ISSUES IN THE ANALYSIS OF YORÙBÁ TONE

BY

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D E D I C A T I O N

I dedicate this thesis to my wife, Adéfúnñkẹ́,

and our two children,

'Dámilọ́lá and Abímbọ́lá.

A B S T R A C T

This thesis presents an autosegmental analysis of the tonal phonology of Yorùbá. It utilizes a fully specified matrix of Yorùbá tone features by contrast with recent 'underspecified-autosegmental' accounts. My contention is that, in the bid to apply tonal underspecification theory to Yorùbá, my predecessors have not provided a proper account of certain processes.

The work is laid out in eight chapters. Chapter One gives a general overview of the whole work. Chapter Two provides a brief introduction to Yorùbá and highlights the controversial and non-controversial aspects of its tonology. The claims of autosegmental phonology and its application and relevance to Yorùbá are discussed in Chapter Three.

Chapters Four and Five deal with explanations of tonal processes within lexical items and across word boundaries respectively. Processes of linking, delinking, relinking, spreading, and freeing involving High, Mid and Low tones provide evidence that, whatever the diachronic facts of the Mid tone, Yorùbá is still better analysed synchronically as having an underlying three-term tonal contrast.

Claims relating to the hierarchical representation of tone features and the theory of tonal underspecification and proposals for the representation of multiple tone heights are examined in Chapter Six. It is also suggested that the Yorùbá Mid tone is not to be seen exclusively as involving a split in either the lower or the higher register; and the analysis of the Yorùbá mid tone as null or zero is challenged on the basis of the data discussed in Chapters Four and Five. I propose that, though certain instances of Yorùbá mid tone may be analysed as being derived, not all cases can be explained in this manner. Finally, I propose further that a "base three" tone feature system rather than a "base two" system be adapted to suit Yorùbá.

Chapter Seven examines tone deletion both in the underspecified-autosegmental model and in the present analysis. It is pointed out that the analysis of tone deletion within the underspecified-autosegmental model has a number of problems, and that it is preferable to distinguish "tone deletion proper" from cases of tone lowering and tone raising. Chapter Eight, which examines a number of residual problems relating to polarity in a three-term tone system such as that of Yorùbá, concludes the thesis.

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LIST OF SYMBOLS

FORMAL NOTATIONS

Ⓣ = (Ⓗ; Ⓜ; Ⓛ) Floating High, Mid, or Low underlying tone.

T = H; M; L. Free (unlinked) underlying tone.

T = H; M; L. Linked tone.

Ⓥ = Floating Vowel Slot.

V = Free (unlinked) V-Slot.

V = Linked V-Slot.

or = Spread and / or relink.

≠ or ≠ = Delink or Deassociate (Disassociate).

CONVENTIONAL NOTATIONS

SY = Standard Yorùbá.

—— = Items in Yorùbá orthography e.g. <u>iṣé</u>.

' ' = Single quote marks for glosses in English: 'work'.

===> = 'rewrite as' X===>Y = rewrite X as Y.

/ = environment. X===>Y / Z - Q = rewrite X as Y when X is preceded by Z and followed by Q.

* = (superscript to an item) shows that it is not attested.

? = (before an item) shows that its occurrence in Standard Yorùbá is questionable.

+ = word boundary.

= = is equal to.

[ ] = phonetic representation.

/ / = phonemic representation.

YORÙBÁ CONSONANTS

IPA Symbols:- t k k͡p b d g g͡b f s ʃ dʒ m n ɾ l h j w.

Substitutes for IPA:- ṣ =

j = dʒ or ɟ

y = j

p = k͡p

r = ɾ

gb = g͡b

YORÙBÁ VOWELS

IPA Symbols:- i e ɛ a ɔ o u ĩ ɛ̃ ã ɔ̃ ũ.

Substitutes for IPA:- ẹ = ɛ

ọ = ɔ ọn = ɔ̃

in = ĩ un = ũ

ẹn = ɛ̃ an = ã

TONE MARKS IN THE ORTHOGRAPHY

UNDERLYING TONES

` placed on a vowel indicate low tone.

´ indicates high tone.

- " mid tone. Except on syllabic nasals, the mid

tone is not always indicated on vowels in the orthography. For the purpose of this analysis, the mid is indicated most of the time.

H, M, & L also refer to High, Mid and Low tones respectively.

PHONETIC REALIZATION OF TONE

!M or ' on a vowel or a syllable = Downstepped Mid tone.

LR/R or ∨ = Low-Rising ===> Realization of H when preceded by L.

HF/F or ^ = High-Fall(ing) ===> Realization of L when preceded by H.

ABBREVIATIONS

Adj.	=	Adjective.
Adv.	=	Adverb.
ALS.	=	African Language Studies.
AP	=	Autosegmental Phonology.
AMMT	=	Associative Marker Mid Tone.
BSOAS	=	Bulletin of SOAS.
Conj.	=	Conjunction.
DALL.	=	Department of African Languages and Literatures., (University of Ifẹ̀.)
Del.	=	Deletion
DLNL.	=	Department of Linguistics and Nigerian Languages., (University of Ìbàdàn.)
FAMHT	=	Future Aspect Marker High Tone.

(fn.)	=	Footnote
FUT	=	Future.
GP	=	Generative Phonology.
H-DLK	=	High Tone Delinking.
H-RLK	=	High Tone Relinking
HRT	=	Hierarchical Reprsentation of Tone (Features.)
H-SPR	=	High Tone Spreading.
inf.	=	Infinitive.
infl.	=	Inflexion.
IPHT	=	Infinitive Phrase High Tone.
i-Del.	=	/ i / Deletion.
IULC.	=	Indiana University Linguistics Club.
JAL.	=	Journal of African Languages.
JALL.	=	Journal of African Languages and Linguistics.
JCAS	=	Journal of Contemporary African Studies.
JWAL.	=	Journal of West African Languages.
LA.	=	Linguistic Analysis.
LAGB.	=	Linguistic Association of Great Britain.
LI.	=	Linguistic Inquiry.
Lg.	=	Language.
LP	=	Lexical Phonology.
LWRNG	=	Lowering.
MD	=	Mid Deletion.
M-DSTP	=	Mid Downstep.
MTH	=	(Representation of) Multiple Tone Heights.
MTPL.	=	Multiple.
N	=	Noun.
ND	=	Not Dated (no date of publication).

NO	=	Nominal.
NP	=	Noun Phrase.
PAMHT	=	Progressive Aspect Marker High Tone.
pl.	=	Plural.
PR	=	Phonetic Representation.
PROG	=	Progressive.
Pro Obj.	=	Pronoun Object.
REDPL.	=	Reduplication.
RLK	=	Relinking.
RSNG	=	Raising.
SAJAL	=	South African Journal of African Linguistics.
SAL.	=	Studies in African Linguistics.
sg.	=	Singular.
SGL.	=	Single.
SMHT	=	Subject Marking High Tone.
SOAS	=	School of Oriental and African Studies.
SPE	=	Sound Pattern of English.
SPR	=	Spreading.
SSLS.	=	Studies in the Sciences of Language Series.
TBU	=	Tone-Bearing Unit.
TU	=	Tonal Underspecification.
UR	=	Underlying Representation.
VA	=	Vowel Assimilation.
VD	=	Vowel Deletion.
VP	=	Verb Phrase.
WFC	=	Well-formedness Condition.

A C K N O W L E D G E M E N T S

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CHAPTER ONE

GENERAL OVERVIEW

1.0 INTRODUCTION

Discussions of Yorùbá tone predate the earliest serious study (fn.1) of the structure of the language (fn.2). Yorùbá tone has since been the concern of a large number of scholars within different linguistic frameworks. This thesis examines their different insights into Yorùbá tone from the point of view of the most recent developments in phonological theory.

The analysis of Yorùbá tone has gone through different stages, with phonemic analysis (fn.3) and prosodic analysis of different schools of thought (fn.4) representing the earlier approaches. In the late 1960s and early 1970s Yorùbá was analysed within the framework of Generative Phonology--henceforth GP. Tone was considered as an inherent feature of the vowel segment in this framework. Tone was not given the attention it deserved because it was mentioned only when other phonological rules affected it. In principle, phonological rules applied to tonal features, leaving non-tonal ones unaffected, and to non-tonal features while tonal features remained. Later research revealed that this account of Yorùbá tone was inadequate.

The analyses were carried out within the type of GP developed in the Sound Pattern of English--henceforth SPE--by Chomsky and Halle (1968), supplemented by the models of Stanley (1967) and Postal (1968).

The fundamental assumption within SPE is that an utterance is represented phonologically by a string of segments each of which is represented by a matrix of phonetic features. These phonetic features describe the articulatory and acoustic properties of the segment. Also, SPE distinguished two types of phonetic features--the unpredictable features listed in the lexicon of a grammar, and the features corresponding to systematic regularities assigned by phonological rules in the phonological component of the grammar. Furthermore, there is a distinction between the (systematic phonemic) Underlying Representation--henceforth UR--and the (systematic phonetic) Phonetic Representation--hereafter PR. The UR contains the unpredictable aspects of pronunciation, while the PR is made up of the idiosyncratic or unpredictable as well as the predictable information pertaining to the pronunciation of an utterance. The configurations in the UR are mapped on to those of the PR by phonological rules. These phonological rules are context-sensitive and they apply sequentially--one to the output of the other in a given order. The elements in both the UR and the PR constitute a linear sequence of segments and boundaries. It is for this reason that this theory of phonological representation has sometimes been referred to as linear or

unilinear.

That this theory of phonology did not give tone a proper treatment is reflected in the following statements from Oyèláràn (1971:79)

> In the following presentation, no separate section is devoted to tones as most treatises on Yorùbá have done. This is fundamentally because we do not consider tone operatively different from other distinctive features. Accordingly, tones are treated where they fit in the scheme of things. (fn.5) (emphasis mine - BAO)

Within the last decade, research has demonstrated that a number of phenomena, including tone, could not be adequately handled under the assumption (of SPE) that phonological representations are a linear arrangement of segments and boundaries. A number of alternative representations sprang up within different theoretical frameworks, and they are referred to as "Nonlinear Phonology". Autosegmental Phonology--hereafter AP--one of the two most prominent versions of nonlinear phonology is employed in this thesis. Metrical phonology (the other prominent one) originally proposed by Liberman (1975) and further elaborated upon by Liberman and Prince (1977)--was originally a reaction to the problems raised by the SPE account of stress. This theory was later developed to cope with other phenomena such as tone, pitch-accents and vowel harmony, which AP also handles. A Metrical phonological account of certain issues in Yorùbá tone is briefly considered in this work. It is shown however, that on

crucial issues where one might have hoped that Metrical Phonology would provide insights, there are still a number of questions unanswered.

Other theories briefly examined in relevant contexts in this study are those of Hierarchical Representation of Tone Features, hereafter HRT; Tonal Underspecification, hereafter TU; and the Representation of Multiple Tone Heights, henceforth MTH. The major proposal of TU, for example, is that tonal systems provide strong evidence for supplying "unmarked" or underspecified or unspecified features of tone by universal default rules (fn.6) within a theory of phonology.

AP was proposed by Goldsmith (1976a) (fn.7) as an illustration of, and reaction to, the problems of the SPE unilinear assumption with respect to African tone languages. His major proposal was that tones should be separated from the segments that 'bear' them, and be represented on separate plains or levels, technically named 'tiers'. Each tier is a linear sequence (fn.8) of phonological units or features which can be affected independently by rules applying specifically to that particular level. The name autosegmental therefore derives from the fact that tiers are related to, but autonomous or independent of each other. Association lines supplied by the Universal Association Convention link the tiers to each other. This mechanism gives an indication of how they are to be co-articulated. Language-specific association

conventions also supply association lines and, finally, a correct output is guaranteed by the application of a set of well-formedness conditions.

The theory of AP has rapidly been extended from handling tone to other phenomena such as Vowel harmony, Syllabification, Nonconcatenative morphology, Compensatory lengthening and Reduplication. Judging from the more satisfactory results reported about the analyses of these phenomena, it has been claimed that AP has greatly improved the explanatory power of phonological theory. We shall see the manifestations of this explanatory power in different aspects of this thesis.

As far as I know, there has not been any work on Yorùbá based primarily on AP (fn.9). It is hoped that a detailed autosegmental account of Yorùbá tone will highlight a number of issues that have been overlooked in the application of the theory of TU. It is not expected that this will pose any threat to the theories of HRT, TU, and MTH to start with, but our findings on the basis of language-specific data will help to constrain the universal assumption of the theory of TU in particular, and examine the implications of the claims of HRT and MTH for Yorùbá. If the force of the argument in this work achieves this aim, then I hope to have contributed to a better understanding of issues in tonology.

1.1 THE ANALYSIS

The thesis is made up of eight chapters. This general overview of the whole work is Chapter One. Chapter Two gives a brief introduction to the language. The controversial and non-controversial aspects of the tonal analysis of Yorùbá are also mentioned.

The theoretical framework of AP is discussed in Chapter Three. The application and the relevance of AP to Yorùbá is examined. Chapter Four presents a discussion of tonal patterns in Yorùbá lexical items. In this respect, major categories such as nouns, adjectives, pronouns, verbs, verb-related items (such as aspect markers), prepositions and ideophones are examined. Reduplication of lexical items, and tone spreading in lexical items (including reduplicated lexical items) are also discussed.

The pattern of Yorùbá tone across word boundaries is the subject of discussion in Chapter Five. Tonal patterns discussed here include those of Noun + Noun, and Verb + Noun combinations. At this stage, the conventions involving Linking, Delinking and Relinking processes are explained in relation to the data provided. Other issues involving floating tones, delinking and relinking as well as spreading across word boundaries are also discussed. Tonal patterns observed in Chapters Four and Five lead us to a different conclusion from Archangeli (1984:35) :

> Pulleyblank (1983) discusses tonal phenomena in Yorùbá where High and Low are mentioned in the structural description and change of rules throughout the phonology, BUT MID TONE IS NEVER MENTIONED. (Emphasis mine BAO)

The theories of HRT, MTH and TU are the main focus of Chapter Six. HRT and MTH are tested against Yorùbá data to demonstrate the strength and the weakness of their claims on the basis of language-specific details. The proposals and claims of TU with respect to a two-tone analysis of Yorùbá are also examined. The subject matter of Chapter Seven is deletion. Various processes that have been named 'tone deletion' are examined and the data reveal that tone deletion proper is different from certain other processes. Chapter Eight discusses some residual problems relating to polarity in a three-term tone language, and, a list of rules preceded by a short comment on rule ordering concludes the thesis.

1.1.1 THE DATA

Three main sources form the data for this analysis: literary works, in which I interpret the tone marks in an orthographical representation that conforms with standard written Yorùbá; earlier descriptions of the language, where the description is that of standard Yorùbá; and my native speaker's intuition concerning Standard Yorùbá. (fn.10) These main sources are, however, supplemented with recordings of Yorùbá available in SOAS, a book on

conversational Yorùbá which I have used (and am still using) for teaching Standard Yorùbá to foreigners (also available on tape), and discussion with other native speakers.

FOOTNOTES TO CHAPTER ONE.

1 Crowther, (1843,1852) is widely accepted as the earliest serious documented study of the Yorùbá Language.

2 See Àjàyí, (1960).

3 An example is Olmsted, (1951) which identified nine 'tonemes' or tones in Yorùbá.

4 At least two scholars qualify here: 1. Bámgbóṣé, (1966) was written within a prosodist analysis of the pre-1965 Halliday school of thought, this is evident in his other publications of the 1960s. 2. Carnochan, (1964) was also written within the framework of Prosodic Analysis.

5 Oyèláràn (1971:79). This quotation is from his discussion of phonological rules--(P-Rules). Courtenay (1969) devoted the whole of her Chapter Four to a discussion of Tone, and worked out details of terracing and downstep in Yorùbá, but the fundamental issue of how tone was handled within GP is still the same. Thus she, too, treated tone features essentially as inherent features of the vowel segments.

6 The details of the role and nature of tonal default rules, how they are determined in a variety of languages and their incorporation into the whole model of phonology is not discussed here. (cf Pulleyblank(1983) for illustration from a number of tone languages, Archangeli (1984) for non-tonal feature underspecification and Akinlabí (1985) for details of underspecification in Yorùbá.

7 There is clear evidence within the literature that non-linear treatments of phonological features existed before Goldsmith (1976) but he had the credit of providing a clear definition and explanation of the theory.

8 Given this fact about autosegmental phonology, the term 'nonlinear' is not entirely appropriate.

9 Two analyses of Yorùbá that make use of the autosegmental framework in parts are those of Pulleyblank (1983) and Akinlabí (1985). Judging from the content of these works they are better described as "underspecified autosegmental" rather than "autosegmental" to use Archangeli's words - Archangeli (1984:29).

10 The present writer is a native of Ọdẹ-Òmu, Ọ̀yọ́ state, Nigeria. He had his primary education in Ọdẹ-Òmu, Èjìgbò, and Ṣọ́mọ́lú - Lagos. His secondary school education was in Mọdákẹ́kẹ́ and university education in the University of Ifẹ̀, Ilé-Ifẹ̀ while still living in Mọdákẹ́kẹ́. The Ọdẹ-Òmu people, just like the Mọdákẹ́kẹ́s (because they share the same origin), speak a variety of Ọ̀yọ́ dialect, and the Ọ̀yọ́ dialect is the closest to standard Yorùbá. This speaker has another advantage in having had his university education in Yorùbá - leading to his B.A. (Hons) in Yorùbá - Ifẹ̀ 1980. Also, with the experience gained when writing a long essay on the Ìkàrẹ́ dialect of Yorùbá, and from interactions with speakers of other dialects, he is easily able to identify standard Yorùbá from other varieties.

CHAPTER TWO

THE LANGUAGE

2.0 INTRODUCTION

Many scholars who have worked at one time or another on Yorùbá have supplied useful information about the language and its speakers (fn.1). About two decades ago, Bámgbóṣé (1966:2) said that Yorùbá--which he referred to as a 'dialect continuum' (adopting the term from Hill (1958) to mean 'a group of geographically contiguous and linguistically related dialects')--was spoken by the people

> in the area which covers Western Nigeria and Lagos, the Ilọrin province of Northern Nigeria and the country, Dahomey. It comprises about twenty dialects such as Ìjẹ̀bú, Ẹ̀gbá, Ìjẹ̀ṣà, Ọ̀yọ́, Ọ̀wọ̀, Ọ̀ndó, each of which differs considerably from the other phonologically and lexically, and, to some extent, grammatically.

Also, Adétugbó (1967:1) and Oyèláràn (1971:22) described Yorùbá as belonging to the Kwa group--which is found on the West coast of Africa from Eastern Sierra-Leone to Eastern Nigeria--of the Niger-Congo family , relying on Greenberg's (1966) classification of the languages of Africa. Oyèláràn gave a further description of the area in which Yorùbá was spoken. There is a slight modification to be made to these details in the light of the facts of

today. In 1976, as a result of the Federal Military Government's decision on the issue of the creation of states (fn.2), Nigeria was split into nineteen states from the existing twelve (fn.3). The result is that with the new designation of states, Yorùbá is now mainly spoken in Lagos, Ògùn, Oǹdó, and Ọ̀yọ́ states as well as in quite a large part of Kwara state of the present-day Federal Republic of Nigeria (fn.4).

As it has been rightly claimed, Yorùbá is still spoken in parts of Dahomey--now the Republic of Bini (See Siertsema (1958:356) and Bámgbóṣé (1966:2).) There are also some Yorùbá in diaspora. According to Bascom (1951) and subsequently Olmsted (1953), Lukumi or Lucumi--the name by which the Yorùbá speaking people of Cuba and their language are known--is derived from Yorùbá. Abímbọ́lá (1976 / 77) further claimed that there are Yorùbás in Bahia, Brazil, and Oyèláràn mentioned the fact that Yorùbá is spoken as a first language by settled emigrants in the maritime countries of West Africa. This, to him, reflects the importance of the language.

2.1 NUMBER OF SPEAKERS

The estimated number of speakers of Yorùbá, put at 3,000,000 (fn.5) by the Church Missionary House in 1852 (fn.6), has increased tremendously by the 1980s. After the 1852 figures, the next set of figures to appear after one hundred years, was quite different from the former ones

(fn.7), but subsequent figures look very similar. They vary from "upwards of ten million", Rowlands (1969:1), "about 10.2 million", Adétugbó (1967:1), "about twelve million", Bámgbóṣé (1966:2), to an estimate of "13.3 millions", Oyèláràn (1971:22). Oyèláràn, however, hastened to add that:

> the state of demographic data in Africa is such that one should accept all these figures (the figures he quoted, that is) with caution. ....(fn.8).

This issue of demographic data raised by Oyèláràn was a concern of Ekanem (1972:8) who fully explained the problems in his discussion of 'Limitations and deficiencies of census data in Developing countries'. Some of the problems highlighted by Ekanem (fn.9) are relevant to the 1973 census in Nigeria. As far as I know, there are not many comments about the 1973 census, but it is believed to be unreliable (fn.10). Goyer's (1980:381) comment about it was :-

> Tne results of the 1973 census were cancelled.

The Nigerian High Commission, London (ND) (fn.11) has the following to say on population :

> The projected population of Nigeria in 1975 based on the 1963 census figure was 70 million.

Probably that is the reason why the data considered in 1976

at the time of the creation of the new states looks as though it was based on the 1963 census. At present, there is no accurate figure for the number of Yorùbá speaking people of Nigeria. However, if one considers the percentage increase between 1953 and 1963, which was up to 409% in cities like Ilọrin and 539% in Ado-Ekiti (fn.12), and bears in mind the speculations about population explosion in Africa (fn.13), one may then postulate that the Yorùbá speaking people will probably number about twenty million by now - 1988.

2.2 PREVIOUS STUDIES OF YORÙBÁ TONE

Given the number of publications on African languages in general, West African languages, and more specifically Yorùbá, I assume that I do not need to prove that Yorùbá is a tone language. I assume also that Yorùbá is not just a tone language, it is what some linguists have called a 'true tone language' (fn.14).

The nature of the analyses available of Yorùbá tone makes it very difficult to classify them into groups in the fashion employed in Awóbulúyì (1964) with respect to what he called Yorùbá phonology and morphophonemics. Until recently, tone has not been given much attention compared with other aspects of the phonology and of the syntactic structure of Yorùbá. While these other aspects of the language are analysed within some specific theoretical framework, the issue of tone is either completely omitted

or briefly mentioned only when it becomes obvious that an explanation will not go through without an analysis of the tonal process involved. At last, however, we have a framework that provides an adequate attention to the issue of tone.

If one is to start from Crowther (1843, 1852) and run through the list of different statements / analyses of Yorùbá tone up to Akinlabí (1985), and assign them into groups, one is likely to create a wrong impression that the groupings will involve a progression from a set of very bad books / articles to a set of relatively good ones. However, while some statements made by Crowther (1852:3), Bowen (1958:5) and Johnson (1921:xxix)--written 1897--are still valid today, there are also statements by Olmsted (1951), Bowen (1958) (same as above) and Akinlabí (1985), for example, which give inadequate accounts of the tones of Yorùbá. Therefore judging the different analyses / statements about Yorùbá tone to date, I see the whole issue as involving a gradual progression of understanding and explication of the different tonal processes. A large proportion of the previous views on Yorùbá tone are extremely valuable. Even when certain statements are inadequate and sometimes misleading, they help future researchers to be more accurate.

2.3 CONTROVERSIAL VS NON-CONTROVERSIAL AREAS OF YORÙBÁ TONE

All the analyses and statements about Yorùbá tone agree on the fact that there is a three-way tonal contrast in the language. The controversial aspect is how to handle the three tones, and their phonetic realizations, within a phonological analysis. Rowlands (1955) first noted that mid and high tones are most of the time not contrastive. He derived this inspiration from Ward's observations. However, Rowlands' suggestion that the mid and the high are not perceptually different is questionable in the face of the mass of analyses--including experimental analyses--available in the literature (cf. La Velle (1974), Hombert (1976c, 1977), Davies (1987) and Essien (in preparation)).

Another controversial issue is that raised by Stahlke (1974) about the possibility of the three tones of Yorùbá arising from two historically. He observed that the M and the L alternate in peculiar ways as opposed to H and M. He then suggested that the tonal pattern in Yorùbá be seen as involving a contrast

> between just high and a non-high tone rather than between high, mid and low tones (Stahlke 1974:139).

In Pulleyblank (1983, 1986), the M is underspecified because, in line with the universal assumptions of TU

theory, M in Yorùbá is allegedly the 'predictable' tone which needs no specification underlyingly. Akinlabí (1985) not only sees the M as the predictable tone, but as 'tonelessness'. This issue of the M is therefore the major controversy. Other minor ones concern the phonetic realization of H, M and L in certain contexts. Apparently there is confusion in the claims cited above. The four ideas expressed above can be summarized as follows: 1) Non-low vs Low; 2) High vs non-high; 3) H, (M), L--where (M) is predictable; and 4) H, (M), L--where (M) = Ø underlyingly, but M at the surface.

2.3.1 THE PRESENT STUDY

The aim of the present study is to use data from Yorùbá to critically investigate the suggestion that there are two underlying tones in Yorùbá as referred to in 2.3. The issue of tonal underspecification, especially with reference to the 'predictability' or 'tonelessness' of the M is critically examined. To achieve this I focus on tonal processes, in grammatical categories and across word boundaries, for evidence in support of my claim that H, M and L are underlying tones in Yorùbá and that they are to be analysed as such. The earlier view of analysing Yorùbá as having H, M and L underlyingly is employed in this study.

S U M M A R Y

I started this chapter with a brief introduction to Yorùbá, where it is spoken, and an estimate of the number of speakers. Then I turned to previous studies of tone, and referred to the analyses of Yorùbá tone in the literature as exhibiting a progression of enlightenment on the subject. Next, I mentioned the uncontroversial aspects of Yorùbá tone as evidenced in the literature, and pin-pointed a number of controversial issues relating to the mid tone and the theoretical problems involved in its analysis. In conclusion, the aims of this study were defined.

FOOTNOTES TO CHAPTER TWO.

1 See for instance Crowther (1852:1A) who gave a rough impressionistic description of the extent of the Yorùbá speaking area about the time he wrote his book. Also, see Johnson (1921:xix) who between 1899 and 1916 gave his own description of the territories occupied by Yorùbá, including degrees latitude and longitude in his geographical description.

2 See Federal Ministry of Information's 1976 publication of the Federal Government's views on the report of the panel on creation of states.

3 The Federal capital territory now makes the twentieth state as at the time of writing. However, just before this thesis is concluded, two more states were created. Thus, there are now twenty one states.

4 Adéwọlé (In press) used the term "LOOKO" to refer to Lagos, Ọ̀yọ́, Ògùn, Kwárà and Onḍó states.

5 This fact was extracted from "ADVERTISEMENT" signed by the Church Missionary House in April 12, 1852 and published in Crowther (1852:iii-iv). Also, see Olmsted (1951) whose estimate of 3 million speakers was based on the 1931 census.

6 Most probably, this figure was not based on any census as there was no reference to that effect, and the first census in Nigeria is reported to have been carried out in 1866. This was followed by the ones in 1869. Thereafter, they took place decennially until 1931. Since then there have been censuses in 1952 / 53, 1963, and most recently 1973. For these details about censuses see Ekanem (1972).

7 However, Siertsema (1958:356, 1959:42) gave an estimate of 4 million.

8 Oyèláràn (1971:22-23) actually had a tabulation of 9.5 million for the Western state, 1.4 million for Lagos state and 2.4 million for Kwárà state. His source of the figures was West Africa of April 27, 1968.

9 Some of these problems include inaccuracies because the tradition of census taking is not firmly established, technically qualified personnel for planning and field operation are scarce, the population is illiterate (thus suspicious of official inquiries and unaccustomed to statistical reporting), facilities for transportation and communication are

poor, and financial resources available for the census are meagre.

10 See Adamu (1978:1, 41) for his comments on the unreliability of Nigerian statistical data.

11 See NIGERIA: The basic facts published by the Nigerian High Commision London (ND p.7).

12 These figures are from Ekanem (1973:63).

13 See Vol. 50 No. 1 of The Plain Truth for an article entitled "Why Overpopulation Threatens Africa" published in January, 1985.

14 A 'true tone language' has been defined as one in which tonal information is part of the lexical representation of words and morphemes, and in which accent plays no lexical role. See Voorhoeve (1973:1-4) and Clements and Goldsmith (1984:12-13).

CHAPTER THREE

THEORETICAL FRAMEWORK

3.0 INTRODUCTION

In this chapter, I shall examine the significance of applying one of the recent theories of phonology, i.e. Autosegmental Phonology, to the facts of Yorùbá tone. To do this effectively, I shall consider some of the claims of the theory and briefly review its application to a number of languages including Yorùbá.

3.1 AUTOSEGMENTAL PHONOLOGY

Although the original and rudimentary ideas behind a non-linear treatment of phonological features have been traced to earlier work (fn.1), the theory of AP was first clearly defined and well explained by Goldsmith (1976a,b). As rightly noted by Halle and Vergnaud (1982:65),

> Multi-line phonological representations have standardly been used in notating the tonal characteristics of utterances, and in such representations the tones of an utterance have frequently been written on a separate line above the speech sounds that compose the utterance.

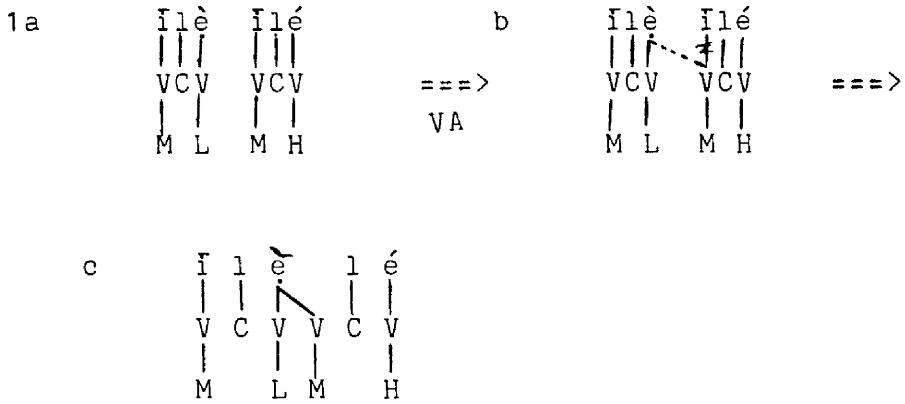
The general claim and essential contribution of AP is in recognizing separate levels of representation in such a way that, within this theory, tones, for instance, are not seen as diacritics or features of vowels or syllables:

> rather the tones are viewed as constituting an autonomous (hence 'autosegmental'--BAO) sequence of entities, separate from and equal to the sequence of consonants and vowels that make up ..... the phonemic core of the utterance. (Halle & Vergnaud 1982:65)

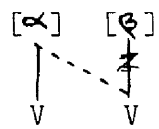
The motivation for Goldsmith's proposals was drawn from various tonal phenomena in a number of African languages which are either difficult or impossible to handle within the standard generative framework, but which are easy to represent if the framework of AP is adopted. One such phenomenon is 'tone stability'. This is the tendency of a tonal feature value to persist despite the erasure of the major segments (generally vowel segments) which appeared to have borne that feature. It sometimes occurs in tone languages that a tone-bearing segment may be deleted or desyllabified by a phonological rule, but the tonal features remain. The question then is why, if the tonal features, for instance, were really part of the segments on which they are realized, they were not deleted with the segments. Consider the Yorùbá example in 1a, b and c below, where Ìlè 'land' + Ìlé 'house' becomes Ìlèẹ̀lé 'a plot of land' as a result of vowel assimilation, but the tones remain the same. I will seize this opportunity to use the examples in 1 and 2 as illustrations of the way in

which the terms 'link' or 'associate', 'delink' or 'disassociate', 'relink', spreading and spreading-cum-delinking are used in this thesis.

In 1a and 2a, the levels of representation are underlyingly separate (cf. 3.1.1). As a result, this stage is an output of a language-specific rule that links tonal autosegments with tone-bearing units in one-to-one fashion, from left to right (also cf. 3.1.1). Therefore, at this stage the vowel segments and the tonal autosegments are already linked or associated by a general convention. (However, if a word of more than one syllable is monotonic underlyingly, a single tonal autosegment is analysed as being distributed over the available TBUs). In 1b, as a result of Vowel Assimilation (VA), the features of the last vowel of the first noun spreads to the V-slot of the second noun. This process is also responsible for the association between this V-slot and the featutes of its vowel being severed. Processes similar to this have been called 'spreading-cum-delinking' in the literature. In 2b on the other hand, as a result of Vowel Deletion (VD) which obliterates both the vowel features and its V-slot, a H is left floating. This (H) is not deleted but reassociated by a High Tone Relinking rule (H-RLK) in 2c. This relinking also severs the relationship between the initial V-slot of the noun and the original M, thus, M is delinked or disassociated. 1c gives the representation when / i / has been assimilated and 2d is the representation when M has been deleted.



The vowel assimilation rule for 1a is formalised as



Notice that the duration of ẹ̀ẹ̄ is not that of a single vowel but that of a sequence of two vowels. In other words, the vowel / i / of Ìlé assimilates to the vowel / ẹ / of Ìlè. If L and M are truly features of / ẹ / and / i /, respectively, we would expect M to assimilate to L, thus yielding LL for ẹ̀ẹ̄ (fn.2). However, the tonal pattern remains MLMH, i.e. the tones are stable despite the assimilation of vowel quality. A case where a vowel is deleted but the corresponding tone is retained is provided by verb + noun object constructions of the kind kó 'pack' + ẹ̄rù 'load', as illustrated in 2. The issue of which vowel is assimilated to which or which vowel is deleted when two vowels are in contact is beyond the scope of the present study (See Bádéjo

(1986) and Akinlabí (1986) for the most recent views on this issues). In this study, I simply take the position that VA and VD can affect the final or the initial vowel in contact. The rule for the VD in 2 is formalised as

V ===> Ø / - V

```
2a  kó    ērù   ===> b     k     ērù   ===>
    ||    ̣|||    VD       |     ̣|||  H-RLK.
    CV    VCV              C     VCV
     |     | |                   | |
     H     M L              (H)  M L

c  k     ērù   ===>  d  kérù
   |     ̣|||            ||||
   C     VCV            CVCV
         ≠ |             | |
   (H)  (M) L            H L
         ¢
```

At different stages, / o / of <u>kó</u> is deleted, leaving the H behind, and M of / ẹ̄ / in <u>ērù</u> is deleted, leaving / ẹ / behind for the delinked H to finally relink to, to give the correct surface form. In 2a, the vowel of the first syllable has the duration of only a single vowel. The point is that when the vowel / o / is lost, the tone it would otherwise bear, and which one might expect to have been lost with it, remains (cf.2b).

Another relevant phenomenon is that of contour tones. Goldsmith (1976b:16-23) argued that the representation of contour tones, i.e. falling (HL) and rising (LH) tones would be inadequate within the SPE framework where tones

are considered to be part of a segment's feature specification. If a short vowel 'bears' a contour tone, it would have the conflicting specification of [+Low Tone] and [+High Tone] which is in principle contradictory, and thus impossible within the model (fn.3). In AP, separate tiers are recognized for tones and segments (fn.4), and as such, there is nothing to prevent a Low Tone and a High Tone (two level tones) from being linked to one short vowel. Therefore within AP, there is a more adequate provision for the representation of a contour tone on, say, a short vowel.

One other motivation for autosegmental representation, and the last one to be discussed here is that of 'melody levels' and 'floating tones'. Goldsmith (1976b:20-50) noted that in some tone languages--e.g. Tiv (cf p 35-45)--certain grammatical constructions and categories--e.g. tenses--are realized as particular tonal melodies irrespective of the morphemes that carry the melodies in a given instance. (See also Yip (1980), Ch. 1). As a result, there are linguistic generalizations to be made that involve restricting our attention to just the features of tone. This would be difficult to achieve within a theory that strictly associates tones with segments. Similarly, the notion of 'floating tone'--i.e. a segment underlyingly specified only for tone but eventually realized at the surface level with a vowel segment by the application of tone rule(s)--is rigorously defended by the AP model. Such cases of 'segmentless tones' and the

converse, i.e. cases of morphemes that have tone-bearing units such as vowels, but lack tones--'toneless segments'--are collectively termed "defective" morphemes. These phenomena are problematic for the SPE framework. The provision within AP for representation on separate tiers makes it straightforward to posit an unlinked 'vowelless tone' or an unlinked 'toneless' morpheme.

3.1.1 ASSOCIATION PRINCIPLES AND THE WELL-FORMEDNESS CONDITION

It is assumed in AP that tones and tone-bearing units are unassociated underlyingly. The underlying representation of a lexical item will typically be as in (3).

3 $\begin{bmatrix} U\ U\ U\ U \\ \\ T\ T\ T\ T \end{bmatrix}$ (fn.5) <=== Segment(al) Tier

<=== Tonal Tier

These two levels of underlying representation are 'connected' by 'association lines' which are governed by language specific association conventions and the Universal Well-formedness condition. Originally, there was the Well-formedness condition alone, as formulated by Goldsmith (1976b:27).

4 Well-formedness Condition (Initial statement)

1a All vowels are associated with at least one tone

b All tones are associated with at least one vowel.

2 Association lines do not cross.

This is what Goldsmith provided us with for the linking of tones to the tone-bearing units. However, there are certain additional assumptions about the association of tones with tone-bearing units. They include the following: The linking of tone to segments procedes from left to right, associating the first segment to the first tone, the second segment to the second tone, and so on, unless othwerwise stated; association lines may be added or deleted if a representation is ill-formed; if there are more tone-bearing units than tones, the last tone automatically spreads to the remaining tone-bearing units, and if there are more tones than tone-bearing units, all remaining tones link automatically to the last tone-bearing unit. This is what can be referred to as the standard theory of autosegmental phonology.

Research later revealed that a number of amendments are necessary to both the well-formedness condition and the assumptions behind it. For instance van der Hulst and Smith (1982:14) claimed that the WFC in (4), (especially 4 (1a and b)), "is both too weak and too strong". The "too weak" suggestion was made because, if the convention is applied without any further assumptions to the representation in (5), (4) would allow any of (5b), (5c) or (5d). However, the assumption that there is a one-to-one association from left-to-right until either tones or

tone-bearing units run out, whereupon all the left-over tones / TBUs are associated with the last TBU / tone (respectively) would choose (5b) alone as "correct". On the other hand, the "too strong" suggestion is supported by the fact that not all languages conform to the assumption just mentioned above. Halle and Vergnaud (1982:66ff) and van der Hulst and Smith (1982:14-15) pointed out that "left-over" tones are sometimes just not realised, rather than automatically associated with the last TBU.

5a
```
[ U U U ]
[       ]
[T T T T]
```
b
```
[ U U U ]
[ / / /\]
[T T T T]
```
c
```
[ U U U ]
[ / /\ \]
[T T T T]
```
d
```
[ U U U ]
[ /\ \ \]
[T T T T]
```

Clements and Ford (1979) also proposed that language-specific rules should specify the occurrence of contour tones since in some languages "left-over" tones are simply not realised with the result that contour tones are not found. Halle and Vergnaud (1982) in fact argued that Williams' (1971:469) Tone Mapping Rules are to be preferred to Goldsmith's well-formedness condition, as long as a provision is made to the effect that more than one tone may be assigned to the last vowel if the grammar of the language includes a stipulation to that effect. In other words, if the representation of one-to-one assignment of tones to TBUs runs out of "vowels or syllabic elements or syllables", more than one tone may be assigned to the last vowel only as this agrees with the grammar of the specific language in question. The claim that the WFC is weak is

also supported by the fact that Goldsmith had to supplement it with a special tone linking rule that has the effect of associating tones and vowels one-to-one and from left to right (cf. p. 67). Halle and Vergnaud finally provide further illustration with evidence from Tonga and suggested that the WFC should be replaced by the Tone Mapping Rules (cf. p. 82). One advantage of this position is that while the WFC requires all tones to be associated with some TBU, and therefore does not allow the possibility of a tone having no phonetic realisation, the Tone Mapping Rules make provision for such unrealisable segments. The Tone Mapping Rules can thus be seen as being more general than the WFC. The Tone Mapping Rules can also be seen as universally applicable providing that they are combined with language-specific rules specifying, for example, that a particular language operates with 'accent' and that the latter is realised in a particular way.

Tonga is less of a tone language and more of a pitch-accent language than Yorùbá. However, this difference is irrelevant as far as the Tone Mapping Rules are concerned if the language-specific detail of Yorùbá is taken into consideration. Probably this is the reason why Pulleyblank (1983, 1986) and subsequently Akinlabí (1985) adopted only the particular aspects of the Tone Mapping Rules that suit the grammar of Yorùbá, and retained the aspect of the WFC that is indisputable. This proposal is also adopted in this thesis with a slight modification to the name given to the WFC as explained below.

6 Association Conventions:

Map a sequence of tones onto a sequence of tone-bearing units:

(a) From left to right

(b) In a one to one relation

7 Well-formedness Condition (WFC)

Association lines do not cross.

In essence, the formulations are a combination of Williams' (1971) mapping procedures a & b, and Goldsmith's Well-formedness Condition 2, the only one that has thus far survived criticisms. Notice that the Association Conventions in (6a) and (6b) are also susceptible to the same criticism labelled at Goldsmith's, i.e. that of not specifying how to choose between (5b), (5c) and (5a). However, this criticism will be valid only if this convention is seen as a universal one. In this case, it is essentially not different from those of Goldsmith. If on the other hand they are seen as part of the Tone Mapping Rules with language-specific details to suit a particular language under consideration--in this case Yorùbá--they are free of all such criticisms.

The original ideas behind present-day autosegmental

theory can be found in Williams (1976), written 1971, and in Goldsmith (1975,1976a), but the full explanations, extensions and criticisms have appeared in various publications, including: Goldsmith (1976b,1979,1981,1983, 1985); Clements (1977,1983,1984); Clements and Ford (1979); Clements and Goldsmith (1982,1984); Clements and Keyser (1983); Halle and Vergnaud (1982); Odden (1984); Pulleyblank (1983, 1986); Akinlabí (1985); Mtenje (1985,1986); and Ufomata (1986).

3.1.2 THE EXTENSION OF AUTOSEGMENTAL PHONOLOGY

AP was originally proposed to handle certain tonal processes in African languages. In other words, the study of tone provided the main impetus for its development. According to van der Hulst and Smith (1985:13),

> its application in this area has convinced many more phonologists than its application in other areas such as vowel harmony.

However, the theory has been extended in its applications to a number of other processes and has been reported to have produced fruitful results, as is also apparent from Halle and Vergnaud's (1982:65) comment:

> One of the most productive developments in phonology of the last decade has been the emergence of autosegmental phonology.

The theory now copes well with vowel harmony systems:

Goldsmith (1976b), Clements (1977), Halle and Vergnaud (1982), Mtenje (1985,1986), Ufomata (1986); accentual or pitch accent systems: Haraguchi (1976), Goldsmith (1983), Clements and Ford (1979), and further references in Clements and Goldsmith (ed) (1984); syllabification: McCarthy (1979, 1981), Mtenje (1986); Compensatory lengthening: Leben (1980), Mtenje (1985, 1986); Semitic phonology and non-concatenative morphology: McCarthy (1979, 1981), Hayward (1986); reduplication: Marantz (1982), Yip (1980, 1982); tiered structure of the syllable or tiered phonology: Clements and Keyser (1983); and language games or secret languages and speech errors: Haraguchi (1976), Becker (1979), Yip (1982), McCarthy (1985), and Oyètádé (1986) (fn.6).

With particular reference to Yorùbá, attempts have been made to apply the theory to vowel harmony systems and language games, as cited above, apart from the tonal analyses. On tone, there are quite a number of phonological processes in Yorùbá that clearly demonstrate the autonomous nature of its tones. Akinlabí (1985) for example devoted the whole of his Chapter Two to "Autosegmental theory and the autonomy of Yorùbá tone", using illustrations from vowel assimilation and vowel deletion in relation to the tonal autosegments.

S U M M A R Y

In this chapter, we examined the theoretical framework upon which this analysis is based. The notion of 'nonlinear' phonology was discussed. Then autosegmental phonology was singled out and discussed in some detail. The various applications and extensions of the model were mentioned with respect to other phenomena apart from tone both in Yorùbá and in a number of other languages.

FOOTNOTES TO CHAPTER THREE

1 These works include Zellig Harris (1944) and Bloch (1948)--which are now seen by a number of phonologists as the earliest versions of nonlinear analyses; J.R. Firth and the Firthian school (1948)--within prosodic phonology; and, more recently, those of Woo (1969)--which Yip regards as falling within the SPE framework, Williams (1971) published 1976, and Leben (1971)--within suprasegmental phonology.

2 If this happens, it will yield the unacceptable *Ìlèèlé = MLLH. If the MLMH pattern is altered at all, the acceptable pattern would be MMMH which is possible in some idiolects. If this happens, then the tonal assimilation is regressive, while the vowel assimilation is progressive i.e. if we limit our attention to the vowel segments and tonal autosegments in contact alone. This in fact is further evidence that the tone is NOT a feature of the vowel as it needs to be accounted for separately.

3 This argument however does not consider a case where a rising or a falling tone is seen as a single tone. The argument presupposes that a contour tone is the concatenation of two level tones.

4 By 'segments' here I mean consonants and vowels only and not segments plus 'suprasegmental or prosodic' features in the SPE sense. I shall constantly refer to consonants and vowels as 'segments' and tonal properties as 'tonal autosegments' or simply tone(s). Since in line with the assumptions of AP every tier is made up of 'independent segments', it is therefore a convenient abbreviation to use 'segment' to mean 'consonant / vowel segment'. It is thus not implied that it is contrary to the spirit of AP to use 'segment' to refer to consonant and vowel segments specifically.

5 'U' stands for tone-bearing unit, 'T' stands for tone, and the square brackets demarcate the domain for the application of the well-formedness condition and the association convention(s)--which may be a morpheme, a word or a phrase.

6 This paper on the autosegmental analysis of enà: language games in Yorùbá was presented at the Autumn Conference of the LAGB., Edinburgh Sept. 24-26 1986.

CHAPTER FOUR

TONAL PATTERNS IN LEXICAL ITEMS

4.0 INTRODUCTION

In this chapter, I shall examine the different tonal patterns that are possible in Yorùbá lexical items. To this effect, the grammatical categories in the language will be examined. These will include verbs (together with all modifiers of verbs such as aspect markers, 'pre-verbs', 'post-verbs' and adverbs or modifiers), Nouns and Pronouns, Adjectives or Qualifiers, and Prepositions. Ideophones, which are frequently defined in a way which cuts across other word classes will also be considered. Finally, reduplication and spreading of tonal autosegments in words will be looked into.

4.1 TONE IN VERBS

In Yorùbá, a verb is a word that can serve as a predicator, i.e. a word that occurs either immediately after the subject or between the subject and the object--if there is any--in a sentence (see Awóbulúyì (1978:45)). Yorùbá verbs have various shapes both in terms of syllable structure and in terms of tonal pattern. Within the autosegmental model, sequences of identical segments (e.g.

two low tones) are usually avoided. Such sequences are assumed to be marked. As a result, if in the course of a derivation two identical tones come to stand next to each other they will be collapsed automatically into one 'segment'. This principle is referred to as Obligatory Contour Principle (OCP) (cf. Hulst and Smith 1982a:8,40). I assume the correctness of this position and represent all the words of more than one syllable having sequences of monotone underlyingly with a single tonal segment distributed over the available number of syllables.

4.1.1 MONOSYLLABIC VERBS

The basic verb stem in Yorùbá is monosyllabic. H, M, or L may be found on such verbs. Consider the following:

1 kí as in ādé kí ākīn

H M H H M

'greet' personal name 'greet' personal name

= 'Adé greet(s)(ed) Akin.'

2 kī as in ó kī

M H M

'to be thick' 'it be thick' (fn.1)

= 'it is thick'

3 kì (fn.2) as in ó kì mí gìrì

L H L H L

'to grip' '(s)he / it gripped me suddenly'

That the examples in 1-3 are not isolated cases is supported by the following set of examples in 4-6 where the difference in the meaning of the verbs depends on the differences in tone.

4 HIGH TONE VERBS

a kọ́ 'teach / build'
b rá 'disappear'
c yá 'to be quick / borrow'
d sún 'move'
e yọ́ 'melt / sneak'
f wó 'collapse'
g sín 'sneeze'

5 MID TONE VERBS

a kọ̄ 'write / crow'
b rā 'rub'
c yā 'to tear / to break forth'
d sūn 'to spring out from / roast'
e yọ̄ 'escape / come out of / remove'
f wō 'be stiff'
g sīn 'bury'

6 LOW TONE VERBS (fn.3)

a kọ̀ 'refuse / reject / divorce'
b rà 'buy / decay'
c yà 'branch / draw / become'
d sùn 'sleep'
e yọ̀ 'rejoice / slip / slide'
f wò 'look'

g sìn 'worship / look after (as in the case of a pet) / see off'

4.1.2 DISYLLABIC VERBS

There are some disyllabic verbs in the language. If a disyllabic verb serves as a predicator, as described in 4.1, it is almost always either a combination of a verb, and a noun (whose original form may or may not be known), or a combination of two monosyllabic verbs. Consider the following, for example:

7 a. gbàgbě 'to forget' <=== gbà + Ùgbé (fn.4)

b. rántí 'to remember' <=== rán + ētí

c. jókǒ 'sit down' <=== jó + Ùkó

d. jádē 'go out' <=== já + òdē

e. kúnlẹ̀ 'kneel (down)' <=== kún + Ìlẹ̀

f. sụ̄bú 'fall (down)' <=== sụ̄ + Ìbú

8 a. pādé 'close / shut' <== pā + dé
M H M H

b. túká 'disperse / scatter' <== tú + ká
H H H H

c. réjē 'cheat / swindle' <== ré + jē
H M H M

d. gbàgbó 'believe' <== gbà + gbó
L H L H

e. bèwò 'visit' <== bè + wò
L L L L

The items in 7 result from Verb + Noun combinations and are referred to as complex verbs, while those in 8 are Verb + Verb combinations and are called splitting verbs. The name 'splitting' is derived from the fact that these verbs split into halves and that the object, if there is any, instead of following the whole verb, is inserted between the halves. In 7 and 8, which are by no means all the possible tonal patterns, each of the three tones can be realized on any one of the syllables and the representation in AP terms will be as shown in (8) above, which is similar to that provided in footnote 3.

4.1.3 TRISYLLABIC AND QUADRISYLLABIC VERBS

There are some trisyllabic and quadrisyllabic items in the language that can function as verbs. Consider the following:

9a. wàhálà (L H L) 'to bother'

b. dúńbú (H) 'to slaughter'

10a. dààmú (L H) 'to worry / be worried'

b. fòòró (L H) 'to subject to stress'

c. gẹ̄lẹ̄tẹ̄ (M) 'to be idle / unoccupied'

d. gààrí (L H) 'to cater for / feed'

11a. wáànì (HL) 'to crank up an engine / to wind'

b. písíìsì (H L) 'to take to pieces. (e.g. of a car/lorry engine)'

c. bírééki (H L) 'to apply the breaks'

d. ṣóòki (HL) 'to make fast with chocks'

The examples in 9a and b are borrowed from Hausa.

While 9a functions as a noun and a verb in both Hausa and Yorùbá, 9b functions only as a verb in both Yorùbá and in at least one dialect of Hausa. 10a-c have no other function in the language than that of verbs. The origin of their trisyllabic structure is, however, not easily traceable. 10d is originally a noun in Yorùbá, but can now be used also as a verb. 11a-d are loans from English, where only 11a is originally a verb. Notice that only 11b and c are quadrisyllabic. No other verbs of similar structure nor any of more than four syllables are known to me.

4.2 TONE IN VERB-RELATED ITEMS

The items in this subsection include ones that have been discussed in the literature under varied nomenclature such as 'verbal particle', 'preverb' and 'postverb' (cf Bámgbọ́sẹ́ (1966:67-97)); 'pre / post-verbal adverbs / adverbials', (cf Awóbulúyì (1978:66-78)). Some of them have also been viewed as aspect / tense markers. Consider the following:

12a.	ń H	b.	tī M
	'-ing' (habitual action/ continuous action)		already completed action

c. lè
L

'may'

d. máā
HM

'shall / will' - habitual or continuous action

e. yóò
HL

'will / shall'

f. pàpà
L

'still'

g. kúkú
H

'had better / rather, indeed / anyway'

h. wūlè
M L

'in vain / to no avail'

i. jọ̄ / dìjọ̄
M L M

'together'

One important thing about these forms is that each is used before a verb in a sentence, and they add particular vital information to the meaning of a verb. For this reason some scholars have called them modifiers. Again, the tonal pattern can be H, M or L (cf 12a,b and c). Also, the pattern may be a combination of HM (cf 12d), HL (cf 12e), LL (cf 12f), HH (cf 12g), ML (cf 12h), or LM (cf 12i). It is also possible to have patterns such as LHL as in <u>mọ̀ọ́mọ̀</u> 'intentionally', or <u>dìídì</u> 'purposefully'; HLH as in <u>sábàá</u> 'usually' or <u>fẹ́rẹ̀ẹ́</u> 'almost', but I do not know any words in this category with HHH, LLL, MMM, or even with MM patterns.

4.3 TONE IN MODIFIERS

Any word that can add some information to the meaning of the verb is a modifier in the language. In a sense, all the items listed in 4.2 and others in that category are modifiers. The set of modifiers we are dealing with here are not pre / postverbs, rather they are those items that have traditionally been called adverbs. Functionally, some of these items could also be called ideophones or nouns. A representative set of examples is given in 13.

13a fòò (L) as in b ó pón fòò (H H L)

'bright in colour' 'it is bright red'

c gānān (M) as in d ó dùn gānān (H L M)

'very' 'it is very sweet / tasty'

e nīnī (M) as in f ó tūtù nīnī (H M L M)

'extremely (cold)' 'it is extremely cold'

g kōkō (M) as in h ó pón kōkō (H H M)

'extremely (dirty)' 'it is very dirty'

i bètèbētē as in j ó rò bètèbētē

L M H L L M

'excessively (soft)' 'it is too soft'

k sūū as in l wón pò lō sūū

M H L M M

'abundance in number' 'they are numerous'

m féú as in n ó gé ē féú

H H H M H

'(cut) suddenly' '(s)he / it cut it in a quick sudden manner'

o tínínrín as in p ó rí tínínrín

H H H H

'of a long and thin object' 'it is long and thin'

q rìrì as in r ó ń gbòn rìrì

L H H L L

'to shake or shiver in a fearfull manner' 'it is shivering feafully'

s félēfèlē as in t má tā félēfèlē

H M L M H M H M L M

'of wandering and untargetted walk' 'do not wander about'

u wòdùwòdù as in v wǫ́n ń jẹ̄ūn wòdùwòdù

L H H MM L

'of eating in greed and disorderliness' 'they are eating greedily'

Here also, we have LL, LLLL, LLMM, MM, HH, HMLM, HHH tonal patterns. There is also the possibility of HHHH as in pátápátá 'of a completed action', and MMMM as in rẹ̄pẹ̄tẹ̄tẹ̄ 'of being plenty'. Again, then, H, M and L freely occur on these items.

4.4 TONE IN NOUNS

A noun is any word that can serve as a subject or an object of a verb or object of a preposition. Nouns, like other grammatical categories, have been differently defined and classified by different scholars. A reexamination and / or justification of the classification is not within the scope of this study. Awóbulúyì (1978:7-26), for example, identified thirteen different classes of nouns in Yorùbá. They include what had up till then been treated as pronouns. I shall cite examples from the following classes of nouns recognised by Awóbulúyì: human, non-human, value, quantity, demonstrative, place, manner, relatival head, genitival head, interrogative, count, and mass nouns. These nouns may consist of one, two, three or even more syllables, and there is again a free combination of H, M and L in an unpredictable way. Consider the following examples.

14a ōmō
M
'child'

b Īlé
M H
'house'

c èjì
L
'two'

d òké
L H
'five shillings or fifty kobo'

e ōgbòn
M L
'thirty'

f èjē
L M
'seven'

g títí
H
'period of time'

h kíákíá
H
'quick manner'

i kìtàkìtà
L
'in struggling manner'

j ēgbèrīn
M L M
'two and a half pence'

k tóró
H
'three pence'

4.5 TONE IN QUALIFIERS

A qualifier in Yorùbá is a word or combination of words which qualifies a noun in a sentence. As a result,

words which belong to other grammatical categories, e.g. nouns or verb phrases, can freely be referred to as qualifiers. Since at this stage I am dealing with tonal patterns in lexical items, examples of 'qualifiers' will restrictively be drawn from grammatically simple items only. Some involving combinations of words will be examined later. Within Awóbulúyì's (1978:30-44) classification, qualifiers are subclassified into nine different classes using a wide range of criteria to establish the necessity of such classes. They include numerals--traditionally referred to as cardinal numerals and ordinal numerals, demonstratives, determiners, relative clauses, adjectives, appositive qualifiers, genitival qualifiers, topical qualifiers and interrogative qualifiers. Except for the sake of examining the tonal patterns in SOME of these items, there is no real need to operate with a separate class of 'qualifiers' since SOME of them involve a particular function of items which are assigned to other classes on the basis of their primary function. Again, I do not intend to justify or criticise this classification here. As long as the words in question serve as qualifiers, all that I am interested in at the moment is the tonal patterns on the words concerned. In this connection, it is evident again that H, M and L freely occur on these words and that they are also freely combined without there being any particular predictable way of knowing whether H, M or L is to occur. Consider the following examples in 15.

15a méjì
H L
'two'

b ìkējì
L M L
'second'

c ṣōṣō
M
'single'

d péré
H
'only'

e pàápàá
LH LH
'especially'

f gbōgbō
M
'every'

g rērē
M
'of good (character)'

h fūnfūn
M
'white'

i tí
H
'that / where / which'
(relative clause marker/
introducer)

j mímū
H M
'drinking'

k nī
M
'topical qualifier'

l ènìyàn
L
'person / people'

Except for 15f gbōgbō which may precede or follow the nouns it qualifies, all the qualifiers cited above follow the nouns they qualify in a sentence.

4.6 TONE IN 'PRONOMINALS' AND 'PRONOUNS'

What are referred to here as 'pronominals' and 'pronouns' are called 'human nouns' and 'polymorphic nouns' in Awóbulúyì (1978:11-13,22-25). His argument is that it is wrong to suggest that pronouns stand for nouns because there are a wide range of other words that stand for nouns but are not called pronouns. I retain the traditional usage. I agree with Awóbulúyì, however, that functionally they are nouns. Consider the following:

16

	SINGULAR	PLURAL
1st person	èmī L M 'I'	àwā L M 'we'
2nd person	ìwọ̄ L M 'you sg.'	ẹ̀yīn L M 'you plu.'
3rd person	òūn LM '(s)he / it'	àwọ̄n L M 'they'

The six words cited above are traditionally called (possesive) pronouns (cf Rowlands (1969:46)) and / or pronominals (cf Bámgbóṣé (1966:107)) because they are the only set of words that are differentiated and recognised in isolation for singular and plural in the language. As seen

in 16, their regular tonal pattern is LM (cf. 5.1 for more details).

There is also a set of 'pronouns' having different morphemic shapes and possibly derivable from the ones in 16. They are also six in number, but they are capable of having three different forms, depending on whether they function as subject, object or genitival qualifier. Consider the following, as outlined without tonal representation in Awóbulúyì (1978:22).

17

		SUBJECT	OBJECT	GENITIVAL QUALIFIER
SINGULAR	1	mō M	mī M	ìmī L M
	2	ō M	ẹ̄ M	ìrẹ̄ L M
	3	ó H	ī M	īrẹ̀ M L
PLURAL	1	ā M	wā M	īwā M
	2	ẹ̄ M	yīn / yín M H	īyín M H
	3	wọ́n H	wọ̄n M	īwọ̄n M

They have other shapes depending on which words they are combined with. For example before the future marker <u>(y)óò</u> 'shall / will' and negative marker <u>kò</u> 'not' they have the following shapes:

18

	SINGULAR	PLURAL
1st person	n̄	ā
	M	M
2nd person	ō	ẹ̄
	M	M
3rd person	(zero)	wọ̄n
		M

Before á 'will / shall' they are as follows:

19

	SINGULAR	PLURAL
1st person	mà	à
	L	L
2nd person	wà	ẹ̀
	L	L
3rd person	á	wọ́n
	H	H

Before ò 'not', they are of the shape in 18 except that the first person singular n̄ can also be mī.

The basic vowel form of the 3rd person singular object pronoun has been identified by Awóbulúyì as / i / specified

for the mid tone. This form changes quality with the context and takes the same form as that of the final vowel of the verb immediately preceding it. For example:

20a ó kí ĩ (s)he greeted him / her / it => ó kí ĩ
H H M H H M

b ó wò ĩ " looked at " => ó wò ó
H L M H L H

c ó pè ĩ " called " => ó pè é
H L M H L H

d ó pā ĩ " killed " => ó pā á
H M M H M H

e ó jẹ̄ ĩ " ate " => ó jẹ̄ ẹ́
H M M H M H

The vowel qualities for the 1st and 2nd person singular object pronouns, and 1st, 2nd and 3rd person plural object pronouns do not change. Tonally however, the underlying mid tone in all of the 1st, 2nd and 3rd person singular and plural pronoun objects is realized as H when the tone of the preceding verb is Low or Mid (cf 20b-e). If the tone of the verb is H, the tone of the object pronoun remains Mid, except for the 2nd person plural object pronoun which instead of surfacing as <u>yĩn</u> is realized as <u>ĩyín</u> in Standard Yorùbá. The second person

plural object pronoun has been identified as having two forms: yín or Ìyín which is also used as the 2nd person plural genitival qualifier (cf 17). The third form yìn is attested in certain dialects of Yorùbá (fn.5). The form Ìyín occurs after High tone verbs, yín after a Mid tone verb, and yín realized as yín after a Low tone verb (cf. the last sentence of fn.4 for details about the rising tone). In one of the dialects referred to above, yìn is the realization after a High tone verb as opposed to SY Ìyín. The form for M and L verbs in this dialect is as in SY.

It is the many shapes of these pronouns that motivated the term 'polymorphic' in Awóbulúyì's (1978:22) discussion of them. They have also been treated in the literature as clitics because among other things, they have long / full and short / reduced forms. In this case, the term 'clitics' will be applicable only to the shortened forms. By implication, it also means that the shortened forms are at a transitional stage between independent words and affixes--which to some extent appears to be so. If the use of this term implies that their pitch is predictable from the tones of neighbouring syllables, this is only true of the uses illustrated in 20 and would not be true of the forms in 17-19. In 17 there are four occurrences of H, three of L and eighteen of M. The examples in 18 are predominantly M. In 19 there are two occurrences of H, the rest four are Ls, and in 20, there is the interaction between High tone verbs and Mid tone pronoun object

clitics, on one hand, and Low and Mid-tone verbs and High-tone pronoun object clitics, on the other. It is clear, however, that the High, the Mid and the Low tones attested in these words and in the contexts described above need to be more carefully analysed.

4.7 TONE IN PREPOSITIONS

There is disagreement on how many prepositions there are in Yorùbá. Some scholars posit the seven items listed in 21, while at the same time pointing out that 21a, b and e are homophonous with verbs and that 21d also functions as a preverb. Others treat 21a, b and e as belonging only to the category of verbs.

21a fún (fn.6) 'to' b ní (fn.7) 'at / in'
H H

c fī 'with' d tī (fn.8) 'from'
M M

e bá (fn.9) 'for' f sí 'to'
H H

g pèlú 'by / with'
L H

All of them except 21g--which has been suspected to be derived from an untraceable verb plus noun combination, and

thus treated as a fixed compound verb by certain scholars--are monosyllabic. Also, except in 21g where we have a LH combination, they have either H or M tones. A monosyllabic low toned preposition is not attested.

4.8 TONE IN IDEOPHONES

Ideophones in Yorùbá were first seriously discussed by Courtenay (1968:138-153), and later (1976). Following Doke's definition of ideophones as

> a word, often onomatopoeic, which describes a predicate, qualificative or adverb in respect of manner, colour, sound, smell, action, state or intensity (Doke 1935:119),

Courtenay admitted that, with some modification of the definition, Yorùbá has such a category of words. She proposed that Yorùbá ideophones can be adverbs, adjectives, nouns and verbs, i.e. verbs which do not adhere to the common CV form. Consider the following.

22a bòlòjò b béléjé

L H

'intensity of blackness (adv.)' 'intensity of redness / brightness (adv.)'

c kèlèbè
L
'throat phlegm (noun)'

d bàràkàtà
L
'in huge quantity (adv.)'

e gōgōrō
M
'tall (adj. / adv.)'

f gēgēlē
M
'high ground (n. / adv.)'

g fākāfìkì
M L
'sound made by train (noun / adv.)'

h gānmūgánmú
M H
'a type of axe or instrument used by blacksmiths (noun)'

i yélēyèlē
H M L M
'plentifully (adv.)'

In the above cited 'phonologically defined' class of ideophones given by Courtenay--and of course in a host of other examples cited in her work but not listed here--all the three tones are attested. They appear in sequences of Ms, Ls, or Hs as seen above where the same tone is repeated as a special property of ideophones (cf. 8.2), and also, they are combined as seen in instances in which different tones occur.

Recently, Fordyce (1983:263-278) argued that ideophones in Yorùbá are better defined as a phonosemantic class. To him an ideophone in Yorùbá

> is a member of a set of words with phonologically determined semantic feature or features. (275-276).

In his classification of six different sets of ideophones, he excluded those formatives basically known as verbs and combinations of verb plus noun. He did not formally define ideophones as nouns, verbs, verb + noun, adverbs or adjectives, but it is clear that the words in the sets he identified are made up of nouns, adjectives and adverbs. In this way, his list excludes some of the words listed as ideophones by Courtenay. Crucial to my investigation is the tonal pattern on these words which are still the same even if Fordyce's definition is preferred to that of Courtenay. Consider some of his examples in 23-25.

23a rúgúdú
H
'small and spherical'

b rĩbĩtĩ
M
'spherical'

c kòròbòtò
L
'fat'

We also have combinations of Hs and Ls as in 24.

24a wẹ́ẹ́wẹ̀ẹ̀wẹ́ẹ́ b ṣókísòkìṣókí

H L H H L H

'small fragments' 'in little drops'

c mùndùnmúndùn d tòlótòló

L H L L H L H

'bone marrow' 'turkey'

Finally, there are also combinations of H, M and L as shown in 25.

25a wókōwòkō b kélēkèlē

H M L M H M L M

'zigzag' 'in small bits'

c rẹ́dẹ̄rẹ̀dẹ̄ d ráūràū

H M L M HM LM

'miserable' 'nonsense (of appearance)'

Onomatopoeic words which can be distinguished from the ones cited above, and which can also have H, M or L in the manner discussed above are excluded from Fordyce's classification for reasons explained in the article which will not detain us here. Although it may be argued that there is predictability when an ideophone has the same tone throughout, many ideophones do not conform to this pattern.

4.9 REDUPLICATION IN LEXICAL ITEMS

Different kinds of reduplication take place in the language. They occur in verbs, nouns and in the ideophones no matter how we view the class--i.e. either as a phonological class or as a phonosemantic class. When they involve more than one lexical item, we have verb plus noun reduplication and prepositional phrase reduplication. The reduplications are motivated for a host of syntactic and semantic purposes.

4.9.1 REDUPLICATION IN VERBS

For gerundive purposes a qualifier / modifier may be formed from a verb of CV basic pattern. The process is achieved by prefixing a copy of the verb's consonant 'C' to a high-toned close front unrounded vowel 'V́' = / í / and then adding the verb, so that we have 'C+í+CV' producing a 'CV́CV' pattern. The reduplicated item can then be used as a noun, an adjective or an adverb. Below are some examples.

26a jẹ̄ b jíjẹ̄

M H M

'eat' 'eating'

i.e. j + í + jẹ̄

c Īṣū jíjē
M H M

'eating yam, i.e. yam for eating or eatable yam'

27a sùn
L

'sleep'

b sísùn
H L

'sleeping'

i.e. s + í + sùn

c sísùn tí mō sùn
H L H M L

'the fact that I sleep / slept'

lit. 'sleeping that I sleep'

28a gbọ́
H

'hear'

b gbígbọ́
H H

'hearing'

i.e. gb + í + gbọ́

c gbígbọ́ kẹ̀?
H H L

'what about hearing' lit. 'hearing what?'

4.9.1.1 REDUPLICATION IN VERB + NOUN COMPOUNDS

If the verb is combined with a noun, so that we have, for example, jē 'eat' + èfó 'vegetable' becoming jèfó 'eat vegetable'--after vowel deletion and certain tonal modifications have taken place, it is possible to have the

type of reduplication discussed in 4.9.1. The words thus formed are mostly used as nouns in topicalised clauses. Consider the following examples in 29 and 30, 29 being a fuller form of the one just cited above.

```
29a   jē   +   ẹ̀fọ́   ===>  b   j  ẹ̀fọ́
       |       | |    VD          | |
       M       L H                L H

      'eat'   'vegetable'      'eat vegetable(s)'

c   j + í + jẹ̀fọ́  ===>  d   jíjẹ̀fọ́
        |    | |              | | |
        H    L H              H L H

    gerundive reduplication 'eating vegetable(s)'

30a   kà   +   ìwé  ===>  b   kà wé
       |       | |   VD      |   |
       L       L H           L   H

      'read'   'book'        'read (a) book'

c     k + í + kàwé  ===>  d   kíkàwé
          |    | |            | | |
          H    L H            H L H

      gerundive reduplication 'reading (a) book'
```

A wide range of verb + noun compound words can be prefixed with 'C+í' in this way independently of the tone pattern of the compound. In a sense, such words are not as fully reduplicated as those in 31 or the ones in 4.9.2.1 below. The following examples in 31a-d are combinations of verb and noun where the output (after vowel deletion) can be fully reduplicated.

31a pā + ẹ̄rān ===> pẹ̄rān ===>
M M VD M

'kill' 'meat' 'kill animal(s)'

31a' pẹ̄rānpẹ̄rān
M M

'one who kills animals / butcher'

31b pā + ẹ̄jā ===> pẹ̄jā ===>
M M VD M

'kill' 'fish' 'kill fish'

31b' pẹ̄jāpẹ̄jā
M M

'fisherman'

31c pā + ī́ná ===> pāná ===>
M M H VD M H

'kill' 'fire' 'extinguish fire'

31c' pānápāná
M H M H

'one who extinguishes fire' (fn.11)

31d wò + ī́lé ===> wōlé ===>
L M H VD M H

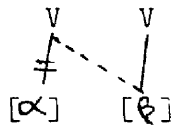
'look' 'house' 'look house'

31d' wōléwōlé
M H M H

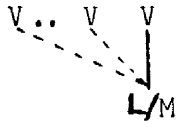
'health officer / sanitary inspector', lit. 'one who looks into houses'

4.9.2 REDUPLICATION IN NOUNS

Nouns in Yorùbá have various shapes (cf 4.4 above). Certain nouns of the basic 'VCV' shape are reduplicated to yield the meaning 'every ....'. The reduplication in question involves vowel assimilation (VA) and tone spreading (SPR) (which I shall explain in more detail in (4.10.3) below). The vowel assimilation rule that handles the items in 32 is formalised as



while the spreading rules that spread M and L to free segments not specified for tone to the left are formalised as



Consider the following examples.

32a ālé ===> ale + ālé ===> ālāālé
M H M H VA M-SPR. M H

'night' reduplication 'every night'
After VA & M-SPR.

b ōṣù ===> oṣu + ōṣù ===> ōṣōōṣù
M L M L VA M-SPR. M L

'month' reduplication 'every month'
After VA & M-SPR.

c ọ̀sán ==> ọsan + ọ̀sán ==> ọ̀sọ̀ọ̀sán
L H L H VA L-SPR. L H

'afternoon' reduplication 'every afternoon'
After VA & L-SPR.

In some other cases, a CV morpheme is inserted between two nouns of VCV shape. The CV morphemes are / kí / , / yí / and / lí / . For example:

33a ōmō ===> ōmō + kí + ōmō
M M H M

'child' CV́-infixation

= <u>ōmōkómō</u> after VD and Mid Deletion (MD) i.e. 'any / bad child'

b ĩlè ===> ĩlè + yí + ĩlè
M L M L H M L

'land' CV́-infixation

= <u>ĩlèyílè</u> after VD and MD i.e. 'any / bad land'

c àgbà ===> àgbà + lí + àgbà
L L H L

'elderly person' CV́-infixation

= àgbàlāgbà after VD and High tone lowering
(H-LWRNG) i.e. 'old / elderly person' (fn.10).

4.9.2.1 TONE IN QUALIFIERS AND PREPOSITIONAL PHRASE REDUPLICATION

Some verb plus noun words which function as qualifiers but are different from the ones discussed in example 30 with respect to reduplication are as follows:

34a mú + èjì ===> méjì
H L VD H-RLK. H L

'take' 'two' 'two'

This could be reduplicated as in 34b

b méjì + méjì ===> méjìméjì
H L H L H L H L

'two' 'two' 'in twos'

This is fully reduplicated in the same way as those in 31. More examples are provided in 35 where the preposition tī 'with' plus a noun can be redeplicated. For example:

35a tī + èrù ===> tèrù ===>
M L VD L

'with' 'fear'

35a' tèrùtèrù
L L

'with or accompanied with fear'

35b tī + āyā ===> tāyā ===>
M M VD M

'with' 'wife'

35b' tāyātāyā
M M

'with or accompanied with / by wife' (fn.12).

4.9.3 TONE IN IDEOPHONE REDUPLICATION

Words described as ideophones can also be reduplicated. For example:

36a rògòdò 'round and bulging out' ===> rògòdòrōgōdō
L L M

b pétēpètē 'of messy appearance' ===> pétēpètēpètèpētè
H M L M H M L M L M L

The tones of the reduplicated form in these words are not always the same as those of the basic stem.

4.10 TONE SPREADING IN LEXICAL ITEMS, AND IN LEXICAL ITEM REDUPLICATION

4.10.1 IN SINGLE ITEMS

By spreading in lexical items I mean the process whereby a tone-bearing unit--TBU-- underlyingly linked to a particular tone surfaces with the tone of a neighbouring TBU. It has been observed in the literature that a VCVCV or VVCV noun with initial MH tones may become HH, and if the initial tones are ML they may become LL (cf Courtenay (1968:58), Oyèláràn (1971:108-109) and Awóyalé 1974 reported in Akinlabí (1985:188-189)).

Oyèláràn did not agree that MH can become HH in Yorùbá, claiming that it would violate the sequence structure constraints of the language. This is reflected in his rule. One's initial reaction to this claim would be that Oyèláràn is obviously wrong, but this will not be a fair and balanced conclusion. While there is an element of truth in Oyèláràn's claim, he did not present the whole facts, however. As rightly pointed out by Oyèláràn, the forms <u>éégún</u> and <u>ááyán</u> are rarely heard in isolation but <u>òòrùn</u> and <u>èèrà</u> in 37 are frequently heard. The reason might be because high-toned initial nouns of the shape VCV or VCVCV or VVCV are not allowed in Yorùbá. However, if a high tone verb--say <u>rí</u> 'see'--precedes <u>āáyán</u>, it will be produced as <u>rááyán</u> 'see cockroach(es)'. Also, if the verb

gbé 'carry' precedes ēégún, it will be rendered as gbéégún lit. 'carry masquerade' i.e. dress in masquerade's outfit during ēgúngún festival. Therefore it is not altogether true that the tonal pattern HHH cannot be heard on these items. See section 5.2.2 example 13a,b where gbé + ādé becomes gbádé and dé + Ìlé becomes délé. The process that produces HH from MH in both types of examples is the same. No other evidence is known to me that would support initial MH becoming HH in V-initial nouns. Thus, my view agrees with that of Oyèláràn as far as V-initial nouns are concerned. Below are some of the words that are affected by this process.

37a i ērìrà ===> ii ēìrà ===> iii ēèrà ===>
M L r-D (fn.13) ML VA (fn.14) ML L-SPR.

'ant'

iv ē è r à ===> v èèrà = 'ant'
M L ∅ L

b i ōrìrùn ===> ii ōìrùn ===> iii ōòrùn ===>
M L r-D ML VA ML L-SPR.

'sun'

iv ō ò r ù n ===> v òòrùn = 'sun'
M L ∅ L

have consonant deletion i.e. r-deletion. At stage (iii) we have vowel assimilation, and at stage (iv), L spreads leftwards to the TBU associated with M, thus freeing M. Stage (v) gives us the surface forms. The freed M is assumed to have been deleted.

Although, as I argue, only L-spreading and not H-spreading takes place in V-initial nouns, both types are found in C-initial nouns. Consider the following.

```
38  i   yōrùbá   ===>  ii  yōùbá   ===>  iii  yōòbá   ===>
        | | |     r-D     || |     VA          || |     L-SPR.
        M L H             ML H                ML H

        'the Yorùbá language and poeple'
```

```
iv  y ò ò b á   ===>  v  y ò ò b á
      ‡ |   |            \ |   |
      (M) L   H             L   H
      ¢
```

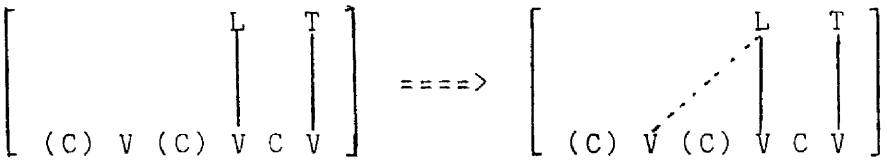
```
39  i   kōríkō   ===>  ii  kōíkō   ===>  iii  kōóko   ===>
        | | |     r-D     || |     VA          || | |  H-SPR.
        M H M             MH M                MH M

        'grass / weed'
```

```
iv  k ó ó k ō   ===>  v  k ó ó k ō
      ‡ |   |            \ |   |
      (M) H   M             H   M
      ¢
```

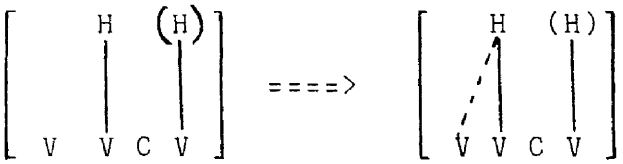
Akinlabí (1985:190-191) provided a rule of the type in 40a to account for a Lexical Low Tone Spreading for the types of words in 37; 40b for Lexical High Tone Spreading which I have argued is not to be found in V-initial noun; and 40c (i.e. his T7)--which is the collapsed version of

40a,b.

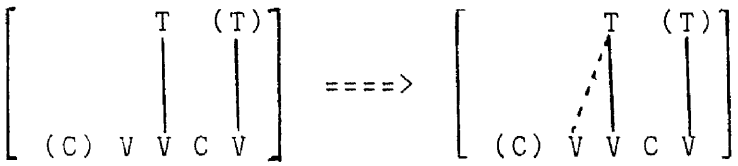
40a LEXICAL LOW TONE SPREADING RULE (OPTIONAL)



40b LEXICAL HIGH TONE SPREADING RULE (OPTIONAL)



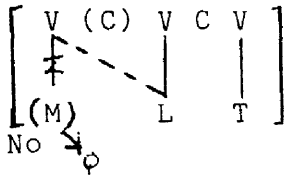
40c T7 - LEXICAL TONE SPREADING RULE (NOMINAL) i.e. 40a,b COLLAPSED



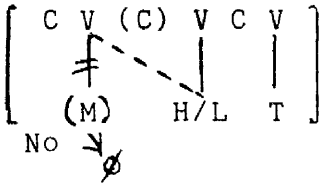
My own formalization is given in 41 below. 41a accounts for the spreading in V-initial items and 41b handles the spreading in C-initial items.

41 LEXICAL TONE SPREADING RULE (OPTIONAL)

(a)



(b)

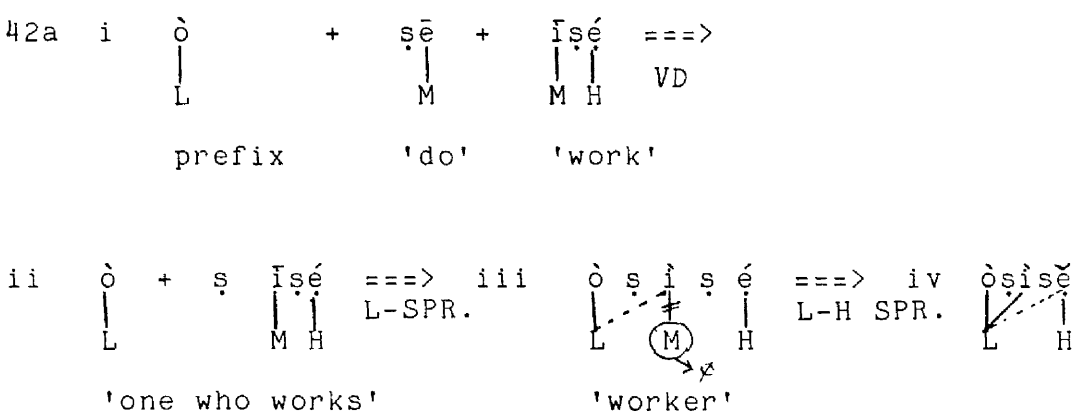


Notice that there is a difference in the use of brackets between this rule and those proposed by Akinlabí. His bracket around the 'T' means the tone is either H or L i.e. it cannot be M. My bracket around the M means that the tone of the first syllable (which is usually M) is freed and deleted. The final T (without bracket) is however left associated with the last syllable meaning that the T can be any of the three possibilities. The vowel to which the first tone (M) is associated is then realized with the tone that spreads to it from a neighbouring TBU. In this rule, the initial tone which is always a M is represented as a lexical tone. This M is, however, optionally freed and deleted once a H or L spreads to the V slot bearing it.

4.10.2 IN NOMINALIZED ITEMS

There is verb-phrase nominalization by the morphemes realized by the vowels / ò / and / ọ̀ / in the examples in 42a,b,e,f below and / òǹ / (two syllables consisting of a vowel followed by a syllabic nasal) in examples 42c,d in Yorùbá (fn.15). Whereas the type of tone spreading mentioned above is right-to-left, the one in the examples

below is left-to-right formalised as shown in 44. The lowering/raising rule that accounts for the examples in 42e,f is given in 45 but see section 6.5 example 63a,b for what I consider a better formalisation of the rule (fn.16). Consider the following.



ii òǹ + kà wě ===> iii ò ǹ k à w ě

L L L H L L LH

'one who reads' 'reader'

d i òǹ + kō + ìwě ===>

L M L H VD

prefix 'write' 'book'

ii òǹ + kō wé ===> iii ò ǹ k ò w ě

L M L H L-SPR. L M L H

'one who writes books' '(a) writer'

e i ò + dá + òràn ===>

L H L L VD

prefix 'cause' 'trouble'

ii ò + dá ràn ===> iii ò d ā r à n

L H L L H-LWRNG. L M L

'one who causes trouble' '(a) criminal'

f i ò + fé + àlè ===>

L H L L VD

prefix 'love / marry' 'concubine'

ii ò + f àlè ===> iii ò f ā l è

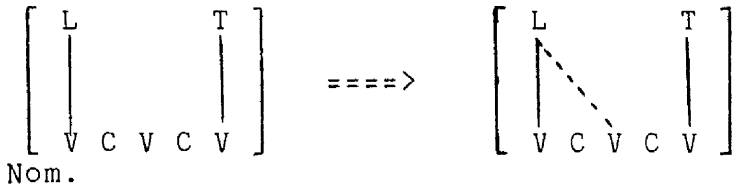
L H L L L-RSNG. H-LWRNG. L M L

'one who flirts' 'one who flirts'

The forms in 42a-d have been accounted for in Akinlabí

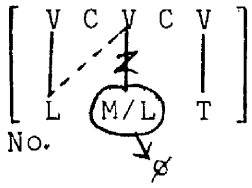
(1985:207) by a rule called "VP Nominalization Low Tone Spreading". This rule--his T9--is reproduced in 43 below for convenience.

43



This rule works for 42a where sē + Ìsé 'do + work' becomes sìsé via vowel assimilation, but when prefixed by / ò- /, it produces òsìsé--the L of the prefix spreads to the / i / of Ìsé which has an underlying M not represented in Akinlabí's analysis. This rule will, however, be modified to cater for my three-tone representation of 42a for instance along the the lines indicated in 44.

44



The initial L that spreads, frees the (M/L) (i.e. the mid or low tone) and this is thus deleted. The difference between 43 and 44 is that the vowel presented as a 'toneless' vowel in 43 is analysed as being associated to either a M or L (but not a H). As Akinlabí remarks, his rule in 43 does not work for the form in 42b because sē 'do' + ìlú 'town / city' produces sèlú' 'rule the town / city', in which case the / ē / of sē acquires its low tone

from the floating L of the deleted / ì / in ìlú. Akinlabí, however, noted that we can assume that the rule applies vacuously. Though this assumption is not the only possible option, Akinlabí's suggestion is, however, simpler. The rule in 43 will also work for the items in 42c,d if we assume the vacuous application of the rule. (In this case, the prefix will bear LL represented with a single L).

Coming to 42e,f, the L of the prefix or that of the following L-toned initial noun does not explain (as spreading) the process by which H is eventually realized as M. The LL of ọ̀ràn and àlè are deliberately left uncollapsed because the floating of one of the Ls is important for the explanation how we have M in these items on the surface. More details in 6.5. Thus dá 'cause' + ọ̀ràn 'trouble' does not produce *dàràn or *dọ̀ràn, but dáràn, and ọ̀ + dá + ọ̀ràn does not produce *ọ̀dàràn but ọ̀dāràn. Unfortunately, the types of examples in 42e,f are not considered in Akinlabí (1985). What is happening here is a clear case of lowering in which case a H between two Ls is lowered to a M. This can be accounted for by a rule such as 45.

45 HIGH TONE LOWERING RULE

H ===> M / L --- (L)

The rule lowers a H to a M when it (i.e. H) occurs between two lows. The final or the rightmost low in the

rule is a floating L. This is clearly so in the case of 42e. The rule also accounts for 42f but not in a straightfoward manner as it does in 42e. In 42f (ii), (VD) first sets the H of the verb floating. This (H) must be relinked to the initial syllable of the noun before the L initial of the noun is set floating. We shall have more to say on this issue in Chapter Six.

4.10.3 SPREADING IN REDUPLICATED LEXICAL ITEMS

Finally, tonal processes in the type of reduplication discussed in 4.9 above are treated as cases of tone spreading. Some of the words are repeated here for convenience (cf.4.9.2).

```
46a   ālé  ===>   alẹ + ālé  ===>   ālāālé
      | |                | |  M-SPR.  \ | |
      M H              M H              M H

      'night'     reduplication     'every night'

b     ōṣù  ===>   oṣu + ōṣù  ===>   ōṣōōṣù
      | |                | |  M-SPR.  \ | |
      M L              M L              M L

      'month'     reduplication     'every month'

c     àgbà  ===>   agba + àgbà  ===>   àgbààgbà
      | |                | |  L-SPR.  \ | |
      L L              L L              L L

      'elderly     reduplication       'every / many
       person'                          elderly persons'
```

Again, it is possible to treat 46a,b as cases of

H-tone lowering and L-tone raising respectively, so that in 46a the H of the leftmost ālé--in reduplicated form--is lowered to M, when it now has M both to its left and to its right. Similarly, the L of the leftmost ōṣù--in the reduplicated form--could be seen as being raised to M when it has M both to its left and right. However, this case was treated differently in Akinlabí (1985:197ff), and his analysis is adopted here. The crucial details are that the reduplication involves prefixation of the relevant VCV items, but without the tones that are usually associated with it. The leftmost tone of the stem is then assumed to spread to the prefixed item to give us the correct surface form. Akinlabí's rule for this is reproduced in 47.

47 T8 REDUPLICATED NOMINALS TONE SPREADING RULE (VCV PREFIXATION)

There are certain problems with this rule. Though the problems are explained away by Akinlabí (1985:202-205), they still remain a puzzle to me. The rule works perfectly when the stem is of LL pattern. Moreover, it could not be HL, HM or HH because of constraints on the tonal pattern of VCV formatives in Yorùbá. The problem arises when the stem is MH, ML or LM where the M will not be represented in Akinlabí's analysis because it has to be supplied by rule--default rule, that is--and at a stage when the M

could be analysed as spreading like H, or L. An ad hoc explanation concerning the non-automatic spreading and tonelessness of M in Yorùbá is provided. LM item is crucial only from the point of view of not allowing L to spread rightward rather than leftward. This is the least satisfactory aspect of Akinlabí's explanation of this process. Let us see how one of the three examples in 46 is represented both in this analysis and in Akinlabí's (cf Akinlabí (1985:205)).

48 PRESENT ANALYSIS AKINLABÍ'S

```
a          ālé                                          H
           |||                                          |
           VCV   Underlying Representation            VCV
           | |                                        |||
           M H                                        alẹ́

b       alẹ ālé                                         H
        ||| |||                                         |
        VCV VCV        Reduplication              VCV VCV
            | |                                   ||| |||
            M H                                    alẹ alẹ́

c       ala ālé                                         H
        ||| |||                                         |
        VCV VCV      Vowel Assimilation           VCV VCV
            | |                                   ||| |||
            M H                                    ala alẹ́

d        ālāālé                                     M MM H
         ||||||                                     | || |
         VCVVCV                                     VCVVCV
         \___/| |                                   ||||||
             M H                                    alaalẹ́
```

At stage (d) I have Reduplicated Nominal Tone Spreading,

while Akinlabí has Default Application.

At stages (a,b and c), Akinlabí claimed that "the high tone does not spread because it does not satisfy the condition of (T8)" (cf. p 205). His (T8) spreads the first tone of the stem backwards onto the vowel of the affix (cf. p 199). He would also claim that H does not spread because spreading is not automatic. This explanation is ad hoc because it does not follow from the general principle of tone spreading in Yorùbá. I hope to convince the reader in the following chapters that tone spreading is bi-directional in Yorùbá and it involves all the three tones. Also, nothing will stop a linked tone from spreading to as many 'toneless' vowels as there are if they are truly toneless. The reason why the H does not spread to any other segment in 48a,b,c is, in my view, because the so-called toneless vowel in <u>ālé</u> has an M attached or associated to it underlyingly and that blocks automatic spreading. Representing M underlyingly as is done here provides a unified account of Reduplicated Nominal Tone Spreading which involves M and L. Reduplication of ML and LL items as in 46b,c behaves in a way exactly parallel to that of MH as shown in 48 above. Needless to say, the same holds for MM items.

SUMMARY

I began this chapter by gradually revealing the tonal patterns in Yorùbá major grammatical categories. Tonal

patterns in verbs, verb related items, modifiers, qualifiers, nouns, pronouns, and ideophones were presented. Towards the end of this chapter, the case of reduplication in Yorùbá lexical items was examined. This led us to the issue of tone spreading in lexical items and in lexical item reduplication. One of the most recent views on the issue was presented and some of the problems were discussed along with an attempt to suggest modifications. It has emerged that though the introduction of or supplying M by Default Rule Application seems to be appealing, at the same time, there are quite a number of tonal processes involving the M that make one feel that it should be represented underlyingly. This matter will be examined in more detail in Chapter Six.

FOOTNOTES TO CHAPTER FOUR

1 kī 'to be thick' in this case is an intransitive verb. It cannot take objects as is possible in the cases of kí and kì.

2 There are other homophonous kìs. One of them means 'to chant or recite praise names / origin / lineage' as in oríkì 'praise name'. ó kì mí could therefore mean '(s)he / it chanted / recited my oríkì or (s)he / it gripped me'. kì could also mean 'load' as in kì í 'load it' as in the case of loading a gun with gun powder and bullets.

3 In autosegmental terms each of the verbs in 4-6 will be represented underlyingly at least on two tiers: the tonal tier and the phonemic melody tier as in 1 below.

1 = 4a ko ====> Phonemic Melody Tier.

H ====> Tonal Tier.

The two tiers are then linked by Association Convention (cf. Chapter Three) as in 2.

2

```
ko
 |
 H
```

The ideal representation, as discussed in the literature, is to have both tiers linked together via a mediating CV-skeleton tier as shown in 3.

3

```
kó
 ||
 CV
  |
  H
```

I assume that the representations in this dissertation are of the type in 3, but except where it becomes necessary in order to make my explanations more explicit, I shall regularly use the type in 2 in order to save space. In 3, we have three tiers: the tonal tier, the CV-skeleton tier and the phonemic melody tier. In 3 I further assume that if a rule deletes a vowel autosegment, the V-slot is also deleted except where there are other processes that link other vowel autosegments to the free V-slot as would happen in the case of vowel assimilation. By the same token, if a consonant is deleted by rule, the C-slot is also

deleted. The status of the tone linked to a deleted V-slot and vowel autosegment is to be determined by tone rules, as we shall see later. The tone is first set floating, consequently it may either be deleted or relinked to another vowel autosegment via a V-slot.

4 If Ùgbé is ègbé 'destruction'--which is most likely, gbà 'accept' + ègbé will mean 'accepting the destruction of a piece of information, a matter, a person, or a substance' which is closely related to its meaning--'to forget'. In general, the meaning of the combinations in (7) are idiomatic. For this reason no meanings are given for the individual constituents. The tones of the second nouns in the combinations in 7a and c are similar to the ones in section 5.2.1 example 10 where ìgbín and àdá have glides on the final syllables (cf. the rule of L-H spreading in section 5.3.2 (35) which accounts for the glides). However, the rising tone have not normally been marked in chapter four, but they are in chapter five onwards.

5 One such dialect is Ìgbómìnà where the standard Yorùbá version of ó rí ìyín '(s)he / it saw you' would be rendered as ó rí yìn

6 There is another fún in the language which means 'to give', and yet another which means 'to squeeze'.

7 There are some other nís in the language, but they are verbs. For example nǐ = 'to have'; ní = 'to say'.

8 Another tì in the language is called a 'preverb'. It occurs just before the verb and signifies an already completed action.

9 Also, there is another bá in the language. It is a transitive verb meaning 'to meet' or 'to overtake'.

10 The / í / of / kí /, / yí / and / i / of / li / are lost as a result of contraction in 33a-c. Additionally, in 33c the / l / of / li / would be realized as [n] if it is followed by / i / . It is realized as [l] before all other oral vowels. Thus *àgbànàgbà or *àgbànágbà are ill-formed Finally, I assume that the LLML tonal pattern on the surface form of 33c instead of LLHL which is expected in line with what we have in 33a,b is a result of a tone lowering rule that lowers a H to M if it is sandwiched between two Ls (cf. 4.10.2 (45), 6.5 and 7.5.1 for more details).

11 This word is now used for both the fire brigade officers and the fire engine.

12 The meaning of the reduplication in 35a,b is not 'intensity' as in the case of the ideophones in 22a,b.

Also, it does not mean 'every ....' as in the case of 32. In a sense it implies 'accompanied with' which makes it different from the meaning of the type in 25a,b. The unduplicated form which literally means 'with or accompanied with ....' is actually not used in that form in isolation. It is the reduplicated form that means 'with / accompanied with'.

13 In 37a,b r-D stands for r-deletion.

14 In 37a,b VA stands for vowel assimilation.

15 In principle the V-nominalization is expected to involve all the seven oral vowels. My investigation however shows that only four--i.e. / ì /, / à /, / ọ̀ / and / ò /--are productively used in this way. For the sort of examples presented in 42, instances of VP-nominalization with any of / e /, / ẹ / and / u / is not attested. For the oral vowel plus syllabic nasal, / òǹ / as cited in 42c,d is the only one of its type known to me.

16 Another type of tone spreading is also exemplified in 42a-d but this is not in focus at present. See sections 5.2.1, 5.2.3 and 5.2.5 for details.

CHAPTER FIVE

TONE ACROSS WORD BOUNDARIES

5.0 INTRODUCTION

In this chapter I shall discuss the different types of tonal patterns possible in Yorùbá in items larger than a single lexical item. In this discussion of tonal processes across word boundaries, I shall focus my attention on Noun + Noun combinations and Verb + Noun combinations. I shall discuss the linking, delinking and relinking processes affecting them, in autosegmental terms. Also, I shall look into the issues of the high tone of the verb infinitive phrase, the subject marking high tone syllable, and the associative marker mid tone. Instantiations of involving Progressive Aspect and Future Aspect will be examined. A further issue to be discussed is that of floating tones. I shall argue that it is only in the case of the high tone that one can make a strong claim of underlyingly floating tone. What seems to be a floating M shall be examined, but there is no case of underlyingly floating L known to me. Finally, I shall argue that two types of so-called surface contour tone spreading need to be recognised. There is evidence that certain contour tone spreadings take place within a word--i.e. before it combines with other items to form a larger piece--whereas others occur phrasally or

across word boundaries.

5.1 TONAL PROCESSES IN NOUN + NOUN ITEMS

When two nouns are concatenated, except in careful and deliberate slow speech, there is always vowel deletion or vowel assimilation. If this happens, the tones of the two nouns in contact also undergo certain processes. I have chosen nouns of the basic 'VCV' pattern for illustration in this section. We shall be interested in the last syllable of the first noun and the initial syllable of the second noun. As already indicated, the process involves both tones and vowels, but our focus and main emphasis will be on the tonal processes. Consider the following examples (fn.1) where a L preceding a M within a word serves as a downstep operator formalised as

M ===> !M / L -

5.1.1 H (of final vowel of N1) + L (of initial vowel of N2)

--H + L--

```
1a  i   ōjú      +   òdē   ===>  ii   ōjú ò d  é   ===>
        | |          | |  M-DSTP.     | | |    /    VD
        M H          L M              M H L  !M
        'eye /       'outside'
         face'
```

```
iii  ōjú    d  ȅ   ===>  iv   ō j ú d ȅ
     |  |      /             |   |   /
     M  H (L)  !M             M   H  !M
        ↓
        ϕ                     'verandah'
```

```
b  i   ōrí   +   ìtā   ===>  ii   ōrí ì t à   ===>
       |  |      |  |  M-DSTP.    |  |  |   /    VD
       M  H      L  M             M  H  L  !M

       'head'    'outside'
```

```
iii   ōrí    t  à   ===>  iv   ō r í t à
      |  |      /             |   |   /
      M  H (L) !M              M   H  !M
         ↓
         ϕ                     'junction / crossroads'
```

Both first nouns in 1a,b have the tonal pattern MH, while both second nouns have LM. The tones in contact in both examples are H and L. At stage (ii) of both derivations, the final M of the second noun is realized as downstepped M--(!M). The downstep is conditioned or effected by the preceding linked L in the same lexical item. This is a regular process in the language. At stage (iii) of both derivations, the initial vowel of the second noun bearing the L that caused the downstep is deleted. At this stage the L is set floating. Notice, however, that it is not this floating tone that conditions the downstep, otherwise the downstep would not have been perceptible before the vowel of the L is deleted. In other words, a downstepped M is perceived on <u>òdȅ</u> and <u>ìtà</u> even when pronounced in isolation. It is a popular view to assume that "superficial low tones" (floating Ls) condition or effect downstep. This evidence (which confirms that

expressed in Courtenay (1969), reported in Stahlke (1974)) shows that the linked Ls can also effect downstep. I assume that the Ls of the deleted vowels are also deleted at stage (iii). Stage (iv) gives us the surface form of MH!M arising from MHLM. Let us consider another example.

5.1.2 H (of final vowel of N1) + M (of initial vowel of N2)

--H + M--

```
2a  i   ētí     +    ílé   ===>  ii   ētí    lé   ===>
        | |          | |    VD        | |     |
        M H          M H              M H (M) H
                                          ↓
                                          ϕ
        'ear /       'house'
         side'

iii     ē t í l é
        |   |   |
        M   H   H

        'around (not far from) the house'

b   i   ōjú     +    ōdò   ===>  ii   ōjú    dò   ===>
        | |          | |    VD        | |     |
        M H          M L              M H (M) L
                                          ↓
                                          ϕ
        'eye / face' 'river'

iii     ō j ú d ò    ===>    iv    ō j ú d ò̀
        |   |   |    H-L SPR.     |   |   |
        M   H   L                 M   H   L

        'the surface of the river'
```

The derivations in 2a,b are self-explanatory. The vowel deletion in stage (ii) of both leaves the Ms

floating. The surface forms have MHH and MHL from MHMH and MHML, respectively. In 5.1.2 example 2b (iv) and in 5.1.3 below, H spreads to the the following L via H-L SPR formalised as

```
V (C) V
|     |
H     L
```

This formalisation ignores the fact tnat the H-L SPR in 2b is across word boundaries whereas it is within the word in 3a,b, but see list of rules for the difference in the environments of the two applications. Consider the following.

5.1.3 H (of final vowel of N1) + H (of initial vowel of N2)

--H + H-- (fn.2)

```
3a  i  ōní      +   ómò     ===>  ii  ōní ómô   ===>
       | |          | |   H-L SPR.   | | |  |    VA
       M H          H L              M H H L
       'owner /     'omo detergent'
        seller of'

iii  ō n ó ó m ô     ===>     iv  ō l ó ó m ô .
     |   |   |  |    n => l       |   |   |  |
     M   H   H  L                 M   H   H  L
                                  'owner / seller of omo'
```

```
b  i   ōní      +    ápù  ===>  ii  ōníápû  ===>
       | |           | | H-L SPR.   | |/ |    VA
       M H           H L            M HH L

       'owner /      'apple'
        seller of'
```

```
iii  ō n á á p û     ===>  iv   ā l á á p û
     |   | /|  |       VH       |   | /|  |
     M   H H   L    n => l      M   H H   L
```

'owner / seller of apple'

In 3a,b the tonal patterns of the individual lexical items i.e. MHHL are also maintained in the surface form. In 3a,b (iii), we have vowel assimilation (fn.3). In 3b (iv), we have another process, a vowel harmony process (VH) that converts a non-low / o / to a low vowel / a / when it--/ o /--precedes / a / in an item of VCV pattern. To treat / i / of / ōní / and its H as cases of deletion would have given us the undesirable <u>*ōlómò</u> and <u>*ālápù</u>. In the correct forms, the H-toned / o / and / a / have a duration of two syllables, not one. In 5.1.4 example 4a (ii), L spreads to the following H via L-H SPR formalised as

```
V (C) V
|  /  |
L     H
```

This also ignores the fact that this rule applies with a word in 4a, but across word boundaries 4.10.2 example 42a (iv).

5.1.4 M (of final vowel of N1) + L (of initial vowel of N2)

--M + L--

4a i ā y ā + ò g á ===> ii ā y ā ò g ǎ ===>
M L H L-H SPR. M L H VA

'wife' 'master / boss'

iii ā y ō ò g ǎ
M L H

'master's / boss' wife'

b i ō m ō + à l è ===> ii ō m ā à l è
M L VA M L

'child' 'concubine' 'bastard'

In 4a,b there is no vowel deletion. At stage 4a (iii) and 4b (ii), respectively, we have vowel assimilation. This gives us the surface form with MMLH or MMLR and MMLL, the same pattern as in the underlying representation.

5.1.5 M (of final vowel of N1) + M (of initial vowel of N2)

--M + M--

5a i ẹ̄yīn + ōjú ===> ii ẹ̄yīn jú ===>
VD
M M H M (M) H
φ
'egg / ball' 'eye'

iii ẹ̄ y ī n j ú
M H
'eye ball'

b i ẹ̄rān + ōkō ===> ii ẹ̄rān kō ===>
VD
M M M M (M) M
φ
'meat / animal' 'farm / bush'

iii ẹ̄ r ān k ō
M M
'animal'

Here, we have the initial vowels of the second nouns deleted in both cases--cf stage (ii)--leaving a floating M behind. The M is also deleted and we have the surface form with MMH and MMM respectively at stage (iii). Notice that the MM of <u>ōkō</u> is deliberately left uncollapsed in 5b to illustrate the dropping off of M after VD. If the Ms were collapsed, the output would be seen as disassociation of initial / ō / with the M distributed over two syllables

after VD.

5.1.6 M (of final vowel of N1) + H (of initial vowel of N2)

--M + H--

6a i īgī + ápù (fn.4) ===> ii īgī ápû ===>
M M H L H-L SPR. M M H L

'tree' 'apple'

iii īgāápû ===> iv ī g á á p û (fn.5)
M MH L H-SPR. M M H L
ϕ

'apple tree'

b i ēpō + ésò ===> ii ēpō ésô ===>
M M H L H-L SPR. M M H L

'fuel' 'Esso'

iii ēpēésô ===> iv ē p é é s ô
M MH L H-SPR. M M H L
ϕ

'Esso fuel / petrol / oil'

In 6a,b (iii), the MMHL of the individual items may be maintained after vowel assimilation. Another possible form is given in (iv), where the MMHL could be produced as MHHL. This is analysed as spreading-cum-delinking (cf Halle & Vergnaud (1980), Clements (1985), Harris (1987)). The H of <u>ápù</u> spreads backwards and thus frees or delinks the M

attached to the final vowel of noun 1. The H-spread and the vowel assimilation in this case go in the same direction. There is no V-deletion, but final (M) is assumed to have been deleted. The spreading rule given in 4.10.1 for example 39 is capable of handling this ristricted and optional process. Here also, the MM of <u>ēpō</u> is left uncollapsed to illustrate the spreading-cum-delinking . If the Ms were collapsed, it would have to be explained differently.

5.1.7 L (of final vowel of N1) + L (of initial vowel of N2)

--L + L--

```
7a  i   àlà        +      òfō   ===>  ii  àlà òf ó   ===>
        |/                |  |   M-DSTP.   |/  |  /    VD
        L                 L  M             L   L!M
        'demarcation'     'nothing'

 iii    àlà        f ó   ===>   à l à f  ó
        |/          /            |/      /
        L    (L)   !M           L      !M
             ↙
             φ                   'gap'

b   i   àsè    +   ìjē   ===>  ii   àsè ìj é   ===>
        |/          |  |   M-DSTP.   |/  |  /    VD
        L           L  M             L   L!M
        'cooking'   'eating'
```

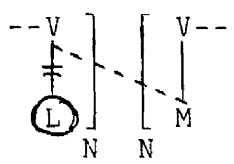
iii àsè j ḕ ===> iv à s è j ḕ

L (L) !M L !M

ϕ

'specially prepared medicinal herbs for eating'

In stage (ii) of both 7a and 7b we have the right environment--i.e. L preceding M--for downstep of M to take place within the item having a L-M pattern. The vowel of the downstep-effecting L is deleted in (iii), leaving a floating L behind. The (L) is assumed to be deleted, and so the LLLM yields LL!M at the surface in both cases. In the following examples in 5.1.8, M-SPR is an optional rule that spreads a linked M to, and frees a preceding L across word boundary. It is formalised as follows:



5.1.8 L (of final vowel of N1) + M (of initial vowel of N2)

--L + M--

8a i òkà + ōrí ===> ii òkòōrí ===>

L L M H VA L LM H M-SPR.

'a symptom 'head'
of a sickness'

```
iii   ò k ō ō r í  ===>  iv  ò k  ò  ò r í
      |   ↓ ↓   |  M-DSTP.  |     \ /   |
      L   (L)M   H           L     !M    H
```

'a sickness of a child's scalp'

```
b   i   òrò  +   ĩsé  ===>  ii  òrò ōsé  ===>
        | |      | |   VA       | | | |
        L L      M H            L L M H  M-SPR.
```

'talk' 'work'

```
iii   ò r ō ō s é  ===>  iv  ò r  ò  ò s é
      |   ↓ ↓   |  M-DSTP.  |     \ /   |
      L   (L)M   H           L     !M    H
```

'talk about work'

As illustrated in 8a,b (ii), it is possible to have vowel assimilation alone and retain the LLMH pattern, which will eventually surface as LL!MH. Optionally, however, M can spread backwards as shown in (iii) freeing the L associated with the last vowel of noun 1. This is the reason why LL of <u>òkà</u> and <u>òrò</u> are left uncollapsed. M-downstep--effected by the leftmost L of noun 1--is therefore analysed as affecting two successive Ms in (iv). Stages (i) and (ii) are thus obligatory, while stages (iii) and (iv) are optional. Another possible analysis is to motivate the !M earlier. If it is motivated earlier, i.e. if the L of the final vowel of noun 1 had effected M-downstep before it--the L--is freed and deleted, we would have to account for this process in terms of !M--downstepped M--spreading to the final vowel of noun 1. This may be difficult to explain, especially as it does not conform to standard descriptions of tonal processes (e.g.

in some of the recent literature included in the bibliography), but from the illustration above, there is no reason why !M should not spread. While the vowel assimilation is regressive in 8a, it is progressive in 8b. But in both cases, the spreading of M is right-to-left.

One criticism of my analysis might be that my handling of a unitary process of downstep in two different ways is unnecessary--i.e. before the conditioning L is delinked, within a lexical item, as in 1 & 7; and after the conditioning L is delinked across a word boundary, or phrasally, as in 8. The motivation for my proposal here is that not all cases of !M in Yorùbá are post-lexical, as we have been led to believe.

5.1.9 L (of final vowel of N1) + H (of initial vowel of N2)

--L + H--

9a i òrò + ómò ===> ii òrò ómô ===>
L L H L H-L SPR. L L H L VA

'word' 'Omo detergent'

iii òròómô ===> iv ò r ó ó m ô ===>
L LH L H-SPR. L L H L L-H SPR.

ϕ

v ò r ǒ ó m ô
L H L

'talk about Omo'

b i òrò + ápù ===> ii òrò ápû ===>
L L H L H-L SPR. L L H L VA

'word' 'apple'

iii òràápû ===> iv ò r á á p û ===>
L LH L H-SPR. L L H L L-H SPR.
φ

v ò r ǎ á p û
L H L

'talk about apple(s)'

It is possible to have the initial H of noun 2 spread to the final L of noun 1 so that we have LHHL, as shown in stage (iv) of both examples. Also, in stage (v), we have L-H spreading, giving us the surface form of LRHF. Notice that the H-L spreading in the items <u>ómô</u> and <u>ápû</u> at stage (ii) of both examples can be described as being within a word, whereas the L-H spreading--which takes place after the two items come into contact and after VA in stage (iii)--is across word boundary. The impression that has been given thus far about these processes is that they are last tone rules that can take place only phrasally. Although I agree that this is a unitary process of spreading, similar to that of the downstep M, it is worth noting that it can occur both within a word and across word

boundaries.

In examples 1, 2, 5 and 7, VCV + VCV items are pronounced as three syllables because vowel deletion and tone deletion take place. In examples 3, 4, 6, 8 and 9 on the other hand, the four syllables of the combined items are retained because only vowel assimilation (and vowel harmony as in (3b)) are involved. There is neither tone nor vowel deletion. We will now turn to tonal processes in verb plus noun combinations.

5.2 TONAL PROCESSES IN VERB + NOUN ITEMS

Yorùbá has an open syllable structure. Therefore every word ends in a vowel. When a verb is concatenated with a V-initial noun (most of the time of VCV pattern), one of the two vowels in contact is deleted (fn.6). In the case of H-tone initial loan nouns, assimilation rather than deletion sometimes occurs. This process obviously affects the tonal pattern of the items in contact. I shall examine the different types of tonal processes involved in such cases in this section. Akinlabí (1985:99-145) has provided a similar analysis. My analysis is, however, different in a number of significant ways from his. For instance, it is shown in my analysis that not only do we need to represent M lexically, but M can also be delinked, deleted, and relinked just as H and L. Consider the following examples.

5.2.1 HIGH TONE VERB + LOW TONE NOUN

H + L H

10a i kó + ìgbín ===> ii kó ìgbǐn ===>
H L H L-H SPR. H L H VD

'gather' 'snail(s)'

iii kó gbǐn ===> iv k ó gb ǐ n
H L H H L H

'gather snail(s)'

b i mú + àdá ===> ii mú àdá ===>
H L H L-H SPR. H L H VD

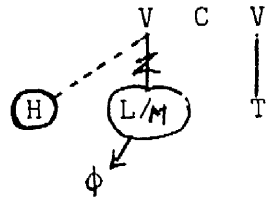
'take' 'cutlass'

iii m àdá ===> iv m ádá ===> v m á d ǎ
(H) L H H-RLK. (H) L H H L H

'take cutlass'

The items in 10a,b are similar in all respects except that at stage (iii) of 10a the / i / of the noun is deleted, thereby disassociating it from its L, whereas, at stage (iii) of 10b, it is the / u / of the verb that is deleted leaving a floating H. This representation obviously does not take into consideration the details of the fact that the H of / mú / is also partly realized phonetically on the voiced initial consonant as well as on the vowel. The L in 10a (iii) is not floating because it

is already multiply linked in stage (ii). Also, the floating H left behind in stage (iii) of 10b is not deleted because, as seen in stage (iv), it is relinked. Its relinking to / a / of the noun automatically severs the relationship between the / a / and the L, (cf iv). The L could have been set floating but for the fact that it has also been multiply linked in stage (ii). Given a HLH sequence, the L regularly spreads to the final H. The initial H also can spread to the L to give HFR. This is certainly the case in items such as kíjîpǎ or kútûpǔ 'a type of cloth', Mátânmǐ (personal name) or Díệkǒ (a shortened form of Díẹ̀kólá personal name) where the HLH is realized as HFR. However, in the cases of verb + noun, as a special case, in SY the initial H does not spread to the medial L to give HF. However, it does so in certain dialects. For instance, in the Ìjẹ̀ṣà and Èkìtì dialects kóôgbǸn and máâdǎ with HFR, rather than HLR or HLH, are perfectly well-formed. Therefore the 'automatic' delinking in 10b, (iv) as opposed to the expected spreading of H onto a TBU, which retains its L, is motivated by a special provision in SY alone for verb + noun (verb phrases) of H + LH patterns. For 11a below, another version of High tone relinking rule (H-RLK) (non-multiple linking), which also takes care of the forms in examples 12a, 13a, 14b and 15a is formalised as



H + L M

11a i rí + òlē ===> ii rí òl ė ===>
H L M M-DSTP. H L!M

'see' 'lazy person'

iii r òl ė ===> iv r ó l ė ===> v ról ė
H L!M H-RLK. H L !M H!M

'see a lazy person'

b i ré + òkān ===> ii ré òk àn ===>
H L M M-DSTP. H L!M VD

'slice' 'one'

iii ré k àn ===> iv rék àn
H L !M H!M

ϕ

'cut / slice one'

11a,b are another pair of similar examples. The only difference in their derivations involves the choice of the vowel which is deleted--whether that of the verb or that of the noun--which in turn determines which tone is set floating. In 11a the vowel of the verb is deleted at stage (iii), leaving a floating H behind. This floating H relinks to the initial vowel of the noun thus automatically

freeing the L of this vowel. My comment on the / m / of / mú / and the floating H in 10b (iii) is also relevant here to the / r / of / rí / and the floating H. Notice that this (L) is subsequently deleted, as seen in stage (v). It is not the (L) in its floating position that conditions M-downstep--this has happened earlier in stage (ii). On the other hand, in 11b it is the initial vowel of the noun that is deleted at stage (iii), leaving a floating L behind. The (L) is subsequently assumed to be deleted and we have the surface form as in stage (iv). Also here, the (L) does not condition M-downstep--this is taken care of at stage (ii). In both cases we have the surface form of H-!M from H-LM patterns. Since H-RLK--i.e. H-relinking--does not take place in 11b, 11b (iv) is the equivalent of 11a (v).

H + L L

12a i kó + èpà ===> ii k èpà ===>
H L L VD (H) L L H-RLK.

'pack / gather' 'groundnut(s) / peanut(s)'

iii k épà ===> iv képâ
H-L SPR.
(H) (L) L H L

'buy groundnuts / peanuts'

```
b  i   pé      +      òkè  ===>  ii  pé   kè  ===>
       |              | |   VD        |    |
       H              L L            H (L)  L
```

'roam around' 'mountain / hill'

```
iii   pékè  ===>  iv  pékê
      | |  H-L SPR.   |  |
      H L             H  L
```

'roam around a mountain / hill'

12a,b are also comparable in every respect except in relation to the particular vowel that is deleted. In 12a (iii), the vowel of the verb is deleted leaving (H) behind whereas in 12b the vowel of the verb associated with H is not deleted. The (H) in 12a relinks to the initial vowel of the noun freeing the L. The (L) is subseqently assumed to be deleted. The sequences of L are deliberately left uncollapsed to illustrate the effect of (H) relinking and the loss of L as a result of the loss of syllabicity after VD. In 12b (ii), on the other hand, it is the initial vowel of the noun, that is deleted leaving a floating L. This (L) is also deleted giving us the surface form H-L. In both cases, a type of H-L spreading which applies to items that are products of concatenations occurs--see stages 12a,b (iv) respectively. This process spreads the H of / ẹ / to the L of / a / and / e /, yielding the surface forms <u>kẹ́pâ</u> and <u>pékê</u>, respectively. This is an instance of H-L spreading that should rightly be called 'last tone spreading / post-lexical or phrasal H-L tone spreading'.

One interesting question that one might ask is why in

12b (ii) the vowel is deleted before the tone as opposed to simultaneously with the tone. A simple and straightforward answer is that it provides us with a clear account of what is going on at the two separate but related tiers. However, it could be argued that if both vowel and tone are deleted, it would be simpler to assume that they are deleted simultaneously. But notice that this is not just a question about 12b (ii), it has to do with the general point about tonal stability which is one of the predictions of AP as mentioned in Chapter Three. Another question to which more attention needs to be devoted is what light the facts of Yorùbá throw on the relationship between the association convention and rules such as VD, VA, M-DSTP and SPRs. The possibility that the association convention applies only after the application of such rules would be consistent with the relative autonomy that AP attributes to the suprasegmental tiers and the CV-tier. However, as I shall point out in the next section, there are a few problems if the association conventions operate after those rules. Hence, I adopt the view that the association conventions precede the rules.

5.2.2 HIGH TONE VERB + MID TONE INITIAL NOUN

```
          H  +  M H

13a  i   gbé     +        ādé  ===>  ii  gb   ãdé  ===>
          |               | |   VD            | |  H-RLK.
          H               M H            (H) M H

         'carry / lift'  'crown'

 iii   gb   ádé  ===>  iv  gbádé
            \ /                | |
        (H) (M) H              H H
         ϕ
       'carry / lift crown' (personal name)

b  i   dé   +   Īlé  ===>  ii  dé   lé  ===>
        |       | |   VD        |    |
        H       M H           H (M)  H
                                  ϕ
       'arrive'  'house / home'

                    iii   délé
                          | |
                          H H

                          'arrive home'
                          (personal name)
```

In 13a (ii) we have vowel deletion. The vowel of the verb is deleted, but its H is left behind. This (H) again relinks with the initial vowel of the noun, freeing the M of this vowel. The (M) is thus assumed to be deleted just as the (L) was assumed to have been deleted in 11 and 12. In 13b (ii) it is the initial vowel of the noun that is deleted, leaving a floating M. No H-relinking takes place here because the H is not delinked in the first place. The

floating (M) is also assumed to be deleted, as in 13a. Notice that the fact that M can float, just as L can, is noteworthy. Since vowels that would normally be analysed as bearing M are apparently regularly deleted with the M, Akinlabí (1985), adopting an earlier proposal by Pulleyblank (1983, 1986) suggest that the M (not represented in his analysis) be seen as 'no tone' or 'tonelessness'. This conclusion need not necessarily be so. My contention is that there is M underlyingly and it should be represented as I have done in this study. If it is represented so, it becomes clear that M can float like H and L after its vowel has been deleted. The fact that M is deleted at an intermediate stage of the derivation is not enough reason to assume that it does not exist. The examples in 1-8, 11 & 14, which are by no means isolated cases in the language, provide evidence against the suggestion that M is always deleted. Notice that in 1 two instances of M and one of H are retained throughout the derivation while a L is lost by deletion. Certainly, the frequent deletion of the M in certain contexts has to do with the 'hierarchy of strength' of H, M & L (which Akinlabí rightly mentioned) and not necessarily the 'tonelessness' of the M as he concluded. After all, neither Pulleyblank nor Akinlabí would claim that the L is equal to 'Ø' or 'nothing' or 'tonelessness' in Yorùbá only on account of the fact that L is deleted in 12a,b while a H and another L are retained. The examples in 4, 6, 8 and 9 where we have vowel assimilation rather than vowel deletion, and where M is not always deleted seem to suggest

that M is not to be seen as 'nothing'. One important question for an analysis that sees M as Ø tone is why in a ML, LM, MH or HM sequence word, the L or H does not spread to the adjacent Ø tone. In this analysis, the prediction is that if the M is truly Ø, there could be no item with these tones at all. To the contrary, there are many (also cf. examples 8, 14, 19 and 21 for these patterns across word boundaries). Akinlabí's answer to this question will be to say that L and H do not spread in this position. I consider this to be a weakness vis-a-vis my position.

H + M M

14a i wá + ígí ===> ii wá gí ===>
H M M VD H (M) M

'look for' 'wood'

iii wágí
H M

'look for (fire-)wood'

b i kó + ẹ̀rẹ̀n ===> ii k ẹ̀rẹ̀n ===>
H M M VD (H) M M H-RLK.

'pack' 'meat / animal'

iii k érān ===> iv kérān (fn. 7)

(H) (M) M H M

'pack / gather meat'

14a (ii) is a case where the deletion of the initial vowel of the noun leaves the M floating. The (M) is deleted to give the surface form. 14b is a little more complex than 14a. At stage (ii) the vowel of the verb is deleted, leaving us with a floating (H). This floating (H) is then relinked to the initial vowel of the noun, thus freeing the M originally associated with it. This M is subsequently deleted, and we have the surface pattern of HM from HMM in both cases. The MM of <u>īgī</u> and <u>ērān</u> are deliberately left uncollapsed to illustrate the loss of M after VD in 14a, and after VD and H-RLK in 14b.

H + M L

15a i mú + ōlè ===> ii m ōlè ===>

H M L VD (H) M L H-RLK.

'catch' 'thief'

iii m ólè ===> iv mólê

(H) (M) L H-L SPR. H L

'catch (a) thief'

```
b  i   kó  +    ĩlè  ===>  ii  kó     lè  ===>
       |        | |   VD       |     |  H-L SPR.
       H        M L            H  (M)  L
                                      ↙
       'gather' 'rubbish'
```

```
iii   kólê
      |/|
      H L
```

'gather rubbish'

Again in 15a (ii) the vowel of the verb is deleted leaving H floating behind. In (iii) this (H) relinks with the initial vowel of the noun, automatically freeing the M of the vowel. The M is thus deleted and we have the surface form in (iv) by the application of phrasal H-L spreading. In 15b (ii) it is the initial vowel of the noun that is deleted leaving its M behind to float. The (M) does not relink in (iii) as the (H) does in 15a, and is therefore deleted. The rest of the derivation is exactly as in 15a.

If, as I suggested above, the application of the association convention is delayed until VD takes place, in 15a,b we will rightly have the following:

```
15a'  (i)   mú  +  ōlè   ===>   (ii)   m    ōlè
            H      M L                  H    M L
```

```
15b'  (i)  kó   +   ĩlẹ̀    ===>    (ii)    kó   lẹ̀
           H        M L                     H   M L
```

Thus far all seems alright and superficially it appears as though we will not need H-relinking, which will help us overcome the question of why it applies in 15a and fails to apply in 15b. If the next step is stage (iii) and we assume that it is at this stage that the Association Convention or Mapping Rule applies, we have the following which are one of two possibilities:

```
15a'  (iii)  *m ó l ẽ̀      15b'  (iii)    *k ó l ẹ̀
                |  |\                        |  |\
                H  M L                       H  M L
```

If we map or associate from left-to-right a sequence of tones to a sequence of TBU, we run into a problem. The problem arises because we will be forced either to 'dump' the unassociated L on the last TBU as shown above, or to link H and M in both cases and argue that the unassociated L is deleted. Both solutions produce undesirable results. We will need a rule that will forbid us from associating M, but instead allow us to map the final L to the final TBU. This solution, in my view, is not better than what we have if the association convention or mapping rule applies first. This evidence in fact supports positing a language-specific mapping rule or association convention for Yorùbá as presented in Chapter Three.

5.2.3 MID TONE VERB + LOW TONE INITIAL NOUN

M + L H

16a i jẹ̄ + ẹ̀fọ́ ===> ii jẹ̄ ẹ̀fọ̌ ===>
M L H L-H SPR. M L H VD

'eat' 'vegetable'

iii j ẹ̀fọ̌ ===> iv jẹ̀fọ̌
M L H L H

'eat vegetable'

b i pā + ìgbín ===> ii pā ìgbǐn ===>
M L H L-H SPR. M L H VD

'kill' 'snail(s)'

iii pā gbǐn ===> iv pà gbǐn
M L H L-SPR. M L H

'kill snail(s)'

At stage (ii) of both 16a and 16b the spreading of L to H takes place in the nouns leaving the L multiply linked. Vowel deletion takes place in stage (iii) of both, but in 16a, it is the vowel of the verb, while in 16b it is the initial vowel of the noun which is deleted. In 16a, M is left behind floating, and subsequently deleted. In 16b, the vowel deletion does not render L floating because at this stage--i.e. stage (iii)--it is already multiply linked. To give the correct surface form for 16b, an

additional process takes place. At stage (iv) the L spreads backwards to the vowel of the verb, automatically freeing the M of the vowel. The freed and thus floating M is subsequently deleted and we have the correct form with L-H as shown in (iv).

```
                M + L M

17a  i   pā    +    èfōn  ===>  ii  pā èf ón  ===>
         |          | |  M-DSTP.     | | /     VD
         M          L M              M L!M

         'kill'     'mosquito(es)'

 iii  p     èf ón  ===>  iv   pèf ón
        (M) L!M                 |  /
         ϕ                      L!M
                                'kill mosquito(es)'

b  i   ṣē  +   òkān  ===>  ṣē  òk án  ===>
       |       | |  M-DSTP. |   |  /     VD
       M       L M          M   L!M

       'go'    'one'

iii  ṣē     k án  ===>  iv  ṣè     k án  ===>
     |        /     L-RLK.  ↑       /
     M (L)  !M               (M) (L) !M
                              ϕ

 v    ṣ è k   án
      |      /
      L   !M

'do one (thing) i.e. make up your mind and act'
```

In 17a,b (ii), we have the M-downstep effected by the L of a L-M noun which serves as the downstep operator in

such cases. Again, the vowel of the verb is deleted in 17a (iii), thus leaving M behind, whereas the vowel of the noun is deleted in 17b (iii), leaving a floating L. As seen in 17a (iv), the M is subsequently deleted to give the surface form. On the other hand, the floating L of 17b (iii), is not deleted. It relinks backwards by L-RLK to the vowel of the verb, freeing its M, and the freed M is subsequently deleted. This gives us the surface form in (v).

M + L L

```
18a  i   mū     +     ẹjẹ   ===>  ii  mū      jẹ   ===>
         |            | |   VD        |      |  L-RLK.
         M            L L             M  (L)  L

         'drink'      'blood'

 iii   mù       jẹ   ===>  iv   mùjẹ
       ↓ ↑      |              | |
       (M) (L)  L              L L

                                'drink blood'

b  i   jẹ̄  +   àsè   ===>  ii  j     àsè   ===>
        |       /          VD          /
        M      L                  (M) L

       'eat'   'food prepared for a special occasion'

                iii   jàsè
                       /
                      L

                      'eat at a party'
```

In 18a (ii), the initial vowel of the noun is deleted leaving its L floating. At stage (iii), the (L) relinks

backwards to the vowel of the verb, freeing its M. The surface form is given in (iv). In 18a, the LL of <u>èjè</u> is left uncollapsed to illustrate the L-RLK after VD. On the other hand, in 18b it is the vowel of the verb that is deleted in stage (ii) . L-RLK does not apply at stage (iii) because the environment for it as in 18a is not available. The surface form in stage (iii) of 18b is arrived at by simply assuming the deletion of the floating M.

5.2.4 MID TONE VERB + MID TONE INITIAL NOUN

M + M H

```
19a  i   pā  +   āgbọ́n  ===>  ii  pā      gbọ́n  ===>
         |       |  |     VD        |          |
         M       M  H               M  (M)     H

         'kill'  'wasp'

         iii   p ā gb ọ́n
                 |    |
                 M    H

               'kill wasp(s)'

b  i   jẹ̄  +   ēyín  ===>  ii  j     ēyín  ===>
       |        | |                  | |
       M        M H    VD         (M) M H
                                    ↓
       'eat'    'tooth / teeth'     ϕ
```

```
iii   j ē y ín   (fn. 8)
        |   |
        M   H

      'eat / gnash teeth'
```

The processes in 19a,b are self-explanatory. The deletion of one of the vowels in contact leaves the M floating. In 19a it is the initial vowel of the noun that is lost (fn. 9), and in 19b it is the vowel of the verb. The floating Ms are subsequently deleted and the underlying MMH patterns give us MH at stage (iii) of both derivations.

```
          M  +  M M

20a  i   rẹ̄   +   āṣọ̄  ===>  ii  rẹ̄     ṣọ̄  ===>
          |       | ̣ |     VD      |     |
          M       M M               M (M) M
                                     ↖
        'soak'    'cloth(es)'

        iii   rẹ̄ṣọ̄    (fn. 10)
                | ̣ |
                M M

              'soak cloth(es)'

b  i   jẹ̄  +   ātā  ===>  ii  j     ātā  ===>
          |     | |   VD          | |
          M     M M             (M) M M
                                   ↖
       'eat'   'pepper'
```

```
iii   j ā t ā    (fn. 11)
        |   |
        M   M

      'eat pepper'
```

Here also, the processes are not complex. The V-deletion in both cases leaves an M floating behind. In 20a it is the initial vowel of the noun that is deleted, while in 20b it is the vowel of the verb. Once the floating Ms are deleted, we have the surface forms at stage (iii) of both.

```
          M  +  M L

21a  i    pā   +   ōbì  ===>  ii   pā     bì  ===>
           |       | |   VD        |      |
           M       M L             M  (M)  L
                                      ↙
          'kill'   'kolanut(s)'

   iii      p ā b ì
              |   |
              M   L

            'break kolanut(s) open'

b  i      tā   +   āyò  ===>  ii   t    āyò  ===>
           |       | |   VD            | |
           M       M L             (M) M L
                                      ↙
         'play'   'āyò (game)'
```

iii t ā y ò
M L

'play āyò (game)'

The processes in 21 are comparable to those in 20, except that the final tone in 21 is L while it is M in 20. After V-deletion, the original MML leaves us with ML in both cases. Again in 21b it is impossible to determine which / a / is deleted and therefore arbitrary to assume that the vowel of the verb is deleted rather than that of the noun.

5.2.5 LOW TONE VERB + LOW TONE INITIAL NOUN

L + L H

22a i rà + àdá ===> ii rà àdǎ ===>
L L H L-H SPR. L L H L-RSNG.

'buy' 'cutlass'

iii rā àdǎ ===> iv r àdǎ ===> v r à d ǎ
M L H VD (M) L H L H

'buy cutlass(es)'

b i yà + ìgbé ===> ii yà ìgbẹ̌ ===>
L L H L-H SPR. L L H L-RSNG.

'defecate' 'excreta'

iii yā ìgbé ===> iv yā gbé ===> v yà gbě
M L H VD M L H L-SPR. (M) L H
'defecate'

In 22a,b (ii), L-H spreading takes place giving us àdá and ìgbé respectively. What happens at stage (iii) is a regular process in Yorùbá whereby the L of a verb is raised to M whenever the L-toned (commonly monosyllabic) verb takes a noun object. This is formalized in 23 as follows:

23 VERB + NOUN PHRASE LOW TONE RAISING RULE

L ===> M / V] [
Vb NP

The low tone of a verb is realized as Mid when it is followed by a noun (phrase) object.

The facts presented above represents the way this morphotonological process have always been analysed. However, an alternative analysis is possible. Consider the following alternative representation in 22a' and 22b'.

22a' i rà + àdá ===> ii rà àdǎ ===>
L L H L-H SPR. L L H VD
'buy' 'cutlass'

iii r àdǎ ===> iv r à d ǎ

(L) L H L H

'buy cutlass(es)'

22b' i yà + ìgbé ===> ii yà ìgbě ===>

L L H L-H SPR. L L L H VD

'defecate' 'excreta'

iii yà gbě ===> v yà gbě

L L H L L H

'defecate'

It is an acceptable view that in examples such as the ones presented in 22a,b and 22a,b', the tone of the verb (whether it is L or raised to M) is always deleted (cf. Bámgbóṣé (1965b, 1966b), Pulleyblank (1983) and Akinlabí (1985)). However, with the type of representations used in this thesis, this does not happen in a straightforward manner in 22b'. It is therefore possible to assume that the verb + noun phrase low tone raising rule does not apply and still have the right surface form as shown in 22a,b'. The assumption behind the alternative analysis is that if the tone of the verb is eventually deleted (whether or not raising takes place), it is easier to analyse a L-toned verb as being an input of concatenation with its underlying tone. If this position is valid, stage (iii) of 22a' is parallel to stage (iv) of 22a, and there is no need for raising to apply in 22a'. For the rest of the examples of L-toned verb + noun, the traditional view in which raising

takes place are presented. However, as with 22, there is the possibility of an alternative representation.

```
          L  +  L M

24a  i   gbà   +   èrō  ===>  ii  gbà èr ọ̀  ===>
          |        | |  M-DSTP.     | | /     L-RSNG.
          L        L M              L L!M

        'receive'  'machine'

 iii  gbā èr ọ̀  ===>  iv  gb     èr ọ̀
        | | /          VD        |/
        M L!M                   (M) L!M
                                 ↓
                                 ∅

 v   gbèr ọ̀
       |/
      L!M

     'receive / accept (a) machine or (an) engine'

b  i   tà   +   ìfūn  ===>  ii  tà ìf ún  ===>
        |       | |   M-DSTP.    | | /     L-RSNG.
        L       L M              L L!M

       'sell'    'intestine' (of oxen etc.)

iii    tā  ìf ùn  ===>  iv    tā      f ùn  ===>
        | | /        VD      |        /      L-RLK.
        M L!M                M   (L) !M

  v    t à      f ùn  ===>  vi    t à f ùn
       ↓ ↓      /                  | /
      (M) (L)  !M                  L !M
       ↓
       ∅

                                  'sell intestine'
```

In 24a,b (ii) we have M-downstep (M-DSTP). At stage (iii) of both examples, L of the verb is raised to M. In

24a, the vowel of the verb is deleted at stage (iv) via (VD). Its (M) ((L) in the alternative analysis) is eventually deleted. Stage (v) gives us the surface form. In 24b (iv) on the other hand, it is the initial vowel of the noun that is deleted leaving a (L). A relinking rule (L-RLK) relinks this floating L backwards to the vowel of the verb with its raised M (cf. 24b (v)). This relinking automatically frees the M. The freed M is deleted and we have the surface form with L!M pattern in (vi). In the alternative analysis where (L-RSNG) will not apply, the deletion of the vowel of the verb in 24a (iv), and the deletion of the initial vowel of the noun in 24b (iv) plus (L-RLK) at 24b (v) would have given us the surface form once we assume that the floating tones at the end of the derivation are not realized.

```
            L  +  L  L

25a  i      tà  +  ẹ̀bà  ===>  ii    t ā  ẹ̀bà  ===>
             |     /                  |  /        VD
             L    L   L-RSNG.         M  L

            'sell'  'ẹ̀bà'  (fn. 12)

iii   t     ẹ̀bà     ===>    iv     tẹ̀bà
            /                       /
      (M)  L                        L
      t

                                   'sell ẹ̀bà' or 'prepare
                                    ẹ̀bà'  <===  tẹ̀ + ẹ̀bà.
```

```
b  i     gbà  +     ìyà  ===>  ii    gbā  ìyà  ===>
          |         | |  L-RSNG.       |   | |    VD
          L         L L                M   L L

         'receive'  'suffering'

iii    gbā      yà  ===>  iv    gbà      yà  ===>
        |       |    L-RLK.     ‡        |
        M  (L)  L                (M) (L)  L
                                 Q
```

```
v      gb à y à
          |   |
          L   L

       'accept / receive suffering / poverty'
```

The process here is comparable to those of the last two examples. The major difference is that the noun has a LL which is collapsed in 25a but left uncollapsed in 25b for the purpose of illustrating L-RLK after VD; thus there is neither (L-H SPR) nor (M-DSTP).

5.2.6 LOW TONE VERB + MID TONE INITIAL NOUN

L + M H

```
26a  i    gbà  +     ọ̄kọ́  ===>  ii    gbā ọ̄kọ́  ===>
           |         | |  L-RSNG.       |  | |    VD
           L         M H                M  M H

         'receive'  'hoe'
```

```
iii   gb      ōkó    ===>   iv    gbōkó
        (M)   | |                 | |
              M H                 M H
                                  'accept / receive (a)
                                   hoe'
```

```
b  i   wò     +   Īlé   ===>  ii   wō Īlé   ===>
       |          | |   L-RSNG.    | | |    VD
       L          M H               M M H
       'enter'    'house'
```

```
iii   wō     lé   ===>  iv    wōlé
      |      |                | |
      M  (M) H                M H
                              'enter / enter the house'
```

26a is again a case of deletion of the vowel of the verb. Raising applies at stage (ii). At stage (iii), the tone of the verb is left floating (after (VD)) and consequently seen as deleted to give us the surface form in (iv). Raising also applies in 26b (ii). However, at stage (iii), it is the initial vowel of the noun that is deleted. The floating M is assumed to be deleted and stage (iv) gives us the surface form.

```
          L  +  M L

27a  i    wò  +     ēgbò   ===>  ii   wō ēgbò   ===>
          |         | |   L-RSNG.    | | |    VD
          L         M L               M M L
          'look after' 'sore'
```

```
iii    w     ēgbò    ===>    iv    wēgbò
       (M)   | |                   | |
       ↙     M L                   M L
φ                                  'look after sore'
```

```
b  i    wà    +    ĩlẹ̀   ===> ii    wā ĩlẹ̀   ===>
        |          | |  L-RSNG.       | | |    VD
        L          M L                M M L
        'dig out'  'ground / earth'
```

```
iii    wā     lẹ̀    ===>    iv    wālẹ̀
       |      |                   | |
       M  (M) L                   M L
          ↙
φ                                  'dig out earth'
```

Except that the final tone of the noun in 27 is L, it is in every other respect similar to 26. 27a is comparable to 26a, while 27b goes through exactly the same processes outlined for 26b above. As a result, I will not repeat the comments.

L + M M

```
28a  i    tà   +   ẹ̀rān    ===>    ii    tā   ẹ̀rān   ===>
          |        ↙        L-RSNG.       |    ↙
          L        M                      M    M       VD
          'sell'   'meat / beef'
```

```
iii    t     ẹ̀rān    ===>    iv    tẹ̀rān
       (M)   ↙                      ↙
       ↙     M                      M
φ                                   'sell meat'
```

```
b  i    sà  +  ĩkĩn  (fn. 13)  ===>  ii   sā  ĩkĩn  ===>
         |      | |              L-RSNG.   |   | |    VD
         L      M M                        M   M M

        'pick'  'palm kernel'

iii     sā      kĩn     ===>     iv     sākĩn
         |       |                     | |
         M  (M)  M                     M M
            ↙
            Ø                          'pick palm kernel'
```

Apart from the fact that the last tone of the noun in 28a,b is M, it is in all other respects similar to 26 and 27. 28a goes through exactly the same processes as in 26a and 27a, while 28b undergoes the same processes as in 26b and 27b. I will therefore not repeat the comments. However, as usual, the MM of <u>ĩkĩn</u> in 28b is deliberately left uncollapsed to illustrate the loss of M after VD.

My alternative analysis (which is possible for all the examples in 24 - 28 as demonstrated in 22a,b') is significant because the L of the verb can only come in contact with either another L or M in native Yorùbá items. The output of the contraction in such cases is always L (if the combination is L of verb plus initial L of the noun), and M (if the combination is L of the verb plus initial M of the noun). What this output suggests is that within the alternative analysis, the low tone raising rule (L-RSNG) is unnecessary. However, this conclusion will be valid ONLY when L-toned verbs plus noun objects result in disyllabic contracted items as output of a tri-syllabic combination of items via vowel deletion (VD). In cases where the

structure is simply that of the concatenation of a L-toned verb and a noun object (i.e. where VD does not apply), L-RSNG MUST apply.

The examples in 10 - 22 and 24 - 28 illustrate the various tonal combinations possible in Yorùbá across word boundaries, especially in verb plus noun combinations. Cases where the tone of the verb is H, M or L but the initial vowel of the noun is H are not given above, because such tonal combinations are not attested in phrases containing native Yorùbá words. Such examples are, however, possible if loan words are considered. Following Ufomata's (1986:142ff) discussion and list of recent Yorùbá loan words, it is appropriate to cite a few examples here. Consider the following:

5.2.7 HIGH, MID AND LOW TONE VERBS + HIGH TONE INITIAL NOUN

H + H--

29a (i) rí + ómò ===> (ii) rí ómô ===>
H H L H-L SPR. H H L VD

'see' 'Omo detergent'

(iii) r ómô ===> (iv) rómô
H H L H L

'see Omo detergent'

b (i) ká + ápù ===> (ii) ká ápû ===>
H H L H-L SPR. H H L VD

'pluck' 'apple'

(iii) k ápû ===> (iv) kápû
(H) H L H L
ϕ

'pluck apple'

At stage (ii) of 29a,b the H to L spreading within a word (H-L SPR) takes place. At stage (iii) of both there is the deletion of the vowel of the verb. In the case of (b), it may be argued that it is the initial vowel of the noun and not that of the verb that is deleted. However, I choose to analyse it as I did above, so that it will be uniform with 29a. One crucial aspect of 29a,b is stage (iii), where the V-deletion leaves a floating H behind. This is crucial because it provides evidence contrary to the claim that if H floats in Yorùbá, it must be relinked and is never deleted. 29 suggests that such statements can only be true if this type of example is ignored. Since there is an immediately adjacent H, it may be argued that in some sense this is not a strong evidence that H is being deleted. But note that this evidence (its weakness notwithstanding) makes the claim that H is never deleted in Yorùbá uncertain. One must admit, however, that this type of evidence is available only in loan words. Stage (iv) of both derivations gives us the surface form after (H) has been deleted.

M + H--

30a (i) mū + ésò ===> (ii) mū ésô ===>
M H L H-L SPR. M H L VA

'drink' 'Esso' (fuel)

(iii) m ē é s ô
M H L

'drink Esso'

b (i) ṣē + áyònù ===> (ii) ṣē áyônù ===>
M H L H-L SPR. M H L VA

'do' 'pressing iron'

(iii) ṣ ā á y ô n ù (fn. 14)
M H L

'make a pressing iron'

In 30a,b the H and L spreading takes place at stage (ii). At stage (iii) it is a case of the vowel of the verb assimilating to the initial vowel of the noun. The tones remain stable. Thus although the vowels change features, the tones do not. Lastly, let us consider the following examples.

L + H--

31a (i) fò + áńkásíìfù (fn. 15) ===> H-L SPR.

L H L

'wash' 'handkerchief'

(ii) fò áńkásíìfù ===> (iii) fō áńkásíîfù ===> VA

L H L L-RSNG. M H L

(iv) f ā á ń k á s í î f ù

M H L

'wash (a) handkerchief'

b (i) gbà + áńkóòfù (fn. 16) ===> H-L SPR.

L H L

'accept' 'hand-cuffs'

(ii) gbà áńkóòfù ===> (iii) gbā áńkóôfù ===>

L H L L-RSNG. M H L

(iv) gb ā á ń k ó ô f ù

M H L

'accept hand-cuffs'

The structure of the nouns in 31a,b is longer than VCV, but notice that this is no problem as the tone of their initial vowels is our major concern. In these items we have H-L spreading again in (ii), the L-raising rule (of 23) applies in (iii) and vowel assimilation gives us the

surface forms in (iv) of 31a with the tones remaining stable. The vowels in contact in 31b are similar; thus one cannot talk of vowel assimilation in this case.

Generally speaking, vowel assimilation (VA) ratner than vowel deletion (VD) is characteristic of the examples in 29-31. As a result, if VA rather than VD applies in 29, we will have an acceptable output. However, VD is observed to be common with the items in 29 in such a way that they are not possible for the items in 30 and 31. Consequently, the loss of syllabicity found in 29 is not possible in 30 and 31. The frequency of use of the items in 29 compared with those in 30 and 31 may provide a clue for the possibility of VD in 29.

A number of conclusions relating to associations, linking, delinking and relinking processes can be drawn from the derivations in 1-22 and 24-31 above. In the following section I shall attempt to explain them. At the same time, I will formalize the rules described in the course of the derivations.

5.3 LINKING, DELINKING AND RELINKING PROCESSES

The basic conclusions drawn from the derivations in 1-22 and 24-31 above are as follows:

32 BASIC CONCLUSIONS: (ASSOCIATION / (LINKING))

(a) Tonal autosegments and vowel segments are underlyingly separate, i.e. unassociated or unlinked (cf. Chapter 3).

(b) Association conventions - linking autosegments by association lines (cf. Chapter 3) - apply at the beginning of the derivation only. (Stage (i) of all the derivations in 1-22 and 24-31 is the association convention stage.) All other processes of linking, delinking and relinking take place by rule.

33 OTHER CONCLUSIONS: (DISASSOCIATION / DELINKING AND RELINKING)

(a) If a delinked / disassociated tone - thus floating H, M or L - RELINKS by rule to another vowel segment, which has its own underlying tone (unless it is stated to the contrary), the relinking of the delinked floating tone automatically delinks or frees the underlying tone of the segment, i.e. sets it floating (cf. 10b (iii, iv and v); 11a (iii, iv and v); 12a (ii, iii and iv); 13a (ii, iii and iv); 14b (ii, iii and iv); 15a (ii, iii and iv).

(b) If no statement is made about a floating tone (and, in the case of (a) above, a tone newly freed and set floating by the process described therein), it is assumed that the freed / floating tone is deleted (cf. 1a,b (iii

and iv); 2a,b (ii and iii); 5a,b (ii and iii) and 7a,b (iii and iv).

(c) If a tone is multiply linked and one of the vowel segments to which it is linked is deleted by a vowel deletion rule, it is assumed that the association line between the deleted vowel and the multiply linked tone is severed. The tone is NOT freed or set floating, as the other linkings, or associations, remain unaffected (cf. 10a (iii); 16b (iii) and 22b (iv).

(d) If a vowel segment linked with a tonal autosegment (H, M or L) is deleted, unless the tone is multiply linked as described in (c), it is assumed that the tone is set floating. If no statement is made about the floating tone, (b) above applies (cf. 1a,b (iii); 2a,b (ii); 5a,b (ii); 7a,b (iii); 10b (iii) H is not deleted; 11b (iii and iv); 12b (ii and iii); 13b (ii and iii); 14a (ii and iii); 15b (ii and iii); 16a (iii and iv); 17a (iii and iv); 17b (iii) - L is not deleted; 18b (ii and iii); 19a,b (ii and iii); 20a,b (ii and iii); 21a,b (ii and iii); 22a (iv and v); 24a (iv and v); 24b (iv, v and vi) - L is not deleted; 25a (iii and iv); 26a (iii and iv); 26b (v); 27a,b (iii and iv); 28a,b (iii and iv); 29a,b (iii and iv)).

(e) If a multiply linked tone (which has had one of its linking / association lines severed / disassociated as described in (c)) spreads backwards by rule to another vowel segment which has an underlying tone (as in (a)),

unless it is stated to the contrary, the spreading of the multiply linked tone automatically frees the underlying tone of the segment - thus making it float. If nothing is said about the freed / floating tone, (b) above applies (cf. 16b (iii and iv); 22b (iv and v)).

(f) If a linked tonal autosegment spreads backwards, or if a floating tone relinks backwards, the spreading / relinking automatically frees the underlying tone of the vowel segment to which it spreads (cf. 8a,b (ii and iii); 9a,b (iii, iv and v); 17b (iii, iv and v)); 18a (ii, iii and iv); 24b (iv and v); 25b (iii, iv and v)).

5.3.1 SUMMARY OF TONAL PROCESSES

The processes that account for the derivations of the data in 1-22 and 24-31 are as follows:

34 i Tone spreading within a word and M-downstep rules within a word - T1(a), T1(b) and T1(c).

ii Low Tone Raising Rule (L Tone verb becoming M before a NP object).

iii Vowel Assimilation.

iv Vowel Deletion.

v Tone Relinkings (of different kinds, details below).

vi Tone Spreadings (i.e. varieties of T1 (a), (b) and (c) across word boundaries).

5.3.2 FORMALIZATION OF RULES

Below is the detailed formalization of the rules already described in the derivations of 1 - 22 and 24 - 31. Details of Tone rules alone are given. Vowel deletion and vowel assimilation rules are assumed to be clear, as I have mentioned them before in Chapter 3. Cases of vowel deletion and the tone(s) left behind are catered for by the conclusion in 33d. Their formal representation, therefore needs no further comment.

35 T1(a) - Low to High Tone spreading within a word.

```
V  C  V
|  ---|
L     H
```

(cf. 4a, 10 a,b, 16a,b, 22a,b)

T1(a) spreads the L of the first V to the H of the second V whenever the structural description of the environment is available - creating a rising tone on the second syllable.

36 T1(b)i - High to Low Tone spreading within a word.

```
V C V
|  ---|
H    L
```

(cf. 3a,b, 6a,b, 9a,b, 29a,b, 30a,b, and 31a,b).

T1(b) spreads the H of the first V to the L of the second V

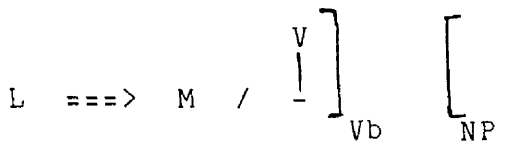
creating a surface fall.

37 T1(c) - M-downstep within a word.

M ===> !M / L -

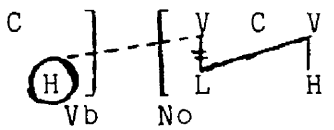
See examples 1a,b, 11a,b, and 24a,b for the application of this rule within a word, and 8a,b for its application across word boundaries.

38 T2 - Verb + Noun Phrase Low Tone Raising Rule (i.e. V + NP L-RSNG, the same as 23).



This rule converts L tone verbs to M when they take noun objects (cf. 22a,b (iii), 24a,b (iii), 25a,b (ii), 26a,b (ii), 27a,b (ii), 28a,b (ii).

39 T3i High tone relinking Rule (Multiple Linking)

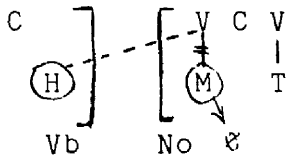


This rule relinks a disassociated, thus floating, (H) to the initial V of a multiply linked L, thus automatically disassociating the V from the L (cf. 33a). (Also, cf. 10b (iii, iv and v), 11a (iii, iv and v), 12a (ii, iii and iv), 13a (ii, iii and iv), 14b (ii, iii and iv), 15a (ii, iii

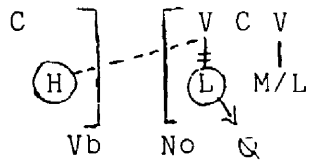
and iv)).

40 T3ii High tone relinking Rule (Non-Multiple Linking)

(a)

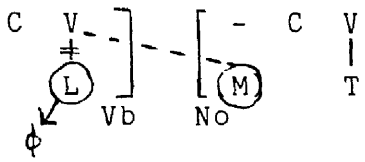


(b)



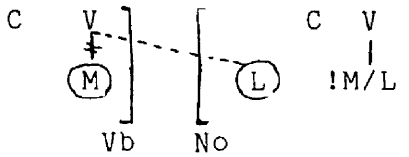
In 40b M/L means that the tone of the final vowel may be M or L, but not H. T of the second vowel in 40a covers the three possibilities - H, M or L.

41 T4 Mid Tone Relinking Rule (Optional)



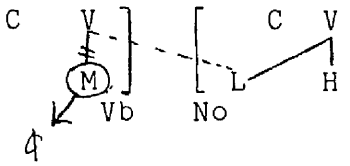
This rule relinks a floating (M) backwards to the linked vowel of the verb, thus automatically freeing its (i.e. the verb's) underlying L. This rule applies in the cases of the alternative analysis of the low-toned verb plus noun combination illustrated in 22' (cf. 26b, 27b and 28b).

42 T5 Low Tone Relinking Rule



The last tone of the nominal is either M realized as !M or L (cf. 17b and 18a). The rule relinks a floating (L) backwards to the vowel of the verb, thus automatically freeing the verb of its underlying M. (Also, cf. 24b and 25b).

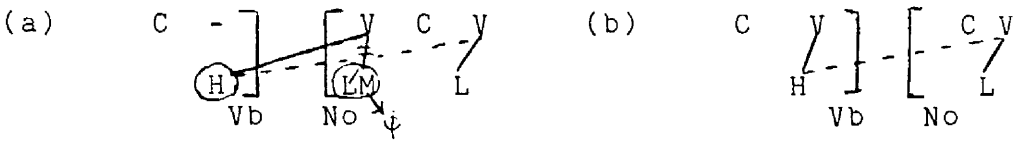
43 T6 Verb + Noun Low Tone Spreadng Rule (Multiply Linked)



T6 spreads the linked L of the initial vowel of the noun backwards to the vowel of the verb, which must underlyingly be associated with a M (NOT L or H). The spreading automatically frees the underlying tone (cf. 16b and 22b). The final vowel of the noun must have a H.

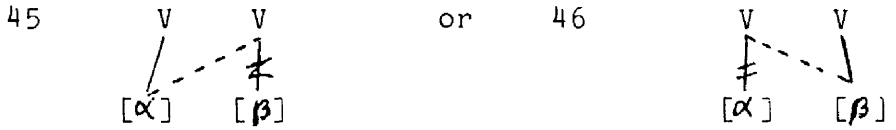
44 T1(b)ii High to Low Tone spreading across word boundaries

There are two types:



44 (a) spreads the H formerly associated with the verb (but delinked and relinked to the initial vowel of the noun) to the L of the final vowel of the Noun (cf. 12a,b and 15a,b). 44 (b) on the other hand spreads the H of the verb (not at any time delinked or relinked) to the L of the final vowel of the noun. In both cases, the spreading is across word boundaries (cf. 12b and 15b).

The vowel assimilation rule in Yorùbá may be either:



A large percentage of the cases of vowel assimilation in this chapter are of the type in 46 (cf. 4a, 4b, 6a, 6b (iii), 8a, (ii), 9a (iii), 9b (iii), 30a,b, 31a,b). Only 8b (ii) is of the type in 45.

The vowel deletion rules are of the types in 47:

47 V ===> Ø / V - or V ===> Ø / - V

The rules mentioned so far take care of all the tonal processes mentioned up to this stage in Chapter 5. As we proceed by examining other tonal patterns and processes across word boundaries, I shall formalize the rules along with the explanations of the processes.

5.4 THE VERB INFINITIVE PHRASE HIGH TONE (IPHT)

Scholars of Yorùbá (fn. 17) have observed and described a phenomenon according to which certain verbs in the language are followed by what they have called a 'high tone vowel'. Actually, the high tone following the verb seems to 'dock on' (gets to be linked with) the last vowel of the verb. However, this is not clearly so because vowel length always accompany the verb plus high tone realisation in this position. This high tone phenomenon has been identified as a mark of the infinitive phrase in Yorùbá. Ward (1952) and Awobuluyi (1970), on the one hand, and Ward (1952) and Bámgbóṣé (1971), on the other, have differing views about the origin of this high tone. The details will not detain us here. What is important is that they agree on the occurrence of the high tone. Within this analysis, this high tone is seen as underlyingly linked to an unspecified V-slot (signified by V). I see this as a kind of infinitive V-prefix to the predicate verb. Five of the verbs that are normally followed by this high tone phenomenon are given in 48 (taken from Bámgbóṣé (1971:42)):

```
48  a   dùn        b   yá          c   rọ̄rùn
         |             |                |  |
         L             H                M  L

       '(be) sweet'   '(be) quick'     '(be) easy'

    d   ṣē         e   fẹ́rẹ̀
         |             |  |
         M             H  L

       'do'           'almost'
```

The high tone phenomenon for the verbs is seen in the phrases in 49-53; (a) of each presents the H linked to a V, and (b) shows the representation after the V has assimilated to the final vowel of the first verb.

```
49  a   wọ́n   +   dùn   +   V́   +   wò   becomes
         |         |       |        |
         H         L       H        L

       'they'   'sweet'  IPHT     'look'

    b   wọ́n  dùn  ǔn  wò
         |    |    |   |
         H    L    H   L

       'they are lovely to behold.'

50  a   āṣọ̄   +   yǐ   +   yá   +   V́   +   rán   becomes
         |  |       ∧        |       |        |
         M  M      LH        H       H        H

     'cloth' 'this' 'fast'IPHT 'sew'
```

b āṣō yí yá á rán
M LH H H H

'this cloth is fast to sew.'

51 a kèké + rọ̄rùn + V́ + gùn becomes
L H M L H L

'bicycle' 'easy'IPHT 'ride'

b kèké rọ̄rùn ún gùn
L H M L H L

'(a) bicycle is easy to ride.'

52 a ọ̄tí + ṣē + V́ + mū becomes
M H M H M

'alcohol' 'do'IPHT 'drink'

b ọ̄tí ṣē é mū
M H M H M

'it is possible to drink alcohol.'

53 a ó + férè + V́ + sūnkún becomes
H H L H M H

'(s)he' 'almost'IPHT 'weep'

b ó férè é sūnkún
H H L H M H

'(s)he almost weeps / wept.'

This process is accounted for by the sort of VA rule given

in 45.

There is one significant difference between this analysis and that of Akinlabí (1985:148). The H here is seen as originally linked to an unidentified vowel which copies the features of the final vowel of the preceding verb. Akinlabí first associates this H to an / i /, deletes the vowel / i / and sets the H floating, then relinks it. This is a possible analysis of the phenomenon. However, because there is no agreement on the origin of the vowel that carries the H and because vowel length vowel length always accompany the verb + IPHT phenomenon, I have chosen to take a less complicated view and analyse the H as underlyingly linked to a V slot. I will therefore argue that this process involves only VA while the tones remain stable. This process, in my view, does not call for vowel deletion and tone relinking at all.

5.5 THE SUBJECT MARKING HIGH TONE - (SMHT)

Another tonal process across word boundaries is that which marks off the end of a subject from the beginning of a predicate in a sentence. It has now acquired the popular name High Tone Syllable (or (HTS) for short) in its various descriptions in the literature. There is no complete agreement on the part of every scholar with regard to the nature and function of this subject marking high tone phenomenon (henceforth (SMHT)).

Carnochan (1964:404) was the first to present a lucid picture of the process when he declared that the high tone syllable "is a feature of the sentence and could be considered as a junction prosody, of the subject and verb in specific conditions." He thereby corrected the former impression given by Ward (1952), and subsequently adopted by Abraham (1958), that the phenomenon only signifies relations between words. Though Carnochan's formalization of [(NP)(VP)]h is not totally adequate for my description, his observation was later to be confirmed by other scholars discussing the same issue. For example, Bámgbóṣé (1966b, 1980), Courtenay (1969), Fresco (1970), and Oyèláràn (1971) all agree with the claim made above (that the high tone syllable demarcates the end of the subject noun phrase from the beginning of the predicate verb phrase). On the other hand, Adétugbọ (1971) sees the phenomenon as a pronoun aspect formative, while Awobulúyì (1975) presents it as a non-future tense marker. Carnochan's view that this phenomenon functions as a subject marker is adopted by the present writer. In form, the high tone is presented as an underlying floating H that docks on, or gets linked to, the last vowel of the word ending the subject noun phrase. Following Pulleyblank (1983, 1986) and Akinlabí (1985), I adopt the view that the SMHT belongs to an inflexional (INFL) category occurring between the noun phrase and the verb phrase. Consider the examples in 54-58. (57,58 are from Carnochan (1964:405). The tier labellings are mine.)

54 a ākīn lọ̄ b ākīn [ ] lọ̄ ===>

M M M [H] M

'Akin' 'go / went'

c ākǐn [ ] lọ̄

M [H] M

'Akin goes / went.'

55 a ọ̀rọ̀ dùn lẹ́nū rẹ̀

L L H M L

'word' 'sweet' 'in mouth' 'his / her'

b ọ̀rọ̀ [ ] dùn lẹ́nū rẹ̀ ===>

L [H] L H M L

c ọ̀rọ̌ [ ] dùn lẹ́nū rẹ̀

L [H] L H M L

'(s)he has a sugar-coated tongue.'

56 a āyé lē b āyé [ ] lē ===>

M H M M H [H] M

'world' 'difficult / hard'

c āyé [ ] lē

M(H) [H] M

'life is hard / difficult.'

57 a

gbōgbō	ẹ̀gbá	tí	ń gbé	ōkō
M	L H	H	H H	M
'all'	'Ẹ̀gbá'	'which'	'live'	'farm'

gbá	ōgūn	jọ̄
H	M	M
'gather'	'war'	'together'

b

gbōgbō	ẹ̀gbá	tí	ń	gbé	ōkō	[ ]	gbá	ōgūn	jọ̄	===>
M	L H	H	H	H	H M	[H]	H	M	M	

c

gbōgbō	ẹ̀gbá	tí	ń	gbé	ōkṓ	[ ]	gbá	ōgūn	jọ̄
M	L H	H	H	H	H M	[H]	H	M	M

'all the Ẹ̀gbás who were living on farms gathered together for war.'

58 a

ìgè	bá	mī	gbé	ē
L	H	M	H	M
'Ìgè'	'help'	'me'	'carry'	'it'

b

ìgè	[ ]	bá	mī	gbé	ē	===>
L	[H]	H	M	H	M	

c

ìgě	[ ]	bá	mī	gbé	ē
L	[H]	H	M	H	M

'Ìgè helped me carry it.'

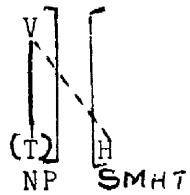
In (b) of all the examples in 54-58 the SMHT is posited as a floating tone. At stage (c) it is linked to

the last vowel of the subject noun phrase. In the case of 54c and 57c a glide from M to H is possible, where 55c and 58c produce a L-H glide. In fast speech the M-H and L-H glides are optionally reduced to H in certain idiolects. In 56c the linking to SMHT applies vacuously, as the vowel é of ayé is still realized on a single H with the duration of a single vowel.

This phenomenon is accounted for by the rule given in 59.

T7 Subject Marking High Tone Linking Rule

59



This rule links the underlyingly floating H of the SMHT backwards to the last vowel of the subject noun phrase, which is itself already linked to H, M or L, signified by T.

5.6 ASSOCIATIVE MARKER MID TONE (AMMT)

Another tonal process across word boundaries in the language is that in which a Mid tone syllable is used as a marker of the association relation between two nouns. When two nouns are concatenated, of which the first is the 'possessed' and the second is the 'possessor', a Mid tone

is always inserted between them. Oyèláràn (1971:120ff) identified this process as involving a "DETerminer MARker (DM)", cf especially p 123. The M is realized on the final vowel of the first noun which gives the impression that this is a case of a floating M. It has also been claimed that if the second noun begins with a vowel, the M is optionally realized, whereas if it has a consonant-initial segment, the M is obligatorily inserted. The M can be analysed as an underlyingly floating M, which is linked to the final vowel of the first noun, but this will not adequately explain the vowel length that often surfaces before the second noun. The final vowel of the first noun is analysed as already being linked / associated to H, M or L. This process is analysed in a similar way to that of the IPHT. An unspecified mid toned vowel is posited between two nouns. This V is however optionally deleted if the second noun is V-initial. This process also involves vowel assimilation rather than tone linking (cf. 45). Consider the following:

60 a ìwà + ìyàwó

L L H

'character' 'wife'

b ìwà V̄ ìyàwó ===> c ìwà (ā) ìyàwó

L (M) L H L (M) L H

'wife's character'

```
61 a  ìwé  +  'fúnñkẹ́     b   ìwé   ∇   'fúnñkẹ́  ===>
      | |      | | |         | |   |     | | |
      L H      H M H         L H   M     H M H

      'book'   'Fúnñkẹ́

 c   ìwé    ē    fúnñkẹ́
     | |     |     | | |
     L H     M     H M H

     ''Fúnñkẹ́'s book(s)'
```

5.7 SPREADING ACROSS WORD BOUNDARIES

Cases of spreading across word boundaries have been alluded to in 43, i.e. T6: Verb + Noun Low Tone Spreading involving multiple linking. A multiply linked L of the initial vowel of a noun is analysed as spreading backwards to the final vowel of a verb, which must underlyingly be associated with a M, but not a H or L. This spreading is also seen as automatically freeing the underlying M of the verb. Also, in 44a,b two types of H-L spreadings across word boundaries are presented. I will not repeat them here. There are, however, other forms of spreading across word boundaries. They are as follows:

5.7.1 PROGRESSIVE ASPECT MARKER HIGH TONE (PAMHT)

The progressive aspect marker in Yorùbá is ń, i.e. a high-toned syllabic nasal. Consider the following examples:

62 a ākīn ń lọ̄ ===> b ākīn ń lọ̄ ===>

M M H M M M H M

Ākín prog. 'go'

c ākín ń lọ̄

M H M

'Ākīn is going.'

63 a īṣé ń dùn ===> b īṣé ń dùn ===>

M H H L M H H L

'work' prog. 'sweet'

c īṣé ń dùn

M H L

'work is becoming sweet / interesting.'

64 a ẹ̀bùn ń sùn ===> b ẹ̀bún ń sùn

L L H L L L H L

Ẹ̀bùn prog. 'sleep'

c ẹ̀bǔn ń sùn

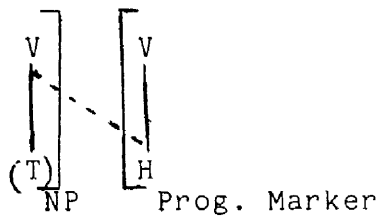
L H L

'Ẹ̀bùn is sleeping'

In 62 and 63 the H of the progressive aspect marker optionally spreads backwards to the final vowel of the subject noun phrase. The spreading is once again analysed here as automatically freeing the final underlying tone of the subject noun phrase. This spreading is not obligatory

as the forms in 62-64a,c are equally acceptable. In 62 and 64, the monotones are deliberately left uncollapsed to illustrate the effect of the High tone spreading. This rule is formalized in 65.

65 PROGRESSIVE ASPECT MARKER HIGH TONE SPREADING RULE



The significant difference between this formalization and the previous ones in the literature is that the H of the PAMHT is analysed as spreading backwards to the final vowel of the subject noun phrase, which is itself associated to a T = H, M or L, though, in the case of H, it applies vacuously. It is this spreading-cum-delinking that disassociates the previous linking, as explained above.

5.7.2 FUTURE TENSE MARKER HIGH TONE (FTMHT)

This phenomenon is very similar to the one just described above in 5.7.1. One of the future tense markers in the language is á, i.e. a high-toned vowel á. Again, consider the following examples which are, in a way, a repetition of 62-64.

```
66  a   ākīn    á    lọ̄  ===>  b  ākín   á   lọ̄   ===>
        | |     |    |            | ≠ ·.|   |
        M M     H    M            M(M)  H   M
```

Ākīn fut. 'go'

```
c   ākín  á  lọ̄
    |  \  |   |
    M    H   M
```

'Ākīn will go.'

```
67  a   īṣé      á      dùn  ===>  b  īṣé  á  dùn  ===>
        | |       |       |            | ≠ ·.|   |
        M H       H       L            M H  H   L
```

'work' fut. 'sweet'

```
c   īṣé  á  dùn
    |  \  |   |
    M    H   L
```

'work will be sweet / interesting.'

```
68  a   ẹ̀bùn    á    sùn  ===>  b  ẹ̀bún á sùn
        | |  \   |    |            | ≠ ·.| |
        L L     H    L            L L  H  L
```

Ẹ̀bùn fut. 'sleep

```
c   ẹ̀bǔn  á  sùn
    |  \  |   |
    L    H   L
```

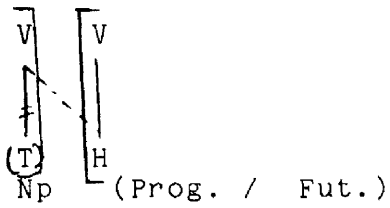
'Ẹ̀bùn will sleep'

As seen above, the H of the future tense marker optionally spreads backwards to the final vowel of the subject noun phrase. Here, once again, this final vowel is analysed as being associated with a tone T = H, M or L and the spreading automatically severs this relationship and

thus frees the underlying tone of the subject NP final vowel. The monotones in 66 and 68 are left uncollapsed for the same reason given in 5.7.1. The rule that accounts for this process is similar to the one in 65. It is as follows:

Future Tense Marker High Tone Spreading Rule:

69



There are a number of obvious similarities between the two rules presented in 65 and 69, primarily because of the relatedness of the phenomena they account for. As a result of this, the two rules are collapsed and presented as T8 in 70.

T8 Progressive Aspect Marker and Future Tense Marker High Tone Spreading Rule (optional)

70

5.8 THE SO-CALLED SURFACE CONTOUR TONE SPREADING

Finally, I will briefly mention the so-called surface

contour tone spreading. The cases of realizations of H when preceded by L, and L when preceded by H, have been referred to (especially by Akinlabí (1985)) as cases of 'surface contour tone spreading' or 'last tone spreading'. This view is challenged in this analysis. As indicated in relevant derivations in 1-22 and 24-31, it is found that two types of H-L and L-H spreadings need to be recognised. Certain spreadings of this kind take place within words before the words are concatenated and others are better motivated after all other processes have taken place. These latter ones are the only ones that qualify as 'last-tone spreading'. The former types are better referred to as 'first tone spreading or spreading within a word'. The rules that take care of these processes are given in 35 and 36 (for what I now analyse as an early application of spreading) and 44a,b (as cases of 'last tone spreading', especially for H-L spreading). Cases of L-H spreading across word boundaries are not numerous, but see 5.1.9, 9a, section 4.10.2, 42a (iii) and 5.4, 49, 51 & 53 for examples. L-H spreading across word boundaries should be possible in all cases where the low toned prefix / ì / is used in the nominalisation of a high toned verb plus a noun. However, as I noted, the patterns thus produced are quite often questionable in SY. The other relevant examples are given in 1-22 and 24-31 and referred to in 35, 36 and 44.

S U M M A R Y

I began this chapter by presenting the different tonal patterns that are possible across word boundaries in Yorùbá. Data involving Noun + Noun, and Verb + Noun are analysed. In the analysis, a number of tonal processes are pointed out and explained. Next, a list of conclusions is given concerning the manner in which the tonal operations take place. The linking, delinking and relinking processes are explained and relevant tone rules are also presented. I then examined the Verb Infinitive High Tone, the Subject Marking High Tone and the Associative Marker Mid Tone. I concluded that it is only in the case of SMHT that one can confidently talk of an underlying floating H. The cases of IPHT and AMMT are analysed as involving VA only, with nothing to do with tone linking. Cases of spreading across word boundaries are explained and the particular instances of the progressive aspect and the future tense high tones are analysed as spreadings.

Finally, it is pointed out that there is evidence for recognising two types of what has hitherto been called 'last tone spreading'. I therefore propose that the type of spreading which occurs early be called 'first tone spreading or spreading within a word' while the other, which must take place late, may remain as 'last tone spreadng'. Illustrations and rules to explain these phenomena are provided.

FOOTNOTES TO CHAPTER FIVE

1 In all the examples in this chapter, and of course in this thesis, I assume that stage (i) of the derivations is the level after the operation of tne Universal Association Convention; hence the representation at stage (i) with vowels and tonal autosegments already associated.

2 In native Yorùbá formatives there is no word of VCV pattern with the initial vowel bearing H. Only loan words provide the possibility of this tonal pattern. This analysis exploits the opportunity provided by this possibility to evaluate what the tonal patterns will be.

3 In 3a and b (iv), we have an alternation rule that denasalises / n / to [l] when it is followed by any oral vowel except / i / and nasalised vowels (before which it is realized as [n] (cf. Ufomata (1986) and Lawal (1986:97))). The oral vowels in question exclude / u /, which is ruled out by a constraint from beginning an item in SY (cf. Oyèláràn (1971:73-74)). The / n / ==> [l] realisation occurs before all other oral vowels, except the [+ High] ones. Also, the spreading of H to L, which is not really the issue here, takes place in 3a,b (ii).

4 Apart from the H initial, this word is seen to be foreign in so far as it contains the sound [p] rather than the nearest Yorùbá counterpart, i.e. [kp].

5 The same explanation as in fn.2 above also holds for this H initial.

6 Consonant-initial nouns are also available in the language, as discussed in Chapter 4.

7 This expression <u>kérān</u> is always used idiomatically to mean 'get into trouble'.

8 This expression is often used idiomatically to mean 'you are joking' or 'you don't mean it'.

9 The selection of the initial vowel of the noun for deletion here is arbitrary. The vowel of the verb could be deleted and we would still have the same surface form, because the two vowels in contact are of the same quality and have similar tones.

10 There is also a verb phrase <u>rāṣō</u> but this derives from a combination of <u>rà</u> and <u>āṣō</u> and means 'buy cloth(es)'.

11 This expression is sometimes used to mean 'eat something worthwhile / reasonably good'.

12 Ẹ̀bà is a type of Nigerian food made from cassava.

13 Ìkìn, as opposed to èkùró, 'palm kernel' is the special name given to the type of palm kernels used for divinations by the bābāláwōs 'Ifá priests' and Ifá devotees. Ifá is the Yorùbá god of wisdom.

14 This word is also pronounced áyọ̀ṅ and áyẹ̀nì.

15 This word is also pronounced áńkáṣíìfì or áńkáṣífì.

16 This word is also pronounced áńkóọ̀bù.

17 For example, Ward (1952), Awóbulúyì (1970) and Bámgbóṣé (1971). Also, see Akinlabí (1985) for a report on this phenomenon.

CHAPTER SIX

TONE REPRESENTATION AND YORÙBÁ TONE

6.0 INTRODUCTION

In this chapter I will examine the issue of tone representation and its various applications to the tonal patterns found in Yorùbá. Crucial to the discussion is the position of the mid tone. I will discuss the different ways in which the M in Yorùbá has been perceived, understood and analysed. In this connection, the views of Ward (1952), Rowlands (1955) and Stahlke (1974) are first examined to establish the fact that Yorùbá M is a controversial subject. Carnochan's (1964), Bámgbóṣé's (1965-67) and Courtenay's (1969, 1971) views are also examined for comparison with the earlier ones. Certain other proposals, such as those of Clements (1983) and Pulleyblank (1983, 1986) (not designed exclusively for Yorùbá, but geared towards the analyses of African tone languages) and Akinlabí (1985) (an application of Pulleyblank's (1983) proposals exclusively to Yorùbá) are examined. Finally, a recent proposal in Hyman (1986) (a proposal that has the potentiality of handling any language with multiple tone heights, but whose initial operation is illustrated by Ngamambo) is examined with referece to Yorùbá tone. There is an extensive discussion of certain claims alluded to in Pulleyblank (1983, 1986), and

subsequently supported and expanded in Akinlabí (1985), in relation to the theory of TU and its applications to Yorùbá. One obvious reason why the discussion of TU is extensive is that it is the only theory of tonal analysis out of the ones cited above which has been employed in the analysis of Yorùbá in a fairly exhaustive manner. My observation is that certain arguments advanced to back some of the claims of the theory do not correctly reflect the whole picture of the existing problems. Illustrations are provided to demonstrate this. The relevance of the other proposals and their difficulties in dealing with certain details of Yorùbá tone are outlined.

6.1 EARLIER VIEWS

As briefly mentioned in Chapter Two, most of the works on Yorùbá tone known to me agree on the fact that Yorùbá has a three-term tone system with high, mid and low tones. However, there are certain scholars who, either on the basis of perception or diachronic inferences, argue that the three tones do not contrast regularly in every environment. In other words, they do not dispute the fact that the three-way contrast exists. Three of these scholars' views are examined below, each with his / her reasons for not seeing the tones as distinctive in all contexts.

6.1.1 WARD'S PERCEPTION OF THE MID TONE

Ward (1952: 30, 33) first acknowledged the fact that Yorùbá is more difficult than other West African tone languages because of its three distinctive levels, before raising her suspicion about the distinctiveness of the mid from the high tone. She wrote:

> When one hears a word with two level tones which are not felt to be near the bottom of the speaking voice, it is usually impossible to say whether they are two high or two mid tones. (Ward 1952: 30, 33)

This observation might appear to cast some doubt on whether the system really has three tones, as opposed to a binary opposition between low and non-low. This is certainly a perception problem which I have also encountered in the process of teaching Yorùbá to foreigners, both in Nigeria and here in London. In one of my evening classes in The City Literary Institute, West London, in November 1985, for instance, two of my students (one British, the other with Nigerian parents, but born and bred in London) stopped me in the middle of a lesson and complained that they could not hear any difference between my mids and highs. The problem was not solved until a number of drills and exercises on mid and high tone items clearly demonstrated the distinctiveness. Some of the examples are as follows:

1a ẹ̄yīn b ẹ̄pō c ātā d ẹ̄rān

M M M M

'egg' 'oil' 'pepper' 'meat'

2a jígí b róbó c pápá d dáná (fn.1)

H H H H H

'mirror' 'melon-cake' 'field' 'make fire'

I maintain that the problem can be explained away as that of a foreigner's perception when his / her ears are not accustomed to distinguishing three levels of tonal contrast, such as that found in Yorùbá. As we have seen in Chapters Four and Five, and in 1 and 2 above, there is no doubt about the fact that the difference between high and mid is distinctive in the language. At the same time, however, this problem indicates the reality that in certain contexts the M of Yorùbá is very similar phonetically to the H.

6.1.2 ROWLANDS' VIEW ON THE YORÙBÁ MID

Rowlands (1955: 333-336) amplified and, in some details, modified Ward's observation quoted above. He claimed that the distinction between high and mid is possible only when the words that contain them are preceded or followed by at least one other syllable on a higher or lower pitch. Also, he maintained that, in the case of words of one syllable, and even sequences of syllables

which form one word or sequences where the syllables are distributed over two or more words, the only distinction that can be made is between low tone and "not low" tone. To this effect, he claimed that the tones of the utterances in 3a-c are indistinguishable from those in 4a and b, but that 3a-c and 4a and b are distinguishable from 5a and b (fn.2).

3a látúndé b wá níbí c ó rí róbótó

H H H H H H H

personal name 'come here' 'it is round'

4a āgōgō b āṣọ̄ fūnfūn

M M M

'metal gong / bell' 'white cloth'

5a àkàrà b ọ̀gẹ̀dẹ̀ kò pọ̀

L L L L

'bean-cake' 'bananas are not plentiful'

Finally, Rowlands gave what he called "a proof of the correctness" of his analysis in the impossibility of finding any convincing examples from actual speech of pairs of utterances, in which the distinction between level mid tone and level high tone in isolation would be necessary to avoid ambiguity. His search through monosyllabic, disyllabic and trisyllabic utterances supposedly proves that such pairs are not readily available in Yorùbá. However, this is again a matter of perception. Although

Rowlands discarded all instances of:

ó	lō	vs.	ó	ló
H	M		H	H
'he'	'go'		'it'	'be tepid'

ó	jē	vs.	ó	jé
H	M		H	H
'he'	'eat'		'he'	'answer a call'

as artificial constructions, on the grounds that they are neither regular nor numerous, the fact still remains that the difference between Yorùbá M and H is distinctive.

6.1.3 STAHLKE'S VIEW OF THE MID

Stahlke (1974: 139-145) confirmed the observation previously made by scholars of Yorùbá that there is a three-way tonal contrast of H, M and L in Yorùbá monosyllabic verbs. He confirmed also that the contrast between L and M tone verbs is neutralized before a noun in that low tone verbs are realized as mid. One of Stahlke's examples is cited below. The tonal tier representation is my addition.

6a

rà
L

'buy'

b

ó	rā	bàtà
H	M	L

'he bought shoes'

c

bàtà	nĪ	ó	rà
L	M	H	L

'shoes it is he bought'
'it's shoes he bought'

Stahlke further claimed, on the basis of illustrations from four "verb-related tonal alternations" (fn.3), that the type of neutralization seen in (6) reflects an earlier stage of the language, when there was an allotonic relationship between M and L, much like that found in present-day Ewe (another West African Kwa tone language). Stahlke's analysis, as we shall see in 6.4, boiled down to the claim that at an earlier stage of Yorùbá there was only high tone vs. non-high tone, and that the non-high tone (phonetically mid or low) at a certain stage split to give what we now know as M and L. As to how the mid / low contrast developed, Stahlke admits to having no answer and can only speculate. What is important for the present purposes, however, is that, by contrast with the phonetic similarity between H and M identified by Ward and expanded upon by Rowlands, another type of phonetic similarity (between the L and the M) is identified here. In other words, there is evidence in Yorùbá to suggest a close relationship between H and M on the one hand, and between L and M on the other. This fact makes Yorùbá M a

controversial subject. A number of other illustrations that support this claim are cited in relevant stages of this chapter.

6.1.4 OTHER RELEVANT VIEWS

Other relevant views on the issue of the mid tone include those of Carnochan (1964), Bámgbóṣé (1965-67) and Courtenay (1969), to mention but three. None of them singled out the mid for discussion as did those discussed in 6.1.1 - 6.1.3, but they all agree that the M is affected by various tonal processes. Carnochan (fn.4), who also derived inspiration from Ward, not only recognised Hs and Ls, but also Ms (fn.5). Bámgbóṣé (1966) and Courtenay (1969) both mentioned the type of relationship between L and M described in 6.1.3 above, but without any speculation about the origin of the L that is realized as M or the non-existence of M at a certain stage in the diachronic study of Yorùbá. They both probably assumed, as I think Carnochan also did, that the mid tone is an underlying tone. To this effect, Bámgbóṣé described the realizations of the H, M and L when preceded by L, and identified the phonological significance of a L tone that is assumed to have been assimilated or deleted (fn.6) as 'assimilated low tone'. Courtenay also treated downstepping and terracing as two processes that are conditioned by the low tone in Yorùbá. It is important to note that she rightly pointed out that H is not only realized as a rising tone when preceded by L, it is also lowered or terraced. By the same

token, a M preceded by a L is realized as what she called a 'lower mid'--my downstepped M.

Bámgbóṣé's claim about the realization of a final L as a lower low when preceded by another L is a controversial subject. So far there is no convincing proof to support this claim. Again, what is important here is that these scholars agree on the fact that a L conditions a downstep of a following M in a significantly perceptible manner compared with the way it effects lowering on a following H or L. I support this view as it has been demonstrated in Chapter Five. The significance of this claim is that if the M is not a significant tone in Yorùbá just like H and L, it will not be possible for other tonal processes to affect it. But M could be derived (via M Default Application within Akinlabí's analysis) before the relevant processes. It may be argued that this is not very strong evidence in support of M because it is conceivable that there could be a sort of recursive tone modification process that could create an M out of H and / or L in a particular context, and then modify this M itself. While such a mechanism might be invoked to derive the Ms that occur in certain contexts (cf. examples 9 and 10 below), the tonal contrasts in lexical items such as those (1-5) above would seem to require an underlying three-term tone system. Notice that a phrasal M downstep rule can be motivated at the phonetic level after an 'unspecified' M has been filled in. This would apply to 5.1.8 example 8. But this surely cannot apply to a downstep within a word

which must apply early in this analysis (cf. 5.1.1 example 1 and 5.2.1 example 11).

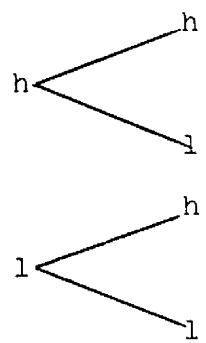
6.2 CLEMENTS' HIERARCHICAL REPRESENTATION OF TONE FEATURES AND YORÙBÁ MID TONE

Clements (1983) presents a hierarchical model of tone features which is motivated to tackle certain intractable problems relating to the analysis of tone in phonological theory. He sets out to provide a comprehensive framework for the treatment of both tone level distinctions and tone terracing (i.e. downstep and upstep phenomena). It is an advancement on, and an alternative representation to, Yip's (1980) tone features (motivated by the tonal system of Chinese) in its application to African tone languages. Although Yip did not name her model a 'hierarchical representation', nor did Clements refer to it as such, the basic idea of dividing the overall pitch range into two primary registers ([+ / - upper] or h and l) and the possibility of a further subdivision into subregisters in order to account for up to four level tones is characteristic of both models. Yip's framework is therefore also hierarchical in a sense, because she admits that the two binary features which she proposed are to be interpreted in this way (cf. Yip 1982:24).

In Clements' model it is claimed that the three, four or five tone levels of a complex tone system are not symmetrical, i.e. they are not equidistant. Certain tones

are treated as more closely related to each other than they are to other tones of the system. It is thus claimed that an 'unmarked' four-level system involves a primary opposition between a higher and a lower register and a secondary distinction between h and l, which further subdivides the primary h and the primary l into subregisters. This is represented as follows:

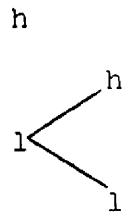
7



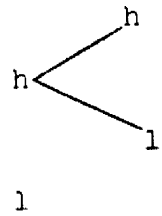
Potentially, 7 will account for four-level systems such as the ones found in Igede, Ewe (Anlo), (Ki)kamba and probably Avatime and Bwamu.

By the same token, Clements claimed that a three-level system in the 'unmarked' case might involve a split in the lower primary register (as in the case of Ewe), represented in 8a, or alternatively a split in the higher register, as shown in 8b:

8a



8b



I assume from the foregoing that the type of representation in 8b is inappropriate for Ewe, since it is the mid and the low that are closely related in this language. The situation where both 8a and 8b are applicable in a three-level tone system (a situation where mid and low, as well as mid and high, tones alternate in highly productive patterns) is not provided for in the model.

This brings us directly to the application of Clements' proposal to Yorùbá tone. There is no problem with the primary opposition, or distinction, between high and low. The problem is in either subdividing the primary high or the primary low to arrive at a mid. The Yorùbá mid can either be underlying or derived. Instances of derived M are possibly responsible for the speculations and doubts about the distinctiveness of the three tones in all environments, as described above (cf. 6.1.1 - 6.1.3). Consider the following examples, which have been cited before in 4.10.2, examples 42e and 42f:

M DERIVED FROM H AND L

```
9a   ò   +   fé   +   àlè   ===>  b  ò  f    àlè   ===>
     |       |       | |             |      | |
     L       H       L L             L   (H) L L

     prefix 'marry' 'concubine'

c  ò f    á l è    ===>  d   òfālè   =   òfálè
   |      ↓   |             | | |
   L   (H)(L)  L             L M L

                             'one who flirts'

10a  ò   +   dá   +   òràn   ===>  b  ò dá     ràn ===>
     |       |       | |             |  |     |
     L       H       L L             L  H  (L) L

     prefix 'cause' 'trouble'

c    òdāràn   =   òdáràn
     | | |
     L M L

     'one who causes trouble / criminal'
```

In 9 the underlying first L of the verb phrase (after vowel deletion and H-RLK) becomes M on the surface, but in 10 the underlying initial H of the verb phrase becomes M after vowel deletion. In 9 the M is arrived at by analysing the floating (L) (via H-RLK) as being fused to the (now) linked H of á, while in 10 the M is accounted for by the fusion of the floating (L) to the linked H of á in a more straightfoward manner.

Mid and low tone verbs take a high tone clitic object pronoun, but high tone verbs take mid tone clitic object

pronoun (cf. Courtenay 1969:93 and discussion in Akinlabí (1985:62-70)). This is fully discussed again in 6.4.1.3 below. Courtenay analysed the clitic object pronoun as underlyingly H. Thus, the case of a M-tone clitic object pronoun after a high tone verb is an instance of H becoming M.

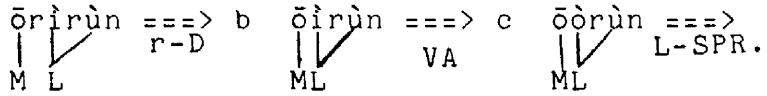
ALTERNATION BETWEEN M AND H

The following example illustrates a case of alternations between M and H in that the underlying initial M may be realized as a M or may be replaced by a H.

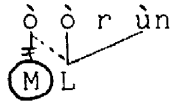
```
11a  kōríkō   ===>   b   kōíkō   ===>   c   kōókō   ===>
      | | |    r-D        || |    VA        || |    H-SPR.
      M H M              MH M              MH M

     'grass / weed'

d   k ó ó k ō     =     kóókō
      ↓ ↓ |              \ |
      M H M               H M
      ϕ
```

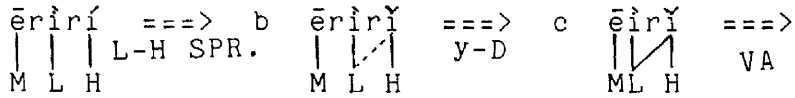
ALTERNATION BETWEEN M AND L

In 12 and 13 the initial M may be realized as L after C-deletion and V-assimilation or may be preserved as M (cf. 4.10.1 examples 37 and 38).

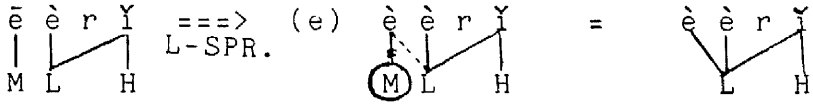
12a 

'sun'

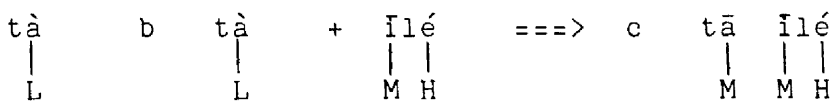
d 

13a 

'a type of food for goats'

(d) 

Finally, as mentioned before a low-toned verb is realized with a M whenever the verb takes a noun object--irrespective of the tone on the initial vowel segment of the noun object (cf 6.1.3 above). A similar example to the one cited in 6.1.3 is presented again here for convenience.

14a 

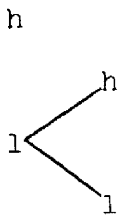
'sell' 'sell' 'house' 'sell a house'

In 14 the L of <u>tà</u> is realized as M before the noun object <u>Ìlé</u>.

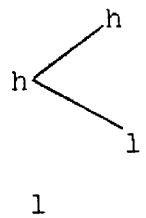
From the above data (which is by no means exhaustive),

it appears as though Yorùbá mid cannot adequately be analysed as involving exclusively either (15) or (16) (cf. (8a) and (8b)) i.e. as involving a split in either the lower or the higher register alone.

15

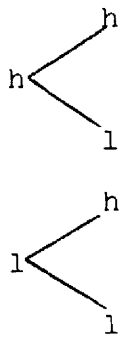


16



If, on the basis of this, one concludes that the Yorùbá three-level system is to be handled by a combination of the two notations in 15 and 16, there is still a problem. The combination will give 17 which is designed to take care of four-level tone systems. Yet there is no evidence so far to suggest that Yorùbá is a four-level tone system.

17



I will leave this issue as it is at this stage and return to it again after we have considered other proposals concerning the treatment of Yorùbá M.

6.3 PULLEYBLANK'S AND AKINLABÍ'S TONAL UNDERSPECIFICATION AND YORÙBÁ MID

Another proposal on tonal issues that has been applied to the tones of Yorùbá, among other African tone systems, is that of Tonal Underspecification. TU treats Yorùbá M in a slightly different way from the proposal just examined, as illustrated below.

6.3.1 TONAL UNDERSPECIFICATION

TU according to Pulleyblank (1983), published 1986, is a theory of phonology which has 'markedness' and 'redundancy rules' as its antecedents in the literature. Thus it is not a completely new notion. A number of significant similarities between 'markedness' and 'underspecification' theories are outlined in Archangeli (1984:38-42). Akinlabí (1985:51-53) also provides a concise summary. The basic crucial claim of TU is that 'unmarked' feature specifications can be supplied by universal default rules. After Pulleyblank (1983) used examples from more than five unrelated African languages to demonstrate the claims of TU, Akinlabí (1985) singled out Yorùbá (one of the languages used by Pulleyblank for his illustration) and carried out a thorough and extensive analysis of the language.

6.3.2 FEATURE SPECIFICATION

The feature specifications employed in Pulleyblank's and Akinlabí's analyses are along the lines of those proposed by Moira Yip (1980) for Chinese. The representation is well able to handle a language with up to four levels of tone. Pulleyblank (1983,86) and subsequently Akinlabí (1985) modified Yip's proposal by replacing her 'High' with 'Raised' as a terminological difference to avoid any possible misunderstanding of the feature 'High' of high pitch with any other possible feature 'High'. The two are presented in 18 and 19.

18 Yip's (1980:24)

Register	Tone
+Upper	+High (H)
	-High (L)
-Upper	+High (H)
	-High (L)

19 Pulleyblank's & Akinlabí's (1983:145) (1985:54-56)

+Upper	+Raised H
	-Raised HM
-Upper	+Raised M
	-Raised L

6.3.3 DEFAULT VALUE APPLICATIONS

According to Pulleyblank (1983), the default value is not universal and uniform for every tonal system. Thus the facts of the language have to be taken into consideration

to decide what the default tone of a particular tonal system is and different default values are proposed for instance, for Margi, Tiv, and Yorùbá. The M of Yorùbá is the one earmarked in Pulleyblank (1983) and subsequently in Akinlabí (1985) as the tone to be supplied by default rule. Pulleyblank did not elaborate on the reason for his choice of the M, but his discussion implies that the M is the least marked one. Akinlabí, on the other hand, proposes that there are other reasons for choosing the M as the default tone than merely that it is the least marked (see 6.4.2 for further discussion). The default value proposed for Yorùbá is a combination of [-Upper] and [+Raised] (cf. 19) formalised as follows:

20 $\textcircled{V}$ ===> $\underset{[-\text{Upper}]}{V}$ and $\textcircled{V}$ ===> $\underset{[+\text{Raised}]}{V}$

6.3.4 DEFAULT RULES

The claim is that default rules are of the structure:

21 $\textcircled{Y}$ ===> $\underset{\alpha F}{Y}$

i.e. TBU / segment (Y) which is not specified for any tonal feature is supplied with 'αF' tonal feature if it, at the end of a derivation, has received no tonal specification. This means that the (vowel) segment (Y) is unspecified for

tone underlyingly and does not acquire tone by any tonal process until it gets to the surface, where it is then assigned a tone by default rule. For Yorùbá therefore, the structure is given as in (22) which is shorthand for (20).

22 (V) ===> V
|
M

Default rules, it is claimed, are supplied by universal grammar and they assign feature specifications (in this case, of tone) to segments unspecified underlyingly for these features at the surface level, or at the end of the derivation. It is also claimed that default rules must be ordered with respect to other phonological rules. Pulleyblank presented evidence to the effect that certain cases of tonal default rules must apply after a number of post-lexical rules. It was demonstrated that the default rule insertion of tone takes place in the phonetic component or at the phonetic level in Yoruba, optionally at the post-lexical level and at the phonetic level in Margi, post-lexically and optionally at the phonetic level in Tiv, and at the lexical level, but also optionally at the post-lexical and phonetic levels in Dschang (cf. Pulleyblank (1983:40,46,144-167) and Akinlabí (1985:54-56)). This is the TU position with regard to the M of Yorùbá. Notice that Yip (1980:27) suggested that in a three-term tone language, the representations:

23 $$\begin{bmatrix} +\text{Upper} \\ \\ -\text{High} \end{bmatrix} \Longleftrightarrow \begin{bmatrix} -\text{Upper} \\ \\ +\text{High} \end{bmatrix}$$

are equivalent phonetically. As we shall see shortly, this seems to be borne out by the data from Yorùbá. The basis upon which Pulleyblank and Akinlabí ascertained that [+Upper,-Raised] is HM or Higher mid tone, and that [-Upper,+Raised] is M or mid tone, especially in Yorùbá, is not clear to me.

6.4 MORE CONTROVERSIES SURROUNDING THE MID TONE

In order to defend the position of TU on Yorùbá mid, and to support his claim that Yorùbá mid is 'null' or 'zero', Akinlabí (1985) utilised some of the existing arguments about the non-distinctiveness of the mid and its phonetic similarity with either the high or the low. The salient points of the arguments are brought out here for discussion.

6.4.1 THE TONE SPLIT THEORY

Stahlke's (1974) views on 'the development of three way tonal contrast in Yorùbá', alluded to in 6.1.3, are here referred to as the tone split theory. On the basis of what Stahlke called 'four verb-related tonal alternations', he claimed in the article in question that the fact that the three-level contrast of Yorùbá breaks down in certain

environments could be a pointer to the fact that Yorùbá had two tones originally. The alternations are discussed in the following subsections.

6.4.1.1 NEUTRALISATION OF THE THREE-WAY TONAL CONTRAST

The first of the four verb-related arguments and illustrations was presented in 6.1.3 and will not be repeated here. Suffice it to say that the essence of the claim is that the contrast between a low tone verb and a mid tone verb breaks down when the low tone verb takes a noun object. The contrast is maintained, however, if the low tone verb takes a pronoun object or if the noun object in question is topicalised or focused. This is one of the reasons why Stahlke suggested the possibility of recognising only two tones as the underlying tones of Yorùbá.

Notice that there is a difference between genuine two-contrast analysis of Yorùbá (such as Stahlke suggested) and a three-contrast analysis which has H, L and unspecified (such as Pulleyblank proposed). As we shall see in the following sections, it seems to me that Akinlabí misrepresented the spirit of Pulleyblank's proposal by claiming that the M is 'nothing'. Since he had no disagreements with the three-way contrasts, limiting himself to the claim that M is unspecified would have sufficed.

6.4.1.2 TONAL STRUCTURE OF THE CLITIC SUBJECT PRONOUNS

Another piece of evidence advanced in support of the tone split theory is that provided by the clitic subject pronouns in sentences with preterite, progressive and future aspect markers. This is the second of the four verb-related arguments mentioned above. Consider the examples in 24 which are from Stahlke (1974:140). They are also used in Akinlabí (1985:62ff) with some modifications. The tier representation of the examples is mine.

24 PRETERITE

```
a  i   mō  lō          ii   ō        lō
       |   |                |        |
       M   M                M        M

      'I' 'went'            'you sg.' 'went'

  iii  ā    lō         iv   ē        lō
       |    |               |        |
       M    M               M        M

      'we' 'went'           'you     'went'
                             pl.'
```

PROGRESSIVE

b i mò ń lō
L H M
'I' prog. 'go'
'I am going'

ii ò ń lō
L H M
'you sg.' prog. 'go'
'you sg. are going'

iii à ń lō
L H M
'we' prog. 'go'
'we are going'

iv è ń lō
L H M
'you pl.' prog. 'go'
'you pl. are going'

FUTURE

c i mà á lō
L H M
'I' fut. 'go'
'I will go'

ii wà á lō
L H M
'you sg.' fut. 'go'
'you sg. will go'

iii à á lō
L H M
'we' fut. 'go'
'we will go'

iv è á lō
L H M
'you pl.' fut. 'go'
'you pl. will go'

The forms presented above (and in (26) below) are for the first and the second person singular and plural of the clitic subject pronouns. Stahlke's observation is that, from the data presented above, the low tone and the mid tone are morphologically predictable i.e. they alternate: mid occurs in the preterite and in certain other aspects (his tenses) but low precedes the progressive marker ń and

future marker á. The situation with the third person singular and plural pronoun is a little different. They show a non-alternating high tone and Stahlke took the alternating vs non-alternating patterns as evidence in favour of the position that Yorùbá displays a phonological high vs non-high contrast as opposed to high, mid and low (fn.7). Examples of the third person forms are given below:

25 PRETERITE

a i ó lọ̄ ii wọ́n lọ̄
H M H M
'he went' 'they went'

PROGRESSIVE

b i ó ń lọ̄ ii wọ́n ń lọ̄
H H M H H M
'he' prog. 'go' 'they' prog. 'go'
'he is going' 'they are going'

FUTURE

c i á á lọ̄ ii wọ́n á lọ̄
H H M H H M
'he' fut. 'go' 'they' fut. 'go'
'he will go' 'they will go'

Akinlabí's assessment of this data is slightly

different. He saw the non-alternating high tone on the one hand (cf. 25a,c), and the low tone (of the alternating forms) on the other (cf. 24b,c & 26 i-iv) as an evidence in support of recognising only H and L underlyingly in Yorùbá. He would actually not use the terms alternating and non-alternating because within his analysis, his principle rules out M participating in such processes. As a result, he did not analyse this data in terms of alternation. He argued that if we posit low tones for all the forms in 24, we can simply explain the forms in 24a (i-iv) (which surface with mid tone) by means of a tone deletion rule (fn.8). The rule gets rid of the underlying low tones and leaves them with no tone. It is also argued that it is the 'no tone' which is perceived as mid pitch that we call mid tone.

This idea also sounds fascinating, but there are problems in Akinlabí's assessment of this issue. Firstly, given the M-L alternation in the examples in 24a-c alone, it is noteworthy that Akinlabí could still see the low tone, like the high tone, as non-alternating. Further evidence of the fact that the M-L alternation in 24 is not a restricted one is that all the forms in 24b (i-iv), and 24c (iii and iv) can in fact be rendered with a mid tone. Thus (as is also clear to Akinlabí because he mentioned it elsewhere in his analysis) the forms listed above can also be pronounced as in 26.

26 i a mò ń lọ̄ or b mō ń lọ̄
L H M M H M

ii a ò ń lọ̄ or b ō ń lọ̄
L H M M H M

iii a à ń lọ̄ or b ā ń lọ̄
L H M M H M

iv a ẹ̀ ń lọ̄ or b ẹ̄ ń lọ̄
L H M M H M

v a à á lọ̄ or b ā á lọ̄
L H M M H M

vi a ẹ̀ á(ẹ́) lọ̄ or b ẹ̄ á(ẹ́) lọ̄
L H(H) M M H(H) M

vii a mà á lọ̄ b *mā á lọ̄
L H M M H M

viii a wà á lọ̄ b *wā á lọ̄
L H M M H M

Akinlabí is not even observationally adequate since the mid is common to all the forms in 24 except 24c (i and ii), as 26 has also shown. The first four items in 24a (i-iv) cannot be uttered with low. This variation is within SY and has nothing to do with dialectal differences

which exist between Akinlabí's Yorùbá and mine. Akinlabí explained this strong evidence away by saying that the underlying tone, i.e. the low tone, is gradually being deleted leaving us with 'toneless' segments for the clitic subject pronouns. This explanation is not satisfactory at all because as we see above, there is no reason why one cannot argue that the mid is alternating with the low in these items.

One final piece of evidence is the fact that the negative forms of the clitics considered above have mid tones and not low. Consider the following:

27 NEGATIVE

i mī ò lọ̄
M L M

'I Neg. go'
'I did / will / am not go(ing)'

ii ọ̄ ò lọ̄
M L M

'You Sg. Neg. go'
'You Sg. did / will / are not go(ing)'

iii ā à lọ̄
M L M

'we Neg. go'
'we did / will / are not go(ing)'

iv ẹ̄ ẹ̀ lọ̄
M L M

'You Pl. Neg. go'
'You Pl. did / will / are not go(ing)'

Statistically, there are more of the clitic subject pronouns that surface with mid than those that surface with low. Probably this is the reason why Siertsema (1959:396-397) claimed that there are no low-toned personal

pronouns. To conclude this subsection, I submit that Stahlke's observation about the first and second person clitic subject pronouns--that "the occurrence of low and mid tone is predictable morphologically, mid occurring in the preterite and certain other tenses and low before the tense marker ń (progressive) and á (future)"--is not totally correct. The first part of the observation is right, but the second half, as I have demonstrated above, is incorrect. Also, Akinlabí's account of the M does not solve the problem, as the examples have shown. I therefore propose that--whatever the historical facts may have been--as far as the present-day language is concerned, Yoruba is better analysed in terms of three underlying tones, leaving the possibility of the M being derived in certain contexts.

I propose that the data in 24-27 do not argue for any binary analysis. At the same time, I do not see any real advantage in positing underlying Ms for these items. My proposal of an alternative analysis therefore goes thus: in the same way that HL or LH are analysed as being fused into M in 9 and 10, the M on the first syllable of the examples in 24a could be analysed as resulting from a LH sequence. The L would be the L of the 1st and 2nd person subject pronouns--thus agreeing with Akinlabí's claim of an underlying L for all the forms--and the H is posited as a floating H representing the 'preterite tense'. There is no particular motivation for this floating H in the synchronic detail of the preterite tense, but there are other

independent motivations in the language which involve positing floating Hs (cf. Chapter Five). Also, 25a is quite compatible with a floating H realization of preterite, in this case H (H) giving H. The implication of this analysis however is that in the diachronic detail of Yorùbá, the preterite, the progressive, and the future tenses (aspects) have the same underlying forms which are perceived differently now. There is no historical evidence known to me which affirms or disproves this claim. Another implication of this proposal is that the regular occurrence of L and M in 24a,b and 26 (i-iv) is not really an 'alternation' between L and M. The M is here analysed as the surface realization of an underlying sequence of tones LH or HL. To handle the alternative pronunciations in 26 (i-vi) within this proposal, the fusion of floating H to an underlying L to produce an M is invoked as an optional process. If as I have shown the M is statistically more common, the representation with an underlying L will be an optional one. The first option seems to be the best for 26 in view of 26 (vii-viii). If this speculative suggestion works it will nullify any idea of positing an underlying M for the subject pronouns. The Ms in 24-26 are therefore seen as not existing underlyingly. Even in 27, positing a floating H tense / aspect marker between the low toned 1st / 2nd person subject pronouns and the low-toned negative morpheme gives us the surface M. This also does not contradict the speculative proposal of long vs short monosyllable analysis presented above. These proposals do not in any way mean that I would necessarily treat all mid

tones as derived.

6.4.1.3 THE TONE(S) OF CLITIC OBJECT PRONOUNS

Another phenomenon that has been advanced in the literature to support the tone split theory is that of the tone(s) of clitic object pronouns. The data presented below though different in the exact lexical items used conforms to essentially the same pattern as that in Stahlke (1974:140) and Akinlabí (1985:67)--see 28, 29 and 30; gbé = 'carry', rō = 'pain' and gbà = 'receive'.

28 CLITIC OBJECT PRONOUNS SURFACE WITH MID TONE AFTER A HIGH-TONE VERB.

ó	gbé	mĪ	'(s)he / it	carried	me'	
ó	gbé	ẹ̄	"	"	"	you
ó	gbé	ē	"	"	"	him / her / it
ó	gbé	wā	"	"	"	us
ó	gbé	(ē yín)/(yĪn)	"	"	"	you pl.
ó	gbé	wọ̄n	"	"	"	them

29 CLITIC OBJECT PRONOUNS SURFACE WITH HIGH TONE AFTER A MID-TONE VERB

ó	rō	mí	'it pained me'
ó	rō	ẹ́	" " you
ó	rō	ó	" " him / her / it
ó	rō	wá	" " us
ó	rō	yín	" " you pl.
ó	rō	wọ́n	" " them

30 CLITIC OBJECT PRONOUNS SURFACE WITH HIGH TONE AFTER A LOW-TONE VERB

ó	gbà	mí (fn.9)	'(s)he received me'
ó	gbà	ẹ́	" " you
ó	gbà	á	" " him / her / it
ó	gbà	wá	" " us
ó	gbà	yín	" " you pl.
ó	gbà	wọ́n	" " them

Stahlke claimed that the data presented above exhibit alternations that support his speculation that the tonal contrast in Yorùbá was just between high tone and a non-high tone as opposed to contrasts between high, mid and low tones. He observed that clitic object pronouns show a predictable two-way tonal contrast--high after non-high tone verbs, and mid after high tone verbs. He sees this as the tone of the clitic being polarised to the tone of the verb. He noted that his statement has the implication that the contrast between mid and low-tone verbs is not

relevant to the tone of the pronouns. He formulated this rule for the object pronoun tone:

31 Pronoun ===> [αhigh tone] / $\begin{bmatrix} -\alpha\text{high tone} \\ +\text{ verb} \end{bmatrix}$ -

If Stahlke's view is expanded, one could claim that the mid tone clitic object pronouns in 28 are actually assigned low tones after high tone verbs, but their low tones are raised to mid by the type of regular phonetic similarity involving low and mid explained as raising elsewhere in this chapter.

Furthermore, Stahlke's rule in 31 presupposes that the clitic object pronouns are toneless, and it is the rule that could be said to have assigned tone to items which have no tone of their own. The second person plural clitic object pronoun which one would expect to be realized as yīn is actually realised in this way in the Ìgbómìnà and Òwè dialects of Yorùbá, for example. In standard Yorùbá, it is realized as ē yín. This could be explained by seeing the ē inserted between the verb and the object pronoun as a mid-toned epenthetic vowel. Since the tone of the object pronoun is determined by the tone of the verb immediately preceding it, the structural description for the rule is not met any more once the mid-toned vowel is inserted. Instead, the object pronoun responds to the mid tone now preceding it as though it were to the mid tone of a verb. Thus the boldened parts of: ó rō yÍN and ó gbé **E yÍN** are

similar tonally. This explanation sounds a bit ad hoc in that one may ask the question: why should there be an epenthetic vowel here but nowhere else? I have no convincing answer to this question at the moment. As ad hoc as it appears, this solution is the best that can be offered for this process now. If the ē is analysed as reminiscent of the initial vowel of the longer form of this pronoun--èyīn--(cf. example 32 (v)), this solution will still leave a number of questions unanswered as ē is significantly different from è tonally.

Another view on this subject is that of Courtenay (1969) who argued that if we consider the distribution of the clitics, we can assume that they are all underlyingly high-toned, and that the high tone becomes mid tone after high-tone verbs. As I have just argued above, one could also claim here that the second person plural clitic object pronoun is realized with high tone in SY because of the mid-toned epenthetic vowel inserted between the verb and the object pronoun. While Stahlke focused on the tone of the verb, Courtenay's attention was on the tone of the clitics. Akinlabí saw Courtenay's suggestion of high tones of the clitics becoming mid tones after high tone verbs as an indication of high tone split comparable to Stahlke's non-high tone split. His examples to support this view will not detain us here (but see 7.5 for the sort of examples he used). Suffice it to say that all the cases of H realised as M which he claimed can support a Non-low tone split analysis are what I analyse as H-L or L-H fusion to

produce M.

Akinlabí ultimately abandoned the idea of either a non-high tone or a Non-low tone split on the grounds that there is not enough synchronic evidence to confirm this position. He thus settled for M to be analysed as 'no tone'. My position is to consider these various processes previously called 'alternations'--but which I have seen in certain contexts as phonetic similarities--and provide an analysis of them within a framework that recognises both derived and underlying mid tones.

As regards H-tone object pronouns after low-tone / mid-tone verbs, the proposed analysis just mentioned would predict that these high tone object pronouns would not be as high as the high of a high-tone verb, for instance. This is exactly the case. They are not really as high as a stressed high-toned syllable would be. Perceptually, they are somewhat lower. This is without dispute in the case of H-tone object pronouns after low-tone verbs where they are realized as rising (fn.11). The situation with high tone object pronouns after mid-tone verbs is not so clear. My judgment, however, is that they are lower than the high in high tone verbs. This position justifies seeing this issue as involving stressed vs unstressed syllables.

Finally, one other possible explanation of the clitic object pronouns in 28-30 is to see the underlying tone as mid. An independently motivated reason for this view is

that the clitics are shortened versions of longer forms, and the longer forms are of L-M pattern as in the following (cf. genitival qualifiers given in 4.6 example 17):

32i (a) ìmī 'I' (b) mī 'me'
L M M

ii (a) ìrē̤ 'you' (b) ē̤ (< rē̤) 'you sg.'
L M M M

iii (a) ìrè̤ 'him / her' (b) ̀̄.
M L M

iv (a) ìwā 'we' (b) wā 'us'
M M

v (a) ìyín 'you pl.' (b) yín 'you pl.'
M H M

vi (a) ìwōn 'they' (b) wō̤n 'them'
M M

One could claim therefore that in general it is the final syllable of the longer forms with its mid tone that is retained. One could claim further that the mid tone is, however, realized as high tone after mid-tone and low-tone verbs. A similar explanation to the ones provided above would be presented for the realization of the second person plural object pronoun in SY. Of these three views, Courtenay's view seems to be the least complicated. However, given the data about the tonal pattern of the full

forms, Courtenay's suggestion that the short forms have underlying high tone seems less well motivated. Her view is reflected in the rule in 33.

33 $$H \Longrightarrow M \;/\; \begin{bmatrix} H \\ +\text{verb} \end{bmatrix} \begin{bmatrix} - \\ +\text{ object pronoun} \end{bmatrix}$$

My own view that all the object pronouns have mid tone is expressed in the similar rule in 34.

34 $$M \Longrightarrow H \;/\; \begin{bmatrix} M \,/\, L \\ +\text{verb} \end{bmatrix} \begin{bmatrix} - \\ +\text{ object pronoun} \end{bmatrix}$$

Since there are other instances of this type of lowering and raising in other areas of the language, one cannot deny the possibility here too. On the other hand, if I have got to invoke a rule to change the mid to high after M and L verbs, it seems that I do not gain so much. The tonelessness suggested in Stahlke's analysis would be just as good. However, Akinlabí who neither recognises lowering and raising rules nor represents the mid tone as an underlying tone sees 33 as 35:

35 $$H \Longrightarrow \emptyset \;/\; \begin{matrix} H \\ | \\ V \end{matrix}\Bigg] \begin{bmatrix} - \\ \\ \\ \end{bmatrix}$$ (Where the Ø is ultimately converted into M by default rule)

Vb. Obj. Pro.

6.4.1.4 FAILURE OF THE LOW TONE TO CONDITION DOWNSTEP

This is the fourth verb-related argument in support of the tone split theory. As I have mentioned before, downstep in Yorùbá is sensitive to both underlying (linked) and floating low tones--which Courtenay and Stahlke called superficial low tones (cf. Stahlke (1974:141)). In some cases where, traditionally, the low tone has been assumed to have been deleted on the surface, its effect lingers on. Consider the following:

```
36i   ērān + ìyēn ===> ii  ērān ìy   ẹ́n   ===>
              M-DSTP.
      M      L M          M    L !M      VD

      'meat'  'tnat'

iii   ērān    y   ẹ́n  ===>  iv   ērān y   ẹ́n
      M     (L) !M                M     !M

                                  'that meat'

37i   ōmō   +   òkān  ===>  ii  ōmō òk   ẹ́n  ===>
              M-DSTP.
      M       L M          M    L !M      VD

      'child'   'one'

iii   ōmō    k   ẹ́n  ===>  iv   ōmō k   ẹ́n
      M    (L) !M                M    !M

                                  'one child'
```

Traditionally, in the above examples and in other constructions similar to them, it is believed that 'a low

tone has been deleted but downstep still operates' (cf. Stahlke (1974:141, 143)). This implies that a deleted L effects downstep. Within the framework of autosegmental phonology, this analysis is not available. As seen in stages (ii) and (iii) of 36 and 37, the low tone has actually conditioned the downstep before it is eventually lost after vowel deletion renders it floating. Another possible analysis is that the !M is the simultaneous realization of L + M and therefore it still cannot be right that the lost L effects the downstep as such at all. This is even more so as in all cases L+M produces L-!M even when the L is not eventually deleted. Also, under Stahlke's analysis, the low tone that effects the downstep in 38 has become high, but that the low tone's underlying presence serves to condition downstep. Consider example 38 also similar to those in Stahlke (1974:141).

38a i kó + èkō ===> ii kó èk ò ===>
M-DSTP. VD
H L M H L!M

'pack' 'maize porrige'

iii k è k ò ===> iv k é k ò
H-RLK.
H L !M H L !M
ϕ

'pack ènkō'

```
b  i   fó     +  àgbōn  ===>  ii  fó àgb ọ́n  ===>
       |         |  |    M-DSTP.   |  |   /     VD
       H         L  M              H  L !M

       'break'  'coconut'

iii    f    àgb ọ́n  ===>  iv  f     á gb  ọ́n
            |    /     H-RLK.        ⋰ ≠
       (H)  L !M                  (H) (L)   !M
                                      ↙
                                      ϕ
       'break a coconut'

c  i   sí  +  ọ̀ṣōgbō      ===> ii  sí ọ̀ṣ ọ̀gb ọ̀  ===>
             |  |  |    M-DSTP.     |  |  /    /   VD
             L  M  M                H  L!M  !M

       'to'   name of a town

iii    s   ọ̀ṣ ọ̀gb ọ̀  ===>  iv  s      ọ́ṣ ọ̀gb ọ̀
           |   /    /   H-RLK.        ⋰ ≠
       (H) L!M  !M                 (H) (L) !M !M

       'to Ọ̀ṣogbo town'
```

The autosegmental representation in 38 has thrown a lot of light on the claim made above. The operations here involve two levels or tiers. It is not true in the light of 38a-c that the low tone becomes high tone. What actually happens is that V-deletion in stage (iii) sets H floating, but before V-deletion the M-downstep rule has applied. Thus a M is downstepped by a preceding linked L. The floating H relinks in stage (iv) and this relinking automatically frees the L. As I have mentioned before, (cf. 5.2.1), this relinking-cum-automatic freeing applies as a special case only in SY. Again, though, one could claim that even in standard Yorùbá the L is not lost as such before effecting the downstep because it has fused

with the following M to give !M. In certain dialects of Yorùbá, H-relinking renders the first vowel of the derived item doubly linked to H and L, so that the items are rendered as in 39.

```
39  k é ê k   ọ̀,  f á â gb   ọ̀n  and  s ó ôṣ ọ̀ gb ọ̀
      |/|     /      |/|      /          |/|  /    /
      H L   !M       H L    !M           H L!M   !M
```

With the above discussion of the low tone and downstep as a background, Stahlke claimed that an underlying low-toned verb--realized as a mid-toned verb before a noun object--fails to condition downstep of a mid tone following it. In his view, the inability of a mid-tone verb (originally low-tone verb) to condition downstep on following mid tones is 'one systematic exception' to the claim that the low tone always conditions the downstep of mid tones. Consider the following examples, which are similar to those presented in Stahlke (1974:141).

```
40a  i      'yíñká        gbà        ẹ̄jā   ===>
             || |          |         |/   L-RSNG.
            HM H           L         M

            personal      'receive' 'fish'
             name

     ii     'yíñká  gbā ẹ̄jā      NOT ===>
             ||      | |/            M-DSTP.
            HM H    M M
```

"'Yíñká received (a) fish"

iii *'yíñká gbā ẹ́j ȧ
HM H M !M

b i ā lò ātā ===>
M L M L-RSNG.

'we' 'grind' 'pepper'

ii ā lō ātā NOT ===> *ā lō ȧt ȧ
M M M M-DSTP. M M !M

'we grind (some) pepper'

c i 'fúnñké rà ēpō ===>
H M H L M L-RSNG.

personal name 'buy' 'oil'

ii 'fúnñkẹ́ rā ēpō NOT ===>
H M H M M M-DSTP.

"'Fúnñkẹ́ buys / bought oil"

iii *'fúnñkẹ́ rā ẹ́p ȯ
H M H M !M

d i 'dámīlólá rùn ōrín ===>
H M H H L M H L-RSNG.

personal name 'chew' 'chewing stick'

```
ii      'dámīlọ́lá  rūn  ōrín  NOT  ===>
          | | | |   |    | |       M-DSTP.
          H M H H   M    M H

        "'Dámīlọ́lá chews / chewed chewing stick"


iii    *'dámīlọ́lá  rūn   ọ̀rín
          | | | |   |    /  |
          H M H H   M   !M  H
```

Stahlke claimed that for the above examples to be satisfactorily explained, a terracing / downstep rule must ignore or, in a way, be blind to the fact that the verbs in these cases are underlyingly low-toned. He further claimed that these cases, like those of the pronouns explained earlier, are instances of the low tones behaving as if they were non-low tones (mid tones) underlyingly. He concluded by saying that this

> gives further evidence that the mid/low contrast is a secondary contrast and may be the residue of some historical change. If Yorùbá had low tone as well as mid tone verbs historically, there would be no reason for low tone verbs to fail to condition downstep after becoming mid (Stahlke (1974:141)).

This conclusion in fact seems not to make his position all that clear. One deduction that one can make, however, is that he assumes that L becoming M is a proof that Yorùbá had two tonal contrast and not three originally. But Stahlke himself provided the possibility of H, M and L analysis despite the 'mid / low alternation'. If a low-tone verb is realized as a mid-tone verb by a rule of raising, why should the mid-tone verb necessarily behave as

what it 'used to be' to condition downstep? I will only expect this to happen if there are no instances of underlying Ms in the language. Notice that there are cases of lexical Ms in Yorùbá and they do not condition downstep. What is obvious from 40 is that once the low-tone verb is converted to a mid-tone verb, it no longer behaves as a low-tone verb, rather, it behaves like the other mid-tone verbs in the language. This, I propose, is further evidence to recognise cases of underlying and derived Ms plus H and L. The claim that the low tone fails to condition downstep is therefore not a convincing argument to establish 'the residue of some historical change'.

Stahlke ends his article by saying that individual linguists will have to choose which of the two analyses they prefer. He seems to favour the two-tone analysis, even though he admits that both analyses have advantages and disadvantages. A major weakness of the two-tone analysis is the need to mark in the lexicon which non-high tone verbs do not undergo lowering in contexts other than before a noun (i.e. the verbs which I treat as M-tone verbs). The problem of the three-tone analysis is the one under discussion (i.e. the failure of the low-tone verb to condition downstep in certain contexts). Whereas some underlying Ls (that do not surface as Ls) do trigger downstep, others - especially the Ls on low-tone verbs followed by a noun - do not.

However, this 'problem' is actually no problem because

(as we have seen in cases of items having M-downstep), the crucial difference between the Ls that trigger !M involved an underlying L in the same lexical item as the M which gets downstepped, whereas the Ls that do not trigger !M involved an L in separate lexical items (i.e. in cases of L-tone verbs + Noun objects). It can therefore be argued that in this context, downstep is effected by lexical (as opposed to post-lexical) rules. "Failure to condition downstep" is therefore no longer a puzzling exception to some otherwise general rule. The three-tone analysis is thus preferable to Stahlke's two-tone analysis because with the above explanation, the 'problem' of the three-tone analysis disappears.

The four verb-related arguments either considered separately or collectively are not compelling enough to establish that, diachronically, Yorùbá was a two tone language. This is in no way to deny the possibility of a historical split involving the lower register as it is claimed for Ewe or involving the higher register as the similarities involving H and M that we have examined might suggest. I propose that the arguments point in the direction of recognising H, M and L for a synchronic analysis of certain data in Yorùbá, whereas in certain other instances, it appears as though only two underlying tones needs to be recognised.

In theory one can conceive of a language with two tones that do not alternate at all--so that neither tone

participates in any alternations. Similarly one could conceive of a three tone language of which the same would be true. Let us assume that the former is 'ITP 2' and the latter is 'ITP 3' ('ITP' = 'Ideal Tonal Pattern'). Whether 'ITP 2' and 'ITP 3' are attested or not, no language could change suddenly from 'ITP 2' to 'ITP 3', since change is gradual. From my own point of view, there is a whole range of intermediate possibilities and to the extent that Yorùbá is not yet 'ITP 3', it represents an intermediate stage--i.e. even though the reality of a three-way tone contrast in some contexts cannot be denied, there are also contexts in which the three-way contrast is not possible. Furthermore, I do not see the relevance of historical factors in constructing synchronic grammars with particular reference to the tones of Yorùbá. I do not assume that things are simpler than they are, and that it must be the case either that there is an M in addition to H and L or that there is not. My claim is that without a sympathetic understanding and blending of these two views, one cannot provide a lasting solution to the problems raised by the analyses of Yorùbá tone largely because, if a split were to take place in the tonal system, it would take place gradually rather than suddenly.

6.4.2 OTHER EVIDENCE

In this section I want to examine the claim that Akinlabí advanced as other independent evidence in support of a two-tone analysis of Yorùbá. There are essentially

five pieces of evidence, but the fifth one is subdivided into three. They are drawn from various tonal processes, some of which we have examined in the previous chapters. For the full arguments and discussion, see Akinlabí (1985:77-90).

6.4.2.1 CONTOUR FORMATION

Akinlabí claimed that one of the implications of the underspecification theory is that default tone--in this case the mid tone--does not participate in lexical contour formation. In other words, if the mid tone were a lexical tone underlyingly, it might be expected to participate in contour formation. He also maintained that, both perceptually and instrumentally, the mid tone does not glide. Examples such as:

41a i ìwé ==> ii ìwě b i èkó ==> ii èkǒ
L H L-H SPR. L H L H L-H SPR. L H

'book' 'training'

and

42a i púpò ==> ii púpô b i dépô ==> ii dépô
H L H-L SPR. H L H L H-L SPR. H L

'many / plenty' personal name

where L-H and H-L glides take place, are contrasted with items such as:

```
43a  i   ìwō ==> ii  ìwǫ̀   b  i   èkō ==> ii  èkǫ̀
         | | M-DSTP. | \          | | M-DSTP. | \
         L M         L !M         L M         L !M

         'you sg.'                'a type of food - pap'
```

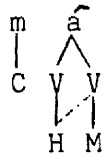
and

```
44a  i   ōlè ==> ii  ōlè   b  i   ílé ==> ii  ílé
         | |         | |         | |         | |
         M L         M L         M H         M H

         'thief'                  'house / home'

 c  i   tóbí ==> ii  tóbí
         | |         | |
         H M         H M

        'big'
```

where glides are not evident.

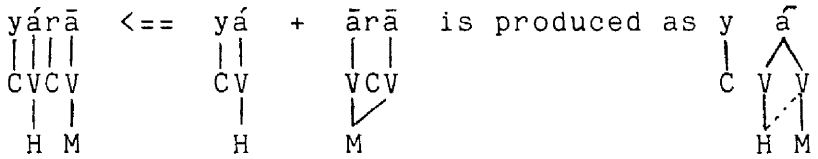
Although there are not many instances of perceptually distinct glides involving the mid tone lexically, there is at least one tonal process across word boundaries to demonstrate that the mid tone in fact does glide. Given this, why should mid still be seen as 'null' even when it participates in contour formation across word boundaries? Consider in this connection the following examples where M glides both within a word and across word boundaries.

45a



(habitual aspect marker) It is produced with a fall from high to mid tone on the second syllable.

b

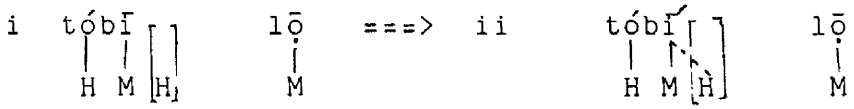


'be quick' 'quick' 'body'

after r-deletion, with a fall from high to mid tone on the second syllable.

46 GLIDES FROM MID TONE TO THE HIGH OF THE SMHT (cf. Chapter Five)

(a) <u>Tóbī</u> personal name <u>lō</u> 'go'



Other examples of this type are:

(b) ālátā + SMHT + dé ===> ālátā́ dé

'the owner / seller of pepper arrived'

(c) ẹ̄lẹ́jā + SMHT + sùn ===> ẹ̄lẹ́jā́ sùn

'the owner / seller of fish slept'

This is a clear case of M-H contour formation.

47 M-L CONTOUR FORMATION AFTER VOWEL ASSIMILATION IN NOUN + NOUN COMBINATION

```
a i   ōmō      +    èmī ===> ii   ōmō   èm ì   ===>
      |/             | | M-DSTP.  |/     | /     VA
      M              L M          M      L!M

      'child'        'I'
```

```
iii ōmō   ȍm ì   =   ōmō   ȍ mì   =   'my child'
    |/ - - - |/
    M       L!M
```

```
b   āyā + ìrē   ===>  āyā ìr ȅ   ===>   āyā àr ȅ
    |/    | |  M-DSTP. |/   |  /        |/ - - |  /
    M     L M          M    L!M         M    L!M

    'wife' 'you sg.'                     'your wife'
```

These are cases of M-L contour formation. Similarly in 48a-c there are cases of L-M contour formation.

```
48a  òdò      +     ìrè   ===>   òdò  ȍ rè
     |/             | |   VA     |/ - - |  |
     L              M L          L      M  L

     'place'        'his'        'his place'
```

b ìwà + ìwōn ===> ìwà à̀ wōn
L M VA L M

'character' 'they' 'their character'

c àṣà + ìwā ===> àṣà à̀ wā
L M VA L M

'culture' 'our' 'our culture / custom'

In all the examples above, as in <u>òkè + ìhò</u> (name of a town) which is realized as <u>òkèēhò</u> (lit. 'top of a hole'), the items to the right hand side of the arrow are arrived at after vowel assimilation in which the tones of the assimilated vowels remain stable and form audible glides. The above examples thus disprove the claim that the putative mid tone does not participate in contour formation, and therefore remove another of the arguments for treating the mid tone as tonelessness. This analysis would be possible within TU theory if M default application takes place before gliding applies. But Akinlabí assumes that M default applies last thing and this rules out an analysis under which gliding follows the introduction of M.

6.4.2.2 TONE DELETION AND TONE RELINKING

Another claim in support of the two-tone analysis is that tone deletion and tone relinking provide us with evidence that Yorùbá mid tone is actually 'zero'. Akinlabí argued that the tonal hierarchy of strength, which should be H M L, is actually H L M, but the reason why it should

be H M L is not given. By implication, this claim does not really support the argument for the zero value of the mid tone. Rather it suggests that when compared with H and L the mid tone is 'weak'. It is also observed that tone stability across morpheme or word boundary involves a hierarchy H L M instead of H M L, and that the mid tone is always deleted in favour of either high or low tones. Finally, it is claimed that L and H always leave a trace when deleted, but that M does not and that this is an indication that only L and H--and NOT the M--need be recognised at the underlying level.

Given Hyman and Schuh's (1974) observation cited above, the claim about 'tonal hierarchy of strength', though not objectionable in itself, is not a convincing argument for the mid to be seen as 'null'. Also, the claim that M is always deleted in favour of either high or low tones gives a misleading impression that L is never deleted in an environment where M remains. It also might imply that H can under no circumstance ever be deleted. This claim does not say, however, that if H or L is ever deleted in any environment it should as a result be thenceforth seen as 'zero'. Consider the following examples, which are similar to earlier ones cited in Chapter Five, where H and L can be said to have been deleted in environments where M remains on the surface.

```
49a  i  ā        +  ké     +  ódà  ===> ii   āk   ódà
        |           |          /\      VD    |    /\
        M           H         H L            M (H) H L
        prefix     'shout'   'order'          'one who shouts
                                               'order' / court
                                               attendant'
```

= <u>ākódà</u>

```
b  i  ká    + àgā  ===> ii   ká àg á  ===> iii   ká   g  à
      |       | |  M-DSTP.   |  |  /     VD     |      /
      H      L M             H L!M              H (L) !M
      'fold' 'chair'                             'fold a chair'
```

= <u>kágà</u>

I must admit that it may be argued that neither 49a nor 49b is a particularly good example of the deletion of H or L on the grounds that in (a) there is a high tone in the middle of the word in any case and in (b) the L's presence is seen in the downstepped M on the last syllable. However, since the association of tonal autosegments to TBUs here is one-to-one (as opposed to one-to-many), if the H can never be deleted under whatever circumstance, there will be nothing to prevent the H in the middle of the word in (a) from being realized on two syllables. Thus, it should have been realized as a case of vowel assimilation where the tonal pattern of the original items are maintained. As a result we would expect to have <u>*ākóódâ</u>. Similarly, if the M must of necessity be deleted, we would expect to have <u>*ákóódâ</u> instead of the correct output <u>ākódâ</u>, where in fact, we have M H L on the surface in both cases.

In other words, if the claim is right that M is always deleted wherever H and L are present, the initial M in this item should either have been deleted or replaced and thus realized as H or L. Also, in 49b, the fact that the presence of the L is seen in the downstepped M on the last syllable is not the issue here. If M will always be deleted in the environment of L or H as Akinlabí's argument suggests, the M should not have been downstepped at all in the first place, and if it was downstepped, it ought to have been deleted eventually and replaced by L. In other words, the result would be no surface M. That it remains on the surface with H next to it is evidence that the claim is wrong. If the !M was replaced by L so that we have *kágâ, we would have had a different item meaning 'fold a ladder', as opposed to the desired output which means 'fold a chair' (also cf. 5.2.2).

Finally, the claim that the L and the H always leave a trace when deleted but that M does not is not true. In 50 both L and M are deleted without leaving any trace, and apparently in 49a we see a case of H being deleted without leaving any trace.

50a i gbọ́ + ọ̀rọ̀ ===> ii gbọ́ rọ̀

H L H L L

'hear' 'word' 'hear a word'

= gbọ́rọ̀ i.e. gbọ́rộ

```
b  i   dá     +  àbà  ===> ii   dá    bà
       |        /        VD     |     |
       H       L               H (L) L
                                     ↘ ↘
       'break'  'ladder'        'break a ladder'
```

= <u>dábà</u> i.e. <u>dábâ</u>

```
c  i   dé     +  ābà ==> ii   d   ābà ==> iii  d     ábà
       |        | |            | |                  ±  |
       H       M L            (H) M L            (H) (M) L
       'reach' 'hut /          'arrive at / reach the hut /
                village'        village'
```

= <u>dábà</u> i.e. <u>dábâ</u> (fn.10)

It should be noted that 50a,b are good examples of a L being deleted without any trace, because if all three tones were realized on three separate syllables--i.e. if there were no vowel deletion and the loss of L--we would have had the same overall high + low + low pitch pattern that we have in the original items. Now we have high + low pitch pattern on two syllables because one of the Ls is deleted. In 50c, on the other hand, we end up with a pitch pattern in which it is the M that is deleted after H-relinking. In 50c, however, it is slightly different in that the H in 50c which is associated with the vowel of the first syllable, as it is in (i), needs to be analysed as being delinked and then relinked--as in (ii) and (iii)--to arrive at the correct output of this item, which is <u>dábâ</u> and not <u>*débâ</u>.

Considering these examples and others similar to them

already presented in Chapter Five, the argument that tone deletion and tone relinking provide evidence for the mid to be seen as 'zero' is not valid.

6.4.2.3 SPREADING

Akinlabí's argument for seeing spreading as one piece of evidence in support of a two-tone analysis is that the high and the low tones spread to segments said to have mid tones without any indication that they have any tones at all. Consider the following examples which compare his representation with mine.

	AKINLABÍ'S REPRESENTATION		MY REPRESENTATION	
51a i	erìrà L L		ērìrà M L	'ant(s)'
ii	eìrà L L	(r-D)	ēìrà ML	
iii	eèrà L L	(VA)	ēèrà ML	
iv	èèrà L L	(L-SPR)	èèrà M L	
b i	koríko H		kōríkō M H M	'weed'
ii	koíko H	(g-D)	kōíkō MH M	
iii	koóko H	(VA)	kōókō MH M	
iv	kóóko H	(H-SPR)	kóókō M HM	

In stage (iv) of 51b, Akinlabí would claim that H spreads to the first vowel but does not spread to the final one. He will then introduce M by default application after this

stage. In my analysis, if the final vowel truly has a zero value, I will predict that the H will spread to it. In this analysis, what blocks H from spreading to the final vowel is the M.

As explained in Chapter Four, L and H spreading in 51a,b are optional rules. Akinlabí claims that if the examples surface with mid-tone initial vowel, as in stage (iii) of both, the default rule will have to supply the mid tone. He further claimed that not representing the mid tone at all makes the grammar less complex because otherwise we would need a separate mid tone deletion rule which will make our grammar more complex. As is obvious from my representation above, I do not need the default rule or the so-called mid tone deletion rule. If the spreading takes place, it automatically frees the initial M of the items. It may be argued, however, that it seems not so obvious that either of the two analyses is superior to the other. There does not seem to be much to choose between them. This situation probably supports the view that I expressed earlier, that seeing Yorùbá as either 'ITP 2' or 'ITP 3' system will not solve the problem. An analysis that blends the two views allowing for an on-going change in the tonal system of Yorùbá may offer a better solution.

It should be noted also that there are similar items to the ones above with mid tones only. For example <u>ēgūngūn</u> reduced to <u>ēēgūn</u> (bone), <u>āgōgō</u> reduced to <u>āāgō</u> (metal gong

/ bell / clock / watch), ākīkā reduced to āākā (a type of animal), āgūdā (a type of drum / cutlass)--not reduced and āgōlō (tin)--not reduced, just to mention a few. Akinlabí would claim that the mid tones of these items are supplied by default rule at the phonetic end of the derivation of these items, but there is no advantage in such a claim. Akinlabí's claim that M is 'nothing' makes one feel that he misrepresented the spirit of Pulleyblank's proposal, because, underspecifying M is not the same as claiming that it is 'null'. In these examples, I consider it equally valid to represent the items as having the mid tones underlyingly.

Other instances where Akinlabí would claim that the high and the low tones spread but the mid tone does not are cases of lexical item reduplication, such as in òrū (midnight) becoming òròòrū (every midnight), ẹ̀gbẹ́ (side) becoming ẹ̀gbẹ̀ẹ̀gbẹ̌ (sides), ālẹ́ (night) becoming ālāālẹ́ (every night) and ōṣù (month) becoming ōṣōōṣù (every month). As I have argued towards the end of Chapter Four, the same process of spreading that involves the high and the low tones involves the mid tone as well. Within my analysis, I have the same process of spreading in all of these cases of reduplication. My analysis allows me to handle all of them with the same mechanism. Akinlabí would only be able to invoke spreading in examples that begin with H or L and would have to use his default rule in the other cases. A unitary account of this process is clearly preferable. To sum up, these arguments about 'mid tone not

spreading' are not compelling enough to see Yorùbá as a two tone language.

6.4.2.4 POLARITY

Another argument advanced in support of analysing Yorùbá as a two-tone language is the issue of polarity. Akinlabí has provided a definition of polarity as 'an exhaustive process of opposing values'. This definition sounds somewhat vague, but in a sense it is right because the notion of polarity or polarisation in its various applications even outside linguistics generally involves the idea of two opposing elements. In languages where tone polarisation is attested--we shall see examples from Hausa in Chapter Eight--a tone that polarises is always analysed as belonging to a morpheme or a syllable or a TBU that has no underlying tone. This genuinely toneless TBU is assigned the opposite value of an underlying tone in its environment in definite morphological or phonological contexts. All cases of polarisation known to me involve either H vs L or L vs H. Akinlabí argued that if Yorùbá was truly a three tone language, it should be possible to have six opposing values in the fashion listed below:

52	a	H - L	and	L - H
	b	M - H	"	H - M
	c	L - M	"	M - L

He observed, however, that only 52a, where H and L serve as

polar values, is possible and thus concluded that if M was an underlying tone, there should be no reason for it not to participate in polarity. He cited examples of the items <u>mọ́nọ̄mọ̀nọ̄</u> (adverb indicating irregular behaviour) and <u>mọ̀nọ̀mọ́nọ́</u> (lightning)--which he represented as in 53:

```
53 a      H   L        b        L L H H
          |   |                / / / /
         mọnọmọnọ             mọnọmọnọ
```

and claimed that only H and L serve as polar values in these items. The reason why examples 53a,b are treated as involving polarity at all is not clear to me. This data is incompatible with the notion of polarity at all (cf. 8.2). Judging from the combination of H, M and L on Yorùbá items, my conclusion is that, apart from the tonal structure of the verb plus object pronoun clitics (where one can argue for tonelessness and polarity), polarisation is of no relevance to other areas of the grammar. Certainly, the argument about polarity is also weak grounds for a two-tone analysis.

6.4.2.5 THE SO-CALLED TONELESS PARTICLES

Another piece of evidence advanced in support of the two-tone analysis is that which Akinlabí called 'toneless particles'. Three types of processes are used for the argument and I shall examine each of them. They are as follows:

6.4.2.5.1 NOUN-NOUN CONSTRUCTIONS

Owólabí (1976:23) and Akinlabí (1985:85), among others, have argued in the literature that in Noun-noun constructions, when the second noun is consonant-initial, there is a lengthening of the last vowel of the first noun. This lengthening does not always occur if the second noun is vowel-initial. However, it may occur in very slow speech when the speaker is hesitant about the second noun. Akinlabí claimed that the vowel lengthening should be analysed as a case of a V-slot inserted between two nouns. He argued that the phonemic (segmental) features of the last vowel of the first noun are copied into the V-slot, but that tone is not involved because the mid tone involved in this case is supplied by a default rule in his analysis. That the V-slot is not represented with an M is seen as an evidence that M is not an underlying tone, and thus justifies a two-tone analysis. Consider the following examples which are in many respects similar to the ones provided by Akinlabí. In examples 54-56, any item in brackets - ( ) is optional.

```
54a i   ōwó  +  délé      ii  ōwó    V̄     délé   ===>
        | |      /|           | |    |      /|    VA
        M H      H            M H    M      H
```

'hand' personal name

iii ọ̄wọ́ ọ̄ délé = <u>ọ̄wọ́ ọ̄ 'Délé</u>
M H M H

"'Délé's hand"

b i ọ̄wọ́ + bọ́lá ii ọ̄wọ́ V̄ bọ́lá ===>
M H H M H VA

'hand' personal name

iii ọ̄wọ́ ọ̄ bọ́lá = <u>ọ̄wọ́ ọ̄ bọ́lá</u>
M H M H

"'Bọ́lá's hand"

c i Ìlé + tÌ + tóyìn ii Ìlé V̄ tÌ tóyìn ===>
M H M H L M H M M H L VA

'house' (emph) personal name

iii Ìlé ē tÌ tóyìn = <u>Ìlé ē tÌ tóyìn</u>
M H M M H L

"'Tóyìn's house" (emph)

d i Ìṣé + péjú ii Ìṣé V̄ péjú ===>
M H H M H M H VA

'work' personal name

iii Ìṣé ē péjú = <u>Ìṣé ē péjú</u>
M H M H

"'Péjú's work"

```
e  i   ōwó   +   tī   +   ṣādé    ii  ōwó V̄ tī ṣādé ==>
       | |       |        | |        | | | | | | |   VA
       M H       M        M H        M H M M M H
```

'money' (emph) personal name

```
iii   ōwó   ō   tī ṣādé   =  ōwó ō tī ṣādé
      | |   |    | | |
      M H   M    M M H
```

"'Ṣādé's money" (emph)

```
f  i   ẹ̄sẹ̀ + ẹ̀bùn    ii  ẹ̄sẹ̀   V̄   ẹ̀bùn ===>
       | |   ✓          | |    |    ✓
       M L   L          M L   (M)  L
```

'feet' personal name

```
iii   ẹ̄sẹ̀   ẹ̄   ẹ̀bùn   =  ẹ̄sẹ̀(ẹ̄) ẹ̀bùn
      | |    |    ✓
      M L   (M)  L
```

"'Ẹ̀bùn's feet"

```
g  i   ọ̄wọ̀   +  tī    +   ṣùpọ̀    ii  ọ̄wọ̀ V̄ tī ṣùpọ̀ ==>
       | |       |         ✓          | | | | ✓      VA
       M L       M         L          M L M M L
```

'broom' (emph) personal name

```
iii   ọ̄wọ̀   ō   tī ṣùpọ̀  =  ọ̄wọ̀ ō tī ṣùpọ̀
      | |    |    |  ✓
      M L    M    M  L
```

"'Ṣùpọ̀'s broom" (emph)

Owólabí's base rule of what he called the 'lengthened vowel' was modified in Akinlabí's analysis to account for the vowel phonologically (cf. Akinlabí 1985:85). With the rule Akinlabí justifies his view that the lengthened vowel may be seen as a V-slot between two lexical items. In

examples 54a-e and 54g, the lengthening is compulsory, but in (f)--where 'Emph' is absent and the second noun begins with a vowel--it is optional.

The reason why this lengthened vowel should be seen as a proof for a two tone analysis is not clear. I agree with Akinlabí that this is a case of 'V-slot insertion'--if one may so call it--but I do not agree that the V-slot does not involve tone. Of the seven examples in 54, only one is not really crucial--example 54e. In 54a,b and d the tones on either side of the extra vowel are both H. Surely if the extra vowel were genuinely toneless in this context it would be reasonable to expect the pitch to remain the same as that on either side of it. The fact that the pitch falls to mid and then goes back up to high for the first syllable of 'Délé, Bọ́lá and 'Péjú is very strong evidence for treating the extra V-slot as having a mid pitch inherently associated with it, which in turn is evidence for recognising a mid tone. Though in terms of its distinctive feature composition it could, of course, be less marked than the other two tones, this is not the same as claiming that there is no underlying mid tone. By the same token, in 54f the tones on either side of the extra vowel are both L. If the extra vowel were genuinely toneless in this context, the pitch would presumably not rise to mid and then go back to L. In 54c the pitch falls to mid on two syllables--that of the extra vowel and that of the 'Emph'--before going back up to high for the first syllable of 'Tóyìn. Similarly in 54g the pitch rises on

two syllables before falling back down for the first syllable of 'Ṣùpò. Although the pitch falls from high to mid in 54e, it remains on the mid for three syllables before rising again for the last syllable of 'Ṣādé. If the extra vowel were truly toneless, nothing would have prevented the mid-pitched extra vowel from being realized on H by spreading.

I see the V-slot as being pre-linked to M. The V copies the features of the last vowel of the preceding item. In other words, VA gives us the output. The above data involving V-slot with no segmental content may in fact be neutral on the issue of whether my analysis or TU account is right. Again, this argument does not justify seeing Yorùbá as a two-tone language.

6.4.2.5.2 CO-ORDINATING CONJUNCTIONS

It has been noted that the conjunctions àtì / pẹ̀lú 'and' may be deleted from between two nominals in certain constructions. The last vowel of the first nominal is then said to be lengthened compulsorily if the following nominal is consonant-initial, but optionally if it is vowel-initial. It has also been claimed that the new V-slot always has no tone, i.e. it always has a surface mid tone which will be supplied by default rule. According to Akinlabí, this is further proof for the two-tone analysis. The following examples are also similar to those presented by Akinlabí to illustrate the process.

```
55a  i   èmī     àtī      délé      ii     èmī  V̄   délé
         | |     | |       ✓              | |  |    ✓
         L M     L M       H              L M  M    H

         'I'     'and'     pers. name       "'Délé and I"
```

= <u>èmī ī 'Délé</u>

```
b  i   èmī     àtī     òní          ii     èmī  (V̄)  òní
       | |     | |     | |                | |   |    | |
       L M     L M     L H                L M  (M)   L H

       'I'     'and'   pers. name           'Òní and I'
```

= <u>èmī (ī) Òní</u>

```
c  i   òūn    àtī      túndé        ii   òūn  V̄   túndé
       ||     | |      ✓                ||   |    ✓
       LM     L M      H                LM   M    H

       'he'   'and'    personal name     "'Túndé and he"
```

= <u>òūn ūn 'Túndé</u>

```
d  i   òūn   àtī   ọ̀ké̤      ii   òūn    (V̄)    ọ̀ké̤
       ||    | |   | |            ||     |      | |
       LM    L M   L H            LM    (M)     L H

       'he' 'and' personal name 'Ọ̀ké̤ and he'
```

= <u>òūn (ūn) Ọ̀ké̤</u>

The lengthening here is very similar to that just examined in 6.4.2.5.1 and I think the same solution is called for. However, I do not see the forms in 55a-d (ii)

as deriving from those in 55a-d (i). My view is that they have different morphological composition. In (i) with àtī or pẹ̀lú, and in (ii) with zero representation. Whenever the conjunction has zero representation as in (ii), the items in contact is just like the ones in the noun-noun constructions. As a result, there is the possibility of the insertion of the V-slot. Contrary to Akinlabí's view, I see the inserted V-slot as pre-linked to a mid tone. The features of the last vowel of of the first item are copied via VA to give us the surface forms. Apart from the fact that this is a similar process to the earlier one and that it does not provide convincing evidence for a two-tone analysis, I have some other observations. It is not necessarily true that the mid-toned V-slot is created ONLY after the deletion of àtī and / or pẹ̀lú as Akinlabí presented it. If pẹ̀lú for instance is used instead of àtī in 55a-d (i), we have the following:

56a

èmī	pẹ̀lú	délé	or	èmī	pẹ̀lú	V̄	délé
L M	L H	H		L M	L H	M	H
'I'	'and'	personal name		"'Délé and I"			

= ẹ̀mī pẹ̀lú ū 'Délé

b

èmī	pẹ̀lú	òní	or	èmī	pẹ̀lú	V̄	òní
L M	L H	L H		L M	L H	(M)	L H
'I'	'and'	personal name		'Òní and I'			

= <u>èmĩ pẹ̀lú (ũ) Òní</u>

```
c   òũn   pẹ̀lú   túndé   or   òũn pẹ̀lú   Ṽ   túndé
    ||     | |    |/            ||   | |   |   |/
    LM     L H    H             LM   L H   M   H

    'he' 'and' personal          "'Túndé and he"
               name
```

= <u>Ọ̀ũn pẹ̀lú ũ 'Túndé</u>

```
d   òũn   pẹ̀lú   ọ̀kẹ́   or   òũn pẹ̀lú   (Ṽ)   ọ̀kẹ́
    ||     | |    | |          ||   | |         | |
    LM     L H    L H          LM   L H   (M)   L H

    'he' 'and' personal         'Ọ̀kẹ́ and he'
               name
```

= <u>Ọ̀ũn pẹ̀lú (ũ) Ọ̀kẹ́</u>

I assume in this regard that that the processes of inserting a mid-toned V-slot and VA are possible even if the co-ordinating conjunction <u>pẹ̀lú</u> is morphologically represented. This argument like the earlier ones does not in any way support Yorùbá being analysed as a two-tone language.

6.4.2.5.3 THE SECOND PERSON PLURAL CLITIC OBJECT PRONOUN

In section 6.4.1.3 I discussed the issue of the tone of the clitic object pronoun. The second person plural the object pronoun clitic which one would normally expect to be produced on a mid actually surfaces in this form only in certain dialects of Yorùbá, but in SY it surfaces with a

high tone preceded by a mid-toned epenthetic vowel. Akinlabí in agreement with Courtenay analyses the tone of the clitic object pronouns as underlyingly high--the possibility of which I also support, although, I prefer an analysis that makes them mid. He claimed that the underlying tone is deleted to give us mid tone, but that in this case, because of the inserted vowel--the ad hoc nature of which I have also commented on--the underlying tone of the second person plural clitic is not deleted. Again, the reason why this should be proof for a two-tone analysis is not clear to me. I have given my views on this process in 6.4.1.3 and I will not repeat them here.

6.4.2.6 FREE VARIATIONS

Finally, Akinlabí mentioned certain lexical items which have either a mixture of high and low tones, on the one hand, or simply mid tones on the other, the two forms being in free variation. Such items include <u>bàbá / bābā</u> 'father', <u>ìyá / yèyé / yēyē</u> 'mother', <u>ìyàwó / āyā</u> 'wife'. He claimed that it is only a two-tone analysis of his type that can handle this 'phonological problem', because the analysis allows him to motivate a deletion rule that will wipe out H and L and give us 'null or zero' realized as mid by default rule application.

My view is that this claim is not valid. It seems to me no more complicated to state an alternation between LH and MM than to state an alternation between LH and

toneless-toneless (which then gets realized as mid pitch). The issue of doublets is a regular phenomenon in Yorùbá and often some of the forms have been traced to certain dialects of Yorùbá. Given Ufomata's (1986) claim, together with other scholars' views before her, that the Èkìtì and the Ìjẹ̀ṣà dialects represent older forms of SY, and given the fact that yēyē is the form for 'mother' in these dialects, on what grounds should anyone claim that yēyē has an underlying L and H? The above in fact favours positing an underlying mid tone for the item and the L-H pattern may be a later innovation within SY. Whereas it is more plausible to derive M M from L H, the above data does not seem to support this view. Also, given that bàbá is 'father' in Hausa while bàbbá is 'big', but bābā is not attested because Hausa has only H and L tones, and given that quite a number of lexical items have been borrowed from Hausa into Yorùbá and vice versa through trade contacts and acculturation, it is not unlikely that lexical borrowing may explain what Akinlabí explains away by tone deletion. This view is however speculative. I am not convinced that the issue raised above should be used to justify a two tone analysis. To infer from the foregoing that Akinlabí is led by historical facts to posit LH underlying tones is far from being true. Whatever the historical facts may be, the earliest attested Yorùbá literature--timeless sayings such as òwe 'proverbs', traditional poetry and genre notably oríkì orílè 'lineage historical praise chants', ìyèrè Ifá 'Ifá divination poetry', Iwì egúngún 'egúngún cult poetry', Ìrèmọ̀jé eré

<u>ìṣípà ọdẹ</u> 'hunter's funneral dirge', to mention but a few--exhibit a three-way contrast between H, M and L rather than merely a two-term system. This area certainly needs more investigation than can be devoted to it in the present study. I think a rule analysis of these restricted doublets is wrong. I will prefer two lexical representations for each and list them as doublets in the lexicon.

6.4.2.7 YORÙBÁ AND TONELESSNESS

From the above discussion it is clear that the notion of tonelessness needs to be clearly defined with respect to Yorùbá. I do not wish to imply that the idea of tonelessness does not apply to Yorùbá at all. What I question is whether tonelessness should necessarily be associated with mid pitch. Tonelessness is referred to in this study in a different way. Firstly, the notion of tonelessness may loosely be applied to a segment at a stage in the derivation of a lexical item when its tone is not yet associated to it. The application here however seems pointless because other terms such as 'free or unlinked or unassociated vowel autosegment' describe this stage of derivation better. If the tone is deleted or disassociated by a process and the vowel left behind is not yet assigned or relinked to another tone, this vowel may also be said to be toneless at this point (fn.11). Also, I have argued that the clitic object pronouns may be seen as underlyingly toneless, but that they are assigned the opposite value of

the tone of the verb that immediately precedes them (cf. 6.4.1.3 and 6.4.2.4). This is the only case of what may be considered a genuine instance of tonelessness.

In AP analyses of two-tone systems such as H and L, the term 'tonelessness' is used in such a way that H is represented and L is not because it is expected to be filled in by default. However, the argument in such cases is not on whether L is null or not. Perhaps the application of the notion to the M of Yorùbá would not have been a problem if the argument of M being zero does not go along with it.

6.5 HYMAN'S PROPOSAL AND YORÙBÁ TONE

In a framework developed most recently, Hyman (1986:109-152) presented a particular view of how multiple tone heights should be represented in autosegmental phonology. He first reviewed the literature and noted certain shortcomings of the different tone feature systems that have hitherto been proposed to handle languages with four or five tone heights--both within the segmental and the autosegmental literature. These shortcomings are highlighted with particular reference to the studies of Sampson (1969), Woo (1969), Maddieson (1970), Yip (1980), Clements (1983) and Pulleyblank (1983) (cf. pp 110-116 of Hyman's article).

Hyman's proposal is that a single feature T whose plus

value means 'go up one step' and whose minus value means 'go down one step' be adopted. The two values have the symbols H and L. He also proposed that a primary and a secondary tier be recognised and that H and L can appear on both tiers. Ngamambo data were used for his analysis, but he suggested that the ideas in these proposals be tested against the properties of different languages having multiple tone heights. In the article, Hyman's proposal does not favour underspecification in Pulleyblank's and Akinlabí's sense; therefore his representation is significantly different from theirs. Although a mid tone, and a lower mid tone, and even a downstepped H and a downstepped M can be accounted for in this model via different sorts of secondary tier assignments, only H and L are specified. Within this proposal, it is suggested that:

> a tone-bearing unit may have no tone associated with it underlyingly and perhaps on the surface, in which case the TBU will be interpreted as having no instruction for pitch from the phonology. In this case it will be open to interpretation solely from the phonetics (p 115).

From the point of view of underspecification, his suggestion that in a three-term tone system 'an untoned TBU is a M tone' is a kind of underspecification. As a result of this, M is not specified underlyingly. All cases of mid tone are therefore analysed as being derived from H and L. For example, while a disyllabic H-L or L-H noun class prefix plus noun stem is represented as follows (cf. pp 122-125):

```
57a     x   x          or          b     x   x
        |   |                            |   |
        H   L                            L   H
```

the formalisation for a mid tone is as follows (cf. p 134):

```
58  (x)  x    i.e.  (x)  x    becomes  (x)  x
     |   |            |   |             |   |
     L   H   L        L   H   L         L   H
                          ↑___↓             |
                                            L
```

This means that a mid tone is derived only when a linked H is wedged between two L tones, the first of which may be linked or not linked and the second of which must be unlinked. The unlinked L is assigned as a secondary register tier to the preceding H autosegment. I assume that this point about optional linking reflects the facts of Ngamambo rather than being an essential part of the theory. By the same token, a downstepped mid tone--!M--is formalised as follows, 59a,b = Hyman's 37a,b (cf. p 135):

```
59a     x       x          b     x       x
        |       |                |       |
        H   L   H                H   L   H
                |                |       |
                L                L       L
```

In (a) a floating L effects downstep on the following two-tiered representation of M and in (b) two two-tiered representations of M are separated by a floating L. It is claimed that H linked to L be interpreted as mid tone since the instruction of the H to go up a step is cancelled by

the instruction of the L to go down a step. Therefore, 59a is to be interpreted as H-!M because the floating L is the downstep operator on the M and 59b is to be interpreted as M-!M because the floating L operates downstep on the final M.

Generally speaking, the basic characteristic idea of splitting the pitch range into two, which is found in the works of Yip, Clements and Pulleyblank / Akinlabí, is still found in this proposal. The major difference, however, lies in the fact that Hyman claims to have abandoned the assumption that all tone features are grouped together into matrices. In other words, rather than deciding how many contrasting tones there are and then defining each in terms of a particular bundle of features, Hyman seems to want to analyse particular tones as resulting from particular sequences of Hs and Ls which get mapped onto one another. He claims that this helps him to avoid the problems relating to natural classes among the features. For instance, he was able to demonstrate that the relationship between the mid and the downstepped mid in Ngamambo reveals that the language exhibits a terrace-level system phenomenon which allegedly should not be captured by tone features directly. Yip and Clements in their analyses have earlier claimed that the two inner tones of a language with four tone heights do not constitute a natural class since they do not share any feature. Also, he does not need to resort to arguments of the mid being 'toneless' throughout, in Akinlabí's sense. Hyman's proposal therefore throws

some light on the way to solve the problems raised by earlier proposals, especially with reference to the representation of the M as discussed earlier in this chapter.

If Hyman's proposal is applied to the particular case of Yorùbá, we have the following representations:

```
60a  yán    b  yán     or   yàn  =  yān  or  yān (fn.12)
      |        |              |       |       |
      H        H   L          L   H   H       L
                ↑___┘          ↑___┘   |       |
                                       L       H
```

'yawn' 'roast or match'

```
c  yàn
    |
    L
```

'choose'

Disyllabic items will be represented thus:

```
61a  èdè     b  ē   d ē    becomes  ēdē  (fn.13)
     | |        |     |             | |
     L L        L H   L H            L L
                ↑___┘ ↑___┘          | |
                                     H H
```

'language' name of a town

```
c  délé
    ↓
    H
```

personal name

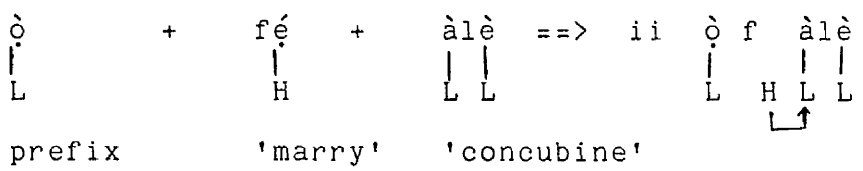
An interesting aspect of Hyman's proposal is that

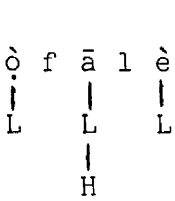
cases of H-lowering to M, and L-raising to M--i.e. cases of derived Ms--are now easier to represent within the model. The rule that assigns a floating H to a linked L and the one that assigns floating L to linked H are formalised as follows:

(a) 

(b) 

Consider the following which has been cited before.

62a i 

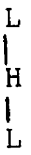
===> iii 

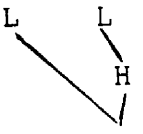
= <u>òfálè</u>

'one who flirts' = <u>òfálè</u>

This item is of L-M-L pattern, realized as L-!M-L on the surface. If the

gives M, one could treat !M in 62a' (i) as derived via the rule in 62a' (ii)

62a' (i) 

62a' (ii) 

in which case the preceding linked L that effects the

downstep would have to be copied onto the mid.

```
62b  i    ò       +    dá     +    òràn  ==>  ii  ò dá   ràn
          |            |          | |            |  |    |
          L            H          L L            L  H  L L
                                                     ↑___↓
          prefix       'cause'    'trouble'

  ===>     iii     ò d ā r à n  =  ò̰dà̰ràn
                   |   |   |
                   L   H   L
                       |
                       L

                   'one who causes trouble / criminal'
```

This item also has the pattern L-M-L realized as L-!M-L on the surface. Similar to the illustration for 62a,

```
H
|
L
```

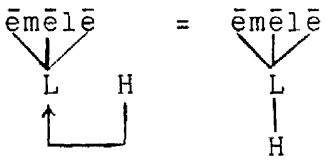
in this example will give 62b' (i) via the rule in 62b' (ii) for !M.

```
62b' (i)      H          62b' (ii)      L     H
              |                         \     \
              L                          \     L
              |                           \   /
              L
```

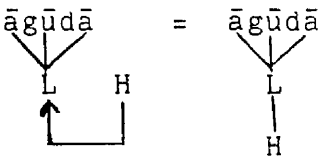
I assume that the preceding linked Ls in 62a,b effect the !M. It should be possible to precede the two-tiered H and L by another floating L to arrive at a downstepped M within this model. However, as I consider such additional floating Ls unmotivated, I do not give any consideration to the matter of formalising it.

Within Hyman's model, 62 justifies treating some derived M tones in Yorùbá as the product of a floating H assigned to a linked L and others as the product of a floating L assigned to a linked H. In both cases, however, unlike the cases of lexically simple items with underlying mid tones (cf. 63 below), there is justification for positing floating Hs and Ls as the vowels that bear them have been deleted.

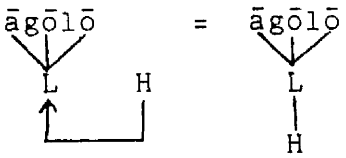
The representation of Hs, Ls and derived Ms is not a problem in this model. The problem seems to be the mid tone again, especially where there is the need to recognise cases of underlying mid tones even in longer forms than mono or disyllabic items. Consider the following.

63(a) 

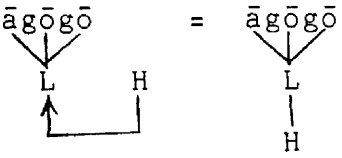
'a type of drum'

(b) 

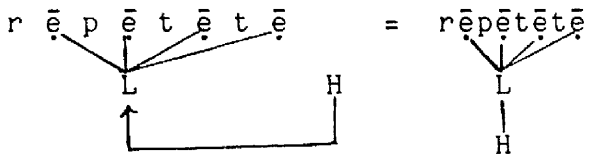
'a type of drum/cutlass'

(c) 

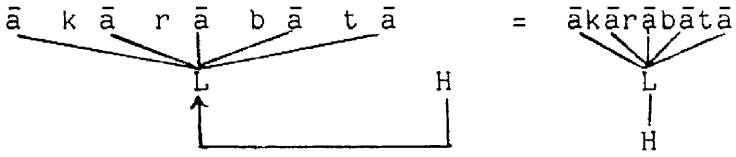
'tin'

(d) 

'metal gong / bell / watch / clock'

(e) 

adverb indicating plentifulness

(f) 

name of a street in Ṃọdákẹ́kẹ́

The idea of positing floating Ls or Hs to the right or to the left of other tones in lexically simple M-toned items with no other motivation than to get the right number of leftward or rightward assignments of floating tones to define the pitch one needs seems to me to be very ad hoc. All the items in 63a-f are lexically simple and surface in M. As I have argued, they have the Ms underlyingly. Saying this, though, is talking in my terms. Hyman does not allow the possibility of an underlying mid tone. He would derive any mid from some LH or HL sequence. In Hyman's model the representation where a H linked to an 'x' timing slot is followed by a floating L is the only one used to derive a M, but as I mentioned earlier, there is no reason why for Yorùbá Ms the floating L should not be to the left, or a floating H posited to the left or to the right of a linked L. The big qestion, however, is why it should be possible to posit unlinked L or unlinked H, and why they should be allowed to occur either to the left or to the right of the linked H or L? The answer is that

firstly it reveals that the formalisation of the mid for Ngamambo is different from that of Yorùbá. Whereas there are no lexically simple items of the type presented in 63a-f in Ngamambo, they exist in Yorùbá. I assume, therefore, that for Yorùbá--if this framework is to be used to account for underlying Ms--the assignment of a floating H or L to a linked H or L is unordered. In other words floating L assigned to a linked H or a floating H assigned to a linked L from either left or right will give us mid tone. Another question is what motivates the idea of positing floating H or L especially when there is no indication either historically or within the synchronic data that a vowel segment originally associated to the floating H or L has been deleted, as is suggested in Hyman's discussion of the great Igbo tone shift. This is a question that needs more investigation. My suggestion of positing H or L to the left or right hand side of a linked L or H for the representation of the underlying mid tones is simply based on the fact that we have witnessed cases of floating H and floating L in other areas of the grammar. But since the representation of lexically simple underlying Ms in this way is quite ad hoc, I will not give any further consideration to it in this study.

6.6 YORÙBÁ TONE: 'BASE TWO' OR 'BASE THREE'

In his 1986 paper, "The Representation of Multiple Tone Heights"--which was discussed in section 6.5. above--Hyman draws a distinction between 'base three'

feature systems, such as those developed by Sampson (1969), Woo (1969), and Maddieson (1970), and 'base two' systems, such as those of Gruber in a (1964) unpublished feature set, Yip (1980), Clements (1983) and Pulleyblank (1983) before going on to develop his own alternative system discussed above. The 'base three' feature system assumes that there is a basic three-way contrast capturable by two distinctive features such as, for instance, [HIGH] and [LOW]. However, there is the possibility of a superimposed third feature, which allows up to five distinct tone height representations. Consider the following summarised version of three proposals involving a 'base three' system adapted from Hyman (1986:111).

64a

	[HIGH]	[LOW]	[MID]
H	+	-	-
HM	+	-	+
M	-	-	+
LM	-	+	+
L	-	+	-

b

	[HIGH]	[LOW]	[MODIFY]
H	+	-	-
LH	+	-	+
M	-	-	-
RL	-	+	+
L	-	+	-

c

	[HIGH]	[LOW]	[EXTREME]
XH	+	-	+
H	+	-	-
M	-	-	-
L	-	+	-
XL	-	+	+

64a is Sampson's (1969) modification of Wang's (1967)

proposal, 64b is that of Woo (1969) and 64c is that of Maddieson (1970).

A 'base two' feature system, on the other hand, makes use of two basic distinctive features to define a maximum of four tone heights instead of of three. Although in Yip's proposal, it is suggested that a provision can be made for a fifth tone, four level tones are, however, the primary focus. The major difference between the two systems is the possibility of a superimposed third feature which allows up to five distinct tone levels as seen in 64. The 'base three' system has been criticised for a number of reasons--see Clements (1983:146-147) and Hyman (1986:110-112) for summaries. In the recent literature the 'base two' systems have been praised and have predominated. Thus, the three tones of Yorùbá have been analysed as discussed in 6.2 and 6.3 above.

Given the types of problems encountered in applying Clements' and Pulleyblank's or Akinlabí's versions of the 'base two' system to Yorùbá tones, and given that the superimposed third feature--be it [MID], [MODIFY] or [EXTREME]--is not needed for a three-term tone system such as Yorùbá, it seems to me that a 'base three' system of the Sampson (1969) type without the superimposed [MID] is appropriate for defining Yorùbá H, M, and L. Cases of H-L, L-H spreading and M-downstep can also be accounted for within this view. Hyman's proposal apparently involves a difference in his definition of the T, the L, the H, the

two-tiered H-L, L-L, and L-H. Also, as he rightly claimed, [+HIGH] and [+LOW] can be combined in his model, but they cancel each other out. If the type of 'base three' system that I claim is appropriate for Yorùbá has any problems, notice that Hyman's proposal, elegant as it is, still has a number of questions to answer with respect to the underlying mid tones and the arbitrary nature of assigning H to L or L to H--as I have discussed in 6.5--to derive the mid tones.

What I have done in this thesis however, is to represent the three tones of Yorùbá as H = [+HIGH, -LOW], M = [-HIGH, -LOW], and L = [-HIGH, +LOW] along the lines Sampson (1969) and in fact along the lines of the representations in 64 if the superimposed features are removed. [+HIGH] means 'above a central reference point' while [+LOW] means 'below a central reference point'. The central reference point is the M = mid tone. In this system, [+HIGH, +LOW] is stipulated as ruled out. I agree, however, that within Hyman's model, this combination is a possibility. As I have shown in 6.5, this decision is in no way to undermine the applicability of Hyman's proposal to Yorùbá. As for Yorùbá, whichever way we view it, we are still dealing with two distinctive features to capture a three way tonal contrast both within the 'base two' and the 'base three' systems. In other words, the 'base-three' system must be made 'base-two' if it is to work for Yorùbá. If Hyman's proposal is modified to handle the underlying Ms of Yorùbá, it will definitely prove to be very productive.

SUMMARY

I began this chapter by examining the earlier analysis of Yorùbá tone, concentrating especially on how the mid tone has been viewed by different scholars. It gradually emerged that even in the 1980s, differences of outlook are still there and this is evident in the application of Clements' (1983) and Pulleyblank's (1983) models to Yorùbá. The claims of Tonal Underspecification, especially as applied to Yorùbá by Akinlabí (1985), were examined and I was able to advance evidence to the effect that neither the four arguments presented in Stahlke (1974) nor the six other examples of 'independent evidence' in support of a two-tone analysis of Yorùbá were sufficiently compelling to analyse Yorùbá as a two-tone system synchronically. I also defined what may be understood as tonelessness in Yorùbá, specifically pointing out the implications of my suggestions. I further suggested how one might apply Hyman's (1986) proposals to the language. Finally, the issue of whether the Yorùbá tone system should be seen as a 'base two' or as a 'base three' system was discussed and I concluded that a 'base-three' system will still have to be seen as 'base-two' before it can work for Yorùbá.

FOOTNOTES TO CHAPTER SIX

1 All the items in (1) and (2) are monotonic. They are therefore represented with single M or H distributed over two syllables. However, (2d) is left with HH as it derives from dá + ìná. (2a-c) are not derived in the same way. The are lexically simple.

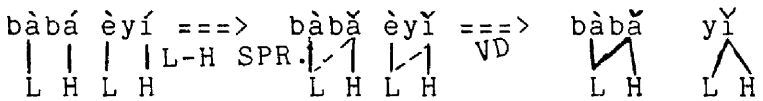
2 The examples in 3-5 are Rowlands'. The orthography is modified to conform with the other examples cited in this analysis, and the tier representation is mine. Fn. 1 applies to monotonic items in 3-5.

3 These illustrations are fully discussed below in section 6.4.

4 This is both reflected in his 1964 article and in a number of personal discussions I have had with him at SOAS while this work was in progress. Whatever the origin of the Mid, he holds the view that it is important to the analysis of Yorùbá.

5 In Carnochan (1964) 'M-L', i.e. what Courtenay called 'lower mid' is what I analyse as downstepped M or !M.

6 A phrase such as bàbá yǐ 'this father', derived from bàbá èyí before vowel deletion, would be written as bàbá . yí by Bámgbóṣé to distinguish it from a similar phrase bàbá yí - 'father tripped (and fell)'. The dot therefore was used as a mark of the lost low tone that still affects the realization of the final H as R. This process is better understood now in autosegmental terms. We do not need the dot to remind us of the 'lost low' whose effect lingers on. The way I handle this type of case in this analysis is to motivate the L-H spreading rule before V-deletion thus:



In the case of bàbá yí there is no V-deletion, and since yí is not preceded by any L-toned vowel, it is realized as a level H whereas the yǐ in bàbǎ yǐ is produced with rising tone.

7 Stahlke actually contrasts two analyses, both of which are not problem free. He enumerates the advantages and disadvantages of both two-tone and three-tone analyses. It is, however, obvious that he favours a two-tone analysis.

8 This sort of deletion rule is the subject of discussion in Chapter Seven.

9 Actually, the high tones in 30 are not high level tones as in 29. Rather, they are realized as rising tones because of the low tones that precede them.

10 The output of 50b and 50c is the same, but as shown, they are derived through differnt processes.

11 At this stage also, I prefer to refer to the segment as unlinked or free to avoid any confusion that the term 'tonelessness' may have created. This position is compatible with AP's claim that the autosegments on each tier remain separate at this stage.

12 In fact there is nothing that stops one from presenting the mid-toned yān 'roast / match' as in any of the representations in (60b). This would be difficult if there were a downstepped H--!H--in Yorùbá because, presumably, a downstep on H will be effected by an adjacent floating L. Thus the same representation that fits the formalization of both derived and underlying M will fit that of a downstepped H.

13 As shown in 61b and (cf. fn.12), there is more than one way of representing this item.

CHAPTER SEVEN

TONE DELETION: PUTATIVE AND GENUINE CASES

7.0 INTRODUCTION

In this chapter, I shall examine the issue of tone deletion in Yorùbá. As background knowledge, I will briefly refer to what is generally understood by deletion in most works on linguistics and particularly in either segmental phonology or tonology. We shall see how tone deletion rules have been formalized in most works based on autosegmental phonology. I will also compare these views with Akinlabí's formalization of tone deletion rules within his "underspecified autosegmental" model. Finally, I will explain how the issue of tone deletion is handled in this analysis.

7.1 DELETION IN LINGUISTICS

In linguistics and especially in phonology the term deletion is very much in use. Generally speaking, its use within linguistics does not deviate in any essential detail from its use in other contexts. Within segmental phonology and tonal analysis, it is obvious that rules such as 1a-c are rules of deletion.

1a V ===> Ø / .. ..

b C ===> Ø / .. ..

c T ===> Ø / .. ..

In 1a-c, we see examples of vowel, consonant and tone deletion rules where 'V' is any vowel, 'C' is any consonant, 'T' is any tone and the environment is to be given according to the details of the language. The basic idea in 1a-c however is that 'V', 'C', and 'T' are blotted out, erased or eliminated. As far as I know, autosegmental phonology does not have any special interpretation of deletion which is essentially different from the ones expressed above. In other words, in the autosegmental model, vowel, consonant or tone deletion still means that the autosegment concerned is struck out, obliterated or erased.

7.1.1 AKINLABÍ'S TONE DELETION RULES

Akinlabí's (1985) tone deletion rules are of the type in 1c generally speaking, which is in agreement with the notion of deletion expressed above. One thing is, however, noteworthy about these rules, namely: at times T ===> Ø (i.e. a particular tone becomes zero in a particular environment depending on the tonal process in question) means 'T becomes zero, nothing or blotted out', but at certain other times the same formalization gives 'T becomes Ø where the Ø is mid tone'. In other words, there are two ways of understanding Akinlabí's use of 'zero'. We shall

examine specific examples in a moment. One would have expected Akinlabí to give a formal justification for this discrepancy in the use of the term 'deletion', but there is no explanation to this effect. One simple fact, though, that may explain Akinlabí's presentation of deletion in this way is his decision to treat the mid tone as null. In other words, all cases of high tone lowering and low tone raising are actually presented as H or L becoming Ø, but the Ø is in turn realised as mid pitch by a 'universal default rule' (discussed in Chapter Six). Notice that my disagreement here is not with the notion of default rules. What I object to is why 'Ø' should be interpreted as an 'erased' tone at times, but as mid at certain other times without any adequate explanation. Akinlabí holds the view that rules of raising and lowering are rules of phonetics. This view is, however, not sufficient for explaning away instances of tone lowering and raising in Yorùbá. After all, in most tonal systems, downstep, upstep or downdrift rules are analysed as rules of phonetics, yet they are not always totally explained away in the understanding of the tonology of such systems. For example, a rule of downstep in Yorùbá may be seen as a rule of phonetics, but even Akinlabí did not explain it away altogether. Rather, he claimed that such a rule is taken care of in the phonetic component and thus he makes no provision for it in the phonology. As a standard practice within segmental and autosegmental literature, analysts make use of raising and lowering rules whenever the details of the tonal processes in the language call for them cf. Leben (1978:177-219,

1983:177-184), Amayo (1983:185-194) and Hyman (1986) discussed in Chapter Six. All these are recent analyses of tone systems within the literature and they make use of lowering and raising rules. Why should this type of rules not be used for Yorùbá if there is motivation for their use in the language? I propose that Akinlabí's view on this issue be revised, so that there is provision for tone deletion where a tone is completely eliminated in the same way that vowels and consonants are deleted--(cf. Courtenay (1969:63-64) and Oyèláràn (1971:80-82). At the same time, I propose that certain tonal processes which Akinlabí has analysed as cases of tone deletion be seen as instances of tone raising and tone lowering. Below, I examine some of his specific claims and his rules, and provide my views and my rules to account for the processes in question.

7.2 VERB PHRASE LOW TONE DELETION OR VERB + NOUN (PHRASE) LOW TONE RAISING?

As discussed in (6.1.3) & (6.4.1.1), the low tone of a low tone verb is realized as a mid tone if the verb takes a noun object or a noun phrase object, but remains low-toned if the object is a pronoun. However, Akinlabí treats the low tone of the verb as being deleted and accounts for the process by a tone deletion rule. Consider the following examples:

```
2a   i   tà   +   ẹ̀pà   ===>   ii   tā   ẹ̀pà (fn.1)
         |        | |   L-RSNG.        |   | |
         L        L L                  M   L L

         'sell'   'groundnut'          'sell groundnut'


b    i   kọ̀   +   ṣé   ===>   ii   kọ̄   ṣé (fn.2)
         |        | |   L-RSNG.        |   | |
         L        M H                  M   M H

         'refuse' 'work'               'refuse to be sent on an
                                        errand'
```

Akinlabí's rule for this process is:-

```
3          L ===> Ø  /  -  ]    [
                        |
                        V ]
                          Vb    NP
```

In this analysis, I see this process as that of low tone raising and a similar rule to that of Akinlabí accounts for it. The rule is called the Verb + Noun (phrase) Low Tone Raising Rule. It is as follows:-

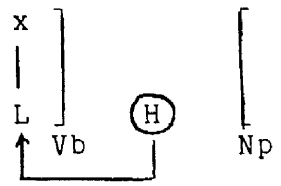
```
4          L ===> M  /  V ]    [
                        |
                        - ]
                          Vb    NP
```

If Hyman's model explained in 6.6 is applied to this process, we will have to posit a floating high tone immediately following the L-toned verb and before the noun objects as shown below.

```
5a i   tà   ẹ̀pà ===> ii  tà   ẹ̀pà ===> iii   tā   ẹ̀pà (fn 3)
       |    | |           |    | |            |    | |
       L    H L L         L    H L L          L    L L
                          ↑____↓               |
                                               H

b i  kọ̀   Ịṣẹ́ ==> ii  kọ̀   Ịṣẹ́ ==> iii  kọ̄   Ịṣẹ́
     |    | |          |    | |            |    | |
     L    H M H        L    H M H          L    M H
                       ↑____↓               |
                                            H
```

The rule in this case will be :

6



Another possibility is to see the floating H as being fused with the linked L of the verb as discussed in 6.2, but this is in no way significantly different from Hyman's proposal. As I mentioned in 6.6 there is no motivation diachronic or synchronic, that supports a floating H in 5a,b except perhaps that the phenomenon of floating tone is allowed in autosegmental phonology and cases of floating H (fn 4) have been witnessed in other aspects of the grammar as discussed in chapter 5. Whichever of the three methods is adopted, the process is clearly that of raising.

A fourth possibility, which may not just formalize this process in terms of rules but also explain why it happens, is that of stress assignment (cf. 6.4.1.3). I am not unaware of the fact that scholars discussing the issue

of stress in Yorùbá literature have unanimously agreed that it is of no relevance to Yorùbá. They hold that what is seen as stress represents an artiste's 'artistic prominence' during the performance of Yorùbá oral literature. They have also claimed that the process cannot be accounted for by a principled phonological rule. However, one might expect pronouns to be said with less stress than noun or noun phrases. It is therefore possible that what happens to the verb could be in a way linked to differing degrees of stress on the object of the verb. For example, verb + pronoun might be claimed to have a strong-weak stress pattern, whereas, verb + Noun phrase (other than pronoun) might have a weak-strong pattern. Low tone raising then would occur only if the verb has relatively weaker stress (fn.5).

7.3 THE CLITIC PRONOUN OBJECT HIGH TONE DELETION OR HIGH TONE LOWERING?

Another process which Akinlabí treated as a case of tone deletion is that of the underlying high tone of the clitic pronoun object which is realized as mid tone after high tone verbs. This issue has been discussed in 6.4.1.3 above. In Chapter Six, it is proposed that this process can be handled in one of three ways, but none of them could be seen as a case of tone deletion. Only the view that I favour is adopted here, and it is essentially the same view as the one adopted by Akinlabí, following Courteney (1969), except that what he treats as a case of high tone deletion

is analysed here as a case of high tone lowering. Below is Akinlabí's rule which accounts for this process.

7 PRONOUN OBJECT HIGH TONE DELETION RULE

$$H \Longrightarrow \emptyset \;\; / \;\; \underset{Vb}{\begin{bmatrix} H \\ | \\ V \end{bmatrix}} \;\; \underset{Pro.\ Obj.}{\begin{bmatrix} - \\ | \\ V \end{bmatrix}}$$

My rule for the process is as follows:

8a PRONOUN OBJECT CLITIC HIGH TONE LOWERING RULE

$$H \Longrightarrow M \;\; / \;\; \underset{Vb}{\begin{bmatrix} V \\ | \\ H \end{bmatrix}} \;\; \underset{Pro.\ Obj.}{\begin{bmatrix} V \\ | \\ - \end{bmatrix}}$$

If Hyman's proposal is adopted, the corresponding rule is as follows:

8b

$$\underset{Vb}{\begin{bmatrix} x \\ | \\ H \end{bmatrix}} \;\; \underset{Pro.\ Obj}{\begin{bmatrix} x \\ | \\ H \quad L \end{bmatrix}}$$

This rule lowers the high tone of the pronoun object if it happens to be the same as that of the verb immediately preceding it. This rule is conditioned by the tone of a grammatical category--the verb. The case of the second person plural clitic which is not accounted for by this rule was explained in Chapter Six as depending on the

structural description for the rule not being met.

All three or four of these rules are just formalizations of what happens. None of them explains why it happens. An account that treats Verb + Pronoun Object as having a Strong + Weak stress pattern would perhaps go somewhat further in that the tone change in the pronoun could be regarded as dependent on its relatively weaker stress. One implication of this claim is that a H ===> M change involves a weakening. A derived M in this context will as a result be seen as a weakened H. As I mentioned in 7.2, these speculations need be more carefully considered and confirmed or disproved.

7.4 THE EMPHATIC CLITIC LOW TONE DELETION OR LOW TONE RAISING?

Another process which has not been mentioned in this thesis thus far is that of the Yorùbá emphatic clitic tone. It has been rightly claimed that one of the ways in which the ideas expressed in sentences are emphasized is by adding an emphatic clitic at the end of the sentence. This emphatic clitic can occur after a verb, a noun, an adjective, an adverb, and in fact, after another clitic such as the object pronoun clitic. It has the phonemic shape of the final vowel segment of the item immediately preceding it. It is also realized with a low tone after a high and mid tone item, but with a mid tone after a low-toned preceding item. This process is different from

'melodic' or 'suprasegmental' tone cf. Bádéjọ (1985:1-13). While the melodic tone is an intonational process with a specific vowel identifiable in terms of Fo, and in terms of a regular pitch, the emphatic vowel and its tone are not fixed. Consider the following examples.

9 AFTER VERBS

```
a  i   ó  +   sān  +  V̀  ===>  ii   ó  sān àn
       |      |     |   VA         |   |   |
       H      M     L              H   M   L

       'it'   'heal'                'it heals (emph.)'
```

```
b  i   ó  +   kú  +  V̀  ===>  ii   ó  kú  ù
       |      |     |   VA         |   |   |
       H      H     L              H   H   L

       '(s)he' 'die'                '(s)he / it dies
                                     (emph.)'
```

```
c  i   ó  +   tà  +  V̀  ===> ii   ó  tà  ā
       |      |     |   VA         |   |   |
       H      L     L              H   L   M

       '(s)he'  'sell'              '(s)he / it sells
                                     (emph.)'
```

10 AFTER NOUNS

```
a  i   ā  +   rí  +  ōyīn  +  V̀  ===>
       |      |     |/          |   VA
       M      H     M           L

       'we'   'see'  'Ōyīn' (fn.6)
```

```
ii   ā    rí    ōyīn    ìn
     |    |     ↙       |
     M    H     M       L
```

'we see / saw Ōyīn (emph.)'

```
b i  ā  +  rí  +  bísí   +  V̀  ===>
     |     |     ↙         |   VA
     M     H     H         L
```

'we' 'see' "'Bisi"

```
ii   ā    rí    bísí    ì
     |    |     ↙       |
     M    H     H       L
```

"we see 'Bisi (emph.)"

```
c i  ā + rí + ọ̀gẹ̀dẹ̀ + V̀  ===> ii   ā rí ọ̀gẹ̀dẹ̀   ē
     |   |   ↙          |   VA        |  ↖ ↙        |
     M   H   L          L             M  H L        M
```

'we' 'see' 'banana' 'we see bananas (emph.)'

Similar examples demonstrating this process after adjectives, adverbs and after pronoun object clitics are not given here to save space. They have the same patterns as the ones shown above.

Akinlabí (1985:238-245) sees the underlying tone of the emphatic clitic as low and analyses cases where it surfaces with the mid tone as instances of low tone deletion. Here is his rule:

$$L \Longrightarrow \emptyset \;\; / \;\; \begin{matrix} L \\ | \\ V \end{matrix}\Bigg] \Bigg[\begin{matrix} - \\ | \\ V \end{matrix} \quad \text{Emph.}$$

As with the case of the object pronoun clitic tone (cf. 6.4.1.3.), there are at least two ways of accounting for this process. The easier way to look at it is to agree with Akinlabí that the underlying tone is L. Since this analysis posits an overt mid tone, cases where the emphatic clitic surfaces with the mid tone are seen as cases of low tone raising. The rule below will handle this process.

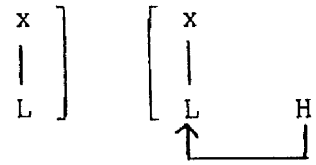
12 $$L \Longrightarrow M \;\; / \;\; \begin{matrix} V \\ | \\ L \end{matrix}\Bigg] \Bigg[\begin{matrix} V \\ | \\ - \end{matrix} \quad \text{Emph.}$$

This rule raises the low tone of the emphatic clitic to mid tone any time the preceding item has a low tone. If the preceding item has a high or a mid tone the emphatic clitic is realized with its underlying low tone.

Another solution is to see the emphatic clitic as toneless. The toneless V-slot representing a lengthening of the preceding vowel will then be assigned a low tone if the preceding item has a mid or a high tone, and mid tone if the preceding item has a low tone.

Within Hyman's model discussed in 6.6, the rule in 12 will be formulated as follows:

13



7.5 VERBAL HIGH TONE DELETION OR VERBAL HIGH TONE LOWERING / RAISING?

Four types of verbal high tone lowering to mid tone, first noticed by Bámgbóṣé (1966a), are analysed as cases of verbal high tone deletion in Akinlabí (1985:245-258). They are as follows:

7.5.1 NOMINAL REDUPLICATION WITH CV́ INFIXATION

This process involves the repetition of certain nouns together with their tone pattern, but with a CV́ structure infixed between the two nouns. The infixed CV́ was referred to as a verbal element in Akinlabí (1985), and this position is also adopted in this analysis. The CV́ is most commonly realized as kí, in which case it gives the reduplicated items the meaning 'any..', but at times it is also realized as ní / lí and yí. This is another type of reduplication from the types already mentioned above. Consider the following examples.

14a i

ìwà	kí	ìwà ===>
L	H	L L VD

'character' (inf.) 'character'

ii

ìwà	kí	wà ==> iii	ìwàkíwà
L	H L	L H-LWRNG.	L H L
			L

'any / bad character'

b i

àgbà	lí	àgbà ==>
L	H	L L VD

'elder' (inf.) 'elder'

ii

àgbà l	àgbà	===>	iii	àgbàlāgbà
L	H L L	L-RSNG.		L L L
				H

'elderly person' 'elderly person'

15a i

ōwó	kí	ōwó ==>
M H	H	M H VD

'money' (inf.) 'money'

ii

ōwó k	ōwó ==> iii	ōwók	ówó
M H (H)	M H H-RLK.	M H (H)	(M) H

'any / bad money' = <u>ōwókówó</u>

b i Īṣé kí Īṣé ==> ii Īṣé kí ṣé ===>

M H H M H VD M H H M H → ϕ

'work' inf. 'work' 'any / bad work'

iii Īṣékíṣé

M H H H

'any / bad work' = Īṣékíṣé

16a i ẹ̄rān kí ẹ̄rān ===> ii ẹ̄rān k ẹ̄rān ===>

VD

M H M M M (H)M M H-RLK.

'meat' inf. 'meat' 'any / (bad) meat'

iii ẹ̄rān k ẹ́rān

M M H M M

'any meat' = ẹ̄rānkẹ́rān

b i ọ̄mọ̄ kí ọ̄mọ̄ ===> ii ọ̄mọ̄ k ọ̄mọ̄ ===>

VD

M H M M M H M M H-RLK.

'child' inf. 'child' 'any / bad child'

iii ọ̄mọ̄ k ọ́mọ̄

M H M M

'any / bad child' = ọ̄mọ̄kọ́mọ̄

The uncollapsed monotones in 14-16 are deliberately left in this form for the purpose of illustration in the processes that later affected them.

Within the present analysis, M is represented

underlyingly for certain items. As we have seen in the above examples, there is the need for recognising derived Ms as floating H assigned to a linked L or as floating L assigned to a linked H. There is a problem with this model in that in principle, the prediction is that we would be able to assign H or L to M to derive certian pitches. Whatever these pitches are, they are unattested in Yorùbá. I have got no principled way of excluding these unattested configurations. Since this model gives me more than what I want, I have got no other choice than to stipulate that the unattested configurations are ruled out. This area area surely needs more investigation.

In the examples above, it is only in 14a,b that the CV́ high tone is realized as mid tone as a result of H-L fusion, or the assignment of floating (L) to H or vice versa. Notice that Hyman's representation of a mid tone as either a floating (L) assigned to a linked H or a floating (H) assigned to a linked L is adopted here to account for derived mid tones in Yorùbá. However, the instances of M in 15 and 16 are analysed as not being derived.

Akinlabí claimed that the CV́ high tone is deleted when it is preceded by a linked low tone and followed by a floating low tone. He accounts for the data by the rule in 17.

17 VERBAL HIGH TONE DELETION RULE

H ===> Ø / L - (L)

The reason why this should be seen as a case of tone deletion rather than a case of tone lowering--cf. 14a--and tone raising--cf. 14b--is consistent with Akinlabí's general approach. However, it is obvious from the data that the H is realized as a mid tone only when it is preceded by a linked low tone and followed by a floating low tone. Also, L is realized as a mid tone when preceded by a floating (H) which is itself preceded by a linked L. In 15 and 16 where the preceding and following tones are not low tones, the lowering / raising does not take place. My rules for this process are as follows:

18 VERBAL HIGH TONE LOWERING RULE

(a) H (L) ===> M / L -

This rule lowers the CV́ high tone to mid tone if it occurs between a linked low tone and a floating low tone (cf. 14a). However, 18a does not apply to 14b since it is the vowel of the infix that is deleted leaving a floating H. It is therefore better analysed as low tone raising in the environment of a floating H formalised as in 18b.

18b (H) L ===> M / L -

If the rules are to be formulated according to Hyman's representation used above, they will be as follows:

19a H (L) 19b (H) L

Rule 19a takes care of 14a while 19b takes care of 14b. 19 implies that the rule specifies what happens to a high tone in two contexts. It could equally be treated as affecting a low tone, since it crucially involves an adjacent H + L sequence.

7.5.2 ORDINALS

Ordinals are numerals used to indicate exactly wnere something occurs in a series. It has been pointed out that the ordinals are derived by prefixing a low-toned / ì / to a verb phrase consisting of an obsolete verb kó - 'to pack / gather' and a numeral cf. Awóbùlúyì (1978:34), Owólabí (1981) and Akinlabí (1985:252). The item thus derived is used as a nominal denoting position. Consider the following examples:

20a i ì + kó + èjì ==-> VD

L H L L

prefix verb 'two'

```
ii   ì k   è j ì ===> iii   ìkējì
     |     |   |            | | |
     L  (H) L   L L-RSNG.    L L L
            ↑                  |
                               H

     'second'                  'second'  = ìkèjì
```

```
b    i    ì        +   kó     +   èrīn   ===>
          |            |          | |      VD
          L            H          L M

          prefix       verb       'four'
```

```
     ii   ìk    èrīn ===> iii   ì k ē r ī n (fn.7)
          |     | |            |   |   |
          L  (H) L!M  L-RSNG.   L   L  !M
                 ↑                  |
                                    H

          'fourth'                 'fourth' = ìkèrìn
```

In the examples above the vowel of the verb kó is deleted in stage (ii) leaving a floating high tone between two linked low tones. This (H) is then assigned to a following linked L to derive a mid tone using Hyman's (1986) proposal, and this gives us the surface forms. By contrast, Akinlabí sees this process exactly like the one just examined in 7.5.1 and claimed that the CV́ high tone is deleted whereever the condition for tone deletion is satisfied--cf. his rule in 17. As I mentioned before, this is a case of a high tone being lowered to a mid tone when surrounded by low tones or a fusion of H and L to give M. In example 21 where the numeral begins with a mid tone the lowering is blocked.

```
21  i   ì        +   kó  +     ēní     ===>
        |            |         | |      VD
        L            H         M H

        prefix       verb      'first'
```

```
ii ìk     ēní ===> iii   ì k     é n í = ìkéní
   |      | |  H-RLK.   |        |   |
   L   (H) M H          L   (H)  (M)  H
                                  ↘ ɛ
                        'first'  i.e. ìkínní (fn.8)
```

The reason why the lowering is blocked is because the high tone, though preceded by a low tone, is not followed by a low tone.

7.5.3 VERB-PHRASE NOMINALIZATION BY Ṽ-PREFIXATION: LOW TONE SPREADING, HIGH TONE LOWERING OR HIGH TONE DELETION?

In Chapters Five and Six, I have mentioned cases of verb-phrase nominalization by Ṽ-prefixation to demonstrate the fact that there are a number of phonetic similarities involving mid/low and mid/high tones. Akinlabí treated cases of Ṽ-prefixation where the tone of the verb in the verb-phrase is low or mid as cases of tone spreading, but in Chapter Five I have noted that such cases may be analysed as cases of mid tone lowering to low when preceded by a low tone or cases of high tone lowering to mid when surrounded by low tones. Akinlabí, however, treated cases where the mid tone of the verb--in a verb-phrase involving Ṽ-prefixation--is realized as L as cases of L-spread--left-to-right--from the L of the prefix.

Instances of H tone verbs in similar contexts are treated as cases of high tone deletion similar to the ones seen in 7.5.1. and 7.5.2. Consider the following:

22a	ò	+	ṣē	+	ēré	===>	òṣèrě	
	prefix		'do'		'play'		'actor/ actress'	
b	ọ̀	+	mọ̄	+	Ìlé	===>	ọ̀mọ̀lě	
	prefix		'build'		'house'		'builder'	
c	ò	+	jẹ̄	+	ìyà	===>	òjìyà	
	prefix		'eat'		'suffering'		'sufferer'	
d	òǹ	+	kọ̄	+	ìwé	===>	òǹkọ̀wě	
	prefix		'write'		'book'		'writer'	

In 22a-d Akinlabí claimed that the low tone of the prefix spreads to the verb-phrase to give us the surface form. This claim is valid in 22a,b where the verb phrases ṣē + ēré 'act a play' and mọ̄ + Ìlé 'build a house' become ṣēré and mọ̄lé even before the ò-prefix is added to them. It can thus be claimed that the prefix low tone spreads to give us òṣèrě and ọ̀mọ̀lě respectively from *òṣēré and *ọ̀mọ̄lé--which are never rendered/heard in this form in normal fluent speech. This position cannot be maintained for 22c,d where the verb phrases jẹ̄ + ìyà 'eat suffering' and kọ̄ + ìwé 'write (a) book' are realized as jìyà and kọ̀wě before the low-toned prefix is added to them. In this case, the normal process of contraction via vowel deletion makes the

low tone spreading ineffective. However, Akinlabí claimed that its application is vacuous (cf. 4.10.2), while in comparable examples in 23, he talks of high tone deletion.

```
23a  i   ì        +  pá     +  àyà    ===>
         |           |        | |      VD
         L           H        L L

         prefix     'bald'   'chest'

     ii  ìpá    yà ===>  iii   ìpāyà   (fn. 9)
         | |    |        | | |
         L H (L) L  H-LWRNG.  L H L
           ↑_|                  |
                                L

         'fear'                'fear/to be afraid'

b    i   ọ̀       +  dá     +  ọ̀ràn   ===>
         |           |        | |      VD
         L           H        L L

         prefix     'cause'  'trouble'

     ii  ọ̀dá    ràn ===>  iii  ọ̀dāràn
         | |    |        | | |
         L H (L) L  H-LWRNG.  L H L
           ↑_|                  |
                                L

         'trouble maker/criminal'
```

Akinlabí claimed that the high tone of the verb in 23a, and by inference that in 23b, is deleted by the same type of high tone deletion rule seen above. By contrast, in 24 below, the high tone is not deleted.

```
24a  i   ì        +  kún    +  ìlè    ===>
         |           |         | |      VD
         L           H         M L

         prefix     'fill'    'earth'

     ii  ìkún   lè ===> iii   ìkúnlè
         | |    |             | |  |
         L H (M) L             L H  L
             ↘ ø
         'kneeling'           'kneeling'

 b   i   ì        +  gbV́  (fn.9) +  ādùn   ===>
         |           |              | |     VD
         L           H              M L

         'prefix'   'verb'          'sweetness'

     ii  ìgb   ādùn ===> iii   ìgb   ádùn
         |     | |  H-RLK.     |      |
         L   (H) M L           L   (H) (M) L
                                       ↘ ø
         'enjoyment'           'enjoyment = ìgbádùn'
```

Although as we have seen above, it is possible to see the cases of 22a,b and c,d--vacuously in Akinlabí's sense--as low tone spreading, the cases of 23a,b are not cases of high tone deletion by any means. They are another case where the verbal high tone is lowered to mid tone when preceded and followed by low tones. The high tone of the item in 24a,b cannot be lowered in the same manner because, although they are preceded by low tones, they are not followed by low tones. Thus, both L M T ===> L L T and L H L ===> L M L are treated as cases of lowering of the tone that is preceded by Ls in my analysis whereas Akinlabí's analysis has to treat them differently.

7.5.4 NEGATION WITH KÒ / Ò: HIGH TONE DELETION OR HIGH TONE LOWERING?

The final example raised by Akinlabí as an instance of high tone deletion is that of negation with kò and ò in Yorùbá. It is a well known fact that the negative form of the third person singular pronoun subject clitic has a zero realization when the negator kò / ò is used. When there is no overt subject the negator kò is used and when there is a subject, the shorter form ò is used. Akinlabí claimed that when the negator is used with certain lexical items, there is a high tone deletion similar to the ones considered in the preceding sections. Consider the following examples from Akinlabí (1985:256). The mid tone is usually not marked in the orthography, but I mark every tone on the vowels here.

25a kò gbọ̄dọ̀ lọ̄ — '(s)/he / it must not go'

b ōlú ò gbōdọ̀ lọ̄ — 'Ōlú must not go'

c ó gbọ́dọ̀ lọ̄ — '(s)/he / it must go'

d ō gbọ́dọ̀ lọ̄ — 'you sg. must go'

He claimed that in 25a,b the high tone of the verb gbV́ (fn.10) has been deleted whereas it is not in c,d. He claimed, specifically, that the high tone is deleted when it is preceded by a linked low tone and followed by a floating low tone. The process here is not different from the ones already examined above. It is a case of a high

tone being lowered to mid tone when preceded and followed by low tones. The relevant derivations are given in 26.

```
26a  i  kò  +  gbV́  +  ọ̀dọ̀  +  lọ̄  ====>
        |        |      | |      |   VD
        L        H      L L      M

     ii  kò gb   ọ̀dọ̀ lọ̄ ===> iii  kò gbọ̄dọ̀ lọ̄
         ↑       | | |   L-RSNG.   |    | | |
         L    (H)L L  M            L    L L  M
                 └→                         H

            = kò gbọ̄dọ̀ lọ̄

b  i  ōlú  +  ò  +  gbV́  +  ọ̀dọ̀  +  lọ̄  ===>
      | |      |       |     | |      |   VD
      M H      L       H     L L      M

     ii  ōlú ò gb    ọ̀dọ̀ lọ̄        ===>
         | | |       | | |          L-RSNG.
         M H L   (H) L L  M
                     └→

     iii  ōlú ò gbọ̄dọ̀ lọ̄ = ōlú ò gbọ̄dọ̀ lọ̄
          | | |   | | |  |
          M H L   L L  M
                  |
                  H

c  i  ó + gbV́ + ọ̀dọ̀ + lọ̄  ===>
                            VD
      H     H    L L    M

     ii  ó gb   ọ̀dọ̀ lọ̄ ===> iii  ó gb   ọ̀dọ̀ lọ̄
         |      | | |   H-RLK.   |      ↘ | \ |
         H   (H)L L  M            H   (H)(L)L M
                                          ↘ ∅

            = ó gbọ́dọ̀ lọ̄
```

```
d  i  ō + gbV́ + ò d ò + lō  ===>
        |     |   | |    |   VD
        M     H   L L    M
```

```
ii  ō gb     ò d ò lō ===> iii  ō gb      ó d ò lō
     |        |   |  |  H-RLK.   |        ‡   |   |
     M   (H)  L   L  M           M   (H)  (L)  L   M
                                          ↘ ¢
                                  = ō gbódò lō
```

In 26a,b the items immediately preceding and following the verbal high tone of gbV́ have low tones. This can be treated as a case of high tone lowering to mid when surrounded by low tones and not a case of tone deletion. But, having opted for the two-tone analysis, Akinlabí has to treat it as deletion. In 26c,d the verbal high tone is preceded by high and mid tones respectively, and though followed by low tones in both cases, the high tone is not lowered because the environment is not satisfied. In this case (i.e. 26a,b), and indeed with all the others in 7.5.1.-7.5.3., the high tone deletion to Ø is actually realized as M.

7.6 TONE DELETION PROPER

There are two ways of viewing tone deletion proper. The first view is to see cases of tone deletion as formalized in 1c at the beginning of this chapter. In this case T--i.e. H, M or L--is deleted, i.e. struck out or erased, within a specifically defined environment. The other view is to take care of tone deletion by one of the sets of conclusions given in Chapter Five. In this case,

given that a TBU is normally associated to a tonal autosegment, if any tone T--H, M or L--is left unassociated, i.e. floating--after it has been disassociated as a result of vowel deletion--and there is no process that relinks it, we assume that such a tone is deleted. It is completely erased or struck out and there is no phonetic realization of it whatsoever on the surface.

The latter view is the one favoured by this writer. This choice is made for two major reasons. The first reason is that given the rich and very articulate formalism of the autosegmental model together with the explanatory power that goes along with it, any special tone deletion rule is unnecessary for Yorùbá. The whole issue of tone deletion thus reduces to the assumption that any tone that floats and is not relinked by a subsequent process counts as erased. The second reason is closely related to the first. Akinlabí's reluctance to represent the mid tone underlyingly stems partly from the fact that in addition to high and low tone deletion rules, we will be forced to have mid tone deletion rules as well. This according to him, makes our grammar more complex. Handling tone deletion by general assumptions (as indicated above) allays this fear.

To illustrate the first view on tone deletion, let us consider example 24a,b again. If this view is adopted, at stage ii of 24a we would need a tone deletion rule that erases a floating (M) when it is preceded by a linked H and followed by a linked L. This would be formalized thus:

27 (M) ===> Ø / H - L (cf. example 1c.)

Similarly, at stage iii of 24b, we would have the same rule applying. At stage iii of 26c,d however, we would have a tone deletion rule that strikes out a floating (L) in the same environment as in 27. This is given in 28.

28 (L) ===> Ø / H - L

A similar process would apply to a floating H which, however, is deleted only in the loan words discussed in Chapter Five. The rules in 27 and 28 are examples of explicit rules of tone deletion proper. However, as I said before, the second view of deletion proper is favoured by this writer. It reduces all possible but unnecessary complications and makes our grammar simpler by assuming that any floating H, M or L not linked or associated by the surface is analysed as having no phonetic realisation. This is provided for within my analysis in the set of conclusions listed in Chapter Five. This view has also been consistently adhered to in this thesis for the deletion of any tone which remains floating by the surface.

S U M M A R Y

I began this chapter by providing an explanation of how the term 'deletion' is used in linguistic analyses. I

argued later that Akinlabí's use of the term with particular reference to certain tonal processes in Yorùbá deviates from both a layman's and a linguist's understanding of the phenomenon. Instances of his claims were cited and my alternative views were presented. I concluded that all but one of the cases referred to as tone deletions in Akinlabí (1985) (see especially p 118, his T4 and pp 227-258) are cases of low tone raising to mid tone and, by the same token, all instances of his high tone deletions are cases of high tone lowering to mid tone in this analysis. One of the cases of low tone deletion where the floating L is truly lost conforms with my first view of tone deletion proper, but I will not even require a deletion rule for this in my analysis. Finally, I presented my views of tone deletion in Yorùbá and highlighted how the issue of tone deletion is handled in this study.

FOOTNOTES TO CHAPTER SEVEN

1 If vowel assimilation occurs as a result of fast speech thus causing contraction, tā ẹ̀pà is reduced to t ẹ̀pà, and finally realized as tẹ̀pà i.e. the a and its M are eventually lost. This point is, however, not crucial for the underlying tone of the verb becoming a mid tone when it takes a noun object.

2 By a similar process to the one explained in fn.1 about example 1, this string may eventually be realised as kọ̄ṣé.

3 If eventually the process in fn.1 above takes place, we will have to assume that the two tiered M is deleted after V-deletion.

4 Of course, we could posit the floating H to the left of the linked L to derive the mid tone but if the tone in question is associated with a particular syntactic construction it seems more appropriate to locate it at the relevant syntactic boundary.

5 The details of how this idea is to be formally represented are not yet clear to me. Therefore the issue is not pursued here. I am conscious of the fact that the relationship between tone and stress is not as clear cut in Yorùbá as it appears to be in dialects of Chinese cf. Yip (1982). The idea of formally representing strong vs weak or weak vs strong--possibly within the framework of Metrical Phonology--with the three tones of Yorùbá is also under close observation. There are of course other issues that are not yet resolved. For example why does the strong / weak stress argument have to apply to L tone verbs alone? Since there are H and M tone verbs as well as L, one will be inclined to claim that this process applies to (all) the verbs or to the verbs bearing the peripheral tones. However, if it applies to H-toned verbs as it does to L-toned verbs, why are they not realised differently in order to justify the strong / weak stress claim? Investigation continues.

6 Ọ̄yīn, used here as a personal name, is also a noun which means 'honey'. Whichever way we view it, it is a noun.

7 The next step after step (i) is M-downstep which is not shown in this representation but represented in stage (ii). The final output is L-M-!M, i.e. the L of

the numeral ẹ̀rẹ̄n has conditioned downstep on the following Mid tone before a floating (H) is assigned to it to derive a M. The medial M in 20a,b are also downstepped by a process which I consider to be the application of downstep rule across word boundary. 20a gives L-!M-L while 20b give L-!M-!M on the surface. In both cases, the downstepped M will be formalised as a linked L to which a floating H is assigned, plus an additional L which is a copy of the preceding L (cf. 6.5 example 62a).

8 This item is pronounced ìkéní in the Ìbàràpá dialect of Yorùbá (cf. Akinlabí (1985:260)), but as a result of vowel coalescence (cf. Awóbùlúyì (1983)) or vowel deletion (cf. Bámgbóṣé (1984)) it is realised as ìkínní in SY. The high tone of the CV́ verb is however not lowered in any dialect, so the item is never realised as *ìkēní or *ìkīnní.

9 The original form of this verb is not known. It may be gbé 'carry / lift', gbá 'kick', or gbọ́ 'hear'.

10 The original shape of the vowel in this verb is also not known.

CHAPTER EIGHT

A PROBLEM AREA

8.0 INTRODUCTION

In this chapter, I will examine a problem area both for a two-tone analysis and for the present analysis which recognises three underlying tones for Yorùbá. This problem has to do with the relevance of the notion of polarity or polarisation in a three-term tone language. (cf. 6.4.2.4). I argue that the notion of polarity is not of relevance to the Yorùbá tonal system. I argue further that if the application of the notion is restricted to items of L vs H or H vs L only, there are two difficulties. The first is that this use does not conform to the use of the notion in languages where tones polarise in the real sense of the term. Secondly, the effectiveness of the notion breaks down if its domain extends to items with mid tones.

8.1 THE IMPLICATIONS OF A THREE-TONE ANALYSIS

As shown in the previous chapters, justice is not done to a number of tonal processes in Yorùbá if only two tones--high and low--are assigned an underlying feature representation. Thus I have proposed that three tones--high, mid and low--should be attributed an

underlying feature representation, and that it is unsatisfactory to supply the mid tone by a default rule as proposed in the 'underspecified autosegmental' account, given that in the underspecification theory

> Only features that are distinctive in that language, that is, features which actually are necessary to distinguish two sounds, have values specified. Any feature which is non-distinctive in some environment is a redundant feature and its values are supplied by redundancy rule. Archangeli (1984:43) (Empasis mine--BAO)

In the previous chapters, I have argued, convincingly I hope, that not only is the difference between high-pitched and low-pitched syllables distinctive--i.e. not only is there a high tone and a low tone--but also the difference between high-pitched and mid-pitched syllables and between low-pitched and mid-pitched syllables is distinctive. From the foregoing, it is obvious that to claim that Yorùbá has a three-term tonal system does not prevent one from treating one of the tones as completely unmarked by comparison with the other two. However, the reason why I have opted for the three-way contrast underlyingly is that the underspecified analysis carries with it a number of complexities and other undesirable features of the kind that I have pointed out earlier. As I have argued in Chapter Six, the two features H and L are enough to make a three-way distinction for Yorùbá both within a 'base-three' and a 'base-two' tone feature system. The derived mid tones are, however, represented in the fashion of Hyman (1986). As I hinted in Chapter Six, not

all the cases of mid tones in Yorùbá are derived as Hyman suggested for Ngamambo. Thus my analysis has to cope with instances of underlying mid tones as well. Hyman's system would force me to assign a floating L to a linked H or a floating H to a linked L to represent each M. Also, rules are now formulated in such a way that they reflect and affect the three tones. Furthermore, I have proposed a different view of tone deletion rules from the ones proposed within a two-tone analysis--as discussed in Chapter Seven. I have shown in Chapter Seven that cases cited as tone deletion in a two-tone analysis are lowerings or tone raising processes. Finally, if proposals about polarity are based on the assumption that Yorùbá has two tones, and we have now seen that we are dealing with three tones, this position--concerning polarity--must also be affected. By the same token, if the analysis of certain reduplication processes is also based on a two-tone analysis, there must definitely be a re-examination of this position as well. I will be discussing this in the other half of this chapter.

8.2 POLARITY

As I have already mentioned in section 6.4.2.4, the basic understanding that one gathers from the various applications of the notion of polarity is that it involves two opposing elements. Generally speaking, in linguistics polarity is used as a term for the system of positive / negative contrastivity found in language (cf. Crystal

(1985:236)). In phonology--or rather in tonology--a rule of the form: Tone ===> [-αHI] / [αHI] is always used in the analysis of polarisation. (cf. Schuh (1978:241)). Also see the one provided by Pulleyblank (1983:254) when discussing dissimilation and polarisation rules with respect to Margi. Pulleyblank formalised the polarisation rule as follows:

= Pulleyblank's (52) polarization: $(V) \Longrightarrow \underset{-\alpha H}{V} \;/\; \begin{bmatrix} V \\ | \\ H \end{bmatrix}_{Q}$

Pulleyblank's rule above was also quoted and modified in Akinlabí (1985:302). These rules imply that the affected syllable has no underlying tone but takes the opposing value to the tone next to it. All cases of tone polarisation known to me involve high and low tones versus genuinely 'toneless' syllables. Now, the question is: should we assume that the notion of polarity is applicable to tonal processes in Yorùbá with its three-way tone distinction? Before we answer this question and discuss the issue in Yorùbá, consider the following examples in Hausa. Hausa is generally analysed as having two tones--H and L. Some analysts add a falling tone as a third, but this can be accounted for as a sequence of H and L.

1a náá sàyée tà b náá rúfèe tá
'I bought it' 'I shut it'

2a gídá nè b gídánsà né

'house it is'	'house for him it is'
'it is (a) house'	'It is his house'

3 màtá cè 'woman it is' = 'It is (a) woman'

4 yábá shì 'he gives / gave him'

5a rìgár sà	b rìgár sà cé
'shirt for him'	'shirt for him it is'
'his shirt'	'It is his shirt'

The polarising morphemes in examples 1-5 are ta, ne, ce, shi, and sa. They are referred to by different names: direct object pronouns, stabilizers, copulars or gender morphemes. Example 1 is from Schuh (1978:242) and 2-5 are from Andrew Haruna and Mohammed Munkaila--personal communication. In all the examples, the direct object pronouns / stabilizers / copulars or gender morphemes polarise with respect to the preceding syllable. In all of them, the polarising syllable is analysed as a toneless morpheme. They all involve H vs L or L vs H where the toneless morpheme is assigned an opposite value to that of the preceding tone. A similar phenomenon is also attested in Ngizim (cf. Schuh (1971)) and Igbo (cf. Welmers and Welmers (1968) also reported in Schuh (1978:242)).

As we have seen in Courtenay's, Stahlke's, Akinlabí's, and my analysis of the clitic pronoun object's tone in Chapter Six, (fn.1), there are processes that may be explained by the notion of polarity. Notice however, that

in the case of the tone of the clitic pronoun objects, we have to assume that the clitics surface with high tones whenever the tones of the verbs immediately preceding them are mid or low, i.e. non-high, and that the high tone is lowered to mid tone whenever the tone of the preceding verb is high. Thus non-high is realised here as mid. In other words, it is high versus non-high or vice versa and not high versus low or vice versa as we have seen in 1-5 above. Although this idea partially agrees with the notion of polarity, it does not do so in clear terms. If we reckon with H, M and L tones as in this analysis, we face a problem which cannot be adequately resolved by appealing to polarity. A possibility, though, would be that although in some contexts there is a three-way distinction, in other contexts there might only be a two-way distinction. These latter contexts might involve, for instance, weakly stressed syllables. Even if this idea works, I do not see how it will possibly support polarisation in this case. My alternative suggestion for the analysis of this process is to assume that the clitics are toneless. (fn.2). The non-high verbs--mid and low tone verbs--have their clitics assigned high tones while the high tone verb has its clitic assigned a non-high tone--realised as a mid tone. This solution also requires an extra rule specifying that the 'non-high' tone clitic following a high tone verb has a mid tone realisation and NOT a low tone realisation. This extra rule would not be necessary if Yorùbá had a two-tone system. No better solution than the foregoing is at the moment available, and it is clear that this is a problem

area for both two-tone and and three-tone analyses.

Akinlabí (1985:270-283) in an appendix to his thesis has provided an extensive argument in support of seeing certain tonal processes of more than one like-tone-in-a-sequence in Yorùbá ideophones as a case of 'one-to-many' association as opposed to 'one-to-one' association as in the case where unlike tones follow each other. He concluded that both methods of association are needed for the analysis of Yorùbá ideophones, which cut across almost all grammatical classes in the language. Previous analyses by Bámgbóṣé (1966), Courtenay (1969, 1976), Awóyalé (1974, 1983) and Fordyce (1980, 1983) provide a firm foundation for Akinlabí's argument. Consider the following examples from Akinlabí (1985:279), slightly modified to conform to the type of representation adopted in this analysis with the tonal tier shown below the TBU, and with the mid tone also represented.

6a	rògòdò	b	rōgōdō	c	rógódó
	L		M		H
	'of a big round object		'of an average 'round object'		'of a small round object'

7a	rùgùdù	b	rūgūdū	c	rúgúdú
	L		M		H
	'large (heavier) object'		'medium (heavy) object'		'small slightly heavy object'

8a kēgé
M H
'for being completely used up' (fn.3).

b gbákō
H M
'for a whole period'

9a tūtù
M L
'be cold / fresh'

b dìdē
L M
'stand'

10a pòpórò
L H L
'corn stalk'

b kútùpú
H L H
'kind of cloth'

In 6 and 7 the tones form a unit, but in 8-10, they do not. On the basis of other ideophones relating to sound, dimension and breadth, Awóyalé (1974, 1983) is quoted as saying that the sequence of tones has a semantic connotation. The relevant quotations are reproduced below:

> The low tones tend to suggest heaviness, large size, coarseness of sound; the mid tones suggest averageness or medium proportion, the high tones tend to indicate high pitch in sound, smallness or light weight. (Awóyalé (1974:286).)

And in another instance:

> Sequences of low tones suggest heavy motion, while sequence of high suggest light motion, and mid will be in between. (Awóyalé (1983:14); both quoted in Akinlabí (1985:280).)

Akinlabí quickly pointed out that Awóyalé failed to

regard the tones as forming a unit. This is a valid observation judging from the use of and the implication of 'sequence(s)' in the above quotation. He rejected the idea that the tones per se indicate size and he reaffirmed that it is in ideophones alone that like tones go together as a unit. He puts it this way:

> Of course the high tone in Yorùbá has nothing to do with smallness. Neither does the low have anything to do with being large. But in ideophones, the like tones go as a 'unit' and thus *rògòdó *rògòdo are both illformed. (Akinlabí (1985:280).)

There is, however, one significant fact that can be extracted from Awóyalé's statement quoted above. It is his explanation of the role played by the tones in the semantic interpretation of ideophones. I agree with the view expressed, and I assume that Akinlabí also would not object to it once the tones are seen as a unit. It is significant because it provides evidence that the mid tone is not 'null' in the area of semantic interpretation of the items concerned just as it is not 'null' in every other respect already mentioned. In other words, from a semantic point of view, rōgōdō is obviously intermediate between rógódó and rògòdò. Therefore, it makes sense to analyse it as being intermediate also tonally--which it IS if one operates with H, M and L, but is not if one operates with H, L and a zero tone. It is not surprising that Akinlabí remained silent about this fact since it negates his idea of mid being 'nothing'.

Akinlabí proposed a representation similar to the ones in 11 and 12 for the item <u>rògòdò</u> following the model of morphology proposed in McCarthy (1981,1982).

11 Root Tier rògòdò
Prosodic Template CVCVCV
Tonal Tier L

12 r g d Root Tier
C V C V C V Prosodic Template
o Vocalic Melody Tier
L Tonal Tier

He noted that each of the morphemic tiers has a semantic contribution to make to the overall semantic interpretation of the ideophone. Thus, while a sequence of lows, mids or highs with the item <u>rogodo</u> implies degree of roundness, a replacement of / o / with / u / will imply a replacement of roundness with weight.

Notice that it might be suggested that if a speaker could contrast <u>rógódó</u> with an extra-high pitch on the item in question, the latter meaning 'applying to a <u>very</u> small round object', Yorùbá could be said to be operating with continuous variation from high to low pitch. One would therefore be dealing with a differnt use of pitch--a purely semantically motivated use of pitch where high, mid and low tone do not have any meaning in themselves--to be

distinguished from its use in ordinary lexical items. As far as I know, this is not the case in Yorùbá.

The issue of polarity in these items is not significant until they are reduplicated. For the items in 8-10, the association is one-to-one. Is the notion of polarity then of any use in relation to these items? Certainly if the items in 10a,b were realised phonetically as *pòpó and *kútù, respectively, and there were only L or H as the underlying tone--i.e. if the second syllable in each case were toneless--it would be easy to appeal to the notion of polarity. Thus, the tonal pattern would rightly be seen as L vs H and H vs L, with the opposing values supplied by the sort of rules cited at the begining of this section. Contrary to the views expressed above, the tonal pattern on these items is in fact LHL and HLH.

Turning to the items in 8 and 9 i.e. kēgé and gbákō on the one hand, and tūtù and dìdē on the other, there is evidence to show that these tonal patterns are not isolated instances. Below are examples of the type cited in 8 and 9. They illustrate the patterns M-H, H-M, L-M and M-L (with their reduplicated forms) and they are in as frequent use as their counterparts with L-H or H-L patterns.

M-H

13a bọ̄wọ́ <=== bọ̀ + ọ̄wọ́ REDPL bọ̄wọ́bọ̄wọ́
M H L M H M H M H
'put on' 'nand' 'hinderance'

b jēyín <=== jẹ̄ + ēyín REDPL jēyínjēyín
M H M M H M H M H
'eat' 'teeth' 'mouth infection'

H-M

14a dẹ́bọ̄ <=== dá + ẹ̄bọ̄ REDUPL dẹ́bọ̄dẹ́bọ̄
H M H M M H M H M
'perform' 'sacrifice' ' one who performs ritual sacrifices'

b lákọ̄ <=== lí + ākọ̄ REDPL lákọ̄lákọ̄
H M H M M H M H M
'in' 'male' 'in males/strongly'

L-M

15a rẹ̀rọ̄ <=== rà + èrọ̄ REDPL rẹ̀rọ̄rẹ̀rọ̄
L M L L M L M L M
'buy' 'engine' 'one who buys engines'

```
b  yìnbọ̄n <===  yìn   +  ìbọ̄n  REDPL   yìnbọ̄nyìnbọ̄n
    |  |         |       | |            |  |  |  |
    L  M         L       L M            L  M  L  M

                 'shoot'  'gun'         'a shooter'


          M-L

16a  wālè <===  wà   +  īlè  REDPL   wālèwālè
      |  |       |      | |          | | | |
      M  L       L      M L          M L M L

                 'dig'  'earth'      'one who digs the
                                                 earth'

b  jīyàn <===  jà    +  īyàn  REDPL   jīyànjīyàn
    |  |        |       | |            | |  | |
    M  L        L       M L            M L  M L

               'fight'  'argument'    'one who argues'
```

While the items in 8-9 are pure ideophones, (fn.4), which may not be split into halves, the ones in 13-16 are verb + noun combinations which may be split up into halves as shown in the examples. They all have one thing in common: they all have tonal patterns involving a combination of a mid tone with either high or low tones. All the items may be reduplicated as shown in examples 13-16. The question is: how do we analyse M-H, H-M, L-M and M-L in terms of polarity? I propose that the notion of polarity does not come in to play here at all as it does not in cases of L-H and H-L, because the tones of these items are lexically specified. There is no genuine case of a 'toneless' segment/syllable or TBU in any of them and it is safe to claim that the tonal autosegments are linked /

associated in a one-to-one fashion. We can claim further that whenever the items (in 13-16) are reduplicated, we have the repetition of the items--in contracted form--together with their tonal patterns. Polarity does not provide a particularly good explanation of any tonal process in Yorùbá. The reason for this I propose is not because the notion of polarity is defective in itself, but because the three tones of Yorùbá are not amenable to a notion of an exclusive two opposing values or positive / negative contrastivity. As I have pointed out, the notion works well in Hausa, Igbo and Ngizim because it is only the contrast between H and L that is essential in these languages. The application of the notion is also possible in Margi where only H and L and genuinely toneless morphemes are reported, and where there is polarisation in the present and in the past tense 'a-prefix' and the tone of the first syllable of the verb stem.

SUMMARY

I began this chapter by identifying the fact that the application of the notion of polarity to the tone of Yorùbá is a problem area. The different connotations of the notion are examined and its implication for a three tone analysis are highlighted. The question of whether polarity should be applied to the tones of Yorùbá is addressed and left open. I conclude, however, that only in the case of object pronoun clitics may the notion be applied. When it comes to tonal patterns involving the mid tone, the notion

breaks down.

FOOTNOTES TO CHAPTER EIGHT

1 Examples are not cited here in order to save space since they have been cited before in Chapter Six.

2 As also explained in Chapter Six, tonelessness here does not mean 'null' tone to be interpreted ultimately as mid pitch as in Akinlabí (1985). Tonelessness here entails a genuine non-specification with regard to the distinctive pitches of Yorùbá.

3 kēgé can also be used to describe a manner of standing.

4 Except for 4b dìdē whose ideophonic status is debatable, but which is cited here because it was cited in Awóyalé and Akinlabí's analyses.

THE RULES

Below is a list of the tone rules mentioned in this study. The present writer supports the view that unordered grammars and / or those ordered on universal principles are preferred over employing extrinsic ordering. Given the argument in the literature that on the grounds of power and simplicity unordered grammars are more highly valued than ordered grammars--see Mtenje (1986:1-6) for summary--I assume that the rules listed below and those in Chapter 8 are unordered. In other words, the rules apply whenever their structural descriptions are met. I therefore predict that a child learning Yorùbá and having to cope with its tones can freely acquire these rules and apply them in any manner and still end up with the tonal pattern of Yorùbá.

Finally, the majority of the rules invoke general principles. These most frequently involve spreading--leftwards and rightwards, linking, delinking and relinking. The lowering and raising rules are formalized either as cases of a fusion of two extreme tones or as cases of floating tone assignments.

LIST OF RULES

1 DOWNSTEP

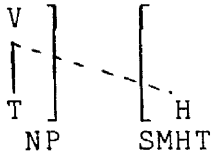
M-DOWNSTEP

M ===> !M / L -

See 5.3.2 (37) and the relevant examples cited therein.

2 LINKING

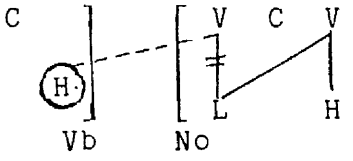
SUBJECT MARKING HIGH TONE LINKING



See 5.5 (59) and the Yorùbá examples preceding the rule.

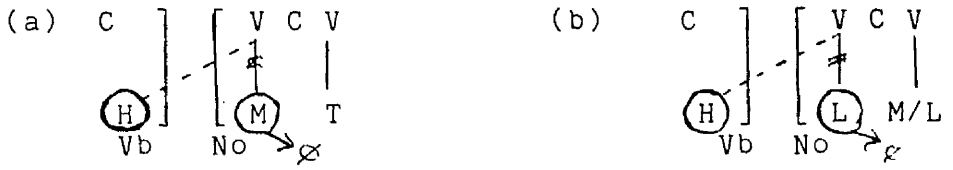
3 RE-LINKING

HIGH TONE RELINKING (MULTIPLE LINKING)



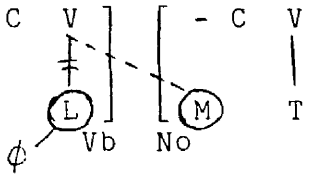
See 5.3.2 (39) and all the relevant examples cited therein.

HIGH TONE RELINKING (NON-MULTIPLE LINKING)



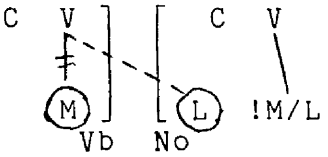
See 5.2.1 & 5.2.2 (11a), (12a), (13a), (14b), (15a), and 5.3.2 (40a,b).

MID-TONE RELINKING (OPTIONAL)



See 5.3.2 (26b), (27b), (28b) if raising does not apply (cf. (22') and the explanation that follows it). See also 5.3.2 (41).

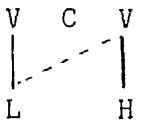
LOW TONE RELINKING



See 5.2.3 (17b), (18a) and 5.3.2 (42).

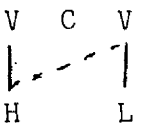
4 SPREADING

LOW TO HIGH TONE SPREADING WITHIN A WORD



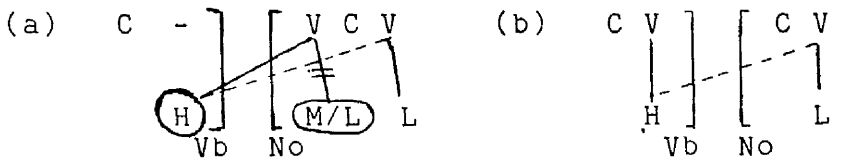
See 5.3.2 (35) and the relevant examples cited therein.

HIGH TO LOW TONE SPREADING WITHIN A WORD



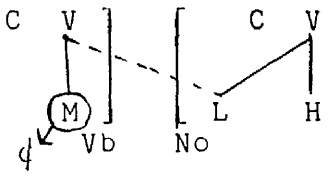
See 5.3.2 (36) and the examples cited therein.

HIGH TO LOW TONE SPREADING ACROSS WORD BOUNDARIES



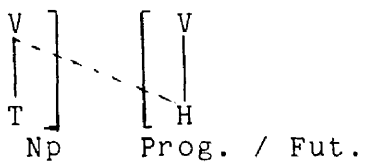
See 5.2.1 (12a), 5.2.2 (15a), for the type in (b), and 5.2.1 (12b), 5.2.2 (15b), for the type in (b).

VERB AND NOUN LOW TONE SPREADING (MULTIPLY LINKED)



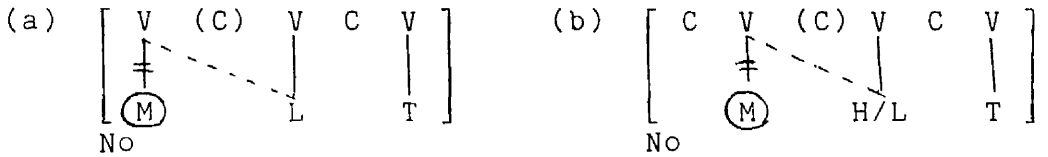
See 5.2.3 (16b) and (22b).

PROGRESSIVE ASPECT MARKER AND FUTURE TENSE MARKER HIGH TONE SPREADING (OPTIONAL)



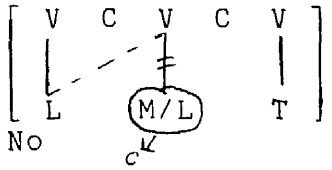
See 5.7 (65), (69) and (70).

LEXICAL TONE SPREADING (OPTIONAL)



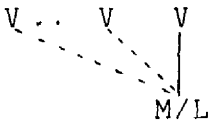
See 4.10.1 37, 38 and 41.

VP-NOMINALIZATION LOW TONE SPREADING



See 4.10.2 (42a,d), and (44).

REDUPLICATED NOMINAL LOW AND MID SPREADING



See 4.9.2 (32) and 4.10.3 (46).

5 LOWERING

HIGH TONE LOWERING

H (L) ===> M / L -

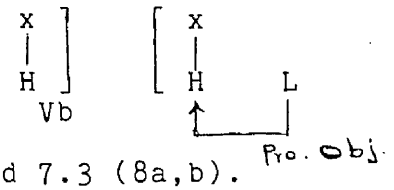
or

See 7.5.1 (14a), (18a), and (19a).

PRONOUN OBJECT CLITIC HIGH TONE LOWERING

$$H \quad ===> \quad M \quad / \quad \underset{Vb}{\begin{bmatrix} V \\ | \\ H \end{bmatrix}} \quad \underset{Pro.\ Obj.}{\begin{bmatrix} V \\ | \\ - \end{bmatrix}}$$

or



See 6.4.1.3 (28-30) and 7.3 (8a,b).

6 RAISING

LOW TONE RAISING

(H) L ===> M / L -

or

See 7.5.1 (14b), (18b) and (19b).

VERB AND NOUN PHRASE LOW TONE RAISING

$$L \quad ===> \quad M \;/\; \begin{matrix} V \\ | \\ - \end{matrix}\Big]_{Vb} \quad \Big[_{NP}$$

or

$$\begin{matrix} x \\ \\ L \end{matrix}\Big]_{Vb} \quad H \quad \Big[_{NP}\begin{matrix} x \\ \\ \end{matrix}$$

Note: NP may not consist of an object pronoun. See 7.2 (2-6).

EMPHATIC CLITIC LOW TONE RAISING

$$L \quad ===> \quad M \;/\; \begin{matrix} V \\ | \\ L \end{matrix}\Big] \quad \Big[\begin{matrix} V \\ | \\ - \end{matrix}_{Emph.}$$

or

$$\begin{matrix} x \\ | \\ L \end{matrix}\Big] \quad \Big[\begin{matrix} x \\ | \\ L \end{matrix} \quad H$$

See 7.4 (9-13).

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