Tone in Shi

John Goldsmith

(A) **What is phonology?** Is it about phonic substance, or is it about the *oppositions* in language (Saussure, Jakobson)? When we learn forms, do we try to learn something maximally like what we hear, or do we learn about oppositions, which may mean learning something very abstract, in a sense we would like to make explicit? Answer: in this case, the *latter*.

(B) **Shi** is a lacustrine Bantu language (DRC, Lake Victoria area) studied by Louise Pollak-Bynon (1975). It is clear that (most) syllables are tonally divided into two groups: but what are these two groups? How does the grammar make a difference between them, other than calling them 'Type 1' and 'Type 2'? Finding the best answer to this question is a big part of the challenge of initially analyzing Shi tone.

(C) **Notation** used by Bantuists: acute accent (á) marks High tone; no accent marks Low tone. When two Highs are interrupted by one or more Low, the pitch of the second High is lower than that of the first, and this lowering is called *downdrift*. If you find this lowering between two successive Highs, it's called *downstep*, and in almost all cases it is due to a floating (i.e., unassociated) Low tone inbetween them. This is also true in Shi. ↳ **Bear in mind**: *downstep and downdrift are really the same thing, as far as phonology is concerned*, in Shi and in most languages.

(D) Let's look at some **infinitive forms of verbs**. This is a bit confusing, but part of my job is to give you a sense of how un-obvious the right answer is (even though we will arrive at a right answer).

Simple infinitives (which are nouns) fall into **two tonal categories**, all **Low** in (1a) and those with **one or more Highs**, as in (1b). Etymologically, those in (1a) had a Low on the first mora of the verb stem (or perhaps no tone), while those in (1b) had High in that position. We adopt temporarily some analysis-neutral terminology to describe the tonal contrast until we arrive at the correct analysis: we will refer to the etymological Low tone (as in (1a, 2a)) as Tone 0, and the etymological High tone (as in 2b, 3b) as Tone 1.

↳ In a couple of minutes I will clue you in: "Tone 0" is *really* "unaccented", and "Tone 1" is *really* "accented" (and it's not a matter of tone at all, at the deepest level).

(1) Simple infinitives
a. Tone 0 root: (historically Low)
ku-nig-a 'to kill'
ku-sunik-a 'to push'
ku-sunik-ir-a ' to push for',

b. Tone 1 root: (etymologically High)
kú-bón-a 'to see'

(2) With Object Marker
Tone 0 infinitives
a. Tone 0 root and Tone 0 Object Marker (-*mu*-): ku-mu-sunik-ir-a
b. Tone 0 root and Tone 1 Object Marker (-*ba*-): kú-bá-nig-a 'to kill them'

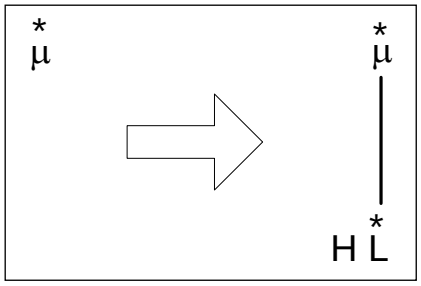
(E) But how is this distinction to be analyzed? There are a number of *initially plausible* analyses – at least 7! – but today we will only talk about the one that I think is correct, the *accentual* analysis. In the following table, the accentual analysis is in the rightmost column; the "asymmetrical Low" analysis is another possible analysis which I will not discuss today for lack of time.

(3) Tone classes of CVCV noun stems

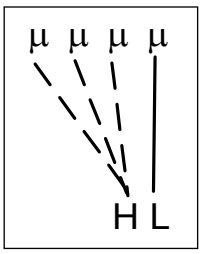
	A. without prefix, in isolation	B. With preprefix, before *leero*	C. Etymological analysis	D. Asymmetrical Low analysis (an analysis we won't talk about)	↳ **Accentual analysis (correct analysis)**
a. Pattern 1	ka-*nyunyi* (335) mu-ntu 'person' (335)	óó-mú-*lózí* lééro 'a sorcerer this time'	L + L	Ø Ø	**Ø Ø**
b. Pattern 2	mú-*nyéré*	óó-mú-*nyéré* ! lééro	L + H	Ø L	**Ø ***
c. Pattern 3	mú-*lúme* 'man' (336)	óó-mú-*lú*!*mé* lééro	H + L	L Ø	***Ø**
d. Pattern 4	mú-*kázi* 'woman' (336)	óó-mú-*kázi* lééro	H + H	L L	*** ***
e. Pattern 5, special subtype of Pattern 4	mú-*gozi*	óó-mú-*gozi* lééro		L L	*** ***

(4) Accentual hypothesis.

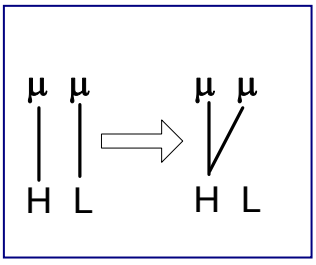
- Class 0 vowels are unaccented, and
- Class 1 vowels are accented.
- The basic accentual melody is H L*. Hence one such melody appears for each accented vowel; the accented Low associates with the accented vowel –



and the unaccented High associates with all preceding toneless (Class 0) vowels:



- There is a rule spreading High one syllable to the right, the ***High spread rule:***



- Unaccented, toneless words: a bit complicated, but for today's purposes, they surface as all Low.

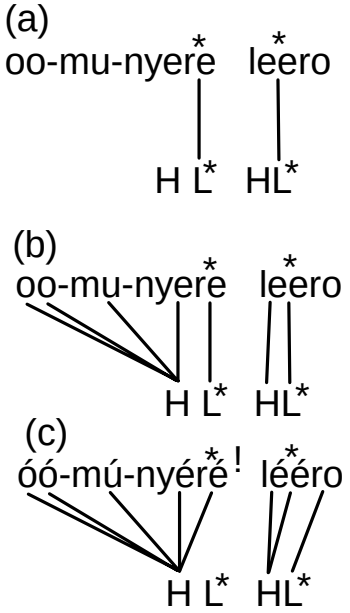
The crucial, basic idea is this: the accented moras have the property that they throw a High onto any sequence of preceding toneless syllables, and thus in some sense are High-like; but they themselves also have many properties of Low-ness: they are Low if preceded by another accented mora, and even if they are High, they create a following downstep, which is a hallmark of a floating Low.

(F) Applying this to nouns

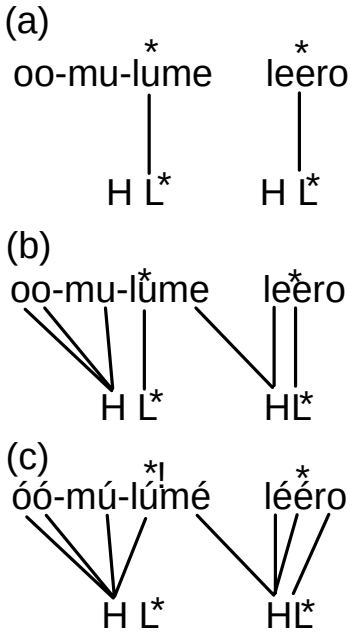
In the (a) examples, we indicate the accented (Class 1) mora, marked with an asterisk "*", and associated with its HL* melody. In the (b) example, we show the spreading of the unaccented H tone. In the (c) example, we show the final representation, with the effect of High Spread rule and the spread of Low tone to the remaining toneless moras; we also indicate the surface pitch of each vowel diacritically.

(5)Some tonal types of nouns

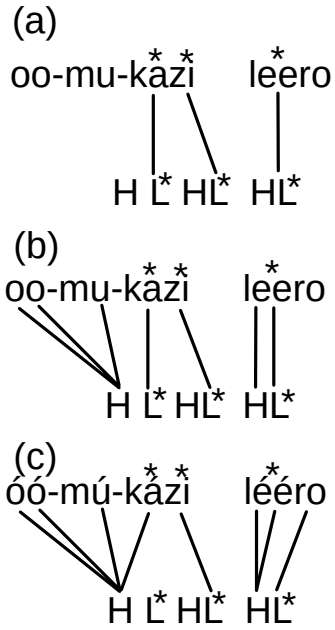
a. Pattern **Ø ***: *nyere*



b. Pattern * **Ø**: *lume*



c. Pattern * *****: *kazi*



Crucial over-all generalizations that follow from this analysis:

(i) A sequence of Class 0 vowels is High if and only if a Class 1 immediately follows,
(ii) and in that case, the Class 1 is also High;
(iii) in fact, that is the *only* case when a Class 1 is High.
(iv) When the Class 1 is High, it still shows symptoms of being Low: it causes downstep on a following High. (When the Class 1 is Low, a following downstep is not possible, or at least it is unobservable; see footnote 1.)

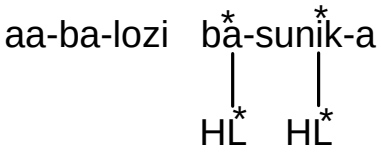
The exceptional tonal class in (3)(e) are marked as exceptions to High Spread**Error! Reference source not found.**.

(G) *Nouns stems before inflected verb with Class 1 Subject Marker*

Present habitual:

a. áá-bá-lózí	bá$^{!-}$súník-a	‘the sorcerers push’
b. áá-bá-lúm$^{!}$é	bá$^{!-}$súník-a	‘the men push’
c. áá-bá-nyéré	ba-súník-a	‘the girls push’
d. áá-bá-kázi	ba-súník-a	‘the women push’
e. áá-bá-gozi	ba-súník-a	‘the ropes push’

(6)



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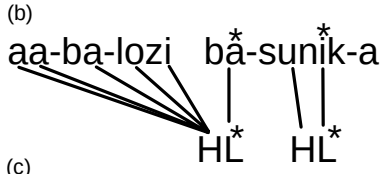

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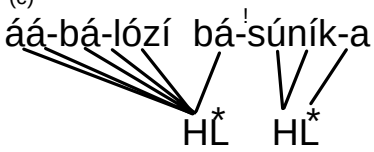
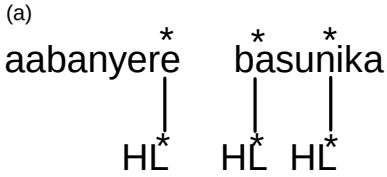


(7)

(a)



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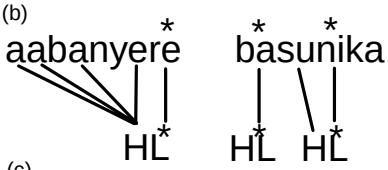

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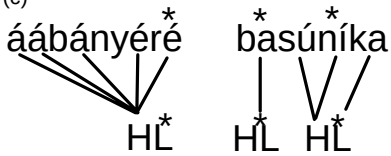

(H)istory: How did Shi get this way?

Etymological Highs (i.e., etymological Highs) are now High only if they are *not* immediately preceded by another etymological High (and are preceded by a toneless vowel). When they *are* immediately preceded by another etymological High (i.e., accented vowel), they are realized as Low. This looks like the residue of the effect of Meeussen's Rule (High becomes Low immediately after High) applying phonetically. In many languages (e.g., Luganda, Tonga) Meeussen's Rule has been integrated into the morphophonology, leading to a tonal neutralization in position following etymological High. This is not the case in Shi, where there is no such neutralization historically.

(J) Conclusions

Shi, like other Bantu languages, cannot be understood if one thinks that phonology aims at finding an underlying structure which is maximally close to the surface form, deviating from that only to the extent necessary to account for influences of neighboring segments and morphemes.

The Bantu languages construct surface tonal patterns that are several steps removed from the underlying contrasts which are themselves relatively abstract. Yet it is these abstract specifications that are passed down from generation to generation.