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

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Outline of Manchu (Tungusic)

- Belongs to the Tungusic language family
- Historically Spoken in Northeast China
- Currently Spoken in Heilongjiang and Xinjiang Provinces
- Agglutinative

Previous Works Reviewed

- John Koo et al.’s (1994) On Plural Formation in Manchu.
- Baeg-In Seong's (1980) A Study on Intervocalic Consonant Clusters in Manchu.

The Purpose of This Study

- Use **Optimality Theory** to analyze why final -n in Manchu words undergoes **assimilation** with the following suffix, **deletion**, or **no change** in avoidance of **nC clusters**.

Data Sources

- Data comes from: Haneda To-ru's Manwa Jiten *Manchu-Japanese dictionary* (1972), Jerry Norman's *A Concise Manchu-English Lexicon* (1978), and Paul Georg von Möllendorff's *A Manchu grammar: With Analysed Texts* (1892)
- *Tongki fuka sindaha hergen (1632-present)*

Data

Context	Result	Example		
before coronal, morpheme boundary	/n/ > [Ø]	/sarɢan+ta/ /bajan+sa/	> [sarɢata] > [bajasa]	*'wives'* *'rich folk'*
before labial, morpheme boundary	/n/ > [m]	/dulin+ba/	> [dulimba]	*'middle'*
within morpheme	/n/ > [n]	/wantaχa/	> [wantaχa]	*'spruce'*
non-native words or proper nouns	/n/ > [n]	/dʑianʃiun+sɤ/	> [dʑianʃiunsɤ]	*'generals'*
		/niqan+baturu/	> [niqanbaturu]	*'Han hero'*

Results

- Rather than **Deletion**, a result of **Coalescence, Assimilation,** and **Indexation**
- Define two forms of **Linearity**: **Strong** and **Weak**, in order to accurately analyze Manchu

Analysis

(1) MAX >> NOCODA

	/ilan/	MAX	NC
☞	[ilan]		*
	[ila]	*W	L

MAX	MAX	Assign one violation for every segment in the input which does not have a corresponding output segment
NOCODA	NC	Assign one violation for every segment which makes a coda in the output

(2) DEP >> NOCODA

	/ilan/	MAX	DEP	NC
☞	[ilan]			*
	[ilana]		*W	L

DEP DEP Assign one violation for every segment in the output which does not have a corresponding input segment

(3) NoCoda >> Uniformity

	/sargan$_1$+t$_2$a/	Max	Dep	NC	Unif
☞	[sargat$_{1,2}$a]			*	*
	[sargan$_1$t$_2$a]			**W	L

Uniformity Unif — Assign one violation for every pair of segments in the input which correspond to the same output segment

(4) LINEARITY >> NOCODA

	/wan$_1$t$_2$aχa/	MAX	DEP	LIN	NC	UNIF
☞	[wan$_1$t$_2$aχa]				*	
	[wat$_{1,2}$aχa]			*W	L	*W

LINEARITY LIN Assign one violation for every pair of segments in the input whose corresponding outputs do not match in ordering with the input order

(5) IDENTIO[-SONORANT] >> NOCODA

	/dulin$_1$+b$_2$a/	MAX	DEP	LIN	IDIO[-SON]	NC	UNIF
☞	[dulim$_1$b$_2$a]					*	
	[dulim$_{1,2}$a]				*W	L	*W

IDENTIO[-SONORANT] IO[-SON] Assign one violation for every [-SONORANT] segment in the input whose corresponding input is not [-SONORANT]

(6) IDENT[PLACE] & IDENT[SONORANT] >> NOCODA

	/dulin$_1$+b$_2$a/	MAX	DEP	LIN	IDIO[-SON]	P&S	NC	UNIF
☞	[dulim$_1$b$_2$a]						*	
	[dulib$_{1,2}$a]					*W	L	*W

IDENT[PLACE] & IDENT[SONORANT]	P&S	Assign one violation for every segment in the input whose corresponding output does not match in both [PLACE] and [SONORANT]

(7) AGREE[PLACE] >> IDENT[PLACE]

	/dulin$_1$+b$_2$a/	AGR[PCE]	ID[PCE]
☞	[dulim$_1$b$_2$a]		*
	[dulin$_1$b$_2$a]	*W	L

AGREE[PLACE]	AGR[PCE]	Assign one violation for every pair of adjacent segments which do not match in [PLACE] feature
IDENT[PLACE]	ID[PCE]	Assign one violation for every segment whose input does not correspond in [PLACE] to its output

(8) IDENTIO[LABIAL] >> AGREE[PLACE]

	/busum$_1$d$_2$a/	IDIO[LAB]	AGR[PCE]	ID[PCE]
☞	[busum$_1$d$_2$a]		*	
	[busun$_1$d$_2$a]	*W	L	*W

IDENTIO[LABIAL] IO[LAB] Assign one violation for every [+LABIAL] segment in the input whose corresponding output is not [+LABIAL]

(9) IDENT[PLACE]OBSTRUENT >> AGREE[PLACE]

	/busum$_1$d$_2$a/	IDIO[LAB]	ID[PCE]OBS	AGR[PCE]	ID[PCE]
☞	[busum$_1$d$_2$a]			*	
	[busum$_1$b$_2$a]		*W	L	*W

IDENT[PLACE]OBSTRUENT ID[PCE]OBS Assign one violation for every segment whose input is [-SONORANT] and does not correspond in [PLACE] to its output

(10) IDENT[PLACE]$_L$ >> AGREE[PLACE]

	/niqan$_{1L}$+b$_2$aturu/	IDIO[LAB]	ID[PCE]OBS	ID[PCE]$_L$	AGR[PCE]	ID[PCE]
☞	[niqan$_1$b$_2$aturu]				*	
	[niqam$_1$b$_2$aturu]			*W	L	*W

IDENT[PLACE]$_L$ ID[PCE]$_L$ Assign one violation for every segment within a lexically indexed morpheme whose does not match its output in [PLACE]

(11) IDENT[SONORANT]$_L$ >> NOCODA

	/dʑiaŋʲiun$_{1L}$+s$_2$ɤ/	MAX	DEP	LIN	IDIO[-SON]	P&S	IDIO[LAB]	ID[PCE]OBS	ID[PCE]$_L$	ID[SON]$_L$	NC	AGR[PCE]	UNIF	ID[PCE]
☞	[dʑiaŋʲiun$_1$s$_2$ɤ]										**			
	[dʑiaŋʲius$_{1,2}$ɤ]									*W	*L		*W	

IDENT[SONORANT]$_L$ ID[SON]$_L$ Assign one violation for every segment within a lexically indexed morpheme whose does not match its output in [SONORANT]

(12) Distribution of Nasal-Consonant clusters in Manchu

	-p, -b	-t, -d	-c, -ɟ, -k, -g, -q, -ɢ
m-:	[bomboqon] 'boring'	[busumda] 'lily'	[ɤmkɤ] 'one'
n-:	---	[indaχʊn] 'dog'	---
ŋ-:	---	---	[taŋɢʊ] 'one-hundred'

(13) /iŋdaχʊn/ maps unfaithfully to [indaχʊn], preserving homorganicity

	/iŋdaχʊn/	IDIO[LAB]	AGR[PCE]	ID[PCE]
☞	[indaχʊn]			*
	[iŋdaχʊn]		*W	L

(14) /tangʊ/ maps unfaithfully to [taŋgʊ], preserving homorganicity

	/tangʊ/	IDIO[LAB]	AGR[PCE]	ID[PCE]
☞	[taŋgʊ]			*
	[tangʊ]		*W	L

(15) /imdaχʊn/ maps faithfully to [imdaχʊn], breaking homorganicity

/imdaχʊn/*	IDIO[LAB]	AGR[PCE]	ID[PCE]
[indaχʊn]	*		*
💣 [imdaχʊn]	L	*W	L

(16) /ɤmkɤ/ maps faithfully to [ɤmkɤ], breaking homorganicity, and maintaining asymmetry

/ɤmkɤ/	IDIO[LAB]	AGR[PCE]	ID[PCE]
☞ [ɤmkɤ]		*	
[ɤŋkɤ]	*W	L	*W

A Deeper Look at Linearity

UNIFORMITY:

Let input = $i_1 i_2 i_3 \ldots i_n$ and output = $o_1 o_2 o_3 \ldots o_m$

Assign one violation mark for every pair i_x and i_y

if $i_x \mathfrak{R} o_z$ and $i_y \mathfrak{R} o_z$

(McCarthy 2008:197)

(WEAK) LINEARITY:

Let input = $i_1 i_2 i_3 \ldots i_n$ and output = $o_1 o_2 o_3 \ldots o_m$

Assign one violation mark for every pair i_w and i_y

if $i_w \mathfrak{R} o_x$ and $i_y \mathfrak{R} o_z$

i_w precedes i_y

o_z precedes o_x

(McCarthy 2008:198)

(WEAK) LINEARITY:

Let input = $i_1 i_2 i_3 \ldots i_n$ and output = $o_1 o_2 o_3 \ldots o_m$

Assign one violation mark for every pair i_w and i_y

if $i_w \mathfrak{R} o_x$ and $i_y \mathfrak{R} o_z$

i_w precedes i_y

o_z precedes o_x

(STRONG) LINEARITY:

Let input = $i_1 i_2 i_3 \ldots i_n$ and output = $o_1 o_2 o_3 \ldots o_m$

Assign one violation mark for every pair i_w and i_y

if $i_w \mathfrak{R} o_x$ and $i_y \mathfrak{R} o_z$

i_w precedes i_y

o_x does not precede o_z

(McCarthy 2008:198)

(17) Situations in which various Faithfulness Constraints are violated

	Coalescence within Morpheme	Metathesis within Morpheme	Coalesence on Morpheme Boundary	Metathesis on Morpheme Boundary
	$a_1b_2 > c_{1,2}$	$a_1b_2 > b_2a_1$	$a_1+b_2 > c_{1,2}$	$a_1+b_2 > b_2a_1$
UNIFORMITY	*		*	
STRONGLINEARITY	*	*		
WEAKLINEARITY		*		
ALIGNMENT				*

Thank You!

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Data

Context	Result	Example		
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before labial, morpheme boundary	/n/ > [m]	/dulin+ba/	> [dulimba]	*'middle'*
within morpheme	/n/ > [n]	/wantaχa/	> [wantaχa]	*'spruce'*
non-native words or proper nouns	/n/ > [n]	/dʑianʲiun+sɤ/	> [dʑianʲiunsɤ]	*'generals'*
		/niqan+baturu/	> [niqanbaturu]	*'Han hero'*