examples:

/ọ̀mọ́ èrán /5 m-érã̀ 7 'the fruit of a tree'
/èkẹ̀n óbuẹ̀/ /èk-õ̀buẹ̃ 7 'clay soil'
/gbẹ̀n ebe/ /gb-ẽ̀bé 7 'write a book!'

In the E-A of the above examples, the N lines show that vibration continues well into e and o. This analysis gains further support from the comparison of identical vowels following nasal vowels or consonants, and from the auditory impression, especially in the speech of fast speakers (cf. E-A 9, 10, 15, 16).

However, the analysis and the representation of phonological forms which show that e and o have no nasal counterparts are supported by the fact that we have in the language:

/da/ [da] 'to drink'

/dan/ [dã] 'to hop'

but although there are:

/de [de] 'to fall', and

/do/ [do] 'to weave' ,

there is no /den/ or /don/.

There are three ways by which Ẹdo (Bini) native speakers frequently block otherwise automatic processes of assimilation so as to avoid [ɛ̃] and [ɔ̃]. First, a vowel that is not often nasalized (e or o), when in nasal environment, may be assimilated to the nearest lower vowel that can be nasalized, e.g.

(i) /tá è/ 'say it'

/tán ẹ̀n/ 'spread it'

(ii) /ọ́ raá ré/ 'he stole (something from him)'

/ọ́ raán rẹ́n/ 'he opened it'

e and re are forms of the third person singular object after a verb ending with the vowel a. The above examples show that after its nasal counterpart [ã], the third person singular object is [ɛ̃] or [rɛ̃]. Secondly, there is, as in the examples below, the option of dropping

e or o as initial vowel of a noun following a verb with a nasal final vowel, Examples:

/ọ̀ khoọ́n òkúò/ [ɔ̀ xɔ̃ɔ̃́-kuò] 'he waged wars'
/ọ̀ saán ogùe/ [ɔ̀ sãã́-guè] 'he jumped over a log'
/ọ̀ vbeẹn ewá/ [ɔ̀ ʋɛ̃ɛ̃́-wa] 'he has a mat'

Vowel Sequences and Nasalization

Two successive vowels agree in nasality, that is at the phonetic level both are oral, or both have nasality. In fact whenever it happens that, at one point in a clause two successive vowels show different specifications for nasality, the oral vowel is nasalized, even across word boundries, Cf. E-A, 3, 9, 13, 14 for the following examples:

/emianvbẹn/ [èmiaʋ̃ɛ̃] 'sickness'

/mìmí arọ̀o/ [mìmí ãrɔ̀] 'close (your) eyes'
/khuọn/ [xũɔ̃] 'to strip grains from a maize stalk'
/khiẹn/ [xĩɛ̃] 'to sell'

The nasalization of vowels under the influence of adjacent nasal consonants, unlike that of the nasal vowel, is a restricted phenomenon. In the first place, there is only one nasal consonant phoneme in the language /m/. Secondly, a vowel is not nasalized as a result of a following nasal consonant. See E-A 3, 8 for the following examples:

(i) /èmianvbẹn/ [èmiaʋ̃ɛ̃] 'sickness'

(ii) /alinmó [animó] 'orange'

(iii) /ọmọ́/ [ɔ̃mɔ̃́] 'child'

In ii and iii the two vowels after [m] are nasalized, the [a] and [o] before [m] and [n] respectively, are not nasalized. As in i, the rule of regressive nasalization also applies when an oral consonant that can be nasalized intervenes between an oral or nasal vowel, and a nasal vowel. See E-A 2, 6, 15, 17, 18 evidences for the following examples:

/èkhaevbẹn/ [ɛ̃xaɛ̃v̰ɛ̃ɛ̃] 'chiefs'

/ọmọ eran/ [ɔ̃m-erã] 'fruit of a tree'

/mu iyan/ [mù ĩỹã] 'carry the yam'

/ọmọ ẹwaẹn/ [ɔ̃m- ɛ̃wãɛ̃ɛ̃] 'a wise child'

/irẹnvbin/ [irɛ̃ɛ̃v̰ĩ] 'knowledge'

Vowel Contraction

A sequence of two vowels or more of different or similar quality may sometimes signal the juncture between one noun and another, or between a verb and a noun. The sequence does not occur between a noun followed by a verb as all verbs begin with a consonant.

When vowels immediately follow on one another across word juncture in this way, one of five things happens to the juncture vowels:

(a) the juxtaposed vowels may remain as they are without exerting any influence on one another

(b) the final vowel(s) may be elided (elision)

(c) the initial vowel may be elided (elision)

(d) one vowel may become similar to the other (assimilation)

(e) one of the vowels (or both) may undergo a change, the sound becoming different from its initial form (dissimilation).[11] The letter in brackets after each example below indicates which of the five forms above (a-e) is realised in each case.

Examples:

/i/ as word final vowel followed by other initial vowels.

1. Noun plus Noun

Juncture vowels	Phonemic form	Phonetic form	Gloss	
-i/i-	/ẹ̀ki ígue/	[ẹ̀k-ígue]	'village market'	(b)
-i/e-	/èsí ebo/	[èsí ebó]	'house pig	(a)
-i/ẹ-	/ibi ẹgere/	[ibí ɛgere]	'sooth of pot'	(a)
-i/a-	/èní àmẹ/	[èní amɛ]	'water elephant	(a)
-i/ọ-	/ẹhi ọba/	[ẹ̀hí ɔba]	'oba's personal spirit'	(a)
-i/o-	/iri okhuẹ/	[irí oxuè]	'creeper of an edible nut'	(a)
-i/u-	/ẹ̀ki úgbo/	[ẹ̀kí ugbo]	'farm market	(a)

[11] Vowel dissimilation refers to cases where at least observationally a distinct vowel (or two) in contrast is replaced by another vowel that is again different from the initial forms of the vowel.

(My reasons for considering that it is the final vowel that disappears in -i/i- are given below.)

2. Verb plus Noun

-i/i-	/fi itan/	/f-ítã̀/	'quote a proverb!'	(b)
-i/e-	/ri ẹkẹn/	/rí ẹ̀kẽ̀/	'tread the mud!'	(a)
-i/ẹ-	/khui ẹkhu/	/xùi ɛ́xù/	'shut the door!'	(a)
-i/a-	/yi agbọn/	/yí agbɔ̃̀/	'create a world!'	(a)
-i/ọ-	/ri ọka/	/rí ɔ̀kà/	'eat maize!'	(a)
-i/o-	/fi oghọroko/	/fí oɣọroko/	'hop on one leg'	(a)
-i/u-	/bi uro/	/bí ùrò/	'push the door'	(a)

Judging by the above examples we should state our first rule of vowel contraction as follows: In a phonological sequence of a final V plus an initial V (of either noun plus noun (1.) or verb plus noun (2)) in which the final V is /i/, the form of the vowels in the middle column (juncture vowels) with one exception, remain unaltered, i.e. show neither elision, assimilation nor dissimilation.

The exception to this rule: -i/i-, and indeed all examples of two similar vowel sequences across word juncture, is that the vowels are reduced to one V. In this type of contraction there is an inherent arbitrariness as to which vowel is deleted. The above examples which claim that the final vowel is deleted could just as easily show that the initial rather than the final identical vowel

is the one deleced. It does not appear that we have any evidence, not even tonal, to favour the deletion of one of the identical vowels over the other.

But we could recall other examples of the rule of contraction involving the elision of one vowel, though of non-similar vowels, to conclude that the formal apparatus of dropping the final vowel is most dominant. (See amongst others the section on -e verb (final vowel) below).

/-e/ in word-final position + other initial vowels

Noun + Noun

Juncture Vowels	Phonemic forms	Phonetic forms	Gloss
-e/i-	/ẹ̀dé ìvíe/	/ɛ̃̀d-ívie/	'bead crown' (b)
-e/e-	/ìke erán/	/ìk-érã̀/	'log of wood' (b)
-e/ẹ-	/ákpalode ẹ̀bóò/	/àkpálod-ɛ̀boò/	'leather belt with medicine (b)
-e/a-	/èbé ahè/	/èb-áhɛ/	'fern (leaves)' (b)
-e/ọ-	/iye ọ̀mọ́/	/íy-ɔ́mɔ́/	'mother of a child (b)
-e/o-	/ake òbọ́/	/ák-obɔ́/	'a ganglion on the hand (b)
-e/u-	/ègbé utète/	/ègb-útetè/	'a place near a hillock' (b)

2. Verb + Noun

-e/i	/gbe igbo/	/gb-ígbò/	'spin a top!' (b)
-e/e-	/gbe evbiin/	/gb-ẽ̃ũ̃ĩ̃/	'sacrifice something to a god (b)

Juncture Vowels	Phonemic forms	Phonetic forms	Gloss
-e/e-	/se ẹwu /	[s-ẹ́wù]	'sew a dress!'
-e/a-	/gbe alama /	[gb-álamà]	'gossip about!' (b)
-e/o-	/gbe ọro/	[gb-ɔ́rɔ]	'to be muddy' (b)
-e/u-	/gbe ugbo/	[gb-úgbo]	'make a farm' (b)

For both groups (1) and (2) we should state as our second rule of vowel contraction that [e] as a verb or noun final vowel is elided before all initial vowels.

/ẹ/ in word final position + other initial vowels

1. Noun plus Noun

Juncture Vowels	Phonemic forms	Phonetic forms	Gloss
-ẹ/i-	/ẹdẹ́ igueẹ/	[ɛ̃d-ígùeẹ]	'a day of sacrifice to the head (b)
-ẹ/e-	/ihẹ́ èmiowɔ̀/	[ih-émiowɔ̀]	'a load of meat' (b)
-ẹ/e-	/ɔwẹ ẹ́sin/	[ɔw-ɛ́sĩ]	'leg of a horse' (b)
-ẹ/a-	/ihẹ aghẹn/	[ih-aghɛ̃]	'a load of mats' (b)
-ẹ/ọ-	/ihẹ ọka/	[ih-ɔ́kà]	'a load of maize' (b)
-ẹ/o-	/ìkpẹ́ ɔ̀rúrụ/	[ikp-ɔ́ruru]	'cotton seeds' (b)
-ẹ/u-	/ɔdẹ́ ụwa/	[ɔd-úwà]	'the path to prosperity' (b)

2. Verb plus Noun

-ẹ/i-	/sẹ iwu/	[s-íwù]	'make tribal body marks (b)

Juncture Vowels	Phonemic forms	Phonetic forms	Gloss	
-ẹ/e-	/ẹ eto/	[z-ètó]	'shave (your) hair!'	(b)
-ẹ/ẹ-	/dẹ ẹwe/	[d-ɛ̀wé]	'buy a goat!'	(b)
-ẹ/a-	/ẹ aze/	[z-àzɛ́]	'pay a healer's fee!'	(b)
-ẹ/ọ-	/bẹlẹ ọghẹdẹ/	[bɛ̀l- ɔ́ɣɛdɛ̀]	'cut plantain into small pieces	(b)
-ẹ/o-	/dẹ osisi/	[d-ósisi]	'buy a gun''	(b)
-ẹ/u-	/dẹ uzo/	[d-úzɔ̀]	'buy an antelope!'	(b)

Again for groups (1) and (2) our second rule applies - final V [ɛ] is elided before all initial vowels.

/a/ in word-final position plus other initial vowels

1. Noun plus Noun

Juncture Vowels	Phonemic forms	Phonetic forms	Gloss	
-a/i-i	/ázà íghọ/	[áz-iɣɔ]	'a room where money is stored	(b)
ii	/ègá ífí/	[ègá ifi]	'a fence on which traps are set'	(a)
-a/e-i	/ọ̀wá èbé/	[ɔ̀w-ébé]	"house of books": 'school'	(b)
ii	/ẹ́kà érè/	[ẹ́ka erè]	'fried ground beans'	(a)

Juncture Vowels	Phonemic forms	Phonetic forms	Gloss
-a/ẹ-	/ógbà émilá/	/ógb-ɛmilà/	'a fenced place for cows' (b)
-o/a-	/Ọba Adọlọ́/	/ɔ̃b-Adɔlɔ̀/	'King Adolo' (b)
-a/ọ-i	/ihiagha ọka/	/ĩhíaɣ-ɔkà/	'tassel of corn' (b)
ii	/ékà ọghẹdẹ/	/ẽka-ɣ̀ɛdɛ̀/	'plantain cut and fried' (c)
-a/o-	/ìpápa ówọ̀n/	/ìpáp-owɔ̃̀/	'honey-comb' (b)
-a/u-/	/èma ugho/	/èm-úɣò/	'a special dance drum' (b)

2. Verb plus Noun

-a/i-	/ta ile/	/t-ílè/	'have a bet!'	(b)
-a/e-	/ra egbekẹn/	i /r-ẽgbekɛ̃/	'rub something on	
		ii /ra egbekɛ̃/	the wall!'	(b or a)
-a/ẹ-	/va ẹwe/	/v-ɛ wé/	'butcher a goat!'	(b)
-a/a	/ka ayọn/	/k-ayɔ̃́/	'buy wine!'	(b)
-a/ọ-	/ga ọba/	/g-ɔ́ba/	'serve the king!'	(b)
-a/o-i	/gba ogba/	/gb-ógbà/	'make a fence!'	(b)
ii	/ra obọ/	/rà abɔ́/	'rub (your) hands!'	(d)
-a/u-	/gba ukugba/	/gb-úkugbà/	'tie a belt!'	(b)

No simple explanatory account of vowel contraction in noun plus noun or verb plus noun can be given from the above examples. In (1) above when a noun is immediately followed in the phrase by another noun, the final vowel in

some examples is elided (b), the initial vowel in some others is elided (c), and the vowels of yet some other examples remain unaltered (a). Similarly in (2) although most final vowels are elided, one example of group (d) shows that the initial V may be assimilated to the final V, and another (a) that both vowels may remain unaltered. In both cases there is no contextual constraint on the influence of any one vowel over the other.

/o̩/ in word-final position plus other word initial V.

1. Noun plus Noun

Juncture Vowels	Phonemic forms	Phonetic forms	Gloss	
-o̩/i-	/ɔbó̩ iye/	[ɔ̃b-íye]	'left hand'	(b)
-o̩/e-	/àbó̩ eran/	[ãb-érã̀]	'branch of a tree'	(b)
-o̩/e-	/ɔ̀to̩ ẹdó/	[ɔ̃t-ɛdb]	'the land of Benin'	(b)
-o̩/a-	/ɔ̀to̩ agbọn/	[ɔ̃t-agbɔ̃]	'surface of the earth'	(b)
-o̩/o-	/èhó̩ o̩ba/	[ẽh-ɔ́ba]	'king's annual sacrifice'	(b)
-o̩/o-	/ɔ̀gó̩ ọ̀rórọ/	[ɔ̃g-órọrọ]	'bottle of ground-nut oil'	(b)
-o̩/u-	/àbó̩ ùlókɔ̀/	[ãb-úlokɔ̀]	'branch of iroko tree'	(b)

2. Verb plus Noun

-o̩/i-	/ko̩ izẹ/	[k-ízɛ̀]	'plant rice!'	(b)

Juncture Vowels	Phonemic forms	Phonetic forms	Gloss
-o/e-	/hò ekén/	[h-èkɛ̃́]	'lay eggs!' (b)
-o/e-	/gùalo ewé/	[gùal-ɛwé]	'look for a goat!' (b)
-o/a-	/bàlo ame/	[bàl-ámɛ̀]	'scoope water!' (b)
-o/o-	/lò ókà/	[l-ɔ́kà]	'grind corn!' (b)
-o/o-	/bò owá/	[b-ɔwá]	'build a house''(b)
-o/u-	/vbò utún/	[v̄-ùtṹ]	'gather mushroom' (b)

From examples (1) and (2) our first rule of vowel contraction applies and can be defined again by the formula

$$V_1 + V_2 \longrightarrow V_2$$

where V_1 is the final vowel of the verb or first noun, and V_2 is the initial vowel of the noun object or second noun.

/o/ in word-final position plus other initial vowels

1. Noun plus Noun

Juncture Vowels	Phonemic forms	Phonetic forms	Gloss
-o/i-	/ébo igẹdu/	[ébɛ̄-igɛdu]	'Timber Manager' (b)
-o/e-	/ùro eghéghè/	[ùr-éɣɛɣɛ̀]	'private door leading from a house' ( )
-o/e-i	/isoko ẹdó/	[īsok ɛ́dɔ́]	'area around Benin' (b)

Juncture Vowel	Phonemic forms	Phonetic forms	Gloss
ii	/àro ẹtẹ/	[àrʊ̀ ɛtɛ̀]	'surface of a sore' (e)
-o/a-	/òkó ahiavbẹn/	[òk-ahĩãʊ̃ɛ̃]	'a bird's nest' (b)
-o/ọ i	/ùgboloko ọsa/	[ùgbólok-ɔsà]	'bone of an ape' (b)
ii	/èvbo ọ́ba/	[ɛ̀vʊ̀ ɔba]	'the king's place of birth' (e)
-o/o-i	/úṛo òdẹ/	[úṛ-odɛ́]	'pathway' (b)
ii	/àṛo osa/	[àṛʊ́ osà]	'shrine of "osa" creator' (e)
-o/u-	/ùgboloko úzò/	[ùgbólok-uzo]	'bones of antelope' (b)

2. Verb plus Noun

-o/i-	/so ihuan/	[s-ìhʊ́ã]	'sing a song!' (b)
-o/i-ii	/do ido/	[dʊ̀ idó]	'weave something!' (e)
-o/e-i	/bolo egbe/	[bòl-egbé]	'peel the skin!' (b)
ii	/do ewa/	[dù ewá]	'weave a mat' (e)
-o/ẹ-	/koko ẹtin/	[kòk-ɛtĩ̀]	'gather strength' (b)
-ol/a-	/yo Agbọ/	[y-Ágbɔ̀]	'go to Agbor!' (b)
	/so aṛaba/	[sʊ̀ aṛabà]	'tap rubber trees' (e)
-o/ọ-i	/kpolo ọgua/	[kpòl-ɔgúa]	'sweep the reception room' (b)
-o/o-ii	/do ọga/	[dʊ́ ɔgà]	'weave a net!' (e)
-o/o-i/	/hoho otọ/	[hòh-ótɔ̀]	"blow the grown": 'dig a grave!' (b)
ii	/do okhuae/	[dù oxúaè]	'weave a basket' (e)
-o/u-	/do ugie/	[d-úgìe]	'hold a ceremony in respect of the king (b)

There are two principles at work in both (1) and (2): First there is a reproduction of the principles at work when either e, ẹ or o is the final V of the verb or first noun, in contact with any noun initial V across word juncture, i.e. the overall tendency for the final vowel of the verb or first noun to drop out. The second is for [o] to be dissimilated into [ʊ], seemingly with no contextual constraint on the dissimilation. For instance, [o] in [so] is elided before [ɪ̀húan], but becomes [ʊ] before [ido]; also [o] in [ʊ̀ro] is elided before [ɔ̀dɛ́] but it is dissimilated to [ʊ] before [ɔ̀sa]. Conversely [o] in [do] in all its occurrences seems to dissimilate to [ʊ] before other vowels across word juncture. But there is difficulty in formulating phonological rules to include [do] 'weave', for of all the verbs ending in /-o/[12] it behaves individually.

/u/ in word final position plus other word initial vowels.

1. Noun plus Noun

Juncture Vowels	Phonemic forms	Phonetic forms	Gloss	
-u/i-	/ìku iyán/	[ɪ̀kú iỹá]	'yam peelings'	(a)
-u/e-	/ìku emátọn/	[ɪ̀kú ɛmatɔ̀]	'scraps of iron	(a)
-u/ẹ-	/ùdu ẹwé/	[ʊ̀dú ɛwé]	'goat liver'	(a)

[12] There are many other examples of -o final vowel before other initial vowels in my data.

Juncture Vowels	Phonemic forms	Phonetic forms	Gloss	
-u/a-	/ìhú àyọ̀n/	/ĩhú aỹɔ̃́/	'foam of wine'	(a)
-u/ọ-	/ùru ọgọ́/	/ùrú ɔgɔ́/	'neck of a bottle'	(a)
-u/o-	/ẹ̀khu ọ́re/	/ɛ̃xú ọre/	'door leading to the outside'	(a)
-u/u-	/ígbu ùkpọn/	/ígb-ukpɔ̀̃/	'woman big cloth'	(b)

2. Verb plus Noun

-u/i-	/bu ihama/	/bù íhamá/	'meet ihama!'	(a)
-u/e-	/vu eran/	/vù ĕrã̆/	'pull out a tree!'	(a)
-u/e-	/bù ẹdẹ́/	/bù ɛdɛ́/	'fix a date!'	(a)
-u/a-	/tù asẹ̀n/	/tú asɛ̃̀/	'spit!'	(a)
-u/o-	/khù ọvbáàn/	/xù ɔvãáã̀/	'drive somebody (away)!'	(a)
-u/o-	/tù óhuẹn/	/tú ohũɛ̃́/	'spit phlegm'	(a)
-u/u-	/rù úkpa/	/r-úkpa/	'light the lamp!'	(b)

u as final V, like i final V, is not elided before initial V, except before another u where either the final V or the initial V must be elided. Again for the same reasons we elided the final i before initial i, final u in the above examples is elided before initial u.

Contraction in Final Vowel Sequences

Among the examples of juncture vowels given for illustration so far, there have been no vowel sequences

or what is interpreted here as $-V_1V_2$ structure within the same verb stem or first noun (sequences of two vowels do not occur in initial positions in verbs or nouns). The point is that although some vowel sequences in verb stem final position (before noun initial) sometimes behave like single vowels, a good number do not, and this requires that separate rules of contraction should be set up to account for them.

$-V_1V_2$ vowel sequences in verb stem final position, have the following characteristics:

(i) They may drop their vowel(s) before the initial vowel of a noun object. For example,

(a) elision of V_2

/gùa okó/ /gù-okɔ́/ 'row a boat'' (b)

(b) elision of both V_1 and V_2

/gùe ulúm/ /g-ùnú/ 'shut up' (b)

(ii) The final vowels may cause the noun object to drop its initial vowel, e.g.

(a) /khìẹ egbé/ /xìɛ-gbé/ 'mourning' (c)

/hòọ ukpọn/ /hɔ̀ɔ́-kpɔ̌/ 'wash clothes!' (d)

(iii) The vowel sequence in a verb final position may be modified in at least two of its distinctive feature (i.e. frontness and backness) and the initial vowel of the following noun object elided, e.g.

/bèẹ ọgọ/ /bɔ̀ɔ́-gɔ̀/ 'tap palm-wine!' (d)

(iv) Dissimilation may take place such that a vowel or vowel sequence different from the vowels of the verb and the noun may be produced, e.g.

/họ̀ọ etó/ [hɛ̀-ɛtó] 'wash (your) hair!' (d)

This analysis seems to show that the behaviour of the vowel sequences in verb stems is not entirely different from that of the single vowels: There are examples in both groups of elision, assimilation, and dissimilation, although sometimes of slightly different types. For example, only verbs whose V_1 are identical with the noun object initial vowel drop both V_1 and V_2, whereas such elision cannot be determined from the context of the single vowels. However, the first real difference is that in no examples of vowel sequences do we find the vowels remaining unaltered before the initial V of a noun object. Secondly, in single final vowels and initial vowels, both dissimilation and elision do not occur in the same example.

Contraction in Nasal Vowels

The phonological sequence of final V and initial V is, as we have seen, sometimes prevented by the elision of one (see section on vowel contraction). A very remarkable characteristic of nasality in Ẹdo (Bini) is that it spreads across word juncture even in cases where it would otherwise be lost, i.e. when the vowel of which it is a part is dropped. The soft palate is lowered irrespective

of the shape of the oral cavity e.g.

(i) /èkẹ́n ọ̀khọ́khọ̀/ [ẽk- ɔ̃xɔxɔ̀] 'hen's egg' (b)

(ii) /àyọ́n uko/ [ãỹ-ũko] 'wine from calabash' (b)

(iii) /wọ̀n amẹ/ [w-ãmɛ̀] 'drink water!' (b)

(iv) /tan iri/ [t-ĩrí] 'put up a rope!' (b)

The final nasal vowels of the first nouns in i and ii and of the verb stems in iii and iv are elided and nasality transferred to the initial vowel of the second noun or object.

The point has been made by some previous analysts (cf. amongst them Melzian, 1937) that although nasality is very persistent in that the soft palate remains lowered for an oral vowel following an elided nasal vowel, as in the above examples, yet it is the case in this language that when such a vowel (initial oral V following a nasal V) is either e or o there is, phonologically a neutralization of nasality which is curtailed to the sound preceding the oral vowel.

As a phonological rule they state that nasal assimilation in a vowel across word boundaries takes place when the last vowel of the first noun or verb stem is a nasal vowel and the initial vowel of the second noun or object is not e or o.

Their examples of the nasal syllabic seem verifiable

by the fact that the vowels e and o do not have nasal counterparts in the language, and no phonological rules accommodate them (see pages 68-70 for earlier discussions).

For further illustration, consider Melzian's examples (op.cit) of nasalized e and o:

(a) /èkẹn óbuẹ/ [ẽk-õbuɛ] 'clay for pottery' (b)

(b) /gbẹ̀n ebé/ [gb-ẽbé] 'write a book!' (b)

Melzian himself agrees that these vowels do not contrast in the language. But his examples, like the above ones, seem to violate this principle and this is because his use of the tilde to mark both nasalization and the syllabic nasal (Melzian calls it "nasalized glide") is not helpful in understanding the point. He follows with the following note: "When a nasalized vowel in the context is elided in front of an e or o, only a nasalized glide shows its previous existence, the middle and end of the e and o vowels remain unnasalized, as least in slow speech".

We are far from suggesting that this is untrue, but that the alternative of actual phonetic nasalization of e and o proposed earlier on (cf. p.68) is more plausible and actually occurs.

CHAPTER TWO

CONSONANTS IN ẸDO (BINI)

In the first of his three volume book, "A Bini Grammar' Wescot establishes twenty-four consonants phonemes for Ẹdo (Bini), with detailed description of positional variant forms. Since the publication of this work, there has been a considerable degree of agreement as to what a consonant sound is in the language and how to represent it. The number and forms of representation of the consonant sounds earlier given by linguists have been shown in the introduction.

Following my own research carried out for this work, Ẹdo (Bini) has twenty-two consonant phonemes. An inventory of the contrasting segments is given below:

1. Table 1 Phonemic Inventory of Consonants

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

Lexical Evidence for the Status of the Consonants

/papa/ 'to dab a liquid on something, e.g. medicine on the body'

/baba/ 'to stick or peg poles into the ground'

/tee/ 'to decorate'

/dee/ 'to tie'

/kie/ 'to open'

/gie/ 'to compare'

/kp̩o/ 'to be numerous, plentiful'

/gb̩o/ 'to fell trees on a farming plot'

/fe/ 'to be rich'

/ve/ 'to offer a price for something'

/s̩o̩o/ 'to split wood, to tear cloth'

/z̩o̩o/ 'to germinate'

/kh̩o̩o/ 'to be harsh'

/gh̩o̩o/ 'to make a feast'

/raa/ 'to cross'

/loo/ 'to spend (of money, time, etc.)

/ma/ 'to pretend to do something'

/vbaɑ/ 'to meet'

/r̩ae/ 'to go'

/yuo/ 'to pull out'

/wuo/ 'to rub'

/hoo/ 'to want, to look for'

It should be noted that the consonants noted in Table 1 are those needed for the systematic phonemes, and that other variants may occur in the final phonetic level, which are the situational variants of the phonemes. Thus, for example, while there are no phonemic nasalized

consonants, nasalization of some consonants occur according to rules of phonetic realization given later in respect of the consonants concerned.

II. A. Distribution of Consonant Sounds

I. Plosives

1. /p/ is a voiceless bilabial plosive. It has two allophones:

(i) [pʰ] an aspirated voiceless bilabial plosive in word initial position before an oral vowel, e.g. [pʰɛ̀ pɛ́] 'to pet a child'

(ii) [p] in other environments, e.g. [ɛ̀pĩ́ãpĩ̀ã̀] 'the piping hornbill'

2. /b/ is a voiced bilabial plosive. It is represented phonetically as [b]. It has the following occurrences in the language:

(i) Initial
/ban/[13] [bã̀] 'to snatch'

(ii) Intervocalic
/o̩ba/ [ɔ́ba] 'king'

3. /t/ is a voiceless alveolar plosive. It has two allophones:

(i) [tʰ] an aspirated voiceless alveolar plosive in

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[13] -n written at the end of a (word or) syllable, indicates that the vowel before it is a phonemic nasal vowel.

word initial position and before an oral vowel, e.g.

/to/ [t͡ʰo] 'to be hot (of pepper, etc.)'

(ii) [t] in other environments, e.g.

/ótiẹn/ [ótĩɛ̃] 'a kind of apple'

4. /d/ is a voiced alveolar plosive. It is represented phonetically as [d]. Following are its occurrences in the language:

(i) Initial

/dan/ [da] 'to hop'

/dẹ/ [dɛ] 'to buy'

(ii) Intervocalic

/ẹ̀dó/ [ɛ̃dó] 'Benin City'

5. /kp/ is a voiceless labio-velar plosive. It has two allophones:

(i) [ᵏp] a voiceless labio-velar ingressive before an open oral vowel, e.g.

/úhukpa/ [úhuᵏpa] 'once' (E-A 22/23)

(ii) [kp] in other environments, e.g.

/kpẹn/ [kpɛ̃] 'to harvest yams'

6. /gb/ is a voiced labio-velar plosive. It has two allophones:

(i) [ᵍb] a voiced labio-velar ingressive before oral

open vowels, e.g.

/égbọ̀/ [ẽgbɔ̃̀] 'song for a special dance'

[gb] in other environments, e.g.

/gbè úgbo/ [gb-úgbo] 'make a farm' (E-A 20)

7. /k/ is a voiceless velar plosive. It has two allophones:

(i) [kʰ] an aspirated voiceless velar plosive in word initial position and before an oral vowel, e.g.

/kue/ [kʰue] 'accept!'

(ii) [k] in other environments, e.g.

/kọn/ [kɔ̃] 'to be foolish'

/ò kúò/ [ò kúò] 'war'

8. /g/ is a voiced velar plosive. It is represented phonetically as [g]. Following are its occurrences in the language:

(i) Initial

/gi/ [gi] 'to allow' (E-A 1)

/gin/ [gĩ] 'to leak' (E-A 1)

(ii) Intervocalic

/ògo/ [ògo] 'an old farm'

/ògíẹ́/ [ògíɛ] 'laughter'

II Fricatives

9. /f/ is a voiceless labio-dental fricative. It is represented phonetically as [f]. Following are its occurrences:

(i) Initial /fun/ [fũ] 'to mix'

(ii) Intervocalic /ɔfẹ́n/ [ɔfɛ̃́] 'rat'

10. /v/ is a voiced labio-dental fricative. It is represented phonetically as [v], e.g.

/vaan/ [vãã̃] 'to stop at a place while travelling'

/ovẹn/ [ovɛ̃] 'sun'

11. /s/ is a voiceless alveolar fricative, and is represented phonetically as [s]. Following are its occurrences:

(i) Initial/ saan/ [sãã̃] 'to jump'

(ii) Intervocalic/ósisi/ [ɔ̃sisi] 'gun'

(12) /z/ is a voiced alveolar fricative. It is represented phonetically as [z]. Following are its occurrences:

Initial/zaan/ [zãã̃] 'to despise'

Intervocalic /àzẹ́/ [azɛ] 'fee, e.g. for a native doctor'.

13. /kh/ is a voiceless velar fricative. It is represented phonetically as [x]. Following are its occurrences: Initial and Medial, e.g.

/ékhekhàe oto ná khìn/ [éxexa- tɔ̀ ná xĩ]

'this ground is sandy'

14. /gh/ is a voiced velar fricative. It is represented phonetically as [ɣ]. Following are its occurrences:

/ághonghòn/ [áɣɔ̃ɣɔ̃̀] 'shadow'

/ì ghá wìlán/ [ì ɣá wìnà] 'I shall work' (E-A 19)

III Nasal

15. /m/ is a voiced bilabial nasal. It is represent phonetically as [m]. Following are its occurrences:

Initial/mimi/ [mimi] 'to close (of the eyes)'

Intervocalic/àme eren/ [àm-érɛ̃] 'hot water'

IV Lateral

16. /l/ is a voiced lateral. It has two allophones:

(i) [n] a voiced alveolar nasal before nasal vowels, and

(ii) [l] in other environments.

Examples:

/àlinmó/ [ànimó] 'orange' (E-A 8)

/ógbà ẹmilà/ [ógb-ɛmilà] 'a fenced place for cows' (E-A 4)

V. Trill

/r/ is a voiced alveolar trill. It is represented phonetically as [r]. Following are its occurrences:

Initial /roo/ [roo] 'to be durable'

/ree/ [ree] 'to be far'

Intervocalic /àmẹ erẹn/ [àm érɛ̃] 'hot water'

VI. Approximants

18. /vb/ is a voiced bilabial spread approximant. It has two allophones:

(i) [ʋ] before oral vowels, e.g.

/vbaa/ [ʋaa] 'to meet'

(ii) [ṽ] before nasal vowels, e.g.

/èkhaevbẹn/ [èxaeṽɛ̃] 'chiefs' (E-A 2)

19. /r̥/ is a voiced labial groove tongue-lip frictionless continuant. It has two allophones:

(i) [r̥̃] before nasal vowels, e.g.

/ìrẹnvbin/ [ìr̃ɛ̃ʋ̃ĩ] 'knowledge' (E-A 18)

(ii) [r] in other environments, e.g.

/o roóre/ [ɾɔ́ɾè] 'it rained'

20. /y/ is a voiced palatal approximant. It has two allophones:

(i) [ỹ] before nasal vowels, e.g.

/mù iyán/ [mù iỹã́] 'carry the yam'

(ii) [y] in other environments, e.g.

/ðyiya/ [ðyiya] 'comb'

21. /w/ is a voiced labio-velar approximant. It has two allophones:

(i) [w̃] before nasal vowels, e.g.

/ọ́mọ́ ẹ̀waẹn/ [ɔ̃m-ɛw̃ãɛ̃] 'a wise child' (E-A 17)

(ii) [w] in other environments, e.g.

/ùwawa/ [ŭwawa] 'cooking-pot'

22. /h/ is a voiced glottal approximant. It has two allophones

(i) [h̃] before nasal vowels, e.g.

/óhuẹn/ [õhũ̃ɛ̃] 'cough'

(ii) [h] in other environments, e.g.

/mù ihẹ́/ [mù ihɛ̃́] 'carry the load'

II. b. Description of Consonants

I. Plosives

The voiceless plosives are aspirated, and their

voiced counterparts are fully voiced. (See E-A 1, 21).

The point that plosives in Ẹdo (Bini), with the possible exception of /p/, have nasal release was first made by Ogieriaixi in 1968 and since then some phonologists (B.O. Elugbe (op. cit.) among them) have confirmed the same view. They point out that the plosives are not in themselves nasalized but that nasality in a sound after them slurs in them at the point of release, thereby resulting in what they hear as nasally released plosives. As a result they have written the letters with a nasal marker "-n", e.g.

/b/	bn	b
/t/	tn	t
/d/	dn	d
/k/	kn	k
/g/	gn	g
/kp/	kp	kp
/gb/	gb	gb

For our own investigation, we made Electro-Aerometer tracings of examples with these plosives in both nasal and non-nasal environments. The result of the following examples are shown in the E-A numbers after each example:

/bùn ọ́kà/ [bṹ ɔ̃́kà] 'break a maize stalk' (E-A 10)

/èkẹn óbuẹ/ [èk-ŏ̃buɛ] 'clay soil' (E-A 5)

/ɔ̀ká/ [ɔ̄kã́] 'name of a village near Benin' } (E-A 21)
/ɔ̀kán/ [ɔ̄kã́] 'a nick-name'

/gi/ [gi] 'to allow' } (E-A 1)
/gin/ [gĩ] 'to leak'

On the basis of these experiments we hold the view here that single articulatory plosives check nasalization, since it is neither perceived nor registered on the Electro-Aerometer tracings.[14]

kp and gb are labial velar sounds, i.e. the lips are closed, and at the same time the back of the tongue is raised to touch the soft palate (in the k or g position). The release of the two stops to produce the sound is simultaneous and there is no aspiration i.e. no puff of breath on the release of the stops.

To little children (about the ages of three to five) learning the language, the p and b elements seem the more important. This is borne out by the fact that one actually hears them pronounce p and b, thereby making the velar elements disappear in kp and gb respectively.

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[14] This impression gains a little support from the admittedly inconsistent traditional orthography which shows no difference between the plosives in the various environments. But see our discussion on nasalization for further details.

The Electro-Aerometer tracings of kp and gb (cf. examples below) show that the mouth pressure sometimes varies slightly from the normal; so although there is a velar closure (as shown by there being no tracing on the larynx pressure) it tooks as though there is movement causing a velaric ingressive air stream.

My own experiments allow me to say therefore that the voiced and voiceless labio-velar plosives /kp/ and /gb/ have two allophones each:

(i) with oral ingressive air stream (written [ƙp] and [gɓ]) and occurring before the open oral vowels, and

(ii) with oral egressive air stream (written [kp] and [gb]) and occurring in other environments.

My conclusions are based on the comparison of the examples below (E-A numbers are given in round brackets after each example).

(a) before oral close vowel
[ìgbígbè] 'in tens' (E-A 24)

(b) before oral open vowels
[égbɔ̀] 'song for a special dance'
[ūhuƙpa] 'once' (E-A 23)

(c) before a nasal vowel
[gb-ẽ̀bé] 'write a book!' (E-A 12)

II. Trill

The standard Ẹdo (Bini) r is a voiced alveolar trill. It is pronounced with a balance between the muscular tension which forces the tip of the tongue to touch the alveolar, and the air pressure from the lungs which forces it away. This alternation of the tongue produces a series of taps or trill. The number of taps vary according to the speaker. In the running speech of an average speaker it is probably not more than three, but in rapid colloquial speech it could become just a tap.

/r/occurs in the following positions:

(a) Initial, e.g.

/raa/ 'to steal'

(b) Intervocalic, e.g.

/èrán/ 'wood'

Some speakers in some styles, however, have a variant of this phoneme not included in Table I: a slightly voiceless alveolar trill. In most contents r is voiced for most speakers; those who use the voiceless trill at all apparently do so when it is emphasized:

/ọ̀ reé/ [ʂ reé] 'it is far'

/ọ̀ roóròo/ [ʂ roórò] 'it is durable'

But often the voicing is so similar that there is little, if any difference between r and its partially voiceless variant r (written rh in traditional orthography).

The fact that rh is written in the orthography, based on its use by Melzian (1937), probably encourages later phonologists to establish it as a distinctive phoneme. I must confess that in my first reading of Melzian's Dictionary, I was very sceptical about the existence of a voiceless trill in the language. I made a point of asking a great many Ẹdo (Bini) speakers to pronounce each one of these pairs taken from Hans Melzian's Dictionary:

/raa/ [r̥aa]	i.	'to steal'
	ii.	'to catch from the air'
/raan/ [r̥aa]	i.	'to untie'
	ii.	'to warm, of soup or body'
/ree/ [r̥ee]	i.	'although'
	ii.	'to be far'
/ria/ [r̥ia]	i.	'to spoil, to squander'
	ii.	'to expound, analyse an oracle'
/rie/ [r̥ie]	i.	'to take, of lighter things'
	ii.	'to go away'
/roo/ [r̥oo]	i.	'to praise a person'
	ii.	'to be durable, of breakable things'
/rọọ/ [r̥ɔ̃ɔ̃]	i.	'to rain, to pick up small things'
	ii.	'to stir, porridge'.

And I found that the partially voiceless trill was used only very exceptionally by very few speakers and that even in the pronunciation of these few speakers the voiceless

trill belonged to the same phoneme as its voiced cognate; and a majority of them used the voiced and not the voiceless in the examples. This suggests that what is the exception now was the rule in earlier analysis.[15] The A-E tracings of my own pronunciation of the following example confirm that I use only the voiced, and most of my informants use the voiced trill, too.

/ọmọ èrán/ Ẹ̀m-érã̀/ 'the fruit of a tree' (E-A 6)

The fact of the presence of the trill phoneme /r/ is thus definitely established; but what is difficult to establish is the distribution of the voiced and the potentially voiceless variant in the various stems. There is the tendency, in the speech of certain speakers to produce a partially voiced trill, and there is the opposite tendency to voice what earlier linguists have described as an unvoiced trill.

In conclusion rh which may be described as r with or without voice (±v) is not distinctive in itself. I reckon that rh is an idiolectal variant of /r/ because

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[15] Melzian, in his Dictionary of 1937; Ogieriaixi, in his research papers (1965), and Elugbe in his thesis: Comparative phonology of Edo Languages, establish r as a distinctive phoneme. But I grant it narrower distribution and less recognition on the grounds of my investigation. The sound r occurs idiolectally and therefore lacks phonological distinctiveness.

whether there is much voicing, little or none for some speakers, it does not vary according to the environments in which it is used.

III. Lateral

Students of Ẹdo (Bini), like students of Yoruba, are already familiar with the fact that l and n are allophones of a phoneme whose basic form has generally been regarded as l (Ladefoged (1964), Ogieriaixi (1968), Elugbe (1973). The alternation observed, as above, is that when l in Ẹdo (Bini) is followed by a nasal vowel, it becomes n, e.g. /lẹ̀n/ [nɛ̀] 'deficate!'. The influence of the nasal vowel changes l to n, i.e. bringing about a change in its manner of articulation: the oral articulation becomes nasal.

This means in effect that Ẹdo (Bini) has a rule of regressive nasalization that nasalizes some consonants when they occur before a nasal vowel. It is necessary to set a constraint on what the consonants are, that is specify that only /l, w, y, h, r, ɾ̣/ the sonorants alone can be so nasalized. On formal grounds alone, single articulatory stops must be excluded (contrary to the view of the existence of nasalized plosives) lest it should be possible to corroborate a claim that /m/ is an allophone of /b/.

One consequence of this analysis is that it makes Ẹdo (Bini) and Yoruba exceptions to the claim which seem to be true of other languages, namely that if a language has only one nasal that nasal will be /n/, and if a language has an /m/ it will also have an /n/. (Chomsky and Halle 1968).

IV Approximants

Approximants in Ẹdo (Bini) include: /vb r̩ y w h/.

1. /vb/ Both the bilabial approximant /ʋ/ and the labio-dental nasal /ɱ/ are allophones of a phoneme here symbolized /vb/. The labio-dental fricative v differs from the labio-dental nasal mainly by the lack in v of nasality but also by the fact that in [ʋ] the lower lip is more tensed.

/r̩/ The principal difficulty caused by the item represented here by the symbol /r̩/ seems to be that it represents different sounds as articulated by different people. In the early printed literature of the Church Missionary Society, which used what is now considered the traditional orthography, r̩ is represented by the same symbol as that used for the alveolar trill r, that is it did not distinguish between the two sounds. But both Melzian (1937) and Ladefoged (1964) describe it as a sound intermediate between r and l. Some other investigators, among them Wolf (1959) and Wescot (1962) not only

tend to agree with Melzian's description of the sound, but actually represent it with the symbol rl. But the IPA (1961) did not give the sound a symbol because, according to Ladefoged (op.cit.), it did not consider the possibility of sound occurring intermediate between r and l.

The point seems to be that the consonant even for those speakers to whom it exists, has got more than one place of articulation and therefore variants. In the pronunciation of those who do not use the consonant, words in column 1. below have exactly the same pronunciation as those in column 2.

1.	2.	
àr̥o	ào	'eyes'
ùr̥í	ùí	'two hundred'
ér̥è	éè	'beans'
èr̥e	èe	'profit'
ór̥é	óé	'mat'

i.e. without /r̥/.

One of my informants whose pronunciation is quite similar to mine, and whom I think is represenative of many other native speakers, too, does not, for instance, use the sound similar to r and l, which I think is a good description of rl (but not as represented here), according to some native speakers. Instead, he pronounced what I

distinguish as a voiced tongue-lip frictionless continuant. (The sides of the front of the tongue are in contact with the upper lip, and the air escapes over the centre of the tongue; the tip of the tongue touching or almost touching the lower lip). When I called him to task for his mistake, he replied, "We hear such stuff from some old people; but you know just as I do that we do not say that" ("We" apparently referring to nearly all modern Ẹdo (Bini) speakers, and some old people as well).

I have indicated that there is a lateral feature in some people's pronunciation of ṛ. With quite a number of individual speakers who use this sound, this 'lateralness' is over emphasized; in other words the space at the side where the tongue does not touch the upper lip in widened to a point so far back that the resulting ṛ gives an auditory impression of l-like quality. Those who use this variety of ṛ generally make a single tap with the tip of the tongue. I found this ṛ mostly among the older generation. If we assume that this group pronounces ṛ as if it were a variant of l, we must add that there are others who pronounce it as if it were a variant form of r, with the trill emphasized.

As a result of these conflicting styles of articulating ṛ, whatever description an investigator comes up with must reflect the pronunciation of his

informant(s) and, perhaps the area he comes from. My view confirmed by my observation and some of my informants' pronunciation is that /r̥/ for some of those who use it, is a voiced tongue-lip frictionless continuant, and the two allophones described are the oral and the nasalized: [r̥] and [r̥̃] respectively.

III. Nasalization of Consonants

We have seen in the consonant inventory that apart from /m/ no nasal consonants are postulated at the systematic phonemic level in Ẹdo (Bini). It is however true that at the systematic phonetic level, nasal consonants do occur and in syllable initial position they are generally in complementary distribution with their oral counterparts: the nasal consonants occurring only before nasal vowels, the oral consonants only before oral vowels.

I. Trill and Lateral

Among the phonemic segments with phonetic nasal counterparts are the trill /r/ [r̃] and the lateral /l/ [n̈].

In transcriptions, however, the symbol 'n' is used when in syllable-initial position as a consonant, but it represents a symbol of phonemic nasal in vowels (when it immediately follows a vowel). Examples:

/l̥en/ 'to deficate'

/wẹn/ 'to suck a mother's breast'

/gbẹn/ 'to write'

The nasalization of r, e.g.

/àmẹ erẹn/ [ãm-ẽr̃ẽ] 'hot water'

like the nasalization of other sonorants in the language, is as a result of regressive nasalization, e.g.

/àlinmó/ [ãnimó] 'orange' (E-A 8)

III Approximants

Any approximant in Ẹdo (Bini) (just like the lateral) immediately preceding a nasal vowel becomes nasalized.[16] These occurrences of nasalized approximants are predictable if we start with out inventory of systematic phonemes which includes only oral approximants but both oral and nasal vowels.

The nasalization of approximants can be looked on as a result of regressive nasalization which applies as well to the lateral as to trills. Some applications of this rule are illustrated in the examples below:

/èkhaevbẹn/ [ẽxaeṽ̃ẽ] 'chiefs' (E-A 2)

/iṛẹnvbin/ [ĩr̃ẽṽ̃ĩ] 'knowledge' (E-A 18)

/mu iyan/ [mṹ iỹã] 'carry the yam' (E-A 15)

/ọmọ̀ ẹ̀waẹn/ [ɔ̃m-ẽw̃ãẽ] 'a wise child' (E-A 17)

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16 The reverse process occurs in the nasalization of vowels, i.e. the nasalization of vowels results from the influence of a nasal consonant or vowel before an oral vowel.

IV. Elision of Consonants

Wescot (1962 and 1965) has given an incidental account of vowel and consonant elision in Ẹdo (Bini) in what he calls speech-tempo and the phonemics of Bini. He focusses on the shortening of utterances by the elision of one or more phonemes and gives the impression that these processes are linked with seven speech tempos in the language. Wescot discusses the elision of nine consonants all being weak, according to him, especially at accelerated speech tempo. The consonants which he terms weak are: y, w, r, gh, vb, gb and kp. He cites examples such as:

igha[17]	i'a	'I shall'
ugbaṛo	ugba'o	'eyebrow'

This observation apparently forecloses any detailed discussion on observable structure of the utterances in which elision takes place. Looking at the above examples again, we find that ìghá and úgbaṛò lose the approximants in their intervocalic positions. Apart from the deletion of the so-called weak consonants, Wescot limits his account of consonant deletion to words with the following structures:

(a) $V_1\ C_1\ V_2\ C_2\ V_3$ where $V_1 \neq V_2$

(b) $V_1\ C_1\ V_2\ C_2\ V_3$ where $C_1 \neq C_2$

(c) $V_1\ C\ V_2$ where $V_1 \neq V_2$

---

[17] We refer to igha as two words as it is clear to us that the pronominal subject ì implies different specifiable meaning and function from the preverbial item ghá.

Wescot (1962) errs, however, in the presentation of forms and especially in what he calls ceremonious speech-tempo. I give below his much quoted example of what represents the seven speech-tempo varieties:

1.	ceremonious	ihinbhinrlin	
2.	deliberate	ihin'inrlin	
3.	slow	ihiinrlin	
4.	ordinary	ihinrlin	'nine'
5.	rapid	ihin'in	
6.	hurried	ihiin	
7.	slurred	ihin	

The first variety ihinbhinrlin is the name of a village near Benin City and in spite of its near resemblance to ihirin native speakers do not consider the two words synonymous. Similarly, the seventh variety ihin means 'mucus from the nose'. My alternative meanings are drawn from Hans Melzian's A Concise dictionary of Bini language, 1937, and also from the language of modern Bini literature.

This is not to argue that Bini is spoken without any restriction on speech-tempo but that Wescot's classification of seven varieties is superfluous.

The present study recognises and focuses on y, w, r, s, gh, kh, g and h, as weak consonants, in a two tier classification of formal and informal speech: formal speech

in which weak consonants are not deleted and informal speech in which weak consonants are deleted. In this study we do not just assemble the various types of deletable consonants observable in the language, we present data and rules for systematizing the types.

I. Grammatical Formatives (Preverbial Items)

Following are the preverbial items which delete their initial consonants:

/ghá/ 1. future tense-marker
2. progressive aspect marker
3. interrogative marker

/ghà/ 'conditional marker'

/ghí/ 'durative marker'

/ghì/ 'when'

Consider the following examples: (The pre-elision forms are marked A, and the post-elision forms B.)

1. A /ì ghá bọ owá/ 'I shall build a house'
   B /ì-á b- ọwá/
2. A /ì ghá wìlán/ 'I am working'
   B /ì-á winá/
3. A /ghá wìlán/ 'who is working?'
   B /-á wìná/
4. A /ì gha wilán/ 'if I work'
   B /ì -a winá/

5. A /ẹ̀ẹ̄ ghi wilan/ 'he is no longer working'

B [ɛ̄ ɛ-í wina]

6. A /ọ̀ ghī wìlan foó/

B [ɔ̄ -í wìna foó] 'when he finished work'

Let us recall once again that all verbs in Ẹdo (Bini) (including preverbial and post verbial items) have consonant initials. But the gh initial which is therefore possible in verb stems is not deletable other than in preverbial items. This is probably because (as it often happens) most verb stems delete their final vowels before the initial vowel of their objects, as we can see by considering the following examples.

1. (a) /ghè ughē/

(b) [ɣ- ùɣē] 'look at a dance!'

2. (a) /ghè odẹ̄/

(b) [ɣ- òdɛ̄] 'watch out!'

3. (a) /ghàa erẹ̀n/

(b) [ɣ à- érɛ̃] 'warm (yourself) at the fire'

The first two examples are easy to dispose of; they are instances of vowel deletion taking precedence over consonant deletion where the application of both rules would produce an improper formulation. The third example is also a case of vowel deletion but one involving one of two identical vowels after the gh initial. It would be

noticed that here (b) gha, apart from being a verb stem, is not phonetically different from ghá 'will, -ing, etc.' At the moment we have no other explanation for the non-deletion of gh in gha except to propose that our gh initial deletion rule does not apply after vowel deletion has occurred, or more generally that verb stems do not delete their initial consonants. There are other examples of intervocalic gh deletion in the language; these are given under separate sub-headings below.

II Partial Reduplication of Nominals

The use of the term partial reduplication to refer to nouns only, implies a process. Such a process is explicitly discernible in a noun paralleled by a comparable noun with a partially reduplicated stem, e.g.

Derivation I.

1. (a) ékhaè 'sand'
   (b) ékh-ekhàe "sand-sand": 'sandy'
2. (a) ìgbé 'ten'
   (b) ìgb-ígbè 'in tens'
3. (a) ága 'chair'
   (b) ág-aga 'used of chairs, as a plural form'

The different uses and meanings of the partially reduplicated items can be inferred from the translations

of the examples; basically it is pluralization or indicative of increased quantity.

In examples (b) the weak consonants occurring intervocalically between two identical vowels satisfy the structural description for weak consonant deletion to derive the C examples below:

Derivation II

1.	(b)	ékh-ekhaè	'sandy'
	(c)	éekhaè	"
2.	(b)	igb-igbe	'in tens'
	(c)	íígbè	"
3.	(b)	ág-aga	'chairs'
	(c)	a aga	"

III Phonological Process of Consonant Deletion

The contexts in which the weak consonants may be elided between the first two syllables are so similar that one cannot help examining them together. Following are examples of elision within the context of lexical items where elision does not depend on usage within a clause. Examples are in A and B, where A represents pre-elision forms, and B the post elision forms.

Context 1: Identical vowels in adjacent syllables, separated by a weak consonant

A	B	Gloss
(VCVCV)	(VVCV)	
úhukpa	úukpa	'once'
ọhóghè	ọ́óghè	'a lie'
óghoduà	óoduà	'Almighty'
'ughughà	ú'ughà	'living room'

Condition: $V_1 = V_2$, but $C_1 = / \neq C_2$

Context 2: Identical weak consonant deletion

A	B	Gloss
(VCVCV)	(VVCV)	
ọyiya	ọ'iya	'comb'
ùwawa	ù'awa	'cooking pot'
ọghogho	ọ'ogho	'yam-beetle'
ẹ̀hóhọ̀	ẹ̀'óhọ̀	'wind'
ẹ́gogo	ẹ́'ogo	'clock, bell'
ẹ́khokho	ẹ́'okho	'corner'
ósisi	ó'isi	'gun'

Condition: $(C_1 = C_2)$, $(V_1 = / \neq V_2)$

It is clear from the above examples that the first of the two identical consonants elides in intervocalic position whether or not it is followed by a vowel which shares the same point of articulation on the front-back or open-close axis as the one it follows. Notice that both the bringing together of identical vowels and the identical

weak consonant deletion co-occur in some examples, namely when the first two vowels are identical, and the two consonants are identical, too.

Context 3:

One restriction needs to be mentioned as a follow up to context 2, namely that a weak consonant as C_1 cannot be elided if C_2 is ẹ; in this structure, ẹ as C_2 is elided instead, e.g.

úhorọ̀	úho'ọ̀	'pawpaw'
ọ́wọ́rọ̀	ọwọ́'ọ̀	'eleven'
ọ̀ghẹ́rẹ̀	ọ̀ghẹ́'ẹ̀	'hymen'
àyere	àye'e	'memory'
ọ̀gorọ́	ọ̀go'ọ́	'male cricket'
ìkharọ́	ìkha'ọ́	'a man's tribal mark'

Context 4 (r-deletion)

ẹ deletion in Ẹdo (Bini) is not similar to the same process of deletion as other weak consonants. Below we list some examples:

A	B	
VCVCV	VVCV	Gloss
árabà	á'abà	'rubber'
ọ̀riwọ̀	ọ́'iwọ̀	'a shrub "bitter leaf"'
éresọyèn	é'ésọyèn	'Name of a King'
ẹ̀rérè	è'érè	'flute'
ọ̀rogho	ọ̀'ogho	'muddy pool'

Although the above examples specify that like other weak consonants ẹ deletes in certain intervocallic positions, yet no general rule can be formulated for its deletion as it is the most unstable consonant in the language. From the point of view of historical-linguistics, we could go to the extent of suggesting that all modern examples of nominals with two vowels occurring in final position may once have had ẹ between the vowels, e.g.

èvbéẹ̀re èvbéẹ̀è 'kolanut'

For this reason, in the speech of the natives and without doubt in Ẹ̀dọ (Bini) language as a whole, examples of virtually all the types of deletion discussed above can be found in the use of ẹ.

Here are a few examples:

(a) Grammatical formatives

(- rA: Intransitive verb past tense suffix)

A	B	Gloss
ùki baáẹ̀rè	ùki baá'è	'the moon shone'
mà kuúẹ̀rù	mà kuú'ù	'we played'

(b) Sequence of similar vowels (word initial position)

úẹ̀ruvba	ú'uvba	'boil'
òróẹ̀ro	ò'óẹ̀ro	'groundnut oil'

(c) Identical weak consonant deletion

ẹ̀rérè	è'érè	'deception'
éroro	é'oro	'a small bell'
írerè	í'erè	'arm-pit'
ọ̀rúru	ọ̀'úru	'cotton thread'

(d) Bring identical vowels together:

úruro	ú'uro	'line by line'

To sum up, it appears that r elides in certain intervocalic positions and as the first of two identical consonants, and these are explainable in terms of the weak consonant deletion rules already observed. But there is yet another phenomenon which would make any definitive statement premature at this stage: r in the speech of many people does not exist, even in formal style. Thus one hears all the three forms of each of the above examples, e.g.

i.	éroro	(no deletion)
ii.	é'oro	(deletion of first r)
iii.	e'o'o	(deletion of all rs)

Clearly, a diachronic investigation will come up with the statement that the process of r deletion which has been going on for centuries past is very likely to be completed sooner than later.

I have shown that in Ẹdo (Bini) utterances certain weak consonants are deleted. This deletion of weak

consonants may sometimes co-occur with vowel deletion, and before we continue let us briefly recall the rules of vowel deletion between words:

i. e, ẹ, ọ, ẹn, ọn, in word final position are elided before any initial vowel.

ii. a, an, in word final position may be elided or cause the following initial vowel to be elided, or remain unchanged.[18]

iii. O in word final position may be elided, assimilate to [ʊ] or cause a following initial vowel to be elided.

iv. i, in, u, un, are not elided, except when they occur as the final vowel and the initial vowel of a following word as well.

v. a vowel in word final position is elided if it is similar to the following vowel in word initial position.

Let us now compare the following sentences before and after the rules of weak consonant and vowel deletion have applied. The shortened form is given at the right-hand side:

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[18] The condition under which these vowels are elided or cause the following vowel to elide is not yet clear. See a full account of a and an in chapter 1.

	Orthographic Form	Spoken Form
(i)	ì vbẹn owá ìhirín	/ì ʋ- õw- íhìr̃ĩ̀/
		'I have nine houses'
(ii)	ì gha rè vbe ẹ́gogo ìevá	/ì -á rè ʋ -ɛ́'og- evà/
		'I shall come at two o'clock'
(iii)	rìe oyiya íma re	/rì- o'íy-ìmà ré/
		'bring our comb!'
(iv)	ósisi rè ẹ́khokho vbè úghugha	/ó'isi r-ɛ'oxo vb- u'uɣà/
		'a gun is in a corner of the room'
(v)	ẹ́hóhò hohó oghoghò kpaá	/ɛ́'óhɔ̀ hoh-ó 'oɣɔ kpaá/
		'the wind has blown the yam-beetle away'
(vi)	ọ ká gbè uwawa íran úhukpa	/ọ́ká gb-ù'áw-iṛã̀ u'ukpa/
		'he once broke their pot'
(vii)	ágaga iràn vío rè	/á'aga ìṛã̀ viɔre/
		'they brought only chairs'

The examples show elision within the context of the sentence, and in lexical items where elision does not seem to depend on use within a sentence. Two observations are in order here. First, the contexts in which the consonants may be elided are so similar to what Wescot (1964) claims for the speech-tempo although we have no explanation whatever for his seven speech tempos. Secondly, all the examples of c-deletion have been restricted to between one and three syllable words.

We would have liked to consider the case of weak consonant deletion in words of more than three syllables, but our evidence at the moment is too scanty to make a very useful discussion. Following are just few examples of the elision of y and vb in this context:

ẹ̀vbayákhuẹ̀	èvba'ákhuẹ̀	'soap'
ùhunvbóva	ùhún'ovà	'a serious illness'

But surely the generalization found possible with the trisyllabic words and other preverbial items cannot be justified here. For instance, weak consonant deletion does not occur in the following example:

úvinyèke	úvinyèke	'hollow line along the back'

Clearly, further investigation is needed before any definite statement can be made on this.

V. Systematic-Phonetic Segments

Application of the phonological rules mentioned in the preceding sections of this chapter to the set of Ẹdo (Bini) systematic phonemes (see Table 1) results in the following set of systematic phonetic segments which are approximate representation of the sounds that occur in Ẹdo (Bini) utterances.

Phonemic segments	p	b	t	d	k	g	kp	gb	f	v	s	z	kh	gh	r	m	l	vb	ṛ	y	w	h
Nasalized															r̃		n	ʊ̃		ỹ	w̃	h̃
Aspirated	p^h		t^h																			
Ingressive							k͡p	g͡b														
Elision															[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

CHAPTER THREE

I. TONE IN RELATION TO NOUNS

(a) Tonal Classification of Nouns

The nominal system of Ẹdo (Bini) distinguishes between six noun classes.[19] The pattern of contrast between the classes is determined by the initial tone (IT), medial tone (MT)[20] and final tone (FT) of each class.[21] There are, however, some nouns which exhibit 'mid' FT and sometimes MT as well, as for example, ébó 'white man', èlápùru 'fugitive swelling', (cf. p.133). These can nevertheless be treated as belonging to one of the six classes, depending on the nominal tone pattern that emerges when the 'mid' tones are assigned H tones. For full details of these patterns of contrast see pages 123-125.

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[19] Although pronouns have not been considered in this classification, it must be pointed out though that non-monosyllabic pronouns of identical tone pattern would fit into appropriate classes.

[20] The medial tone is necessary in classes 5 and 6 if they are to be distinguished from classes 1 and 2 respectively. This means too that with the obligatory presence of the MT there are no class 5 or 6 members with less than three syllables.

[21] There are no monosyllabic nouns in Ẹdo (Bini), and the classification of two syllable nouns is based on the initial and final tones.

The noun classes of Ẹdo (Bini) are:

Class Number	Class Symbol	Tone Forms		Examples	
1.	H(H)H	i	HH	íye	'mother'
		ii	HHH	égogo	'bell or clock'
2.	L(L)L	i	LL	àmẹ	'water'
		ii	LLL	ùwawa	'clay pot for cooking'
3.	H(H/L)L[22]	i	HL	ázà	'store room'
		ii	HHL	égilẹ̀	'snail'
		iii	HLL	átọ̀wọ	'whitlow'
4.	L(H/L)H	i	LH	ọbọ́	'hand'
		ii	LHH	ọkọ́ro	'prince'
		iii	LLH	ọrọká	'ring (worn on the finger)'
5.	HL(H/L)H	i	HLH	ódọ̀dó	'scarlet cloth'
		ii	HLLLH	ígìọ̈ruá	'water yam'
6.	LH(H/L)L	i	LHL	ìkpógì	'melon'
				èrúmohì	'the dark-heeled cuckoo'

A one-by-one counting of nouns in Hans Melzian's dictionary (op. cit. 1937) yields the results shown in the table below; it gives a rough idea of the frequency of each noun class.

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[22] The symbol (H/L) means that a H or L tone may optionally occur.

Class Number	Class Symbol	Total Number of Occurrences
1.	H(H)H	197
2.	L(L)L	703
3.	H(H/L)L	355
4.	L(H/L)H	527
5.	HL(H/L)H	97
6.	LH(H/L)L	396
	Total	2,275

This table demonstrates that certain classes of nouns are more common than others. Following is the order of frequency:

	Class	Total
1.	2	703
2.	4	527
3.	6	396
4.	3	355
5.	1	197
6.	5	97

According to this investigation, class 2 nouns are the most common in the language (703), although class 4 comes quite high with (527). Of almost equal proportion are classes 6 and 3 with (396) and (355) respectively. Classes 1 (197) and 5 (97) are comparatively scarce.

The subclassification of noun classes is here based entirely on tones. Nouns having the same tone patterns are regarded as belonging to one class. This system of nominal classification is useful, first because it helps to reduce the number of classes considerably. This means that nouns not having the same nominal prefixes (e.g. i/o) may belong to the same class (cf. section on nominal formatives below). Secondly, because grammatical distinctions between certain moods and tenses are indicated by tones involving both the verb and the noun.

Example of Moods

i. /ɣá s-ìhũ̃ã/ 'who is singing a song? (interrogative)

ii. /ɣá s-ihũ̃ã/ 'keep singing a song!' (imperative)

Example of Tenses

iii. /ɔ̄ s-ihũ̃ã/ 'he sings/is singing a song' (Hab/present)

iv. /ɔ̄ s-íhũ̃ã/ 'he sang a song' (past)

iv. /ɔ̄ s-ihũa/ 'he sang a song' (past)

But:

/ɔ̄ gb-ízɛ̀/ 'he pounds rice'

'he is pounding rice'

'he pounded rice'

Such a distinction between sentences which are Hab/present and those which are past, occurs where the noun begins with a L IT (except L ITS of class 2). In other cases there is no such distinction, e.g. with ízẹ̀ and other nouns beginning with H tone.

One may, according to his need, choose to make a classification based on the morphology of the nouns. (cf. Wescot 1973). Our view here is that one system of classification does not necessarily exclude the other. (Again see section on tones and nominal formatives below).

Initial Tones (ITS)

Two aspects of the IT are worth looking at closely: what happens to it in a second of two juxtaposed nouns, and secondly, how does it behave in a clause.

(A) IT of a second of two Juxtaposed Nouns

It is possible to put two or more Ẹdo (Bini) nouns together in genitive[23] relationship, e.g.

i. Two Nouns

(i) /ílian èrán/ /ĺni-ẽrã́/ 'root of a tree'

(ii) /èrán ívìn/ /ẽr-ĩ́vĩ̀/ 'coconut tree'

(iii) /ɔ̀bọ́ era/ /ɔ̃b-éra/ "father's hand": 'right hand'

(iv) /éra ɔ̀zó/ /ẽr-ozɔ́/ 'ozo's father'

ii. Three Nouns

(v) /ílian èrán ivìn/ /ĺni-ẽr-ĩ́vĩ̀/ 'root of a coconut tree'

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[23] In genitive relationship it is often the case that the thing qualified comes first.

But since similar tonal changes occur whether with regard to a third noun in relation to the second noun or a second noun in relation to the first, I shall, here and in the detailed analysis that follows later on, illustrate with two nouns only. What emerges from the above example, for instance, is that one of two things may happen to the IT of a qualifying noun in genitive relationship: (1) The tone may remain unaltered (as in ii and iii) or (2) it may be assimilated to a higher tone (as in i, iv and v). This subject is taken up in greater detail later in this chapter (cf. section on Nominal genitive).

(B) ITs of Nominal Objects

The ITs are the most significant units in the tonal morphology, as they and the pattern of contrast between them help to determine some grammatical tenses. In this regard the tones are all random, i.e. they are independent of other tones with which they occur, and there is no permanent relationship between the ITs of individual noun in isolation and these tones. The following examples show tenses that are reflected by tones, with reference to a class 4 (LH) noun:

(a) Hab/Present Progressive (L)

/ọ gbe ebé/ [ọ gb-ebé] 'she picks/is picking vegetables'

(b) Past tense (H)

/ọ gbé èbé/ [illegible] gb-ébè / 'she was picking vegetables'

(c) Past Progressive (H)

/ọ ghá̀a gbe èbé/ [illegible] gb-ebè / 'she was picking vegetables'

(d) Future tense (L)

/ọ ghá gbè ebé/ [illegible] gb-èbé / 'she will pick vegetables'

The IT of the nominal object /èbé/, for example, is distinctively marked by H tone for past tense and after the progressive aspect marker [illegible] for the progressive past tense; but marked by L tone for the present/habitual and the future tenses.

The Medial Tones (MTs)

MTs account for the tonemes of syllables intervening between those covered by ITs and FTs. They occur only with those polysyllabic nominals having more than two syllables, where the ITs and FTs are different or are both Ls or Hs. With nominals, the MTs are determined by the tone class to which they belong. Thus only H tones can occur as MTs in Class 1 because of the all-H structure of the class. Similarly, only L tones can occur as the MTs of a class two noun because of the all-L structure of the class.

Examples:

Class 1

MT	Word Tone Structure	Examples
i-H-	HHH	égogo 'bell'
ii-HH-	HHHH	íghobioye 'lot of money'

Similarly, only L tones can occur as MT in class 2 all-L tone structure. Examples:

i.	-L-	LLL	ọ̀wegbe	'the strong one
ii.	-LL-	LLLL	ọ̀waevbin	'man who distributes food'
iii.	-LLL-	LLLLL	ùkọ̀robozo	'bush fowel'

The MTs of classes 3 and 4 are completely independent of the ITs and FTs. However, depending on the number of syllables in each word, the following MT sequences can occur in the two classes.

Class 3

i.	-H-	HHL	égilẹ̀	'snail'
ii.	-LH-	HLHL	ághànókpè	'name of a tree'
	-HL-	HHLL	égbalàka	'ladder'
iii.	-HHH-	HHHHL	ómiavbẹnzè	'iguana'
	-LHL-	HLHLL	ékpòlíyèke	'a pregnant woman'

Class 4/L(T)H/

i.	-H-	LHH	ọ̀kóọ́ro	'prince'
	-L-	LLH	àdekẹ́n	'female of cricket'
ii.	-LL-	LLLH	èbọbọzí	'a cassava dish'
	-LH-	LLHH	ọ̀bọtídi	'bad luck'
iii.	-HH-	LHHH	èkpékpẹ́yẹ	'duck'
	-HL-	LHLH	iruvbinrun	'nakedness'

In the classification table, some MT specifications are put in brackets implying that they are optional only in the sense that two syllable nominals occur without them for certain classes. But in three or more syllable nouns, they must occur, and with given specification. What is not optional and is not put in brackets are the L MT for class 5 and H MT for class 6, and they are necessary to draw distinction between classes 1 and 5, and classes 2 and 6. Without a medial L in a class 5 noun we would have an all-H tone pattern which is class 1. Similarly a class 6 noun is distinguished from a class 2 noun by the presence of a H tone as the only or one of the MTs. Two syllable nouns with HH and LL tone patterns belong to classes 1 and 2 respectively. Although their IT and FT are similar to those of classes 5 and 6, they lack the MTs that are essential to them and for which reason classes 5 and 6 have no numbers with less than three syllables.

Class 5 /HL(T)H/

	MT	Word Tone Structure	Examples	
i.	-L-	HLH	ásẹ̀sẹ́	'a kind of small bird'
			ésọ̀ọ́n	'a chief'
			ẹ́mìlà	'a cow'
ii.	-LH-	HLHH	óvbìvbíẹ	"black mamba": a snake'
			ízàgódo	'kerosene tin'
iii.	-LHH-	HLHHH	íkùẹnkúẹn	'wrinkles'
			íhìẹnhíẹn	'third generation children'
iv.	-HHL-	HHHLH	ígiorùá	'water yam'

Class 6 /LH(T)L/

i.	-H-	LHL	òhóghè	'a lie'
	-H-	LHL	èvbanvbàn	'arrangement'
ii.	-LH-	LLHL	èkpaghúdò	'a kind of tree'
	-HH-	LHHL	èrúmohì	'the dark-heeled cuckoo'
iii.	-HLL-	LHLLL	ọ̀kárùosa	'debtor'
	-HHL-	LHHLL	èlághalòghọ	'bell used in a river cult'
	-LLH-	LLLHL	èsughusúghù	'owl'
	-LHH-	LLHHL	èghẹrọkhọvbẹ̀n	'easy life'
	-HLH-	LHLHL	èlárèlárè	'dropsy'
	-LHL	LLHLL	àhanvbánàkpa	'conception without cause'

A selection of examples of genitive constructions set out below will show why classes 5 and 6, with similar ITs and FTs are classes 1 and 2, need to be classified separately.

i. Class 1 + class III

/épipa ekhaè/ /épip-exaè/ 'keg of gun powder'

ii. Class III + 1class 1

/ékhaè ósisi/ /éxa-osisi/ 'gun powder'

iii. Class v + class III

/íkpàkpá ẹdùn/ /íkpakp-ɛdù/ 'fruit peelings'

iv. Class III + class V

/ékpò ígàrí/ /ékp-igarí/ 'bag of cassava'

v. Class VI + class III

/òsónvbẹn ukpọn/ /ɔ̀sɔ̃ũ̃-ũkpɔ̃̀/ 'a piece (torn) cloth'

vi. Class III + Class VI

/íhẹnvbèn aránvbèn/ /íhẽ̃ṽ̃-ãr̃ãũ̃ẽ̀/ 'animal kidney'

vii. Class II + Class III

/ìku ívìn/ /ìkú ivì/ 'dirt from palm kernel'

viii. Class III + Class II

/úkpò ekẹn/ /úkp-ekẽ̀/ 'mud-bed'

These examples show that class 1 and not class 5 nouns retain their tones in the environments. And only the L FT of a class 6 qualified noun and the L IT of the qualifying are assimilated to H due to the influence of a preceding

or of a following H tone. The L-H assimilation of a class 2 MT and FT before a qualifying noun, and of its IT as a qualifying noun, occur irrespective of whether neighbouring tones are L or H.

The Final Tones (FTs)

The FTs, and to a lesser degree the MTs, are the most problematic units in the tonal morphology as their pattern of contrast, even at the phonemic level, sometimes shows a tonal downstep in addition to H and L, e.g.

(-H)

/ɔ̀wá/ 'house'

/ɔ̀kúta/ 'stone'

(-L)

/ùhúnvbùn/ 'head'

/ẹ̀ki/ 'market'

(-downstep)

/èbɔ̀/ 'white man'

/èlápùru/ 'fugitive swelling'

Certain downsteps in the language are predictable in terms of a H tone following a L tone in a sequence. But in my view certain downsteps, and particularly of the type described here, must be investigated before they can be regarded tonologically as downsteps.

The FT of a noun in isolation is independent of other tones with which it occurs although, as a general rule, a H FT preceded by a L tone is slightly lower than H. In addition the pitch of an FT may depend on the FT of a preceding word, for example, a downstep occurs in the FT of a class 4 noun when its IT is raised due to the H FT of a preceding word. Examples:

cl. iv + cl. iv /ȍwá èbé/ [ȍw-ébè] 'school'

/ọ̀ dẹ́ ȍwá/ [ɔ̄ d-ówà] 'he bought a house'

Other changes occur in the FT when a word boundary lies between it and the IT of a following word:

(a) The FT may be deleted, as in

/íye ọba/ [íy-ɔba] 'the king's mother'

(b) The FT if marked L may become H, if the following IT is H:

/ídù ẹ́gbo/ [ídu ɛgbo] 'dove of the forest'

/ùkhunvbun áhẹ̀/ [ūxuṽũ ahɛ̀] 'medicine for convulsion'

(c) When a final H tone retains its vowel, the H tone is also retained, whatever the following initial tone may be, e.g.

/ùdín ùkhunvbun/ [ùdí ũxũṽũ] 'palm wine'

/ìsí agba/ [ísí agba] 'base of "agba" tree'

The following summaries show how the tones are affected under the conditions described above:

(a) FT (of deletable vowel)‿IT: H/L‿H > FT displacement

(b) FT (of non-deletable vowel)‿IT: L‿H/L > H‿H

(c) " FT‿IT: H‿H > H H

(‿ Marks tone juncture)

The significant fact is that a FT when it is not deleted before an IT occurs phonetically as H tone.

Ib. Nominal Tones in Relation to Other Tones

The essential tone patterns of nouns have been shown in our tonal classification and consist of:

Class 1: All-H tones, as íye 'mother'

2: All-L tones, as àmẹ 'water'

3: H(IT) L (FT), as ázà 'store room'

4: L(IT) H (FT), as ọ̀bọ́ 'hand'

5: H (IT) L (MT) H (FT), as 'ódọ̀dó 'scarlet'

6: L (IT) H (MT) L (FT), as ìkpógì 'melon'

Two main types of nominal tone pattern may, however, be distinguished:

(i) Tone pattern which nouns have in isolation as already shown in our tonal classification.

(ii) Tone pattern which is heard when a noun is used in the environment of other words, which we shall refer to as secondary tones.

Secondary Tones

Secondary tone patterns of other languages have sometimes been sub-classified into: tones of nouns preceding other nouns (genitive tones), those preceding adjectives, and those preceding verbs. After my own tests carried out on Ẹdo (Bini), I find it necessary to make only two sub-classifications of secondary tones:

(a) tones of nouns followed by words with consonant initial, and these include all verbs and some adjectives, and

(b) tones of nouns followed by words with vowel initial, and these include all nouns and some adjectives as well.

Group (a)

Examples of nouns in this group will show that the tones of nouns do not change. They may vary slightly in relative pitch due to the influence of other tones in their environments while retaining their essential form, e.g.

1. Nouns plus Adjectives (with consonant initial)

/èdẹ́ kɔ̀koko/ /ẽdɛ̃́ kɔ̀koko/ 'very grey hair'

/ẹ̀ki gédegbe/ /ɛ̃̀ki gɛ́dɛgbɛ/ 'a big market'

Few adjectives are used in their simple forms to qualify the nouns they follow, e.g. /ɔ̀bɔ́ dàn/ 'bad hand'. In the majority of examples, of the group other than the ones described above, the relative form of the adjective is

used, e.g.

/àmẹ Lén khere/ [àmɛ nɛ́ xère] 'water that is small'

In either case the general rule applies that a noun followed by an adjective with consonant initial retains its primary tones.

In contrast to the above examples, compare a process of tonal assimilation which occurs when a boundary occurs between a class 2 noun and any other noun: The MTs and FTs of the qualified noun are assimilated from L to H, e.g.

/òguọvbandia ọ́ba/ [ɔ̃gũɔ̃ũã̀di-ɔba] 'the king's servant'

/ùwawa amẹ/ [ũwáw-àmɛ̀] 'a pot of water'

/ùwọnvbẹn ẹhíẹn [ũwɔ̃ũ-ɛ̃hĩ̀ɛ̃] 'pepper soup'

The primary tones of the qualified nouns I give here are identical in that their norm is all-low. In their phonetic forms, the FT in each case is deleted, but the penultimate L tone marks the beginning of assimilation.

3. Nouns plus verbs (all verbs have consonant initials)

The nominal subject keeps its primary tones, e.g.

Class I /ẹ́gogo/

/ẹ́gogo tu/ [ɛ̃́gogo tu] 'the bell is ringing'

Class II /àmẹ/

/àmẹ roọ́/ [ãmɛ rɔɔ́] 'the rain is falling'

Class III /ázà/

/ázà khuírí/ [ãza xùírí] 'the store room is locked'

Class IV /ɔ̀kóṛo/

/ɔ̀kóṛo bọ ɔ̀wá/ /ɔ̀kóṛo b-ɔ̀wà/ 'the prince built a house'

Class V /ígiorùá/

/ígiorùá zɔ̀ɔ́rè/ /ígiorùá zɔ̀ɔ́ṛè/ 'the water yam has sprouted'

Class VI /èrúmohì/

/èrúmohì bọ okó/ /èrúmohi b-ɔ̀kó/ 'the dark-heeled cuckoo is building a nest'

This pattern may, however, be varied before a verb for one type of interrogative clause, by raising the initial tone to H if it is L, or if it is H to a range of H which is higher than the normal H. An additional R mark will be placed where necessary to indicate this high register.

Examples:

/égogo tu/ R /ɛ́gogo tú/ 'is the bell ringing?'

/àmẹ roọ́ /R /ámɛ̀ rɔɔ́/ 'is the rain falling?'

/ázà khuiṛi R /áza xùíṛi/ 'is the store room locked?'

Group (b)

One of four changes may occur to the tones of a noun due to the influence of tones of neighbouring words with vowel initials:

1. a tone may be elided, more often when the tone bearing vowel is elided.

2. a L tone may assimilate to H

3. a H tone may be downstepped

4. in the speech of certain speakers, a slur which amounts to a falling tone may occur in certain H MTs and Fts, but this is not a general characteristic, and they are not specified in the examples.

Examples in this section are illustrated with genitive phrases which consist of noun + noun, e.g. /ávbèn ogie/ 'the chief's wife'. In these direct genitive constructions, the two nouns, i.e. the qualified and the qualifying are joined directly without any intervening formative, e.g.

/ọ̀wá ùkhunvbun/ "house of medicine": 'hospital'

/ọ̀wá ìyáyì/ "house of faith": 'church'

As is seen from these examples, the direct genitive construction seems to be used mainly where it expresses a new idea, similar to a compound in English. But this is not always the case as shown from the following examples:

/úkpọ̀ ekẹn/ "Lit. a bed of mud": 'mud bed'

/ìwilan úgbo/ "Lit. work of farm": 'farm work'

The behaviour of tones in genitive relationship is discussed in three parts. In part one are tones that do not alter their forms. In the second part, tones that change due to assimilation resulting from the direct genitive constructions of any one nominal class and another are extensively dealt with. And part three discusses the behaviour of juncture tones.

A summary of the behaviour of tones in genitive constructions is presented below, and it may occasionally be helpful to refer to it.

Nominal Classes	Qualified Nouns		Qualifying Nouns	
1	(IT)	H	(IT)	H
	(MT)	H	(MT)	H
	(FT)	H	(FT)	H
2	(IT)	L	(IT)	L H
	(MT)	L H	(MT	L
	(FT)	L H	(FT)	L
3	(IT)	H	(IT)	H
	(MT)	L H	(MT)	L
	(FT)	L H	(FT)	L
4	(IT)	L	(IT)	L H
	(MT)	H	(MT)	H /downstep/
	(FT)	H	(FT)	H /downstep/
5	(IT)	H	(IT)	H
	(MT_1)	L H	(MT_1)	L H
	(M_2)	H /downstep/	(MT_2)	H /downstep/
	(FT)	H /downstep/	(FT)	H /downstep/
6	(IT)	L	(IT)	L H
	(MT)	H; (L H)	(MT)	H /downstep/
	(FT)	L H	(FT)	L

Part I Tones that do not alter

(a) ITs

All the ITs of qualified nouns, like those in the three examples below, do not alter their forms, e.g.

Class II + Class I

/àmẹ úko/ /àm-úkó/ 'water in a calabash'

Class III + Class I

/ídù ẹ́gbo/ /ídu ɛgbo/ 'dove of the forest'

Class VI + Class VI

/èkhárà ìbiékà/ /èxár-ìbiɛká/ 'children's formula'

An IT of a qualifying noun, if it is H following a H or L FT of a qualified noun does not change, e.g.

Class I + Class III

/ága ikàn/ /ág-ikã̀/ 'came chair'

Class III + Class V

/ẹ́kpo ígarí/ /ẹ́kp-igari/ 'bag of cassava

Class V + Class I

/íyàsẹ́ ọba/ /íyas-ɔba/ 'the king's head-chief'

(b) MT

The MT of a qualified noun, if it is H does not change, e.g.

Class I + Class III

/ẹ́pipa ekhàe/ /ẹ́pip-exae/ 'keg of gun powder'

Class III + Class IV

/úkpakọ̀n ekấ/ [úkpak-ẽkấ] 'chewing stick of the Ika people'

Class VI + Class II

/ọ̀tótọ̀ uwawa/ [ọ̀tót-uwàwa] 'bottom of cooking pot'

The MTs and FTs of class 2 qualifying nouns do not change, e.g.

Class I + Class II

/ọ́re ọ̀vbanbabe/ [ọ́r-ɔ̃ũ̃ã̀babe] 'outside the house of a witch'

/ékà ọghẹdẹ/ [éka-ɣ̀ɛd ɛ] 'cooked plaintain messed in oil'

(c) FT

A H FT of a qualifed noun, when it is not deleted, does not change, e.g.

Class I + Class IV

/ilian ọ̀kúta/ [ĩni-okuta] 'root of a stone'

Class IV + Class II

/ù̀dín ù̀khunvbun/ [ù̀dĩ̃ ũ̃xù̀ũ̃ũ̀] 'drink from oil palm'

Class IV + Class V

/ù̀vún ọ́sẹ̀lẹ́/ [ù̀vũ̃ ɔ̃sɛlɛ́] 'hole of an insect similar to locust'

The L FT of a Class III qualifying noun (and the MT where applicable) does not change, e.g.

Class II + Class III

/ìkpẹ́ ọ́kà/ /ĩ̀kp-ɔ́kà/ 'grain of maize'

Class I + Class III

/íye odẹ̀de/ /íy-odedè/ 'paternal/maternal grandmother'

The H MT and FT of Class I qualifying nouns do not change, e.g.

Class I + Class I

/íye iye/ /íy-iye/ "mother's mother": 'grandmother'

Class II + Class I

/ìkpẹ́ úko/ /ĩ̀kp-úko/ 'calabash seed'

Class IV + Class I

/ɔ̀bọ́ ẹgogo/ /ɔ̃̀b-ẽ́gogo/ 'hand of the clock'

Finally, the FT of a class VI qualifying noun does not change, e.g.

Class III + Class VI

/ívìn ọ́rọ́milà/ /ívĩ̀ ɔ̃́rɔmilà/ 'divination palm kernel of the Ifa god'

Class IV + Class VI

/ẹ̀kẹ́n ọ̀khọ́khọ̀/ /ẽ̀k-ɔ̃́xɔxɔ̀/ 'hen's eggs'

Part 2 - Assimilation of Tones

L ITs of qualifying nouns (and they include the ITs of classes 2, 4 and 6) are assimilated to H irrespective

of the tones they follow, e.g.

Class I + Class II

/ígho ẹ̀ki/ /ígho -ɛ̀ki/ 'money for the market'

Class III + Class IV

/ẹ́kpò ahíọ/ /ẹ́kp-ahíɔ/ "Bag of urine": 'bladder'

Class IV + Class VI

/èkẹ́n ọ̀khọ́khọ̀/ /èk-ɔ̃́xɔ́xɔ̀/ 'hen's eggs'

A H MT or FT following the assimilated L H tone of a qualifying noun is downstepped, e.g.

Class I + Class IV

/ilian ọ̀kúta/ /íni-ọ̃kúta/ 'root of stone'

Class II + Class VI

/àwua ẹrinvbin/ /àwú-ɛ̃́rĩ́ũ̃ì/ 'taboo of the deity'

Class III + Class IV

/ẹ́kpò ahíọ/ /ẹ́kp-ahíɔ/ "bag of urine": 'bladder'

Class IV + Class VI

/èkẹ́n ọ̀khọ́khọ̀/ /èk-ɔ̃́xɔ́xɔ̀/ 'hen's eggs'

Class IV + Class IV

/èkẹ́n èkpẹ́kpẹyẹ/ /èk-ẽ́ kpɛ́kpɛyɛ/ 'duck's eggs'

Class III + Class V

/ẹ́kpò ígàrí/ /ẹ́kp-igarí/ 'bag of cassava'

The L MT of a class V qualifying noun is assimilated

to H, as in Class IV + Class V

/ùvún ọ́sèlé/ /ũvṹ ɔselɛ́/ 'hole of an insect'

Class VI + Class V

/ọ̀vbókhàn ésàmá/ /ɔ̃uóx-ẽsamá/ 'chief Esama's wife'

Part 3 - Juncture Tones

When a noun is followed immediately by another noun in a genitive construction, the vowel final of the qualified noun or the initial of the qualifying noun may be dropped, except /i/ and /u/. To decide which of the vowels is usually deleted is still hard of solution. Tonally, there is also the problem of how to decide which of the juncture tones (FT or IT) is dropped, particularly where one is L and the other is H:

/úkọ̀ ọ́ba/ /ũk-ɔba/ 'the king's messenger'
/ékà ọ̀ghẹdẹ/ /ẽka-ɣɛ̀dɛ/ 'plantain cut and fried'
/ọ́tọ́tọ̀ ayọ́n/ /ɔ̃tót-ayɔ̃̀/ 'palm wine dregs'
/íghọ ẹ̀ki/ /iɣ-ɛkì/ 'money for the market'
/ọ́re ọ̀vbanbabe/ /ɔ̃r-ɔ̃̀ãbabe/ 'outside the house of a witch'
/ùye egúi/ /ũy-égui/ 'tortoise hole'
/úkpọ̀ ekẹn/ /ũkp-ekɛ̃̀/ 'mud bed'

One explanation is to say that in a H FT + L IT juncture, when the FT vowel is deleted its H tone displaces the L IT, i.e. FT vowel and IT are deleted while H FT is

transferred to replace the L IT. The following examples would seem to support such analysis:

Class I + Class II

/ígho ẹ̀ki/ /ígh-ɛ̀kì/ 'money for the market'

Class I + Class III

/ọ́ba ẹ̀dó/ /ọ́b-ɛ̀dó/ 'the king of Benin'

But the same argument cannot hold for the juncture tone assimilation of the following type:

Class II + Class II

/ìkpẹ́ ogi/ /ìkp-ógì/ 'melon seed'

Class II + Class IV

/iku iyán/ /ìkú iyán/ 'yam peelings',

where the -L + L- juncture tones become

-Ø + -H or -H + H-

Again although the L→H assimilation in the following examples could be explained phonetically as due to the H of the preceding tone, the point of a H tone displacing a L tone cannot be made of them:

Class III + Class IV

/ẹ́kpò ahíọ/ /ɛ́kp-ahí ɔ/ 'bladder'

Class III + Class II

/úkpò ekẹn/ /úkp-ekɛ̃/ 'mud-bed'

For this reason our description of the behaviour of juncture tones will be based on types and not on rules for

general application. Two phonetic forms are given for each example, the first indicating vowel deletion and the second without deletion.

Type I /-L + L-/ [-Ø + H-] / -H + H-

Class II + Class II

/ìkpẹ ogi/ [ìkp-ógì] 'melon seed'

Class III + Class IV

/ẹ́wù ivíe/ [ẽwu ivíe] 'bead dress'

Type II /-H + L-/ [- Ø + H-] / [-H + H-]

/ètó ùhé/ [ẽt-úhé] 'pubic hair' (Class IV + Class IV)

Class IV + Class IV

/ìbí àkhé/ [ĩbí axé] 'soot of pot'

Type III /-L + H-/ [-H + H-] / [-Ø + H-]

Class VI + Class III

/òsọ́nvbẹ̀n ẹ́kpò/ [õsɔ̃ũ-ɛ̃kpò] 'a piece (torn) bag'

Class III + Class I

/ídù ẹ́gbo/ [ídu ẽgbo] 'dove of the forest'

Type IV /-H + H-/ [-Ø + H-] / [-H + H-]

Class V + Class I

/íyàsẹ́ ọba/ [íyas-ɔba] 'the king's head chief'

Class IV + Class VI

/ìsí ùlókò/ [ĩsí ulòkò] 'base of iroko tree'

1C. Tones and Nominal Formatives

Ẹdo (Bini) nouns have no grammatical gender or declension. The subject of a clause (preceding the verb) and the object (following the verb) are differentiated by their position in the clause. But it is however possible to classify the nouns into two broad morphological categories: Nouns without formative character which we shall consider primary, and those with certain formative character which can be proved by comparison with other word classes, and which we shall call derived nouns.

Primary Nouns

It is not possible to detect the particular function or meaning of Ẹdo (Bini) formatives, but it is possible to detect the definite character of a derived noun as being verb based. In a case such as /ìdó/ 'something that is woven', for example, it is possible to prove the formative character of /i-/ by comparing /ìdó/ with /do/ 'to weave'; but such analysis would be wrong for /ìsó/ 'sky'. Our description of a primary noun, therefore, is that it has no part comparable to any verb in the language. In view of the fewer number of primary nouns (i.e. compared with the derived nouns), and the productive nature of some of the formatives, a great many nouns in the language must be considered derived.

The majority of nouns do not distinguish between singular and plural. But the few that do are primary nouns,;

and they make their plurals by alternating their singular initial vowel with e- or i- for plural.[24] It must be stressed that e- or i- is not used every time a noun is meant to be in the plural; a singular noun may have either as its initial vowel, e.g.

Singular /ọ̀vbí/ plural /ì̀vbí/ 'child/children'
" /ọ̀khuo/ " /ì̀khuo/ 'woman/women'
" /ọ̀mọ́/ " /ẹ̀mọ́/ 'child/children'

but /ọ̀wá/ 'house' (singular and plural)
/ígho/ 'money' " " "
/ọ̀ dọ/ 'husband' " " "

The nouns in the examples above are all primary nouns. The fact that some of the initial vowels alternate does not make them formatives. The plural of /ọ̀mọ́/ for example, is /ẹ̀mọ́/ in which ọ- alternates with e-, but there is no related verb in the language that is /-mọ/.

All the tones of primary nouns are primary tones; even when their vowels alternate to distinguish between singular and plural, the tones do not alter.

Formatives of Derived Nouns

1. Nominalization by Prefix

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[24] Only few group A composite nouns with /i/ prefix also form their plurals in this way: see discussion below.

(a) Prefix + Verb Stem

Most of the secondary nouns have bases consisting of a single verb stem; while some, however, have bases consisting of more than one stem. There are several patterns of secondary nouns; the most common of them being -- a prefix with a verb stem, which is actually nominal -- and may be termed "regular verbal nouns".

A verb (none begins with a vowel) becomes a noun simply by taking a vowel prefix. The prefix which may be any one of the vowels in the language is therefore separable. If we compare the following nouns with their verb equivalents, it would be seen that a noun shows a vowel prefix which does not form part of the related verb. Examples:

/àhíọ/ 'urine', from /hiọ/ 'to urinate'
/èwálịẹn/ 'answer', from /walịẹn/ 'to answer'
/ẹ̀hóhò/ 'wind', from /hoho/ 'to blow'
/ìyáyì/ 'belief', from /yayi/ 'to believe'
/òlọghọ/ 'difficulty', from /lọghọ/ 'to be difficult'
/ọ̀tá/ 'speech', from /ta/ 'to tell'
/ùwú/ 'death', from /wu/ 'to die'

Many nouns like those in the above examples, are formed from the stem of the respective verbs by the prefixes ì- è-, ẹ̀-, à-, ọ̀-, ò-, or ù-. There is not a great deal of regularity about the occurrence of these initial vowels (nominal prefixes); in some cases the

initial vowels are prefixes, but in some the nouns are primary. Now compare the following:

Vowel Prefixes		Non-Vowel Prefixes	
ìdó	'something that is woven	ìsó	'sky'
ègbó	'the act of felling trees'	èró	'hospitality'
èhohó	'wind'	èvbántà	'truth'
àzó	'sacrifice'	àbó	'branch'
òtá	'speech'	òzá	'loin cloth used as belt'
òrienrien	'sweetness'	òyiya	'comb'
ùlé	'running'	ùkpé	'beak'

(Notice that in each pair, nominals of both groups have identical tones).

Although, collectively, these prefixes are noun formatives[25], the particular set of nouns each formative forms cannot be grouped into separate classes such as concrete nouns, abstract nouns, etc. An abstract noun can as well be formed by the prefix ì- as by ò-, e.g

/ìyáyì/ 'belief', from /yayi/ 'to believe'

/òlogho/ 'difficulty, from /logho/ 'to be difficult'

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25 There are a few complements in the language that might also occur as the base of derived nouns, taking the prefix ì- e.g. ìmose 'beauty', from mòsé 'to be beautiful' ìkhorion 'ugliness' from khorion' to be ugly', but such derivations are scarce.

The tone patterns of definite forms of derived nouns based on prefix + verb stem and of the structure VCV (V) and VCVCV, are:

	Verb form		Noun form
H	do 'to weave'	LH	ìdó 'something woven'
LH	vbaan 'to measure'	LH	òvbán 'measurement'
LH	wia 'to smell'	HLL	ẹ́wìa 'stench'
LH	vbanvban 'to arrange'	LHL	èvbánvbàn 'arrangement'
HH	fían 'to cut'	LHH	àfían "Lit. a cutter"
LH	gbilan 'to fight'	LLL	ìgbilan 'fight'
LHH	walien 'to answer'	LHLL	èwálien 'answer'

Some verb forms with the tone pattern LH have corresponding noun tone form LH, whereas a few have forms with tone pattern HLL. Prefix forms with L tone which occur in the examples should be considered as the norm because tone patterns such as H- (ẹ́wìa) do not occur frequently.

Very few tone patterns of derived nouns (no more than two are recorded) are given below inspite of the fact that they are apparently irregular in tone. The tones have been carefully checked and are recognized as irregular with no explanation. These are:

wiá	'to smell'	ẹ́wìa	'stench'
gbilan	'to fight'	ìgbilan	'fight'

In general terms, it may be said that the prefix plus verb stem nominalization is said with L to H tone; and in a two-syllable noun, for example, it is usually L for the prefix which bears the IT and H for the verb stem which bears the FT.

A sub-type of this class of derived nouns consists of those whose bases include three syllables. In these examples, the first member is still a vowel prefix followed by a disyllabic verb stem. Since this is not phonologically a separate word in any case, and is not written with a hyphen, such forms constitute only minor tonal addition of a final L tone, e.g.

/èũ̃ã̃ũ̃à/ 'arrangement', from /ũ̃à̃ũ̃ã/ 'to arrange'
/éwálìè/ 'an answer', from /wàlíẹn/ 'to answer'

The difference in three or more syllable noun is in H MT which is the FT of a two syllable noun and the LFT which occurs in three syllable nouns only. The tonal form corresponding to a derived noun consisting of two syllables may be regarded as LH, and consisting of three or more syllables as LH (T) L. One further point is to be noticed about the derived nouns of this group: In CVV verb forms, the vowels if they are identical are contracted to a single vowel, and the verb stem becomes CV after the nominal prefix, hence vbàán, for example, is pronounced prefix plus vbán, /òvbán/ 'measurement'.

(b) Subject + Verb Stem Nominalization

There are probably a great many more regular derived nouns whose bases consist of two parts, than those noted in (a) (which must also be carefully distinguished from the composite nouns described in later sections).

The prefixes of this group of nominalization are a/i, e.g.

(i) /a-/ which denotes the indefinite personal pronoun and may be translated by the passive, e.g. 'one'.

Examples:

/àfíangbe/ ⌈àfíangbé⌋ "one adds": 'blessing', from fíangbé 'bless' (Lit. "add to").

(ii) /i-/ which denotes the first person singular.

Example:

/ìdémùdía/ "I fall (but again) stand firm', from dèmudía 'stand' or 'stand firm'.

Nouns formed in this way are usually names which refer to the wishes or achievements of parents who give them (the names) to their children. The verb stems used here are compounds: /fíangbé/ (cf. fian "cut" gbé "add"); dèmudía (cf. de 'fall', mùdía "stand"). But both the tonal behaviour and the grammatical relationships in these stems suggest that it is preferable to write them together as one word.

The tone rule (L tone prefix) for the prefix plus verb nomilization, applies here too to both ⌈ì-⌋ and ⌈à-⌋.

The tones of the verb stems are marked phonetically as follows: if they are independently L or LH become H; a penultimate L tone is assimilated to H in /ãfíangbè/ causing the following H FT to be downstepped.

A subject plus verb stem nominalization in which the subject is itself a noun is also recorded. The productivity of this formation and in fact of this group of nominalization should be evident from the fact that a majority of Ẹdo (Bini) personal names are formed in this way.

Examples:

/ẹ̀dẹ́ gbeè/ "the day is dawn": 'it is dawn'

/òsa gíè/ "God sent": 'God sent/created'

2. Nominalization by both Prefix and Suffix

Apart from the use of the vowel prefixes for the formation of nouns, a combination of both ù- prefix and -vbẹn suffix also occur with verbal stems.

Examples:

Verb form		Noun form	
ga	'to serve'	ù gá vbẹ̀n	'service'
fo	'to finish'	ù fó vbẹ̀n	'the end'
ka	'to count'	ù ká vbẹ̀n	'the act of counting'
ze	'to be hard'	ùzévbẹ̀n	'hardness'

The tone patterns of derived nouns containing the prefix u- and the suffix 'vbẹn are summarized in the

following examples:

(a) With CV Verb Stem

	Verb Form		Noun Form
H	hu 'to grow (of children)'	LHL	ùhúvbẹ̀n 'growth'
H	tu 'to cry'	LHL	utuvbẹn 'the act of crying'
H	re 'to arrive'	LHL	ùrévbẹ̀n 'arrival'

(b) With CV Verb Stem

LH	loo 'to use'	LHL	ùlóvbẹ̀n 'usage'
LH	vbee 'to be scarce'	LHL	ùvbévbẹ̀n 'scarcity'

(c) With CVCV Verb Stem

LH	rere 'to deceive'	LHHL	ùrérevbẹ̀n 'deceit'

Both ù- and -vbẹn are assigned L tones. The ù- prefix with L tone occurs in both the composite as well as the suffix plus verb stem derived nouns; but ù- is not here comparable with the second person pronominal. After the prefix ù-, the verb stem is assigned H tone irrespective of the number of syllables the individual verb has in a clause.

The combination of ù- and -vbẹn derives nouns from verbs, and it is possible to group the nouns so derived into such group as abstract nouns. But nouns of identical grouping can just as well be formed by the prefix è- and

sometimes using the same verb stem, e.g.

ùrérevbèn } deceit, from rere 'to deceive'
èrérè }

In any case, ù-verb-vbèn and è-verb, are two of the ordinary ways to form abstract nouns, and the formations are productive.

The definite forms of some nouns other than those described above might look alike or almost the same as the ù-verb -vbèn nominals, although the nouns are quite diffeent in structure. Compare the ù- and vbèn in ùwánvbèn 'growth' (from waan 'to grow') and ùwònvbèn 'soup'. Although the two nouns have tonal differences, they also have in common the initial ù- and the final -vbèn, which are parts separable from -wán-, but not from wòn. A derived noun of the ù + stem +vbèn type must have a verbal base, or it is a primary noun.

3. Composite Nouns

Composite nouns consist of three parts: part one which is either a nominal or a vowel prefix; stem one, a verb stem; and stem two, a nominal. Our discussion of the composite nouns that follows is arranged in three parts, distinguished by the structure of the prefix:

	Prefix	Stem 1	Stem 2
Part a	i-/u-/o-	Verb stem	Noun
b	a-	"	"
c	Noun	"	"

(a) i-/u-/ọ- + verb stem + Noun

Composite nouns of this group consist of a prefix, a verb stem, and a noun.

The three categories of nouns formed with the vowel prefixes are:

1. Nouns of action, with the prefix i-, e.g.
   ìbowa 'house building'
2. Agentive nouns, with the prefix ọ̀-, e.g.
   ọ̀siosa 'debt collector'
3. Instrumental nouns, with the prefix ù-, e.g.
   ùgbeto "hair cutter": 'scissors'

The first stem is in all cases a verb (no other word group has so far been attested in usage in this position); and the second stem is always a noun, e.g.

/ìb-owa/ 'house building' (cf. bọ 'to build', ọ̀wá 'house')

/ọ̀siosa/ 'a debt collector' (cf. si 'to draw', ọ̀sá 'debt')

/ùgb-eto/ "hair cutter": 'scissors' (cf. gbe 'to cut' ètó 'hair')

Nouns formed in this way imply a habit of doing what the verb implies, or something/someone who does what the verb implies. Thus, /ibowa/ means 'building a house'; /ọ̀siosa/ is 'one who takes to collecting debts'; and /ùgbeto/ is 'something that cuts the hair'.

Because of the apparent semantic relationship between ì, ù, ọ̀ with the first, second and third person singular pronominals, and because by placing a noun

selected by a verb after the verb stem a verb plus object construction is formed, previous analysts, among them Hans Melzian (1937) and doubtfully Wescot (1963) have been tempted to conclude that composite nouns of this structure are indeed NP_1 V NP_2, where NP_1 is any one of the three pronominal vowels (ì, first person, for nouns of action, ù, second person, for non-human nouns; ọ̀, third person, for agentive nouns), V is any verbal stem, and NP_2 is any noun appropriate to the action of the verb.

Examples:

/ì-bọ-owá/ [ìbowa] 'house building'

/ọ̀-gbẹn-ebé/ [gbẽbe] 'writer of books'

/ù-gbe-udían/ [ùgbudĩã] 'tsetse (fly) killers'

If this analysis is right it would mean that two surface structures would be derivable from an underlying composite noun, depending on the tense tone assigned to the verb and in some cases plus the object:

ìbowa 'house building': (a) ì bọ́ ọ̀wá 'I built a house'

(b) ì bọ owá 'I am building a house'

ọ̀gbẹnbe 'writer of books' (a) ọ̀ gbén èbé 'he wrote a book'

(b) ọ̀ gbèn ebé 'he is writing a book'

ùgbudian 'tsetse (fly) killer' (a) ù gbé ùdían 'you killed tsetse (fly)'

(b) ù gbe udían 'you are killing a tsetse (fly)'

But for this to be meaningful, and this is where the previous analysts went wrong, i, u, ọ as prefixes of all nouns must be semantically related to the pronominal vowels. A claim of such relationship cannot be made with regard to all the occurrences of these vowels as initials. For example,

ì- in ìgbọvo 'jealousy'

ọ̀- in ọ̀khẹrẹ 'a young palm tree, and

ù- in uzekhae 'a sandy place'

are neither related to the pronominal vowels nor are the nouns they form human or agentive. In this work, therefore, ì- ù-, ọ̀- are referred to just as prefixes of Group (a) composite nouns.

Regular group (a) composite nouns are formed by a special tone pattern, but are not written with hyphens between the three members. It cannot be too strongly emphasized that the use of hyphenation in the above examples is intended specifically to signal the application of tone rule; it is used to show where certain tonal alternations occur. These alternations occur in the verb stem and the noun objects.

It would be seen from the examples already quoted that the tone pattern of a group (a) composite noun is not the sum of the tones which constituent stems have in isolation. For example, the prefixes ì-, ù-, ọ̀- each has a L tone when pronounced in isolation and in composite nouns remain unchanged. The verb stem (the first stem)

is strictly speaking atonal, except when tense is intended; but it is here assigned as L tone, no matter what tone the verb would otherwise have in a clause. The individual tone that stem two (a noun) has in isolation is the primary tone, but again is assigned all -L tones; àyọ́n 'wine', for example, has LH in isolation, but LL in the composite noun (a): /ọ̀dayọn/ 'drunkard'; /èvbîln/ 'something' which has LHL tones in isolation has LL (after IT deletion) in [ìṛuɛũ̋ì] 'learning'.

All group (a) composite nouns belong to noun class 2 tonally. And so we distinguish between two types of class 2 nouns by whether or not they are derived nouns, i.e. have constituent parts comparable to other words in the language:

1. Composite nouns which are derived from three parts and whose tones are determined by the L IT, e.g.

   /ùgbeto/ 'scissors' cf. ù- 'prefix', gbé 'to cut', ètó 'hair'

2. Non-derived nouns with no constituent parts that can semantically be related to other words in the language.

Examples:

/àmẹ/	'water'	/ùwọnvbẹn/	'soup'
/òyiya/	'comb'	/òṛogho/	'mud water'
/ọ̀khẹrẹ/	'a young palm tree'		

Although some of the non-derived nouns have ì, ù, ọ̀ initials, they are not derived nouns as might be thought

by their similarity with the composite nouns. Each word as a whole, and not merely the initial vowel and tone, has to be considered. For example /ùgbudian/ 'killer of flies' consists of ù + gbe + ùdían; but if one were to think of ọ in ọkhẹrẹ as a prefix there is no semantically related word in the language that is -khẹ̀- or -khẹ̀rẹ.

Composite Noun (b)

(a + Verb Stem + Noun)

Some derived nouns, which are mainly used in an abusive way, consist of the prefix à, a verb stem, and a noun selected by the verb.

The noun so derived therefore has the structure of a composite noun but differs functionally and tonally from the other two groups.

Composite noun (b) limits the meaning of a noun to a particular personal habit, and may be translated by 'one who is ...', e.g.

à-rú-ạ̀ọ "one who is blind": 'a blind man'
(cf. à 'one', ru 'to be blind', ạọ 'eyes')

à-de ọ̀wẹ "one who is crippled": 'a cripple'
(cf. à 'one', de 'to fall', ọwẹ 'legs')

à-ba ẹ̀vbẹn "one who watches words": 'a stammerer'
(cf. ba 'to watch', ẹvbẹn 'word')

Speakers form new abusive words for any personal bahit according to the same analogy. The following examples

show how this formation of new words is effected: if there is no ambiguity, "a, plus a verb stem indicating the purpose for which the abuse is used, plus a noun selected by what the verb implies and referring to one personal habit. Examples:

a-gbe-iṛuẹn /àgb íṛuẽ̀/ 'one who amasses dirt'
a-fu-edẹ /à fúedè/ 'one who grows grey hair'
a-yin-ehọ /àyẽ́hɔ̀/ "one who blocks ears": 'a deaf'
a-dé-eve /àdévè/ 'one who (ties) has hernia'

Composite noun (b) (abusive noun)[26] has definite tone pattern, i.e. irrespective of tones of individual stems in isolation: L (IT), H (MT) (in fact all tones intervening between IT and FT), and L(FT). By this fixed tone specification, all composite noun (b) belong to noun class 4, tonally.

Composite Noun (C) (Noun + Verb Stem + Noun)

In this third group of nominalization involving noun plus a verb stem plus a noun object, the three parts retain their primary tones. Examples:

(i) /óbazùghánvbẹ̀n/ cf. ọ́ba 'king' zẹ̀ 'chooses'
ùghánvbẹ̀n 'pride'

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[26] Abusive nouns formed in this way are derisive and should therefore be distinguished from the normal way speakers refer to someone who is afflicted by a particular deformity. Compare these two examples: i/u ru aṛo/ /ù rú aṛò/ 'you are afflicted by blindness' (cf. ù 'you', rú 'blinded', aṛọ 'eyes').
but
ii/a-ru-aṛo/ /àrúaṛò/ 'one who is blind' (cf. à 'one', ru 'to be blind', aṛọ 'eyes'). (i) is indicative, while (ii) is derisive. Also compare the English 'as blind as a bat', said of a person who can't find things.

(ii) /ɔsayívbɛ̀n/ Cf. Ɔsa 'God' yi 'created' Vbɛ̀n 'me'

Example (i) shows that although there are no tonal specifications that composite noun (C) must meet, yet assimilation of tones between words still occur when a final vowel precedes an initial vowel. /ze/ which becomes /z-/ in fact combines both tones (between words) and vowel deletion.

The formation of composite noun (C) is productive and undoubtedly countless more combinations are invented and used as personal names.

II Tones in Relation to the Verbal Phrase

(The subclassification of items in the Verbal Phrase)

The subclassification of verbs based on their position in a clause is: Preverbial items, verb stem, and post verbal items.[27]

IIa Preverbial Items

The preverbial items are a subclass of the verbal phrase which must precede the verb stem. There are three

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[27] The criteria for the classification of nouns and the verbs are not all the same: the nouns are classified according to their primary tones while the verbs, which have no primary tones except what is marked on them in a clause to express mood or tense, are sub-classified according to their positions and tones in a clause. A sub-division is also done according to syllables, but this is taken up in details in connection with the verb stems where they are of tonal significance. (See also a categorization of the verbal phrase in Chapter 4).

terms in this subclass:

(a) Negators

(b) Restricted preverbial items

(c) Unrestricted preverbial items.

(a) Negators:

There are five negators in Ẹdo (Bini) each usually assigned a H tone, except màá which is marked ŁH. They are:-

1. Negator of the imperative: /ghẹ́/

2. & 3. Negator of the past tense:

/má/ for nominals and disyllabic pronominals, and

/màá/ for monosyllabic pronominals as subject.

4. Negator of the habitual/present and future tenses - monosyllabic pronominal as subject: prolongation of the single V pronominal, e.g. ìí first person, ùú second person, ẹ̀ẹ́, third person.

5. Negator of the habitual/present and future tenses - nominals and disyllabic pronominals as subjects: /í/

1. ghẹ́

The verbal phrase in which /ghẹ/ occurs is the negative plus verb stem, with or without an object; it bears a H tone in all its occurrences, e.g.

⌈ɣɛ́ kpɔ̀lɔ́⌋ 'don't sweep!'

⌈ɣɛ́ gbe⌋ 'don't dance!'

⌈ɣɛ́ s- ìhṹã̀⌋ 'don't sing a song!'

2. & 3. má/màá

These negators occur when the verb is in the past tense; they precede the verb stem. /má/ occurs with nominal or plural pronominal subjects, while /màá/ occurs with singular pronominal subjects. Examples:

(2) má

⌜ òdɛ́ ma ṛu ɛ̀è ⌟ 'Odé did not do it'

⌜ ìbiɛ́kà na má ṛu ɛ̀è ⌟ 'these children did not do it'

⌜ íràn má ṛu ɛ è ⌟ 'they did not do it'

(3) màá

⌜ ì maá ṛu ɛ̀è ⌟ 'I did not do it'

⌜ ù maá ṛu ɛ̀è ⌟ 'you did not do it'

⌜ ọ̀ maá ṛu ɛ̀è ⌟ 'he did not do it'

(4) -í, ú, é,

In this group there are three negators which are the prolongation of the single V pronominals. These negators (always with H tone) occur after the L tone single V pronominals:

(a) -i, after 1st person singular subject, e.g.

⌜ ìíkpolo ⌟ 'I do not sweep/ I am not sweeping/ I shall not sweep'

⌜ ìí gbe ⌟ 'I do not dance/ I am not dancing/ I shall not dance'.

(b) -ú, after 2nd person singular subject, e.g.

/ùú kpolo/ 'you do not sweep/ you are not sweeping/ you will not sweep'.

(c) -é, after 3rd person singular subject,[28] e.g.

/ɛ̀é kpolo/ 'he does not sweep/he is not sweeping/ he will not sweep'

/ɛ̀é gbe/ 'he does not dance/he is not dancing/ he will not dance'

5. -í

This negator occurs in the imperfective constructions after any nominal subject or any plural pronominal subjects, e.g.

/mà í kpolo/ 'we are not sweeping/we do not sweep/ we shall not sweep'

/wà í kpolo/ 'you (pl) are not sweeping/ you do not sweep/ you will not sweep'

/íṛan í gbe/ 'they are not dancing/ they do not dance/they will not dance'

/ɔdɛ́ i gbe/ 'Ode is not dancing/ Ode does not dance/ Ode will not dance'

(b) Restricted Preverbs

Restricted preverbs operate in non-imperative clauses only. The list below shows the restricted preverbs and

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[28] The single v pronominal for the third person which is ọ in the affirmative clause is ẹ̀ in the negative, hence the prolonged negator is -é.

their tones:

ghà	'when'
ghí	'as/when'
tè/kèghá/ké	'before'
kéghì/ké	'then'
kévbè	'as well'
té	'used to'
gbá	'together'
ghà/ghàá	'if'
kpá	'if ... had'
dá	'just'
khían/ra	'about to'
ghá	'will'

Examples:

/à gha wū irò fóò/ [à ɣa wú irò fóò] 'when one dies all thoughts end'

/ò ghí re/ [ò ɣí re] 'as/when he came'

/ò té re/ [ò té rè] "he before came": 'he had come'

/ò kèghá dèè/ [ò kèɣá dèè] }
/ó ke re/ [ó ke re] } 'before he comes'

/ò ké/kéghi kpàá/ [ò ké/keɣi kpaá] 'he then left'

/ò kévbe kpaá/ [ò kévè kpaá] 'he left as well'

/ò té re/ [ò té re] 'he used to come'

/íràn gbá re/ [íran gba rè] 'they came together'

/ò ghaá re èvbáà/ [ò ɣaá r-evàà] 'if it is there'

/ò kpá re/ [ò kpá rè] 'if he had come'

/ó da sùén/ [ó da sũ̀ɛ̃] 'he is just beginning'

/ọ̀ khían/ ṛa suèn/ [ɔ́ xían/ ṛa sũ̀ɛ̃̀] 'he is about to start'

/ọ̀ ghá re/ [ɔ́ ɣá rɛ̀] 'he will come'

(c) Unrestricted Preverbs

Unrestricted preverbs occur in both imperative and non-imperative clauses. The full list is as follows:

zàbọ́/gìẹ́gìẹ́	'quickly'
kàkabọ́	'properly'
yè	'still'
dọ̀legbé	'again'
zẹ̀ dia	'sometimes'
vbè	'also'
dò	'secretly'
fẹ̀kó	'carefully'
ghá	'-ing'

Examples:

i. Imperative clauses

/zàbọ́ ṛu ẹ̀e/ [zàbɔ́ ru ɛ̀ɛ̀]) 'do it quickly'
/gìẹ́gìẹ́ ṛu ẹ̀è/ [gìɛ́gìɛ ṛu ɛ̀ɛ̀])

/kàkabọ́ ṛu ẹ̀e/ [kàkabɔ́ ṛu ɛ̀ɛ̀] 'do it properly'

/yè ṛú ẹ̀e/ [yè ṛú ɛ̀ɛ̀] 'do it still'

/dọ̀legbé ṛu ẹe [dɔ̀legbé ṛu ɛ̀ɛ̀] 'do it again'

/zẹ̀dia ṛu ẹe/ [zɛ̀dia ṛú ɛ̀ɛ̀] 'do it sometimes'

/vbè ṛú ẹ̀e/ [vè ṛú ɛ̀ɛ̀] 'do it also'

/dò ṛu ẹe/ [dò rú ɛ́ɛ̀] 'do it secretly'

/fẹ̀kó ṛu ẹ̀e/ [fɛ̀kó ṛu ɛ̀ɛ̀] 'do it carefully'

/ghá ṛu ẹ̀e/ [ɣá ṛu ɛ̀ɛ̀] 'be doing it'

ii. Non-Imperative

/ò zábó ru èe/ [ɔ zábɔ ru ɛè]) 'he did it quickly'
/ò gìégìé ru èe/ [ɔgiégiɛ ru ɛè])

/ò kakábo ru ẹe/ [ɔkakábɔ ru ɛè] 'he did it properly'

/ò yé ru èe/ [ɔyé ru ɛè] 'he still did it'

/ò dolégbe ru èe/ [ɔdolégbe ru ɛè] 'he did it again'

/ò zedía ru èe/ [ɔzédìa rú ɛè] 'he did it sometimes'

/ò vbe rú èe/ [ɔ vbè rú ɛè] 'he would also do it'

/ò dó ru èe/ [ɔ dó ru ɛè] 'he did it secretly'

/ò fekó ru èe/ [ɔ fɛ́ko ru ɛè] 'he did it carefully'

/ò ghá̀a ru èe/ [ɔ ɣá̀a ru ɛè] 'he was doing it'

Sequence of Preverbs

Following is the order in which the preverbs may occur between the subject and the verb stem:

1. a negator/ké (ghi/ghà), ghá, kpa[29]
2. khían/ra
3. té, kue, ye, vbe, kevbe
4. ghì
5. zèdia, bà, má, gba, da, dòlegbé
6. yá, dóó
7. ghá

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29 The pattern of preverbs require that the first preverb (after the subject in non-imperative clauses) is either a negator or one of the positive preverbs, if a choice is to be made from (1.) at all. These two classes are mutually exclusive.

Examples:

/ i ɣáa ra do ru ɛ̀è / 'when I shall be coming to do it'

/ ìí xĩã̀ ɣi kùe zɛdia doó ɣa ṛu ɛ̀è /

'I would no longer come sometimes to be doing it'

/ í xĩɛ̃ te ɣ̀i ba yaá zabɔ ɣa ṛu ɛ̀è /

'I was about going quickly (to) pretend (to) be doing it'

IIb Verb Stem

The term 'verb stem' is used in this thesis for such words which

(i) convey action or condition

(ii) show tones which are markers of mood or tense

(iii) are capable of operating alone in a clause

i. Action or Condition

/ tìe / 'read!' / ì ti- ebé / 'I am reading a book'

/ ʋiɛ / 'to be asleep' / Ódɛ́ ʋìɛ́ / 'Ode is asleep'

ii. Mood or Tense

/ tìe / 'read!' (imperative mood)

/ ì ti- ebé / 'I read/am reading a book' (Hab/Present Tense)

/ ì tí- ébé / 'I read a book' (past tense)

iii. Alone in a clause

This part of the definition is intended to distinguish a pre-verb which for example, cannot operate alone in a clause as, */ i kakabo ɛ̀e / 'I properly it' and a verb stem which can operate alone, as / i rú ɛ̀è / 'I did it'.

Each verb stem has a number of tone patterns which vary regularly according to the mood or tense they express. And it is for this reason we thought it would be misleading to classify the verbs according to tones. Instead main divisions have been made here on the basis of the number of syllables contained in the verb stems, and they are quite many and varied; but our emphasis here is on monosyllables and disyllables.

(a) Monosyllabic Verb Stems

These have the form CV plus tone. It must be emphasized that the tone belongs to the verb just as much as any of its other phonemic components. When it is not marked on the verb, it must be understood that no mood or tense is intended (cf. Chapter 4 for details).

A large number of Ẹdo (Bini) verb stems belong to this group. The following are examples illustrated with a L tone, which in a single verb stem expresses the imperative mood:

/gbè/ 'dance!' /dẹ̀/ 'buy!'

The vowels of monosyllabic verb stems, with the exception of the close vowels, are often deleted before the initial vowel of a nominal object:

/ọ̀ gbe íze/ [ọ̀ gb ízɛ̀] 'she pounded rice'

/ọ̀ dẹ́ ẹ̀bé/ [ọ̀ d- ébé] 'she bought a book'

Close vowel exceptions:

/ì bí ẹ̀khu/ [ì bí ɛ̀xu] 'I pushed the door (open)'

/ì mú ẹ̀hẹ̀n/ [ì mú ẽhɛ̃̀] 'I caught a fish'

(b) Disyllabic Verb Stems

The sequence structure constraint on disyllabic verb stems is that the pattern of the root syllables must be /CVV/, /CVCV/ or CV + Reduplication.

(i) CVV

The two successive vowels preceded by a consonant /CV_1V_2/ may be identical, e.g.

/dee/ to be coming[30]

/ziin/ 'to persevere'

/tii/ 'to thicken a liquid by boiling'

When V_1 and V_2 are not identical, V_1 must be a close vowel, e.g.

/khùi/ 'lock!' (of doors)

/kùe/ 'accept!'

/rùẹ/ 'set! (of traps)'

/wio/ 'pull out!'

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[30] The verb form without tone marks is what I term the Definite form and is used in order to introduce the concept of 'base' and "tone potential" of the verbal phrase. Used in clauses, verbs are assigned tones whose modifications express mood or tense and are therefore reserved for later discussion under the general heading 'categories of the verbal phrase' - Chapter 4.

Translation of Ẹdo (Bini) citation by an infinitive, therefore, does not imply that an infinitive necessarily carry a nomino-verbal meaning, except that, as mentioned above, no mood or tense is intended. The infinitive is evidently included as representative of all the possible verb forms, rather than as a nomino-verbal form in its own right; it is dissimilar in structure and behaviour from all of the words described as Nouns in this thesis.

(ii) CVCV

The structure of a disyllabic verb stem of the vowel combination CV_1V_2 specifies that the first syllable initial segment must be a consonant but the second syllable must be just a vowel. The $C_1V_1C_2V_2$ combination specifies that the second syllable must, like the first, have an initial consonant. My data shows that any consonant can occur at the beginning of the first syllable of a disyllable verb stem. The consonants that can occur at the beginning of the second syllable, i.e. C_2 may be one of the following:

(a) A reduplication of C_1, e.g.

/baba/ 'to peg poles into the ground'

/dada/ 'to carry (of heavy things)'

/fafa/ 'to fade'

/gaga/ 'to surround'

(b) One of the following: /l/, /vb/, or /gh/, e.g.

/kpolo/ 'to sweep'

/zagha/ 'to scatter'

/ṛanvbẹn/ 'to fry'

Although the conditions thus far discussed in this section limit the initial segment of the second syllable (as different from that of the first) to /l, vb, gh/, there is a further limitation to the effect that every one of these three consonants does not necessarily occur irrespective of which ever other consonants occur as the initial consonant of the first syllable. That is /gh/, for example, may occur as the initial consonant of the second syllable where /b, f,

g, gh, l, m, t, w, y, or z/ occurs as the initial consonant of the first syllable, but verb stems of the shape /PV, gh V_2/. etc. are excluded. /vb/ may occur as the initial consonant of the second syllable if /b, d, f, g, h, k, kp, l, r, ṛ, s, or kh/ occurs as the initial consonant of the first syllable. Finally, in order to have /l/ as V_2, the following consonants need to occur as V_1: /b, d, g, gb, h, k, kp, l, m, r, s, t, w or kh/.

Apparent exceptions to this consonant agreement in CV_1CV_2 verb stem structure are provided by groups of words such as:

(a) Foreign words

/saba/ 'to be able' (Portuguese ⟨sabber⟩)

/zebi/ 'to be guilty' (Yoruba ⟨jebi⟩)

(b) Idiomatic expressions

/rewa/ 'to wax (of the moon)'

(c) Doubtful cases

There are a few verb stems whose structures appear to be /CVCV/, e.g.

/zama/ 'to respect'

/sote/ 'to rebel'

/voro/ 'to reveal a secret'

It is likely that these verb stems, due to their similarity with other words in the language, like ⟨ẹtẹ́⟩ 'rebel', ⟨ọ́rọ̀⟩ 'secret', are compounds.

(d) Others

/toba/ 'to stick to'

/ziga/ 'to try'

/tohan/ 'to sympathise'

/suku/ 'to express anger (with the eyes only)'

/sikan/ 'to gum'

/hẹwẹ/ 'to give up'

/vbokho/ 'to bend'

(iii) CV + Reduplication

The reduplicating affixes with the structure CV occur as part of certain verb stems. That is, there are a few verb stems which have the internal structure: CV + Reduplication (where CV is a verb stem followed by a reduplication of that same verb stem). But it is not all verbs that satisfy this structural specification only that are Reduplication verb stems, as we shall call them here. The semantic specification which must be considered is that a Reduplication verb stem must have a meaningful verb stem as first part. Thus, the following are Reduplication verbs:

(a) /bibi/ 'to move to and fro (many times)'

/ghogho/ 'to live a vagrant life (many times or many actors)'

/kaka/ (intransitive) 'to dry (of many things)',

because of the independent meanings of their following first parts:

/bi/ 'to move'

/ghoo/ 'to circle to and fro'

/ka/ (intransitive) 'to dry'

There is another class of Reduplication verbs which is structurally identical with (a) already specified above but which has its unique segmental Reduplication forms. These verb stems may nevertheless be analysed as monosyllabic verb stems plus suffixes and as Reduplication verbs, on segmental grounds. Examples[31] are:

(b) /rilo/ 'to tie (of many objects/ many times)'

/solo/ 'to pick (more than one time)'

/khulo/ 'to drive (of many objects)'

/gbele/ 'to kill (of many objects)'

/dẹlẹ/ 'to buy (of many objects/actors)'

/gbalọ/ 'to tie (of many objects/many times)'

/bọlọ/ 'to build (of many actors/objects)'

Independent meanings for first parts in (b):

/ri/ 'to tie'

/so/ 'to pick'

/khu/ 'to drive'

/gbe/ 'to kill'

/dẹ/ 'to buy'

/gba/ 'to tie'

/bọ/ 'to build'

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[31] In examples (b), the second parts of the RED verb have no independent meanings, although they may have homophonous relation to verb stems like /le/ 'cook!', /lẹ/ 'escape' /lɔ̀/ 'grind'.

The order in which the vowel of the first part relates to the second part of the Reduplication verb (b) (that is after 1-) is as follows:

1st Part Final Vowel	2nd Part Final Vowel
-i, -o, -u	-o
-e	-e
-ẹ	-ẹ
-ọ, -a	-ọ

. The reduplication verb form, which is sometimes an optional choice for speakers, has such form as verb stem + (RED), where the parentheses indicate that the reduplication or reduplicating affix is optional. But when RED is used even as an optional choice, it adds a meaning of 'repeated activity' to the meaning of the verb stem. The repetitive character of the activity may involve its being performed by more than one object, or performed more than one time. (A single example may exemplify more than one repetitive characteristic, as in earlier examples.)

The general tonal behaviour of disyllabic verbs of CVCV structure is the same as that of Reduplication verbs. See next section for tones of verb stems.

Tones in Monosyllabic Verb Stems[32]

A monosyllabic verb stem by having just one vowel, can only have one of the two phonemic tone forms marked

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[32] A full syntactic description (and not the mere patterns) of verbal tones is given in chapter 4 under the categories of Mood, Transitivity, Aspect, Tense, with the systems of their terms.

on it: High or Low. Below are the distribution of the two tone forms.

1. L Tone Monosyllabic stems

(a) A single verb stem, e.g.

/dɛ̀/ 'buy!'

/bʊ̀/ 'confess to an adultery!'

(b) A verb stem preceding an object but following the preverb /ghẹ́/, e.g.

/ɣɛ́ bì egbé/ 'don't give way'

/ɣɛ́ d èwá/ 'don't buy a mat'

(c) Monosyllabic verb stem in an NP_1 V NP_2 clause may also be assigned a L tone, e.g.

/ì gb ebé/ 'I am gathering leaves'

/ì d ewá/ 'I buy/am buying mats'

(d) After the preverb /ghá/ '-ing' or 'shall', e.g.

/ì ɣ á gb ebé/ 'I shall gather/am gathering leaves'

/ì ɣa d èwá/ 'I shall buy/am buying mats'

2. H tone Monosyllabic verb stem

(a) At End-phrase position, e.g.

/ɔ gbé/ 'she dances/she is dancing'

/ɔ hɔ̃́/ 'she hears/she is hearing'

/ɔ só/ 'she wails/ she is wailing'

(b) When it is not preceding an object but is following the preverb /ghẹ́/ or /ghá/, e.g.

/ghẹ́ gbe/ /ɣɛ́ gbe/ 'don't dance'

/ghá gbe/ /ɣ á gbe/ 'be dancing'

(c) Before the suffix /-ẹn/ or /e/, used without an object:

/ọ̀ wọ́n + ẹ̀n/ [ɔ̄ wɔ̃́ɛ̃̀] 'he drank'

/ọ̀ dẹ́ + è/ [ɔ̄ dɛ́ɛ̀] 'he bought'

/ọ̀ gbé + è/ [ɔ̄ gbéè] 'he pounded'

Tones in Disyllabic Verb Stems

Canonically, disyllabic verb stems, and to this group we add the RED verb stems which are structurally identical to them, have four possible tone patterns that might be assigned to their two vowels:

1. LL (a L followed by a L)
2. HH (a H followed by a H)
3. LH (a L followed by a H)
4. HL (a H followed by a L)

1. Examples of LL

(a) A single disyllabic verb stem used without a pre- or post-verb, a subject or an object:

[kpòlo] 'sweep!'

[kùe] 'accept!'

[tìe] 'read!'

[dɛ̀lɛ] 'buy! (of many things)'

(b) Group (a) above, with an object:

[kùku obɔ̄] 'tighten (your) hand!'

[mìmí arọ̀] 'close (your) eyes!'

[bìbi odɛ̄] 'miss the way!'

(c) A single disyllabic verb stem following a preverb, e.g.

[γɛ́ bìbi odɛ̌] 'don't miss the way!'

[γɛ mími aro̧] 'dont close (your) eyes!'

[γá kúkù obɔ̌] "be tightening (your) hand": 'be selfish'

(d) After an extended register (H tone) preverb and following an object.

[γá tì ebé] 'who reads/is reading a book?'

[γá tì ebé] 'who reads/is reading a book?'

[γá dùʊ́ ɔka] 'who pounds/is pounding maize ?'

(e) In [γá dɛ̀l eʊ́] 'who buys/is buying things ?'

[ɔ̄ ti ebé] 'he reads/is reading a book'

[ɔ̄ dɛl ímɔtò] 'he buys/is buying cars'

[ɔ̄ bibi odɛ̌] 'he misses/is missing the way'

(f) When the verb stem follows /ghá/ 'shall/will' preverb in an NP, Preverb, Verb stem, NP_2 clause, e.g.

/ì ghá mìmí àro̧/ [ì γá mìmí àro̧] 'I shall close (my) eyes'

/ì ghá kùku obó̧/ [ì γá kùku obɔ̌] 'I shall tighten (my) fist'

2. Examples of HH

The HH tone patterns assigned to disyllabic verb stem are only different from LL patterns in tense (see example 1d), and the differences are shown in their appropriate contents, e.g.

[γá bibi odɛ] 'who missed the way?'

[γá dùʊ́ ɔka] 'who pounded rice?'

3. Examples of LH

(a) A single verb stem without object following the proverb /ghé/:

∠γέ lèlé_7 'don't bother'

∠γέ kpòló_7 'don't sweep'

∠γέ rìé_7 'don't accept'

(b) After the preverb R/ghá/ (with extended register) a verb stem used without an object is assigned a LH tones, e.g.

∠γá lèlé_7 'who bothers/ is bothering?'

∠γá kpòló_7 'who sweeps/is sweeping?'

∠γá rìé_7 'who accepts/is accepting?'

(c) Used before a suffix, not followed by an object, e.g.

∠kpoló + ò_7 'he swept'

∠tié + rè_7 'he read'

∠dɛlɛ́ + è_7 'he bought (of many things)'

(d) In an NP_1 verb stem NP_2 clause, e.g.

∠bibí odɛ́_7 'he missed the way'

∠mimí aro_7 'he closed his eyes'

∠kpoló orere_7 'he swept the outside'

∠ti ébe_7 'he read a book'

(e) When the verb stem (without an object) follows the preverbal item /gha/ 'shall/will', e.g.

∠ɔ γá rìé_7 'he will accept'

∠ɔ γá lèlé_7 'he will bother'

∠ì γá dɛlɛ́_7 'I shall buy (of many things)

4. Examples of HL

A disyllabic verb stem, without a subject or object, occurs with a HL tone pattern when it follows /gha/ '-ing', e.g.

⌈ɣá hɛwɛ̀⌋ 'keep resting'
⌈ɣá kpolɔ̀⌋ 'keep sweeping'
⌈ɣá riè⌋ 'keep going (home)'

IIC Post Verbal Items

There are certain items of the verb that must be preceded by a verb stem within the verbal phrase. The post verbal items, as they are called here, cannot operate as the only verb in a clause. Three contexts have been selected for examples of a post verbal item, with a verb stem that may precede it. Examples:

i. ⌈ì gbé nɛ⌋ 'I already know how to dance'
ii. ⌈ì gbé nɛ̀⌋ 'I have danced'
iii. ⌈ì ɣá gbe nɛ⌋ 'I shall have danced'

The tone pattern of the post verbal item ⌈nɛ⌋ is H in (i) and (iii), i.e. in the habitual/present and future tenses, but L in (ii) which is the past tense.

CHAPTER FOUR

TONES OF THE VERBAL PHRASE

Definition of the Verbal Phrase

In this chapter we discuss the structural patterns found in the phonology of Ẹdo (Bini), with emphasis on tones. The word-class which is established as verb and to which attention is primarily directed is:

(a) Any item which occurs between a noun subject, and where applicable a noun object, e.g.

/ọdẹ́ gbẹ̀n/ 'Ọdẹ writes' (noun plus verb)

/ọ/Ọdẹ́ gbẹn ẹ̀bé/ 'Ọdẹ wrote a book (noun plus verb

/Ọdẹ́ gbẹn ẹ̀bé/ 'Ọdẹ wrote a book (noun plus verb plus object)

(b) Any stem when used in isolation, shows tones which are markers of mood and tense:

/gbẹ̀n/ 'write!' (imperative mood)

(c) By definition, a verbal phrase consists of a pre-verbial item, a verb stem, and a post verbal item with appropriate tone markings, depending on the particular tense and aspect employed, e.g.

/ì gbá gbẹ̀n ebe nẹ́/ 'I shall have written a book'

(future tense plus perfect aspect)

Because the verbs have no primary tones it has been impossible, as with nouns, to classify them according to their initial, medial, and final tones. Instead, I have set up the categories of mood, transitivity, tense, aspect and polarity which tones distinguish grammatically in the verbal phrase. A table which summarizes the five categories

has been shown in the introduction. The mood consists of three terms: indicative, interrogative and imperative. A verb of the type that has the affirmative form also has a corresponding negative form which differs in respect of particles and tones, and these are discussed under the category of polarity. The verbs may also be seen as belonging to two broad groups in the way they relate to the objects: the transitive and the intransitive; the third group of intransitive verbs that can be used transitively is also to be found, and these are discussed under the category of transitivity. The aspects have three terms: progressive, imperfect, and perfect; and these are combined with the tenses: Habitual/present, past and future. The tenses have "forms", and may refer to "time" in a number of ways, sometimes in combination with items of time, e.g. adverbs.

Category 1: Mood

1. Indicative

There are three moods: Indicative, interrogative and imperative. The term indicative is used here in contradistinction to the terms interrogative and imperative, i.e. it is the base whose modification results in specific structural characteristics of interrogatives and imperatives. Consider the following examples:

Indicative

[ù gb ẽbé] 'you are writing a book'

Interrogative

[ú gb ẽbé] 'are you writing a book?'

Imperative

[gb ̀ébé] 'write a book!'

Both syntactically and semantically, the indicative is a base from which contrasts and similarities are drawn. In the above examples, the difference between the indicative and the interrogative is the respective L and H tone markings on the pronominal subjects; and between the indicative and the imperative is the absence in the imperative of a subject. See appropriate terms below for detailed discussions.

2. Interrogative

In the analysis below, the seven principal markers of interrogatives are:

(a) [ínu] (enumerative)

(b) ṛ̀a (yes/no)

(c) kúe, rị̀ọ́, yí (hopefully yes)

(d) ọghá nọ/gha nọ (exclamative)

(e) vbè (wh-, in non-relative clauses)

(f) dè (wh-, in relative clauses)

(g) ghá (who, before a verb)

The tone[33] patterns are stated systematically and are analysed into distinct tenses (only where they differ from the norm; cf. section on tenses), and other possibilities.

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33 It is necessary at this stage to draw attention to the general intonational characteristics of the interrogative clauses, namely that the pitch range is higher than in the indicative.

(a) /ínu/ (enumerative)

The enumerative interrogative clause is derived by adding the question word /ínu/ in the indicative clause initial position, e.g.

Indicative

/ịràn si ủkokò/ /ịrã̀ sí ukokò/ 'they smoke/are smoking pipes'

/mà bű ẹ̀dé/ /mà bű ɛdɛ́/ 'we fixed a date'

Interrogative

/íunịràn si ủkokò/ /ínu ịrã́ sí ukoko/ 'how many of them smoke/are smoking pipe?'

/íunima bú ẹ̀dé/ /ínu ima bu ɛdɛ́/ 'how many of us fixed the date?'

Apart from the presence of /ínu/, the interrogative clauses have the same word structure and order as the indicative. They differ also in intonation, with the general heightening of pitch in the interrogative.

(b) /rạ̀/ (yes or no)

Interrogative examples suggesting a yes or no answer, such as those given below, sometimes have a final particle /rạ̀/, giving a rather greater emphasis, e.g.

Indicative

/ù bű ẹ̀dé/ /ù bú ɛdɛ́/ 'you fixed a date'

/u si ukokọ/ /u si ukoko/ 'you smoked a pipe'

/ù bű ẹ̀dé/ /ù bú ɛdɛ́/ 'you fixed a date'

Interrogative

/ù sí ukokò ṛa/ [ù sí ukokò ṛa] 'did you smoke a pipe?'
/ù bú ẹdẹ ṛà/ [ù bú ɛdɛ́ ṛà] 'did you fix a date?'

But sometimes the particle /ṛà/ is not used. In this case the subject has a characteristic tone pattern, with the initial tone if it is L becoming H, e.g.

/ú si ukokò/ [ú si ukokɔ̀] 'did you smoke a pipe?'

If the initial tone is H the following modifications are made on the subject tones:

HH > H plus downstep, e.g.

/ímade bu ẹ̀dẹ́/ [ímade bu ɛdɛ́] 'did imade fix a date?'

Cases occur where this special pattern of tone raising is not used and the clause remains just as in the indicative above. There would seem to be a structural ambiguity between the indicative and this kind of circumstance-clause whose ambiguity is usually resolved by considerations of lexical and contextual compatibility.

The interrogative examples without /ṛà/ is also used for emphasis, e.g.

[ú si ukokɔ̀] i 'did you smoke a pipe?' (interrogative)
ii 'You must have smoked a pipe' (emphatic)

(c) /kúe, rìọ́, yí/ (hopefully yes)

Interrogative examples which hopefully suggest a yes answer takes any of the three particles kúe, rìọ́, or yí, in the following positions:

(i) /ù kúe sì úkokò/ [ù kúe si ukokò] 'hope you smoke a pipe?'

(ii) /ù sí ukokò rịọ́/ [ù sí ukokò rịɔ́] 'hope you smoke a pipe?'

(iii) /ù sí ukokò yí/ [ù sí ukokò yí] 'hope you smoke a pipe?'

In addition, each of the clauses is regularly capable of taking two of the three particles, of which the first must be /kúe/ e.g.

(iv) /ù kúe si ukokò yí/ [ù kúe si ukokò yí] 'hope you really smoke a pipe?'

(v) /ù kúe si ukokò rịọ́/ [ù kúe si ukokò rịɔ́] 'hope you really smoke a pipe?'

When kúe is used as in iv and v and either rìọ́ or yí occurs in clause final position, kúe, as can be seen from the differing translation means 'really'.

Each of the three particles is assigned H (or LH in the case of rìọ́) tones in all environments, even when it occurs with another particle in the clause.

Only /kúe/ occurs between the subject of the clause and the verb stem, while /rìọ́/ and /yí/ occur in clause final position. Apart from the particle the interrogative clauses in this group do not differ from the indicative in word order:

(vi) /ù si úkokò/ [ù sí ukokò] 'you smoke a pipe'

/(exclamative)

compare with i-v above.

(d) /ghá ọ̀n/and /ọ́gha ọ̀n/(exclamative)

These interrogative exclamatives have such short forms as:

(i) [ɣá á] and [á nɔ́] for /ghá ọ̀n/'who?'

(ii) [ɔ́ɣa a] for /ọ́gha lọ́n/ 'whose?'

The reason they are grouped together is that they can occur alone, as compared to other interrogative clauses in which the interrogative particles change indicatives to interrogatives.

A further type of complex example can be made from the above exclamative forms, namely exclamative form plus object form, e.g.

(i) /ghá ọ̀lanŋkhín/ [ɣá -nà xĩ́] 'who is this?'
(ii) /ọ́gha ọ̀lan khín/ [ɔ́ɣa-nà xĩ́] 'whose is this?'

The two peculiarities of these clauses are that in their general forms they both drop their lọ́ŋ and take another particle khín, and that they have identical tone patterns in both their short and general forms. To treat the two clauses as belonging to the same group provides a possible means of accounting for these facts.

(e) vbè (non relative clauses)

The (wh-) interrogative clause is derived by adding a **question** word in indicative clause initial position. In a non-relative clause, inquiry is made about the object which is dropped when the question marker is inserted, e.g.

Indicative

(i) /ọ̀ sí ukokò/ [ɔ̀ sí ukokò] 'he smokes a pipe'
(ii) /ọ̀ mu ọmọ́/ [ɔ̀ mu ɔmɔ́] 'he carries the baby'

Interrogative

(i) /vbè ọ sí/ ⌈ʋè ɔsí⌋ 'what does he smoke?'

(ii) /vbè ọ mú/ ⌈ʋè ɔ mú⌋ 'what does he carry?'

Similarly, without the initial interrogative marker the interrogative has the same word order as the intransitive indicative clause, e.g.

	Indicative	Interrogative
(i)	⌈ɔ́ sí⌋ 'he smokes'	⌈ʋè ɔ sí⌋ 'what does he smoke?'
(ii)	⌈ɔ́ mú⌋ 'he carries'	⌈ʋè ɔ́ mu⌋ 'what does he carry?'

The objects questioned in the interrogative clauses are 'pipe' and 'baby' respectively.

There is also in this group an interrogative example of 'where-locative' type which differs from those given above as it has the final particle ⌈ʋɔ́ó⌋ (always with LH tones), giving greater emphasis. For example, if the following question: ⌈ʋ-ébe á ye⌋ 'where is the book?' is to be repeated because no satisfactory response has been given, then the particle ⌈ʋɔ́ó⌋ is used, as in the clause ⌈ébé ʋɔ́ó⌋ 'where is the book?'

As shown in above examples, there are few phonetic tonal changes which occur in interrogative clauses derived from the indicative: L tone of the pronominal subjects in (i) and (ii) become H; but there is no alternative to the L tone of vbè, and the LH tones of vbɔ́ó.

(f) de (relative clauses)

One way of distinguishing interrogative clauses of

this group from those of group (e) is to say that interrogative relative clauses which use the particle dè (group (f)) occur only in relative clauses, while those that use vbè occur only in non-relative clauses.

Examples:

Group (e)

/vbè íràn rú/ [ʋ-írãru] 'what are they doing?'

Group (f)

/dè evbíìn nèn íràn rú/ [d̄-èʋ̃ĩ n-írã ru]

'What thing that they are doing?": 'what are they doing?'

Note that wherever dè is indicated, it has its own object occurring before the relative marker [nɛ̀] e.g.

/dè eghe nèn o khin/ [d̄-ɛ̀ɣɛ n-ɔ xĩ]

"what time that it was?" may translate 'when was it?'

This means that there is almost no limit to the question forms which might be expected to be formed with dè:

/dè ehé/ [d̄-èhe][34] "what place": 'where?'

/dè ovbáàn/ [d̄-ɔ̀ʋã] "which person": 'who?'

/dè eghe/ [d-ɛ̀ɣɛ] "what time": 'when?'

The tonal behaviour of the interrogative words is constant in having assignable L tone on dè and nɛ̀.

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34 Since the interrogative words with L tones are conveniently shown preceding L tone initial words the interrogative objects have been carefully selected for illustrative purposes.

These bases show maximum tonal distinctiveness.

(g) ghá (who, before a verb)

The ghá interrogative clause is derived by placing the question word /ghá/ 'who' before the verb stem of the clause. The interrogative marker therefore displaces the subject that is being questioned e.g.

Indicative

[sí ukokò] 'he smokes/is smoking a pipe'
[mu ɔmɔ́] 'he carries/is carrying the baby'
[bu ɛdɛ́] 'he fixes/is fixing a date'

Interrogative

/ghá sì ukokò/ [á si ukoko] 'who smokes/is smoking a pipe?'
/ghá mù omó/ [á mù ɔmɔ́] 'who carries/is carrying the baby?'
/ghá bù edé/ [á bù ɛdɛ́] 'who fixes/is fixing a date?'

The ghá interrogative clause expresses tense by tones in the general verb stem pattern of, for example, L for the habitual/present (as in the above examples), and H for the past, as shown below (cf. chapter 3):
/ghá si ukokò/ [á si ukoko] 'who smoked a pipe?'
/ghá mù omó/ [á mù ɔmɔ́] 'who carries the baby?'
/ghá bu edé/ [á bu ɛdɛ́] 'who fixed a dete?'

Special attention must be drawn to the distinction between /ghá/ 'who'(before a verb) interrogative and /ghá/ the progressive aspect marker. Though homophonous, they are tonally and functionally different. Compare:
(i) /ghá si ukokò/ [á si ukokò] 'be smoking a pipe'

(ii) /gha si ukoko/ ⟨ɣá si ukoko⟩ 'who smoked a pipe?'

As the above examples show, the whole range of phonetic H tones from ⟨ɣá⟩ to the final syllable in (ii), is not true of the aspect marker (i). The difference emphasizes the phonetic intonational feature of the interrogative clause.

3. Imperative

Imperatives in Ẹdo (Bini) usually indicate a request or command addressed to the second person. They have no tense.

The following imperative forms may be distinguished:

(a) With expressed subject

(b) Those which consist of a single verb stem i.e. with subject or object unexpressed

(c) Verb stem plus object imperatives

(d) Negative imperatives

(e) Progressive aspect imperatives

(f) Suitable imperatives.

(a) Imperatives with expressed subject

The second person to whom the imperative is addressed may be omitted, but is sometimes used, for example, when more than one pẹrson is addressed. e.g.

⟨wà kpolo⟩ 'you (plural) sweep!'

or for emphasis, e.g.

⟨wɛ́ kpolo⟩ 'you (singular) sweep!'

In either case the whole clause has low tone. If the subject is a noun, only the verb stem is assigned L tones, example:

/òdɛ́ kpòlo/ 'Odẹ sweep!'

(b) Single verb stem imperatives

The single verb stem imperative, without expressed subject or object has a L tone on every syllable, e.g.

/gbè/ 'dance!' /tù/ 'cry!'
/gìɛ́/ 'langh!' /kpòlo/ 'sweep''

They have no tonal modifications that express tense.

(c) Verb stem plus object

Where the imperative has an object, two cases are to be noted:

i. where the final vowel of the verb is not elided.

In the imperative structure of this group CV and CVV verbs have H tones before a noun object, except with class 4 and 6 noun objects, e.g. (a) CV

i. before class 1: /rú ɛgogo/ 'make a clock!'
ii. 2: /kṹ emà/ 'make a drum!'
iii. 3: /sí ukokò/ 'smoke a pipe!'
iv. 5: /mú igiorúá/ 'carry the water yam!'

(b) CVV

i. before class 1: /gúi ɛzɔ/ 'make a case!'

(There are no appropriate CVV verbs in my data to complete this list).

Before class 4 and 6 noun objects CV and CVV verbs have L tones, e.g.

i. before class 4: /bù ɛdɛ́/ 'fix a date!'

ii. 6: /mù ekpamáku/ 'carry the plate'

iii. 4: /xùi odɛ́/ 'bar the road'

Disyllabic (CVCV) verb stems have LH or LL tones depending on the class of the noun object: The verb always has LH tones before classes 1, 2, 3 and 5 objects, e.g. before class 2: /mimí aro/ 'close (your) eyes'. But it has L tones before classes 4 and 6, e.g.
before class 4: /xuxu egbe/ "push the body": 'jostle!'

ii. where the final vowel of the verb is elided.
In the imperative structure of this group, the IT of the noun object is retained, unless the noun is class 2, in which case it is raised to H.

Examples with CV verbs

before class 1. /d-ɛ́gogo/ 'buy a clock!'

2. /d-ema/ 'buy a drum!'

3. /d-ukoko/ 'buy a pipe!'

4. /d-ebe/ 'buy a book!'

5. /d-igiorua/ 'buy water yam'

6. /d-ekpamáku/ 'buy a plate'

In CVV and CVCV verbs V_1 has L tone while V_2 is elided.

Examples with CVV verbs:

before class 1. /ti-ɛ́zɔ/ 'institute a court action!'

2. /ki-ɛxu/ 'open the gate!'
3. /ri-ukoko/ 'take a pipe!'
4. /ti-ebe/ 'read a book!'

Examples with CVCV verbs

before class 1. /dɛ̀l-ɛ́gogo/ 'buy clocks''
2. /dɛ̀l-éma/ 'buy drums!'
3. /dɛ̀l-ukoko/ 'buy pipes!'
4. /dɛ̀l-ebe/ 'buy books!'
5. /dɛ̀l-igiorua/ 'bu/ɣɛ́ gbe/ims'
6. /dɛ̀l-ekpamaku/ 'buy plates'

Examples of CVV and CVCV verbs above show that the tones of the object remain unaltered, except the IT of a class 2 noun which is raised to H.

(d) Negative Imperative

The negative imperative is distinguished by the preverbial item ghé, e.g.

Affirmative		Negative
/gbe/ 'dance!'	/ɣɛ́ gbe/	'don't dance!'
/giɛ/ 'laugh!'	/ɣɛ́ giɛ/	'don't laugh!'
/kpolo/ 'sweep!'	/ɣɛ́ kpolo/	'don't sweep!'

The two different sub-classes of verbs may also be distinguished according to their behaviour when they occur without an object in a negative imperative clause. They are:

(a) verbs that lengthen their final vowels, and

(b) verbs that do not.

(a) The final vowel lengthening is indeed a reduplication of the last vowel of the verb stem, with a H tone on the final or additional vowel, e.g.

Affirmative		Negative	
/ku/	'play!'	/gɛ́ kùú/	'don't play!'
/kũ̀/	'pack!'	/gɛ́ kũ̀ũ̀/	'don't pack''
/ra/	'steal!'	/gɛ́ ràá/	'don't steal!'

Although no /CVV/ or /CVCV/ verbs have been attested in usage in this sub-class, yet a definite rule of occurrence restricted to CV verbs only would be premature as both CV as well as CVV and CVCV verbs occur in (b). (See sub-class (b) below).

(b) There are a number of verbs of similar structure as (a), which do not reduplicate their final vowels, and instead of the LH tones are sometimes assigned H or HH tones, e.g.

/gbè/	'dance!'	/gɛ́ gbé/	'don't dance''
/sò/	'cry''	/gɛ sò/	'don't cry!'
/giɛ̀/	'laugh!'	/gɛ́ giɛ/	'don't laugh!'
/ʉiɛ̀/	'sleep!'	/gɛ́ ʉìɛ́/	'don't sleep!'
/kpòlo/	'sweep!'	/gɛ́ kpòló/	'don't sweep!'

Tones of imperative verb stems of all structures analysed here (CV, CVV, CVCV) behave differently from tones of the affirmative verb stem imperatives.

Following are comparative examples:

	Affirmative		Negative
/CV/	kà 'count!'		ka 'don't count!'
	kù 'play!'		ka 'don't count!' ɣ!'
/CVV/	vìɛ 'sleep!'	ɣɛ +	kùu 'don't play!' ɛp!'
	kùe 'accept!'		vìɛ 'don't sleep!' ɛpt!'
/CVCV/	kpòlo 'sweep!'		kúe 'don't accept!' ɛep!'
			kpòló 'don't sweep!'

The tonal difference between the above two sets of examples is that in the affirmative all tones are low, but in the negative examples there is assignable H tone on all final vowels.

In the affirmative of the suitable imperative (see (f) below), the tone pattern is H on every vowel, but in the negative (i.e. after ghe preverbial item) is a L tone on the first vowel, followed by a H, e.g.

Affirmative			Negative		
kú	'(you) ought to play'	ghé	kùu	'(you) ought not to play	
kpólo	'(you) ought to sweep'	"	kpòló	" " " "	sweep

The negative tone pattern of the suitable imperative is therefore not different from the "ordinary" negative imperative, except that it is said on a higher register of the voice.

(e) ghá Progressive Aspect Imperative

The progressive aspect marker ghá is sometimes used before an imperative verb stem, e.g.

CV	/ɣá gbe/	'keep dancing!'
CVV	/ɣá gie/	'keep laughing!'
CVCV	/ɣá kpolo/	'keep sweeping'

Compared with other forms of the imperative clauses with the exception of the suitable imperatives, the progressive aspect (imperative) differs tonally in having H tone on every syllable of the verb stem after ghá, e.g.

CV	ghá	gbé	'keep dancing'
CVV	ghá	gíe	'keep laughing'
CVCV	ghá	kpólo	'keep sweeping'

The function of ghá is however difficult to understand in this context because the verb stem expresses the ghá meaning as well. For example kpolo without ghá means both 'sweep!' as well as 'keep sweeping!'[35]

(f) Suitable Imperatives

Verb stems which express "suitable" imperatives are assigned H tone on every syllable; "suitable" implying 'what ought to be done', e.g.

/kpólo/	'(you) ought to sweep!'
/gíɛ́/	'(you) ought to laugh!'
/gbé/	'(you) ought to dance!'

But strictly speaking the tone pattern of the suitable imperatives, as it is for all verb patterns, is not so much the property of the verb stem as of the clause in which it occurs. For example, in a suitable imperative clause of the structure verb plus object, the final vowel

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35 Melzian's dictionary (1937) states that the imperative ghá plus verb stem form is used to address a listener who is some distance from the speaker. But I have personally heard ghá plus imperative verb stem, irrespective of the distance separating the speaker and the listener, i.e. it does not indicate distance from the speaker. In my own opinion therefore these two imperative forms overlap and need further investigation to see what their usage is.

of the object, irrespective of its phonological tone, is assigned a H tone while the verb stem has the normal imperative tones (cf (d) below).

Examples:

(d) Verb plus object imperative

/mimí aro/ 'close (your) eyes'

(f) Suitable imperative

/mimí aro/ '(you) ought to close your eyes'

Category 11: Transitivity

All verb stems may be grouped into three 'Divisions' according to their relationship with objects:

(a) Verb stems that always take objects, e.g.

/gbe ódẹ̀n/ /gb-ɔ́dɛ̃́/ 'crack a joke!'

/o tie ímade/ /ɔ ti ímade/ 'he calls/ is calling Imade'

/ù mimí aro/ /ù mimí aro/ 'you closed your eyes'

(b) Verb stems which do not occur with objects, e.g.

/gbe/ /gbe/ 'dance!'

/o hió/ /hiɔ́/ 'he urinates/is urinating'

/ù rulée/ /ù rulɛ́è/ 'you ran'

(c) Verb stems that may or may not occur with objects, e.g.

Without object

/dẹ̀/ /dɛ́/ 'buy!'

/o gie/ /ɔ gie/ 'he laughs/is laughing'

/ù kpolóo/ /ù kpolóo/ 'you swept'

With object

/dẹ ebé/ /d-ebé/ 'buy a book!'

/o gie odé/ /ɔ gi-odɛ́/ 'he laughs/is laughing (at) ode'

/ù kpolǒ ùkolin/ [ù kpol-ùkòni] 'you swept the kitchen'

But the difference, as far as word order goes, lies in (a) the absence of an object (intransitive), and (b) the presence of an object (transitive). Since we are dealing with tones of the verb stem together with its suffix and any items that may follow it, the category of transitivity set up here will deal with two terms: (1) intransitive and (2) transitive.

(1) Intransitive

The sole internal distinguishing mark of the intransitive clauses is in the past tense form of its verb stems which have the following shapes of suffixes after the final vowel: /r̀è, è, r̀ẹ̀n, ẹ̀n/, e.g.

i. /-r̀è/, as in [ɔ baárè] 'it shone'

ii. /-è/, as in [ɔ dɛ̀è] 'he bought'

iii. /-r̀ẹ̀n/, as in [ɔ sãã̃ãr̃ɛ̃] 'he jumped'

But:

iv. [ɔ dáá] 'he hops/is hopping'

v. [ɔ tú] 'he cries/is carying'

vi. [ɔ kuú] 'he plays/is playing'

vi. [ɔ kuu] 'he plays/is playing'

In conclusion, the difference between the past and the habitual/present tenses of the intransitive clauses lies in the presence of the L tone suffix in the one form (past), and its absence in the other (habitual/present). (cf. Category IV for further discussions.)

(2) Transitive[36]

Any noun from the six nominal classes may occur as the object of a verb stem, e.g.

Class 1. /ù rú ɛ́gogo/ 'you learnt the clock'

2. /ù kṹ ema/ 'you packed a drum'

3. /ù sí ukokò/ 'you smoked a pipe'

4. /ù bú ɛdɛ́/ 'you fixed a date'

5. /ù bú ézɔmɔ/ 'you met ezomo'

6. /ù mú ekpamakù/ 'you carried a plate'

The phonological tones of both the subjects and the objects are fixed; but not so are the tones of the verb stems, which alternate in respect of mood, tense, and according to whether they are monosyllabic or disyllabic. The categories of aspect and tense are discussed in their appropriate sections, but below are examples to show how these tonal modifications are effected for tense:

(a) monosyllabic verb stem

/L/ for habitual/present, tense, e.g.

/ù rù ɛ́gogo/ 'you learn/are learning the clock'

/ù kṹ éma/ 'you pack/are packing drums'

/H/ for past tense

/ù bú ɛdɛ́/ 'you fixed a date'

/ù sí ukokò/ 'you smoked a pipe'

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[36] I am limiting my discussion to clauses that have one object, leaving out for the moment those with more than one.

(b) Disyllabic verb stem

/LL/ for habitual/present tense

/ɔ dɛl-ebe/ 'he buys/is buying books'

/ɔ lel-odɛ/ 'he follows/is following Ode'

/LH/ for past tense

/ɔ dɛl-ebe/ 'he bought books'

/ɔ lel-odɛ/ 'he followed Ode'

Categories III & IV: Aspect and Tense

It is difficult to deal separately with aspect and tense as every verbal phrase in Ẹdo (Bini) expresses both aspect and tense. A much more satisfactory presentation has been to create a three interrelated groups of:

1. Aspect
2. Tense
3. Aspect and Tense

This means in effect that while the particular category discussed in group 1, for instance, may display features of Group 2, only the terms of Group 1 would be taken up for discussion, except in Group 3 where the terms of the two categories are presented at one and the same time.

1. Aspect

The verbal phrases that are considered are those that include a finite verb, i.e. a verb that is marked for aspect by particles. I use Aspects as a term for Ẹdo (Bini) finite verb which relates events to the passage of time, and the category thought of as aspect has the following specific terms:

(a) Progressive, marked by [ɣa]

(b) Imperfect, unmarked

(c) Perfect, marked by [nɛ]

To differentiate the terms, consider the following examples:

/ì ghá gbe/ [ì ɣá gbé] 'I am dancing'
/ì gbé/ [ì gbé] 'I dance'
/ì gbé len/ [ì gbé nɛ] 'I have danced'

In each example an event ('dancing') is represented as either in progress as timeless or has been completed, without any definite point in time meant or expressly mentioned.

(a) The Progressive Aspect

Event located in the passage of time by the use of the particle /ghá̋a/ or /ghá̋/ with appropriate tone markings represents what I shall call the progressive aspect, e.g.

(i) /ì ghá gbe/ [ì ɣá gbé] 'I am dancing (Present)
(ii) /ì ghá̋a gbe/ [ì ɣá̋á gbé] 'I was dancing''(Past)
(iii) /ì ghá̋a gbe/ [ì ɣá̋á gbé] 'I shall be dancing (Future)

'dancing' is represented in the examples as an action in progress either at present (i), past (ii), or future (iii).

Although two forms /ghá̋/ and /ghá̋a/ have been considered as corresponding to the grammatical forms, they are distinguished by the tenses they occur with [ɣá̋] for the present, [ɣá̋á] for the past and [ɣá̋a] for the future. Further in connection with the use of /ghá̋/ must

be noted two problems of homonymy. First, corresponding to:

(v) /ì ghá gbe/ [ì ɣá gbé] 'I am dancing'; is:

(vi) /ì gbé/ [ì gbé] 'I am dancing', 'I dance'

which means that the use of /ghá/ in (v) is sometimes optional.

Secondly, [ɣá] is also homophonous with:

The future tense marker /ghá/ 'shall/will', e.g.

(vii) /ì ghá gbe/ [ì ɣá gbé] 'I shall dance'

(b) The Imperfect Aspect

Between the form of the progressive aspect which refers to an action in progress and is marked by the particle /ghá/ or /ghāa/, and the perfective which refers to an action already completed and is marked by the particle [nɛ̂], there is the common form of the grammatical aspect which may be regarded as timeless, such as

/òven yunvbún/ [ðvɛ̃ ỳuũú] 'the sun shines', which I wish, arbitrarily, to refer to as timeless because it is neither progressive nor perfective.

The verbal phrase without the perfect aspect marker [nɛ̂] or the progressive aspect marker /ghá/ or /ghāa/ is a reflection of the timeless or the imperfect aspect specification:

Progressive /ghá/ or /ghāa/

Imperfect -

Perfect [nɛ̂]

/ù ghá gbe/ [ù ɣá gbé] 'you are dancing'

/ù gbé/ [ù gbé] 'you dance'

/ù gbé lẹ̀n/ [ù gbé nɛ̀] 'you have danced'

(c) The Perfect Aspect

This aspect usually indicates that an action has been completed as a result of an event which started in the past. There occurs as its marker a distinctive particle [nɛ́] irrespective of any particular form of the verb stem. Thus we find:

CV/ì gbé lẹn/ [ì gbé nɛ] 'I already know how to dance (Hab/Pres)

CVV/ì nọ́ọ̀n lẹ̀n/ [ì nɔ́ɔ̀ nɛ̀] 'I have asked' (Past)

CVCV/ì ghá kpòlo lẹ́n/ [ì ɣá kpòlo nɛ́] 'I shall have swept' (Future)

Such sentences above involve the expression of the perfect aspect by a verb stem followed by a perfect aspect marker. The manifestation of the perfective is characterized by the distinctive particle [nɛ́] which is inflected in respect of tense by the use of tone markings:

[nɛ́] Present/habitual H

[nɛ̀] Past L

[nɛ́] Future H (The downstep is not on nɛ.)

Edo (Bini) perfectives may therefore be regarded, superficially, as characteristic of perfects, as markers of the duality of time reference, by involving notionally a present state connected with a past event.[37]

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37. Compare this with the perfect in English defined by otto Jespeson (1934) as: "... a present but a pervasive present: it represents the present state as the outcome of past events, and may therefore be called a retrospective present." in his book: The Philosophy of Grammar, P. 269

2. Tense

The forms of verbal tenses in Ẹdo (Bini) do not involve concord with definite time reference, except when they are marked by time adverbials or are predictable in respect to the time of speech, e.g.

(a) Habitual/Present

(i) /ọdɛ́ xùɛ́/ 'Ode swims/is swimming'

(ii) /ọdɛ́ xùɛ ɛ̀ghɛ́ hía/ 'Ode swims always'

(iii) /ọdɛ́ xùɛ́ nìá/ 'Ode is swimming now'

(b) Past

(i) /ọdɛ́ xuɛ́rɛ̀/ 'Ode swam'

(ii) /ọdɛ́ xùɛ́rɛ̀ nódɛ̀/ 'Ode swam yesterday'

(c) Future

(i) /ọdɛ́ ɣa xùɛ́/ 'Ode will swim'

(ii) /ọdɛ́ ɣa xùɛ bãã̀/ 'Ode will soon swim'

The event expressed by the clause /ọdé khùérè/ 'Ode swam', for example, may have taken place a few minutes or days before the time of the speech, yet the expression would remain unaltered in either case except by the use of the adverbial nódè 'yesterday', as in the above example.

(a) Habitual/Present

The habitual tense indicates that an action always takes place, and except by use of time adverbial like /ẹ̀ghẹ́ hía/ 'always' it does not differ from the simple present tense which indicates that an action is taking place at the time of speech. In Ẹdo (Bini) therefore, there is the simple present tense (unaccompanied by time

adverbial), which is also the habitual tense. It may be pertinent in this connection too to quote a relevant section of Ogieiriaixi's paper[38]: "... the context in which (am utterance) is spoken becomes the only guide to meaning, i.e. heard in isolation, the utterance is ambiguous, as it could be one of two or more tenses ... simple present tense, Indicative (positive) Present habitual and tense, Indicative (positive)" The habitual/present tense is represented by the following tone patterns:

1. Monosyllabic

Intransitive = H, e.g.

/ o da/ 'he drinks'

Transitive = L, e.g.

/ o da ayon/ 'he drinks wine'

2. Disyllabic

CVV Intransitive = LH/HH, e.g.

[i nɔɔ] 'I ask'

[i gie] 'I laugh'

Transitive = LL, e.g.

[i nɔɔ ɔtá] 'I ask questions'

(b) Past Tense

This tense usually indicates that an action took place in the past. Tones which express the past tense

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[38] Evinma Ogieiriaixi, Context as a grammatical category, Linquistic series, monograph 2, Lagos, 1973

are marked as follows:

1. Monosyllabic

Intransitive = H + L suffix, e.g.

[ì dáè] 'I drank'

Transitive = H, e.g.

/ì dá àyọn/ 'I drank wine' [ì d-áyɔ̃]

2. Disyllabic

CVV Intransitive LH/HH + L suffix, e.g.

[LH] [ì nɔ́ɔ̀rɛ̃] 'I asked'

[HH] [ì gíɛ̀e] 'I laughed'

Transitive: LH/HH

/ì [illegible] [ì [illegible]] 'I asked questions'

/ì mie òde/ [ì mi-odɛ] 'I saw ode'

3. Future Tense

This tense usually indicates that an action will take place, and is marked by the preverb/ghá/, e.g.

[ì ɣá da] 'I shall drink'

[ì ɣá dà ayɔ̃] 'I shall drink wine'

[ì ɣá nɔ́ɔ] 'I shall ask'

[ì ɣá nɔ̀ ɔ́tá] 'I shall ask questions'.

Note that /ghá/ marks the progressive aspect as well as the future tense. In this imbalance between the unmarked possibilities for aspect on the one hand and tense on the other, there exists only the relationship between the events referred to and the moment of utterance to show distinction, e.g. /àme ghá ròó/: i 'the rain will fall' (tense)

ii 'the rain is falling' (aspect)

In summary, the first kind of distinction we have tried to draw between aspect and tense is that aspect involves the notion of events located in time: present, past or future, while tense, on the other hand, combines with time adverbials to locate particular points in time to which events can be related. The second distinction we draw is between markers of aspect and markers of tense. Aspects, except for the imperfect which we refer to as basis, have distinctive particle markers; while tense, except for the future marked by /gh$\acute{a}$/, is marked by tones.

3. Aspect and Tense

The table that follows immediately below summarized the markers of terms of both categories:

Phonological Generalization of Verb Structures

	ASPECTS:	Progressive	Imperfect	Perfect
		(a)	(d)	(g)
TENSES	Asp. Markers:	(gha)	zero	len
	Intrans.	CV/ CVV	CV, CVV	CV, CVV
	Trans.	CV, CVV	CV, CVV	CV, CVV
		(b)	(e)*	(h)
Past	Asp. Markers:	ghaa	zero	len
	Intrans.	CV, CVV	CV, CVV	CV, CVV
	Trans.	CV, CVV	CV, CVV	CV, CVV
		(c)	(f)	(i)
	Asp. Markers:	ghaa	zero	len
Future =	Intrans.	CV, CVV	CV, CVV	CV, CVV
gha +	Trans.	CV, CVV	CV, CVV	CV, CVV

Note: (i) x represents the possibility of either L or H tone.

(ii) * In addition to the marked structure is to be read a L tone suffix to the intransitive constructions.

(a) Habitual/Present Progressive

The habitual/present progressive is distinguished by the aspect marker /ghá/, and the tone pattern: (L transitive and H, LH/HH intransitive) which express tense. The use of /ghá/ is sometimes optional (cf. section on progressive aspect above).

Examples:

/ì ghá rìevbaré/ [ì ɣá rì evbaré] 'I am eating (food)'

/ì ghá gbe/ [ì ɣá gbe] 'I am dancing'

/ì ghá gie̩/ [ì ɣá gie̩] 'I am laughing'

(b) Past Progressive

[ɣáa] is the form of the progressive aspect marker here and it occurs before the verb stem. The tones which express the past tense are marked on the verb stem after the preverbial item as follows:

A. H (monosyllabic) and HL/HH (disyllabic) for the intransitive, i.e. after the progressive marker [ɣáa]:

CV/ì ghaa gbe/ [ì ɣáa gbe] 'I was dancing'

CVV/ì ghaa khue̩/ [ì ɣaa xue̩] 'I was bathing'

/ì ghaa gie̩/ [ì ɣáa gie̩] 'I was laughing'

B. H (monosyllabic) and LL (disyllabic) for the transitive, after the progressive aspect marker [ɣáa] e.g.

CV/ì ghaa gbe ebe/ [ì ɣaa gb-ebe] 'I was gathering leaves'

CVV/ì ghaa khue ode/ [ì ɣaa xu-ɔdɛ] 'I was bathing Ode'

(c) Future Progressive

The distinguishing feature of the future progressive is the reduplication of the á of /ghá/, which is the progressive aspect marker. The product of this combination is /gháa/ different from the past progressive ghâa which has a phonetic downstep on the second [-á]. For example:

[mà ɣá gb-izɛ̀] 'we are pounding rice' (Hab/Present)

[mà ɣáa gb-izɛ̀] 'we shall be pounding rice' (Future)

Since the future tense and the progressive aspect are each marked by /ghá/, a future progressive may have been marked by /ghágha/ and the present phonetic [ɣáa] may have been a result of intervocalic weak [ɣ] deletion. The tones of the verb stems are marked as follows:

A. H (monosyllabic) and HL/HH (disyllabic) for the transitive, after [ɣáa], e.g.

CV/ì ghâa gbe/ [ì ɣáa gbe] 'I shall be dancing'

CVV/ì ghâa khuè/ [ì ɣáa xuɛ̀] 'I shall be bathing'

CVV/ì ghâa gie/ [ì ɣáa giɛ] 'I shall be laughing'

B. L (monosyllabic) and LL (disyllabic for the transitive, after /ghâa/, e.g.

CV/ì ghâa gbè ebé/ [ì ɣáa gb-ebé] 'I shall be g gathering leaves'

CVV/ì ghâa khue odé/ [ì ɣáa xu-ɔdɛ́] 'I shall be bathing Ode'

(d) Habitual/Present Imperfect

Unlike the progressive and the perfective aspects, the imperfect is not marked by any particle (cf. discussion

on imperfect aspect p.205). And the tones of verb stem which express the habitual/present tense are the same in both the progressive as well as the imperfect aspects:

A. H (monosyllabic) and LH (disyllabic) for the intransitive following a zero aspect marker, e.g.

CV/ò gbé/ [ɔ̀ gbé] 'he dances'

CVV/ò khué/ [ɔ xuɛ́] 'he bathes'

CVV/ò gié/ [ɔ gíɛ] 'he laughs'

CVCV/ò kpoló/ [ɔ kpoló], 'he sweeps'

B. L (monosyllabic) and LL (disyllabic) for the transitive verb, following a zero aspect marker, e.g.

CV/ì gbe ebé/ [ì gb-ebé] 'I gather leaves'

CVV/ì khue odé/ [ì xu-ɔdɛ́] 'I bathe ode'

(e) Past Imperfect

This section is arranged as follows:

(a) Intransitive formations

(b) Transitive formations.

We distinguish here between the 'transitive' and the intransitive by the rule that the intransitive formations occur with a verb stem, without a direct object; the verb stem of a transitive formation occurs before a nominal serving as a direct object.

A. The past imperfect of an intransitve formation is the only verb represented by both tones and tense suffix attached to the verb stem, the habitual/present and future tenses, respectively, being represented by tones and by

preverbs. The form of the intransitive verb past tense suffix is realized as follows: ẹre, e, ẹrẹn, ẹn, ẹrA, A. ('A' is used to represent variable segment.):

Examples:

i. -re, ofter a verb ending in two successive oral vowels
/ọ̀ baárè ẹsẹse/ [ɔ̀ baár- ɛsɛ̀ se] 'it shone brightly

ii. -e, when the verb stem final V is e, e or o:
/ọ̀ rée̖/ [ɔ̀ rée̖] 'he came'
/ọ̀ déè ńdè/ [ɔ̀ dɛ́è nódɛ̀] 'he bought (something) yesterday
/ọ̀ hoe ńdè/ [ɔ̀ hɔ́è nódɛ̀] 'it laid (of eggs) yesterday

iii. /ọ khọọrẹn/ [ɔ̀ xɔ̃ɔ̃r̃ɛ̃] 'he waged wars'
/ọ saanrẹn/ [ɔ̀ sãár̃ɛ̃] 'he jumped'

iv. /ọ̀ gbẹ́ẹ̀n/ [ɔ̀ gbɛ̃́ɛ̃̀] 'he wrote'
/ọ̀ hóèn/ [ɔ̀ hɔ̃́ɛ̃̀] 'he heard'

v. /ṛA/ The vowel of this suffix (i.e. after the consonant -ṛ-) is a repetition of the final vowel of the verb stem, when such a vowel is i, e or u, e.g.
/ọ̀ kiíṛì/ 'it thickened (of boiled liquid)'
/ọ̀ kiérè/ 'it opened'
/ọ̀ kuúnrùn/ 'he packed'

vi. /A/ is a reduplication of the last vowel of the verb stem, without the suffix consonant preceding it, e.g.
/ọ̀ túù/ 'he shouted'
/ọ̀ súùn/ 'it crawled'

(b) The transitive verb

In the transitive formations, the imperfect aspect past tense suffix does not occur, and with a zero aspect

marker, that leaves only the verb stem with tones to show the imperfect past tense.

Examples:

i. /ì dé ẹgogo/ 'I bought a clock' [ì d-ɛ́gogo]

ii. /ì dé èma/ 'I bought a drum' [ì d-éma]

iii. /ì dé ize/ [ì d-izɛ̀] 'I bought rice'

iv. /ì dé èwa/ [ì d-éwa] 'I bought a mat'

The tone pattern of the cited formations in (i-iv) show that the tone of a monosyllabic verb stem is H for past tense. In a disyllabic verb stem it is LH or HH, e.g.

CVCV/ì dẹlé ẹgogo/ [ì dɛl-ɛ́gogo] 'I bought clocks'

CVV/ì gie ode/ [ì gi-odɛ́] 'I laughed at Odẹ'

In the habitual/present tense, the final tone (FT) of a transitive verb stem as we have seen, is L, which alternates with H here for the past tense. Phonetically, this alternation only operates when the initial tune of the object follows a verb stem is L (i.e. with L tone initial objects). The all-L tone nouns are also excluded because their L tone is realized as H when it follows any other sound. Examples of L tone initial nouns

[ɔ̀ dɛl-ebé] 'he buys books (hab/present)

[ɔ̀ dɛl-ébe] 'he bought books (past)

The alternation is shown on the initial [e-] of each noun object. With all H tone inital nouns used as object, only the initial H (which does not alternate with L) is realized in both tenses, e.g.

1.	[ɔ̀ dɛl-ɛ́gogo]	'he buys/bought	clocks
2.	[ɔ̀ dɛl-éma]		drums

3. ɔ d-íz̀ɛ̀ 'he buys/bought rice
4. ɔ d-ígiorùá water yam

Sometimes a distinction between the past imperfect and the habitual/present imperfect (transitive) is restored in one of two ways: First by the use of ɣá before the verb stem, e.g.

ɔ gb-íz̀ɛ̀ i. 'she pounds/is pounding rice'
ii. 'she pounded rice', but
ɔ ɣá gb-íz̀ɛ̀ 'she is pounding rice'

Although this distinguishes between the habitual/present and past tense of the imperfect aspect before noun object with H tone initial, it does not distinguish between the progressive and the imperfect aspects, and more importantly, by the use of ɣá, we are again left with a formation that is segmentally and tonally identical with the future tense of the imperfect aspect, e.g.

ɔ̀ ɣá gb-iz̀ɛ̀ i. 'she is pounding rice'
ii. 'she will pound rice'

Secondly, distinction could be drawn when the sentence ɔ ɣá gb-iz̀ɛ̀ with a single meaning, for example, 'she will pound rice' expresses a contemporaneous action, or is used in reply to a question. For example, in reply to the question 'what will she do when her mother goes to the market tomorrow?' a possible answer is ɔ ɣá gb-iz̀ɛ̀. In reply to 'what is she doing now? a possible answer is also ɔ ɣá gb-iz̀ɛ̀. The first meaning 'she will pound rice', and the second 'she is pounding rice'. This means

in a sense that apart from the differences established in the discourse there is no perfect way of achieving a distinction between the habitual/present and the past tense attested before a H tone initial object.

(f) Future Imperfect

The distinctive feature of the future tense is /ghá/, example:

/ì ɣá b- òwá/ 'I shall build a house'

The future tense marker /ghá/ is similar to:

(i) /ghá/ progressive aspect marker, e.g.

/ì ɣá b-òwá/ 'I am building a house'

(ii) /ghá/ interrogative, e.g.

/ɣá b-òwá/ 'who is building a house?'

(iii) /ghá/ imperative, e.g.

/ɣá b owá/ 'be building a house'

But because /ghá/ future takes a subject it can be distinguished in a clause from (ii) and (iii). /ghá/ future and /ghá/ interrogative, on the other hand, can co-occur, e.g.

/ò ɣáa ɣa b-owá/ 'he shall be building a house?'

We can conclude from the examples that the future imperfect and habitual/present progressive forms are, at least in the use of /ghá/, not structurally different, and this together with the absence of any other phonological differences, seems sufficient grounds for saying that Ẹdo (Bini) future imperfect and hab/present progressive which use /ghá/ are ambiguous and identical to what

H.A. Gleason calls 'constructional homonymity'

Thus:

(i) [ì ɣá b-òwá] i. 'I shall build a house'

ii. 'I am building a house'

The tones of the very stem of the future imperfect are marked as follows:

A. H (monosyllabic) and LH/HH (disyllabic) for the intransitive, e.g.

CV [ɔ́ ɣá gbe'] 'he will dance'

CVV [ɔ́ ɣá xùɛ́] 'he will bathe'

CVV [ɔ́ ɣá gi'ɛ] 'he will laugh'

B. L (monosyllabic) and LL (disyllabic) for the transitive, e.g.

CV = /ọ̀ ghá gbè ebé/ [ɔ́ ɣá gb-èbé] 'he will gather leavea'

CVV = /ọ̀ ghá khùẹ odé/ [ɔ́ ɣá xù-ɔdɛ́] 'he will bathe ode'

(g) Habitual/Present Perfect

The perfect aspect marker is [nɛ] (cf. p.211) The tones that express tense are marked on the verb stem, and they are similar to those of the progressive and the imperfect aspects in having:

A. H (monosyllabic) and LH/HH (disyllabic for the intransitive before [nɛ], e.g.

CV = /ì gbé len/ [ì gbé nɛ] 'I already (know how to) dance'

CVV = /ì khué len/ [ì xuɛ́ nɛ] 'I already (know how to) bathe'

CVV ii/ìgi'ẹ len/ [ì gi'ɛ nɛ] 'I already (know how to) laugh'

B. L (monosyllabic) and LL (disyllabic) for the transitive, e.g.

CV = /ì gbe ebé lẹn/ [ì gb-ebé nɛ] 'I already (know how to) gather leaves'

CVV = /i khuẹ odẹ́ lẹn/ [ì xu-ɔdɛ́ nɛ] 'I already know how to bathe) odẹ'

(h) Past Perfect

The perfect aspect marker is also [nɛ] (p. 209). The tones that express the past tense are similar in both the imperfect and the perfect aspects:

A. H (monosyllabic) and LH/HH (disyllabic) for the intransitive before [nɛ], e.g.

CV = /i gbé lẹn/ [i gbé nɛ] 'I have already danced'

CVV_i /i khuẹ lẹn/ [i xuɛ́ nɛ] 'I have already bathed'

CVV_{ii} = i gíẹ lẹn/ [i gíɛ nɛ] 'I have already laughed'

B. H (monosyllabic) and LH/HH (disyllabic) for the transitive, e.g.

CV = /i gbé ebé lẹn/ [i gb-ebé nɛ] 'I have alread gathered leaves'

CVV_i = / i khuẹ́ òdẹ́ lẹn/ [i xu-ɔdɛ́ nɛ] 'I have already bathed ode'

CVV_{ii} =/i gíẹ odẹ́ lẹn/ [i gí-odɛ́ nɛ] 'I have already laughed at Odẹ'

(i) Future Perfect

The aspect marker is [nɛ]. In addition to the tones used to mark this tense, there is a future tense preverb /ghá/ (cf. p.209). The tones of the verb stems are similar to those of the future tense in the progressive

and imperfect aspects, in having:

A. H (monosyllabic) and LH/HH (disyllabic) for the transitive, following /ghá/ and followed by /n̄ɛ̀/, e.g.

CV=/ì ghá gbe len/ /ì ɣá gbé nɛ̀/ 'I shall have danced'

CVV_{ii}=/ì ghá khúé len/ /ì ɣá xúɛ́ nɛ̀/ 'I shall have bathed'

CVV_{ii}=/ì ghá gié len/ /ì ɣá giɛ́ nɛ̀/ 'I shall have laughed'

B. L tone on every syllable of a monosyllabic or disyllabic transitive verb stem, e.g.

CV=/ì ghá gbe ebé len/ /ì ɣá gb-ebé nɛ̀/ 'I shall have gathered leaves'

CVV=/ì ghá khue odé len/ /ì ɣá xù-ɔdɛ́ nɛ̀/ 'I shall have bathed ode'

Category V: Polarity

On grounds of formal contrast, it is possible to analyse the verbs as being either in the affirmative or negative. To the three affirmative aspect markers, there are three corresponding negative aspect markers, and only in a few cases are markers of both terms identical. Under the category of polarity, therefore, we discuss two terms: negative polarity in contrast with the affirmative polarity. The following are summaries of markers of both terms:

Aspect		Progressive	Imperfect	Perfect
Polarity	Affirmative	/ghá/	NIL	/lén/
	Negative	NIL/ghá/khian	NIL/má	/hé/

Tense

Hab/Present

Affirmative-Transitive: L tones

Intransitive: CV́, CV̋V́, CV̀CV́

Negative- /í/ or a reduplication of a single vowel pronominal subject

Past

Affirmative-Transitive: CV, CVV, CV̋CV́

Intransitive: CV́, CV̋V́, CV̋CV̋

plus /-rè/ suffix

Negative - /màa/ or /má/

Affirmative - /gha/

Negative - /í/ or a reduplication of a single V pronominal subject plus (/khían/)

A negative clause in Ẹdo (Bini) permits the choice of one negative word or a separate element before a verb stem. The negative word or element occurs before a tense and/or an aspect marker.

As in sections III and IV, where we discussed the categories of aspect and tense, both aspect and tense are also combined in the discussion that follows.

(a) Negative Habitual/Present Progressive

The negative marker occurs as a single V after a single vowel pronominal subject in a habitual/present progressive clause, e.g.

/ìí gbe/ 'I am not dancing'

/ùú giɛ́/ 'you are not laughing'

/ɛ́ɛ́ kpolo/ 'he is not sweeping'

The /í, ú, ẹ́,/ in the above examples are reduplications

of the pronominal subjects, the pronominals are marked L and the reduplications H, for tones. The contrast between the affirmative and the negative in a clause of this tense and aspect, as far as polarity goes, is the contrast between the absence and the presence of the /i/ or pronominal subject reduplication. Compare the following:

/ì gbé/ 'I am dancing' (affirmative)

/ìí gbe/ 'I am not dancing' (negative)

/ù giɛ́/ 'you are laughing' (affirmative)

/ùú giɛ/ 'you are not laughing (negative)

/ɔ̀ xuɛ́/ 'he is bathing' (affirmative)

/ɛ̀ɛ́ xuɛ/ 'he is not bathing (negative)

Notice too that the third person singular pronominal which is /ọ/ in the affirmative is /ẹ/ with a reduplication in the negative clauses above.

The single vowel pronominal subject forms are /ì, ù, ọ/ for the first, second and third person, respectively. They retain the L tone in all persons. The view expressed here that the single V reduplication is separate element is due to the fact that at least /i/ is also a negative marker after a nominal or non-single-V pronominals, e.g.

Affirmative		Negative	
/Ayọ̀ gbe/	'Ayo is dancing'	/Ayɔ i gbe/	'Ayo is not dancing'
/mà gbé/	'we are dancing'	/mà i gbe/	'we are not dancing'

To say that /i/ is structurally part of /ì/ in /íikpolo/ 'I am not sweeping' would require that /í/ is also analysed as part of Ayọ, for example, and that would be wrong.

The negative habitual/present is marked for the progressive aspect as in the following examples:

Affirmative		Negative	
Prog.	⌐ì γá kpòló ¬ 'I am sweeping'	⌐íì kpolo ¬	'I am not sweeping'
Imperf.	⌐ì kpoló ¬ 'I sweep'	⌐íì kpolo ¬	'I do not sweep'

(⌐ γá ¬ earlier given as the affirmative progressive Affirmative marker used here, would give an unrelated meaning:

⌐ì γá kpòló ¬ 'I am sweeping' ó ¬ 'I am sweeping'

Negative

⌐íì γá kpòló ¬ 'may I not sweep')

The reduplication of the single V pronominal subject or the use of (i) after nominals, etc., as a negative marker combined with the absence of an overt marker for aspect here, makes the negative form of the hab/present progressive homophonous with some other examples of clauses that have no overt aspect markers, e.g.

/íì gbè ízé/ ⌐íì gb-izɛ ¬

i. 'I am not pounding rice' (Habitual/Present Progressive)

ii. 'I don't pound rice' (Habitual/Present Imperfect)

iii. 'I shall not pound rice' (Future Imperfect).

(b) Negative Past Progressive

The negative past progressive clause is distinguished by the use of the negative marker /màá/ or /má/, followed by the progressive aspect marker /ghá/, before the verb stem. The choice of the negative marker here also depends on whether the subject of the clause is a single V

pronominal (and therefore màá), or a nominal or non-single-V pronominal (and therefore má):

/ì maá ɣa gb-ebé/ 'I was not gathering leaves'

/wɛ má ɣa gb-ebé/ 'you were not gathering leaves'

/òdɛ́ ma ɣa gb-ebé/ 'Odẹ was not gathering leaves'

Two pronominal subjects: /mà/ 'we' and /wà/ 'you' (plural), when used as subjects of negative clauses, reduplicate their vowels with H tone on V_2 before the negative marker /mà/, e.g.

Affirmative

/mà ɣáa gié/ 'we were laughing'

/wà ɣáa gié/ 'you (pl.) were laughing'

Negative

/màá ma ɣa gié/ 'we were not laughing'

/wàá ma ɣa gié/ 'you (pl.) were not laughing'

In a negative past progressive clause the verb stem, as in the above examples, is assigned H tones.

(c) Negative Future Progressive

This aspect and tense use three markers:

(i) /í/ discontinuous negative marker

(ii) /khían/ future negative tense marker, and

(iii) /ghá/ the progressive aspect marker;

in that order of occurrence between the subject of the clause and the verb stem.

Examples:

/ìí xian ɣa gbe/ 'I shall not be dancing'

The affirmative uses /ghaa/ which seems to be a combination of /gha/ tense and /gha/ aspect, e.g.

/ì ɣáa gbe/ 'I shall be dancing'

(d) Negative Habitual/Present Imperfect

Structurally, the habitual/present imperfect is not distinguished from the habitual/present progressive ((a) above). Apart from using the same negative marker /i/ they both also have no overt aspect markers, e.g.

Affirmative

/ì kpolo/ 'I am sweeping'

'I sweep'

Negative

/ìí kpolo/ 'I am not sweeping'

'I don't sweep'

In a negative habitual/present imperfect clause, the verb stem is assigned all-H tones.

(e) Negative Past Imperfect

The negative past imperfect is distinguished by:

1. The absence of an aspect marker, and
2. The use of /màa/ or/ma/ as both negative and tense markers.

The negative marker in past imperfect clauses is realized as /màa/ or /ma/ according to rules already established: (a)

A negative past imperfect clause is an affirmative clause plus a negative marker:

Examples:

(A) Single V pronominal subject:

Affirmative

i		I	
/u	gbé èbé/	'You	gathered leaves'
o		he	

Negative

i		I	
/u	maá gbe èbé/	'you	did not gather leaves'
o		he	

(B) Nominal or non-single V pronominal subject

Affirmative

ma		we	
wa		you	
/iran	gbé èbé/	'they	gathered leaves'
Ode		Ode	

Negative

maa		we	
waa		you	
/iran	ma gbe èbé/	'they	did not gather leaves'
Odé		Ode	

In a negative past imperfect clause, the monosyllabic verb stems are assigned all-H tones.

(f) Negative Future Imperfect

The negative future imperfect is distinguished by

1. /i/ discontinuous negative marker
2. The absence of any overt marker for aspect or tense.

Examples:

/ìí gbè ebé/ [ìí gb-ebé] 'I shall not gather leaves'

/ìí gie/ [ìí giɛ] 'I shall not laugh'

In the future imperfect the negative clause which uses the zero aspect marker is distinguished from the affirmative which uses /ghá/, e.g.

Affirmative:

[ì ɣá giɛ] 'I shall laugh'

Negative:

[ìí giɛ] 'I shall not laugh'

A negative future imperfect clause is homophonous with other clauses which have no overt markings for aspect or tense, e.g.

/ìí gie/ [ìí giɛ]

i. 'I am not laughing' (Hab/present progressive)

ii. 'I don't laugh' (hab/present imperfect)

iii. 'I shall not laugh (future imperfect)

Negative future imperfect verb stems are marked H for tones.

(g) Negative Habitual/Present Perfect

The habitual/present perfect is distinguished by:

1. /i/ a discontinuous negative marker
2. /he/ a negative aspect marker
3. the absence of an overt marker for tense.

Examples:

[ìí he giɛ] 'I am not yet laughing'

[ìí he gb-ebé] 'I am not yet gathering leaves'

The negative clauses here differ from those of the affirmative,

in their use of: (a) the discontinuous negative marker (b) the negative aspect marker /hé/ for which the affirmative uses /len/, and (c) the all-H tones of the verb stems.

Examples:

Affirmative:

/ì kpolǒ nɛ̀/ 'I am already sweeping'

/ì kpol-ùkonì nɛ̀/ 'I am already sweeping the kitchen'

Negative:

/ìi hé kpolo/ 'I am not yet sweeping'

/ìi hé kpol--ukonì/ 'I am not yet sweeping the kitchen'

(h) Negative Past Perfect

The negative past perfect combines the following markers:

1. /màá/ or /má/ negative past tense marker
2. /hé/ perfect aspect marker
3. all-H tones of the verb stem

Examples:

/ì maá hé kpolo/ 'I have not yet swept'

/ì maa hé kpol-ukonì/ 'I have not yet swept the kitchen'

The negative past perfect differs from the affirmative in

1. The use of /màá/ or /má/ absent in the affirmative
2. The use of /hé/ for which the affirmative uses /len/
3. The all-H tone of the verb stems.

Examples:

Affirmative:

/ɔ́ xuɛ́ nɛ̀/ 'he has bathed'

/ɔ́ gb-ébe nɛ̀/ 'he has already gathered leaves'

Negative:

/ɔ́ maá he xuɛ/ 'he has not yet bathed'

/ɔ́ maá he gb-ebé/ 'he has not yet gathered leaves'

(i) Negative future perfect

The negative future perfect combines the following markers:

1. /ì/ a discontinuous negative marker
2. /khían/ negative future tense marker
3. /hé/ negative perfect aspect marker

Examples:

/ìí xĩã he xùɛ́/ 'I shall not have bathed'

/ìí xĩã he gb-èbé/ 'I shall not have gathered leaves'

The negative future perfect differs from the affirmative in

1. The use of the discontinuous negative marker /ì/ absent in the affirmative
2. The use of /hé/ for which the affirmative uses /nɛ/
3. The use of the future tense marker /khían/ for which the affirmative uses /ghá/

Examples:

Affirmative	Negative
/ì ɣá xùɛ́ nɛ/	/ìí xĩã he xùɛ́/
'I shall have bathed'	'I shall not have bathed'

Verb stems in negative future perfect clauses are marked for tones as follows:

A. H (monosyllabic) and LH/HH (disyllabic) for the intransitive, e.g.

CV/ìí khian he gbe/ [ìí xĩã he gbe] 'I shall not have danced'

CVV_1/ìí khian he khùẹ̃/ [ìí xĩã he xùɛ̃] 'I shall not have bathed'

CVV_{ii}/ìí khian he gie / [ìí xĩã he giɛ̃] 'I shall not laughed'

CVCV/ìí khian he kpòlǒ/ [ìí xĩã he kpòlǒ] 'I shall not have swept'

B. L (monosyllabic) and LL (disyllabic) for the transitive, e.g.

CV/ìí khian he gbe ebé/ [ìí xĩã he gb-ebé] 'I shall not have gathered leaves'

CVV/ìí khian he gie Ode/ [ìí xĩã he gi-Odɛ̃] 'I shall not have laughed at Ode'

CONCLUSION

The general picture presented in this thesis of the phonology of Ẹdo (Bini) is adequate in most parts, as far as I know at present, although a considerable lack of clarity exists with regard to certain details:

It has as yet been impossible to account for the phenomenon of vowel contraction by a set of fixed rules. We could observe the possibility of there being two forms of speech which differ solely on the basis of consonant and vowel deletion, but whether or not this ultimately results in the shortening of utterances still requires to be investigated by actual measurements and comparison of durations.

Despite the complexity of its tone rules Ẹdo (Bini), like Hausa, appears to have only two distinctive tones: Low and High. But the line of demarcation is difficult to draw between syntactic and semantic tones of verbs and non-verbs. For example, nouns can be classified according to their tones in isolation, although the system does not operate in exactly the same way in clauses. Another difficulty raised by the analysis of tones here is the issue of pitch. This feature is one which is of course familiar to all students of Ẹdo (Bini). This is illustrated by Melzian who suggested that in a succession of H or of L tones, each is slightly lower in pitch than its predecessor.

A further example is "ẹ̀bé" listed by Wescot as having as many as 28 pitch variation without semantic difference. There is however a general concensus that Ẹdo (Bini) is a terrace tone language.

Some difficulties also remain to be solved in the tones of the verb. One such problem relates to the tonal system of CVV verbs, some of which express past tense by LH and others by HH tone patterns. This is illustrated by the following examples:

Habitual/present

/ò gie Ode/ [gi-Odé] 'he laughs/is laughing at Ode'
/o tie Ode/ [ti-Odé] 'he calls/is calling Ode'

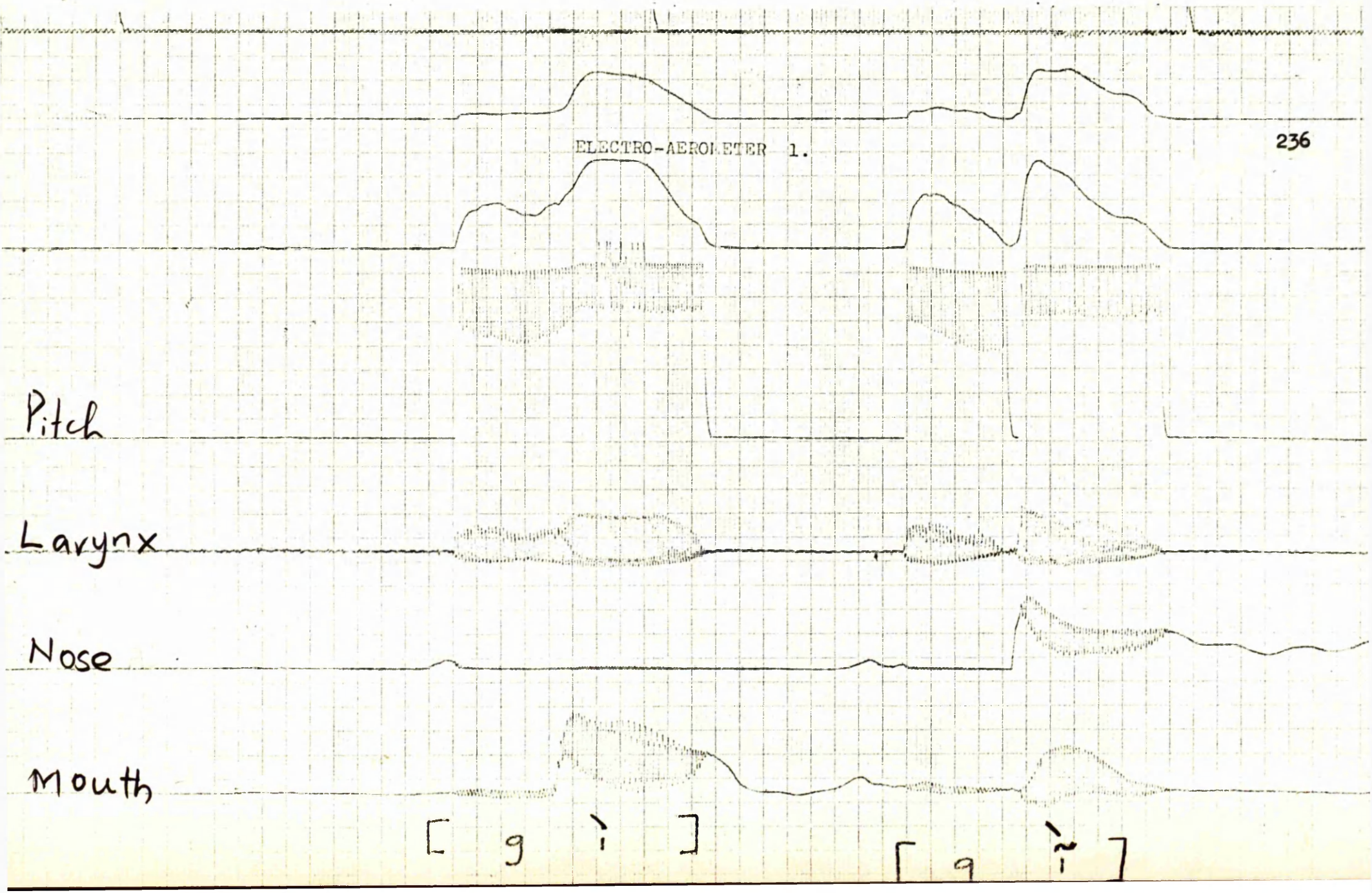
Past

/o gié Òdé/ [gí-Odɛ́] 'he laughed at Ode'
/o tié Òdé/ [tí-Odɛ́] 'he called Ode'

(Note: the /tie/ and /gie/ occur phonetically as [ti-] and [gi-] since the phonology does not allow -e and -e in a sequence preceding the initial V of an object.) It is tempting on the basis of this evidence to think of the possibility of a tonal classification of verbs; but this modification does not occur in CVCV verbs, and, in longer verbs not covered by this research, if present, is somewhat obscure. Nevertheless, the problem is one which would bear further investigation.

Despite these uncertainties, this research which is more detailed than any other yet undertaken provides a good insight into the phonology of Ẹdo (Bini) and clearifies the following points:

1. That nouns can be classified by tone, but verbs cannot.
2. Nouns so classified according to their behaviour in isolation behave alike in a context.
3. Grammatical constructions require a particular set, or particular sets of tone patterns.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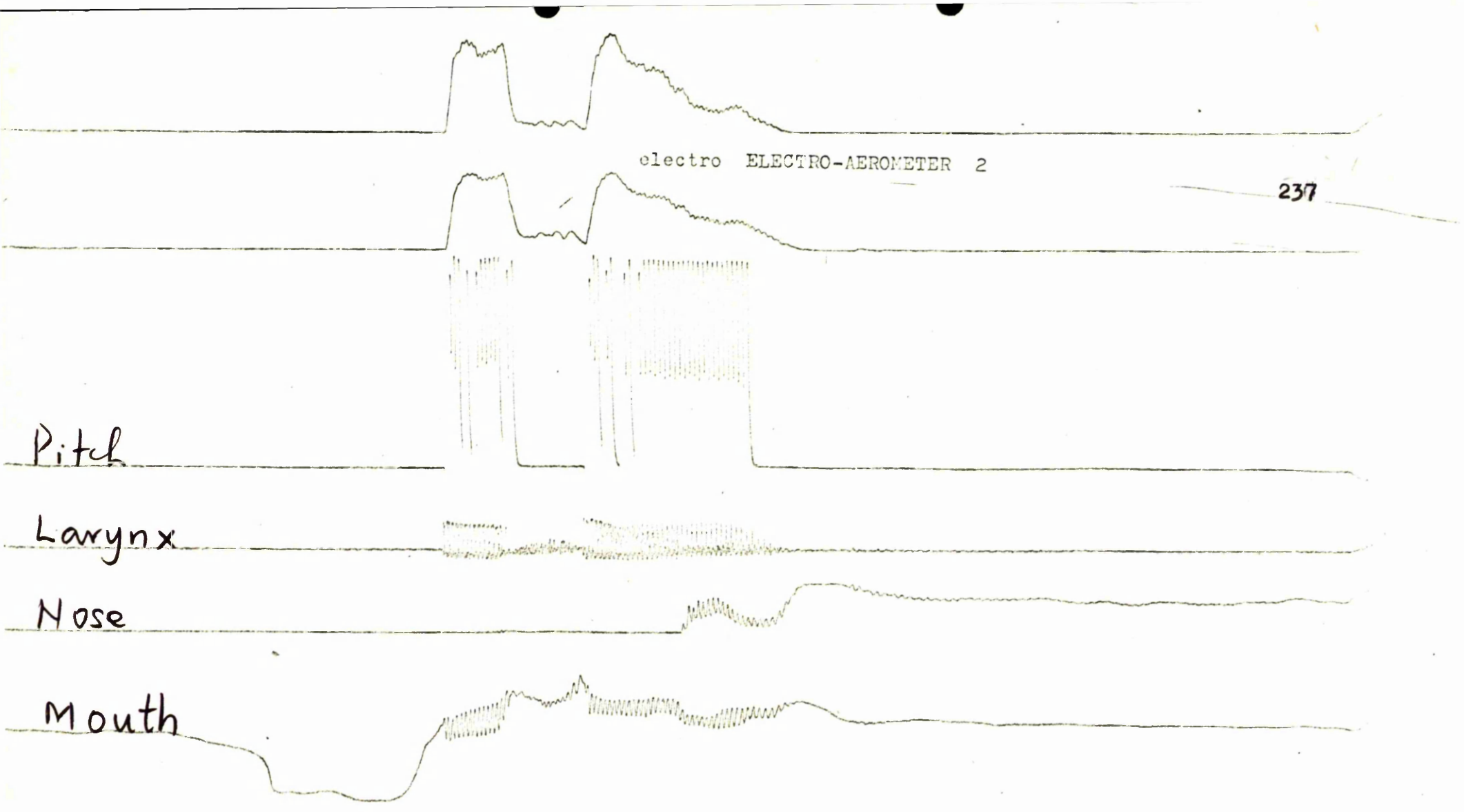
236
Pitch
Larynx
Nose
Mouth
[g ɪ]
[g ĩ]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237
Pitch
Larynx
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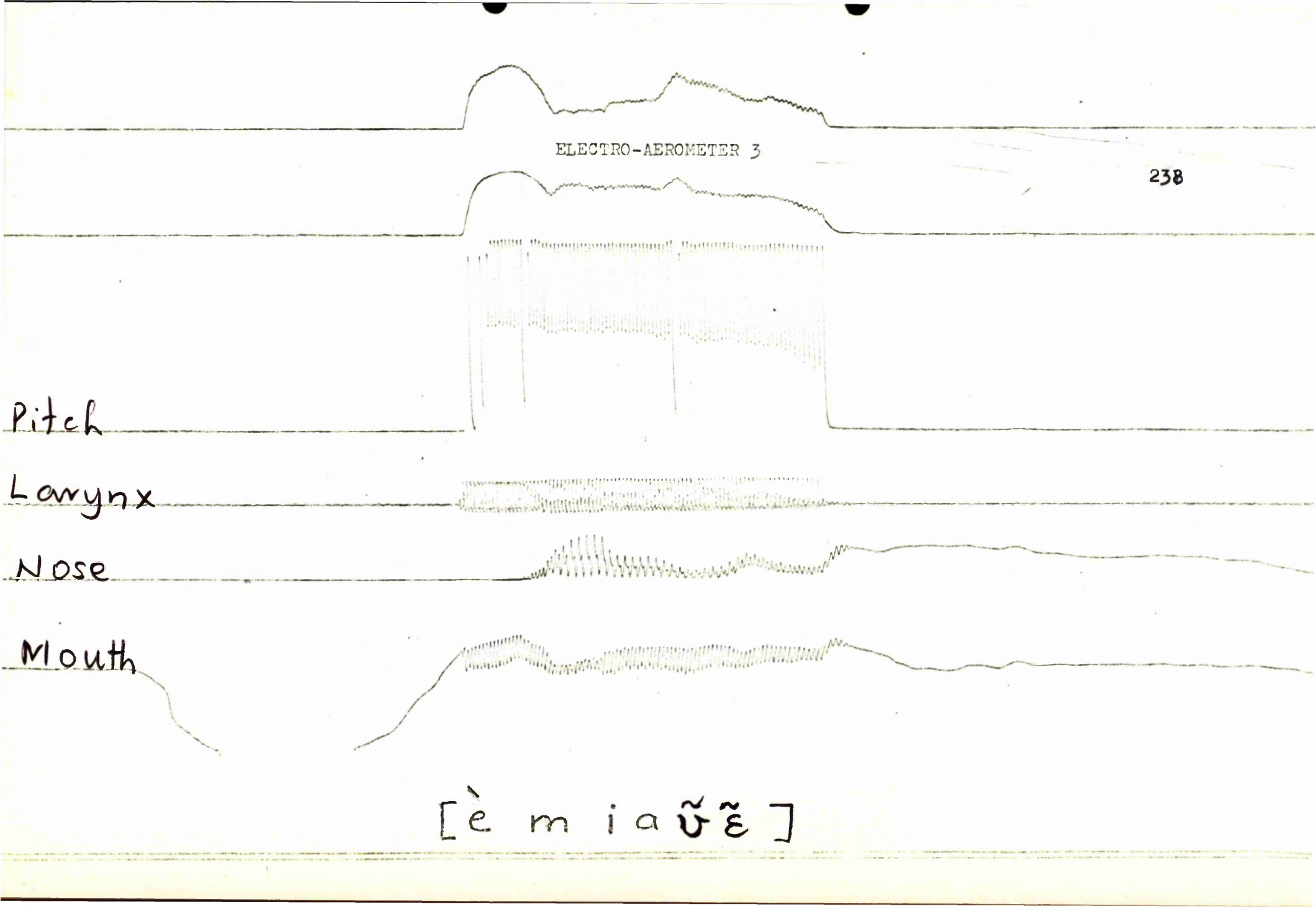
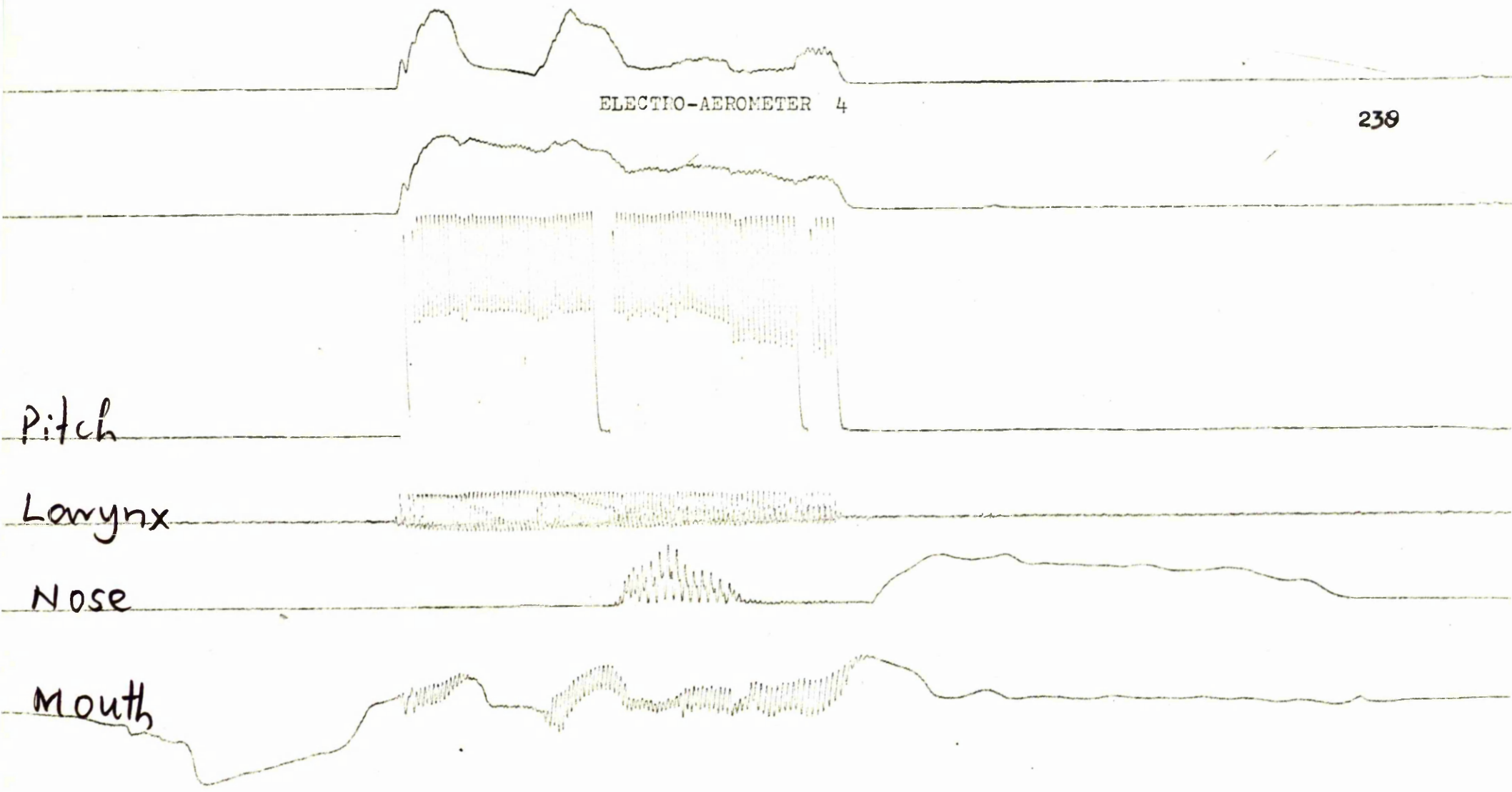
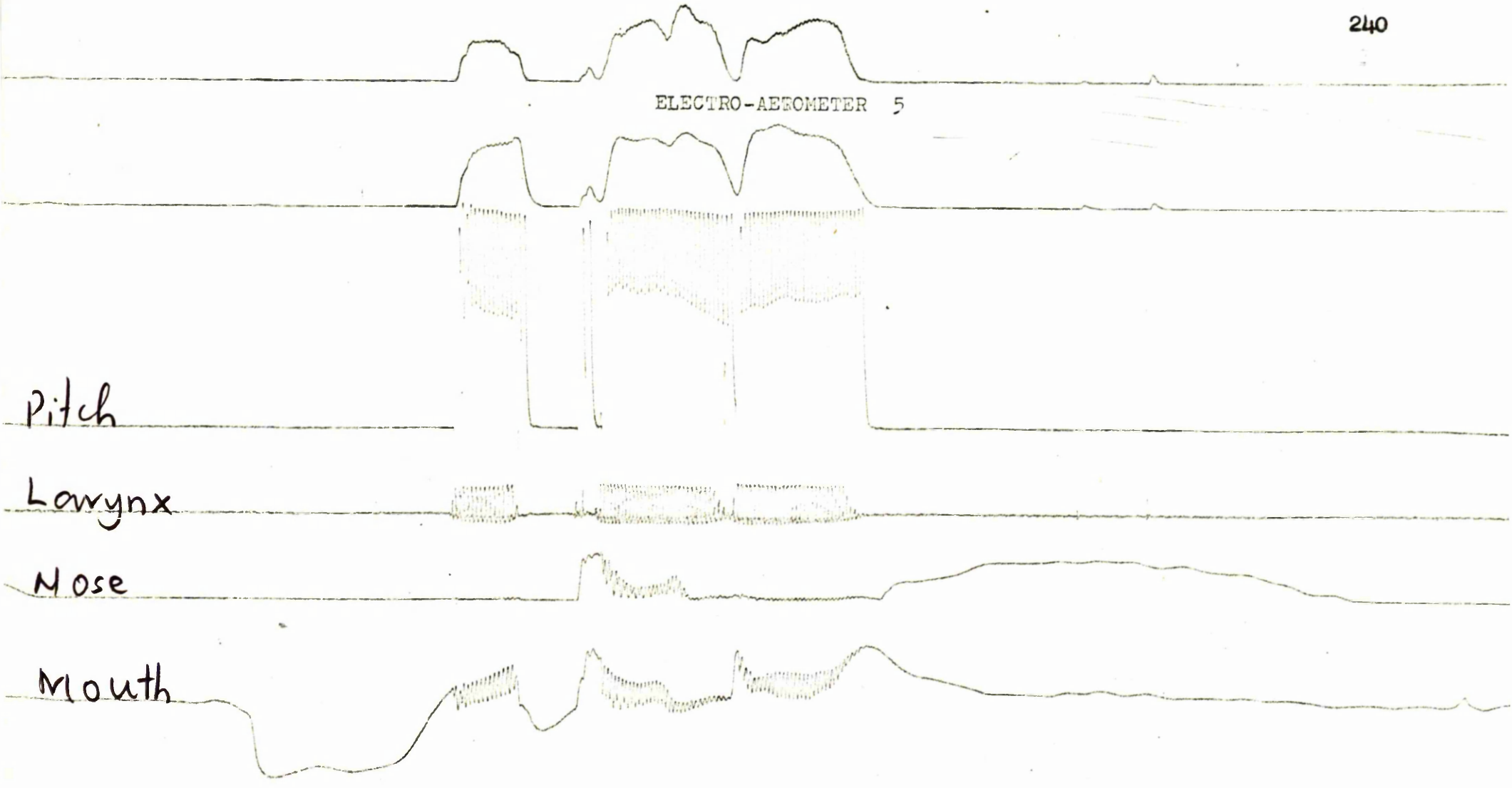
Mouth
[è x a e ʊ̃ ɛ̃]


ELECTRO-AEROMETER 3
238
Pitch
Larynx
Nose
Mouth
[è m i a ʊ̃ ɛ̃]



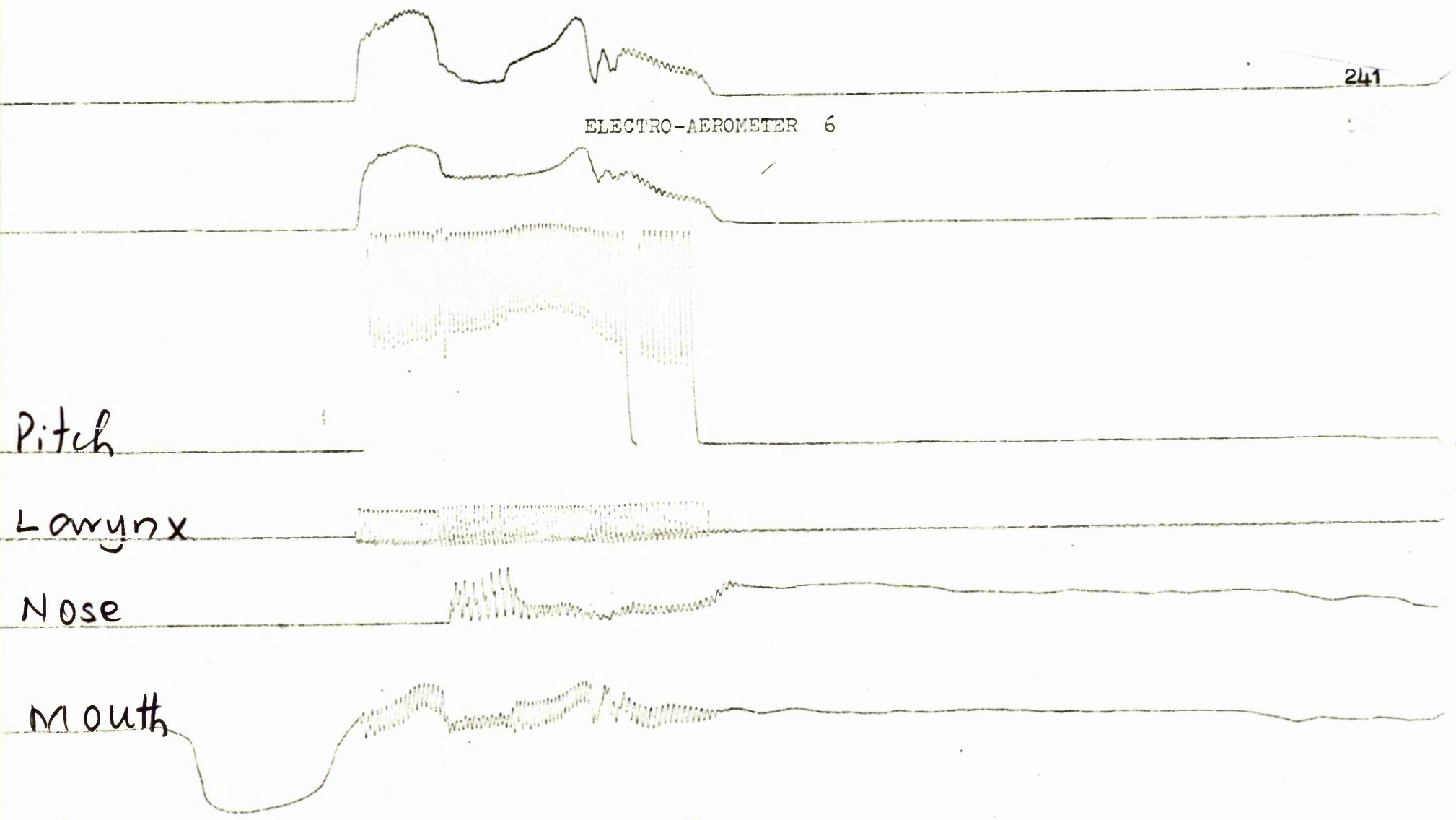
[ó gb ɛ m i l à]

ELECTRO-AEROMETER 5



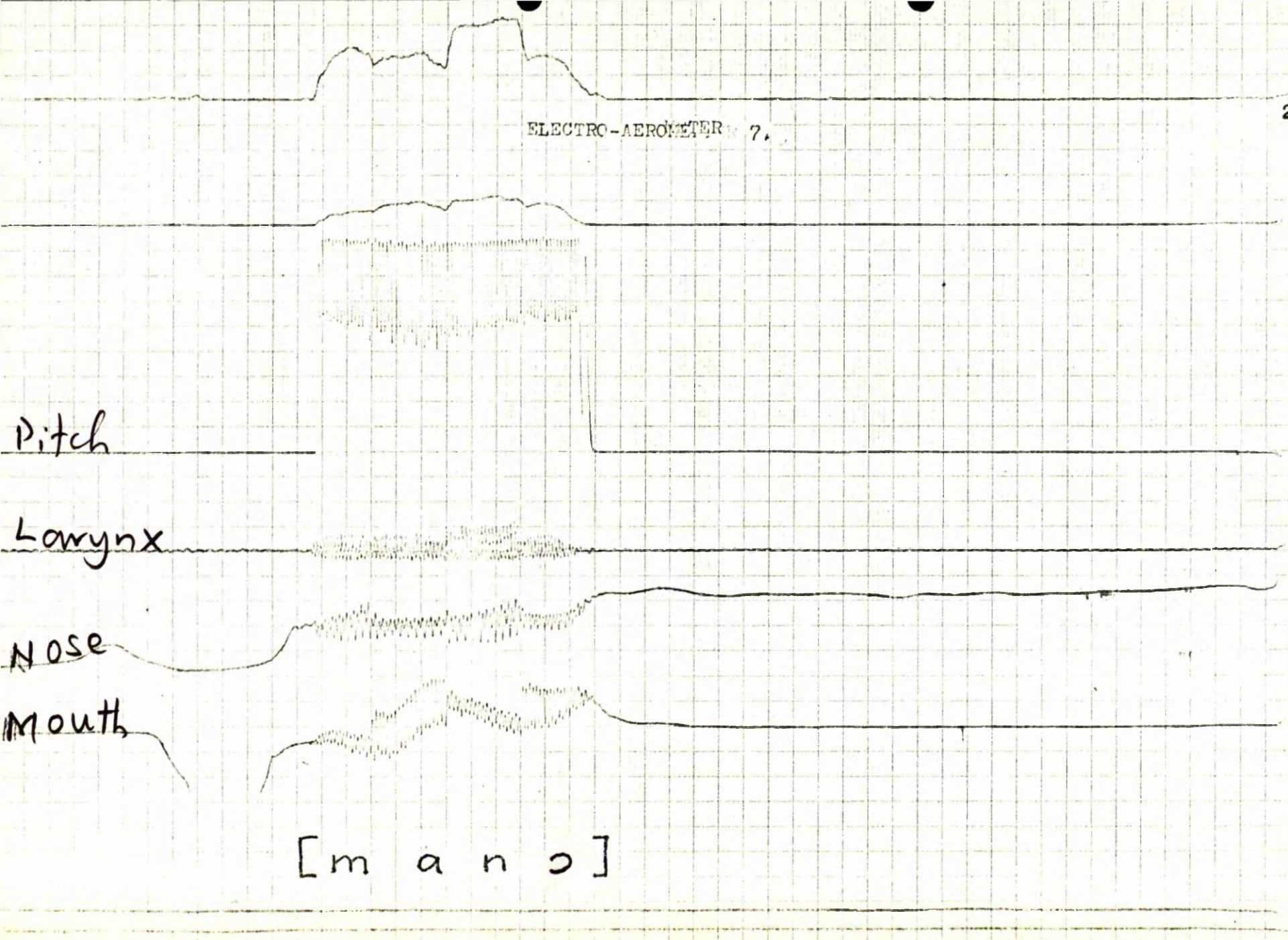
[è k õ b u ɛ]

ELECTRO-AEROMETER 6



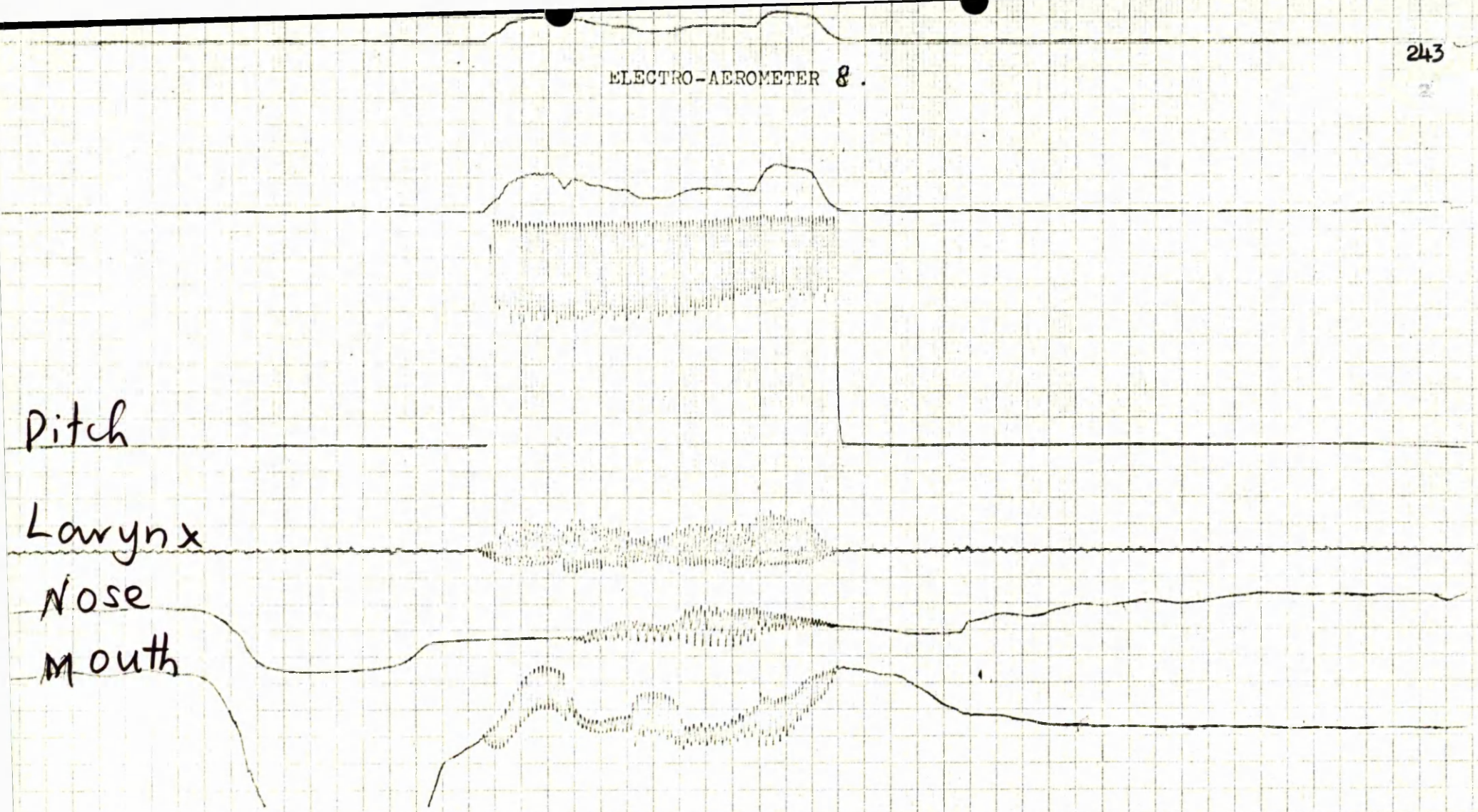
[ɔ̀ m é r̃ ã́]

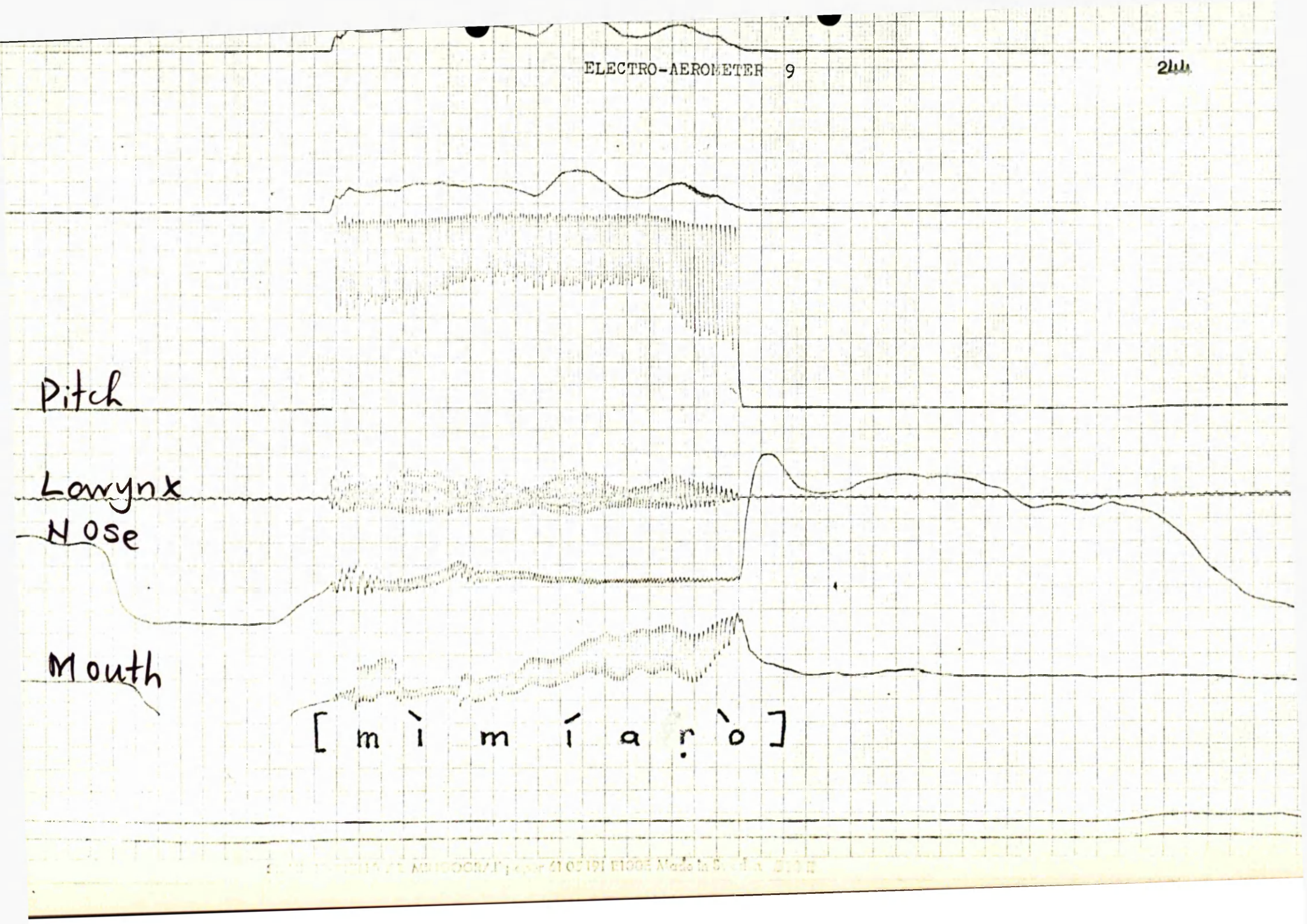
ELECTRO-AEROMETER 7.



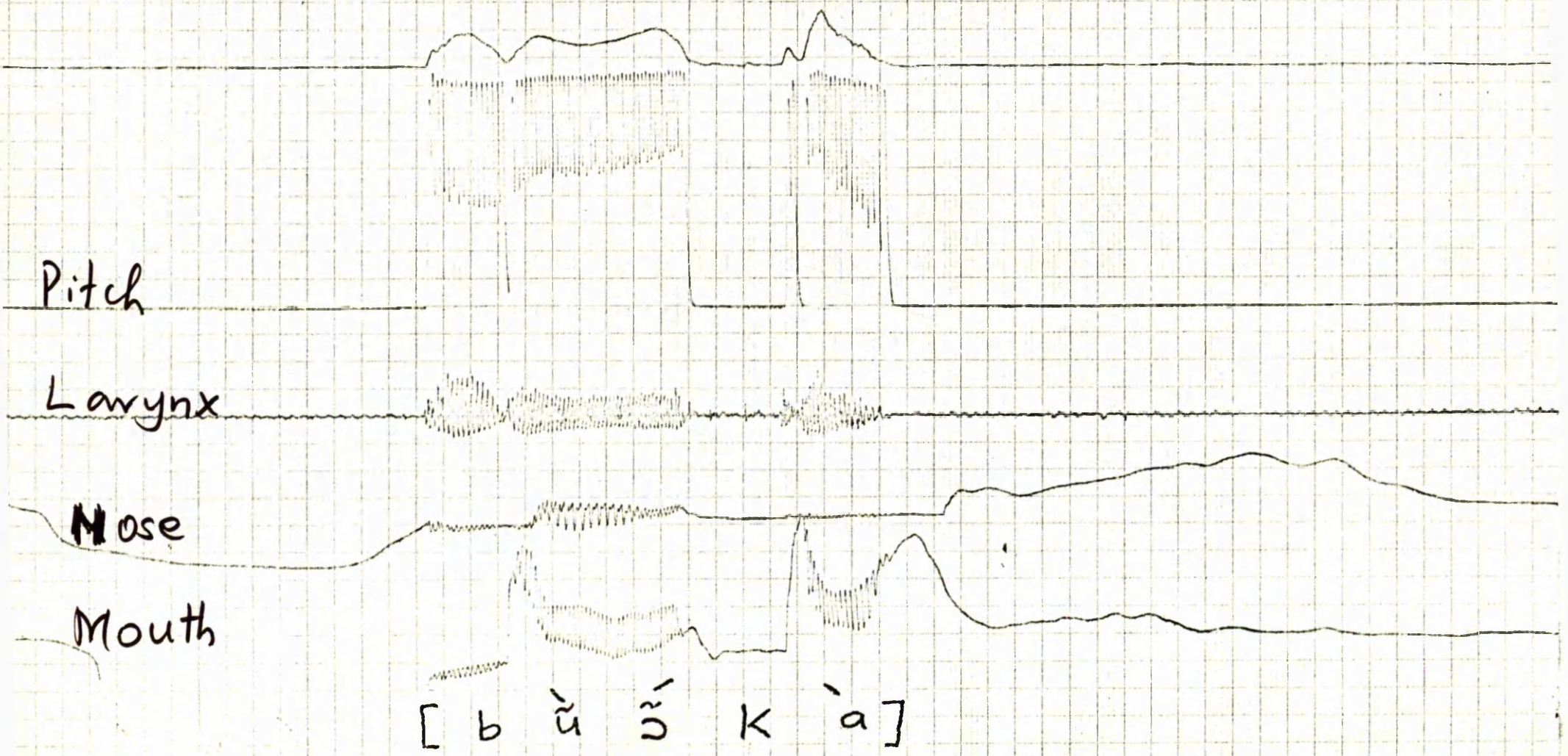
[m a n ɔ]

ELECTRO-AEROMETER 8.




Pitch
Larynx
Nose
Mouth
[m ì m í a r̀ o]

ELECTRO-AEROMETER 10



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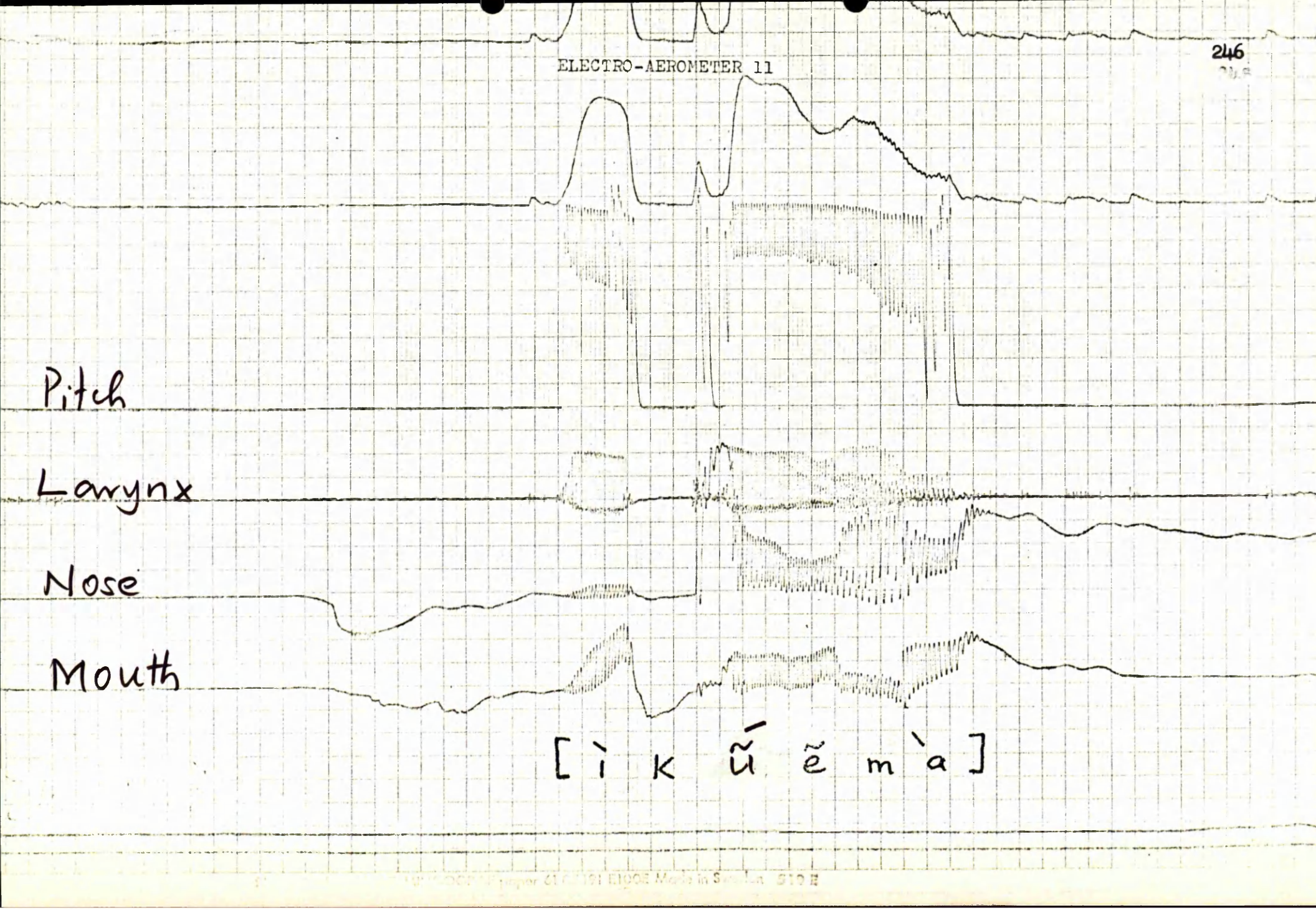

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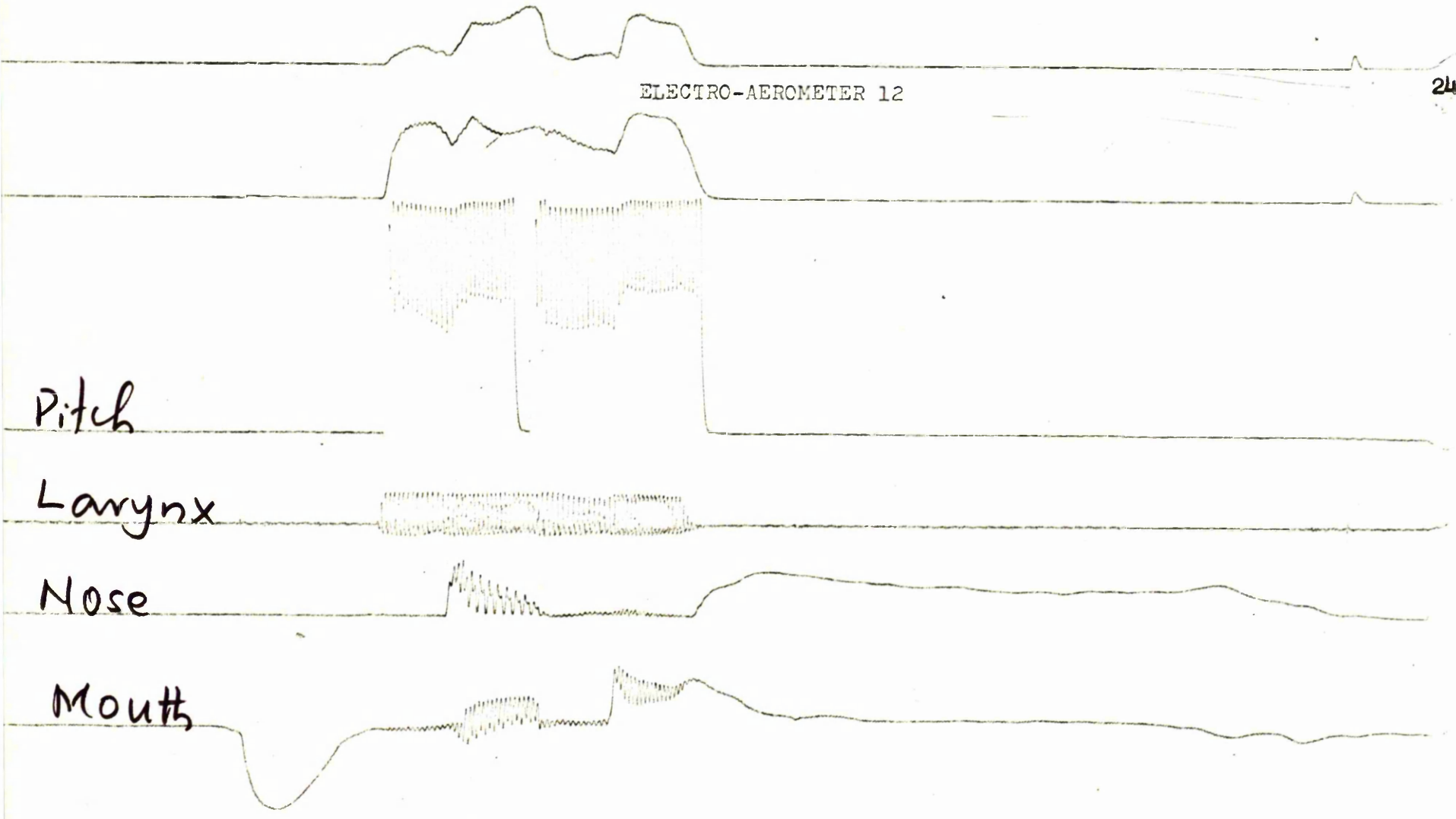
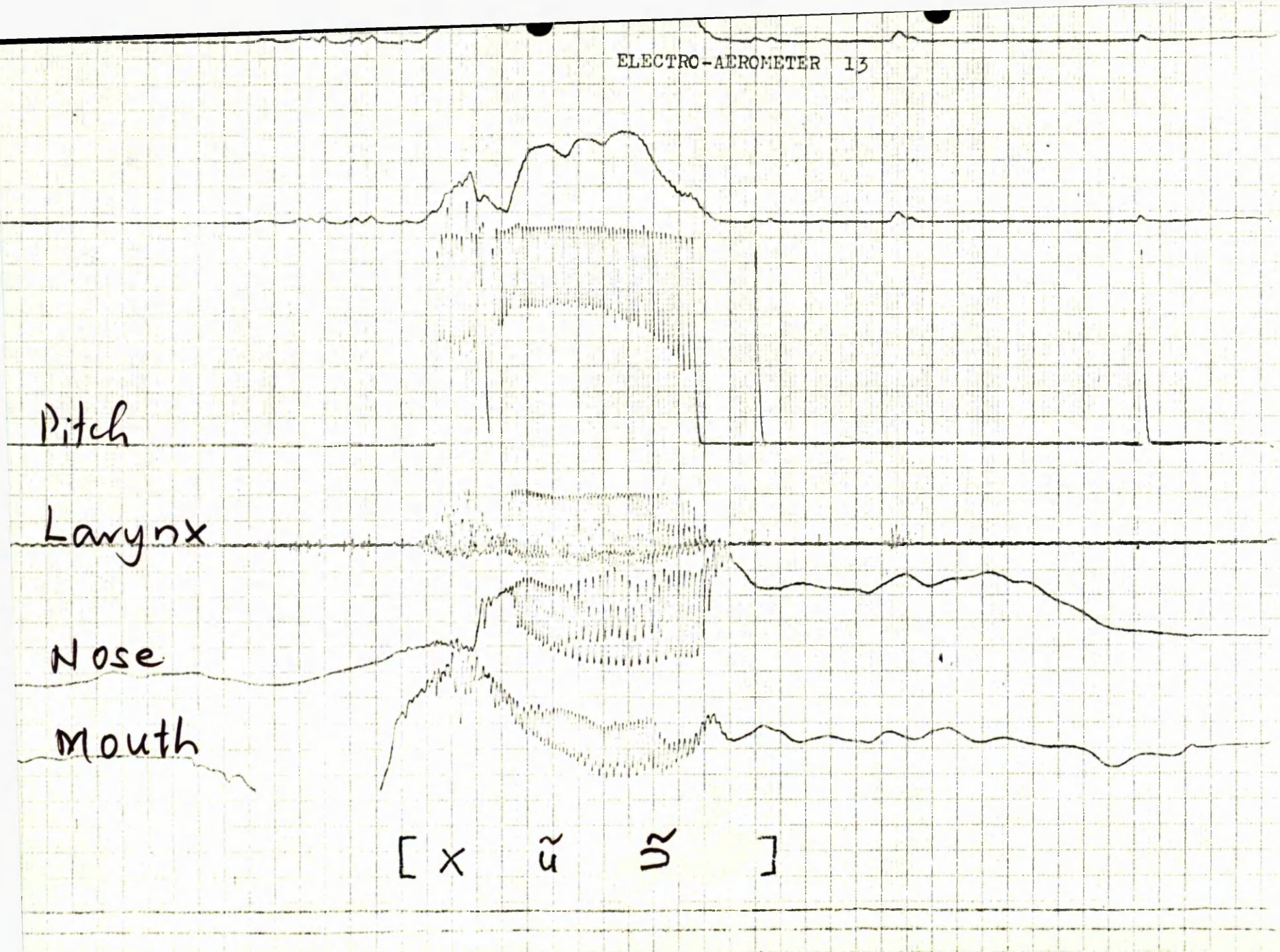
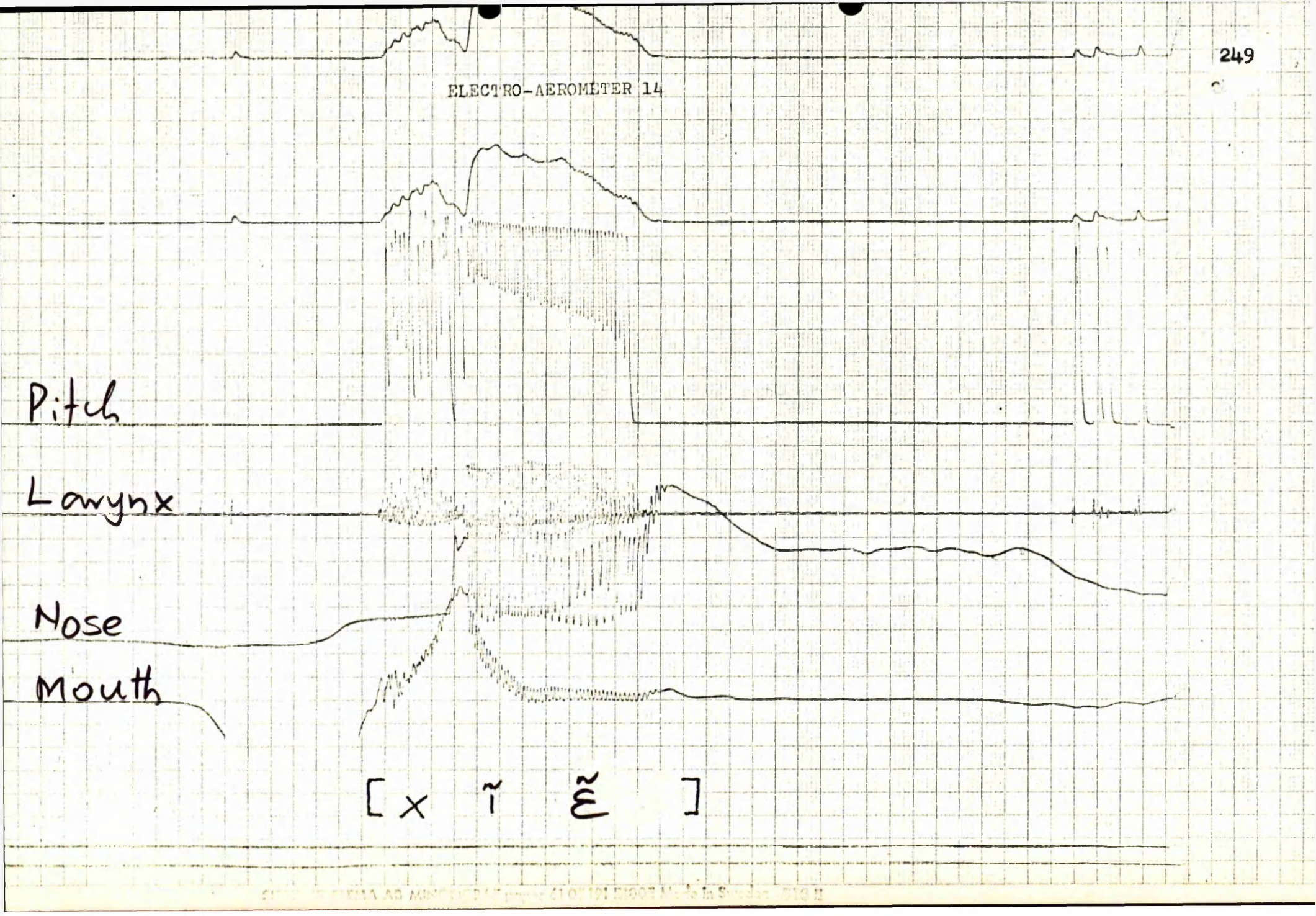


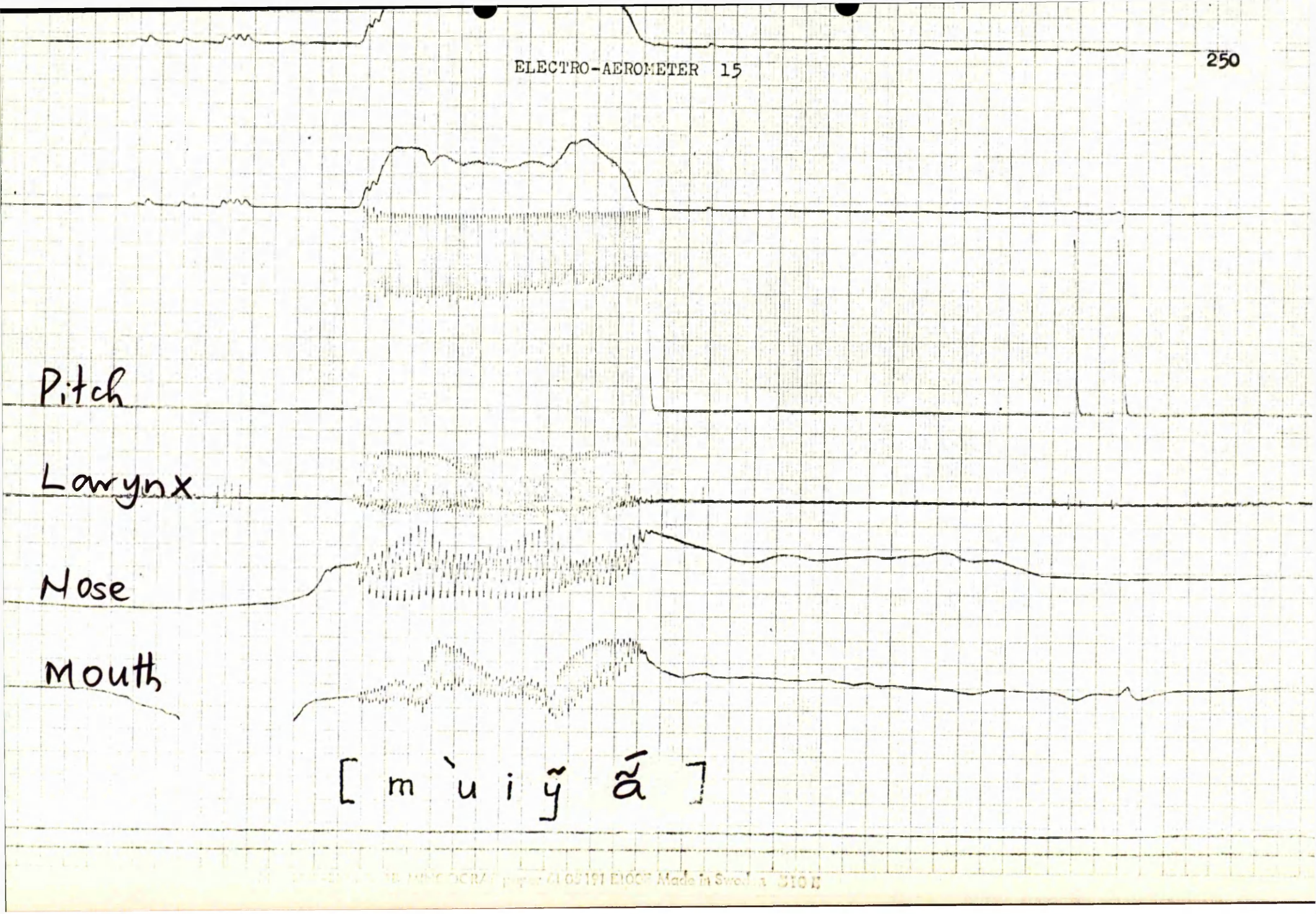
[gb è̃ b é]



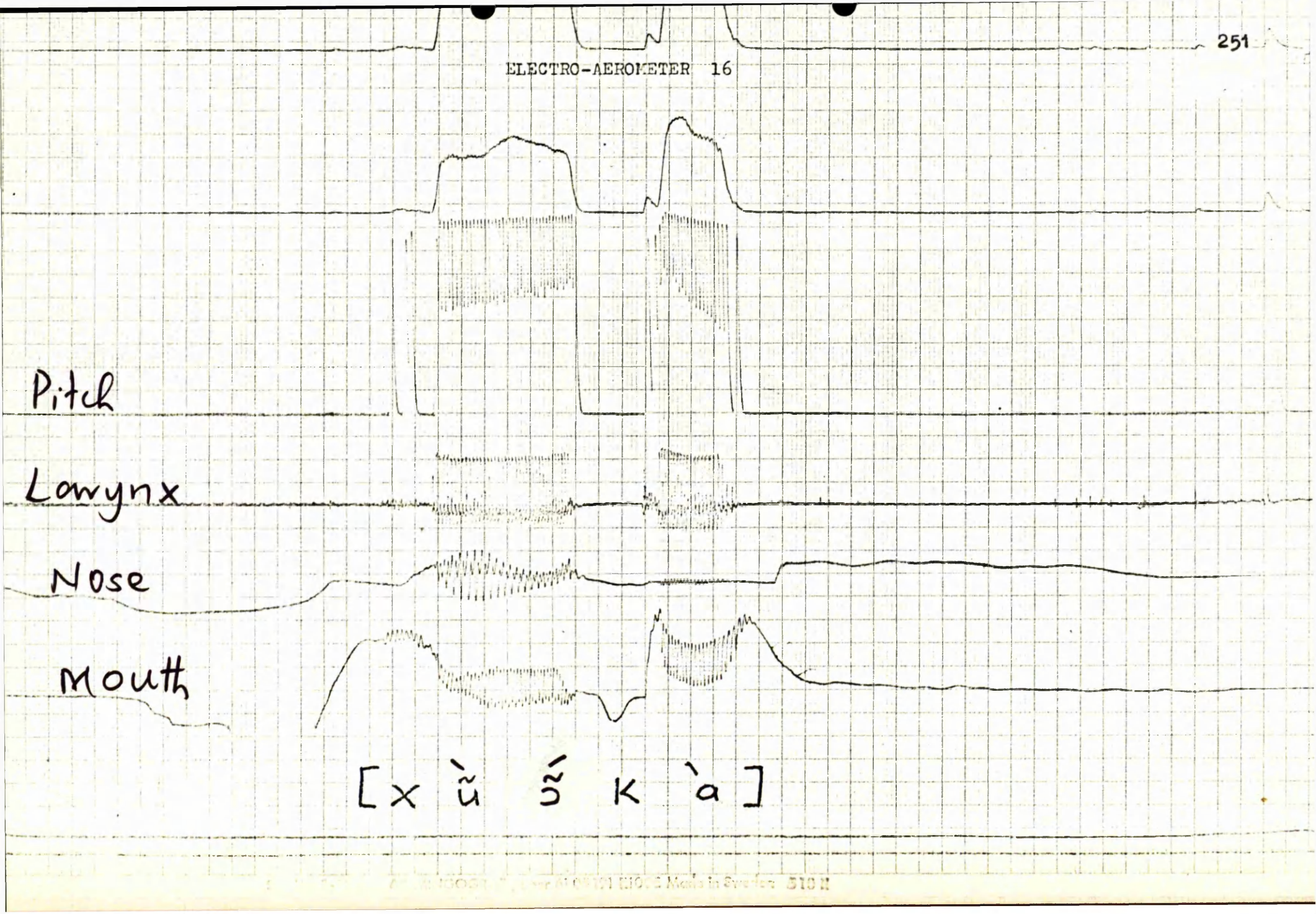
[x ũ ɔ̃]

ELECTRO-AEROMETER 14

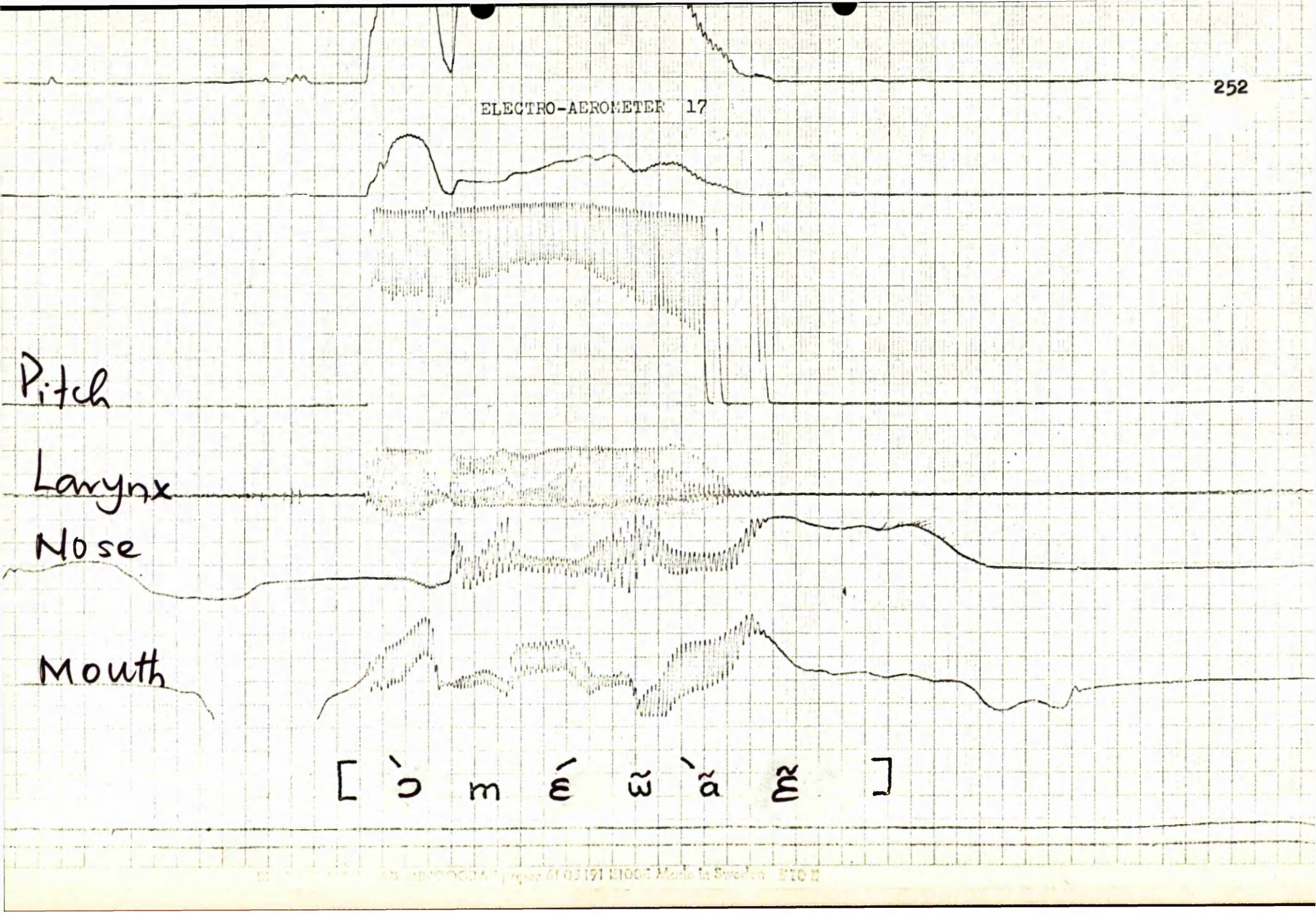



Pitch
Larynx
Nose
Mouth
[m ˋu i ỹ ã́]

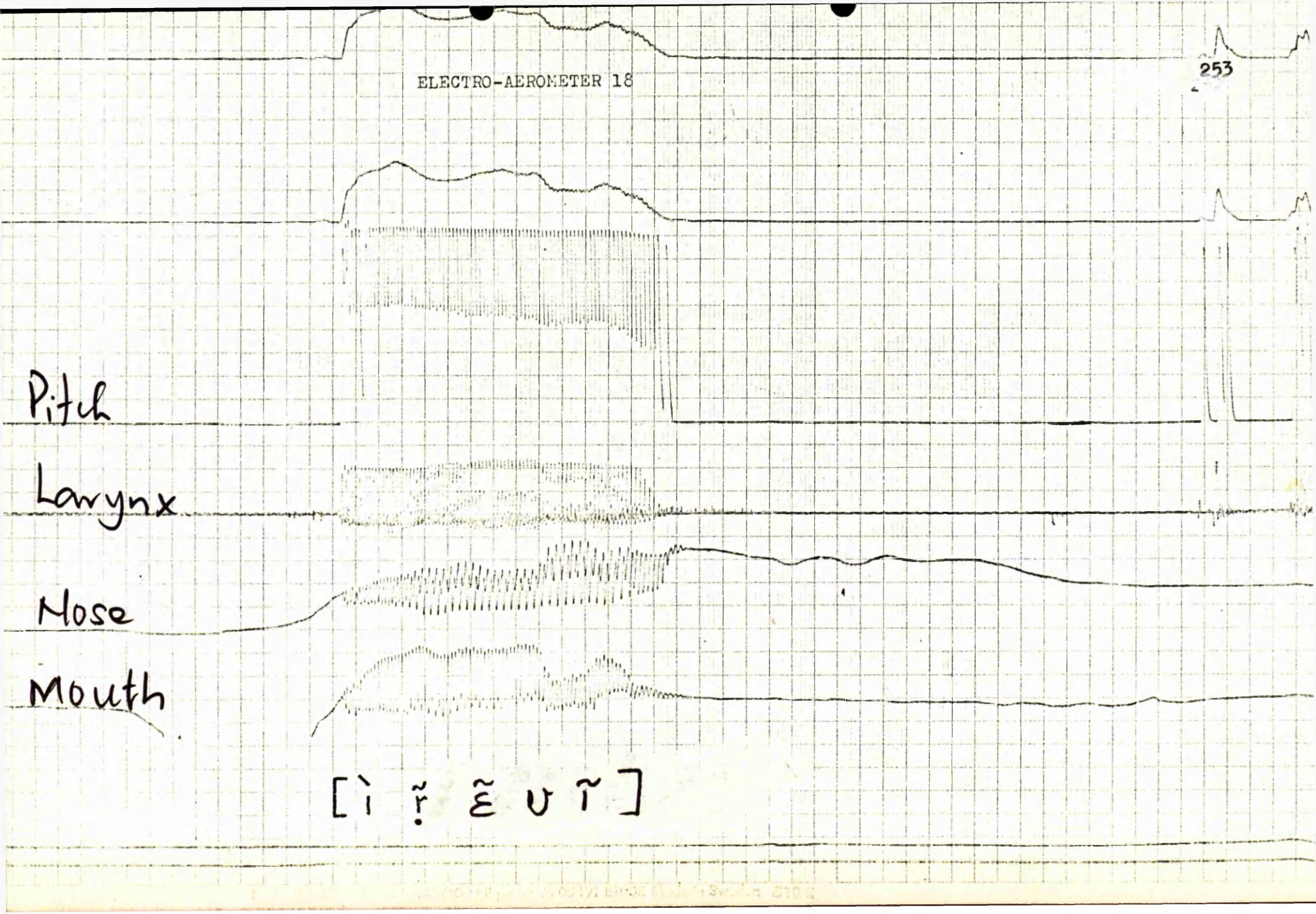
ELECTRO-AEROMETER 16



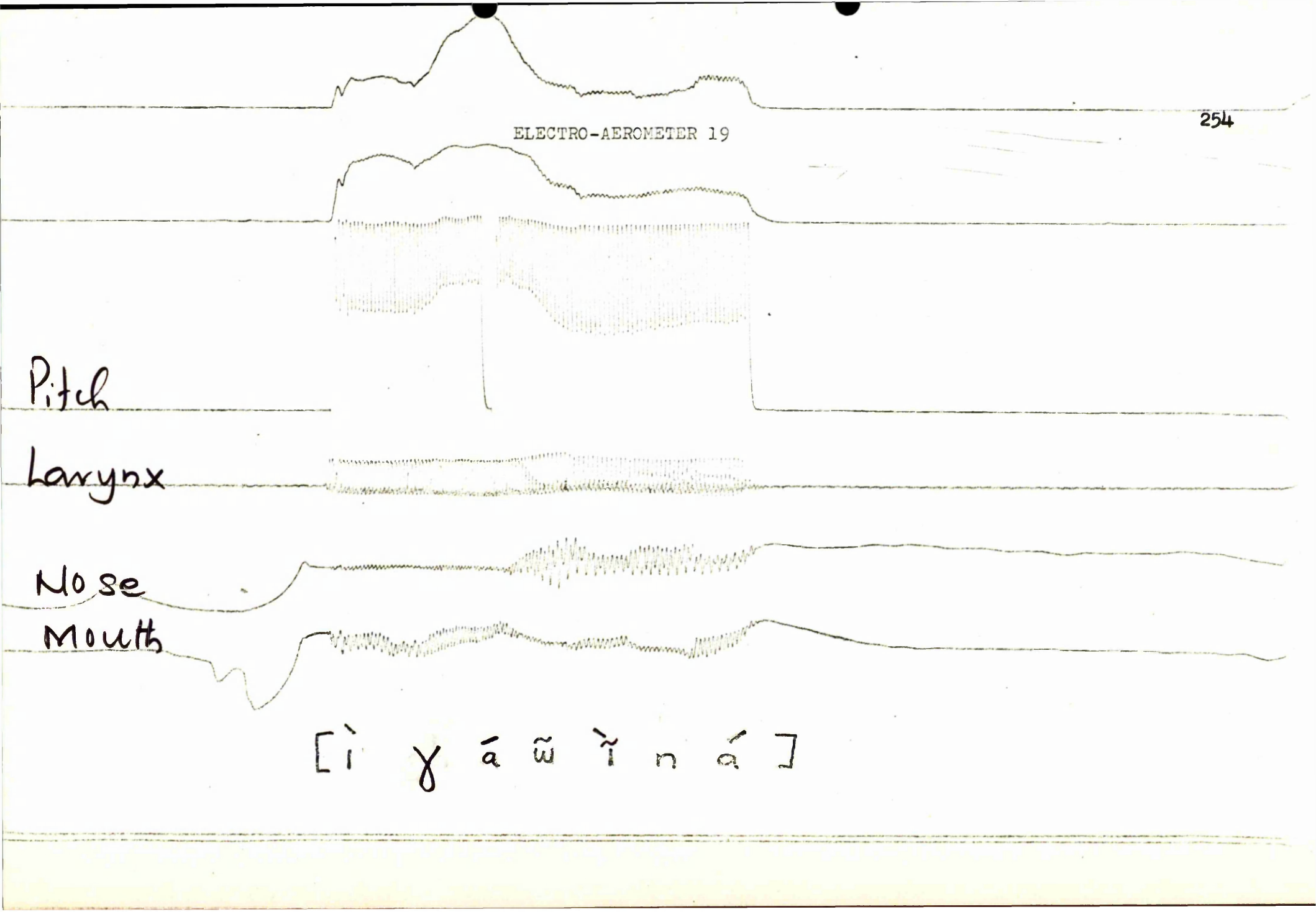
ELECTRO-AEROMETER 17



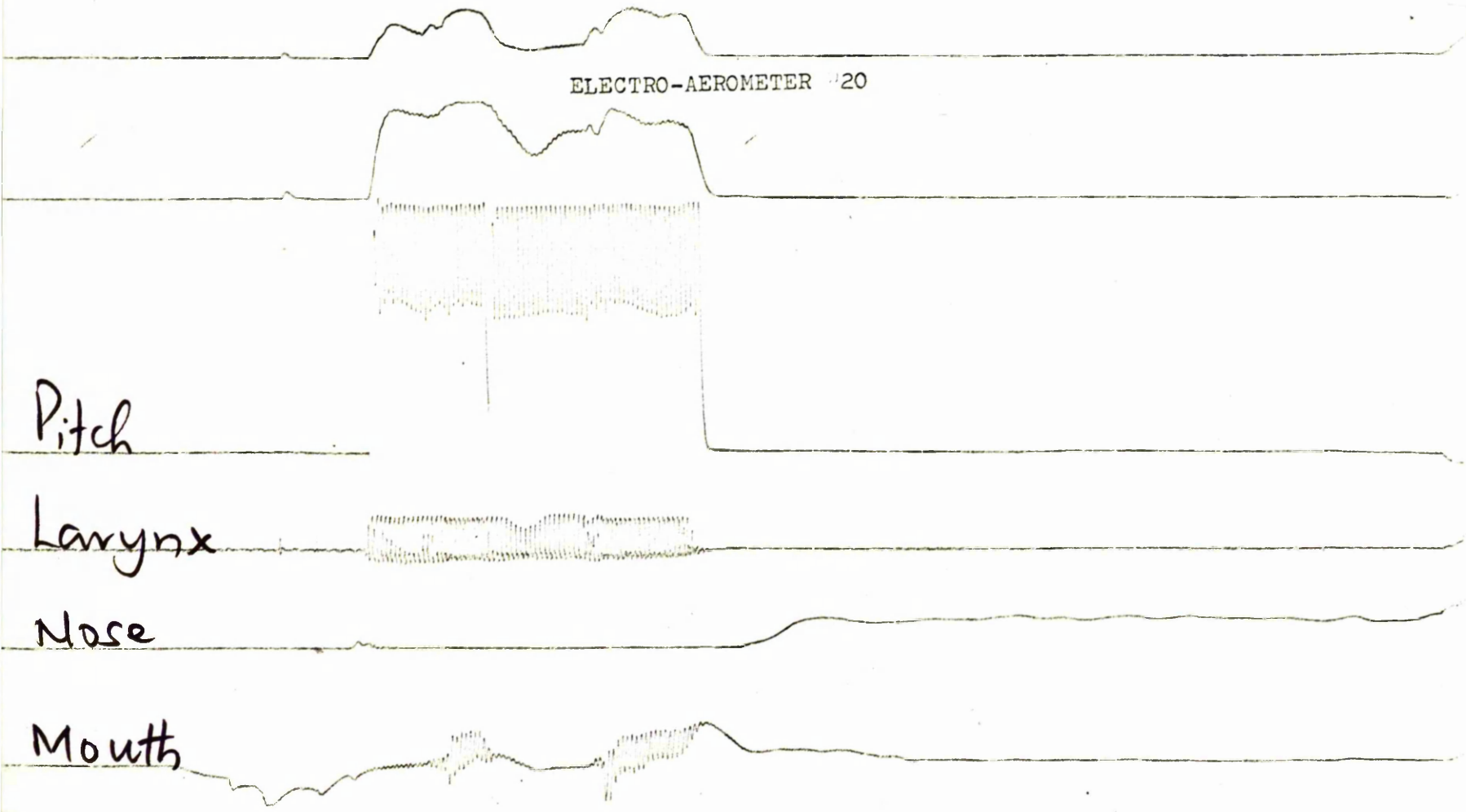
[ɔ̀ m ɛ́ ɯ̃ ã̀ ɛ̃]


ELECTRO-AEROMETER 18
253
Pitch
Larynx
Nose
Mouth
[ì ɾ̃ ɛ̃ ʊ ɾ̃]

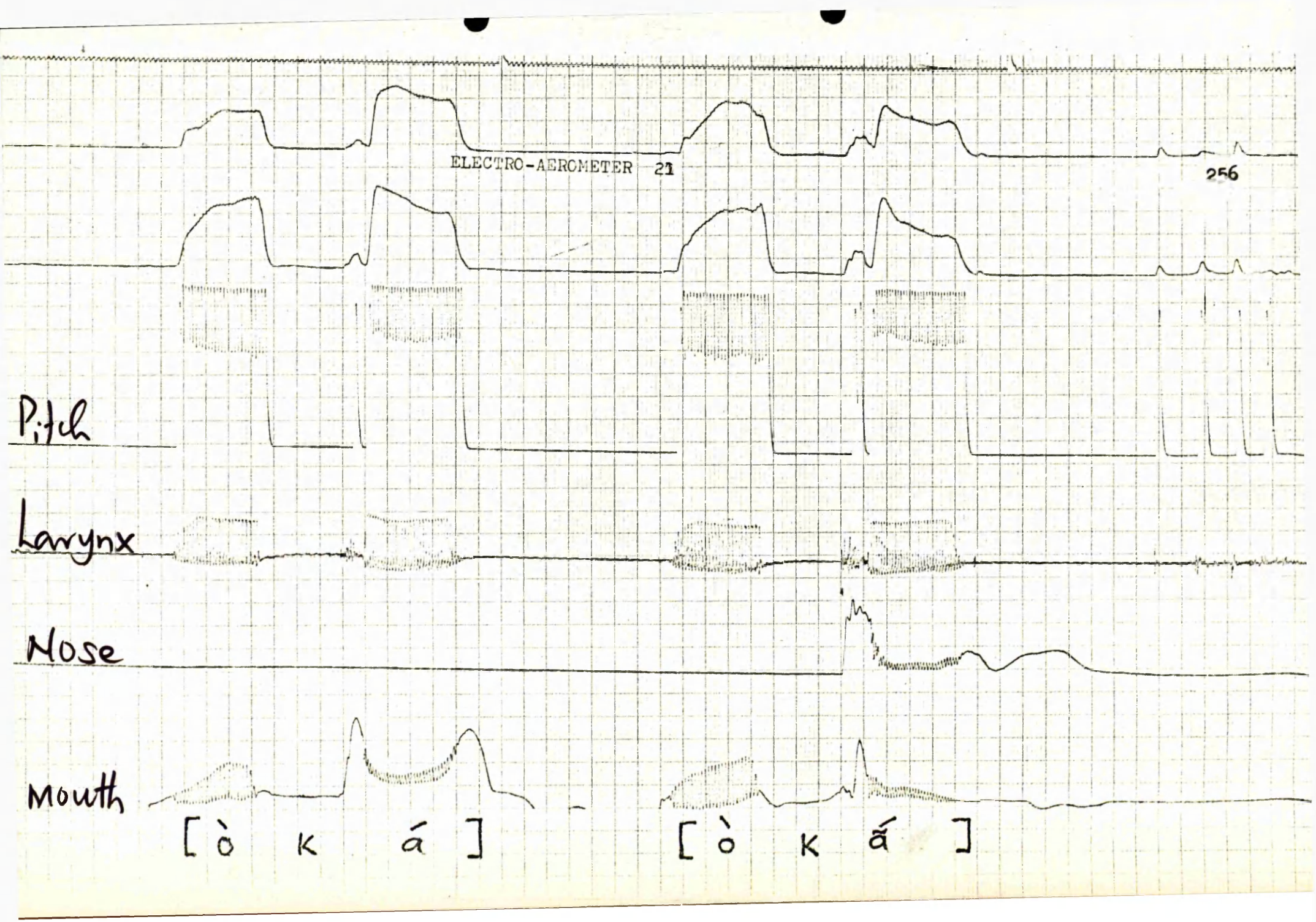
ELECTRO-AEROMETER 19

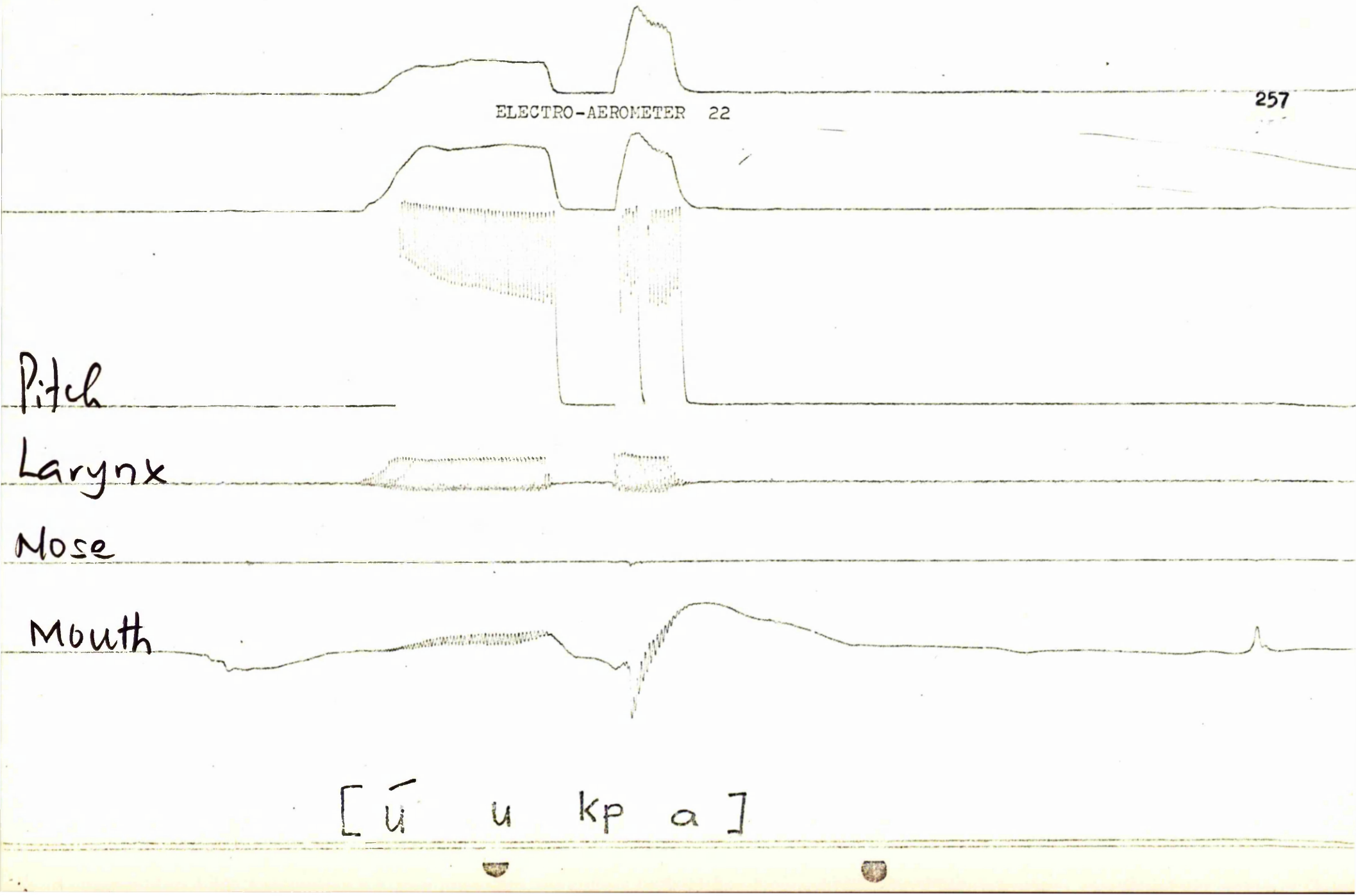


[ì ɣ á ɯ̃ ɲ̀ n á]

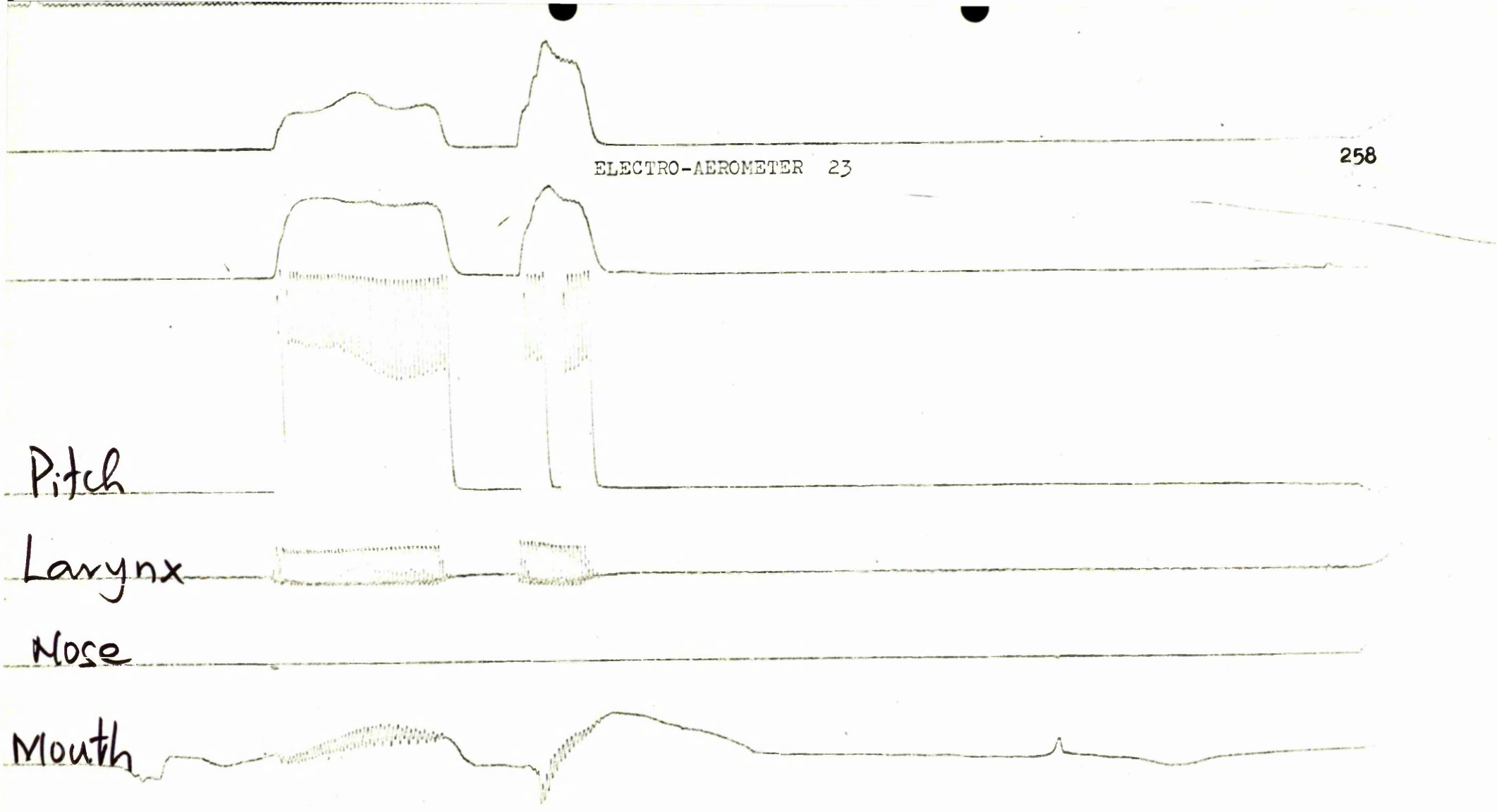


[gb ú gb o]


ELECTRO-AEROMETER 21
256
Pitch
Larynx
Nose
Mouth
[ò k á]
[ò k á]

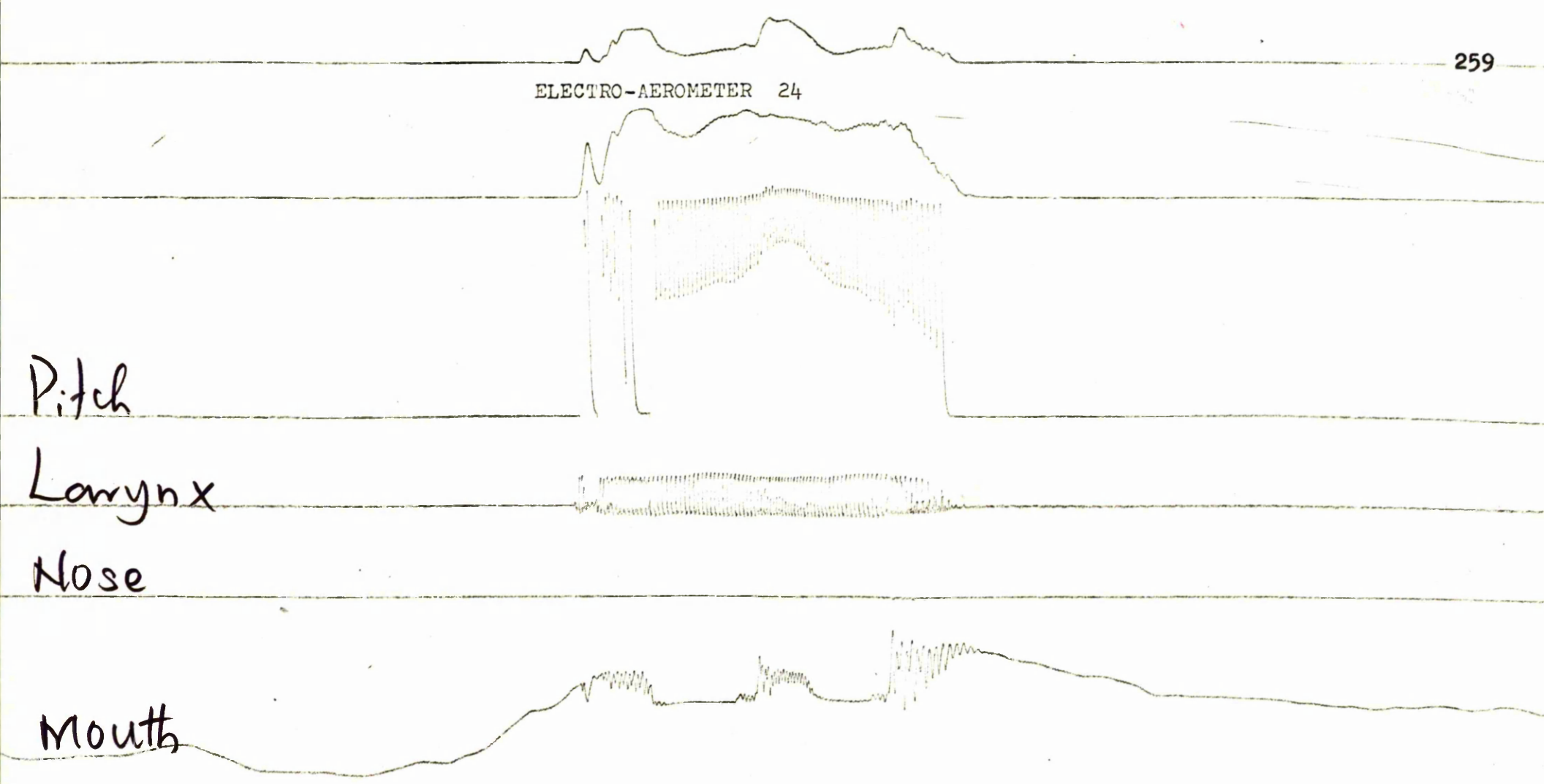


[ú u kp a]



[u h u kp a]

ELECTRO-AEROMETER 24



[ì gb í gb è]

BIBLIOGRAPHY

1. Bamgbose, A., A Grammar of Yoruba, Cambridge, 1966
2. ---- The Assimilated Low Tone in Yoruba, Lingua, Vol. 16, No. 1, 1966.
3. ---- Verbal-Nominal Collocations in Yoruba, Journal of West African Language, Vol. 1, No.2, 1964.
4. Bowen, T.J., Grammar and Dictionary of the Yoruba Language Washington, 1858.
5. Bradbury, R.E., The Benin Kingdom, London, 1957
6. British and Foreign Bible Society, Iyẹn Nọ hunma vbekpa Matteu, London, 1914.
7. ---- Iyẹn nọma vbekpa Mark, London, 1925.
8. Burt, M., From deep to Surface Structure, IUCL, 1972
9. Carnochan, J., The Category of Number in Igbo Grammar, African Language Studies, III, 1962.
10. ---- Pitch, Tone and Intonation in Yoruba, IN HONOUR OF DANIEL JONES (Ed.) Abercombe and others, Longmans, 1964.
11. ---- Vowel harmony in Ibo, African Language Studies Vols. 1-2, 1960/61.
12. Chomsky, N., Aspects of the Study of Syntax, Cambridge, M.I.T. Press 1965.
13. ---- Current Issues in Linguistic Theory, The Hague, Monton, 1964.
14. ---- Selected Readings, (Ed.), by J.P.B. Allen and Paul Van Buren, London, Oxford University Press, 1971.

15. --- The Sound Pattern of English, Harper and Row, 1968.

16. Egharevba, U. Jacob, Ekherhe vbe ebe itan Edo, Benin, 1934.

17. --- Itan Edagbon mwe, Ibadan, 1972.

18. Elugbe, B., A Comparative Edo phonology, Ph.D. thesis, University of Ibadan, 1973.

19. Firth, J.R., Papers in Linguistics (1934-1951), Oxford University press, London, 1957.

20. Fromkin, V., Tone Features and Tone Rules, UCLA, Studies in African Linguistics, 1972.

Gleason, H.A., An introduction to descriptive linguistics, Holt, 19

21. Greenberg, J.H., Studies in African Linguistic Classification, New Haven, 1955.

Gramma

22. Grinder, J., and Elgin, M., Guide to Transformational New York, Holt, 1973.

23. Hall, Robert A., Linguistics and Your Language, New York, 1960.

24. Halliday, M.A.K., McIntosh, A. and Strevens, P., The Linguistic Sciences and Language Teaching, London, 1964.

25. Hockett, C.F., A Course in Modern Linguistics, New York, 1958.

26. Innes, Gordon, An Outline of the Grebo Verbal System, African Language Studies, Vols. 1-2, 1960/61.

27. Kelly, John, Toward Comparative Edo, African Language Review, Vol. 9, 1970/71.

28. --- Vowel patterns in the Urhobo Noun, Journal of West African Languages, Vol. 1, 1969.

29. Ladefoged, P., A phonetic study of West African Languages, Cambridge, 1964.

30. --- Elements of Acoustic Phonetics, London, 1971.

31. --- Three Areas of Experimental phonetics, Oxford, 1967.

32. Laver, John, A Preliminary Phonology of the Ayele Dialect of Etsako, Journal of West African Languages Vol. IV, Part 2, 1967.

33. Leben, W., Suprasegmental and segmental representation of tone, UCLA, Studies in African Linguistics, 1971.

34. McCawley, J., A note on tone in Tiv Conjugation, UCLA, Studies in African Linguistics, 1970.

35. Melzian, Hans, J., A concise Dictionary of the Bini Language of Southern Nigeria, London, 1937.

36. Migeod, F.W.H., The Languages of West Africa, London, 1913.

37. Nan Schneeberg, Sayanci Verb Tonology, Journal of African Languages, Vol. 10, part 1, 1971.

38. O'Connor, J.D., PHONETICS, Harmondsworth, Penguin, 1973.

39. Ogieriaixi, E., Edo Orthography, Lagos, 1972.

40. Okon, E., Essien, The Reflexive in Efik, Journal of African Languages, Vol. II, Part 2, 1974.

41. Palmer, F.R., Introduction in Prosodic Analysis, London, Oxford University Press, 1970.

42. --- The English Verb, London, Longmans, 1974.

43. Pike, K.L., Grammatical Prerequisites to Phonemic Analysis, WORD, Vol.3, Dec. 1947.

44. --- Tone Languages, Michigan, 1948.

45. Pilszikowa , N., On the Role of tonal Contrast in the Hausa Verb, Journal of African Languages, Vol. II, part 2, 1974.

46. Postal, P., Constituent Structure: A Study of Contemporary models of Syntactic Description, (IJAL Supplement 30), 1964.

47. Robins, R.H., The Phonology of the Nasalized Verbal forms in Sudanese, BSOAS XV , 1953.

48. Rowlands, E.C., Tone and Intonation in Brass - Nembe IJAW, African Language Studies, Vols 1 & 2, 1960/61.

49. Russell Schuh, Verb forms and Verb Aspects in Ngizim, Journal of African Languages, Vol. 10, Part 1, 1973.

50. Ruwet, N., An Introduction to Generative Grammar, Trans. by N.S.H. Smith, Amsterdam, 1973.

51. Smith, N.V., A Phonological and Grammatical Study of the Verb in Nupe, University of London, Ph.D. thesis, 1964.

52. --- Tone in Ewe, in Fudge (Ed.) Phonology

53. Siertsema, Bertha, Problems of Phonetic Interpretation, 1: Nasalised sounds in Yoruba, Lingua 7, 1958.

54. Siertsema, Bertha, Problems of Phonetic Interpretation II: Long Vowels in a Tone Language, Lingua 8, 1959.

55. Stahlke, Herbert, The N/L alternation: A minor rule in Yoruba Phonology, Issues in Linguistics, Papers in Honour of Henry and Kenee, Illinois, 1973.

56. Wang, W.S.Y., Phonological Features of Tone, IJAL 33, 1967.

57. Ward, Ida, An Introduction to the Yoruba Language, Heffer and Sons Ltd., Cambridge, 1952.

58. Welmers, W.E., Structural Notes on Urhobo, Journal of West African Languages, Vol.2, 1969.

59. Wescot, R.W., Speech-Tempo and the Phonemics of Bini, Journal of West African Languages, Vol.4., Part 3, 1965.

60. --- The Metalinguistics of Bini, Anthropological Linguistics 2/6 (Jun. 60).

61. --- Tonal Icons in Bini, Studies in African Linguistics, Vol.4, No.2, July, 1973.

62. --- A Bini Grammar, New Haven Conn., Bartlett Hofmann, 1962/3, (3 vols.).

63. Westermann, D., A Study of the Ewe Language, Oxford University Press, London, 1930.

64. Westermann, D. and Bryan, M.A., Languages of West Africa (A handbook of African Languages, part II) London, 1952.

65. Westermann, D. and Ward, I.C., Practical Phonetics for Students of African Languages, London, 1933.

66. Whiteley, W., Some problems of syntax of sentences in a Bantu Language of East Africa, Lingua 9, 1960.