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Syllable Weight and Tone

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SYLLABLE WEIGHT AND TONE  
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In their study of Kikuyu tone, Clements and Ford (1979) make the assertion that "Syllable weight appears to play a less significant role in 'lexical-tone' languages" (p. 201). I would like to comment on that assertion in this note.

In my general discussion of the concept of syllable weight (Newman (1972)), I explicitly treated three African languages of the Chadic family (Kanakuru, Bole, and Hausa), all of which are tonal. Moreover, the fact of their being tonal could hardly be ignored as irrelevant since a major functioning of syllable weight in these languages concerns the specification of tone. In Kanakuru (Newman (1974)), for example, the tone of verbal nouns with the suffix *-ək* is completely predictable on the basis of syllable weight. If the first syllable of the verb stem is light (C*V̄*), the tone of the verbal noun is Hi-Hi; if it is heavy (CV*C*), it is Hi-Lo. This is the case regardless of the lexical tone of the verb; for example:

(1) *Light*  
dápè 'collect' dápək vn.  
mónè 'forget' mónək vn.  
wùrí 'fry' wúrək vn.

*Heavy*  
járè 'comb' já:rək vn.  
ní:mè 'repair' ní:mək vn.  
shímdé 'thatch' shímdək vn.

In Bole (Lukas (1970-72); Newman (field notes)), all verbs lexically belong to one of two final-vowel classes. All polysyllabic verbs ending in *-a* have the same tone pattern (Hi-Hi or Lo-Hi, depending on dialect). Verbs ending in *-u* exhibit two different tone patterns, depending on syllable weight. If the initial syllable of the verb is light, the tone is Hi-Hi; if it is heavy, the tone is Lo-Hi. For example:

(2) *Light*                      *Heavy*  
tónú 'sharpen'              rà:mú 'repair'  
shírú 'steal'                  sùrrú 'fry'  
dákú 'pound'                bùnkú 'hide'

In Hausa, the tone of intransitive verbs ending in short *-a*

correlates to a great extent with the weight of the first syllable (see Newman (1973)). If it is light, the tone is Lo–Hi; if it is heavy, it is Hi–Hi, except for a few verbs such as *nù:ná* ‘ripen’ or *sàuká* ‘get down’ which contain frozen suffixes. For instance:

(3) <i>Light</i>		<i>Heavy</i>	
tsirá	‘germinate’	tsí:rá	‘escape’
tùmá	‘jump’	gírma	‘grow up’
kàwá	‘move away’	sáurá	‘remain’

One could simply conclude from the above data that Clements and Ford are empirically wrong and leave it at that. But I would suggest that they are right in spite of themselves and that at some fundamental level there *is* a basic incompatibility between lexical tone and functional syllable weight. The reason for this becomes evident when we consider what sort of linguistic phenomenon syllable weight represents. Whereas tone is melodic, syllable weight, like stress—which also does not normally cooccur with distinctive tone—is rhythmic (metrical). And unlike music, which combines melody and rhythm, languages on the whole tend to exploit only one or the other. Figuratively speaking, most languages of the world would appear to be either singers (melodic) or dancers (rhythmic), but not both.

The metrical/rhythmic importance of syllable weight in languages such as Greek is well known (e.g. Allen (1968: 1973)). This can also be seen in Hausa, which, although synchronically tonal, behaves in many ways as if it were a pitch–accent language.<sup>1</sup> Consider, for example, the form of certain derived verbs in Hausa, where syllable weight polarity between the first two syllables produces a distinctly rhythmic alternation:<sup>2</sup>

(4) a. *Heavy/Light*

zafafa <sup>3</sup>	‘to heat’	(< záfí: ‘heat’)
kaifafa	‘sharpen’	(< káífi: ‘sharpness’)
damsasa	‘moisten’	(< dáms(h)í: ‘dampness’)

b. *Light/Heavy*

duma:ma	‘warm up’	(< òúmí: ‘warmth’)
sula:la	‘warm up’	(< ?)
dina:na	‘tarnish, become mildewed’	(< ?)

<sup>1</sup> For an important study of stress and accent relevant to the matter discussed here, see Hyman (1977).

<sup>2</sup> Parsons (1955: 398) raised the possibility of a system of ‘‘polarized syllables’’ in Hausa derived verb forms, but then failed to follow through with the idea because of the existence of counterexamples, some of which, it turns out, were simply mistakes.

<sup>3</sup> The length of the final vowel and the tone of the word as a whole are determined by grammatical factors and are not marked here.

(5) a. *Heavy/Light*

ba:rata	'aim at'	(< bá:rà: 'hunting')
ro:wata	'be miserly'	(< ró:wà: 'miserliness')
jikkata	'fall on hard times'	(< ?)
tsa:wata	'scold'	(< tsá:wá: 'scolding, thunderclap')
gaskata	'prove true'	(< gàsk-íyá: 'truth')

b. *Light/Heavy*

bāa:ta	'obtain by begging'	(< bá̄à: 'begging')
wada:ta	'become wealthy'	(< wàdá: 'wealth')
jiga:ta	'fall on hard times'	(< ?)
tsawaita	'lengthen'	(< tsáwó: 'length')
faranta <sup>4</sup>	'whiten'	(< fári: 'white')

While strictly speaking it is erroneous to say that syllable weight is a negligible variable in tone languages, as a characterization of what might be considered "normal", such a statement can be maintained. There are of course languages, such as Hausa, where both syllable weight *and* tone play an important phonological/morphological role; but once having recognized this state of affairs to be aberrant, one is bound to go back and look at these languages in a way that one otherwise might not have thought of.

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<sup>4</sup> As noted by Parsons (1955, 398n), the long nucleus required in the second syllable is sometimes provided by a diphthong or a vowel plus intrusive nasal instead of a simple long vowel.

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PREFERENCE FOR ORDER IN  
FREEZES

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*Knick-knack*, *mumbo-jumbo*, and *helter-skelter* are examples of compound terms made up of nonsense components in a fixed or "frozen" order. Because the components of such compounds are nonsensical, their order is not relevant in conveying the meaning of the term, in contrast to other compounds such as *houseboat* (versus *boathouse*) and *bookwork* (versus *workbook*). However, the fact that we say *knick-knack* instead of *knack-knick* appears not to be merely the result of a conventionalized historical accident, but rather to follow from a set of rules that govern such "freezes". This conclusion is suggested by the work of Cooper and Ross (1975), who systematically examined a wide array of freezes including compound terms such as those above, as well as conjoined phrases composed of words that are meaningful, but whose meaning does not determine their frozen order (e.g. *this and that*, *wear and tear*).

Based on this examination, Cooper and Ross proposed seven rules that, taken together, account for the great majority of their freezes. These include the rules that, in comparison with the second component in the freeze, the first should have a shorter vowel (rule  $\bar{V}$ ), fewer initial consonants (rule  $C_i\#$ ), a less obstruent initial consonant (rule  $C_i$ ), and a vowel with a higher second formant (rule  $F_2$ ). This last rule has since been modified (see, for example, Cutler and Cooper (1978)) to state that the first component should also have a higher vowel, that is, a vowel with a lower first formant. Following Ross (1976), we refer to this vowel quality rule as  $Q$ .

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