## Against a split phonology of Michif

Hilary Prichard & Kobey Shwayder — University of Pennsylvania

Michif is a "mixed" language spoken in Western Canada, North Dakota, and Montana, by the descendants of French fur traders and indigenous Cree speakers. While it is widely presumed that Michif developed among bilingual speakers of Cree and French, present day speakers of Michif tend to speak little or no French or Cree. There are currently fewer than 1,000 speakers of Michif; as a language it is on the decline, as communities are increasingly shifting to English (Bakker 1997).

There is a debate in the literature about whether Michif is stratified into two separate phonological systems for its two etymological components or whether there is one unified system. Bakker (1997, p.7) claims, "Michif has two phonological systems, one for the Cree part and one for the French part, each with its own rules." The specific claim is that there are two separate systems of phonemes and two separate sets of phonological rules, one for each etymological part (Evans 1982; Rhodes 1977; Bakker 1994, 1997; Papen 1987, 2003, 2005). However, Evans (1982, p.159) notes that, "two separate coexistent phonological systems" in one language is "rather unique among languages." Rosen (2007) treats the facts of the split system as historical accidents; inventory differences are the result of historical developments but do not imply a split system, and many phonological processes have become phonemicized in the synchronic language.

This paper investigates the claim that Michif has a split phonology with two case studies, one on the phonological process of liaison and one on the phonetic contrasts of vowels. Data for these studies was taken from a Michif language-learning CD (Bakker and Fleury 2004)

**Liaison:** Most varieties of French have liaison, the phenomenon in which underlying but ordinarily silent word-final consonants are pronounced when followed by a vowel-initial word. The majority of Michif researchers agree that liaison is not currently productive, with the exception of Papen (2011). Papen shows that this position is not supported by a comprehensive quantitative analysis of dictionary data and the transcriptions of several interviews with Michif speakers, arguing that liaison is in fact still active in the French portion of Michif.

The tokens given in (1) further support the claim that liaison is active, and bear directly on the issue of a stratified phonology. If we take Brown's (2003) findings in Louisiana French to be a representative case, then we should not expect to find liaison occurring between French words and unintegrated non-French words. The fact that liaison does occur in these contexts would indicate either that these words have in fact been integrated into French phonology, thus weakening the non-convergence claim, or that a phonological rule pertaining to French words is applying equally to unintegrated Cree and English words, which also seems to be contrary to the stratification claim. In fact, Bakker (1997) specifically cites the lack of liaison in non-French nouns as evidence for a stratified phonology.

**Vowel Inventory:** One specific claim made about the phonological inventory of Michif is that vowels in the French part show a quality contrast (e.g., [i] vs [i]) but vowels in the Cree part show a quantity contrast (e.g., [i:] vs [i]) (Bakker 1997).

This case study investigates this claim using descriptive statistics and a binomial model to compare 1314 tokens of vowels which appear in both etymological parts of Michif (/i/, /e/, /a/, and /u/ in long/tense and short/lax varieties). The results show that etymological classes are not statistically distinguished by vowel features. Moreover, dividing the vowels into etymological classes does not seem to affect the phonetic factors which best describe the phonemes (see Figures 1 and 2 for graphs of /a/), or when there is an effect, it is in the wrong direction with French showing quantity. Similarly, a binomial model which attempts to predict phoneme given phonetic features does not show the expected difference in feature weights between the etymological classes. Tables 1 and 2 show the weights for /a/ for both classes are significant in both quality and quantity features, rather than French showing quality and Cree showing quantity.

**Conclusion:** Based on the results of the two studies above, we find no support for a split French/Cree phonology in Michif.

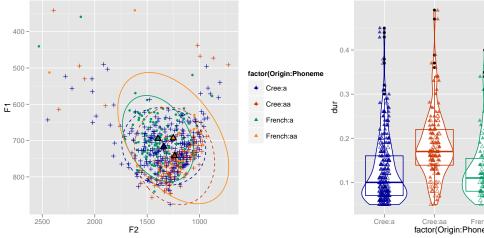
## **Examples, Figures, and Tables**

(1) a. tou.t ashtaw "all placed"

b. pchi.t walk "a little walk"

Figure 1: F1 and F2 of <a> and <a> by Origin with group means (triangles) and 75% ellipses

Figure 2: Boxplot and Violin-plot of duration of <a> and <a> by Origin



factor(str1)

A FALSE
A TRUE

factor(Origin:Phonemes)

Cree:a

Cree:a

French:a

French:aa

French:aa

Table 1: Binomial model factor coefficients for

French <a> and <aa> Coefficient z-value Pr(>|z|)(Intercept) 1.816 0.06930 F1 -3.1390.00169 F2 -1.9070.05649 F3 0.363 0.71630 4.842 Resid(dur~stress) 1.28e - 06

Table 2: Binomial model factor coefficients for Cree <a> and <a>>

Cree \uz una \uuz			
Coefficient	z-value	Pr(> z )	
(Intercept)	0.195	0.84572	
F1	1.738	0.08229	
F2	-3.280	0.00104	**
F3	-0.731	0.46469	
Resid(dur~stress)	4.111	3.94e - 05	***

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