(22)

Tone class	Sequence	Verb	Perfect	Pattern	Imperfect	Pattern
1	H–H	*!íí* 'sing'	*!íí-a-tó*	HH-M-H	*!íí-á-ha*	HH-H-M
2	L–L	*tàǹ* 'stand up'	*tàǹ-à-tó*	LL-L-H	*tàǹ-à-há*	LL-L-H
3	H–L (I)	*yáà* 'dance'	*yáà-tó*	**HL**-H	*yáá-ha*	**HH**-M
4	H–L (II)	*tóè* 'move away'	*tòè-à-tó*	LL-L-H	*tòè-há*	LL-H
5	L–H (I)	*xǎĩ* 'swell'	*xàĩ-à-tó*	LL-L-H	*xàĩ-á-ha*	LL-H-M
6	L–H (II)	*!gàí* 'run'	*!gàì-à-tó*	LL-L-H	*!gai-a-ha*	MM-M-M
7	L–H (III)	*ɲǔũ* 'sit'	*ɲúũ-á-tó*	HH-H-H	*ɲúũ-á-ha*	HH-H-M

When comparing the above listed tonal patterns, we note differences between tone classes 1, 3 and 7 in the perfect (*-tó*) finite forms but identical sequences in the imperfect (*-ha*) constructions. More remarkable seems the formal agreement between tone classes 2, 4 (for *-tó* and *-ha*), 5 and 6 (for *-tó* only), because 2 and 4 show exactly the same sequences although class 4 verbs contain H–L sequence in isolation, as against class 2 verbs which have L–L.

3.2.6 Tshwa subgroup

Rainer Vossen

Information on tone in this subgroup is extremely scant. Four surface sequences on disyllabic lexical roots have been observed in Kua and Tsua: H–H, L–L, H–L, and L–H. A more detailed investigation of verbal tone in Kua has led to the establishment of five tone classes, as shown in (23):

(23)

Tone class	Sequence	Verb	Present	Pattern	Imperfect	Pattern
1	H–H	*!áó* 'shoot'	*kùà !áó*	LL HH	*!á-ró-hà*	H-H-L
2	L–L	*!gàũ* 'spread (a hide)'	*kùà !gàũ*	LL LL	*!gàũ-á-hà*	LL-H-L
3	H–L	*píì* 'suck'	*kùà píì*	LL HL	*píí-á-hà*	HH-H-L
4	L–H (I)	*tshàó* 'dig'	*kùà tshàó*	LL LH	*tshà-ró-hà*	L-H-L
5	L–H (II)	*xùń* 'grind'	*kùà xùń*	LL LH	*xúń-hà*	HH-L

It is interesting to note that in present tense constructions the sequences of tone classes 4 and 5 coincide, whereas tone classes 2 and 4 on the one hand, and 1, 3 and 5 on the other, agree with one another in imperfect constructions. Significant for the distinction of classes 4 and 5, however, are the different sequences in the imperfect finite forms.

3.3 Southern Khoesan: !Xóõ

Amanda L. Miller

!Xóõ lexical tonology is described by Traill (1985: 28–55; 1977a: 11–47) as having four phonological contour tones, while Miller-Ockhuizen (1998: 220–23) offers a decompositional analysis with four level lexical tones, and phrasal edge tones accounting for the phonetic fall at the right edge of roots in isolation.

3.3.1 Lexical tonology

Traill's analysis of !Xóõ is that there are four tone melodies, one of which is a phonological contour tone (MF), represented as in (24). He notes that the H(F) melody is phonetically contoured, but since there is no contrastive level H melody, it is possible to view this as a level tone.

(24) Traill's (1985, 1994) lexical tone melodies

High	H(F)	*/qhúũ*	'white person'
Mid	M	*!ōo*	'knife'
Mid falling	MF	*tâa*	'a San person'
Low	L	*sòo*	'medicine'

Traill (1985: 31ff.) argues that the MF melody cannot be reinterpreted as a sequence with the second tone being phrasally determined, because there would be no explanation for the lack of fall at the right edge of the M melody. In fact, the fundamental frequency (F0) traces of the four !Xóõ melodies given in Figure 2 of Traill (1985: 30) show that both the right and left edges of M and MF melodies differ. The M melody starts lower than the MF melody, and has a lower peak F0.

Traill claims that the MF melody must be a phonological contour since it occurs on monomoraic roots. Miller-Ockhuizen (1998: 222f.) notes that the only monomoraic roots listed in Traill (1994) are grammatical words that tend to occur at the right edge of a phrase, and she attributes the fall to the phrasal tonology.

Traill also notes that positing four lexical tones, and allowing tone sequences, predicts sixteen possible tone melodies, but only four are attested. If the fall found on roots is due to phrasal prosody, then no tone sequences are allowed in !Xóõ. If it proves impossible to interpret the fall as phrasal, then a decompositional analysis would require plausible constraints on tone sequences, similar to what Miller-Ockhuizen (1998: 225ff.) has suggested for Jul'hoan.

3.3.2 Phrasal tonology

Traill (1994: 23f.) claims that nouns are lexically marked for one of two tone classes that determine the tone melody of concordially dependent items such as demonstrative pronouns that I refer to as clitics. Traill (1994) lists approximately 200 class I nouns, 1,500 class II nouns, and about sixty nouns that are class I in their alienated forms, but class II in their possessed forms. Tone class I nouns co-occur with level toned clitics, while tone class II nouns co-occur with falling toned clitics. The tone class is claimed not to be predictable from the tonal melody or the noun class. There are several scenarios that are consistent with these facts. Class I nouns might have a floating L tone that is realized on the clitic, which class II nouns lack. Alternatively, there may be two tonally distinct, but segmentally identical clitics, which are selected for by semantic or syntactic properties. No plausible classes have been identified, but further research may prove insightful.

3.4 Eastern ǂHoan

Henry Honken†

Only the briefest account can be given of tone in Eastern ǂHoan. According to Gruber (1973), Eastern ǂHoan has five tones: high, lower high, low, lower low (these are all