Larry M. Hyman (UC Berkeley) ABC Conference, UC Berkeley, May 18-19, 2014

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 $(\mu_s\mu_w)_\sigma$
(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)

a.	/kuə$_{213}$ -tə˾$_{535}$/	→	[kuə$_{213}$ -tə˾$_{213}$]	'pan-DIM'
b.	/səŋ$_{24}$ -tə˾$_{535}$/	→	[səŋ$_{24}$ -tə˾$_{24}$]	'rope-DIM'
c.	/ti$_{535}$ -tə˾$_{535}$/	→	[ti$_{535}$ -tə˾$_{535}$]	'bottom-DIM'
d.	/k^{h}u$_{44}$ -tə˾$_{535}$/	→	[k^{h}u$_{44}$ -tə˾$_{44}$]	'pants-DIM'
e.	/təu$_{53}$ -tə˾$_{535}$/	→	/təu$_{53}$ -tə˾$_{53}$/	'bean-DIM'

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):

	~kúbú (H-H) 'shaman'	~bídì (H-L) 'pet'
~bádí (H-H) 'our'	~bádí ~kúbú	~bádí ~<u>bídí</u>
~ídà (H-L) 'their'	~ídà ~<u>kúbù</u>	~ídà ~bídì

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

	~bàbá-~rá (L-H) 'friends'	wɨhí-bo (L-HL) 'tray'
~bádí (H) 'our'	~bádí ~bàbá-~rá	~bádí wɨ<u>hí-bó</u>
~ídà (HL) 'their'	~ídà ~bà<u>bá-~rà</u>	~ídà wɨhí-bò

(cf. Sande, this conference, for phonological copying across words)

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)
voiceless obstruent :	àpá	→	*n.c.*	ápà	→	<u>ápâ</u>	[+stiff, -slack]
voiced obstruent :	àbá	→	àbă	ábà	→	*n.c.*	[-stiff, +slack]
voiced sonorant :	àmá	→	àmă	ámà	→	ámâ	[-stiff, - slack]

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. a p a b. a b a c. a m a

>< >< ><

H L

(H = [+stiff]; L = [+slack] or some other such indication of pitch effects)

"Note that Shih (ms.) claims that markedness constraints banning *H/[+voiced] and *L/[-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:

a. contour tone

```
TBU
 |
 o
 / \
L  H
```

b. tone cluster

```
TBU
 / \
o   o
|   |
L   H
```

(o = tonal node)

(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'
y-a-tum-ilé 's/he sent'
y-a-βal-ilé 's/he counted'

b. a-sek-elé 's/he laughed'
a-kol-elé 's/he worked'

(8) Interestingly, when there is "imbrication", 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:

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        σ                   σ
      3                   3
      μs      μw          μs      μw
   2          |        2          |
C     V     {V, C}    C     V     {V, C}
      |_____________________|
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(This would be undermined if a mirror image anticipatory harmony can be triggered by μ_w : i → e / __ C (i) e.)

(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 (aii), (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 *mĩ* 'me'. There isn't anything comparable like a short vowel *aia*, *iai*, is there? (Go for $^{m}b^{m}$ and $^{b}m^{b}$?)

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(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.	<u>m</u>ák-ini	'grimper'	b.	fí<u>n</u>úk-ini	'bouder'
	<u>m</u>ék-ene	'essayer'		há<u>m</u>úk-ini	'se casser'
	<u>n</u>ók-ene	'pleuvoir'		<u>m</u>íítuk-ini	'bouder'
	<u>n</u>yéék-ene	'se baisser'		<u>n</u>útúk-ini	's'incliner'

(3) /mb, nd, ng/ do not trigger, undergo, or block NCH (i.e. they are transparent)

a.	bíímb-idi	'embrasser'	b.	<u>m</u>wááng-ini	'semer'
	kúúnd-idi	'enterrer'		<u>n</u>ááng-ini	'durer'
	bééŋg-ele	'mûrir'		<u>m</u>éééŋg-ene	'haïr'
	ŋgéŋg-ele	'luire'		<u>n</u>óóŋg-ene	'viser'

(4) Post-nasal denasalization: If /mb, nd, ng/ were to become mm, nn, ŋŋ, they would be undone as mb, nd, ŋg!

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.	ɲ + ɲ	→	ndy	*e.g.*	[ɲ-	[ɲem-idi]]	→	ɲ-ɲem-ené	→	n-dyem-ené	'I pushed''

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