Understanding how language comprehension is altered for accented speech has important practical applications, and can also provide unique insights into basic comprehension mechanisms. Previous research has shown that foreign-accented speech can increase the amplitude of N400 responses to unexpected lexical items and eliminate otherwise occurring late positivities to lexical and syntactic errors, and that these effects are modulated over the course of an experiment as listeners adapt to speaker characteristics (Hanulíková et al., 2012; Romero-Rivas, 2015). In this light, we examined how native Mandarin Chinese listeners process phonological errors in foreign-accented speech. Non-native speakers (NNS) are known to have difficulties accurately producing Mandarin lexical tones, which could potentially impact comprehension for native listeners.

Our results suggest native listeners adapted to NNS phonological errors over the course of the experiment by increasingly relying on other contextually available cues. In order to examine phonological responses to both segmental and suprasegmental speech errors, we recruited native speakers of Mandarin Chinese (n=18) for an auditory ERP experiment. We examined early (200-500ms) and late responses (600-900ms) to 240 sentence stimuli, each with four word-level conditions (expected, semantic/rhyme/tone mismatch) and two accent conditions (native, foreign). An example item with word conditions is illustrated in (1).

(1) Wǒmen jiā zhùde zhè tào __ yào bèi chāi le. ‘The __ our family lives in will be torn down.’

**Expected word:** fángzi ‘house’  
**Semantic mismatch:** xiōngdì ‘brothers’

**Rhyme mismatch:** féngzi (nonword)  
**Tone mismatch:** fàngzi (nonword)

In the early window, grand average ERPs (Fig. 1a) showed main effects of condition, but no significant interactions with accent. The late window showed strong responses to phonological mismatches, but again no significant interactions with accent. However, we observed that accent critically impacted adaptation effects to phonological mismatches from the first to second half of the experiment on the late positivity. We found a significant interaction between accent and experiment half, and follow-up analyses revealed foreign-accented tone and rhyme mismatches differed significantly from expected words in the first half of the experiment only (Fig. 1b), while for native-accented speech they differed significantly only in the second half (Fig. 1c).

In the context of listener adaptation to individual speaker characteristics, we tentatively interpret these late positivities as indexing listeners’ immediate attempts to repair phonological errors in nonwords. As listeners adjust to NNS pronunciation deviations (a constant in accented speech), they grow more confident of broader sentence interpretation, and less likely to attempt immediate recovery of any individual word on the basis of specific and less reliable phonological cues. In the case of native-accented speech, adaptation results in greater certainty about NS speech characteristics, thus increasing the informativeness of phonological cues and accommodating immediate lexical repair. In sum, accent plays a clear role in guiding how listeners process pronunciation errors by driving or reducing attempts to recover the intended word.