

The default vs. the underspecified: Floating tones in Zacatepec Chatino

Main Claim I argue that the complex tonal phonology of Zacatepec Chatino follows in an account that contrasts a default L-tone inserted to avoid tone-less TBU's and TBU's that remain tone-less in the phonology and are realized with a phonetic default M-tone. These two layers of defaults and underspecification can be easily predicted in an OT-system where an expected default repair can be blocked in certain contexts by a higher-ranked markedness constraint.

Background There are numerous arguments that the phonology of certain languages contrast tone-less TBU's with tonally specified TBU's (cf. Hyman, 2011). Analyses then differ in whether those tone-less TBU's are assumed to remain tone-less in the phonology and are realized with a phonetic default (e.g. Myers, 1998; McPherson, 2011) or whether a phonological default-tone is inserted (e.g. Antilla and Bodomo, 1996; Picanço, 2005). The pattern discussed here extends this typology in employing both concepts of default-tones in one language.

Data The Otomanguan language Zacatepec Chatino (=ZAC, Villard, 2015) has the four lexical level tones low (=L, a^L), mid (=M, a^M), high (=H, a^H), and superhigh (=S, a^S). L is also the phonological default tone that is realized on all TBU's that would otherwise remain tone-less as can be concluded from a regular spreading process: Word-final H and S spread to all following tone-less TBU's (1-a) but M never spreads (1-b). If a tone-less TBU is preceded by an M-toned or tone-less TBU (1-c), it is realized as L. (For tone-less TBU's following L-tones (1-d), the surface realization as L is ambiguous between L-epenthesis or L-spreading.) In addition to this regular tone spreading, there are several words ending in floating H or LS tones. These floating tones are realized on the rightmost tone-less TBU of the following word (2). Crucially now, potentially intervening tone-less TBU's are realized with an M-tone. This is highly surprising since one could expect either realization of the default L-tone (*[nkwa^Lna^M ku^Lla^H] (2-a)) or spreading of the originally floating or stem-final tone (*[nkwa^Lna^M ku^Hla^H] (2-a)) instead.

Analysis The regular spreading of H and S results from a high-ranked ALIGN-constraint demanding that tones are realized at the right phrase-edge (3-a)+(4). Only M cannot avoid a violation of ALIGN since association of M to more than one TBU is excluded by higher-ranked *LONGM. An otherwise tone-less TBU following M hence receives a default L (5). The ALIGN constraint also predicts that floating tones are realized on the rightmost tone-less TBU (6). In contrast to the contexts in (5), however, tone epenthesis inside the tonal melody of a morpheme is impossible due to a standard morpheme CONTIGUITY constraint (3-b) (Landman, 2002). Intramorphemic tone-less TBU's hence remain tone-less in the phonology and are realized via a phonetic default M-tone (6). Surface M-tones in ZAC are hence ambiguous and are either realization of an underlying M or a phonologically tone-less TBU. Surface L-tones, on the other hand, are the realization of an underlying L or an epenthetic L inserted in the phonology. The complex behaviour of floating tones in ZAC is hence predicted from standard markedness constraints in an analysis that acknowledges the existence of two layers of default-ness.

Against floating M-tones An alternative analysis assuming that the additional M is also underlyingly floating (resulting in floating MH and MLS instead of H and LS) faces several problems. One is that this floating M would associate to all tone-less TBU's preceding the TBU the floating H or LS associates to. However, M-tones do not participate in the general tone-spreading process affecting H and S (1-a). Spreading of M to supply tone-less TBU's with a tone would be preferred over spreading H or S in only this context which results in a ranking paradox for the phonology. In addition, the assumption of M as the tone-less default allows a straightforward analysis of a third pattern of lexical tone changes described in Villard (2015) as floating L-tones. The supposedly floating L, however, does not result in a additional L-tones in most contexts but additional M-tones. It is argued that there is no floating L in ZAC and the additional tone changes are simple OCP-effects between L-tones resulting in tone-deletion.

(1) *H/S-spreading and default L-tones and (Villard, 2015, 184+187)*

	UNDERLYING		SURFACE	
a.	kwi ^M na ^H kula	/M.H/ /X.X/	kwi ^M na ^H ku ^H la ^H	[M.H][H.H] 'old snake'
	yu ^L sin ^{LS} kula	/L.LS/ /X.X/	yu ^L sin ^{LS} ku ^S la ^S	[L.LS][S.S] 'old sea turtle'
b.	ka ^L kwen ^M kwila	/L.M/ /X.X/	ka ^L kwen ^M kwi ^L la ^L	[L.M][L.L] 'you will vomit fish'
c.	kwana kula	/X.X/ /X.X/	kwa ^L na ^L ku ^L la ^L	[L.L][L.L] 'old mirror'
d.	jn ^y a ^M ke ^L kula	/M.L/ /X.X/	jn ^y a ^M ke ^L ku ^L la ^L	[M.L][L.L] 'old hen of yours'

(2) *Realization of floating H and LS (Villard, 2015, 187+223+233)*

	UNDERLYING		SURFACE	
a.	kwana ^{M(H)} kula	/X.M (H)/ /X.X/	nkwa ^L na ^M ku ^M la ^H	[L.M][M.H] 'old thief'
b.	kwa ^{M(H)} nkajilyan ^M	/M (H)/ /X.X.M/	kwa ^M nka ^{M_i} ji ^H lyan ^M	[M][M.H.M] 'already I farted'
c.	kwa ^{M(H)} nkasa ^L lo ^M	/M (H)/ /X.L.M/	kwa ^M nka ^H sa ^L lo ^M	[M][H.L.M] 'already you threw it away'
d.	naten ^{L(LS)} kula	/X.L (LS)/ /X.X/	na ^L ten ^L ku ^M la ^{LS}	[L.L][M.LS] 'old people'
e.	til ^y a ^{L(LS)} nkasa ^L lo ^M	/X.L (LS)/ /X.L.M/	ti ^L y ^a na ^L sa ^L lo ^M	[L.L][LS.L.M] 'early you threw it away'

- (3) a. ALIGN(T,PH): Assign * to every TBU intervening between the rightmost TBU a morphologically coloured tone T is associated to and the right edge of the phrase.
 b. MCONTT: Assign * to every tone that is not of morphological colour α and preceded and followed by a tone of morphological colour α .

(4) *Spread of H*

(5) *No spread of M but L-epenthesis*

	M H		* LONGL/M	ALIGN	* LONGH/S	SPECIFY	DEPL
	(kwi na) (ku la)						
a.	(kwi na) (ku la)			5*!		**	
b.	(kwi na) (ku la)			5*!			**
c.	(kwi na) (ku la)			3*	*		

	L M		* LONGL/M	ALIGN	* LONGH/S	SPECIFY	DEPL
	(kakwen)(kwila)						
a.	(kakwen)(kwila)			5*		*!*	
b.	(kakwen)(kwila)		*!	3*			
c.	(kakwen)(kwila)			5*			**

(6) *Floating H-tone realization*

	M H M		MCONTT	* LONGL/M	ALIGN	* LONGH/S	SPECIFY	DEPL
	(kwa) (nka jil yan)							
b.	(kwa) (nka jil yan)				4*	*!		
c.	(kwa) (nka jil yan)				4*		*	
d.	(kwa) (nka jil yan)		*!		4*			*