

YALA (IKOM) A TERRACED-LEVEL LANGUAGE WITH THREE TONES¹

ROBERT G. ARMSTRONG

1. Yala is probably the southernmost member of the Arago-Idoma-Yala Dialect Cluster, and is spoken by a community of approximately six thousand people who live on the right bank of the Cross River, about six miles west of the city of Ikom, in Ogoja Province, Eastern Nigeria. The people and language have usually been called Nkúm in the literature,² but this name is regarded as a foreign importation and is disliked. Yala (Ikom) must be distinguished from Yala (Ogoja), spoken to the north and west of Ogoja Town, and from Yala (Obubra), spoken to the east of Obubra town in Abakaliki Division. Yala (Ikom) and Yala (Obubra) differ from all the other dialects of this cluster in having a full array of plural noun-forms. They differ from the numerous Benue-Congo languages which surround them in having only very meagre concord systems, which are in any case, limited to singular-plural concord.

2. The sound system is fairly typical of the Cluster as a whole, and is as follows:

CONSONANT PHONEMES

	LABIAL	ALVEOLAR	PALATAL	VELAR	LABIO-VELAR
Plosives vl.	p	t	c	k	kp kw
vd.	b	d	ɟ	g	gb gw
Prenasalized	mb				ɲmgb
Fricatives	f	s		x	
Palatalized		sy			
Lateral		l			
Roll		r			
Nasal	m	n	ɲ	ŋ	ŋw
Semi vowels	w		y		
Palatalized	wy				

VOWEL	i	u
	e	o
	ɛ	ɔ
	a	

SYLLABICS

r, l
 N (homorganic with following consonant. Written as ñ, ń, ñ, always tone-marked.)

¹ Paper presented at the Seventh West African Languages Congress, Lagos, March 1967. This study is based on the speech of Mr. Erim O. Erim, a student at the University of Ibadan. I should like to acknowledge his strong interest and tireless cooperation. The Yala (Ogoja) examples are based on the speech of Mr. Cletus Onah, a student at the University of Ibadan. The Southern Idoma examples are based on the speech of Mr. Patrick Unóogwu, now of the Northern Regional Library, Kaduna. The Central Idoma examples are based on the speech of Mr. Samson O. O. Amali, student at the University of Ibadan, and of many others. The strong interest and helpfulness of all these persons is gratefully acknowledged. An earlier version of this paper was read to the Seminar of the Department of Linguistics, University of Ibadan, the members of which made invaluable comments and suggestions that have led to a simplification of the whole treatment. Dr. Elizabeth Dunstan and Dr. Kay Williamson in particular helped with many suggestions. I remain, of course, responsible for the deficiencies which this paper undoubtedly still contains.

² D. Forde, P. Brown, and R. Armstrong, PEOPLES OF THE NIGER-BENUE CONFLUENCE, ETHNOGRAPHIC SURVEY OF AFRICA, (West Africa Part X), (London: International African Institute, 1955), pp. 133-4.

PHONEMES

[Strong tendency to i-e-o-u and ε-a-ɔ concord,
but a and i may precede any vowel.]

TONEMES high ˊ, mid ˋ, low ˋˋ.

DOWNSTEP JUNCTURE ˊˋ

ORTHOGRAPHICALLY

PHONEMES	WRITTEN
/ŋmgb/	mgb
/j/	j
/x/	h (sometimes lightly voiced, especially before i, e, o, u)
/ɲ/	ny

3.0. Yala (Ikom) is a terraced-level language with three contrastive, tonal registers: high, mid, and low. Said another way, it is a terraced-level language with a mid tone which is independent of any down-step or latent tone. The tonetic pitches that occur on the various syllables of any tone-phrase are the result of the combined effect of three inter-acting systems: the register system, the downdrift system, and the terracing or down-step system. The overall system of tonal inter-action is organized with respect to the tone phrase, which may be one word, several words, or a whole sentence. It may be useful to use a musical comparison in order to characterize Yala (Ikom) in a general way. Thus, we may say that in the flow of speech or text, the great majority of syllables are tonally organized by the counterpoint between the basic register system and the elaborate down-drift system. The terracing system is like a descant that makes its appearance less often, but gives a quite special quality to the whole. In particular, the lowering of the mid tone after high and the role of the mid tone in producing downdrift (see 5.2) would seem to be necessary accommodations to the terracing system. What makes Yala (Ikom) especially striking is that the other Idoma-Yala dialects so far studied have no downdrift and no terracing. The constant comparison of these dialects with each other has been an invaluable help in analysis.

4.0. It is not hard to show that Yala (Ikom) has three contrastive, tonal registers. The three tone levels are heard in such words as àrātá 'eight', òtūkó'nàjè 'mouse', and iyɔ́lá 'sickness'. They are also heard in such sets of forms as à wā 'you came', á wā ní 'you did not come', and ā wā ní 'don't come!'. Examples could be multiplied indefinitely. Complete contrastive sets of words are not common, but they do exist. E.g.: kú 'bite, die', kū 'defecate', kù 'run'. These may be combined with the complete set of forms of the second person singular subject pronouns in a useful tone frame. Thus, although the following verb-phrases normally occur in larger contexts, they can all occur alone in some context and must not be confused with each other:

à kú 'you bit', á kú ní 'you did not bite', ā kú ní 'do not bite!';
 à kū 'you defecated', á kū ní 'you did not defecate', ā kū ní 'do not defecate!';
 à kù 'you ran', á kù ní 'you did not run', ā kù ní 'do not run!'

As can be seen from the above examples, a Yala (Ikom) utterance can begin on any of the three tones; and after any tone, there are always at least three possible tones in the following syllable. (See 8.0.2 for a fuller statement.) In this respect, Yala (Ikom) resembles all the other dialects of the Arago-Idoma-Yala Dialect Cluster. (In this discussion, 'tone' is of course a phonological category and 'pitch' is a phonetic category.)

4.1. There is also a positionally conditioned low-mid tone, which is the realization of the low tone when it occurs at the beginning of an utterance before a high or a mid tone. Thus in *òyí yǝŋr̄ò* 'boy, male child', the *ò-* is usually on the same pitch as the mid tones of *yǝŋr̄ò* (7.0); and in *ijēnù* 'jaw', *ì-* is higher in pitch than *-nù*.

4.2. The sequence high+low normally becomes high +falling tone. The fall is usually from high to low, and the vowel is usually lengthened. This effect is automatic and need not be written. E.g.: *útù* 'maternal kindred' is heard as [útù] or [útùù]. Syllabic *ɾ*, *l* and *ŋ* are exceptions to this rule. Thus, *àkpámblē* 'mosquito', *úkpóbɸí* 'basket', and *òkòh* 'mouth', contain no falling or gliding tones. Another partial exception is *ó-fú-à-má* 'therefore; in order that'. In Mr. Erim's speech there is no down-glide on *-à-*, but he says one may hear it in the pronunciation of others. The expression is really two parallel clauses meaning literally, 'it shines, you see'. Possibly the grammatical break neutralizes the down-glide. In some words the absence of a glide cannot be related to anything in the present language and so should be shown in writing. (See 6.3 and 6.4 below.) E.g. *árá'gbè* 'sunshine'; *tí'fì'mànyì* 'forget'; *ògò'gò* 'clitoris'. (Cp. Central Idoma *ògò'ŋgò* and Yala (Ogoja) *ògò'gò*.)

5.0. Yala (Ikom) has an elaborate down-drift system, unlike most other members of the Arago-Idoma-Yala Cluster, in which downdrift is absent or rare. Central Idoma and Yala (Ogoja) are discrete level languages in the definition of Welmers, viz.: "... two or more contrastive levels of pitch are maintained from pause to pause with no intersection of actual pitch." (Stewart, Schachter, and Welmers, 1966, p. 50.) Downdrift in tone languages is usually defined as the tendency of non-initial low tones to pull succeeding high and mid tones downwards in pitch.

5.0.1. In Yala (Ikom) the situation is somewhat more complex, and it is convenient to define downdrift as the tendency of low and mid tones to depress the pitch of subsequent higher tones. (i.e., non-initial mid lowers the pitch of subsequent high tones; non-initial low lowers the pitch of subsequent mid and high tones.) There is no confusion between the terracing system (6.0 below) and the downdrift system because the high-mid pitch interval is systematically greater than the high-downstep-high pitch interval.

5.1. The effect of low tones on subsequent higher tones is very striking in longer utterances. It can easily be heard in such expressions as *ó kwēnyà ní* 'he did not run', in which *ní* is not as high in pitch as *ó*; also *ó-fú-à-má* 'therefore', where *má* is not as high as *fú*. In *òsè jējē* 'the man danced', the last two mid tones are not as high in pitch as *ò-*. In *ijēnù yīn* 'his jaw', the last two mid tones are not as high as *-jē-* $\left[\begin{array}{ccc} - & - & - \\ L & M & LMM \end{array} \right]$.

5.2. The mid tone has a similar effect on subsequent high tones. Thus in *á wā ní* 'you did not come', *ní* is on a lower pitch than *á*. Similarly in *àwá fēp sē rójōré* 'all of them (habitually) ate food', *ró-* is lower in pitch than *fēp*, and *-ré* is lower than *ró-*. (*ré* 'eat' / *òjōré* 'food', from *òjā* 'thing' / **òōré* 'eating'. Compare Central Idoma *òòlé* in 6.1.2 below.) Note that the habitual particle, *sē*, has an etymological mid tone and cannot be analyzed into simpler elements. I do not think that the elided low tones of *òjā* and **òōré* retain any effect as latent tones. There are many constructions such as *ó sē gwá* 'he is drinking', where *gwá* is lower in pitch than *ó*, where there are no low tones either uttered or elided, and where the pitch pattern is identical with *rójōré*.

5.3. The relatively wide pitch interval between high and mid is best discussed in (7.0 and 7.3), after the downstep or terracing system has been described.

6.0. Yala (Ikom) is unique, so far as can be seen from the available literature, in that it has an elaborate terracing system superimposed on a three-tone structure. The operative juncture feature in the terracing system may be called 'downstep', from the point of view of its effect, and 'latent, non-high tone', abbreviated to 'latent tone', from the point of view of its origin. (A latent or hidden character is one usually not heard in its own right. It makes its presence known by its effect on other elements in the system. Its origin may be regarded synchronically as arising within the morpho-phonology of the present language, or diachronically as arising from a previous state of the language, which one may deduce from comparison with related dialects.) The downstep, or latent tone, may operate between two high tones, between two mid tones (cp. 6.2), and (by an extension of its definition) between high and low. (See 6.3 and 6.3.1.) It shifts subsequent high and mid tones slightly down – typically by a musical half-step or full step. It neutralizes the high-low glide of 4.2. After down-step, subsequent highs and mids remain on the new level. Its occurrence is lexically and grammatically significant and is not predictable from the phonological environment. It must therefore be shown in writing, and for this purpose I use the vertical mark ' , which already has some currency. (I do not use the apostrophe for any other purpose in Yala (Ikom), and so it would be very convenient to use it in the orthography for downstep.) Since a latent tone may be a feature of either of an adjacent pair of morphemes, in that either may have dropped a tone-bearing syllable, or since it may represent a syllable that has dropped out between them and that cannot be assigned to either, the mark may be written in various positions, according to convenience. (Cp. Arnott, 1964, pp. 38–39.)

6.1. The sequence high-downstep-high, $\acute{V}\acute{V}$, is heard in several common constructions. The relevant tone contrasts may be heard in the following set: \acute{o} $\acute{s}\acute{o}s\acute{i}$ 'he cut the tree'; $k\acute{o}'$ $\acute{s}\acute{o}s\acute{i}$ 'let him cut the tree!' (small pitch interval); \acute{o} $j\acute{e}j\acute{e}$ 'he danced' (large pitch interval); $k\acute{o}'$ $kw\grave{e}ny\grave{a}$ 'let him run!' (largest pitch interval). Another construction is the reduplicated verbal noun of high-tone verbs. The verbal noun, or gerund, consists of an \grave{o} - or \grave{z} -prefix + reduplicated element + verb stem. Thus, $\grave{o}j\acute{e}'j\acute{e}$ 'knowing'; $\grave{o}r\acute{e}'r\acute{e}$ 'eating'; $\grave{z}\acute{s}\acute{e}'s\acute{e}$ 'cutting'. In Yala (Ikom) the reduplication is so complete in the second element as to raise a question whether in fact the second or the third element is the stem. Evidence for the identification just given and for the identification of the downstep in this construction as a latent mid tone is given in 6.1.2.1 and 6.1.2.2 below.

6.1.1. The downstep between high tones may be a latent mid or a latent low tone in origin. A latent low tone differs in no way from a latent mid tone in its effect. Thus, $\acute{e}s\acute{i}$ $\acute{e}'m\acute{a}$ 'these trees' (from $\acute{e}s\acute{i}$ $\acute{e}m\acute{a}$); $\acute{o}t\acute{u}$ $\acute{l}'\acute{a}r\acute{a}'gb\grave{e}$ 'night and daytime' ($\acute{l}\grave{a}$ 'and', $\acute{a}r\acute{a}'gb\grave{e}$ 'bright sunshine'); $\grave{z}y\acute{e}'b\acute{e}$ 'a small fish', $\grave{a}y\acute{e}'b\acute{e}$ 'a fry of fish' ($\grave{o}y\acute{i}$, pl. $\grave{a}y\acute{i}$ 'child', $\acute{e}b\acute{e}$ 'animal'). One may compare the tones of $\grave{o}j\acute{e}'j\acute{e}$ above, which differ in no way from those of the last example. The latent low and latent mid tones cannot, therefore, be distinguished from each other phonetically or phonologically.

6.1.2. The evidence for the latent mid tones of 6.1 is the analogy with other paradigmatic forms of the sets in which the forms cited occur and also evidence from comparison with other Idoma-Yala dialects. The downstep in the $k\acute{o}'$ construction may be compared with the strictly cognate form in Central Idoma, $k\acute{o}\bar{o}$ $h\acute{o}c\acute{i}$ 'let him cut the tree'. In Yala (Ikom) there are such forms as \grave{h} $k\grave{a}$ \grave{h} $\acute{s}\acute{o}s\acute{i}$ 'I said I cut the tree', \grave{h} $k\grave{a}$ \bar{n} $\acute{s}\acute{o}s\acute{i}$ 'I said I should cut the tree', \grave{a} $k\grave{a}$ $\acute{s}\acute{o}s\acute{i}$ 'you said you cut the tree', \grave{a} $k\grave{a}$ \bar{a} $\acute{s}\acute{o}s\acute{i}$ 'you said you should cut the tree'. These and many other examples show that there is a strong relationship between the hortative, or subjunctive, and a mid tone on the subject pronoun. In this

respect, Yala is like Central and Southern Idoma. Data for Yala (Ogoja) are not yet available on this point. Thus, both synchronic and diachronic-comparative evidence strongly suggests that the downstep of kó' should be interpreted as a latent mid tone, from the point of view of its origin.

6.1.2.1. Similarly, in the comparison with the low and mid tone verbs there is a strong suggestion that the downstep in such verbal nouns as òjé'jé, òré'ré and òsé'sé should be interpreted as latent mid tones. When the verb-stem is low or mid in tone, the second element in the verbal noun, following the ò- prefix, is usually on a mid tone or tones. E.g.: à nyì 'you buried', ònyinyì 'burying', à bì 'you carried', òbìbì 'carrying', à hàrà 'you accompanied', òhàràhàrà 'accompanying', à kònò 'you sang', òkònòkònò 'singing'. (The 'CVCV' verbs discussed in 6.3.1 below are an exception.) Where the verb-stem has three or more syllables, the second element is reduced and so may be regarded as the reduplicated element. Thus, à tikplá 'you increased', òtitikplá 'increasing'; à trí'mànyì 'you forgot', òtí'trí'mànyì 'forgetting'.

6.1.2.2. In other Idoma-Yala dialects, the vowel of the verb-stem is replaced by -ò- in the second, or reduplicated, element of the verbal noun. Thus for the verbs nyì and bì in the examples above, Yala (Ogoja) and Southern Idoma have ònyònyì and òbòbì in their corresponding verbal nouns; and Central Idoma has òònyì and òòbì respectively. For the high-tone verbs, Central and Southern Idoma both keep the mid-tone -ò-, and Yala (Ogoja) has a double vowel, high+mid. Thus for the cognate reflexes of the examples in 6.1 (jé 'know', ré 'eat', sé 'cut'), we have in the corresponding verbal nouns in Yala (Ogoja): òjòjé 'knowing', òróóré 'eating', and òhóhóhé 'cutting'. In Southern Idoma: òjòjé, òróóré and òsósé. In Central Idoma: òòjé, òòlé and òòhé. All of this tends to strengthen the interpretation of the downstep in the Yala (Ikoma) verbal noun as a latent mid tone. (The existence of the form òjòré 'food' in Yala (instead of *òjòré'ré) suggests that the forms of the verbal nouns in both Yala and the Central Idoma are of considerable antiquity. See 5.2 above.)

6.2. Downstep may occur after mid tone, as in 5 tábò l'òné 'it began in the evening' (là 'in'; òné 'evening'), and àcò l'ágò 'stones in holes'. These là constructions are the only examples immediately available, but they are good ones, and others will no doubt be found. This downstep is obviously a latent low tone in its origin, and the pronunciations l'òné and làágò are alternative possibilities. It should be emphasized that this is not the same thing as downstep after downstepped high, V'V'V', which also occurs. E.g.: èrèyá'yá kó' yá 'let the play proceed!' A high tone may follow a downstepped mid, e.g.: 5 tábò l'òné ní 'it did not begin in the evening' $\left[\begin{array}{cccc} \bar{\quad} & \bar{\quad} & \bar{\quad} & \bar{\quad} \\ \text{H} & \text{M} & \text{M} & \text{M} & \text{H} \end{array} \right]$, which may be compared with èrèyá'yá kó' yá ní 'let the play not begin!' $\left[\begin{array}{cccc} \bar{\quad} & \bar{\quad} & \bar{\quad} & \bar{\quad} \\ \text{L} & \text{M} & \text{M} & \text{H} & \text{H} & \text{H} & \text{H} & \text{H} & \text{H} \end{array} \right]$. (èrè 'a play'; yá 'do, make'). Another instructive example is the following: 5 kpácò l'ágò lòtú 'he put stones in holes at night' $\left[\begin{array}{cccc} \bar{\quad} & \bar{\quad} & \bar{\quad} & \bar{\quad} \\ \text{H} & \text{H} & \text{M} & \text{M} & \text{L} & \text{H} \end{array} \right]$ (kpó 'take, put plural object'; àcò 'stones'; òtú 'night').

6.3. When the 'downstep' comes between high and low tone, it has the effect of neutralizing the downglide of 4.2. In the concept of downstep as developed by Welmers, Schachter, M. Green and others, the downstep occurs between two similar tonemes, i.e., between two highs or between two mids. I symbolize the extension of the concept here by writing the word in inverted commas when it is used to refer to a latent tone between high and low. One may define this 'downstep' somewhat sophistically as a

stepping down past an expected glide. One can justify the orthographic unification of 'downstep' between high and low with downstep between similar tones by the fact that no ambiguity or confusion arises if the same mark (') is used to symbolize both. Their conceptual unification is justified by the fact that both usually arise from the effect of a latent non-high tone. Where the latent tone is a feature of the first morpheme in a set of pairs, high-high and high-low, the appropriate result follows with respect to the next high and low tone respectively. (See *kó'* in 7.1 below.) Thus, *ʒ kwènyà* 'he ran' [*ʒ kwènyà*]; but *kó' kwènyà* 'let him run!' [*kó kwènyà*, without glide]. (Compare Idoma *kóò kwinyà* 'let him run!') In 6.1.2 we saw that the downstep in *kó'* is almost certainly a latent mid tone. This is likewise the case in the following, where the downstep is the only difference between the realization of two tenses. *é jì jàkwāsè* 'they gave to the dead' [*é jì*]; *é' jì jàkwāsè* 'they give (habitually) to the dead' [*é jì*]. The latter is related to the following fuller forms, which are also heard: *é sē jì jàkwāsè* and *é ē jì jàkwāsè*. (*sē=ē* is cognate with *gē=i* of Central Idoma, both sets of forms having the meaning of habitual action.) The following are examples of latent low tone before low: *ʒs'wò* 'God' (*ʒsé* 'king'; *ʒwò* 'rain, firmament'); *wó'jgbá'nàŋ* 'bird' (Idoma *ígbáànò*, *ànò* (archaic)).

6.3.1. There is a class of verbs, all of which have the pattern 'CVCV̄ or 'CVV̄, which are preceded by a latent tone or 'downstep'. None of these verbs is analyzable into constituent elements in Yala, and none of them has a cognate reflex in Central or Southern Idoma. Furthermore they have a special tone pattern when they take object pronouns. It seems likely that they have been borrowed from some non-Yala or Idoma source. They contrast with verb+noun collocations in the CVCV̄ pattern, most of which are easily analyzed into constituent morphemes and none of which is preceded by a 'downstep'. Thus, *ó 'bèhē* 'he called', and *ʒ 'nyànā* 'it melted' (without downglide); but *ʒ lònnyā* 'he is married' [*ʒ lònnyā*] (*lè* 'have', *ònnyā* 'woman'), *ʒ gbàpō* 'he quarrelled' [*ʒ gbàpō*] (*gbò/ápō*). (But compare *kó' lònnyā* 'let him marry!', with no glide.) It is only the 'CVCV̄ verbs which have verbal nouns with a low tone on the first syllable of the second or reduplicated element, e.g.: *'gbèhē* 'chop', *ʒgbèhēgbèhē* 'chopping'. On present evidence, one can only speculate on the origin of the 'downstep' in the 'CVCV̄ verbs.

7.0. Speaking generally, it should be emphasized that the mid tone and the terracing system are kept from interfering with each other by the relatively great high-to-mid pitch interval, which is systematically wider than the high-downstep-high interval. (See 3.0 and 5.0.1.) This is seen – or heard – in various ways. For example, in VV̄V̄ sequences, there is a great probability that the initial low tone and the final mid tone will be realized on the same pitch, because of the automatic raising of the initial low before high (4.1). (I.e., when the mid is lowered and the low is raised, they are apt to be realized on the same pitch.) E.g.: *àwá jējē* 'they danced'. [- - -]
L H M M When Yala (Ikom) utterances are compared with their cognate equivalents in other Idoma-Yala dialects, there is a fairly consistent, though not inevitable, pitch difference between their respective realizations of the high-mid sequence. Compared with Yoruba, the Yala (Ikom) high-mid sequence sounds like the Yoruba high-mid sequence with an assimilated low tone intervening [V̄.V̄]. Compare, for example, the pitches of Yala (Ikom) *ó múwā* 'he saw them', with Yoruba *ó já.dē* 'he went out'. For the role of the mid-tone in producing downdrift, see 5.2.

7.1. I have preferred to regard the downstep as a juncture feature rather than as a phoneme for several reasons. Firstly, it has no sound of its own. Secondly, it cannot

invariably be identified with the syllable that follows it or with the syllable that is affected by it. After *kó'* every high tone verb and nearly all the low tone verbs are affected. On the other hand, with the 'VV' verbs of 6.3.1, 'downstep', with identical effect, is identified with the FOLLOWING morpheme.

7.2. The downdrift system in Yala may, as in Yoruba, be at least partly an intonational or expressive system. It seems likely that some or all of the effects of downdrift may be neutralized in emphatic or enthusiastic utterances. In any case, the actual pitches are relative, and the special high-mid interval may be neutralized in short utterances if there is no necessary contrast present. It remains to be said, however, that the wide high-mid interval is so strong a Yala speech habit that after a high tone it is very easy to mistake a mid tone for a low when one is eliciting the items of a word-list.

7.3. The examples used so far have been selected so as not to complicate the explanation. In the ordinary, longer utterances, one will draw on all the principles discussed above in order to explain and interpret the pitches of the particular syllables. For example, in ògṣṣṣé'sé 'clitoridectomy', the three high tones are all on different pitches. ò- is raised (4.1); -gṣ- as the first high tone has the highest pitch of the utterance; -gṣ- has the same pitch as ò- (5.0); -sé- has been lowered, since it follows a mid tone (5.2); -sé, coming after a downstep is of course lowered again. To give another, longer example I have numbered the pitches of the following sentence, using 1 for the lowest and 9 for the highest pitch. Two words have such strong glides that for a long time I wrote them as *ńdén* and *úúú*. I use the abbreviation gl. for 'glide' and no-gl for 'no-glide'. The sentence means, 'From time to time the paternal lineage and the maternal kindred appropriate the ancestral spirits.' A word-by-word breakdown is unnecessary for the present purpose.

9 1	8 8	2 5	7 1	6	1	1 4
ńdén	gbágbá	àpí	úúú	é'	fù	yèkū
gl			gl		no-gl	

It can be seen from this that we have eight different pitches, and glide versus no-glide to account for. Since it is convenient and economical to omit the low tone mark in writing Yala, the above result can be achieved with two tone marks and the ' downstep marker.

8.0. The discovery of a terraced-level language with three contrastive, tonal registers and the elucidation of the mechanisms that make this possible should force us to consider carefully whether the classical terraced-level languages should not be regarded as two-tone systems. This can be shown by comparing displays of the main tonal possibilities of a language like Igbo and of Yala (Ikom).

8.0.1. In Igbo there are

1. after low: 2 possibilities,

- | | | |
|----------|------|-------------------|
| (a) high | àdhá | 'eldest daughter' |
| (b) low | àlà | 'earth' |

2. after high: 3 possibilities,

- | | | |
|--------------|-------|--------------------------------|
| (a) high | éghú | 'goat' |
| (b) downstep | mí'fí | (otherwise regarded as mid and |
| + high | | written mífí) 'water' |
| (c) low | ùlò | 'house' |

The various gliding tones of Igbo fall within this system and are grammatically predictable. They can be ignored for the purposes of this discussion.

8.o.2. In Yala (Ikom) the following possibilities exist:

1. after low: 3 possibilities,

(a) high à sósí 'you cut the tree' $\left[\begin{array}{c} - \\ \text{L H H} \end{array} \right]$

(b) mid à jējē 'you danced' $\left[\begin{array}{c} - \\ \text{L M M} \end{array} \right]$

(c) low à kwènyà 'you ran' $\left[\begin{array}{c} - \\ \text{L L L} \end{array} \right]$

2. after high: 4 possibilities,

(a) high ó sósí 'he cut the tree' $\left[\begin{array}{c} - \\ \text{H H H} \end{array} \right]$

(b) downstep
+ high kó' sósí 'let him cut the tree!' $\left[\begin{array}{c} - \\ \text{H H H} \end{array} \right]$

(c) mid ó jējē 'he danced' $\left[\begin{array}{c} - \\ \text{H M M} \end{array} \right]$

(d) low, with two realizations:

(1) as a glide, in the grammatically and morphologically simple case:

ś kâ 'he said' [ś kâ] = $\left[\begin{array}{c} - \\ \text{H gl} \end{array} \right]$

(2) as a clear jump from high to low, when a latent tone intervenes: kó' kâ 'let him speak!' [kó kâ] = $\left[\begin{array}{c} - \\ \text{H L} \end{array} \right]$

3. after mid: 4 possibilities,

(a) high ā sósí ní 'don't cut the tree!' $\left[\begin{array}{c} - \\ \text{M H H H} \end{array} \right]$

(b) mid jējē 'dance!' $\left[\begin{array}{c} - \\ \text{M M} \end{array} \right]$

(c) downstep
+ mid àcō l'āgō 'stones in holes' $\left[\begin{array}{c} - \\ \text{L M M M} \end{array} \right]$

(d) low 5sè 'person' $\left[\begin{array}{c} - \\ \text{M L} \end{array} \right]$

In both Igbo and Yala the same possibilities exist after downstep as before it.

8.1. Ever since the days of Christaller, there has been a strong tendency for students of terraced-level languages to regard as 'mid' the tone resulting from the effect of a downstep. (E.g., Christaller, 1875, p. 15, "Subsequent MIDDLE tones, i.e. high tones abating by one step or successive steps . . ."; Swift et al., 1962, p. 55.) In effect, the downstep is regarded as a toneme and is identified with the syllable that follows; and the resultant is christened 'mid tone'. This can only be done by using very complex definitions, of which the one in Green and Igwe is a good example: "Thus there is a high mid tone relationship but no such low mid relationship. A tone following a low tone on a higher level is a high tone, and a tone following a mid tone on the same level is a high tone. Since mid tone is only found in relation to an immediately preceding high tone, it can itself be followed by a mid tone because it is itself high in relation to what follows." (Idem pp. 6-7.) On this analysis, languages like Igbo have three tonemes. There are various ways in which the downstep can be handled as a toneme, but it is a common feature of all of these analyses that some term – and some mark – has a double meaning.

(Compare Welmers in Stewart, Schachter and Welmers, pp. 53-4.) In other words, some things that sound the same will be differently marked, and some things that are identically marked will be said differently. (E.g.: Igbo, *nwa āgboghō* 'girl', in which the identically marked syllables are on different pitches, and *-gbō-* is on the same pitch as *ā-*.)

8.1.1. The treatment of Yala (Ikoma) in this way would require very complex conceptual apparatus. In addition to high, mid, and low tonemes, we should need a lowered high, a lowered mid, and a glide. There would thus be a total of six tonemes, and at least two marks would have a double meaning.

8.2. In both Igbo and Yala (Ikoma), a great conceptual simplification results from regarding the downstep as a juncture feature – a sort of switch-point, after passing which the entire train runs on another track until it passes still another switch-point. In Igbo, on such an analysis, one need only set up two tonemes, and the difficult problem of defining the 'mid tone' does not arise. Furthermore, a great many more syllables are written with their etymological tone marks than is now the case. Thus, in Igbo, [s] 'to say', becomes [s̄]. Somewhat re-interpreted in this sense, the tone notations of Green and Igwe and of Welmers become actually easier to use.³

8.2.1. Finally, this whole discussion forces us to look with renewed respect at the International Phonetic Association statement on the Igbo tone system (1949, p. 45. I am grateful to Dr. Kay Williamson and Dr. E. Dunstan for calling this to my attention.) "The essential tones are (1) high level, indicated by $\bar{\quad}$, (2) low level, unmarked, (3) a lowered high tone shown by $\check{\quad}$ preceding the syllable. All high tones following $\check{\quad}$ are on a slightly lower level than those preceding, until the end of the sense-group, when fully high tones are generally resumed. The lowerings shown by $\check{\quad}$ have grammatical or other significance. High tones also undergo a certain lowering whenever a low tone precedes. . . . Lowerings caused in this way likewise continue to the end of the sense-group, after which the normal height of high tones is resumed. These latter lowerings are in the nature of tone assimilations; they have no semantic value, and it is therefore not necessary to mark them in transcriptions."

³ Professor Welmers, in the course of a very generous appreciation of this paper, writes the following with reference to my paragraph 7.1.:

"I do have one minor criticism. You say you are calling "downstep" a juncture feature, not a phoneme. I would say that any significant juncture feature *is* a phoneme. "Phonemic juncture" or "juncture phoneme" are, in my opinion, both valid terms. I don't think a phoneme has to be heard in the strictest sense of the word; it is sufficient that the effect of its presence be heard, that it have phonetic manifestation in some way."

Professor Welmers has touched here on one of the key points of the whole discussion: our historical reluctance to give full phonemic status to the downstep. I plead guilty even in the present article, in that I have called the downstep a 'juncture feature' despite the fact that I have written it with a separate sign (or letter). I have thus treated it as a phoneme without calling it so. It seems to me that once we give the downstep full status as a juncture phoneme, then we escape the necessity of mixed categories in the other tonal phonemes (or tonemes). We no longer have to label identical tones with different marks and different tones with the same mark.

In the same personal communication, Professor Welmers goes on to a defence of his system which I would admit to be valid. It deserves full treatment in an article, especially since it sheds fresh light on the whole matter (see also my introduction to Abraham, 1967 and also Armstrong, 1967, p. 2.)

REFERENCES

- D. Forde, P. Brown, and R. Armstrong, PEOPLES OF THE NIGER-BENUE CONFLUENCE, ETHNOGRAPHIC SURVEY OF AFRICA, (West Africa Part X), (London: International African Institute, 1955).
- J. M. Stewart, P. Schachter, and W. E. Welmers, THE TYPOLOGY OF THE TWI TONE SYSTEM, Preprint from the BULLETIN OF THE INSTITUTE OF AFRICAN STUDIES, I. (Legon: University of Ghana, 1966).
- D. W. Arnott, 'Downstep of the Tiv Verbal System', AFRICAN LANGUAGE STUDIES, V, 1964, pp. 38-39. (London: S.O.A.S., University of London.)
- Rev. J. G. Christaller, A GRAMMAR OF THE ASANTE AND FANTE LANGUAGE CALLED TSHI [CHWEE, TWI] . . . (Basel: 1875). (Republished in 1964 by Gregg Press Inc., Ridgewood, New Jersey, U.S.A.)
- Lloyd B. Swift, A. Ahaghotu, and E. Ugorji, IGBO BASIC COURSE, Foreign Service Institute (Washington, D.C.: 1962, Department of State).
- M. Green and G. E. Igwe, A DESCRIPTIVE GRAMMAR OF IGBO, (Berlin and London: Oxford University Press, 1963).
- F. D. D. Winston, 'The "Mid Tone" in Efik', AFRICAN LANGUAGE STUDIES, I. (London: S.O.A.S., University of London and Luzac and Co. Ltd., 1960.)
- R. C. Abraham, *The Principles of Ibo*, Archival Edition of Typescript. Occasional Publication No. 4, Institute of African Studies, University of Ibadan, 1967.
- Robert G. Armstrong, *A Comparative Wordlist of Five Igbo Dialects*, Occasional Publication No. 5, Institute of African Studies, University of Ibadan, 1967.
- THE PRINCIPLES OF THE INTERNATIONAL PHONETIC ASSOCIATION (London: I.P.A., Department of Phonetics, University of London, 1949, reprinted 1960).