CHAPTER 4

TAIWANESE-ACCENTED MANDARIN
POSTNUCLEAR AND PRENUCLEAR GLIDES

The behaviors of the glide /j/ and /w/ are one of the noticeable characteristics of TM (Taiwanese-accented Mandarin). Based on the statistics of the corpus, this chapter focuses on the phonological act of the postnuclear and prenuclear glides /j/ and /w/ in TM. The OT (Optimality Theory) approach is adopted to analyze the monophthongization of /ej/ and /ow/ and the prenuclear preservation of /je/ and /wo/ in TM.

The rest of chapter 4 is organized as follows. Section 4.1 reiterates the statistics of the postnuclear glides and the commonalities in the BG (basic level group) and the AG (advanced level group), and offers an OT account for the postnuclear glides in TM. Section 4.2 discusses the prenuclear glides in TM and proposes the relevant constraints and constraint ranking. Section 4.3 summarizes this chapter.

4.1 Postnuclear Glides in the Corpus

The present TM corpus indicates that the combination /ej/'s in Mandarin are mostly monophthongized into /e/ in the Taiwanese accent of Mandarin. In other words, the postnuclear glide /j/'s are usually dropped in the BG and the AG. The result shown in chapter 3 is reduplicated below as chart (1).

(1)

postnuclear /j/ of /ej/ combination in TM			
	predominant tendency	token	percentage
BG	deletion	90	96.8%
AG	deletion	76	80.9%

In the BG, 96.8% of the postnuclear /j/'s are deleted in the TM speech, and in the AG, 80.9% of the postnuclear /j/'s are deleted. This postnuclear /j/ deleting tendency (monophthongization of /ej/) is predominant in both groups. A similar phenomenon is also found in /w/. Chart (2) shows the postnuclear /w/ part.

(2)

postnuclear /w/ of /ow/ combination in TM			
	predominant tendency	token	percentage
BG	deletion	123	78.8%
AG	deletion	110	70.5%

78.8% of the postnuclear /w/'s are deleted in the BG's TM speech, and 70.5% of the postnuclear /w/'s are deleted in the AG's TM speech. The two groups show the same predominant postnuclear /w/ deleting tendency (monophthongization of /ow/).

According to the statistics in the TM corpus, the postnuclear /j/ and the postnuclear /w/ tend to be deleted in TM in the BG and the AG. This monophthongization in TM could result in the dissimilarity to the original Mandarin combinations /ej/ and /ow/, and thus one may identify that speech of this kind is Taiwanese accented.

We presume that the grammar in the BG and the AG produces the predominant postnuclear glide deletion results. The monophthongization phenomenon in TM could be accounted for in the perspective of OT, which dictates that different constraints and constraint rankings could lead to language variations in the world. In the following section, we propose the relevant constraints and constraint ranking for the predominant TM monophthongization.

4.1.1 OT Analysis of Postnuclear Glides

This section first introduces the relevant constraints and the constraint ranking of the TM phenomenon, and then presents the tableau analysis of the postnuclear glides in TM.

4.1.2 Relevant Constraints and Constraint Ranking

The constraints used to analyze the postnuclear glides fall into two constraint

families: faithfulness constraints and markedness constraints[1].

Faithfulness Constraints:

(3)   IDENT-V(F): the featural specification of the input vowel and the output vowel

should be identical. (That is, neither deletion nor insertion of vowel feature is

allowed.)

(4)   IDENT-C(F): the featural specification of the input consonant and the output

consonant should be identical. (That is, neither deletion nor insertion of consonant

feature is allowed.)

(5)   MAX-S: the input segment should have its correspondent segment in the output.

(No deletion of segment is allowed.)

Markedness Constraints:

(6)   OCP (Obligatory Contour Principle): the neighboring segments containing

identical [αbk, -low, -cons] are not allowed.

To avoid the adjacent identical segments, suprasegments, or features, the

constraint OCP is common among languages in the world (Leben 1973; Goldsmith

1976; McCarthy 1986), and Taiwanese also inhibits the occurrence of neighboring

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[1] Faithfulness Constraint is referred to as 'Correspondence Constraint.'

segments containing [αbk, -low, -cons] features.

IDENT-V(F) and OCP rank at the highest level, IDENT-C(F) ranks in the middle, and Max-S ranks at the lowest level. The constraint ranking for postnuclear glides in TM is shown in diagram (7).

(7)   TM hierarchy for the postnuclear glides

IDENT-V(F), OCP	**>>**
IDENT-C(F)	**>>**
MAX-S	

4.1.3 Tableau Analysis of Postnuclear Glide /j/

Tableau (8) demonstrates the OT analysis of the postnuclear glide /j/.

(8)   'north'

/pej/	IDENT-V(F)	OCP	IDENT-C(F)	MAX-S
a. pej		*!		
☺ b. pe				*
c. pi	[+high]!			*
d. pew			[+lab]!	

Candidate (c) is ruled out by IDENT-V(F) because the vowel of candidate (c) has a [+high] feature, not identical with the feature of the input vowel. Candidate (a) is

eliminated by the violation of OCP, because /e/ and /j/ both contain the [-bk, -low, -cons] features adjacently. Candidate (d) is ruled out by IDENT-C(F) because the consonant of candidate (d) has a [+lab] feature, not identical with the feature of the input consonant. Candidate (b) only violates the lowest ranked MAX-S and finally wins out. The Mandarin form /pej/ thus becomes /pe/ in TM.

Taiwanese does not allow the combination /ej/, as shown in diagram (5) in chapter 1, and thus the optimal output /pe/ shows a clear Taiwanese accent of /pej/. The ranking OCP >> IDENT-C(F) in TM reflects the partial ordering of the Taiwanese hierarchy.

4.1.4 Tableau Analysis of Postnuclear Glide /w/

Tableau (9) demonstrates the OT analysis of the postnuclear glide /w/.

(9)   'dog'

/kow/	IDENT-V(F)	OCP	IDENT-C(F)	MAX-S
a. kow		*!		
☺ b. ko				*
c. ku	[+high]!			*
d. koj			[-lab]!	

Candidate (c) is ruled out by IDENT-V(F) because the vowel of candidate (c) has

a [+high] feature, not identical with the feature of the input vowel. Candidate (a) violates OCP because the adjacent /o/ and /w/ have the [+bk, -low, -cons] features, and it is also ruled out. Candidate (d) is eliminated by IDENT-C(F) because the consonant of candidate (d) has a [-lab] feature, not identical with the feature of the input consonant. Consequently, candidate (b) wins out as the optimal output because candidate (b) only violates the lowest ranked MAX-S. The Mandarin form /kow/ then becomes /ko/ in the TM form.

Taiwanese does not allow the combination /ow/, and thus the optimal output /ko/ shows a clear Taiwanese accent of /kow/. From the analyses of the postnuclear /j/ and /w/ in TM, the theoretical implication is that TM inherits the partially ordered constraint ranking, OCP >> IDENT-C(F), from the Taiwanese hierarchy to deal with the postnuclear glides. Thus, both the BG and the AG undergo monophthongization of /ej/ and /ow/.

4.2 Prenuclear Glides in the Corpus

In the informants' TM speech, the prenuclear glides in the BG and the AG present different behaviors from the postnuclear glides. The prenuclear glides tend to be preserved in TM, whereas the postnuclear glides tend to be deleted in TM. Chart (10) shows the part of the prenuclear /j/ in the corpus.

(10)

prenuclear /j/ of /je/ combination in TM			
	predominant tendency	token	percentage
BG	preservation	67	65.7%
AG	preservation	53	52.5%

In the BG, 65.7% of the prenuclear /j/'s are preserved in TM, and in the AG, 52.5% of the prenuclear /j/'s are preserved in TM. This prenuclear /j/ preserving tendency is predominant in both groups. The following chart illustrates the prenuclear /w/ in different groups.

(11)

prenuclear /w/ of /wo/ combination in TM			
	predominant tendency	token	percentage
BG	preservation	118	79.7%
AG	preservation	130	88.4%

In the BG, 79.7% of the prenuclear /w/'s are preserved in TM, and in the AG, 88.4% of the prenuclear /w/'s are preserved. The prenuclear /w/ preserving tendency is predominant in the BG and the AG. The statistics in the corpus indicate that not

only in the BG but also in the AG, the prenuclear /j/ and the prenuclear /w/ tend to be

preserved in TM. The prenuclear glide preservation in TM could result in the likeness

to the original Mandarin combinations /je/ and /wo/. Therefore the combinations /je/

and /wo/ are identical in Mandarin and TM.

We presume that the grammar operating in the BG and the AG generates the

prenuclear preserving results in TM. The next section follows the presumption and

gives an OT analysis of the prenuclear glides.

4.2.1 OT Analysis of Prenuclear Glides

In terms of the prenuclear glides in TM, the constraint MAX-S(ONS) is needed:

(12)   MAX-S(ONS): every onset segment of the input should have its correspondent

segment in the output.

MAX-S(ONS) is a primitive member of MAX-S, and it disallows any deletion of

the onset segments of the input.

(13)   TM hierarchy for the prenuclear glides

<div style="text-align:center">

MAX-S(ONS), IDENT-V(F)   >>

IDENT-C(F)   >>

MAX-S   >>

OCP

</div>

MAX-S(ONS) and IDENT-V(F) both rank at the highest level, and IDENT-C(F)

ranks below them. OCP ranks at the lowest level in this hierarchy.

4.2.2 Tableau Analysis of Prenuclear Glide /j/

Tableau (14) demonstrates the constraint-based analysis to the prenuclear glide

/j/ in TM.

(14) 'to leave'

/pje/	MAX-S(ONS)	IDENT-V(F)	IDENT-C(F)	MAX-S	OCP
☺ a. pje					*
b. pe	*!			*	
c. pi	*(!)	[+high](!)		*	
d. pwe			[+lab]!		

The input of tableau (14), /pje/, contains a prenuclear glide /j/. The onset of

candidate (b) deletes the /j/ of the input, and this is ruled out. Candidate (c) violates

MAX-S(ONS) and IDENT-V(F) because the onset segment /j/ is deleted and the vowel

feature ([+high]) is not identical with the vowel feature of the input ([-high]). Having

the glide /w/, candidate (d) is ruled out due to the violation of IDENT-C(F). Candidate

(a), which contains /j/ and /e/, both having the [-bk, -low, -cons] features, violates the

lower ranked OCP. However, OCP has no function here, so eventually candidate (a)

wins out as the optimal output. In this tableau, /pje/ is the surface form produced by

the BG and the AG.

The selection of /pje/ shows no obvious Taiwanese accent, but the constraint

ranking IDENT-C(F) >> OCP partial ordering of the Mandarin hierarchy.

4.2.3 Tableau Analysis of Prenuclear Glide /w/

Tableau (15) presents the OT analysis to the prenuclear glide /w/ in TM.

(15) 'nation'

/kwo/	MAX-S(ONS)	IDENT-V(F)	IDENT-C(F)	MAX-S	OCP
☺ a. kwo					*
b. ko	*!			*	
c. ku	*(!)	[+high](!)		*	
d. kjo			[-lab]!		

The input of tableau (15), /kwo/, contains a prenuclear glide /w/. Candidate (b)

(16)

Taiwanese	**Mandarin**
OCP >> IDENT-C(F)	IDENT-C(F) >> OCP

TM

postnuclear glides   *prenuclear glides*
OCP >> IDENT-C(F)   IDENT-C(F) >> OCP