Discussion of Jurgec, Inkelas & Shih and Shih & Inkelas Papers

**Preliminary Confession:** If I could choose, I would make phonology autosegmental!

(i) Autosegmental representations and autosegmental spreading do a lot for us.
(ii) There are problems.
(iii) But doesn’t everyone have problems?

I therefore hope that Peter can be successful in keeping “agreement by spreading” (ABS). Although I’ll offer some sympathetic applications, I have questions whether we need to extend ABC or add qqq, given the arsenal of devices we already have at our disposal, including (but not limited to):

(i) Tonal and root nodes
(ii) Zecian moraic syllables ($\mu$, $\nu$, $\sigma$)
(iii) Various featural and geometric suggestions to account for the interaction of consonant types (voicing etc.) and tone, e.g. [stiff], [slack], grounding conditions (Archangeli & Pulleyblank 1994 etc.).

Consider first Shih & Inkelas’ introduction of qqq to account for tonal contours and TBUs.

(1) The first evidence: rare contour tone copying process in Changzhi diminutive construction (Bao 1999:72)

<table>
<thead>
<tr>
<th>Sentence</th>
<th>Tonal Contours</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ku 213 -t 213/</td>
<td>[ku 213 -t 213] 'pan-DIM'</td>
</tr>
<tr>
<td>/səŋ 24 -t 24/</td>
<td>[səŋ 24 -t 24] 'rope-DIM'</td>
</tr>
<tr>
<td>/t 535 -t 535/</td>
<td>[t 535 -t 535] 'bottom-DIM'</td>
</tr>
<tr>
<td>/k 544 -t 544/</td>
<td>[k 544 -t 544] 'pants-DIM'</td>
</tr>
<tr>
<td>/təu 53 -t 53/</td>
<td>[təu 53 -t 53] 'bean-DIM'</td>
</tr>
</tbody>
</table>

But how do we know that this is “phonological” vs. “constructional”, as in Barasana melody agreement:

(2) Copying of bisyllabic H-H or H-L melody from possessive pronoun onto following noun (Gomez-Imbert & Kenstowicz 2000:438-9), showing that agreement is suprasegmental (not subsegmental):

<table>
<thead>
<tr>
<th>Sentence</th>
<th>Melody Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>~bádí (H-H) ‘our’</td>
<td>~bádí ~kúbú</td>
</tr>
<tr>
<td>~ídà (H-L) ‘their’</td>
<td>~ídà ~kúbú</td>
</tr>
</tbody>
</table>

(3) This (also rare!) tonal agreement applies long distance as it skips over a L first syllable of the noun:

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<th>Melody Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>~bádí (H) ‘our’</td>
<td>~bádí <del>bábá</del>rá</td>
</tr>
<tr>
<td>~ídà (HL) ‘their’</td>
<td>~ídà <del>bábá</del>rá</td>
</tr>
</tbody>
</table>

A second proposal is that ABC and qqq are needed to account for interaction of consonant voicing and tone. The following sche Ngizim, a Chadic language of Nigeria, as presented by Hyman & Schuh (1974: 107):

(4) a. /L/H/ (= Nupe)  b. /H-L/  Halle & Stevens (1971)

<table>
<thead>
<tr>
<th>Consonant Type</th>
<th>Rule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voiceless obstruent</td>
<td>( \rightarrow \text{n.c.} ) ( \rightarrow \ \text{[-stiff, +slack]} )</td>
</tr>
<tr>
<td>Voiced obstruent</td>
<td>( \rightarrow \text{[-stiff, +slack]} )</td>
</tr>
<tr>
<td>Voiced sonorant</td>
<td>( \rightarrow \text{[-stiff, -slack]} )</td>
</tr>
</tbody>
</table>

Hyman & Schuh: voiced consonants do not conspire to “cause” L tone spreading, rather voiceless obstruents BLOCK LTS; similarly, voiceless consonants and sonorants do not join to cause H tone spreading, rather voiced obstruents (and only obstruents) BLOCK HTS. Sonorant consonants are like vowels: They don’t care what tone goes through them! Not clear if “similarity” is really involved since: (i) voiced implosives usually pattern with voiceless obstruents; (ii) depressor consonants are often not voiced (Schachter 1976, Traill 1990, Downing 2009).

One fact which may lend itself to a closure+release analysis of consonants is that depressor consonants only affect the FOLLOWING vowel, a directional asymmetry due to aerodynamics, represented as:

(5) a. \( \text{H} \rightarrow \text{L} \) b. \( \text{H} \rightarrow \text{L} \) c. \( \text{H} \rightarrow \text{L} \)

“Note that Shih (ms.) claims that markedness constraints banning \( *H/[-\text{voiced}] \) and \( *L/[-\text{voiced}] \) are still necessary to capture typical depressor and elevator consonant blocking effects in an ABC framework.” (Shih & Inkelas paper, p.9)
(6) Contour tones can be handled by something like Yip’s (1989:150) tonal geometry distinctions:

<table>
<thead>
<tr>
<th>TBU</th>
<th>TBU</th>
</tr>
</thead>
<tbody>
<tr>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>L H</td>
<td>L H</td>
</tr>
</tbody>
</table>

(7) Re “diphthongs”, the second part of /Vi/ sequences are transparent in Turkish, as in Bantu height harmony. The following is from Lulamogi (Uganda):

a. y-a-lim-ilé ‘s/he cultivated’
   b. a-sek-elé ‘s/he laughed’
   y-a-tum-ilé ‘s/he sent’
   a-kol-elé ‘s/he worked’
   y-a-βal-ilé ‘s/he counted’

(8) Interestingly, when there is “imb rication”, the fused /i/ does not harmonize:

a. /e-a-lekel-ile/ → a-lekeil-e ‘s/he has ceased’
   b. /e-a-kohol-ile/ → a-kohoil-e ‘s/he has coughed’

(9) /ei/ and /oi/ condition mid vowel harmony

a. y-a-beih-elé ‘s/he lied’
   b. y-a-goit-elé ‘s/he churned’

(10) This could be handled by Zec’s (1988) syllable, spreading or agreement from syllable head to head:

<table>
<thead>
<tr>
<th>3 σ</th>
<th>2 μs 3 μw 2 μs μw</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>V {V, C}</td>
</tr>
</tbody>
</table>

(11) In apparent support of “phonological teamwork” (Lionnet, this conference), there are also cases where /ai/ conditions mid harmony! (Neither /a/ nor /i/ can do this alone.)

a. y-a-gait-elé ‘s/he mixed’
   b. y-a-βaiz-elé ‘s/he crafted (with wood)’

Note that /Vi/ does not copy as a unit as was claimed for tonal contours (reduplication is not a good test!). Question re discrepancy between tone and segmental qqq: why (aai) ≠ (iaa) vs. (LHH)≠ (HLL); no (aai), (iia), (LLH), (HHL)? Could there be a possible contrast? The only evidence for more than simple closure and release (cf. Steriade’s 1993 aperture theory) is the maximum of a tripartite contour on a short vowel TBU: LHL, HLH, e.g. Nupe mi ‘me’. There isn’t anything comparable like a short vowel aia, iai, is there? (Go for “b” and ‘m’?)

References
(1) Nasal Consonant Harmony (NCH) in Yaka: Perfective -idi / -ele become -ini / -ene after a nasal consonant
   a. tsúb-idi ‘vagabonder’  b. tsúm-ini ‘coudre’
   kúd-idi ‘chasser qqn’  kún-ini ‘planter’
   kéb-ele ‘faire attention’  kém-ene ‘gémir’
   sód-ele ‘déboiser’  són-ene ‘colorer’

(2) NCH can be triggered by a nasal which is several syllables away
   a. mák-ini ‘grimper’  b. fiñúk-ini ‘bouder’
   mék-ene ‘essayer’  hámúk-ini ‘se casser’
   nók-ene ‘pleuvoir’  míítuk-ini ‘bouder’
   nyék-ene ‘se baisser’  nútúk-ini ‘s’incliner’

(3) /mb, nd, ng/ do not trigger, undergo, or block NCH (i.e. they are transparent)
   a. bíímb-idi ‘embrasser’  b. mwáang-ini ‘semer’
   kúúnd-idi ‘enterrer’  nááng-ini ‘durer’
   bééŋ-ele ‘mûrir’  mééŋ-ene ‘haïr’
   ŋééŋ-ele ‘luire’  nóóŋ-ene ‘viser’

(4) Post-nasal denasalization: If /mb, nd, ng/ were to become mm, nn, ŋŋ, they would be undone as mb, nd, ŋŋ!
   a. m + m → mb  e.g. [ m- [ mak-idi ] ] → m-mak-iní → m-bak-iní ‘I carved’
   b. n + n → nd  e.g. [ n- [ nuuk-idi ] ] → n-nuuk-iní → n-duuk-iní ‘I smelt’
   c. ŋ + ŋ → ndy  e.g. [ ŋ- [ ŋém-idi ] ] → ŋ-ŋém-ené → n-dyem-ené ‘I pushed’

N.B. Every Bantu language that has transparent NC also has N+N denasalization; cf. Kongo, Punu etc.