Inverse Marking as Impoverishment

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1. Introduction

The Algonquian languages display what has been characterized as the most fully-elaborated example of a direct-inverse alignment system (Wunderlich 2005; Zúñiga 2006). Understanding the Algonquian pattern is thus important for our understanding of direct-inverse alignment in general. This paper proposes that the set of direct-inverse markers (reflecting Proto-Algonquian *-i, *-eθ, *-ā, *-ekw) is in fact a set of object agreement markers on Voice°. This portion of the proposal is not new: see, for example, Rhodes 1976, Brittain 1999, McGinnis 1999, and Goddard 2007:232. What I add, however, is that the inverse marker *-ekw—which has always been resistant to the object-agreement characterization—is in fact the *elsewhere* spellout of Voice°, realized when the object agreement features on Voice° have been impoverished. This impoverishment takes place, I propose, when a higher agreement head, Infl°, also targets the object, creating a configuration in which Voice° and Infl° have identical person features. Impoverishment of Voice° can thus be regarded as a dissimilation strategy that repairs illicit configurations of identical person features, as proposed by Nevins (2007) for "spurious *se*" in Spanish.

This analysis allows the Algonquian direct-inverse pattern to be understood as just a small twist on a conventional nominative-accusative pattern. The only fundamental difference is that the "nominative" agreement head, Infl°, is able to target either of the two arguments. When Infl° targets the object, the object features that are normally borne by Voice° disappear due to impoverishment, leading to the spellout of Voice° as the elsewhere form known traditionally as the inverse marker.

The paper proceeds as follows. Section 2 describes the overall structure of Algonquian verb inflection. Section 3 introduces the set of direct-inverse markers in Voice° and argues that they are best characterized as expressing object agreement—except for the inverse marker *-ekw, whose conditioning is more complex. Section 4 shows that the spellout of Voice° as inverse *-ekw correlates with the appearance of object agreement in Infl°. Building on this observation, Section 5 presents the key proposal: the inverse marker is in fact an elsewhere form spelled out as the result of a dissimilatory impoverishment operation that applies when Voice° and Infl° both agree with the object. Section 6 addresses an apparent counterexample to this analysis.

2. The structure of Algonquian verb inflection

This section describes the overall structure of Algonquian verb inflection. A typical template for transitive verb inflection is shown in (1), exemplified by the Southwestern Ojibwe form *niwāpamāssiwānātok* 'we must not see her' (Nichols 1980). The analysis that I will assume for each slot in the template is shown along the top and the conventional Algonquianist labels (Goddard 2007) are shown along the bottom.

(1) Algonquian verb inflection template (Southwestern Ojibwe independent order form)

(Infl)	Root	*v*	Voice	Neg	Infl	Mod
ni-	*wāp*	*-am*	***-ā***	*-ssiw*	***-ānā***	*-tok*
1	see	TRANS	**DIR**	NEG	**1p**	DUB
person prefix	root	final	**theme sign**		**central suffix**	mode sign

prefix-suffix combination = **central agreement**

Since the order of suffixes is fully compatible with a Mirror Principle analysis, I take forms such as (1) to have the structure in (2) (cf. Oxford 2014). Here and elsewhere I will use "subject" and "object" as convenient shorthands for the external and internal arguments respectively.

(2)
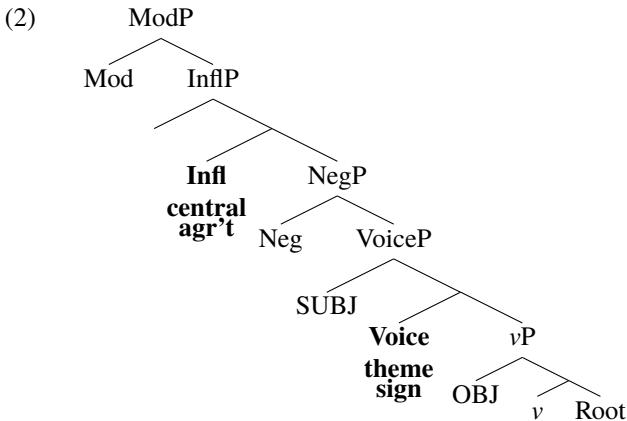
This paper focuses on two slots in the template in (1): the **theme sign**, i.e. the direct-inverse marker, which I analyze as the external argument-introducing head Voice°, and the **central agreement**, which I analyze as a higher functional head Infl° (cf. Bruening 2005 for Passamaquoddy). The central agreement consists of a person/number suffix in the Infl° position along with a word-initial person prefix. Since the suffix and prefix work together to index the same argument, I assume that they reflect a single probe on Infl°, with the prefix a result of fission as proposed by Harbour (2008) for person prefixes in general.

For simplicity and consistency, I will refer to the theme sign as Voice° and the central agreement as Infl° throughout this paper, even when discussing work by other researchers.

3. Voice° as an object marker

This section introduces the four so-called direct-inverse markers that appear in Voice° and argues that they are best characterized object agreement markers—except for the inverse marker **-ekw*, whose patterning is divergent. The four exponents of Voice° have the forms **-i*, **-eθ*, **-ā*, **-ekw* in Proto-Algonquian (PA; Goddard 1979a) and are reflected by *-i*, *-in/ih*, *-ā*, *-ikw* in Southwestern Ojibwe (Nichols 1980) and *-i*, *-it/is*, *-ā*, *-ikw* in Plains Cree (Wolfart 1973), the languages from which the data in this paper are drawn. I will cite the PA forms when taking a pan-Algonquian perspective and the Ojibwe and Cree forms when discussing particular data from these languages.

At issue is the best analysis of the four exponents of Voice°. Existing analyses fall into the three types in (3), which differ in the extent to which the exponents are characterized as direct-inverse markers.

(3) Three analyses of Algonquian theme signs (Voice°)

a. Full direct-inverse		b. Symmetrical split		c. Asymmetrical split	
*-i	LOCAL DIR	**-i*	1OBJ	**-i*	1OBJ
*-eθ	LOCAL INV	**-eθ*	2OBJ	**-eθ*	2OBJ
*-ā	DIR	**-ā*	DIR	**-ā*	3OBJ
*-ekw	INV	**-ekw*	INV	**-ekw*	INV

The full direct-inverse analysis was proposed for Plains Cree by Wolfart (1973) and has become the most familiar approach in the theoretical literature (e.g. Béjar & Rezac 2009). Under this analysis, all exponents of Voice° are described as marking the direction of transitivity with respect to a person hierarchy 2>1>3>3′. (The notation 3′ denotes a further or "obviative" third person.) In the pair of Southwestern Ojibwe forms in (4), for example, the "direct" marker *-ā* indicates that the first-person argument acts on the third-person argument in accordance with the person hierarchy while the "inverse" marker *-iko* indicates the reverse. The remainder of the agreement morphology is identical in both forms.

(4) a. *ni- wāpam **-ā**   -nān -ik*
         1- see   **-DIR** -1p -3p
         'we see them' (direct: 1→3)

     b. *ni- wāpam **-iko** -nān -ik*
         1- see   **-INV** -1p -3p
         'they see us' (inverse: 3→1)

Based on this analysis, we would expect to find the direct marker *-ā* in all forms that follow the 2>1>3>3′ hierarchy and the inverse marker *-iko* in all forms that oppose it, but this is not the case. Local forms—that is, forms which involve only first and second persons—display a different pair of markers, shown in (5).

(5) a. *ki- wāpam **-i***
         2- see   **-LOC.DIR**
         'you see me' (direct: 2→1)

     b. *ki- wāpam **-in***
         2- see   **-LOC.INV**
         'I see you' (inverse: 1→2)

As indicated by the above glosses, the full direct-inverse analysis regards *-i* and *-in* as an additional pair of direct-inverse markers specialized for local forms: *-i* marks "local direct" and *-in* marks "local inverse". Under this analysis, then, all four of the exponents of Voice° are regarded as direct-inverse markers.

Despite the assumption of the full direct-inverse analysis in much theoretical work, it is not, in fact, the received analysis among traditional Algonquianists. Bloomfield (1946, 1962), Hockett (1992), Goddard (1979b), Nichols (1980), Pentland (1999), and Valentine (2001), to name a few, all subscribe instead to the symmetrical split analysis shown in (3b) above, in which *-ā* and *-ekw* are regarded as direct-inverse markers but the "local" exponents from (5) are regarded simply as object agreement: *-i* marks first-person objects and *-eθ* marks second-person objects.

As discussed clearly by Macaulay (2009), the object agreement analysis is forced by forms such as *wāpamit* 'she sees me' in (6), which is inflected using the "conjunct order" morphology that occurs in subordinate clauses. This verb form contains the putative "local direct" theme sign *-i*, as in (5a) above. In (6), however, the characterization of *-i* as a local direct marker is doubly inappropriate. First, this is not a local form, as one of the participants is third-person. Second, and more seriously, this is a form in which a third person acts on a first person, so, if anything, it should be marked as *inverse* rather than direct.

(6) *wāpam **-i**   -t*
     see   **-1OBJ** -3s
     'she sees me' (3→1)

Under a pure direct-inverse analysis, then, we are forced to say that *-i* functions as a *direct* marker in 2→1 forms such as (5a) but as an *inverse* marker in 3→1 forms such as (6). The incoherence of this characterization shows that a pure direct-inverse analysis is inadequate to capture the distribution of *-i*.[1] Under the split analysis, on the other hand, *-i* is simply a first-person object marker, a characterization that is fully consistent with its appearance in both the 2→**1** and 3→**1** forms.

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[1] We could attempt to salvage the pure direct-inverse analysis by changing the posited hierarchy from 2>1>3 to 1>2>3. Under the revised hierarchy, both of the contexts for *-i* (2→1 and 3→1) would qualify as inverse. However, this simply transfers the problem to the other "local" marker, *-in* in (5b), which occurs in both 1→2 and 3→2 forms. Under a 1>2>3 hierarchy, 1→2 would be direct and 3→2 inverse, so the analysis would again be incoherent.

The asymmetrical split analysis in (3c) takes the object-agreement characterization of the exponents of Voice° a step further (Rhodes 1976; Brittain 1999; McGinnis 1999; Oxford 2014). Under the asymmetrical split analysis, not only do the "local" markers express object agreement (*-i 1OBJ, *-eθ 2OBJ), but so too does the traditional *direct* marker *-ā. As the pan-Algonquian survey of the spellout of Voice° in (7) shows, the *-ā marker occurs exclusively in forms that involve a third-person object. Analyzing *-ā as marking 3OBJ rather than DIRECT is thus fully consistent with the distribution of *ā and has the benefit of eliminating the theoretically uncertain notion of "directness" from the description.

(7)   Exponents of Voice° across Algonquian languages[2]

Verb form	Exponents of Voice° by language and inflectional paradigm					
	Proto-Algonquian conjunct	Lac Simon Algonquin conjunct	Plains Cree conjunct	Munsee Delaware conjunct	Proto-Algonquian independent	Blackfoot
1/2→3	***-ā 3OBJ**	***-ā 3OBJ**	***-ā 3OBJ**	***-ā 3OBJ**	***-ā 3OBJ**	***-ā 3OBJ**
1→2	*-eθ 2OBJ	*-eθ 2OBJ	*-eθ 2OBJ	*-eθ 2OBJ	*-eθ 2OBJ	*-eθ 2OBJ
2→1	*-i 1OBJ	*-i 1OBJ	*-i 1OBJ	*-i 1OBJ	*-i 1OBJ	*-ekw INV
3→1s	*-i 1OBJ	*-i 1OBJ	*-i 1OBJ	*-i 1OBJ	*-ekw INV	*-ekw INV
3→2s	*-eθ 2OBJ	*-eθ 2OBJ	*-eθ 2OBJ	*-ekw INV	*-ekw INV	*-ekw INV
3→1p	*-i 1OBJ	*-i 1OBJ	*-ekw INV	*-ekw INV	*-ekw INV	*-ekw INV
3→2p	*-eθ 2OBJ	*-ekw INV	*-ekw INV	*-ekw INV	*-ekw INV	*-ekw INV
3′→3	*-ekw INV	*-ekw INV	*-ekw INV	*-ekw INV	*-ekw INV	*-ekw INV

The survey in (7) demonstrates the wide-ranging accuracy of the object-agreement characterization of the *-i, *-eθ, and *-ā exponents of Voice°. Across all languages and all paradigms, these three exponents only ever occur in forms with first-, second-, and third-person objects respectively.[3]

The survey also demonstrates, however, that the fourth exponent of Voice°, the so-called inverse marker *-ekw, cannot be so simply explained. The distribution of *-ekw is exceptional in two ways. First, *-ekw is the only exponent of Voice° that does not index a particular person, but rather is attested with objects of all persons. It thus cannot be characterized as an object-agreement marker. Second, *-ekw is also the only exponent of Voice° whose distribution varies—and the variation is extensive. The overall pattern of exponence in (7) can be described as an invariant object-agreement paradigm that is overriden by the inverse marker *-ekw to varying degrees across the languages. What triggers the spellout of *-ekw, why does its spellout override that of the object markers, and why is its distribution able to vary so extensively? The following section lays the foundation for an answer to these questions.

4. A correlation between Voice° and Infl°

The patterning of the inverse marker *-ekw, I contend, cannot be understood if we restrict our attention only to the exponents of Voice° as in (7) above. Instead, I suggest that the key in fact lies in Infl°, the "central agreement" marker that follows Voice°. This section establishes the following generalization: *whenever Voice° is spelled out as the inverse marker, Infl°-agreement targets the object*. That is, the occurrence of the inverse marker in Voice° correlates with the occurrence of object agreement in Infl°. This generalization enables a new approach to inverse marking that will be presented in Section 5.

Before we proceed to examine the central agreement (i.e. Infl°), it should be noted that most Algonquian languages possess two parallel sets of verb inflection known as the "independent order" and the

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[2] For simplicity, all exponents in the table are displayed in terms of the Proto-Algonquian form that they reflect.

[3] The object-agreement analysis has recently been endorsed by Goddard (2007:232), who states that "it is the theme signs that indicate the distinction between subject and object, or more precisely, as Pentland (1999:235) says in another context, the identity specifically of the object."

"conjunct order", which differ primarily in the shape of the central agreement morphology. The difference can be observed by comparing the Plains Cree independent and conjunct forms for 'we see her' in (8). In both forms, Voice° indexes the third-person object (-*ā* 3OBJ) and Infl° indexes the first-person subject, but the realization of Infl° is completely different: in the independent, Infl° is realized as a prefix-suffix combination as discussed in Section 2, while in the conjunct, Infl° is realized only as a suffix.

(8)　　a.　**ni-** *wāpam* -*ā*　**-nān**　　　　b.　*wāpam* -*ā*　　**-yāhk**
　　　　　1-　see　　-3OBJ **-1p**　　　　　　　see　　-3OBJ **-1p**
　　　　　'we see her' (independent)　　　　　　　'we see her' (conjunct)

The analysis of Voice° and Infl° proposed below encompasses the patterning of both sets of inflection. The conjunct is of more interest, however, as it displays more variation in the patterning of Voice° and Infl° both within and across languages. Accordingly, most of the examples below are conjunct forms.

　　　The significance of Infl°-agreement lies in the fact that it is not tied to a particular argument. As illustrated by the Plains Cree forms in (9), Infl° can index the subject, as in (9a), or the object, as in (9b), or even both arguments simultaneously in portmanteau fashion, as in (9c).

(9)　　a.　*wāpam* -*ā*　　**-yāhk**　　b.　*wāpam* -*iko* **-yāhk**　　c.　*wāpam* -*it*　　**-akok**
　　　　　see　　-3OBJ **-1p**　　　　　see　　-INV **-1p**　　　　　see　　-2OBJ **-1s:2p**
　　　　　'**we** see her'　　　　　　　　'she sees **us**'　　　　　　　'**I** see **you all**'
　　　　　(Infl indexes 1p subject)　　　　(Infl indexes 1p object)　　　　(Infl indexes both)

Despite this variation, a strong generalization can be made: whenever Voice° is realized as the inverse marker *-*ekw*, Infl° indexes *only the object*—not the subject and not a portmanteau subject-object combination. This generalization is instantiated by the Plains Cree inverse form in (9b) and the Southwestern Ojibwe inverse form in (4b) above, and by *all* inverse forms in these two languages.

　　　In order to test the strength of the correlation between inverse marking in Voice° and object marking in Infl°, I compiled the conjunct-order transitive paradigms of 26 Algonquian language varieties. Space limitations make it impossible to include the paradigms here, so I will simply report on the numbers of forms. Out of a total of 1,049 distinct verb forms, there are 262 forms in which Voice° is realized as the inverse marker *-*ekw* and its reflexes. Of these 262 inverse forms, there are only *four* forms in which Infl° does not index solely the object. The four exceptions come from Parry Island Nishnaabemwin (Valentine 2001), an Ojibwe dialect that appears to have been undergoing a change in the distribution of inverse marking at the time of documentation, judging by the multiple variant forms noted in Valentine's paradigms. I suggest that the exceptional Parry Island forms may be an unstable intermediate stage of a change in progress. In any case, the remaining 258 forms all follow the generalization that the appearance of the inverse marker in Voice° correlates with the appearance of pure object agreement in Infl°.

　　　Perhaps more compelling than sheer numbers is the fact that this correlation can be observed as an apparent constraint on diachronic changes. In Proto-Algonquian, the realization of Voice° as inverse *-*ekw* was restricted to only a small handful of conjunct forms, but it has been extended to additional forms in most of the daughter languages (see the table in (7) above). Wherever the extension of inverse marking has taken place, it has regularly been accompanied by a change in the realization of Infl° to index only the object. As an example, consider the inflection of the PA 3→1p form *wāpamiyamenči 'she sees us'. In this non-inverse form, Voice° is realized as the 1OBJ marker *-*i* and Infl° is realized as the 3:1p portmanteau *-***yamenč***. As shown in (10b–d), several of the languages have, independently, changed the realization of Voice° to the inverse marker—and, at the same time, they have also changed the realization of Infl° to index solely the 1p object, using the same 1p suffix that occurs in a 1p intransitive form.

(10)　a.　Proto-Algonquian　　b.　Plains Cree　　c.　Massachusett　　d.　Cheyenne
　　　　　-i　**-yamenč** *-i*　　　　*-iko* **-yāhk**　　　*-əkwē* **-yak**　　　*-ae* **-té**
　　　　　-1OBJ **-3:1p**　　-INDIC　　-INV **-1p**　　　　-INV　**-1p**　　　-INV **-1p**

Such examples indicate that the correlation between the inverse spellout of Voice° and the appearance of object agreement in Infl° is more than just a synchronic observation—it is a restriction that has played an active role in diachronic changes across the Algonquian family. Whenever a form is changed to have the

inverse marker in Voice°, it must also be changed to have object agreement in Infl°. Put differently, in order for the inverse marker to appear in Voice°, it must be the case that Infl° targets only the object. In the next section I show how this generalization gives rise to a simple and intuitive account of the nature of Algonquian inverse marking.

5. An impoverishment analysis of inverse marking

This section lays out the proposed impoverishment analysis of inverse marking. Section 5.1 presents the key proposal: inverse *-ekw* is the elsewhere form of Voice°, spelled out when the object agreement features on Voice° are deleted by a dissimilatory impoverishment operation. This impoverishment operation applies whenever the object agreement on Voice° is duplicated by object agreement on Infl°—that is, whenever Infl°-agreement targets the object rather than targeting the subject or both arguments.

This analysis depends crucially on the ability of Infl°-agreement to target either the subject or the object (or both), a proposal that raises two important questions: (1) why is Infl° able to target the object at all, and (2) how does Infl° "decide" whether to target the subject or the object (or both) in a given form? The answer to the first question, I propose, is that the occurrence of object agreement on Voice° renders the object's features just as accessible to Infl° as those of the subject (§5.2). As for the second question, I show that the agreement preferences of Infl° can be captured by positing an articulated probe whose feature specifications vary across languages (§5.3). The conditioning of inverse marking is thus ultimately a consequence of the features of Infl°, even though the inverse marker itself appears in Voice°.

5.1. Inverse as Elsewhere

The distribution of the exponents of Voice° presented in the preceding section can be summarized by the following two statements:

(11)   a.   Voice° normally indexes the object (*-i* 1OBJ, *-eθ* 2OBJ, *-ā* 3OBJ).
        b.   However, when Infl° targets the object, Voice° is realized as the inverse marker *-ekw*.[4]

Put differently, Voice° indexes the object *except when Infl° does*, in which case the inverse spellout of Voice° appears. We could informally say that the occurrence of object agreement on Infl° has the effect of "stealing" object agreement away from Voice°. And in fact, I propose that this is exactly what happens.

To see how this informal statement can implemented as an analysis, consider the pair of "direct" and "inverse" Southwestern Ojibwe forms in (12). Given that the base pattern of exponence in the Voice° slot is object agreement, I assume that Voice° invariantly targets the object in all forms. Voice° thus targets the third-person object in (12a) and the first-person object in (12b), as schematized in the diagrams below. The next stage in the derivation involves agreement on Infl°—and, crucially, Infl° favours first-person goals over third-person goals (for reasons to be discussed in Sections 5.2 and 5.3). Infl° thus targets the first-person argument in both forms, i.e. the first-person subject in (12a) and the first-person object in (12b). In (12a), where Voice° and Infl° target different arguments, the resulting agreement relations are reflected directly in the morphology: Voice° indexes the third-person object (*-ā* 3OBJ) and Infl° indexes the first-person subject (***ni- -nān*** 1p). In (12b), however, where both Voice° *and* Infl° target the first-person object, the outcome differs: Infl° indexes its goal as expected (***ni- -nān*** 1p) but Voice° does not, appearing as the inverse marker *-iko* INV rather than the expected first-person object marker *-i* 1OBJ.

(12)   a.   ***ni-*** *wāpam* ***-ā***   ***-nān***   b.   ***ni-*** *wāpam* *-iko* ***-nān***
            1- see   **-3OBJ -1p**   **1-** see   **-INV -1p**
            'we see her' (1→3)   'she sees us' (3→1)

           Infl°   Voice°   **Infl°**   Voice°

            1.SUBJ   3.OBJ   3.SUBJ   1.OBJ

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4   An apparent exception to this statement is addressed in Section 6.

Why is Voice° in (12b) spelled out as the inverse marker *-iko* INV rather than the expected first-person object marker *-i* 1OBJ? I propose that the answer lies in the interaction between the agreement features on Voice° and Infl°. The key to the form in (12b)—and all inverse forms—is that Voice° and Infl° both agree with the object. As a result, Voice° and Infl° end up with identical person feature specifications. And, importantly, it is known that configurations involving adjacent identical person features are banned in some languages. A prominent example is the "spurious *se*" of Spanish as analyzed by Nevins (2007), in which the expected clitic cluster *le lo* (3.DAT 3.ACC) is realized as *se lo*, with an opaque occurrence of the reflexive/impersonal clitic *se*. Nevins proposes that the *le lo* cluster violates a constraint against the adjacent occurrence of two identical person features. The violation is repaired by deleting the person features of the first clitic. As a result of this deletion, the clitic cannot be spelled out as the third-person form *le* and is instead realized as the underspecified elsewhere form *se*.

I propose that inverse marking in Algonquian arises from exactly the same constraint and exactly the same repair. As in Spanish, there is a ban on adjacent identical person features. Also as in Spanish, configurations that violate this constraint are repaired by deleting the person features of one of the offending heads. In particular, when Voice° and Infl° have identical person features, as in (12b), it is the features of Voice° that are deleted. This deletion makes it impossible to spell out Voice° as one of the usual person markers. The only option is to spell out an underspecified elsewhere form—and I propose that this is exactly what the "inverse" marker *-ekw* is, as shown in the spell-out rule in (13).[5]

(13)   Spell-out of Voice° (Proto-Algonquian forms)

$$\begin{array}{lcl} \text{*-}i & \longleftrightarrow & [1] \\ \text{*-}e\theta & \longleftrightarrow & [2] \\ \text{*-}\bar{a} & \longleftrightarrow & [3] \\ \text{*-}ekw & \longleftrightarrow & [\,] \end{array}$$

The proposal, then, is that the Algonquian inverse is essentially a "spurious *se*" effect in the sense of Nevins (2007): the inverse marker *-ekw* is the elsewhere form of the object-agreement head Voice°, spelled out when a dissimilatory impoverishment operation deletes the person features on Voice° due to their duplication on Infl°. Under this analysis, the driving force behind inverse marking lies not in Voice° itself (as proposed, for example, by Béjar & Rezac 2009 and Lochbihler 2012), but rather in the higher agreement head Infl°: the inverse marker appears in Voice° only when Infl° intrudes upon the object agreement that Voice° would otherwise express.

A crucial assumption of this analysis is that Infl° in Algonquian is able to target either the subject or the object (or both), with inverse marking arising whenever Infl° targets only the object. Section 5.2 proposes an explanation for why Infl° in Algonquian is able to make this choice. Section 5.3 shows how the choice is made in particular forms.
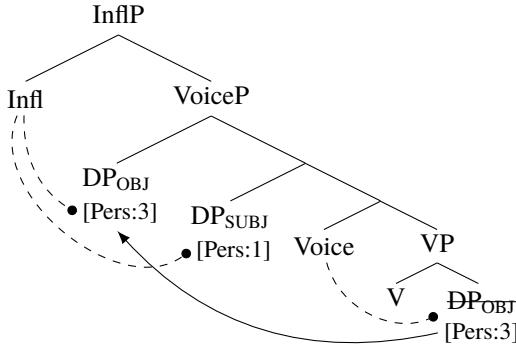
5.2. Why can Infl° target either the subject or the object?

In order for the impoverishment analysis of inverse marking to work, it must be the case that Infl°-agreement can target either the subject, as in (12a) above, or the object, as in (12b) (or both arguments, as in a portmanteau form such as (9c)). Why is Infl° in Algonquian able to target either argument rather than being restricted by locality to target only the subject? The answer, I suggest, lies in a property of Algonquian morphosyntax that we are already familiar with: the occurrence of object agreement on Voice°, as realized overtly by the exponents *-i* 1OBJ, *-eθ* 2OBJ, *-ā* 3OBJ. I propose that the object agreement operation on Voice° creates a configuration in which the subject and object are equidistant from Infl° and are thus equally accessible goals for Infl°-agreement.
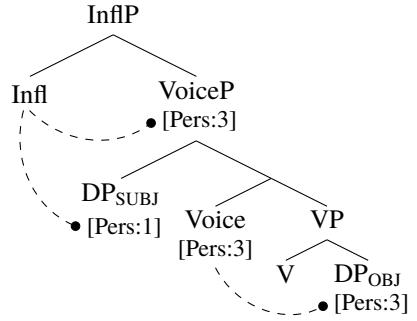
There are two alternatives for modeling this equidistance and the choice between them is not important to the current paper. One alternative is shown in (14a): object agreement on Voice° triggers movement of the object to [Spec, VoiceP], creating a multiple-specifier configuration in which the subject and object are equidistant from Infl° (Oxford 2014). The other alternative is shown in (14b): the object remains in situ after agreement but the object agreement features in Voice° project to VoiceP, a position that makes them equidistant with the subject features in [Spec, VoiceP] (cf. van Koppen 2005).

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5   The insight that the inverse marker is "elsewhere-like" originated with Bethany Lochbihler (p.c.).

(14) a. DPs equidistant from Infl°

InflP
├ Infl
└ VoiceP
  ├ DP_OBJ [Pers:3]
  └ DP_SUBJ [Pers:1]
    ├ Voice
    └ VP
      ├ V
      └ ~~DP_OBJ~~ [Pers:3]

b. Features equidistant from Infl°

InflP
├ Infl
└ VoiceP [Pers:3]
  ├ DP_SUBJ [Pers:1]
  └ Voice [Pers:3]
    └ VP
      ├ V
      └ DP_OBJ [Pers:3]

Under either approach, the outcome is that the subject and object's features are equally accessible to Infl°. The removal of locality as a factor in Infl°-agreement opens the door for other properties such as featural richness to play a role in the outcome of the Agree operation, as discussed in Section 5.3 below.

Attributing the subject-object omnivory of Infl°-agreement to the prior application of object agreement on Voice° has two benefits. The first benefit is that object agreement on Voice° is independently required in order to account for the spellout of Voice° as an object marker, so any other consequences of this agreement operation, such as the subject-object omnivory of Infl°-agreement, come for free. The second benefit is typological. There have been several recent proposals that true object agreement is rare or even non-existent, with most putative instances of object agreement actually being object clitic doubling instead (Arregi & Nevins 2008; Preminger 2009; Woolford 2010; Nevins 2011; Kramer 2014). If true object agreement is indeed rare, and if the existence of inverse marking in Algonquian is indeed a consequence of the application of true object agreement, as proposed above, then we have a principled explanation for the cross-linguistic rarity of direct-inverse alignment of the Algonquian type: its existence depends on the existence of true object agreement, which is itself an uncommon property.

5.3. How does Infl° choose its goal, and why does the choice vary?

The impoverishment analysis enables an account of the extensive variation in inverse marking summarized in the table in (7) above. Under the impoverishment analysis, the inverse marker *-ekw appears in Voice° whenever Infl° targets the object. Variation in inverse marking thus reduces to variation in whether or not Infl° targets the object—which can be captured straightforwardly by positing variation in the makeup of the probe on Infl°. Consider as an example the two Moose Cree 3→2p forms in (15) (Ellis 1971). In the independent form in (15a), Infl° indexes only the object (**ki- -wāw** 2p) and, as predicted, Voice° is realized as the inverse marker (*-iko* INV). In the conjunct form in (15b), on the other hand, Infl° indexes both the subject and object in portmanteau fashion (**-ākw** 3:2p). Since the person specifications of Infl° and Voice° are not identical in this form, impoverishment does not apply; Voice° retains its person feature and is spelled out as the second-person object marker *-it* 2OBJ.

(15) a. **ki-** *wāpam* *-iko* **-wāw**
          2- see   -INV **-2p**
          'she sees you all' (3→2p independent)

      b. *wāpam* *-it*   **-ākw**
          see   -2OBJ **-3:2p**
          'she sees you all' (3→2p conjunct)

Why does Infl°-agreement target only the second-person argument in the independent-order form in (15a) but both arguments in the conjunct-order form (15b)? We can account for this difference by positing a difference in the articulation of the probe (cf. Bejar & Rezac 2009): independent-order Infl° probes for [uPerson, uParticipant] and is thus best matched by the second-person argument while conjunct-order Infl° probes only for [uPerson] and is thus matched equally well by both arguments.[6] This difference

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[6] The independent-conjunct contrast is tied to clause type. A rough approximation is that independent forms occur in main clauses and conjunct forms occur in dependent clauses. Variation in the probe on Infl° within a single language, as in Moose Cree, can thus be attributed to inheritance from C° (cf. Lochbihler & Mathieu to appear): main-clause C° transmits the articulated probe [uPers, uProx] to Infl° while dependent C° transmits the flat probe [uPers].

leads to object-only Infl°-agreement in (15a) and portmanteau Infl°-agreement in (15b), with the result that impoverishment and consequent inverse marking in Voice° is triggered in (15a) but not in (15b).

Under this approach, the enterprise of capturing the range of variation in inverse marking across the Algonquian languages boils down to determining the features that condition Infl°-agreement in each language. When inverse marking is triggered by [Participant] objects, as in the Moose Cree independent order (see (15a)), the probe on Infl° must include the feature [*u*Participant]. When inverse marking is triggered by [Participant, Plural] objects, as in the Plains Cree conjunct order (see (7)), the probe on Infl° must be specified as [*u*Participant, *u*Plural] (cf. Coon & Bale 2013 for the equivalent pattern in Mi'gmaq). When inverse marking is triggered by first-person objects even in local forms, as in Blackfoot (see (7)), the probe on Infl° must include the feature [*u*Speaker]. And so on.

6. Apparent counterexamples

The starting point for the impoverishment analysis of inverse marking was the observation that inverse marking in Voice° correlates with object agreement in Infl°. However, this correlation is unidirectional: while it is true that inverse forms consistently display object agreement in Infl°, it is *not* true that forms with object agreement in Infl° consistently display inverse marking. Consider the Southwestern Ojibwe 3→2p conjunct form in (16a). Here Infl° indexes only the second-person object. We might expect, then, to find Voice° realized as the inverse marker, but it is not: we see a second-person object marker in Voice° followed by second-person object agreement in Infl°. Does this not contradict the proposed analysis?

(16) a. *wāpam* -*in* **-ēk**   b. *wāpam* -*i* **-yankit**
          see   -2OBJ **-2p**   see   -1OBJ **-3:1p**
          'she sees you all' (3→2p)   'she sees us' (3→1p)

Forms such as (16a) are not rare, and I contend that they are not problematic for the impoverishment analysis. The key is that the impoverishment operation is conditioned by the outcome of Infl°-agreement *in the syntax*, not by the eventual spellout of Infl°, which can be influenced by non-syntactic factors such as the availability of Vocabulary Items for particular argument combinations. I suggest that in the Southwestern Ojibwe conjunct, as in the Moose Cree conjunct discussed above (see (15b)), Infl° probes for [*u*Person] only. The two arguments in the 3→2p form in (16a) both match this probe equally well, and I propose that Infl° agrees with both—just as it does in the minimally different 3→1p form in (16b), in which the agreement of Infl° with both arguments is evidenced overtly by the spellout of the portmanteau Vocabulary Item -*yankit* 3:1p. The only difference in (16a), I suggest, is that Southwestern Ojibwe lacks a VI for the 3:2p argument combination in Infl°. In the absence of a VI for this combination, the next most specified VI is inserted, which is the 2p suffix -*ēk*. The appearance of 2p object agreement in Infl° is thus a purely morphological effect and does not indicate that Infl° targets only the object in the syntax.

Support for this analysis comes from the fact that other dialects of Ojibwe *do* spell out a portmanteau suffix in this form (e.g. -*āk* 3:2p in Algonquin; Jones 1977), as does Moose Cree (see (15b)). The only change in Southwestern Ojibwe is that the VI for 3:2p has been lost. The underlying syntactic agreement relations in the 3→2p form remain the same—Infl° still targets both arguments—so the operation of the impoverishment operation that derives inverse marking, which is conditioned by the output of the syntax, not by that of the morphology, remains unchanged.

7. Conclusion

This paper has laid out a model of Algonquian morphosyntax in which the structural subject agreement probe Infl° is able to target either the logical subject or the object due to an earlier step of object agreement on Voice°. The choice of subject or object is determined by the relative richness of the features of the two arguments with respect to the features of the probe on Infl°. When Infl° agrees only with the object, a dissimilation operation erases the identical object features on Voice°, leaving Voice° to be spelled out as an underspecified elsewhere form (the so-called "inverse" marker) rather than an object agreement marker. Variation in the distribution of inverse marking, under this analysis, reduces to variation in the specification of the probe on Infl°. The resulting typological picture is one in which Algonquian-style direct-inverse alignment is just a small twist on conventional nominative-accusative alignment: the

direct-inverse pattern emerges when true, rich object agreement occurs on Voice°, thereby making the object accessible to Infl°-agreement and enabling the complex agreement interactions that give rise to the direct-inverse pattern. The rarity of true object agreement suggested in recent work may explain why this alignment pattern arises in relatively few languages.

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