

How much variation within one dialect?

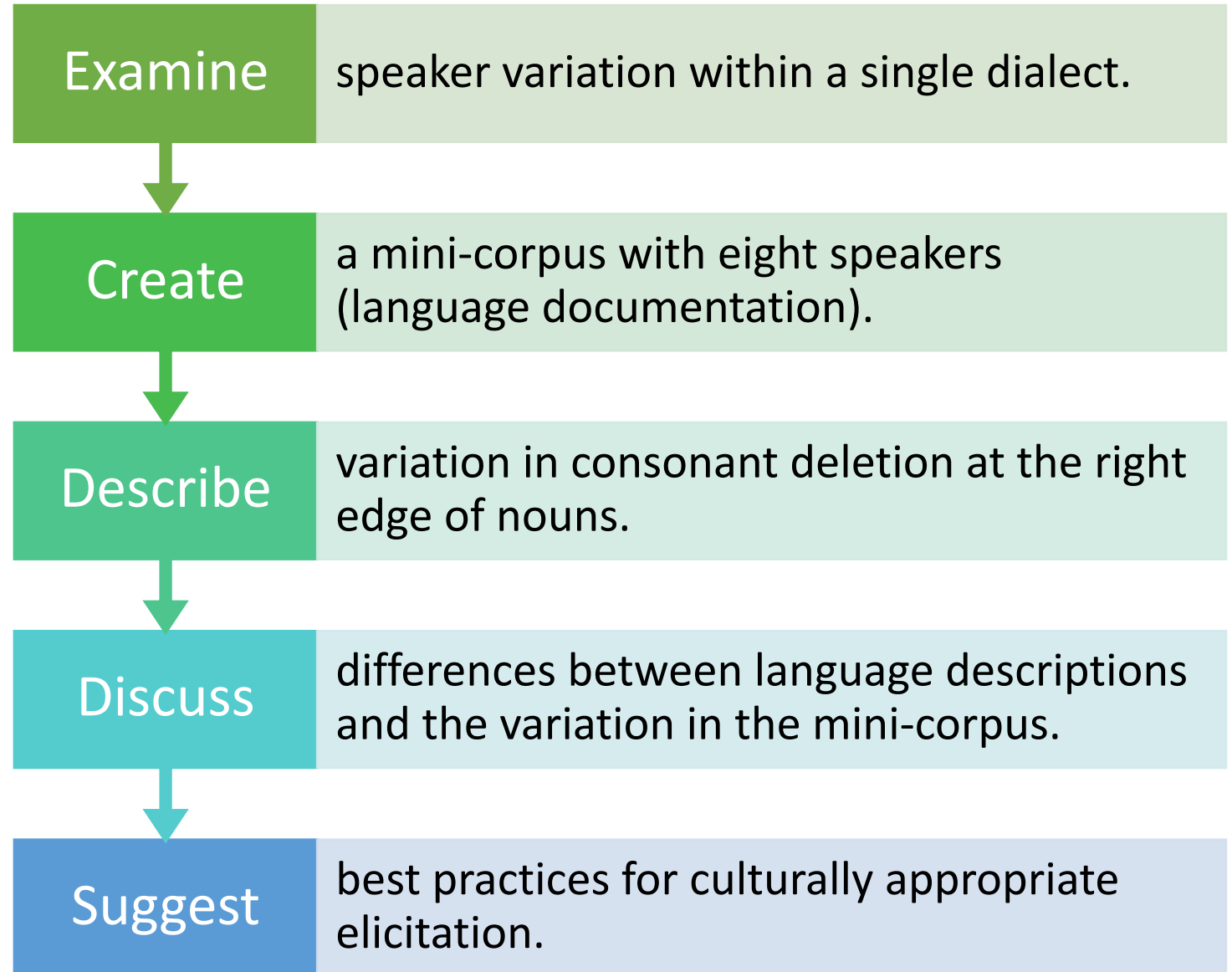
Non-permanent consonants in Káínai Blackfoot

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Overview and aims



Roadmap of the talk

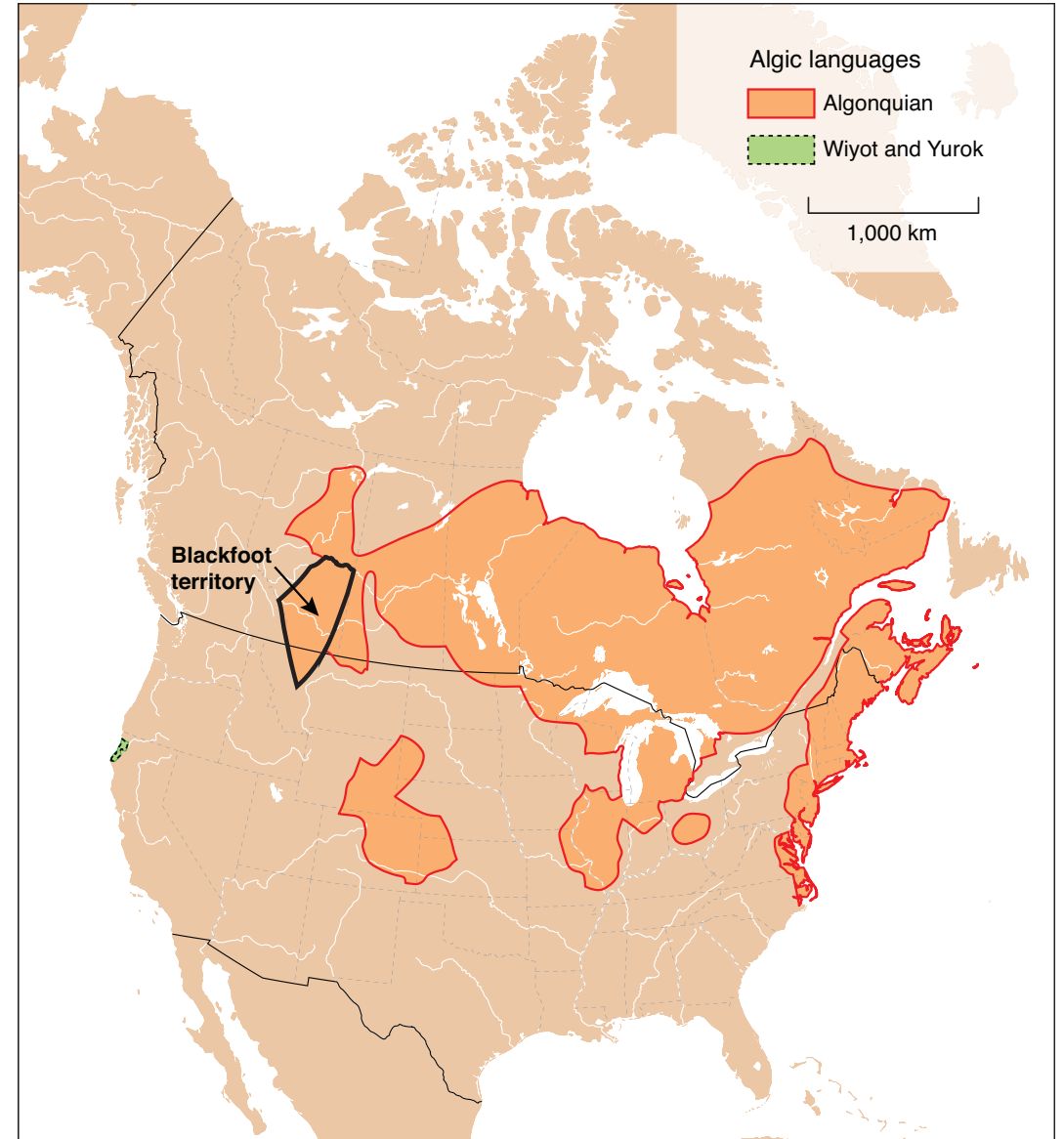
1. Location and dialects
2. Data
3. Corpus study
4. Experiment
 - 3.1 Methods
 - 3.2 Results
5. Discussion

Location and dialects

Blackfoot (ᑭᓯᐅᓴᐅᓴ)

language location

- map = pre-settler contact
- southern Alberta, northern Montana
- westernmost Algonquian language
- “Plains Algonquian” (areal group)
 - w/ Cheyenne, Arapaho



(Frantz 2017; Goddard 1975; Mithun 1999: 336–337)

Map by Eric Leinberger

Four Blackfoot Nations

- Blackfoot Confederacy (Siksikaitapi) of four nations
 - share language, culture, history
1. Siksiká (Blackfoot)
 2. Káínai (Blood)
 3. Aapátóhsipikani (Peigan, or Northern Peigan)
 4. Aamsskáápipikani, or Piikúnni (Blackfeet, or Southern Piegan)



Map by Kevin McManigal

Dialects and variation

- Each Nation associated with a distinct dialect (salient to speakers).
- Some documented differences between the four dialects (Frantz 2017; Frantz & Russell 2017; Miyashita & Chatsis 2013; Taylor 1969).
- But the extent of variation *within* each dialect remains understudied (Peter 2014; Weber & Miyashita *forthcoming*).
- This talk: qualitative study of variation in Káínai Blackfoot.
 - "non-permanent consonants" at the right edge of noun stems

Data

Nominal classes

- two inflectional classes (grammatically (in)animate)
- different number suffixes; agreement on demonstratives and verbs

animate ('blanket')

inanimate ('bridge')

sg.

ann**á** si'káán**a**

ann**í** apasstáán**i**

pl.

ann**íiksi** si'káán**iksi**

ann**íistsi** apasstáán**istsi**

indef. (Frantz 2017)

si'káán**i**

apasstáán**i**

indef. (dialectal)

si'káán

apasstáán

(Bliss 2013; Frantz 2017: 7–14; Kim et al. 2017; Weber & Matthewson 2014, 2017)

Non-permanent consonants

- An *m*, *n*, or *s* at the right edge of some nouns deletes before certain suffixes.

<i>Singular</i>	<i>Gloss</i>	<i>Plural</i>	<i>Gloss</i>	
a. ponopaa n -i	‘quiver’	o-nnopáá n -istsi	‘his quivers’	[FR 146]
b. mottoksíína nn -i	‘thigh’	n-ottoksíína nn -istsi	‘my thighs’	[FR 153]
c. maotoyóópa n -i	‘rye grass’	maotoyóópa-istsi	‘rye grasses’	[FR 146]

Diagram illustrating the deletion of non-permanent consonants (n, nn) before certain suffixes in the plural form:

- For (a), the non-permanent **n** is deleted before the suffix **-istsi**.
- For (b), the non-permanent **nn** is deleted before the suffix **-istsi**.
- For (c), the non-permanent **n** is deleted before the suffix **-istsi**.

Red boxes and arrows highlight the non-permanent consonants and the resulting deletion in the plural forms.

(Frantz 2017: 12; Frantz & Russell 2017 = FR)

Research question and hypothesis

- What conditions non-permanency of stem-final consonants?
- **Hypothesis:** final stem shape
 - ponopaan-i 'quiver' stem-final VVC
 - mottoksíinann-i 'thigh' VCC
 - maotoyóópan-i 'rye grass' VC
- Methods: corpus study, experiment

Corpus study

Methods

- Most recent dictionary (Frantz & Russell 2017)
- Contains 1,800 noun entries (out of 5,179 total)
 - Information in entries has a fairly uniform order
 - Information extracted into a .csv file by script*
 - Coded for final stem shape and other factors
- Final corpus: 657 nouns
 - only entries which included a plural example
 - only stems which end in *n*, *m*, or *s*
 - if there are two variants given for plurals, treated these as separate entries

*Huge thanks to Sarah Babinski for creating the script!

Sample from Frantz & Russell (2017)

maotoyóópan-i = singular form

non-permanent consonant!

maoó *nin*; mouth; **maoówaawaistsi** their mouths; **naoóyi** my mouth.

maotoyóópan *nin*; rye grass (tall grass); **maotoyóópaistsi** rye grasses.

máoto'kiiksi *nan*; Buffalo women's society (plays a crucial role preparatory to the Ookaan of the Sundance); dialect var. **máóoto'kiiksi**.

máo'k *adt*; why; **máo'kawaasai'niwa?** why is she crying?;

kimáo'kaniihtsiksi kááhkahkayssi? why did you say that you wanted to go home?; (So. Peigan dialect).

mao'tooko *nin*; ditch; **iipísttaniao'tookoyi** deep ditch.

matakó *nin*; previous evening.

no plural in entry

matápii *nan*; person/ eye pupil; **matápiiksi** people/ pupils; see **niitsítapii** aboriginal person.

Stem shape determines non-permanency

- VC: very **common**
- VVC, VCC: very **rare**

Stem shape	Non-permanent / Total	% of entries
Total	340 / 657	51.750%
Final short V + C	328 / 363	90.358%
Final long VV + C	10 / 212	4.717%
Final CC	2 / 82	2.439%

Summary

- Non-permanency is not an arbitrary feature of each noun
- Conditioned by the length of the stem-final vowel and consonant
- To be tested with an experiment...

Why conduct an experiment?

- Dictionaries are abstractions over multiple dimensions
 - Speaker demographics
 - Dialects
 - Age
 - Gender
 - etc.
 - Phonetic variation (orthography is conservative)
 - Authors' analysis of conservative Blackfoot (perhaps no longer spoken)
- Some entries list plurals with and w/o final consonant
- Variation within and between dialects is understudied

(Frantz 1978; Genée 2020)

Experiment

Methods

Phases

- **Phase 1** (pilot; fall 2016)
 - Developed a wordlist with Natalie Creighton (NC)
 - (slightly different list than Phase 2)
- **Phase 2** (summer 2017)
 - Recorded the finalized wordlist of 50 words
 - Seven speakers of the Káínai dialect
 - (two partial recordings with speakers of other dialects; not included here)

Participants

- **n = 8** (4 male, 4 female)
- ages: between 50 and 70 at time of recording
- from: all residents of the Káínai Blackfoot reserve
- fluency: all are fluent Blackfoot speakers
- bilingualism: English-dominant bilinguals; daily use of English
- other: several are teachers of the Blackfoot language

Materials

- 50 noun stems ending in *m*, *n*, or *s* divided among three stem shapes

Stem shape	Count	Example
Total	50	
Final short V + C	20	miistsis-a ‘tree’
Final long VV + C	16	si’kaan-a ‘blanket’
Final CC	14	maminn-i ‘wing’

Procedure: Initial instructions

- Speakers asked to produce each word in a frame sentence twice.
 - Avoids phrase-final devoicing effects (Windsor 2017)
 - Demonstrative avoids bare nouns

Frame:	'I saw	that/those	[BLANK]	yesterday.'
(inan. sg.)	nitsííni'pa	anní	_____	matónni
(inan. pl.)	nitsííni'pi	anníístsi	_____	matónni
(anim. sg.)	nitsíínowaawa	anná	_____	matónni
(anim. pl.)	nitsíínowaawa	annííksi	_____	matónni

Procedure: Prompts (Phase 1: pilot)

‘I saw that _____ yesterday’.

‘bracelet’	ponna
‘cat’	poosa
‘door’	kitsimmi
‘tipi pole’	mansstaama
‘belt’	maiipssimi
‘soup’	koopisi

‘I saw those _____ yesterday’.

‘bracelets’	ponniksi
‘cats’	poosiksi
‘doors’	kitsimmistsi
‘tipi poles’	mansstaamiksi
‘belts’	maiipssiistsi
‘soups’	koopistsi

Procedure: Prompts (Phase 2)

Three stages

1. Review pictures and target words
2. Reminder of the frame sentences
3. Elicit singular and plural words (picture repeated x2 for plural)



Resulting corpus

- Extremely varied!
- Speakers expressed discomfort with the task in several ways
 - Often created different frame sentences.
 - Often used a different word order.
 - Often avoided repeating the same sentence twice.



KBW: Ámo kitsímm nitáínisspa. Ámo kitsímm nitáíssa'tsissp.
I saw this door. I watched this door.

Resulting corpus

- Prioritized consistency for the following properties:
 - noun occurs with a demonstrative
 - noun is not final in the phrase
 - same sentence is repeated twice

Experiment

Preliminary results

Change in progress?

- Much more variation than the corpus study!
- Many VC words end in a consonant in singular and plural contexts.
- Target: aakííkoan **n** 'girl', aaííkoaiksi 'girls'

LFR: Ámoksi aakííkoaiks áaksinao'si.
'Those girls are dressed up.'



NC: Nitsíínowaa ómiksi aakííkoan **n**iks matónni.
'I saw those girls yesterday.'



Reanalysis of plurals?

- Some less common stems reanalyzed as ending in a vowel.
- More rarely: speakers treat the consonant as part of the plural suffix.
- Target: mánssaa**m** 'tipi pole', mánssaa**m**iksi 'tipi poles'

DMB: Óma mánssaa nitáíssa'tsi'pa.
'I saw that tipi pole yesterday.'



Ómiksi mánssaa**m**iks nitáíssa'tsi'pya.
'I saw those tipi poles yesterday.'



Preliminary conclusions

- Lots of variation among speakers, even from one dialect.
- This variation is not reflected in the existing documentation!
- More research is needed on speaker variation.

Discussion

Other variation

- Lexical
 - kóópis vs. kóópskaan ‘soup, broth’
 - initial *a* on some words
 - **a**máípssim máípssim ‘belt’
 - **a**pásstaan pásstaan ‘bridge’
 - length of final vowel in some words
 - pisskáán pisskáán ‘buffalo jump’
 - napayín napayíín ‘bread’

Other variation

- Phonological

- [ks] ~ [ts] subdialect
- [ic] ~ [ss] subdialect
- final [w], [j]

- Morphological

- Grammatical animacy
- Agreement

- Semantic

- For some speakers, 'pants' and 'scissors' must be plural
- Conservative dialects: all nouns take singular and plural number (Wiltschko 2012)

Using frame sentences in experiments

- Previous research successfully used frame sentences to elicit words (Gick et al. 2012; Prins 2019; Windsor 2017).
- This study: many speakers avoided the frame sentences, calling this 'unnatural' Blackfoot and expressing discomfort.
- Lots of variation, especially in terms of animacy and agreement.
- Future research:
 - Is this an artefact of the methodology, or is the grammar this flexible?
 - Would other methods be more appropriate?

Blackfoot teaching and learning

- (from a Texan perspective):
 - many stories!
 - language learning involves not just learning a word and how to use it in a sentence, but understanding an object's use, cultural significance, and more

Tradeoffs between methods

- **experiment**

- highly controlled
- more artificial

- **speech corpus**

- uncontrolled
- natural speech

- **possible middle ground: interview**

- targeted wordlist with picture prompts
- invites the participants to teach the experimenter more about the words
- experimenter can ask for the plural
- pros: much more natural language setting
- pros: integrates better with Blackfoot learning
- cons: not controlled for certain variables

Conclusions

- Non-permanent consonants are a point of variation
- Even within a single dialect of Blackfoot
- Documentation does not reflect current speaker variation.
 - Differences between the corpus study and experiment
 - Variation must be studied by other means!
- Targeted wordlists can be used to study variation.
- Interviews may be more culturally appropriate than frame sentences.

Thank you!

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References

- Bastien, Betty. 2004. *Blackfoot ways of knowing: The worldview of the Siksikaitsitapi*. University of Calgary Press.
- Bliss, Heather. 2013. The Blackfoot configurationality conspiracy: Parallels and differences in clausal and nominal structures. University of British Columbia, PhD thesis.
- Dempsey, Hugh A. 2019. Blackfoot Confederacy. The Canadian Encyclopedia, 18 July 2019, Historica Canada. Online access: <https://www.thecanadianencyclopedia.ca/en/article/blackfoot-nation>. (Accessed 29 June 2021.)
- Eberhard, David M., Gary F. Simons, and Charles D. Fennig (eds.). 2021. Ethnologue: Languages of the World. Twenty-fourth edition. Dallas, Texas: SIL International. Online version: <http://www.ethnologue.com.yale.idm.oclc.org>. (Accessed: June 28, 2021.)
- Frantz, Donald G. 1978. Abstractness of phonology and Blackfoot orthography design. In McCormack, W. and S.A. Wurm (eds.), *Approaches to language, anthropological issues: Papers written for the IXth International Congress of Anthropological and Ethnological Sciences, Chicago, 1973*, 307–325. Mouton Publishers.
- Frantz, Donald G. 2017. *Blackfoot grammar*. 3rd edn. University of Toronto Press.
- Frantz, Donald G. and Norma Jean Russell. 2017. *Blackfoot dictionary of stems, roots, and affixes*. 3rd edn. University of Toronto Press.

References

- Genée, Inge, and Marie-Odile Junker. 2018. The Blackfoot Language Resources and Digital Dictionary project: Creating integrated web resources for language documentation and revitalization. *Language Documentation and Conservation* 12: 298–338.
- Genée, Inge. 2020. “It’s written niisto but it sounds like KNEE STEW.” Handling multiple orthographies in Blackfoot language web resources. *Written Language & Literacy* 23.1:1–27. <https://doi.org/10.1075/wll.00031.gen>
- Goddard, Ives. 1975. Algonquian, Wiyot, and Yurok: Proving a distant genetic relationship. In *Linguistics and Anthropology: In Honor of C. F. Voegelin*, Kinkade, M. Dale, Kenneth L. Hale and Oswald Werner (eds.), 249–262. Lisse: Peter de Ridder Press.
- Grinnell, George Bird. 1892. Early Blackfoot History. *American Anthropologist*, 5(2), 153-164.
- Juneau, Linda Matt. 2007. Small Robe Band of Blackfeet: Ethnogenesis by Social and Religious Transformation. MA thesis, University of Montana.
- Kim, Kyumin, Elizabeth Ritter, Martina Wiltschko, and Hotze Rullmann. 2017. 2 + 2 = 3: Number contrasts in Blackfoot. *Glossa: a journal of general linguistics* 2(1): 96. 1–15, DOI: <https://doi.org/10.5334/gjgl.289>
- Mithun, Marianne. 1999. *The Languages of North America*. Cambridge: Cambridge University Press.

References

- Miyashita, Mizuki and Annabelle Chatsis. 2013. Collaborative Development of Blackfoot Language Courses. *Language Documentation & Conservation* 7: 302–330.
- Pepion, Donald D. 1999. Blackfoot ceremony: A qualitative study of learning. PhD Thesis, Montana State University.
- Peter, Naoki. 2014. Hiatus resolution in Blackfoot. Universität Bern, Masterarbeit.
- Statistics Canada. 2017. Blackfoot, UNP [Designated place], Alberta and Canada [Country] (table). Census Profile. 2016 Census. (Catalogue no. 98-316-X2016001.) Ottawa: Statistics Canada. Released November 29, 2017.
<https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E>. Accessed 2018-05-23.
- Taylor, Allan. 1969. A Grammar of Blackfoot. University of California, Berkeley, PhD thesis.
- U.S. Census Bureau. 2015. Detailed languages spoken at home and ability to speak English for the population 5 years and over for States: 2009–2013. <https://www.census.gov/data/tables/2013/demo/2009-2013-lang-tables.html>. Accessed 2018-02-20.
- Weber, Natalie and Lisa Matthewson. 2014. Reflections of complement type: The view from Blackfoot. In *The Art and Craft of Semantics: A Festschrift for Irene Heim*, vol. 2, Luka Crnić and Uli Sauerland (eds.), 275–298. (MITWPL 71).

References

- Weber, Natalie and Lisa Matthewson. 2017. The semantics of Blackfoot arguments. In Monica Macaulay, Margaret Noodin, and J. Randolph Valentine (eds.), *Papers of the Forty-fifth Algonquian Conference*, 213–232. East Lansing, MI: Michigan State University Press.
- Weber, Natalie and Mizuki Miyashita. forthcoming. On diphthongs and digraphs in Blackfoot. Accepted to the Papers of the 53rd Algonquian Conference. East Lansing, MI: MSU Press.
- Wiltschko, Martina. 2012. Decomposing the count-mass distinction: Evidence from languages that lack it. In Diane Massam (ed.), *Count and mass across languages*, 146–171. Oxford: Oxford University Press
- Windsor, Joseph W. 2017b. Predicting prosodic structure by morphosyntactic category: A case study of Blackfoot. *Glossa: A Journal of General Linguistics* 2: 10. 1–17.