

## **On diphthongs and digraphs in Blackfoot**

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### **Characterizing the problem**

This paper is a study of the realization of Blackfoot digraphs in different phonological contexts, across multiple speakers and dialects. These digraphs are also referred to as “diphthongs” (Frantz 2017). We argue that this is a misnomer, because they can be realized phonetically as mid vowel monophthongs *or* diphthongs. Our goal is to study this variation.

### **Methods and preliminary results**

We focus on three orthographic digraphs: <ai>, <ao>, and <oi>. We transcribed narratives told by four speakers, representing three of the four major dialects in Blackfoot. (Two male, two female; ages 50s ~ 80s at the time of recording.) We hand-segmented and transcribed each vowel associated with a digraph in Praat. Preliminary results show that all four speakers use a mix of phonetic monophthongs and diphthongs. We found that phonological context affects how likely a digraph will be pronounced as a monophthong or a diphthong, especially whether the vowel is stressed (e.g. pitch accent; Frantz 2017; Weber 2020), and what the surrounding consonants are (Frantz 2017; Peter 2014).

### **Future work**

We will corroborate these findings by measuring F1, F2, and F3 at 20% and 80% of the vowel duration, and using these measurements to categorize each vowel as a monophthong or diphthong. Some mid monophthongs and diphthongs were not included in the study, because they correspond to other orthographic sequences or occur across word boundaries. We plan to analyze these in a later study.

### **Discussion**

The preliminary results show a large amount of mid vowel variation. This has gone unnoticed and unstudied, possibly due to the conflation of “digraphs” and “diphthongs”. Although digraphs reflect underlying vowel sequences, they are not necessarily realized as phonetic diphthongs. We hope our findings will help clarify how to pronounce these digraphs for language learners and teachers who use this orthography.

### **References**

Frantz, Donald G. 2017. Blackfoot grammar. 3rd edn. University of Toronto Press.

Peter, Naoki. 2014. Hiatus resolution in Blackfoot. Masterarbeit, Universität Bern.

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