

THE TONES OF THE YORUBA AND IGALA DISYLLABIC NOUN PREFIX¹

EDWARD M. FRESCO

Yorùbá and Ìgálà are fairly closely related languages within the Kwa branch of the Niger-Congo family.² The degree of cognacy between the two languages can be seen from a comparison of nouns of the shape VCV. Two examples of each of the possible tone combinations in disyllabic nouns are given:

face	Ìgálà éjú	Yorùbá ojú	
fire	úná	iná	(cf. uná in the dialects of Àkúré Ifàkì, Ìjèbu Igbó, Òkìtì Kpukpa, Ohndó, Òwò).
child	óma	omɔ	
thigh	úta	itā	(cf. utā in the dialects of Àkúré, Òkìtì Kpukpa).
voice	ómù	ohù	
month	óçù	oşù	
blood	èbyè	èjè	
beans	ègwà	èwà	
tomorrow	òna	òla	
knife	òbe	òbe	
feather	ìwé	iyé	
corpse	òkwú	òkú ³	

Note that the initial vowel of the Ìgálà disyllabic noun is either high or low tone, while

¹ The argument of this paper in fact applies to all vowel-initial nouns of Yorùbá but is limited to 'true' disyllabic nouns in Ìgálà, true in the sense that they do not consist of some nominalizing prefix plus a stem which is not in itself a noun. Cf., for example, içu 'faeces', which appears to be verb-derived, consisting of çu 'to defecate', and a nominalizing prefix. Nouns of three or more syllables can apparently begin on a high-, mid-, or low-tone vowel. It remains to be seen whether polysyllabic nouns with initial mid tone are in fact true nouns. See note 3. I wish to express my appreciation to the Institute of African Studies, University of Ibadan, and its Director, Professor R. G. Armstrong, for extending Associate Membership to me for the academic year 1967-8.

² Greenberg classifies them as members constituting a single sub-branch of Kwa. J. H. Greenberg, *THE LANGUAGES OF AFRICA*, p. 8, Publication 25, Indiana University Research Center in Anthropology, Folklore, and Linguistics, Bloomington, Indiana (Indiana University Press, 1963; 2nd rev. ed. Indiana University Press and Mouton and Co., The Hague, 1966).

³ Cf. R. G. Armstrong, 'Comparative word lists of two dialects of Yoruba with Igala', *JWAL*, vol. II (1965), pp. 51-78. There are on conservative count 83 incontrovertible cognate nouns of the shape VCV in this list. Dividing this figure into the total number of nouns (items 30-44, 48-338, 392-4) one arrives at a 26.95% cognacy. The actual percentage is no doubt much higher. The total number of nouns of course, includes those of other than the basic VCV shape, some of which are compounds, and verb-derived nouns.

that of the Yorùbá noun is either mid or low tone, Ìgálà initial high tone corresponding to Yorùbá mid tone.⁴

The question arises as to which tones should be set up at the systematic phonemic level⁵—high and low, or mid and low?

By assigning numerical values to the pitch levels of these tones, we can derive the prefix tones of Yorùbá from those of Ìgálà by the following rule:

$$[V_n CV]_N \rightarrow [V_{n-1} CV]_N,$$

in which high = +2, mid = +1, low = 0, $n > 0$, V and C represent unspecified vowel and consonant, respectively, and N labels the bracketing such that whatever is contained within the brackets is defined by the relation 'is a noun'. But such a rule could equally well be formulated in the reverse, deriving the prefix tones of Ìgálà from those of Yorùbá:

$$[V_n CV]_N \rightarrow [V_{n+1} CV]_N.$$

By formulating the rules in terms of arbitrary numerical values assigned to tones there is no basis for selecting either high and low or mid and low as the basic, underlying prefix tones. The same number of symbols is required in each rule. Considerations of economy in the sense in which Halle and others use the term do not permit a preference of one rule over the other.⁶

If, however, a distinctive feature notation is used in formulating the rules, there is a basis for selecting high and low over mid and low as the systematic phonemic tones of the Yorùbá and Ìgálà disyllabic noun prefixes. (See note 1.) Since these prefix vowels are characterized by a single tonal contrast in both languages, a single feature can be used to specify this contrast. The feature [High] seems a natural choice, although the following argument applies *MUTATIS MUTANDIS* if the feature [Low] is selected. The systematic phonemic representation will thus specify the noun prefix vowels as either [+High] or [−High]. A lexical redundancy rule⁷ will assign the opposite specification to the redundant feature [Low] for noun prefixes in the lexicon:

⁴ That these initial vowels are historically noun prefixes seems to be fairly well established on comparison with languages which have systems of noun class prefixes, such as a number of Edo languages, which constitute another sub-branch of Kwa, and the Bantu languages and reconstructed Proto-Bantu. (My thanks to Kay Williamson for pointing out the Edo comparative evidence.) There is evidence within Yorùbá and Ìgálà that initial vowels are not part of the internal structure of the noun. In the systematic phonemic representation (the lexical entries) there are no nasalized vowels. Vowels derive their nasality from an underlying following nasal consonant. The initial vowels of nouns, however, do not, although a noun stem may begin with a nasal consonant. This seems to offer an explanation for the fact that neither Yorùbá nor Ìgálà has noun-initial nasalized vowels.

⁵ Cf. N. Chomsky, 'Current issues in linguistic theory', in J. Fodor and J. Katz (eds.), *THE STRUCTURE OF LANGUAGE: READINGS IN THE PHILOSOPHY OF LANGUAGE*, pp. 50-118 (Englewood Cliffs, New Jersey: Prentice-Hall, 1964). See sections 4.2-4.5. A slightly revised version under the same title was also published in 1964 by Mouton and Co., The Hague.

⁶ M. Halle, 'On the role of simplicity in linguistic description', in R. Jakobson (ed.), *STRUCTURE OF LANGUAGE AND ITS MATHEMATICAL ASPECTS*, pp. 89-94, *Proceedings of Symposia in Applied Mathematics*, vol. XII (Providence, Rhode Island: American Mathematical Society, 1961); M. Halle, 'Phonology in generative grammar', *WORD*, vol. XVIII (1962), pp. 54-72, reprinted in Fodor and Katz, *THE STRUCTURE OF LANGUAGE*, pp. 334-52; N. Chomsky, *ASPECTS OF THE THEORY OF SYNTAX*, pp. 37-8 (Cambridge, Massachusetts: The M.I.T. Press, 1965).

⁷ Chomsky, *ASPECTS*, pp. 168-70; R. Stanley, 'Redundancy rules in phonology', *LANGUAGE*, vol. 43, No. 2 (1967), pp. 393-437.

Lexical redundancy rule $\left[\begin{array}{c} \infty \text{ High} \\ \text{V} \end{array} \text{ CV} \right]_{\text{N}} \rightarrow \left[\begin{array}{c} -\infty \text{ Low} \\ \text{V} \end{array} \text{ CV} \right]_{\text{N}}$.⁸

For Yorùbá, a phonological rule applying to all noun prefixes marked [+High] in the lexicon converts them to mid tone:

Conversion of high to mid tone $\left[\begin{array}{c} +\text{High} \\ \text{V} \end{array} \text{ CV} \right]_{\text{N}} \rightarrow \left[\begin{array}{c} -\text{High} \\ \text{V} \end{array} \text{ CV} \right]_{\text{N}}$.

Thus, a noun entered in the lexicon as $\left[\begin{array}{c} +\text{High} \\ \text{V} \end{array} \text{ CV} \right]_{\text{N}}$ will be further specified by the

redundancy rule as $\left[\begin{array}{c} +\text{High} \\ -\text{Low CV} \\ \text{V} \end{array} \right]_{\text{N}}$. The Yorùbá phonological rule will then convert all

such specifications to $\left[\begin{array}{c} -\text{High} \\ -\text{Low CV} \\ \text{V} \end{array} \right]_{\text{N}}$. A noun entered in the lexicon as $\left[\begin{array}{c} -\text{High} \\ \text{V} \end{array} \text{ CV} \right]_{\text{N}}$

will be further specified by the redundancy rule as $\left[\begin{array}{c} -\text{High} \\ +\text{Low CV} \\ \text{V} \end{array} \right]_{\text{N}}$.

If, on the other hand, mid and low are selected as the basic tones, the redundancy rule cannot be applied to Yorùbá and Ìgálà mid-tone prefixes. The natural specification of mid tone is 'neither high nor low', i.e. $\left[\begin{array}{c} -\text{High} \\ -\text{Low} \end{array} \right]$. But if mid tone is to be characterized in this

way, and low tone as $\left[\begin{array}{c} -\text{High} \\ +\text{Low} \end{array} \right]$, then the redundancy rule as formulated will assign [+Low] to all prefix vowels in the lexicon. To avoid this incorrect assignment, each mid-

tone prefix must be fully specified as $\left[\begin{array}{c} -\text{High} \\ -\text{Low} \end{array} \right]$, with a phonological rule then converting

Ìgálà $\left[\begin{array}{c} -\text{High} \\ -\text{Low CV} \\ \text{V} \end{array} \right]_{\text{N}}$ to $\left[\begin{array}{c} +\text{High} \\ -\text{Low CV} \\ \text{V} \end{array} \right]_{\text{N}}$. This solution adds one extra feature to the

systematic phonemic specification of all mid-tone prefix vowels in the lexicon for both Yorùbá and Ìgálà, and confines the applicability of the redundancy rule to low-tone prefixes. It is clear that such a solution misses a generalization which underlies the surface tonology of a large class of nouns in these two languages. Treating nouns separately in Yorùbá and Ìgálà, setting up mid and low for Yorùbá and high and low for Ìgálà, fails

⁸ Such a rule, according to the usual conventions for phonological rules in generative grammar, is an abbreviation of two rules:

$$\left[\begin{array}{c} +\text{High} \\ \text{V} \end{array} \text{ CV} \right]_{\text{N}} \rightarrow \left[\begin{array}{c} +\text{High} \\ -\text{Low CV} \\ \text{V} \end{array} \right]_{\text{N}} \quad (1)$$

$$\left[\begin{array}{c} -\text{High} \\ \text{V} \end{array} \text{ CV} \right]_{\text{N}} \rightarrow \left[\begin{array}{c} -\text{High} \\ +\text{Low CV} \\ \text{V} \end{array} \right]_{\text{N}} \quad (2)$$

The symbols V and C are used in this paper as cover symbols for the distinctive features which appear in the rules of the phonological component and in the lexicon of a generative grammar. Aside from tone features, further specification of vowels and consonants is unnecessary for present purposes.

EDWARD M. FRESCO

even more acutely to capture the generalization. Considerations of descriptive adequacy⁹ and over-all economy in the grammars of Yorùbá and Ìgálà appear to require that the tones of prefix vowels of the class of nouns discussed in this paper be specified in their underlying representation as [+High] and [-High], i.e. as high and low.

⁹ Cf. Chomsky, 'Current issues in linguistic theory', sections 2.0-2.1; and ASPECTS, pp. 30-7, 40.