MORPHOLOGICAL CHANGE
IN PLAINS CREE VERB INFLECTION*

AMY DAHLSTROM

1. Introduction

Algonquian languages have notoriously complex systems of verb inflection, with features of the subject and object being marked on the verb in a rather unusual fashion sensitive to the relative ranking of subject and object on a hierarchy of person and animacy. The Algonquian language Cree exhibits this system, and also follows the typical Algonquian pattern of having distinct inflectional paradigms for main clause verbs and subordinate clause verbs.

The Plains dialect of Cree, spoken in Alberta and Saskatchewan, Canada, has undergone a series of innovations in the inflection of subordinate clause transitive verbs. The forms in which the results of these innovations are evident involve either a plural, nonthird person subject acting on a third person object, or the reverse situation: a third person subject acting on a plural, nonthird person object. Speakers of modern Plains Cree use only the innovative forms for these combinations of subject and object (cf. Wolfart 1973; Dahlstrom 1986). Earlier sources, however, attest both the innovative forms and an archaic pattern (nearly identical to the forms found in other Cree dialects and other Algonquian languages; see for example, the Moose Cree forms in Ellis 1971), For example, Lacombe's 1874 grammar gives paradigms in which the archaic and innovative forms are listed side by side. In a more philological vein, translation of the Bible published in the mid-nineteenth century show both archaic and innovative forms being used, often within a single sentence. By 1904, however, the innovative pattern had gained ground, with the archaic forms being used only infrequently.

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* Thanks to David Pentland for advice on nineteenth-century Cree sources. Any errors of interpretation are, of course, my own responsibility.

The archaic and innovative forms are listed below. (The subject category is given to the left of the hyphen, followed by the object category; 21 stands for 1st person plural, inclusive).

(1)

	"Direct" Archaic	Innovative		"Inverse" Archaic	~~Innovative~~ Innovative
1p-3	-akiht	-a·ya·hk	3-1p	-iyamiht	-ikoya·hk
21-3	-ahk	-a·yahk	3-21	-itahk	-ikoya(hk)
2p-3	-e·k	-a·ye·k	3-2p	-ite·k	-ikoye·k
1p-3p	-akihčik	-a·ya·hkik	3p-1p	-iyamihčik	-ikoya·hkik
21-3p	-ahkok	-a·yahkok	3p-21	-itahkok	-ikoyahkok
2p-3p	-e·kok	-a·ye·kok	3p-2p	~~-te·kok~~ -ite·kok	~~-koye·kok~~ -ikoye·kok

The combinations of subject and object indicated by the inflection on transitive verbs are divided by Algonquianists into two sets, direct and inverse. These terms refer to the relative ranking of the subject and object on the person/animacy hierarchy schematized in (2): in the direct combinations the subject outranks the object on the hierarchy, while in the inverse combinations, it is the object which outranks the subject. For the purposes of this paper, forms involving action by a plural nonthird person subject on a third person object will be labelled the direct set, and those in which the subject is third person, the object a plural nonthird person, will be called the inverse set.

(2)   nonthird person > third person proximate
                     > third person obviative > inanimates

(The proximate third person is the one being talked about in a given context; all other, more peripheral, third persons are marked by the obviative forms; see Wolfart 1973 or Dahlstrom 1986 for discussion.)

Translations of the Bible into Plains Cree not only document the spread of this innovation, but they also provide evidence that two separate changes occurred: first, one in the inverse set and then a second one which affected the direct set. As the later sections of the paper will show, the change in the inverse set involved a type of morphological rule reordering, in which the ordering found in main clause verbs was extended to the subordinate clause verbs as well, on the model of a separate paradigm used for transitive verbs with inanimate subjects. The second change consisted of levelling al-

lomorphic variation found in a suffix occurring with the direct set of subject-object combinations.

The philological evidence from the mid-nineteenth century gives a picture of a time at which the first change was largely complete, while the second change had just gotten underway. Fifty years later, however, the second change was well established; among modern speakers, there is no longer any trace of the archaic forms listed in (1).

2. Philological documentation

The examples in this paper have been drawn from three sources: an 1855 translation of the Gospel according to St. John, by James Hunter; a translation of the First Epistle General of John by Jean Hunter (James Hunter's wife), also published in 1855; and a 1904 edition of the New Testament. The Hunters prepared their translations at Devon Station, Cumberland (Philling 1891:247). For the 1904 New Testament, on the other hand, no specific translator is named, nor is the location identified at which the translation was done. It is, however, unquestionably the Plains dialect of Cree, as is the Cree in the translations prepared by the Hunters.

The two 1855 translations employ a roman orthography for Cree, loosely based upon English values for consonants and vowels. For example, /a·/ is writen ⟨a⟩, /a/ as ⟨u⟩, and /e·/ as ⟨ā⟩. /h/ is indicated by ⟨'⟩ written over the preceding vowel. It is often difficult for English speakers to distinguish the phonemic vowel length of Cree and the presence of /h/ before consonants. Even though the Hunters' orthography has the resources to indicate these phonemic distinctions, in practice both are inconsistent in writing vowel length and pre-consonantal /h/.[1]

The 1904 New Testament is printed in the Cree syllabary, a writing system devised around 1840 for Cree by the missionary James Evans (Nichols 1986). The examples drawn from this source will be transliterated into roman orthography, but a sample of the syllabary is presented below.

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[1] Forms given in the Hunters' orthography are enlosed by ⟨...⟩; emendations are indicated by ⟨...⟩.

syllabic → line missing! (3)

ma⟨·⟩ka	ispi	očiwa·ma	ka·-sipwe·⟨h⟩te·yit
but	when	his brother(s)	leave-obv

"But when his brethren had gone up, ..." John 7.10[2]

The syllabary includes symbols for marking vowel length and /h/, but, as can be seen in (3), the translator of the New Testament often fails to indicate these phonemic distinctions.

The shift from the archaic forms to the innovative forms can be seen most clearly by comparing the 1855 translation of the First Epistle General of John with its 1904 translation. Such a comparison also reveals that the innovation began in the inverse set of subject-object combinations, spreading later to the direct set.

In the 1855 translation, all direct subject- object combinations are expressed by archaic forms. The inverse set, however, exhibits alter*n*ations between the archaic forms and the innovative forms, with one-third of the verbs bearing suffixes from the archaic set, and twothirds taking innovative suffixes. This demonstrates that the innovation was well underway by 1855, but as yet confined to the inverse set of subject-object combinations.

In contrast, the 1904 translation shows all but one of the verbs in question bearing a suffix from the innovative set (the one *exception* is an inverse verb in 1 John 1.9). That is, the shift to the innovative forms had been largely completed by 1904, not only in the inverse set, but it had also been extended to the direct set as well.

The following examples illustrate the shift:

(4) 1855: < ... numoweya keyanow ā kě sakěhůk Muneto, >
namawiya kiya·naw e·-ki·sa·kihahk manito·w,
not we-inc love 21-3 God

< maka weya, ā kě sakěhitůk ... >
< ma·ka wiya e·-ki·h-sa·kihitahk
but he love 3-21

1904: ... namawiya e·ki⟨·⟩ sa·kiha·yahk kise·manito⟨·w⟩,
not love 21-3 God

ma·ka e·ki⟨·⟩ sa·kihikoyahk
but love 3-21

".. not that we loved God, but that he loved us, ...' 1 John 4.10

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[2] In this and following examples, the English translations are ~~tkane~~ *taken* from the King James version of the Bible.

In (4), the 1855 version contains two transitive verbs, both with the stem *sa·kih-* 'love', both bearing an inflectional suffix from the archaic set of forms. The first verb (part of the inverse set) has suffix-*itahk* for third person singular subject acting on first person inclusive plural; the second (a direct verb) has -*akh* for action by a first person inclusive plural subject on a third person singular object. These forms may be contrasted with the 1904 translation of this same passage, in which both verbs are inflected with the innovative forms of the inflectional suffixes: -*ikoyahk* for third person singular subject acting on first person inlusive plural object, and -*a·yahk* for first person inclusive plural subject acting on third person singular object.

The next example show that other inverse forms in the 1855 version were inflected with innovative forms:

(5) 1855: < ...ka kê meeyikoyûk ~~ett~~ Áchâkwa >
          ka·-ki·h-mi·yikoyahk ~~otakĕa·hkwa~~ *otahča·hkwa*
                  give 3-21   his spirit

    1904: ...~~a⟨h⟩ĕa·kwa~~ *a⟨h⟩ča·hkwa* ohči ka·ki⟨·⟩ mi⟨·⟩yikoyahk
            spirit   from   give 3-21

"...by the Spirit which he hath given us." 1 John 3.24

In (5) both the 1855 and 1904 version contain the verb stem *mi·y-* 'give' inflected for a third person singular subject acting on a first person inclusive plural object. Both translations use the innovative form of this inflectional ending, -*ikoyahk*.

The above examples illustrate the inflectional endings for first person inclusive plural subjects acting on a third prson object, and for third person subjects acting on first person inclusive plural objects. For first person exclusive plural subject acting on a third person object, compare the 1855 ⟨kitta nippáhukeêt⟩ *kita nipaha-kiht*, with archaic ending -*akiht* 1p-3, with the 1904 form *kita nipaha⟨·⟩ṣa·hk* with the innovative ending -*a·ya·hk* 1p-3. Both are from John 18,31, glossed "for us to kill him".

For third person subject, first person exclusive plural object, compare [1855] ⟨ka kêissitissáhookoyâkik⟩ *ka·-ki·h-is'-itisahokoy-a·hkik* with the equivalent 1904 form *ka·ki⟨·⟩-pe·itisahokoya·⟨h⟩kik*. Both bear the innovative ending- -*ikoya·hkik* 1p-3p, and both are from John 1.22, "...them that sent us".

For second person plural acting on third person, we again see the pattern of archaic forms in the earlier translations being replaced by innovative forms in the later version. Compare [1855] ⟨ā kê kiskāyimāk⟩ e·-ki⟨·⟩h-kiske·yime·k, bearing the archaic suffix -e·k 2p-3, with [1904] e·kiske·yima·ye·k, showing the innovative suffix -a·ye·k ("because ye have known [him]" John 2.13).

In contrast, verbs with third person subjects and second person plural objects often bear innovative suffixes in the 1855 translations, as in the following example. [1855] ⟨kā meeyikoyāk⟩ ke·-mi·yikoye·k; [1904] ke·mi⟨·⟩yikoye·k. These two forms, glossed "...which [he] shall give to you" John 6.27, both bear the innovative ending -ikoye·k 3.-2p.

The shift from the archaic system to the innovative system can be seen most clearly in the two versions of the First Epistle General of John, as mentioned above. The picture is slightly more complicated if the two versions of the Gospel according to John are compared. Although Jean Hunter's translation uses archaic forms for the direct set of transitive verbs exclusively, her husband's translation shows a mixture of archaic and innovative direct forms.[3] For example, ⟨ā kiskāyimayāk⟩ e·kiske·yima·ye·k "one whom ye know..." John 1.26. This is a direct verb which contains the innovative ending -a·ye·k for 2p-3. Furthermore, although the 1904 1 John contains only a single archaic form, it should be noted that other archaic forms survive elsewhere in the 1904 New Testament. For example, the direct verb kita ki⟨·⟩ a⟨·⟩čimostawaki⟨h⟩čik "...that we may give an answer to them..." John 1.22, with the archaic ending -akihčik 1p-3p.

3. First change: innovation in the inverse set

The Cree Bible translations show that the innovation in verb inflection took place fairly recently, beginning in the inverse set, spreading later to the direct set. This section will present a brief discussion of Cree verb inflection to demonstrate why this change began in the inverse set. The verbal endings in question are actually combinations of suffixes which mark features of one or both

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[3] According to information in Pilling 1891:248, Jean Hunter worked with a Cree speaker named Peter Erasmus. It is not known who James Hunter's informants were.

arguments of the verb, plus a special suffix called the "theme sign," which links the person/number features to subject or to object, as appropriate. The innovation in Plains Cree involves the choice of theme sign used in the inverse set of subject-object combinations.

3.1. The theme signs

The schema for Cree (or, more generally, Algonquian) verb inflection is as follows. Verbs are inflected for both subject and object. However, the affixes which indicate features of person and number are not specified for either subject or object; rather, information encoded by a separate suffix, the "theme sign", provides the correct interpretation about who is subject and who is object. The function of the theme sign is illustrated in the following examples from the independent order paradigm (used in main clauses).

(6)   a. ki-sa·kih-a·-wa·w-ak   'you (pl.) love them'
         2 love dir (2)p 3p
     b. ki-sa·kih-iko-wa·w-ak   'they love you (pl.)'
         2 love inv (2)p 3p

In both verbs in (6), the verb stem, *sa·kih-* 'love', is affixed with *ki-* and *-wa·w*, indicating a second person plural argument, and with *-ak*, indicating a third person plural argument. The theme sign in (6a) is the direct theme sign, *-a·*, which indicates that the subject outranks the object on the person/animacy hierarchy of (2). In the case of the ~~aerb~~ in (6a), the only possible interpretation is that it is ← verb the second person plural argument which is subject, and the third person plural argument which is object, since second person outranks third person on the hierarchy.

The inverse theme sign, *-iko*, is used in (6b); this suffix indicates that it is the object which ranks higher on the person hierarchy than the subject. As a consequence, *-iko*, together with the information provided by the other affixes on the verb in (6b), indicates that the subject is third person plural ~~while~~ the object is second person plural. *while* ←

For transitive verbs with animate objects there are four possible theme signs:

(7)   -it (i)   Object is second person
     -i   Object is first person
     -a·(~ Ø) Subject outranks object on the person hierarchy
     -iko   Object outranks subject on the person hierarchy

To understand the change in the Cree verb forms documented in nineteenth century Bible translations, more must be said about the paradigmatic relations between these theme signs, and the differences between the inflection of independent order verbs, used in main clauses, and conjunct order ~~verbs~~, used in subordinate clauses (including complement clauses, adjunct clauses, and relative clauses). The system found in the archaic forms will be described first.

3.2. The archaic system

The archaic system of Plains Cree displays the same distribution of theme signs as the Proto-Algonquian system, described in Goddard 1979. In the conjunct order, the theme sign -it is used for all forms containing a second person object (including first person plural inclusive objects), and -i is used for all other first person object forms. The remaining combinations of subject and object then take either -iko or -a· (or a zero allomorph of -a·; see section 4) as the theme sign: -a· if the subject outranks the object on the person hierarchy, and -iko if the object outranks the subject. This ~~ay~~ be thought of as an ordered set of choices ~~fo~~ filling the theme sign "slot":

(8) Rules for theme signs in the conjunct order (archaic):
1. Use -it if the object is (or includes) 2nd person.
2. Elsewhere, use -i if the object is 1st person.
3. Elsewhere, use -a· ~ -∅ if the subject outranks the object or -iko if the object outranks the subject.

This ordering ensures that forms in which, for example, a third person subject acts on a second person object will take -it as its theme sign (because of the second person object)and not -iko (which would mark that the object outranks the subject);

(9) e·sa·kih-it-e·kw-ik   '...that they love you pl.' (conjunct order; archaic)

The independent order of verb inflection displays a different distribution of the theme signs, most easily described as a different ordering of the choices available for filling the theme sign slot. In the independent order, -a· and iko, the two theme signs sensitive to the relative ranking of subject and object, are used in all possible

environments. That is, a form which involved a third person subject and a second person object would, in the independent order, take -*iko* as its theme sign, marking that the object outranked the subject, rather than -*iti* (which would mark that the object was second ~~peron~~). In the independent order, the theme signs -*i* (first ← *person* person object) and -*iti* (second person object) are only used when the subject and object are of equal rank: that is, when both subject and object are nonthird person.

The ordering in (10) may thus be contrasted with that in (8):

(10) Rules for theme signs in the independent order:
    1. Use -*a·* if the subject outranks the object
       or -*iko* if the object outranks the subject.
    2. Elsewhere, use -*iti* if the object is 2nd person.
       or -*i* if the object is 1st person.

3.3. Rule ~~reording~~ *reordering* ←

The first of the Plains Cree innovations takes place in the inverse set, where a third person subject acts on a plural nonthird person object. This is the stage which is documented in the Hunters' 1855 translations, before the second change affected the direct set.

The innovation in the inverse set of forms consists of taking the ordering of theme signs previously found only in independent order verbs (10), and extending it to apply to the conjunct order verbs as well. For example, in a conjunct order verb involving action by a third person subject on a second person plural subject, the innovative system uses the theme sign -*iko*, indicating that the object outranks the subject on the person hierarchy, rather than -*it* (which would indicate that the object is second person.)

The model for this innovation is evidently the paradigm for transitive verbs with inanimate singular subjects, where the theme sign -*iko* is used throughout, in the conjunct order as well as in ~~he~~ *the* ← independent order.[4] (11) compares the archaic and innovative conjunct order endings for animate third person subject acting on

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[4] This is a Cree innovation; Proto-Algonquian used the theme signs -*i* and -*it*, where appropriate, in the inanimate subject paradigm as well (Goddard 1979:133). However, this Cree innovation shows up in other dialects as well (cf. Ellis 1971); it is not restricted to the Plains dialect.

plural non-hird person object, with the relevant inanimate subject forms.

(11)		Archaic inverse	Innovative inverse	Inanimate Subject form
	3-1p	-iyamiht	-ikoya·hk	-ikoya·hk
	3-21	-itahk	-ikoyahk	-ikoyahk
	3-2p	-ite·k	-ikoye·k	-ikoye·k

The inanimate subject forms, in other words, provided existing examples of conjunct order forms in which the theme sign -*iko* was used to indicate that the object outranked the subject on the person/animacy hierarchy. The innovation in the inverse set not only simplified the system of morphological rules, but also (in the conjunct order) levelled the formal distinction between inverse forms with animate third person subjects and inverse forms with inanimate subjects. It is not clear, however, why this change affected only the forms involving a *plural* nonthird person, and why it has not spread also to the singular nonthird person forms.

A couple of other morphological changes accompany the appearance of -*iko* as the theme sign in the inverse set. The specialized first person plural exclusive ending -(*y*)*amiht*, used in the archaic system only with transitive verbs having an animate third person subject and a first person plural exclusive object, is eliminated in favor of the more general first person plural exclusive ending -*a·hk*. Second, /y/ is automatically inserted before -*a·hk* (1p), -*ahkw* (21), and -*e·kw* (2p) because the theme sign *iko* ends in a vowel.

4. Second change: levelling in direct set

The second stage of the Plains Cree innovations involved the elimination of the zero allomorph of the direct theme sign, in favor of the more general form -*a·*. As with the first stage of the innovation, this occurred only in forms involving a *plural* ~~nonthird~~ person; the singular nonthird person forms have resisted this innovation.

The result of this change is similar to that of the innovation in the inverse forms. In that earlier innovation, the theme sign -*iko*, previously used throughout the independent order and, in the conjunct, for inverse combinations of third person acting on third person, was extended in the conjunct to inverse combinations involving plural nonthird persons. The second innovation produces

a parallel result for direct forms: the allomorph -*a·* of the direct theme sign (used in the independent order and, in the conjunct, for direct combinations of third person acting on third person) is extended in the conjunct to direct combinations involving plural nonthird persons.

As with the earlier innovation, other morphological changes follow from the wider use of ~~the~~ -*a·* ~~from~~. The specialized first person ⟨*the form*⟩ plural exclusive form -*akiht*, used only with direct transitive verbs, is eliminated in favor of the more general -*a·hk* (parallel to the replacement of -(*y*)*amiht* by ⟨*·hk*⟩ in the inverse). /y/ is inserted before ⟵ *-a·hk* -*a·hk* (1p), -*ahkw* (21), and -*e·kw* (2p) because the theme sign -*a·* ends in a vowel.

5. Conclusion

The innovative inflectional endings used by modern Plains Cree speakers were produced by two separate changes: first, a reordering of morphological rules (with results visible in the inverse set of forms), and second, elimination of the zero allomorph of the theme sign in the corresponding direct forms. These changes are rather dissimilar in nature, but the two together result in a coherent paradigm. Moreover, ~~anoher reslt~~ of these changes can be seen in ⟵ *another result* the reduction of the complexity of the overall system of inflection. The archaic system of verb inflection exhibited a large number of ~~sidtinctions~~ between the inflection of verbs in main clauses versus ⟵ *distinctions* those in subordinate clauses, between the inflection of transitive and intransitive verbs, and between the inflection of transitive verbs with inanimate subjects and inverse transitive verbs with animate subjects. In the innovative forms the number of such formal distinctions is reduced (though by no means eliminated entirely).

The 1855 Bible translations reflect an intermediate stage, when the first change was well established, while the second change is evident in only a few scattered forms. The 1904 translation, on the other hand, shows that by then the second change was also well underway. These findings, however, must be accompanied by two caveats. First of all, care must of course be taken in relying on the three Bible translations cited in this paper; they were prepared by speakers of English, not of Cree. Obviously the translators consulted with Cree speakers, but there is a risk that they may have generalized certain forms, producing more uniformity than actually

existed.[5] Second, since we do not know who prepared the 1904 translation of the New Testament (or where), it is not clear whether the differences between it and the Hunters' translations reflect change over time in Plains Cree, or whether it reflects synchronic variation between speech communities.

However, the philological documentation from the mid-nineteenth and early twentieth century does give a fuller picture of possible variation between the two systems, and confirms that the innovation began with the inverse set of subject-object combinations. A question which remains unanswered, however, is why the innovations have not spread to the direct and inverse forms involving singular nonthird persons. Such combinations in modern Plains Cree are relics of the archaic system, and now seem to function as unsegmentable portmanteau suffixes.

AMY DAHLSTROM
Department of Anthropology
State University of New York
ALBANY, NY 12222
USA

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[5] On the other hand, the existence of sentences containing both archaic and innovative verb forms argues for the veracity of the Bible translations, as do the differences between Jean Hunter's translation and her husband's. If the translators were normalizing the inflectional forms, such variation would have been edited out.

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