Hyman & Monaka (2011)

Tonal and Non-Tonal Intonation in Shekgalagari
Problem of intonation in tone languages

• How can (structural) intonational tones coexist with lexical tones?

• **Accommodation:**
  Lexical tones and intonational tones target distinct positions.

  • Mazahua (Otopamean, Mexico): “The pitches of all syllables which do not immediately precede word space are those of the tonemic system. The pitch of any syllable immediately preceding word space is part of the intonemic system.” (Pike 1951:101).

• **Submission:**
  Intonational tones override lexical tones

  • Coreguaje (Tukanoan; Colombia) Four possible H-L patterns on CVCV nouns merge in statements as L-HL and in questions as HL.

• **Avoidance:**
  Use of structural intonation:
  • overridden
  • completely avoided
  • Limited to features other than f0 (Shekgalagari)
H&M’s main questions

• Can a language do without structural intonation?
• Can an utterance lack intonation?

• For me, these are questions that revolve around defining these concepts and whether to do so deductively or inductively, and are not theoretical issues.

• Shekgalagari does make limited use of f0-based intonation, which does interact with lexical tones, and modeling this is challenging.
Shekgalagari tone system

- H, L (L is analyzed as unmarked (Ø))
- Transcription:
  L tone is unmarked, H tone is marked by an acute accent (á), HL falling tone by a circumflex (â:), and the L↓L falling tone by a grave accent (à:)

<table>
<thead>
<tr>
<th>Utterance medial</th>
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<tbody>
<tr>
<td>(4)</td>
<td>prefixless</td>
<td>prefixed</td>
</tr>
<tr>
<td>L-L</td>
<td>nama</td>
<td>‘meat’</td>
</tr>
<tr>
<td>L-H</td>
<td>nawá</td>
<td>‘bean’</td>
</tr>
<tr>
<td>H-L</td>
<td>lóri</td>
<td>‘lorry’</td>
</tr>
<tr>
<td>H-H</td>
<td>nárí</td>
<td>‘buffalo’</td>
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</table>

<table>
<thead>
<tr>
<th>Pre-pausal</th>
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<tbody>
<tr>
<td>(8)</td>
<td>input</td>
<td>prefixless</td>
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<tr>
<td>L-L</td>
<td>→ L↓L::L</td>
<td>nà:ma</td>
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<tr>
<td>L-H</td>
<td>na:wá</td>
<td>‘bean’</td>
</tr>
<tr>
<td>H-L</td>
<td>ló:ri</td>
<td>‘lorry’</td>
</tr>
<tr>
<td>H-H</td>
<td>→ HL::L</td>
<td>nà:ri</td>
</tr>
</tbody>
</table>

Pre-pausal lengthening (PLL)
Analysis of tones in PLL

**Tone effects not seen in H-L or L-H words**

(9) a. no effect other than lengthening if the last two syllables differ in tone
   
   \[
   \begin{align*}
   &L-H \rightarrow L:-H : \text{ ma-rumé } \rightarrow \text{ ma-ru:me } \text{ ‘greetings’} \\
   &H-L \rightarrow H:-L : \text{ mu-núna } \rightarrow \text{ mu-nú:na } \text{ ‘man’}
   \end{align*}
   \]

   b. pitch of the penult falls if the last two syllables have the same input tones
   
   \[
   \begin{align*}
   &L-L \rightarrow L^{\dagger}L:-L : \text{ mu-lími } \rightarrow \text{ mu-lí:mi } \text{ ‘farmer’} \\
   &H-H \rightarrow HL:-L : \text{ mu-rérí } \rightarrow \text{ mu-rê:ri } \text{ ‘preacher’}
   \end{align*}
   \]

(10) Toneless TBUs which precede \(^{\dagger}L\) start higher than before H or HL

<table>
<thead>
<tr>
<th>Hz</th>
<th>200</th>
<th>250</th>
<th>300</th>
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<tr>
<td>mu</td>
<td>234</td>
<td>253-206</td>
<td>208</td>
<td>215</td>
</tr>
<tr>
<td>li:mi</td>
<td>215</td>
<td>223</td>
<td>291</td>
<td>207</td>
</tr>
<tr>
<td>ma</td>
<td>207</td>
<td>298</td>
<td>200</td>
<td>213</td>
</tr>
<tr>
<td>ru:mé</td>
<td>294-218</td>
<td>216</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>nú:na</td>
<td>200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rê:ri</td>
<td>218</td>
<td>216</td>
<td></td>
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</tbody>
</table>

(9b)  

L% is lower than L

\[\text{naama} \quad [nà:ma] \quad \text{ ‘meat’}
\]

\[\text{naari} \quad [nà:ri] \quad \text{ ‘buffalo’}
\]

H-H → HL:-H → HL:-L (HL%-Ø)
Possible Analyses?

1. $\pi$-gesture centered on the penult that also triggers L% (lower than L)
   - But what about H-L and L-H words?
   - What happens to final H of H-H words?

2. $\pi$-gesture gesture gates in change of f0 attractor landscape to two attractors: falling f0 / rising f0.
   - But what happens to underlying tones?
   - What happens with tones in other contexts? Landscape chooses L or L rather than rising or falling?
   - How is the fall scaled differently for underlying L-L vs. H-H?

3. Competition between H, L is reduced in boundary conditions to allow them both to emerge?
Other points

• Penultimate lengthening at boundaries is general in Southern Bantu languages. Why do these languages do this as opposed to final lengthening?

  • development of stress system?

• Is there any “phonetic” lengthening of final syllable (lesser magnitude than penult)?

  • need actual quantitative data
Other Intonation Functions

- In Shekgalagai, only declaratives are marked by f0.
- Semantic/pragmatic markedness does not align with phonological markedness, according to H&M.

<table>
<thead>
<tr>
<th>(14)</th>
<th>Shekgalagari</th>
<th>Sesotho</th>
<th>Ikalanga</th>
<th>Kinande</th>
<th>Ndebele</th>
<th>Chichewa</th>
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<tbody>
<tr>
<td>Declaratives</td>
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<td>+</td>
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<tr>
<td>Yes-No Q</td>
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<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>WH Q</td>
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<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Ideophones</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Paused lists</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
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<tr>
<td>Imperatives</td>
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<td>+</td>
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<td>Hortatives</td>
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<tr>
<td>Vocatives</td>
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<td>±</td>
<td>+</td>
<td>+</td>
<td>+</td>
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<td>Exclamatives</td>
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<td>+</td>
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<td>+</td>
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<td>1σ word</td>
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<td>+</td>
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</tbody>
</table>
Questions

No specific intonation, just block PLL

(15)  a. ri-nâ:ri  ‘buffalos’  a-bal-a ri-nâ:ri  ‘he is counting buffalos’
     b. xu-bô:n-a  ‘to see’  a-bô:n-á mu-lî:mi  ‘he sees the farmer’

(16)  a. ri-nárí  ‘buffalos?’  a-bal-a ri-nárí  ‘is he counting buffalos?’
     b. xu-bô:n-á  ‘to see?’  a-bô:n-á mu-lîmi  ‘does he see the farmer?’

(17)  a. ri-nárí zhé rihí  ‘which buffalos?’
     b. a-bal-a jî:j  ‘what has he just counted?  (jî:j = bisyllabic with L-H tone)
     c. xu-bô:n-a ányí  ‘to see who?’
     d. ányí a-bôn-á mu-limí  ‘who has just seen the farmer?’
We now briefly illustrate the presence vs. absence of PLL in each of the utterance types listed in (14). As seen in (15), PLL occurs before pause in declaratives, including citation forms:

$$\text{a. ri-nâ:r I} \text{‘buffalos’}$$

$$\text{a-bal-a ri-nâ:r I} \text{‘he is counting buffalos’}$$

$$\text{b. x U-bç^:n-a I} \text{‘to see’}$$

$$\text{a-bç@ n-á m U-l I} \text{‘he sees the farmer’}$$

Unlike the other Bantu languages characterized in (14), (15) represents the only utterance types in which PLL is required in Shekgalagari. Failure to lengthen would unambiguously result in these forms being interpreted as yes-no questions:

$$\text{a. ri-nár I€ \text{‘buffalos?’}$$

$$\text{a-bal-a ri-nár I€ \text{‘is he counting buffalos?’}}$$

$$\text{b. x U-bç@ n-á I} \text{‘to see?’}$$

$$\text{a-bç@ n-á m U-l I mi I} \text{‘does he see the farmer?’}$$

Correspondingly, the examples in (17) show that there is no PLL in WH questions (the downstep in (17a) and elsewhere is irrelevant for our purposes—see Crane 2008, 2009a,b):

No specific intonation, just block PLL

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<tr>
<td>Vocatives</td>
<td>-</td>
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<tr>
<td>Exclamatives</td>
<td>-</td>
</tr>
</tbody>
</table>
Ideophones

Short penult and devoiced final vowel.

b. a-ři bítsí ‘he left in a hurry’ (he went BITSI)
c. l-á-ři phátsí ‘lightening flashed’ (it went PHATSI)
d. a-ři tshíki ‘it’s cold, I’m feeling cold’ (it went TSHIKI)

As in many Bantu languages, there is a general verb, here -r ‘say’, which is used with ideophones. The equivalent in English is to use the verb ‘go’, as indicated in the parenthetical paraphrases to the right of the above examples. What is important is that the final vowel must be devoiced in the declarative (see below for the corresponding interrogatives). We will argue below that ideophone devoicing is intonational.

Like ideophones, the internal members of “paused lists” are not subject to PLL, but undergo final lengthening (FL):

a. a-bal-a ri-nama: ... ri-nawá: ... l€ ri-nâ:r l€ l€ l€ l€:ri ‘he’s counting meats... beans... and buffalos’
b. a-bç@ n-á lU rU li: ... mal l€ l€ l€ l€:ri ‘he sees dust... rubbish... and hair’

For there to be such lengthening, it is obligatory that there be a pause after each of the listed items. In other languages, such paused lists are often marked by a final rising intonation with possible lengthening. This brings us to the following observation:

Recalling that the declarative not only lengthens the penultimate vowel, but also assigns a L% tone to its second mora, it is striking that interrogatives, imperatives, hortatives, vocatives, exclamatives, ideophones, and paused lists are all suspended and/or vivid speech act types where speakers might be expected to raise their voice. Could this be related to the fact that they all resist the fall-creating L% tone—a blocking effect attributable to the Frequency Code (Gussenhoven 2004:82)? Before summing up this section, it is necessary to consider one last relevant environment:

Shekgalagari differs from related languages in not assigning PLL when the prepause word is monosyllabic:

b. ri-nár l€ Z é ‘these buffalos’
c. U-bat-a S é ‘he wants this one’
d. a-rí bál-a Z á ‘he has counted them in this way’

d. qa-r I U@ -SI€ k I€ l-a =xç@ th E@ ‘I say, you really move around’

I-say you-go =infl really

In related Bantu languages, the final vowel of the preceding word would be lengthened. What this shows is that PLL is sensitive to word boundaries (cf. the Appendix).

To summarize, we have seen four different intonational patterns before pause:
Paused list elements

PLL suspended, but final lengthening (FL) applies

(23) a. a-bal-a ri-nama: ... ri-nawá: ... lí ri-nâ:ri
   ‘he’s counting meats... beans... and buffalos’
   
b. a-bón-á lu-ruli: ... malíli: ... lí mu-rî:ri
   ‘he sees dust... rubbish... and hair’
Intonation elements

a. PLL : declaratives, citation forms
b. FD: final devoicing : ideophones
   (no PLL)
c. FL: final lengthening : paused lists
   (no PLL)
d. Ø (none of the above) : yes-no questions, Wh-questions, imperatives, hortatives, vocatives, exclamatives, 1σ words
Competition

- arises when more than one semantic element is involved
  - $Q > \text{ideophone}$
  - $Q > \text{List}$
  - ideophone $> \text{Hort, List}$

\[
\begin{array}{ccccccc}
\text{(27)} & \text{Yes-No, Wh-Q} & \gg & \text{Ideo} & \gg & \text{Imper, Hort, Voc, Excl} & \gg & \text{List} & \gg & \text{Decl} \\
\emptyset & FD & \emptyset & FL & PLL \\
\end{array}
\]
Emphatic PLL

(33) EMPH PLL can

a. make WH-Qs, imperatives, and hortatives seem either like statements or more insistent
b. emphasize or de-emphasize the effect of such non-declarative speech acts
c. clarify what was said, often repeating or rewording when someone has not understood
d. provide some kind of emphasis, but not necessarily on the last word or its constituent
e. be often subtle, never obligatory, perhaps “attitudinal” in the sense of Bolinger (1978:484)
Since (41) is not interpreted as a Yes-No question, we would not
expect it to result in (42). In fact, in most cases, the yes-no
structure is not recoverable.

(41)

<table>
<thead>
<tr>
<th>Yes-No Q</th>
<th>&gt;&gt;</th>
<th>Emph</th>
<th>&gt;&gt;</th>
<th>Wh-Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø</td>
<td>PLL</td>
<td>Ø</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(38) a. ʃí-ɡy-é  ‘eat it!’ (= normal)
b. ʃiː-ɡy-ɛ  ‘eat it!’ (= stronger)
c. ɑ ki-ɡy-ɛ kúkú  ‘let me eat the chicken!’ (= weaker)
d. ɑ ki-ɡy-ɛ kûːku  ‘let me eat the chicken’ (= stronger)

COMP-1sg-eat-INFL chicken