Person Encoding in the Ojibwe Inverse System

Bethany Lochbihler*
McGill University

Abstract
In this paper I discuss the effects of person feature encoding in Ojibwe, an Algonquian language, giving a morphosyntactic analysis of the Inverse System (IS) in that language. The IS phenomenon is affected by a ranked Person Hierarchy that directly influences the overt realization of the complex verbal morphology. I propose that IS in Ojibwe involves both a visibility condition and a Voice head which must be able to check against two unique arguments. I maintain the traditional view that the IS morphology encodes the grammatical function of the clausal arguments and argue against alternative classifications of the agreement patterns. I also introduce a unique notion of a person feature geometry that brings the hierarchy into the grammar as a complex probe head with ordered features. It is my claim that recent fully syntactic accounts of IS face theoretical and empirical difficulties, particularly in accounting for the full agreement paradigm.

1. Introduction

Person Hierarchy effects appear in many different languages and have a particular realization in the Algonquian family. The Inverse System (IS) in Ojibwe can give insight into the organization of person features into scales through the careful study of the complex morphology involved – through person feature encoding, IS relays the argument structure of a clause unambiguously. Many different analyses have been proposed for IS, involving different characterizations of the verbal morphology, and these appeal to different morphological and syntactic mechanisms. I argue that IS comes out of the intersection of syntax and morphology; the phenomenon

*I would like to thank the language consultants who share their language with me and who make the study of Ojibwe possible. These include Philomene Chegahno, Donald Keeshig, Joanne Keeshig, Isabel Millette, Ella Waukey and one anonymous consultant. Many thanks to Éric Mathieu, Maria-Luisa Rivero and Lisa Travis who have guided me in this research. Thanks also to the audiences at WAIL 10, CLA 2007, Scales, and the McPFIRG members for their comments. This work was partially funded by the Social Sciences and Humanities Research Council of Canada (Mathieu, #410-2005-1781; Rivero # 410-2006-0150).

Scales, 295-315
Marc Richards & Andrej L. Malchukov (eds.)
LINGUISTISCHE ARBEITS BERICHTE 86, Universität Leipzig 2008

cannot be fully accounted for without recognizing the division of labour between the different levels of grammar. This paper is organized as follows. Section 2 introduces the Inverse System and presents several previous accounts of IS in Algonquian languages. Section 3 posits a Visibility Condition which affects the verbal morphology throughout Ojibwe. Section 4 gives my analysis of the Inverse System appealing to cyclic agreement and discusses predictions of this analysis. Section 5 reviews fully syntactic accounts of IS, and section 6 concludes the paper.

2. The Inverse System as argument organization

2.1. The Inverse System

Algonquian languages – such as Ojibwe, Potawatomi, Cree, Passamaquoddy, Menominee and Arapaho – are usually said to have Inverse Systems (IS). IS in Algonquian refers to a complex system of verbal morphology where person agreement does not directly correspond to grammatical role, but appears to be subject to Person Hierarchy effects. The person proclitic found on verbs in declarative matrix clauses (called the "independent state") agrees with the clausal argument – subject or object – which is the highest ranked on the hierarchy in (1) (*g-* 2nd, *n-* 1st, *w-*/∅- 3rd).

(1) Person Hierarchy:2 > 1 > 3 prox(imate) > 3′ obv(iative) > 0 inanimate
(Adapted from Valentine 2001: 268)

Grammatical function, which is not encoded in the proclitic, is indicated by the theme-sign suffixes, which either denote direct (DIR) – where the subject is highest ranked in (1), seen in (2)a – or inverse (INV) – where the object is highest ranked in (1), as in (2)b.

(2) a. n-waabm-aa
1-see-DIR
'I see him.'

b. n-waabm-ig
1-see-INV
'He sees me.' (Valentine 2001:270)

In (2), 1st person outranks 3rd person in both sentences, and so is encoded in the proclitic, despite grammatical role. It is the form of the theme-sign suffix which relays whether the proclitic is the subject or object (inverse and direct, respectively). There are actually two sets of theme-signs: Non-local (as seen in (2)), which are used when at least one of the arguments is 3rd person, and Local, which are used when both arguments are speech act participants (SAPs), i.e. 1st or 2nd person. Since 2nd person outranks 1st in Algonquian (as in (1)) a 2nd person appears in the proclitic position in (3) instead of 1st.

(3) a. g-waabam-i
2-see-DIR(local)
'You see me.'
b. g-waabm-in
2-see-INV(local)
'I see you.' (Valentine 2001:270)

(3)a is a direct local construction since both the subject and object are SAPs, and because the higher ranking 2nd person (relayed in the proclitic) is also the higher argument – the subject. (3)b is an inverse local construction since the lower ranking argument, 1st person, is the subject and the higher ranked 2nd is the object. (4) lists the entire set of theme-signs found for transitive animate (TA) verbs (i.e. transitive verbs with animate objects).

(4) Ojibwe theme-signs:

	Direct	Inverse
Local (L)	*-i*	*-in(i)*
Non-local (NL)	*-aa*	*-igw* (also *–igo, -igoo, -ig*)

The realization of IS depends on the Person Hierarchy for the choice of proclitic, which agrees with the highest ranking person feature in the clause, and uses the theme-sign suffixes to match up the person features with their grammatical function. Next we will look at a few competing accounts of IS.

2.2. Previous accounts of IS

As reviewed in the previous subsection, the traditional literature characterizes theme-signs as indicating a direct or inverse relationship between the internal and external arguments (see Bloomfield 1957; deLancey 1981; Klaiman 1992; Aissen 1997; Valentine 2001). Several different views about the exact nature of the theme-signs have been put forward which propose different functions and agreement relations for the morphemes in question. I argue that the traditional view is correct since it covers the behaviour of all four theme-signs while other views have more difficulty accounting for their distribution.

First, consider McGinnis (1999) which claims that theme-sign suffixes are in fact object agreement markers on the verb. This idea presents the agreement correspondence in (5).

(5) Object agreement: [+2] ↔ /-ini/
[+1] ↔ /-i/
(else) ↔ /-aa/
(McGinnis 1999:109)

However, this view of the agreement is not a one-to-one correspondence between the object and the verbal suffix in Ojibwe. 1st, 2nd and 3rd proximate objects can all appear with *–igw* (Non-local inverse), seen in (6), which goes against the generalization given in (5). McGinnis (1999) suggests that *–igw* is agreement with a 3rd person embedded subject, but this affix shows up consistently in matrix clauses as well.

(6) a. n-waabm-**ig**
'He saw **me**.'
b. g-waabm-**ig**
'He sees **you**.'
c. w-waabm-**igoo**-n
'He(obv) sees **him(prox)**.' (Valentine 2001: 270)

Object agreement does not account for all instances of theme-sign suffixes. A second analysis is from Halle & Marantz (1993) which treats the theme-sign in Potawatomi (an Algonquian language closely related to Ojibwe) as

Case agreement for a 3rd person argument. In this case, the direct *–a* would be accusative agreement (7)b, and the inverse *–uk* would be nominative (7)a.

(7) a. n-wapm-**uk**
'**He** sees me.'
b. n-wapm-**a**
'I see **him.**' (Halle & Marantz 1993: 148)

Such Case agreement does not account for the Local theme-signs which do not involve 3rd person arguments, or for sentences where both the subject and object are 3rd person.

Finally, Béjar & Rezac (2005) treat the direct theme-sign as default and the inverse theme-sign as added agreement on the verb, therefore constituting the marked case. This might not be desirable since both the direct and inverse are morphologically marked and common in Ojibwe. However, I will adopt key aspects of Béjar & Rezac's (2005) Cyclic Agree analysis in section 4.

These three proposals fail at the descriptive level because they cannot completely account for the distribution of the theme-signs in (4). Therefore, I will conclude that theme-signs reflect the grammatical relations within the clause, as the tradition has maintained. The next section discusses a visibility condition which appears to affect the realization of the IS morphology and looks at a wider range of data from Ojibwe.

3. The Ojibwe Visibility Condition

Now I will introduce the concept of the Ojibwe Visibility Condition which deals with how arguments are encoded in person agreement on the verb. I will carefully go over exactly how the argument structure of a clause is made explicit in the Inverse System and relate the Visibility Condition to data outside the core of IS.

3.1. Introduction to the Ojibwe Visibility Condition

The spell-out of the verbal morphology in Ojibwe is somehow restricted by a condition at the morphology-syntax interface, stated as follows:

(8) *Ojibwe Visibility Condition (OVC)*
The person features and grammatical function of each argument in a clause must be explicit.

The OVC serves a functional purpose in requiring that each argument, indexed by its person features, be traced back to its grammatical function. This is a challenge in Ojibwe because the proclitic must correspond to the highest ranking person feature in the clause and disregards grammatical function. The OVC is satisfied in IS by the conjunction of the proclitic, theme-sign as well as the plural suffix. If a construction violates the condition then it is unacceptable.

In IS the OVC is satisfied in this way: first, proclitic agreement gives the person features for one argument, call it x. Second, the theme-sign indicates whether argument-x is the subject (direct) or object (inverse). The grammatical function of the remaining argument, y, is also made clear by the theme-sign since y gets the grammatical role left over – this 'left over' role is the object in the direct, and the subject in the inverse. Third, the use of a Local or Non-local theme-sign gives information about the person features of argument-y. Suppose the proclitic encodes 1st or 2nd person, then a Local suffix indicates that argument y is also an SAP, and a Non-local suffix indicates that argument-y is 3rd person. Finally, the person features and grammatical functions of both arguments are made visible and unambiguous in the verbal morphology. Consider the satisfaction of the OVC for (9).

(9) a. n-waabm-aa
1-see-DIR(NL)
'I see him.'
b. g-waabm-in
2-see-INV(L)
'I see you.' (Valentine 2001:270)

(9)a shows that argument-x is 1st via the proclitic, that argument-x is the subject because of the direct theme-sign, and that argument-y is a 3rd person object because the theme-sign is non-local. (9)b indicates that argument-x is 2nd in the proclitic and that it is the object since the theme-sign is inverse. The use of the Local theme-sign says that the remaining grammatical role given to argument-y is a 1st person subject.

3.2. The OVC throughout Ojibwe agreement

This section goes beyond the core of IS, namely the proclitic and theme-sign, to look at other morphology in the language and show how visibility is consistently satisfied and ambiguity is avoided. First, there are plural suffixes on the verb which can indicate the number features of arguments in that clause. These plural morphemes also encode person features, shown in (10).

(10) Ojibwe verbal plural suffixes:

1st:	-min	
2nd:	-im	
3rd:	-ig	(Valentine 2001:287-8)

It is my claim that a plural suffix must be chosen according to the OVC such that person features are explicit in the morphology. The use of the plural suffixes can be made clear when we consider the form of 1st person plural inclusive (or 2-1) arguments, seen in (11).

(11) a. g-waabm-aa-**min**
2-see-DIR(NL)-**1pl**
'We(inclu) see him.'

b. g-waabm-igo-**min**
2-see-INV(NL)-**1pl**
'He saw us(incl).' (Valentine 2001: 287)

As demonstrated in (11), a 2-1 argument is expressed by a 2nd proclitic and a 1st plural suffix, so that both of the features involved, [2, 1], are made visible (note that there is no unique 2-1 plural suffix). 2-1 cannot be expressed using the 2nd proclitic (which must be used since 2nd is the highest ranking feature in the clause) *and* a 2nd plural suffix because nothing in the verbal morphology would express the 1st person features (12). Such a morphological configuration violates the OVC.[1]

[1]See Macaulay (2005) for a further discussion of the 1>2 ranking of plural suffixes in Algonquian.

(12) *g-waabm-aa-**im**
2-see- DIR(NL)-**2pl**
'We(inclu) see him.'

A second demonstration of the OVC is the case of transitive inanimate (TI) verbs, which have animate subjects and inanimate objects indicated by a TI verb final (so far we have been dealing with transitive animate (TA) verbs). This means the verb is always direct since Animate > Inanimate, and no inverse is possible (Bruening 2005), as in (13).[2]

(13) a. n-waabnd-am-n
1-see-TI-inan.sg
'I see it(inan).'
b. w-aabjit-oo-n
3-use-TI-inan.sg
'He uses it(inan).' (Valentine 2001:305,311)

The proclitic must always refer to the subject since 1st, 2nd and 3rd proclitics correspond to animate arguments. Again the clausal structure is explicit in the verbal morphology, here without the use of a theme-sign.

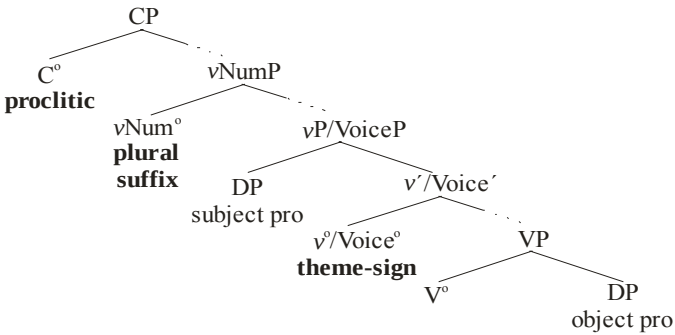
The OVC is consistently satisfied in Ojibwe morphology. This is also seen in the conjunct state, found in embedded clauses, which lack the person proclitic and therefore use different person-morpheme correspondences. Also, there is a set of ungrammatical argument combinations, such as 3prox/3prox or 2-1/2 which can be understood in light of the visibility condition. I will not discuss these cases here. The apparent effects of the OVC, dependent on the overt morphology, suggest that IS is at least in part a morphological phenomenon. In the following section I will introduce the syntactic part of the analysis which goes over the specific type of cyclic agreement. I argue that this kind of agreement is needed to account for the form of the theme-signs.

[2]A similar situation is found with animate intransitive plus object verbs, which are always direct forms.

4. Syntactic Agreement

The agreement slots that are of interest to us for the Algonquian Inverse System are shown in the structure in (14).

(14) Inverse System agreement slots



I assume a Distributed Morphology type account for Algonquian word formation. The verb undergoes phrasal movement through the *v*P layers from spec to spec creating a complex verb form (see Déchaine 1999 and Mathieu 2006 who argue for this kind of phrasal movement).

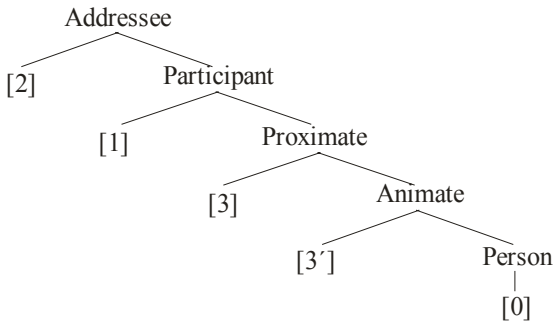
4.1. The Voice head

Voice° corresponds to the theme-sign morpheme and must be able to check with both the subject and object since its form depends on the person features of both, as argued above. The agreement mechanism involved with this head is inspired by Cyclic Agree, as proposed by Béjar and Rezac (2005). Although I do not discuss their proposal in detail here, it is important to note that my account differs from Béjar & Rezac in several important ways, including the specification and structure of the Voice probe, the feature bundles present on arguments, how the second cycle of checking occurs, the manner of spell-out, and the characterization of the inverse. In my account, the Ojibwe Voice probe has the uninterpretable features in (15) to check against the arguments in the clause.

(15) Ojibwe Voice° Probe: 2
1
3
3′
0

The features in (15) are related to each other by a special notion of entailment, seen in (16). Unlike traditional feature geometries these person features are related by c-command, such that a feature 'entails' all features it c-commands. As will be shown, this notion of entailment allows for the order of feature valuation to be recovered on the Voice probe.

(16) Ojibwe person feature geometry



I do not adopt the Harley & Ritter (2002) type of feature geometry for morphosyntactic features. Their geometry takes the tertiary branching style of Phonological geometries, and separates person features denoting 1st and 2nd under a Participant node from Animacy features which reside under an Individuation/Number node. In Ojibwe we can clearly see that person features and animacy features pattern together. Consider (17).

(17) a. w-waabm-aa-n
3-see-DIR(NL)-OBV
'He(prox) seems him(obv).'
b. w-waabm-igo-n
3-see-INV(NL)-Inan.sg
'It(inan) sees him(prox).' (Valentine 2001:287)

(17)b shows how even inanimate arguments can contribute to the theme-sign form when contrasted to animate 3rd person arguments, which are ranked with respect to each other (17)a. Person and animacy features pattern together in Ojibwe, as the ranking in (1) suggests. I am not claiming to rule out more traditional feature geometries. However, languages like Ojibwe bring light to the nature of person feature organization and the entailment by dominance used in Phonological geometries does not enlighten the data.[3]

The probe in (15), taking the structure in (16), appears on Voice and checks first with an appropriate goal (i.e. the direct object) in its complement (see (14)). Since uninterpretable features remain on the probe after this checking, Voice looks up in its search space to the specifier and can check with the subject. Consider the direct form in (18). (Feature valuing is indicated by ~~strikethrough~~, feature entailment by shading, and (parentheses) indicate valuing from a previous cycle.)

(18) a. n-waabm-aa
1-see-DIR(NL)
'I see him.' (Valentine 2001:270)

b.

Cycle 1: Object 'him' [3]			Cycle 2: Subject 'I'[1]		
2					2
1			[1]	–	~~1~~
~~3~~	–	[3]			(~~3~~)
3′					3′
0					0

(18) gives a direct non-local context. In the first checking cycle, the 3prox object, which is the only available goal when the probe merges, values the [3] feature on the probe and this feature entails [3′] and [0] as per (16). Note that entailed features are not actually valued on the probe since [3′] and [0] are not specified on 3prox 'him'. In cycle 2, the 1st person subject values the unvalued and unentailed [1] feature. All features checked are unentailed when valued in the direct. The inverse case is given in (19).

[3] This analysis does not discuss number or other morphosyntactic features.

(19) a. g-waabm-in
2-see-INV(L)
'I see you.' (Valentine 2001:270)

b. Cycle 1: Object 'you' [2] Cycle 2: Subject 'I' [1]

~~2~~	–	[2]
1		
3		
3′		
0		

		(~~2~~)
[1]	–	~~1~~
		3
		3′
		0

(19) is a local inverse context. In cycle 1, the 2nd person object values [2] on the probe and entails all the remaining features. In cycle 2, the 1st person subject values the already entailed [1] feature. Because an entailed feature has been valued the inverse spell-out is triggered. Also, since only SAP features have been valued the local morpheme is used.

With this type of cyclic checking and feature entailment, the person features of both arguments in a transitive clause, and the order in which these features were checked on Voice can be recovered. The spell-out rules for the theme-sign are then simple (20).

(20) **Spell-out rules**:

Theme-Sign type	**Context**
DIRECT	Only unentailed features are valued (as in (18))
INVERSE	Some entailed feature is valued (as in cycle 2 of (19))
NON-LOCAL	3rd features are valued (not only entailed, (18))
LOCAL	3rd features are only entailed (not valued, (19))

This system accounts for more than the theme-sign suffixes, and also accounts for the transitive inanimate (TI) suffix, found on verbs with inanimate objects (21). In this context the direct theme-sign is not inserted.

(21) a. n-waabnd-am-n
1-see-TI-inan.sg
'I see it(inan).' (Valentine 2001:305,311)

b.

Cycle 1: Object 'it(inan)'			Cycle 2: Subject 'I'		
2				2	
1			[1]	–	~~1~~
3					3
3′					3′
~~θ~~	–	[0]			(~~θ~~)

The appearance of the TI verbal final in (21) motivates another spell-out rule, which says a TI final is inserted if [0] is valued while unentailed. This rule blocks the other spell-out rules for theme-signs. A wide range of verb finals (which seem to be in the same morphological slot as the theme-signs), for transitive and intransitive verbs, and verbs with different combinations of animate and inanimate arguments, are easily accounted for with this system of cyclic checking. It is important that an analysis of the Algonquian Inverse System be able to have explanatory power within a language and not be limited to only a small set of morphemes.

4.2. C head

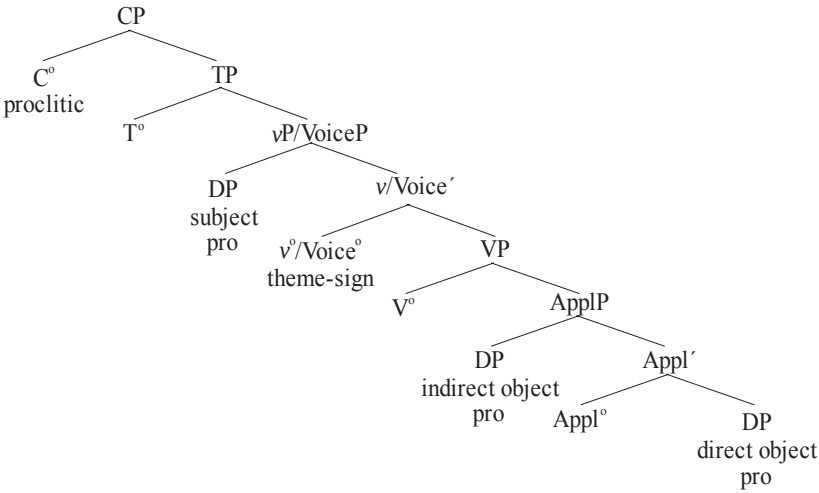
We have just gone over the account of the theme-sign which uses cyclic checking so that the theme-sign can encode person features from two different arguments. The other central component of IS is the person proclitic which, as mentioned, agrees with the highest ranking person features in the clause as per (1). I follow Halle & Marantz (1993) in saying that the person proclitic is the spell-out of the C head, taking a high position in the structure. Similar to McGinnis (1995), both the subject and object agree with C (feature movement for McGinnis) and the highest ranking person feature (i.e. the most highly specified, in terms of entailment) is spelled-out. The spell-out of the proclitic then also follows notions within Distributed Morphology.

4.3. Predictions of cyclic checking

A prediction made by my analysis of cyclic checking is that the theme-sign on a ditransitive verb will relay the relationship between the subject and the indirect object (IO), not the direct object (DO). An Ojibwe ditransitive can

be paralleled to the Double Object Construction where the IO is structurally higher than the DO, as it is in (22).

(22) Ditransitive clause



When Voice° merges, the probe looks down into its complement for an appropriate goal and first finds the IO, the most local goal. The DO cannot check against the probe because the IO intervenes between it and the Voice probe. As with a normal transitive, Voice checks against the subject in spec VoiceP after it checks against an object. The prediction that the theme-sign will encode the person features of the subject and IO is borne out and is displayed in (23) and (24).

(23) a. ne-gii-miin-aa Mani mzinegen
1-pst-give-DIR(NL) Mary book
'I gave a book to Mary.'
(Anonymous consultant, 19/04/07)

b. emkwa:nes n-gii-miin-ig
spoon 1-pst-give-INV(NL)
'He gave a spoon to me.' (Philomene Chegahno, 20/04/07)

(24) a. gi-gii-miin-i emkwa:nes
2-pst-give-DIR(L) spoon
'You gave a spoon to me.'
b. gi-gii-miin-in emkwa:nes
2-pst-give-INV(L) spoon
'I gave a spoon to you.' (Philomene Chegahno, 20/04/07)

For example, (24)a gives the local direct context with the 2nd person subject corresponding to the proclitic and the 1st person IO encoded in the local theme-sign. (24)b is inverse with a 1st person subject and 2nd person IO, which controls proclitic agreement. If IS were a fixed transaction between the subject and DO we would not get local theme-signs in (24) since the DO is 3rd, and the involvement of the 3rd DO would trigger a non-local suffix.

This section has presented my version of cyclic agree, inspired by the account given by Béjar & Rezac (2005), to account for the theme-sign which encodes person features from two arguments in a transitive clause. This analysis accounts for more than the core Inverse System and extends to the different types of verb finals found in Algonquian, and predicts the relation between the subject and indirect object (rather than direct object) in ditransitive theme-signs. Next I will review some fully syntactic accounts of IS which involve argument movement. I argue that these analyses cannot account for the morphology and the morphosyntactic account given in this paper is a better fit for the IS phenomenon.

5. Semantic and syntactic effects of the Inverse System

Several recent analyses of IS in Algonquian languages involve syntactic inversion via A-movement (Bruening 2001, 2005; Anagnostopoulou 2005; Bianchi 2006). In this section I will discuss the foremost syntactic analysis of IS by Bruening (2001, 2005), as well as Bianchi (2006).

5.1. Review of Bruening (2001,2005)

Bruening (2001, 2005) analyzes IS in Passamaquoddy, an eastern Algonquian language, as A-movement of the subject and object, claiming

that the syntactic movement account is the most parsimonious. His proposal is summarized as follows. First, the subject and object merge into their expected positions of spec VoiceP and comp VP respectively, meaning the subject is syntactically higher than the object. In the direct voice the subject remains structurally above the object. Conversely, in the inverse voice an [EPP] feature (not present in the direct) appears on the Voice head, motivating the object to A-move to an outer specifier of VoiceP. This object movement places the object structurally above the subject, creating actual structural inversion of the arguments (Bruening 2005). Finally, the proclitic spells-out on the C head, agreeing with the highest argument in the structure, and the theme-sign is the spell-out of the Voice head dependent on whether or not the [EPP] feature is present: the theme-sign suffix is direct in the absence of the [EPP] feature, and is inverse when there is an [EPP] feature on Voice.

It is my claim that IS is not strictly syntactic but involves the morphological component as well. Initially, it can be seen that Bruening's proposal encounters several difficulties. First, the appearance of the [EPP] feature marking a structure as direct or inverse implies that a verbal complex must be lexically prespecified. This misses the fact that the theme-signs are predictable based on the person specification of the arguments. Second, the Local/Non-Local theme-signs are a problem for the syntactic account since the [EPP] feature only allows for a direct/inverse contrast. Not all the basic morphology can be accounted for in this syntactic proposal of IS (Bruening 2005 claims there is no agreement relation between the arguments and Voice). Third, serious complications arise when the direct/inverse contrast does not involve an SAP argument vs. a 3rd person argument. With two SAP arguments in a clause, Bruening claims both must A-move out of the *v*P to check a [Participant] feature with a *v*P external projection, meaning the [EPP] must be present to allow this movement in both the direct and inverse. If the special [EPP] feature can appear in direct contexts then it cannot mark the inverse and the difference between the two voices is blurred and ambiguous.

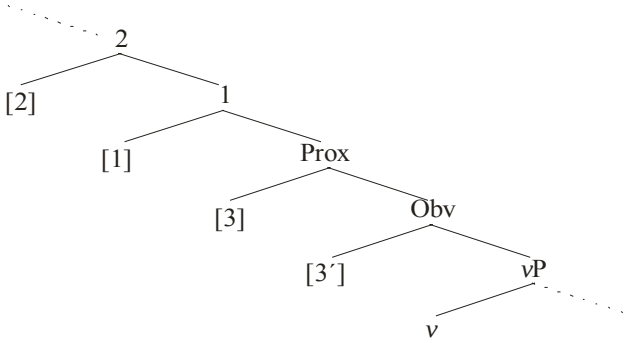
Part of the problem with the syntactic account is that it cannot account for the rich morphology because person features have impoverished representations. Bruening's (2005) [Participant] feature is a type of person feature encoded in the syntax, but on its own all the different relations in IS (that is, all the theme-sign forms in (4)) cannot be derived.

Considering the issues given above (among others, such as syntactic intervention effects for movement) it seems that perhaps the Inverse System is not a fully syntactic phenomenon and must involve the morphological component. Bruening (2001, 2005) supports the syntactic analysis of IS using scope and binding data in Passamquoddy. I claim that the binding facts are not due directly to IS, but are rather due to the system of obviation in the language family, and that scope facts in Ojibwe do not pattern in the same way as Bruening's data for Passamaquoddy. For reasons of space, I will not discuss these issues here.

5.2. Review of a Bianchi (2006)

Another syntactic account of the Inverse System can be found in Bianchi (2006) for Plains Cree. Bianchi uses a "cartographic" implementation of the animacy hierarchy (1), using separate functional projections for different person features. The feature ranking is relayed in the order of projections as in (25).

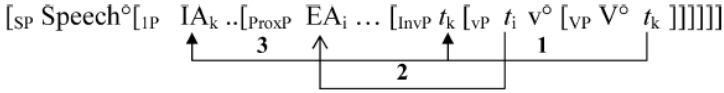
(25) Cartographic Animacy Hierarchy



In Bianchi's (2006) account, arguments raise to the corresponding functional projections to check their person features. The highest "activated" person projection spells-out as the person proclitic. The movement is restricted such that paths must cross and cannot be nested, so that Relativized Minimality is observed. In the direct the subject is higher ranked and raises to a higher projection than the object, giving crossing

paths. And in the inverse, the object must first raise to a position above the subject (outer spec *v*P, or to the specifier of an InverseP just above the *v*P) and then to the higher person projection to avoid nested paths with the subject. The movement involved with the inverse voice is schematized in (26).

(26) Inverse in Bianchi (2006)



Again, like Bruening, Bianchi's account maintains normal subject over object dominance in the direct and uses actual subject-object inversion in the inverse. However, this account also requires some fine tuning to cover all the data of the Inverse System in Algonquian. First, Bianchi does not discuss what kind of feature motivates the movement of the object to an intermediate specifier above the subject in the inverse voice. This is the same problem as Bruening's (2005) [EPP] feature which arbitrarily appears in the structure. Second, no mode of spell-out of the theme-sign is given so the forms are not yet predictable in the cartographic approach. Third, the morphological difference between the direct/inverse for the local/non-local theme-signs does not fall out of the proposal.

The main difference between the accounts discussed in this section and my own is that the morphosyntactic account assumes no defining structural difference between the direct and inverse voices, but only unique realizations in the morphology as a result of agreement in the syntax and the OVC. The syntactic accounts require structural differences between the two voices deriving IS from syntactic subject-object inversion. These accounts also encounter major difficulties with the morphology.

6. Conclusion

I conclude that the Inverse System in Ojibwe (and across Algonquian languages) is a morpho-syntactic phenomenon. My proposal gives the best empirical coverage (27), and avoids problems encountered in the syntactic accounts, such as the arbitrary appearance of feature motivating movement of the object in the inverse.

(27) Empirical coverage of competing analyses of the Inverse System

	Morpho-syntactic account	**Bruening (2001,2005)**	**Bianchi (2006)**
Proclitic	✓	✓	✓
Local theme-sign	✓	×	×
Non-Local theme-sign (SAP vs. 3)	✓	✓	?
Non-Local theme-sign (3 vs. 3)	✓	×/?	?
Other verb finals (e.g. transitive inanimate)	✓	×	×

I have argued for an analysis of the Inverse System in Ojibwe which adheres to the Ojibwe Visibility Condition and uses cyclic agreement of two arguments against one head in the syntax. I have assigned several characteristics to the cyclic agreement used, including the entailment of features, which reflects the Algonquian Person Hierarchy given in (1), and allows for a simple spell-out system of the theme-signs, accounting for their distribution.

In my proposal, the Person Hierarchy scale has status in the language in the form of feature entailment, specifically on the Voice probe that checks with both the object and subject to produce a theme-sign. I argue against syntactic notions of the hierarchy since these miss basic morphological generalizations and require movement. Following Ritter & Rosen (2005), A-movement is absent from Algonquian languages suggesting that accounts using A-movement (such as Bruening 2001, 2005) are not ideal.

References

Aissen, Judith (1997). On the syntax of obviation. *Language* 75, 451-485.

Béjar, Susana and Milan Rezac (2005). Cyclic Agree and the Derivation of PCC Effects. Selected papers from *LSRL* XXXII. John Benjamins.

Bianchi, Valentina (2006). On the Syntax of Personal Arguments. *Lingua* 116, 2023-2067.

Bloomfield, Leonard (1957). *Eastern Ojibwa: Grammatical Sketch, Texts and Word List*. University of Michigan Press, Ann Arbor.

Bruening, Benjamin (2001). Syntax at the Edge. Ph.D. thesis, MIT, Cambridge, Mass.

Bruening, Benjamin (2005). The Algonquian Inverse is Syntactic: Binding in Passamaquoddy. Ms. University of Delaware.

Déchaine, Rose-Marie (1999). What Algonquian Morphology is Really Like: Hockett Revisited. In *MIT Occasional Papers in Linguistics* 17, 25-72. Department of Linguistics and Philosophy, MIT, Cambridge, Mass.

DeLancey, Scott (1981). An interpretation of split ergativity and related patterns. *Language* 57, 626-657.

Halle, Morris and Alec Marantz (1993), Distributed Morphology and the Pieces of Inflection. *The View from Building 20*, ch. 3. Cambridge, MA: MIT Press.

Jelinek, Eloise and Demers, Richard (1983). The agent hierarchy and voice in some Coast Salish languages. *International Journal of American Linguistics* 49, 167-185.

Klaiman, Miriam Holly (1992). Inverse languages. *Lingua* 88, 227–261.

Macaulay, Monica (2005). On the 2>1 Prominence Hierarchy of Algonquian. In *Proceedings of WIGL*, ed. Rebecca Shields. LSO Working Papers in Linguistics 5, 1-24.

Mathieu, Eric (2006). *The syntax of concrete finals in Ojibwe*. Ms., University of Ottawa, Ont.

McGinnis, Martha (1995). Word-internal syntax: evidence from Ojibwa. In Päivi Koskinene (Ed.), Proceedings of the Canadian Linguistic Association Annual Conference. *Toronto Working Papers in Linguistics*, pp. 337-347.

McGinnis, Martha (1999). Is there syntactic inversion in Ojibwa? In Proceedings of the Workshop on Structure and Constituency in Native American Languages, ed. Leora Bar-El, Rose-Marie Déchaine and Charlotte Reinholtz. *MIT Occasional Papers in Linguistcs* 17, 101-118.

Rhodes, Richard (1993). The possessor constraint. Paper presented at *The 25th Algonquian Conference*, Ottawa, ON.

Ritter, Elizabeth and Sara Thomas Rosen (2005). Agreement without A positions: another look at Algonquian. *Linguistic Inquiry*, 36, 648-660.

Silverstein, Michael (1986). Hierarchy of features and ergativity. In Pieter Muysken and Henk van Riemsdijk, eds., *Features and Projections*, 163–232, Dordrecht: Foris. Originally published in R.M.W. Dixon, ed.,

1976, *Grammatical Categories in Australian Languages*, Canberra: Australian Institutes of Aboriginal Studies.

Valentine, J. Randolph (2001). *Nishnaabemwin Reference Grammar*. Toronto: University of Toronto Press.