Chapter 5

Conclusion

5.1 Summary

This study investigated TM T2 from several aspects. Our research questions are as follows. What is the T2 variation? What kinds of tonal patterns can be found in T2 variations? Does the T2 variation occur more often in the Tw-TM bilinguals than in the TM monolinguals? What are the other factors that influence the T2 variation?

We found two major patterns of T2 variations: level tone (Level), the most frequent one, and low-rising tone (LR), the less frequent one. Both variants have a narrower pitch range and a lower register compared to the normal rising tone. These variations occur very often among the young speakers in Taiwan, which reveals that TM may be narrowing its tonal range and developing a new T2 contour in the younger generation. The Level pattern, which occurs even more frequently than the NR, is found surprisingly the dominant tonal type. On the other hand, the falling pattern that was found by previous researches was found not so salient in this study.

Sociolinguistically, our findings are restricted to the young speakers, aged 17-27, in present-day Taiwan. Among these young speakers, the Tw-TM bilinguals articulate more T2 variations than the TM monolinguals. This implies the influence of different language backgrounds as well as the subtle influence of language contact.

The bilinguals are found to pronounce more LR variant than the monolinguals, which may result from the interference of the Taiwanese tonal system that also has one rising tone but is lower than TM's in its register. The multi-lingual society may contribute to the language change from the aspect of language contact. In addition, different genders have different performance of T2 variations. Males pronounce more variations and prefer the Level variant. But females, on the opposite, pronounce fewer variations and prefer the LR variant. Moreover, the regional difference found by previous studies is not obvious in this study. We find that only in the sentence level, the southern speakers have significantly more Levels than the central speakers and the central speakers in turn have more Levels than the northern speakers. The contrast of the falling T2 and normal T2 between Taipei and Taichung bilinguals is not found in this study.

Phonologically, the fact that the bilinguals produce much more LR than the monolinguals may attribute to the similarity of Taiwanese and Mandarin's tonal systems. Both languages have only one rising tone with one higher in TM and the other lower in Tw. It is possible that the bilinguals tend to replace the high rising tone in TM with the low rising tone in Tw. Thus, L1 interference may occur in the situation.

Phonetically, vowels affect the forming of T2 variations. The low vowel [a] carries more T2 variations (T2 variants with lowered registers) than the high vowels [i] and [u] due to its lower fundamental frequency. Besides, different tonal environments

do have different performance of T2 variation. But the influence is dissimilatory in that the high-ending tones affect more T2 becoming T2 variants whose register is lower and closer to the low-ending tones. We also find a high percentage of T2 variations both in sentence-medial and sentence-final positions. Level tone in the two positions occurs most often due to the physical nature of the unstressed weakening in medial positions and the gradual decrease of the breath group in final positions. Furthermore, the fact that the final position embedded with more LR variant than the medial position may result from the focus overriding the final declining.

On the whole, the occurrence of T2 variations has surpassed that of the normal T2. This implies a new trend: TM T2 is changing and the T2 variations are emerging to replace the normal T2 among young speakers age in Taiwan. This trend of tonal change may also result from an overwhelmingly phenomenon that TM is narrowing its tonal range compared to the prescriptive standard Mandarin, as observed by Fon (1997) and Fon & Chiang (1999). Our findings further support their findings on the narrowing of TM's tonal range.

5.2 Contribution of this study

This thesis pioneered the comparison of T2 production between Tw-TM bilinguals and TM monolinguals, which gives a more complete description and an explanation for the study of Taiwan Mandarin. Besides, auditory judgment on a large corpus further confirms the existence of tonal variation in TM. This also provides evidence that TM T2 is perceptually changed within a group of people in Taiwan,

which not only supports those acoustic studies on T2 variations (Fon, 1997; Fon & Chinag, 1999; H. J. Hsu, 2004), but also confirms some previous observations on tonal variation (Fu, 1999; Lo, 2004; S. Y. Hsu, 2004). Through the larger-scaled experimental investigation, we confirm a common phenomenon that is heard in Taiwan: the T2 has changed from the normal [35], toward a flatter and somewhat lowered contour. Besides, compared to previous studies, this study conducts a larger-scaled experiment which builds a larger corpus than the previous studies. We hope the findings can contribute to subsequent phonetic and phonological studies in general and to the study on TM in particular.

5.3 Limitation and Further Studies

The limitations of this study are as follows. First of all, although the perception of the T2 variation has been checked by the researcher strictly, some acoustic cues, such as durations, pitch ranges, and fundamental frequencies, are also crucial to the T2 variation and still need further measurements to reveal certain connections.

Second, certain performance factors are hard to control. The controlling of the speech rate might also be important to the tonal experiments. Speech rate was found to affect the tonal coarticulation (Xu, 1994)—faster rate is correlated with more coarticulation. Although we have controlled the speed of the material playing (by the automatic playing of the PowerPoint), it is unavoidably to have different speech rate from different subjects. Besides, the interaction between tone and intonation is also a crucial issue. Intonation is proved to have influence on tones (Chen, 1997). But in the

present study, the influence is ignored because we adopt experimental method, which reduced the occasions into one syntactic structure, i.e. single words, phrases, declarative sentences. However, the emotional state and the personal style (the idiolect) of each subject are still hard to control.

Third, on the sampling of the subjects, it was a pity that the sampling was not balanced in terms of regions. There 12 Tw-TM bilinguals from the north, the central and the south of Taiwan, but the 12 monolinguals are all from the north. It is due to the difficulties in finding the TM monolinguals in the central and southern Taiwan within the limitation of time and resources. Thus, in the present study, the region difference can only be discussed within the bilingual groups. We also found that, even in Taipei, it is not so easy to find a “pure” TM monolingual. That is why in the TM monolingual group, we include some subjects that are a proficient TM users but not the “pure” TM monolinguals.

Fourth, since the subjects’ age investigated in this study ranges from 17 to 27, the results of T2 variation can only represent a certain age group in Taiwan, namely, the young speakers. The performance of other levels of ages is still unexplored. It would also be interesting to compare different levels of ages in the future.

Finally, there was originally a fourth experiment which was designed to explore the influence of the phrase boundary on T2 variations. Although the experiment was also conducted, the results are not yet analyzed due to the time restriction. We will thus leave this issue for further studies.