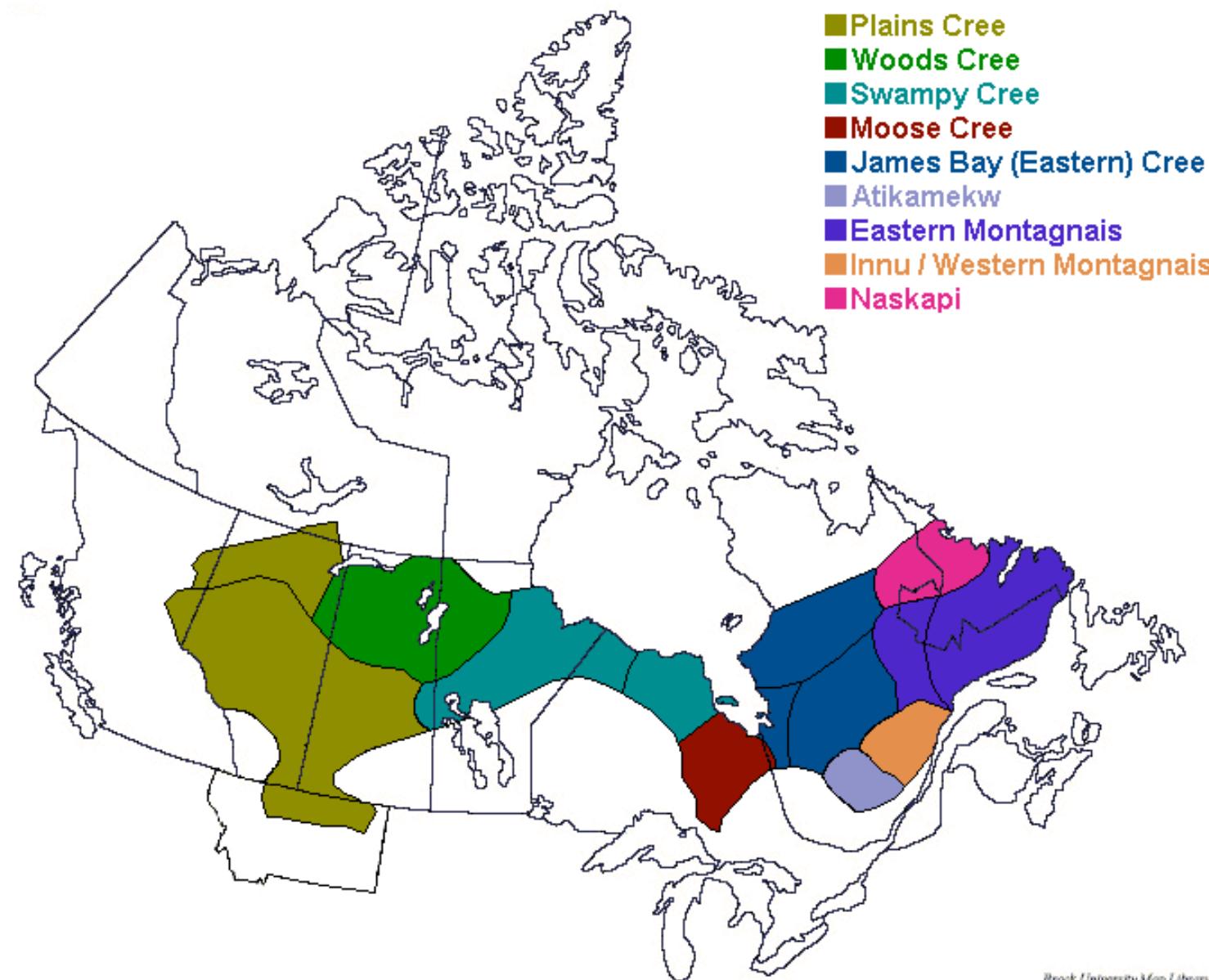


So similar in principle, but so different in practice

*Mixing texts, elicitation and
experimentation in the study of the
Plains Cree independent and conjunct
verb constructions*

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Plains Cree – dialect continuum



- spoken in Western Canada (Alberta & Saskatchewan)
- part of the Cree dialect continuum spoken from the Atlantic to the Rockies ('person')
 - Plains: iyiniw
 - Woods: iðiniw
 - Swampy: ininiw
 - Moose: ililiw
 - Atikamekw: iriniw
 - East: iyiyiw/iyyiyū/iyi nū
 - Naskapi: iyiyū
 - Innu: ilnu/innu
- ~15,000-20,000 speakers, most over 30 years of age

Verb morphology

- 4 conjugation classes based on *transitivity* and *animacy* of main participants → different verb stems for the same semantic action
 - inanimate intransitive (II)
 - *mispo-n* ‘it snows/is snowing’
 - animate intransitive (AI)
 - *mîciso-w* ‘s/he has a meal/eats’
 - transitive inanimate (TI)
 - *mîci-w* ‘s/he eats something (inanimate)’
 - transitive animate (TA)
 - *môw-ew* ‘s/he eats him/someone (animate, obviated)’

Verb morphology – orders

- actor/subject (II, AI, TI) and goal/object (TA) marked on the verb
 - for third person participants of TA verbs, degrees of obviation marked as well
- three “orders” which determine how person is marked
 - independent → prefix/circumfix
 - AI: *ni-wâpi-n* ‘I (am able to) see’
 - TI: *ni-wâpahtê-n* ‘I see something (inanimate)’
 - TA: *ni-wâpam-â-w* ‘I see him/someone (animate)’
 - conjunct → suffix
 - AI: *ê-wâpi-yân* ‘I see’
 - TI: *ê-wâpahtamâ-n* ‘I see something (inanimate)’
 - TA: *ê-wâpam-a-k* ‘I see him/someone (animate)’
 - imperative → suffix

Verb morphology – polysynthetic

Verb template

Person ni- ki- Ø-	Tense	Pre- verbs 0-5	Light redupl- ication	Heavy redupl- ication	Asso- ciative	Stem	Asso- ciative	Derivation Reflexive Reciprocal Benefactive Unspecified actor	Theme	Person
Conjunct ê- kâ-	kî- wî-	maci- poni-	Ca- ay-	Câh- âh-	-wîci-	II: kîsikâ- AI: wâpi- TI: wâpaht- TA: wâpam-	-m-	-iso- -ito- -(am)aw- ...	-ê- -iko- iti	-n -w ...

Independent vs. Conjunct orders

- (3) *wî-nôhtê-nitawi-wa-wâh-wîci-mîciso-m-i-yan* cî?
FUT-want-go.and-RdplW-RdplS-with.1-eat-COM.(1-)2SG Q
'Will you want to go and verily eat with me?'
- (4) *âhaw, ni-wî-nôhtê-nitawi-wâ-wâh-wîci-mîcisô-m-i-n*
1SG-FUT-want-go.and-RdplW-RdplS-with.1-eat-COM.1-2SG
'Ok, I will want to go and verily eat with you.'

Independent vs. Conjunct orders

- In linguistic descriptions and pedagogical materials
 - independent verb forms are translated as simple forms
 - ‘he does something’, ‘he did something’
 - conjunct verb forms are translated as progressive (-*ing*) forms
 - ‘he is doing something’, ‘he was doing something’
- Claims of different degrees in “independence” in clauses (Wolfart 1973, 1996; Okimāsis 2004; Wolvengrey 2011)
 - independent verbs can stand alone as sentences
 - conjunct forms (must) occur alongside an independent phrase
 - ‘he did something (independent) while something else was done or happening (conjunct)’
 - conjunct may be used in both main and secondary clauses, while the independent is “most closely associated with the main clause”

Independent vs. Conjunct orders

- However
 - conjunct verbs can occur independently outside the context of an independent verb
 - many speakers, when asked, will find the conjunct more natural in numerous contexts
 - the context for a conjunct verb is not necessarily an independent verb form, but that a conjunct verb must simply occur in some pre-existing context within the discourse or conversation (Cook 2008)
 - any verb can presumably be used in either order
 - either order can in principle both express the same range of person/number features for their actor (subject) and/or goal (object), but with distinct morphemes, and each can be modified with the same set of preverbs
 - choice of order has no systematic bearing on a sentence's word order (Wolvengrey 2011)
 - independent is more syntactically restricted in interpretation, and thus potentially rarer, in comparison to the conjunct (Cook 2014)
 - restrictions based primarily on the overall pragmatics and semantics of the message being conveyed

Lexically/semantically determined morphological preferences?

- prior corpus-based research with other morphologically rich languages such as Finnish (Karlsson 1985, 1986; Arppe 2006)
 - verbs may substantially differ as to their overall inflectional profiles
 - these differences may be semantically motivated

Research questions

- Whether/how the choice of Independent vs. Conjunct verb form in Plains Cree is determined?
 - at the individual lexical level
 - at the general semantic level
 - animacy+intransitivity classes
 - by other verbal morphological features
 - actor, goal, tense, reduplication, preverbs
 - by sentential context
 - order of preceding verbs in the same sentence
- Is corpus-based evidence matched by experimental/introspectional evidence
- What are the native fluent speaker intuitions as to Independent/Conjunct choice?

Data

- Native speaker introspection
- Corpus
- Pilot experiment

Native speaker introspection



Native speaker introspection

- native fluent speakers of Plains Cree in Maskwacîs, Alberta in 2014-2016-
 - when doing elicitations
 - speakers like to change independent forms into conjunct forms for reasons no one can exactly explain
 - consider the conjunct form is often the more obvious citation form
 - conjunct is the non-perfect aspect and/or the recent past (whereas independent is perfect and/or long past), though when a time line was created this fell apart and no one really could figure out what did what
 - native fluent speakers of Plains Cree at CILLDI summer school in 2015
 - speakers seemed to indicate that the conjunct was the evidential/ recent aspect / non-perfect aspect, though follow-up questions led us to less clarification.

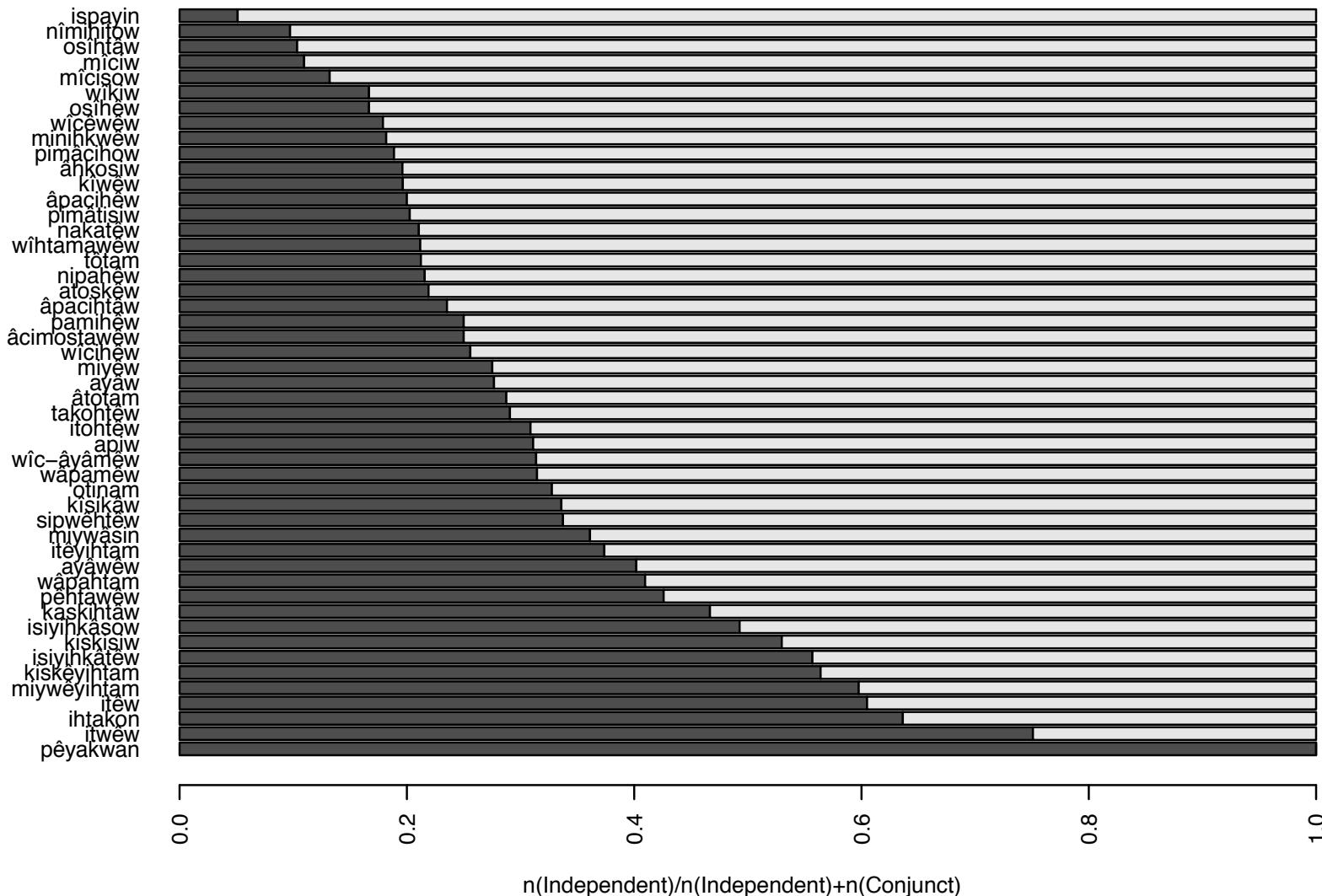
Native speaker introspection – Maskwacîs Cree Dictionary

- **nikamohaw** = σbɬʷʌ́ (4856): He is made to sing.
- **nikamohew** = σbɬʷʌ́v (4857): He makes him sing.
- **nikamoskiw** = σbɬʷɒ́ (4858): He sings often.
- **nikamow** = σbɬʷó (4859): He sings.
- **nikamowin** = σbɬΔ̥v (4860): A song. Singing.

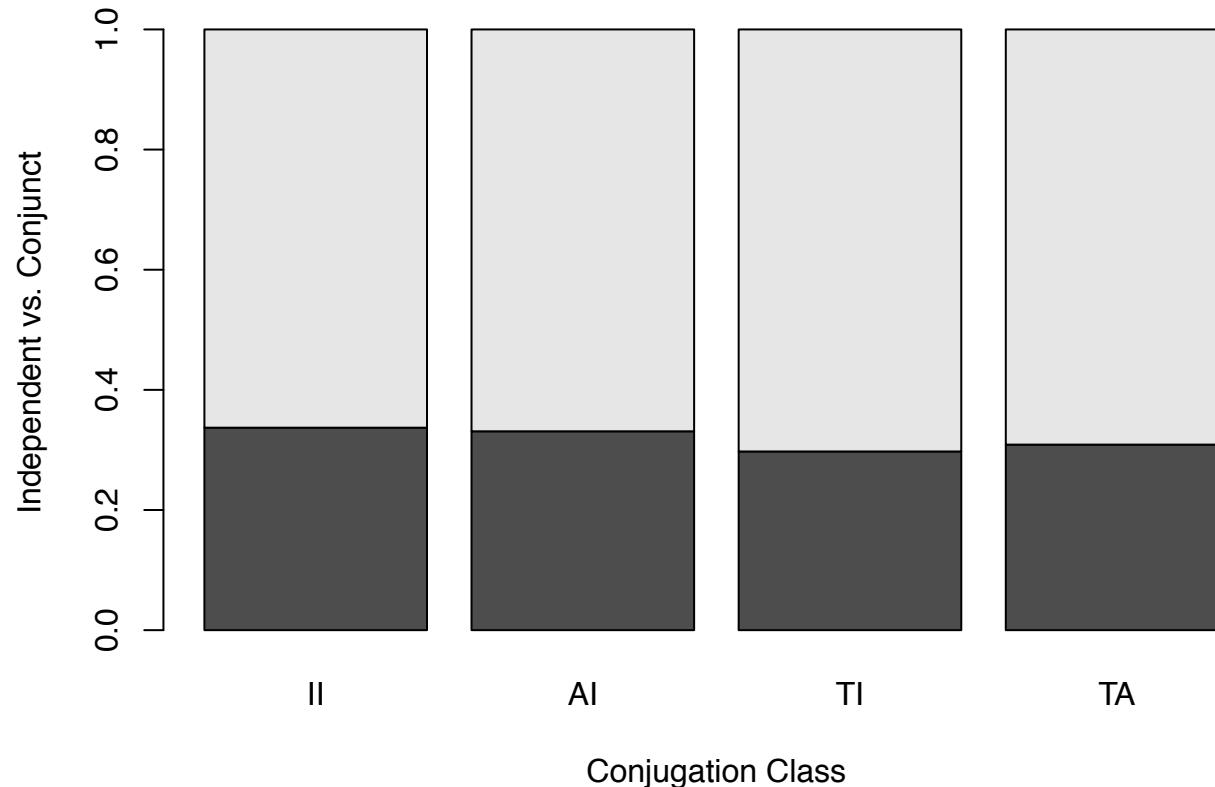
Corpus data

- Wolfart-Ahenakew texts
 - standardized transcriptions of spoken narrative stories in 1970s-2000s
 - 124941 tokens (including punctuation)
 - automatically analyzed with a morphological parser
 - lemma + actor/goal person/number, tense, preverbs, reduplication, etc.
 - analyses manually validated and supplemented by authors (but not disambiguated)
 - 75607 Cree words (or typos, contractions, or fragments)
 - 60420 correctly written Cree words
 - 17774 verb tokens
 - verb order in sentence + order of preceding verb within sentence added automatically

Relative Independent vs. Conjunct preference ($n \geq 50$)



Conjugation classes – proportional preferences



$P(X^2 = 15.753, df = 3) = 0.001274$: $UC_{R|C} = 0.0008$ vs. $UC_{C|R} = 0.0004$

Multivariate analysis with corpus: II – logistic regression: *glm(Ind ~ ...)* in R

	Estimate	Std. Error	z value	Pr(> z)	
(Intercept)	-0.86287	0.09280	-9.298	< 2e-16	***
PV	0.24385	0.12424	1.963	0.04967	*
PrevNoneTRUE	0.32972	0.11604	2.841	0.00449	**
PrevIndTRUE	0.15948	0.14425	1.106	0.26891	
Rdpl1STRUE	0.48739	0.46613	1.046	0.29574	
Rdpl1WTRUE	-1.09134	0.49722	-2.195	0.02817	*
PrtTRUE	0.35682	0.13589	2.626	0.00864	**
FutTRUE	-0.36496	0.28760	-1.269	0.20445	
Actor.4SgTRUE	-1.27365	0.30335	-4.199	2.68e-05	***
Actor.3PlTRUE	-0.08723	0.14750	-0.591	0.55427	
Actor.4PlTRUE	-1.61434	0.74535	-2.166	0.03032	*

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1					
(Dispersion parameter for binomial family taken to be 1)					

Null deviance: 2193.6 on 1728 degrees of freedom
Residual deviance: 2133.2 on 1718 degrees of freedom
R2.likelihood: 0.028
AIC: 2155.2

Multivariate analysis with corpus: II

	Estimate	Std. Error	z value	Pr(> z)
(Intercept)	-0.90323	0.09502	-9.506	< 2e-16 ***
PV.atiTRUE	-1.04172	0.39141	-2.661	0.007781 **
PV.isiTRUE	-2.38842	1.09557	-2.180	0.029253 *
PV.kahTRUE	1.24992	1.24434	1.004	0.315146
PV.kakweTRUE	-15.76450	1384.37973	-0.011	0.990914
PV.keTRUE	-15.82524	974.98440	-0.016	0.987050
PV.kisiTRUE	-14.77205	2399.54475	-0.006	0.995088
PV.maaciTRUE	-14.83058	2399.54474	-0.006	0.995069
PV.mayiTRUE	-15.46862	1016.22873	-0.015	0.987855
PV.misiTRUE	-15.80334	715.75533	-0.022	0.982385
PV.nipahiTRUE	-15.91194	900.65012	-0.018	0.985904
PV.nitawiTRUE	-16.15079	2399.54472	-0.007	0.994630
PV.ohTRUE	-15.82830	842.85078	-0.019	0.985017
PV.ohciTRUE	2.31951	0.36240	6.400	1.55e-10 ***
PV.papamiTRUE	-15.66283	2399.54472	-0.007	0.994792
PV.peTRUE	-1.71549	0.71506	-2.399	0.016436 *
PV.pimiTRUE	0.65926	1.42837	0.462	0.644408
PV.poniTRUE	0.70684	1.42301	0.497	0.619386
PV.taTRUE	-0.39809	0.48834	-0.815	0.414967
PV.tahTRUE	0.60452	1.01252	0.597	0.550481
PV.tahtoTRUE	3.45317	0.73520	4.697	2.64e-06 ***
PV.titaTRUE	0.78712	1.01381	0.776	0.437515
<u>PV.wahTRUE</u>	<u>-0.95798</u>	<u>1.08963</u>	<u>-0.879</u>	<u>0.379304</u>
PrevNoneTRUE	0.39279	0.12172	3.227	0.001250 **
<u>PrevIndTRUE</u>	<u>0.15094</u>	<u>0.15266</u>	<u>0.989</u>	<u>0.322808</u>
RdplSTRUE	0.81542	0.51845	1.573	0.115768
RdplWTRUE	-0.99141	0.52050	-1.905	0.056815 .
PrtTRUE	0.48796	0.13979	3.491	0.000482 ***
FutTRUE	-0.23023	0.29151	-0.790	0.429660
Actor.4SgTRUE	-1.22504	0.31089	-3.940	8.13e-05 ***
Actor.3PlTRUE	-0.16056	0.15405	-1.042	0.297305
Actor.4PlTRUE	-1.55076	0.74842	-2.072	0.038260 *

Null deviance: 2193.6 (df=1728)
 Residual deviance: 1975.6 (df=1697)
R2.likelihood: 0.099
 AIC: 2044.3

Multivariate analysis with corpus: AI

Coefficients:

	Estimate	Std. Error	z value	Pr(> z)	
(Intercept)	-0.31852	0.04966	-6.414	1.42e-10	***
PV	-0.52652	0.05687	-9.258	< 2e-16	***
PrevNoneTRUE	0.28687	0.06041	4.749	2.04e-06	***
PrevIndTRUE	0.48710	0.06265	7.775	7.57e-15	***
RdplSTRUE	0.58357	0.17886	3.263	0.0011	**
RdplWTRUE	-0.32595	0.16193	-2.013	0.0441	*
PrtTRUE	-0.06476	0.06092	-1.063	0.2877	
FutTRUE	0.55907	0.11251	4.969	6.73e-07	***
Actor.1SgTRUE	-0.42141	0.06924	-6.086	1.16e-09	***
Actor.2SgTRUE	-2.13999	0.15301	-13.986	< 2e-16	***
Actor.1PlTRUE	-1.01164	0.09256	-10.929	< 2e-16	***
Actor.12PlTRUE	-1.33937	0.21832	-6.135	8.52e-10	***
Actor.2PlTRUE	-2.56942	0.42617	-6.029	1.65e-09	***
Actor.3PlTRUE	-0.88212	0.07410	-11.905	< 2e-16	***
Actor.4Sg.PlTRUE	-1.61608	0.20444	-7.905	2.68e-15	***
Actor.XTRUE	-1.57759	0.12983	-12.152	< 2e-16	***

Null deviance: 10075.6 on 8131 degrees of freedom
Residual deviance: 9252.3 on 8116 degrees of freedom

R2.likelihood: 0.082

AIC: 9284.3

Multivariate analysis with corpus: Al

Coefficients:

	Estimate	Std. Error	z value	Pr(> z)
(Intercept)	-0.34346	0.05006	-6.861	6.86e-12 ***
PV.atiTRUE	-0.36796	0.22900	-1.607	0.108103
PV.isiTRUE	-1.01214	0.21875	-4.627	3.71e-06 ***
PV.kahTRUE	-0.44687	0.32073	-1.393	0.163531
PV.kakweTRUE	-0.37467	0.40711	-0.920	0.357402
PV.keTRUE	-14.20921	355.61139	-0.040	0.968127
PV.kihciTRUE	-13.32941	231.43127	-0.058	0.954071
PV.kikaTRUE	-2.60549	1.03939	-2.507	0.012184 *
PV.kisiTRUE	-0.81831	0.45809	-1.786	0.074043 .
PV.maaciTRUE	-0.61731	0.58585	-1.054	0.292022
PV.mayiTRUE	0.78699	1.35921	0.579	0.562587
PV.misiTRUE	-0.28061	0.33432	-0.839	0.401279
PV.miyoTRUE	-0.17625	0.41955	-0.420	0.674425
PV.moscitTRUE	-0.98676	0.64142	-1.538	0.123954
PV.nihtatTRUE	-1.04270	0.42919	-2.429	0.015121 *
PV.nipahiTRUE	-0.38599	0.49346	-0.782	0.434095
PV.nitawiTRUE	-0.74541	0.21339	-3.493	0.000477 ***
PV.nohtetTRUE	0.31082	0.36784	0.845	0.398115
PV.ohTRUE	1.06081	0.25848	4.104	4.06e-05 ***
PV.ohciTRUE	1.21895	0.18049	6.754	1.44e-11 ***
PV.papamiTRUE	-1.37654	0.75072	-1.834	0.066709 .
PV.peTRUE	-0.95221	0.13999	-6.802	1.03e-11 ***
PV.pimiTRUE	-0.27393	0.46608	-0.588	0.556708
PV.poniTRUE	-0.54055	0.49583	-1.090	0.275629
PV.taTRUE	-1.66018	0.26210	-6.334	2.39e-10 ***
PV.tahTRUE	1.34881	0.69700	1.935	0.052970 .
PV.titaTRUE	0.57043	0.66083	0.863	0.388024
PV.wahTRUE	-1.97135	1.03593	-1.903	0.057044 .
PrevNoneTRUE	0.27878	0.06114	4.559	5.13e-06 ***
PrevIndTRUE	0.52212	0.06357	8.214	< 2e-16 ***
Rdpl1STRUE	0.57296	0.18038	3.176	0.001491 **
Rdpl1WTRUE	-0.31411	0.16309	-1.926	0.054103 .
PrtTRUE	-0.02447	0.06211	-0.394	0.693609
FutTRUE	0.60176	0.11457	5.252	1.50e-07 ***
Actor.1SgTRUE	-0.42660	0.07065	-6.038	1.56e-09 ***
Actor.2SgTRUE	-2.14286	0.15349	-13.961	< 2e-16 ***
Actor.1PlTRUE	-1.06455	0.09441	-11.276	< 2e-16 ***
Actor.12PlTRUE	-1.33476	0.22118	-6.035	1.59e-09 ***
Actor.2PlTRUE	-2.57092	0.42903	-5.992	2.07e-09 ***
Actor.3PlTRUE	-0.89706	0.07527	-11.918	< 2e-16 ***
Actor.4Sg.PlTRUE	-1.61769	0.20577	-7.862	3.79e-15 ***
Actor.XTRUE	-1.66106	0.13234	-12.552	< 2e-16 ***

Null deviance: 10075.6 (df=8131)
 Residual deviance: 9061.7 (df=8090)
R2.likelihood: 0.100
 AIC: 9145.7AIC: 5452.9

Multivariate analysis with corpus: TI

Coefficients:

	Estimate	Std. Error	z value	Pr(> z)	
(Intercept)	-1.61396	0.11044	-14.613	< 2e-16	***
PV	-0.18580	0.10715	-1.734	0.0829	.
PrevNoneTRUE	0.67226	0.09817	6.848	7.51e-12	***
PrevIndTRUE	0.52272	0.11686	4.473	7.72e-06	***
Rdpl1STRUE	-0.33858	0.42319	-0.800	0.4237	
RdplWTRUE	0.09160	0.32737	0.280	0.7796	
PrtTRUE	0.06413	0.10398	0.617	0.5374	
FutTRUE	0.09244	0.19049	0.485	0.6275	
Actor.1SgTRUE	1.25715	0.11709	10.737	< 2e-16	***
Actor.2SgTRUE	1.04358	0.18880	5.527	3.25e-08	***
Actor.1PlTRUE	-0.42141	0.17651	-2.387	0.0170	*
Actor.12PlTRUE	0.41877	0.35669	1.174	0.2404	
Actor.2PlTRUE	0.95414	0.37447	2.548	0.0108	*
Actor.3PlTRUE	0.02223	0.13706	0.162	0.8712	
Actor.4Sg.PlTRUE	-1.02191	0.74686	-1.368	0.1712	
Actor.XTRUE	-0.32511	0.20740	-1.568	0.1170	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1					

Null deviance: 3491.9 on 2893 degrees of freedom

Residual deviance: 3169.3 on 2878 degrees of freedom

R2.likelihood: 0.092

AIC: 3201.3

Multivariate analysis with corpus: TI

Coefficients:

	Estimate	Std. Error	z value	Pr(> z)
(Intercept)	-1.72236	0.11529	-14.939	< 2e-16 ***
PV.atiTRUE	0.19888	0.46888	0.424	0.671450
PV.isiTRUE	-2.08633	0.61608	-3.386	0.000708 ***
PV.kahTRUE	-0.10722	0.66784	-0.161	0.872445
PV.kakwetTRUE	-1.34258	1.07635	-1.247	0.212272
PV.keTRUE	-0.69527	1.14599	-0.607	0.544053
PV.kikaTRUE	-14.49166	361.92935	-0.040	0.968061
PV.kisiTRUE	-13.92038	698.90481	-0.020	0.984109
PV.maaciTRUE	0.64340	1.24010	0.519	0.603876
PV.misiTRUE	-1.14611	1.10158	-1.040	0.298145
PV.miyoTRUE	-13.28691	518.19484	-0.026	0.979544
PV.moscitTRUE	-1.58101	1.07163	-1.475	0.140125
PV.nihtatTRUE	2.08396	1.23809	1.683	0.092335 .
PV.nipahitTRUE	-16.39122	1007.78978	-0.016	0.987023
PV.nitawiTRUE	-1.23857	0.79357	-1.561	0.118583
PV.nohtetTRUE	-1.18603	0.55090	-2.153	0.031325 *
PV.ohTRUE	4.13587	1.04009	3.976	7.000e-05 ***
PV.ohciTRUE	1.37346	0.23307	5.893	3.79e-09 ***
PV.papamiTRUE	-15.16486	1029.12147	-0.015	0.988243
PV.peTRUE	0.87807	0.31783	2.763	0.005732 **
PV.pimiTRUE	0.48128	0.91131	0.528	0.597414
PV.taTRUE	-3.61424	1.01362	-3.566	0.000363 ***
PV.tahTRUE	-13.82044	810.41474	-0.017	0.986394
PV.wahTRUE	-14.20827	709.83995	-0.020	0.984030
PrevNoneTRUE	0.66402	0.10214	6.501	7.98e-11 ***
PrevIndTRUE	0.58079	0.12071	4.811	1.50e-06 ***
RdplSTRUE	-0.23572	0.43138	-0.546	0.584767
RdplWTRUE	0.09514	0.33273	0.286	0.774940
PrtTRUE	0.13413	0.10753	1.247	0.212277
FutTRUE	0.18864	0.19705	0.957	0.338423
Actor.1SgTRUE	1.32114	0.12306	10.736	< 2e-16 ***
Actor.2SgTRUE	1.20095	0.19508	6.156	7.46e-10 ***
Actor.1PlTRUE	-0.51136	0.18353	-2.786	0.005331 **
Actor.12P1TRUE	0.59540	0.36621	1.626	0.103983
Actor.2PlTRUE	1.51746	0.41602	3.648	0.000265 ***
Actor.3PlTRUE	0.04812	0.14114	0.341	0.733165
Actor.4Sg.PlTRUE	-0.83533	0.75429	-1.107	0.268102
Actor.XTRUE	-0.26184	0.21273	-1.231	0.218377

Signif. codes: 0 '****' 0.001 '***' 0.01 '**' 0.05 '*' 0.1 ' ' 1

Null deviance: 3491.9 (df=2893)
Residual deviance: 2972.8 (df=2856)
R2.likelihood: 0.149
AIC: 5452.9

Multivariate analysis with corpus: TA

Coefficients:

	Estimate	Std. Error	z value	Pr(> z)
(Intercept)	-0.82013	0.16113	-5.090	3.59e-07 ***
PV	-0.52921	0.07584	-6.978	3.00e-12 ***
PrevNoneTRUE	0.58072	0.07809	7.437	1.03e-13 ***
PrevIndTRUE	0.72568	0.08315	8.728	< 2e-16 ***
RdplSTRUE	0.33325	0.24458	1.363	0.17303
RdplWTRUE	0.17572	0.21748	0.808	0.41912
PrtTRUE	-0.09827	0.07693	-1.278	0.20142
FutTRUE	0.43428	0.13844	3.137	0.00171 **
Actor.1SgTRUE	0.29070	0.15256	1.905	0.05672 .
Actor.2SgTRUE	-0.84829	0.19026	-4.459	8.25e-06 ***
Actor.1P1TRUE	-0.55547	0.19861	-2.797	0.00516 **
Actor.12P1TRUE	-1.44224	0.36875	-3.911	9.18e-05 ***
Actor.2P1TRUE	-0.36646	0.28603	-1.281	0.20013
Actor.3P1TRUE	-0.44088	0.11198	-3.937	8.25e-05 ***
Actor.4Sg.P1TRUE	-1.10265	0.20999	-5.251	1.51e-07 ***
Actor.5Sg.P1TRUE	-12.84949	603.92877	-0.021	0.98303
Actor.XTRUE	-0.46385	0.14560	-3.186	0.00144 **
Goal.1SgOTRUE	0.26422	0.16201	1.631	0.10291
Goal.2SgOTRUE	-0.69809	0.21474	-3.251	0.00115 **
Goal.1P1OTRUE	-0.33037	0.22418	-1.474	0.14056
Goal.2P1OTRUE	-0.70557	0.35373	-1.995	0.04608 *
Goal.12P1OTRUE	-1.24944	0.31014	-4.029	5.61e-05 ***
Goal.3P1OTRUE	0.02820	0.10234	0.276	0.78289
Goal.4Sg.P1OTRUE	-0.43517	0.16754	-2.597	0.00939 **
Goal.5Sg.P1OTRUE	-12.84633	214.45935	-0.060	0.95223

Signif. codes: 0 '****' 0.001 '***' 0.01 '**' 0.05 '*' 0.1 '.' 1

Null deviance: 5851.3 (df=4832)
Residual deviance: 5402.9 (df=4808)
R2.likelihood: 0.077
AIC: 5452.9

Pilot experiment

- Participants
 - 4 fluent native speakers of Plains Cree
 - in Maskwacîs, Alberta
 - who participate in project for recording the contents of a Cree dictionary
- Forced-choice task
 - 27 verbs with extremely divergent Independent/Conjunct ratios
 - used in 27 sentences used in the prior corpus analysis
 - in the neutral third person singular present tense form, to the extent possible
- Hypothesis/expectation:
 - Corpus-based Independent/Conjunct ratios would correlate with forced-choice proportions

Pilot experiment



Experimental non-results

Sentence

âta wiya mâna âcimêw nôhkom ahpô nimosôm
 sâsay mîna êkotê êkwa minahikohk ehakosît pêyakwan êkosi
 anima kâ-nitawi-pawahikêt ôtê Battleford mistatimwa âpacihew êkotê
 e-mosci-kiskinowâpicik kiskinowâpiwin âpatan
 e-wâh-otinahk maskosiya nîkân astâw kâw âpahkwêw asiskiy ohci anima sêkwâ
 êkota astêw êwakwa ânima âkohp e-kî-miyit
 namôya nikiskisin mâtka âhpô étokwê mânâ atâwâkêw
âyiman iskwêw wiya ka-pamihât pisiskiwa êkosi namôya âyiwâk nôh-kanawêyimâwak
iyaw ihtakon mîna maskihkiy
 miton ésa âwa nôcikwêsiw "ayiwêpitân" itêw êsa okosisa
 nîkinâhk anohc awâsis namôya âhpô êkwa kaskihtâw mihta ka-pihtikwatât
 epostiskahk astotin asici kikiskam êkwa mistikwaskisina epostiskahk
 ita epimohtâtahk kîsikâw emiywâsik
 oskinîkiwa kâ-kakêskimât ; mistahi kitotêw oskinîkiwa
 sêmâk awa êkwa **kotawêw** Louis wâpikwayâs
 kiwîhtamâkawinânaw ayamihêwiyiniwak mihcêtiwak kihci-âyamihêwiyiniwak mîna
 êyâpic wîkiwin miyêw aya oskinîkiwa
 kâ-wî-kîsitêpot mistahi miywâsin kotak mîna ka-pihtikwatât êkota kîsitêw kikâwînaw askiy
 namôya nanâskomêw kôhtâwînaw
osîhtamâsowak aya enôcikinosêwêcik êkwa epâswâcik mîn âya
 epâsahk kâhkêwakwa êhosîhtât êkwa mânâ mîna nimosôm pakitahwâw
 mihkwâpêmakwa asici êkonî mîn pâsam ekâskahahk ôhi mihkwâpêmakwa
 e-kî-miywêyihtamân awa pêhtawew osâm mân âya kâ-kisêpêkinikêhk aya
 êkwa e-kîsikâk wâ pêtâw niapâpasis ôm ômâcîwihsomân
 ôki nâpêsisak êkonik aniki pêyakwan êkonik nâpêsisak
 pêyak ana cupboard anita pihtikwêyâmow
 êkonî âtiht wâpahtam anohc awa âya kâ-pimâtisit aya

	Class	Participant 1	Participant 2	Participant 3	Participant 4
âta wiya mâna âcimêw nôhkom ahpô nimosôm	TA	BOTH	CNJ	IND	CNJ
sâsay mîna êkotê êkwa minahikohk ehakosît pêyakwan êkosi	VAI	N/A	IND	N/A	CNJ
anima kâ-nitawi-pawahikêt ôtê Battleford mistatimwa âpacihew êkotê	TA	CNJ	IND	BOTH	IND
e-mosci-kiskinowâpicik kiskinowâpiwin âpatan	VII	BOTH	IND	IND	IND
e-wâh-otinahk maskosiya nîkân astâw kâw âpahkwêw asiskiy ohci anima sêkwâ	TI	N/A	CNJ	IND	N/A
êkota astêw êwakwa ânima âkohp e-kî-miyit	VII	BOTH	IND	IND	N/A
namôya nikiskisin mâtka âhpô étokwê mânâ atâwâkêw	VAI	N/A	CNJ	BOTH	N/A
âyiman iskwêw wiya ka-pamihât pisiskiwa êkosi namôya âyiwâk nôh-kanawêyimâwak	VII	CNJ	CNJ	CNJ	IND
iyaw ihtakon mîna maskihkiy	VII	CNJ	CNJ	IND	IND
miton ésa âwa nôcikwêsiw "ayiwêpitân" itêw êsa okosisa	TA	CNJ	CNJ	BOTH	N/A
nîkinâhk anohc awâsis namôya âhpô êkwa kaskihtâw mihta ka-pihtikwatât	TI	BOTH	CNJ	CNJ	CNJ
epostiskahk astotin asici kikiskam êkwa mistikwaskisina epostiskahk	TI	CNJ	CNJ	IND	CNJ
ita epimohtâtahk kîsikâw emiywâsik	VII	IND	IND	IND	IND
oskinîkiwa kâ-kakêskimât ; mistahi kitotêw oskinîkiwa	TA	N/A	IND	CNJ	N/A
sêmâk awa êkwa kotawêw Louis wâpikwayâs	VAI	BOTH	IND	CNJ	IND
kiwîhtamâkawinânaw ayamihêwiyiniwak mihcêtiwak kihci-âyamihêwiyiniwak mîna	VAI	BOTH	CNJ	IND	N/A
êyâpic wîkiwin miyêw aya oskinîkiwa	TA	CNJ	CNJ	N/A	IND
kâ-wî-kîsitêpot mistahi miywâsin kotak mîna ka-pihtikwatât êkota kîsitêw kikâwînaw askiy	VII	CNJ	CNJ	CNJ	CNJ
namôya nanâskomêw kôhtâwînaw	TA	N/A	IND	CNJ	CNJ
osîhtamâsowak aya enôcikinosêwêcik êkwa epâswâcik mîn âya	VAI	N/A	N/A	CNJ	N/A
epâsahk kâhkêwakwa êhosîhtât êkwa mânâ mîna nimosôm pakitahwâw	VAI	N/A	CNJ	BOTH	IND
mihkwâpêmakwa asici êkonî mîn pâsam ekâskahahk ôhi mihkwâpêmakwa	TI	N/A	N/A	CNJ	N/A
e-kî-miywêyihtamân awa pêhtawew osâm mân âya kâ-kisêpêkinikêhk aya	TA	N/A	CNJ	CNJ	N/A
êkwa e-kîsikâk wâ pêtâw niapâpasis ôm ômâcîwihsomân	TI	N/A	CNJ	CNJ	N/A
ôki nâpêsisak êkonik aniki pêyakwan êkonik nâpêsisak	VII	IND	IND	IND	N/A
pêyak ana cupboard anita pihtikwêyâmow	VAI	IND	CNJ	IND	IND
êkonî âtiht wâpahtam anohc awa âya kâ-pimâtisit aya	TI	IND	IND	IND	N/A

Experimental non-results

Lemma	Class	IND	CNJ	Exp IND ratio	Corpus IND Ratio
âcimêw	TA	1	2	0,33	0,05
akosîw	VAI	1	1	0,50	1,00
âpacihew	TA	2	1	0,67	0,15
âpatan	VII	3	0	1,00	0,19
astâw	TI	1	1	0,50	0,16
astêw	VII	2	0	1,00	0,25
atâwâkêw	VAI	0	1	0,00	0,20
âyiman	VII	1	3	0,25	0,53
ihtakon	VII	2	2	0,50	0,56
itêw	TA	0	2	0,00	0,76
kaskihtâw	TI	0	3	0,00	0,41
kikiskam	TI	1	3	0,25	0,19
kîsikâw	VII	4	0	1,00	0,00
kitotêw	TA	1	1	0,50	0,16
kotawêw	VAI	2	1	0,67	1,00
mihcêtiwak	VAI	1	1	0,50	0,52
miyêw	TA	1	2	0,33	0,30
miywâsin	VII	0	4	0,00	0,33
nanâskomêw	TA	1	2	0,33	0,45
osîhtamâsowak	VAI	0	1	0,00	0,08
pakitahwâw	VAI	1	1	0,50	0,00
pâsam	TI	0	1	0,00	0,04
pêhtawew	TA	0	2	0,00	0,37
pêtâw	TI	0	2	0,00	0,26
pêyakwan	VII	3	0	1,00	1,00
pîhtikwêyâmow	VAI	3	1	0,75	1,00
wâpahtam	TI	3	0	1,00	0,36
Correlation					0,18

Research questions → answers

- Whether/how the choice of Independent vs. Conjunct verb form in Plains Cree is determined?
 - at the individual lexical level: YES
 - at the general semantic level: NO
 - animacy+intransitivity classes
 - by other verbal morphological features: YES (SOMEWHAT)
 - actor, goal, tense, reduplication, preverbs
 - by sentential context: YES
 - order of preceding verbs in the same sentence
- Is corpus-based evidence matched by experimental/introspectional evidence: NO (YET)

Further work

- exploring what more fine-grained semantics might explain lexical-level Independent/Conjunct preference
- how to better incorporate sentential context in the model
 - all relevant other verbs in context, whether in Independent or Conjunct
 - other functional elements/arguments: actors, goals, adverbials
- how to model evidentiality
- collecting texts other than stories/narratives
- improving the experimental protocol to make it more agreeable for the speakers

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