

Dialect levelling across generations: A socio-phonetic study of the medial [i] and vowel shift in the Jin dialect spoken in Baotou, China

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In this study, the medial [i], a vernacular and unique feature of the Jin dialect which is not found in Mandarin Chinese, was investigated to explore the dialect levelling and the vowel shift phenomena in *Baotou* from a socio-phonetic perspective.

The Jin dialect is a variety of Chinese that is mainly spoken in the northern parts of China [1]. It was not regarded as a separate dialect type of Chinese until the 1980s, when Li [2] proposed that the Jin dialect should be separated because of its entering tones which are usually marked with the glottal stop [ʔ]. The mutual intelligibility rate between the Jin dialect and Mandarin Chinese is around 60% regarding the lexicon [3].

Baotou is an immigrant city of northern China which has undergone two large-scale waves of immigration and most of the locally-born residents are still using the Jin dialect with high proficiency. Influenced by the popularization of Mandarin Chinese as a supralocal language with higher prestige and the frequent contact with Mandarin-speaking immigrants, the Jin dialect spoken in *Baotou* has undergone some changes. Due to language contact [4], the medial [i] as a traditional variant in the Jin dialect may be levelled down under the influence of Mandarin Chinese which does not have the medial [i] in the same phonetic contexts as the Jin dialect. The medial [i] is possible to disappear under the force of dialect levelling.

To investigate the change of the medial [i], four sociolinguistic factors were considered in the study: (1) AGE of the speaker (younger vs. older); (2) GENDER of the speaker (female vs. male); (3) language STYLES of the speech (informal and casual interview; careful picture description; formal wordlist reading); and (4) language ATTITUDES of the recorded participants (scores of attitudinal questionnaires as a continuous variable).

Two types of Chinese characters with the medial [i] in the Jin dialect were used in the study. The ORI (original) type of characters with the medial [i] was found and confirmed by many scholars [5,6,7] as an original and stable feature of the Jin dialect, while the EME (emerging) type was found to be a developing and unstable feature in the Jin dialect [8,9,10]. Comparing the pronunciation of these two types of characters with the medial [i], the phonetic contexts with regard to the initial consonants and the nucleus vowels show different features: (1) ORI characters have bilabial initial consonants and two nucleus vowels ([ə], [a]); (2) EME characters have velar initial consonants and another two nucleus vowels ([ɛ], [u]).

The nucleus vowels were investigated because past studies [8,10] suggested that the raising and fronting of the nucleus vowels may facilitate the emergence of the medial [i] because the articulation place of a higher and fronter nucleus vowel is closer to that of the high front vowel [i]. With increasing language contact with Mandarin Chinese, the nucleus vowels after the medial [i] were predicted to be lowered or retracted which could accelerate the disappearance of the medial [i]. In the experiment, two types of materials with the medial [i], the ORI type and the EME type, in four nucleus vowel contexts ([ə], [a], [ɛ], [u]) were elicited and recorded in three different speech styles proposed by Labov [11] (informal interview, careful picture description, and formal wordlist reading with speakers' increasing awareness of the language used in the tasks). The formant frequencies of the nucleus vowels after the medial [i] were examined to explore the potential vowel

shift phenomenon in relation to the medial [i]. In addition, a questionnaire with 20 attitudinal questions was designed to investigate the participants' language attitudes towards the Jin dialect spoken in *Baotou* on a 6-point scale. The higher the score, the more positive the attitudes they had.

The results showed that the medial [i] occurred less frequently in the ORI type than in the EME type. As for the speech styles, the usage of the medial [i] decreased with the increasing formality of the style, i.e. decreasing from informal interview, to careful picture description, to formal wordlist reading. Particularly, this change along the language style was more significant regarding the ORI types than the EME types, which suggested that the usage of the ORI type of medial [i] might be under the speaker's control to a large extent. However, the finding of language attitude suggested that it did not act as a good predictor for the production rate of the medial [i], which was against our hypothesis.

The usage of the medial [i] decreased among the younger generations who were also leading in the retraction of the vowel [u] with relatively lower normalized F2 frequencies. The age differences found in the current study are typical evidence of the dialect levelling phenomenon, as the younger generations have much more contact with Mandarin Chinese than the older speakers do. As for the gender differences, although the statistical analysis showed no significant difference regarding the usage of the medial [i], the female speakers showed different trends of vowel shift by leading in the lowering of all the four nucleus vowels with relatively higher normalized F1 frequencies. It is possible that the medial [i] may disappear more quickly in female speakers' speech with all the nucleus vowels showing a lowering trend, which is consistent with the previous finding [12] that females tend to use more prestige or modernized forms (without the medial [i]) than males.

Keywords: dialect levelling; medial [i]; vowel shift; the Jin dialect; language styles; socio-phonetic variation.

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