Real surface-oriented correspondence:
Evidence from neutral tones in two Mandarin dialects

This work is concerned with the phonology of neutral tones in two Mandarin dialects, Urumqi Chinese (UC) and Qingdao Chinese (QC). Our claim, based on recent acoustic studies (Hsieh & Chuang 2008, Yin 2008), is that the neutral tone data provide straightforward evidence for "genuine" OO correspondence in OT (e.g. Hale & Reiss 2008).

Background: Like many other Sinitic languages, tonal neutralization is attested in UC and QC neutral tone syllables and processes of this sort can be derivationally sketched as follows:

(1)

UR	Tone loss	Tone redistribution	Remarks
σ σ	σ σ	σ σ	See, for example, Pattern B in (2)
/\ \ →	/\ →	/ \	
T_1 T_2 T_3	T_1T_2	T_1 T_2	

The Puzzle: Unlike many other Mandarin dialects, UC has three citation tones only: T1/*Yinping* (44), T2/*Yangping* (51) and T3/*Shang* (213) and similarly, QC has T1/*Yinping* (113), T2/*Yangping* (51) and T3/*Shang* (55), too. The typical pan-Mandarin four-way tonal contrast, nevertheless, is preserved in neutral tone syllables, specifically, Pattern B vs. Pattern C below.

(2) Neutral tones in Urumqi Chinese / Qingdao Chinese

Patterns	Underlying tone sequence (T=any tone)	Phonetic realization
A	Tone 1-initial: 44-T / 113-T	44-51 / 31-23 or 53-21
B	Tone 2-intial: ***51-T / 51-T***	***55-31 / 53-21***
C	Tone 2-initial: ***51-T / 51-T***	***33-51 / 35-41***
D	Tone 3-initial: 213-T / 55-T	31-23 / 22-44

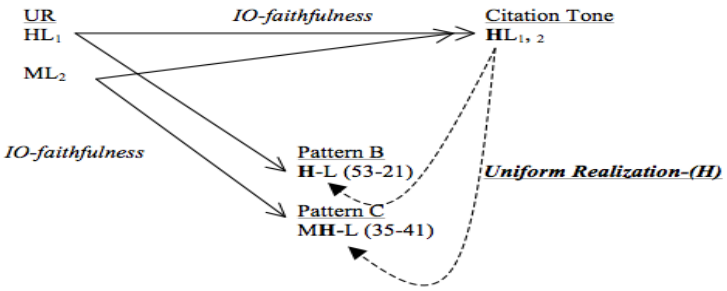
Pattern C in both UC & QC is attributable to *absolute neutralization*, namely that the "missing Tone 4" (Qu) and Tone 2 are neutralized in citation, while they are distinct in neutral tone syllables. For QC, "T4" (Qu) in 1950s has been transcribed as a mid-falling tone (31/ML), while in 1990s the merger of T2 and "T4" (Qu) in citation was completed.

(3)

Citation in SR	UR		Neutral tone patterns
51 (HL) ←	51 (HL) = T2	→	**5**3-21 (Pattern B)
	31 (ML) = "T4 (Qu)"	→	3**5**-41 (Pattern C)

Given (3), Pattern C would be wrongly realized as: [31+T] → */32+21/ (compare the actual surface form: 35-41). In other words, regarding Pattern C, why is there a H tone (underlined 5 above) in the neutral tone syllables, given that there is *no* H tone underlyingly?

Analysis: Crucially, citation and neutral tones are **not** morphologically related. More precisely, neutral tones are not derived via citation tones via affixation or the like. Therefore, Transderivational Identity (Benua 1997), Uniform Exponence (Kenstowicz 1996), or Optimal Paradigm (McCarthy 2005) is not at issue here. We will argue that Patterns B and C can be captured by UNIFORM REALIZATION, a correspondence constraint dictating identical realizations of a lexical item (High tone here, or the underlined 5 above). It is important to reiterate that faithfulness of this sort (dashed line below) is accessed with neither IO Correspondence nor OO Correspondence (b/c they are not morphologically related). In sum, we thus conclude that the two case studies constitute a genuine surface-to-surface correspondence relation in OT.



Selected References: Hsieh, F.-F. & C.-T. Chuang. 2008. A study of the phonetics and phonology of neutral tones in Urumqi Chinese. *USTWPL* 4, 57-71. Yin, M. 2008. *An acoustic study of tones in Qingdao Chinese*. M.A. Thesis, Nanjing Normal Univ.