

# Manchu -n Dropping and Nasal Assimilation Asymmetry: A Case for Coalescence and Linearity

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This study investigates morpheme final sound changes during affixation and compounding in Standard Manchu (Tungusic, China). Using a framework of Optimality Theory (based on Prince & Smolensky 1993, and expanded by McCarthy 2008/2011 and Pater 2009), I argue that multiple phenomena in Manchu derivational sound change can be explained using a high ranked LINEARITY constraint which is violated not only by metathesis, but also by the lack of relative orders within a morpheme brought on through Coalescence.

Sound changes during affixation and compounding include morpheme final /n/ deletion before coronal consonants; however, /n/ + /coronal consonant/ clusters do exist within morphemes. I argue that rather than deletion, /n/ + /coronal consonant/ sequences on morpheme boundaries coalesce into the coronal consonant. Other nC sequences do not undergo coalescence because of a high ranking POA faithfulness constraint, while morpheme internal /n/ + /coronal consonant/ clusters do not undergo coalescence because morpheme internally, segments are relatively ordered, and thus a high ranking LINEARITY constraint would blocks their coalescence.

Figure 1: The plural form of *sargan* "wife" is *sargata* rather than *sarganta* due to coalescence of underlying /nt/ into [t].



/sargan <sub>1</sub> +t <sub>2</sub> a/	LINEARITY	NoCODA	UNIFORM
 [sargat <sub>1,2</sub> a]		*	*
[sargan <sub>1</sub> t <sub>2</sub> a]		**W	L

Figure 2: The word *wantaha* "spruce" does not undergo a coalescence of underlying /nt/ into [t] because the cluster is the part of the same morpheme, and thus coalescence of the two phones would violate LINEARITY.

/wan <sub>1</sub> t <sub>2</sub> aχa/	LINEARITY	NoCODA	UNIFORM
 [wan <sub>1</sub> t <sub>2</sub> aχa]		*	
[wat <sub>1,2</sub> aχa]	*W	L	*W

Additionally, /n/ assimilates to [m] before labial consonants. This is consistent morpheme internally, and is explained through a high ranking Agreement constraint. However, /m/ does not assimilate to [n] before coronal consonants, and thus a high ranking IDENTIO[LABIAL] constraint is used to explain this assimilation asymmetry.

Finally, certain words, primarily loan words, ethnic names, place names, and onomatopoeia do not conform to the rules above. I argue that these words are lexically indexed, and that high ranking lexically indexed faithfulness constraints prevent these processes from occurring both morpheme internally, and during compounding and affixation.

Figure 3: The plural form of *jiyanggiyun* "general" is *jiyanggiyunse* rather than the coalesced *jiyanggiyuse*. The word *jiyanggiyun* is a loan from the Mandarin *jiāngjūn*, and is thus lexically indexed. Because of a high lexically indexed IDENTITY constraint, coalescence of /ns/ into [n] is blocked.

/dzianjiun <sub>1L</sub> +s <sub>2</sub> ʃ/	LINEARITY IDENT[SON] <sub>L</sub>	NoCODA	UNIFORM
☞ [dzianjiun <sub>1</sub> s <sub>2</sub> ʃ] [dzianjius <sub>1,2</sub> ʃ]	*W	** *L	*W

This analysis of Manchu requires that LINEARITY has a particularly strict definition that is violated by not only reranking of segments, but also through the deletion of their relative ranking. In comparison to McCarthy's (2008) definition of LINEARITY, which is only violated by a switching of relative positions of segments, the definition required by this analysis is stronger, and has different implications for the possible grammars in Optimality Theory. I discuss the implications and call for an cross-linguistic investigation into the relationship between LINEARITY, metathesis, and coalescence.

(WEAK) LINEARITY (McCarthy 2008:198):

Let input =  $i_1 i_2 i_3 \dots i_n$  and output =  $o_1 o_2 o_3 \dots o_m$   
Assign one violation mark for every pair  $i_w$  and  $i_y$   
if  $i_w R o_x$  and  $i_y R o_z$   
 $i_w$  precedes  $i_y$   
 $o_z$  precedes  $o_x$

(STRONG) LINEARITY:

Let input =  $i_1 i_2 i_3 \dots i_n$  and output =  $o_1 o_2 o_3 \dots o_m$   
Assign one violation mark for every pair  $i_w$  and  $i_y$   
if  $i_w R o_x$  and  $i_y R o_z$   
 $i_w$  precedes  $i_y$   
 $o_x$  does not precede  $o_z$

## Bibliography

- Koo, J. H., Jingxian, L., Aping, Z., Baozhu, W., & Oh-Sun, K. (1994). On plural formation in Manchu. *Central Asiatic Journal*, 38(2), 179-187.
- Fukazawa, H. (1999). Theoretical Implications of OCP Effects on Features in Optimality Theory. Doctoral dissertation, University of Maryland, College Park. ROA-307
- McCarthy, J. J. (2008/2011). *Doing optimality theory: Applying theory to data*. John Wiley & Sons.
- Pater, J. (2001). Austronesian nasal substitution revisited: What's wrong with\* NC (and what's not). *Segmental phonology in Optimality Theory: constraints and representations*, 159-182.
- Pater, J. (2009). *Morpheme-specific phonology: Constraint indexation and inconsistency resolution*.
- Prince, A., & Smolensky, P. (1993). "Optimality Theory: Constraint interaction in generative grammar." Technical Report CU-CS-696-93, Department of Computer Science, University of Colorado at Boulder.
- Seong, B. I. (1980). *A Study on Intervocalic Consonant Clusters in Manchu*.
- Von Möllendorff, P. G. (1892). *A Manchu grammar: With analysed texts*. Printed at the American Presbyterian mission Press.
- Wheeler, M. W. (2005). Cluster reduction: Deletion or coalescence?. *Catalan journal of linguistics*, 4(1), 57-82.