Complex Person Encoding in Cyclic Agree

Abstract
This paper accounts for the full Inverse System paradigm in Ojibwe (Central Algonquian), unifying it with morphology from other verbal paradigms using the notion of Cyclic Agree (Béjar & Rezac 2009) to license Person ($\pi$) features. I present a detailed $\pi$-feature organization, represented in a geometry defined by entailment present as a complex probe on $\nu$ to encode Person Hierarchy effects. I revise Béjar & Rezac (2009) to obviate certain empirical and mechanical issues and better account for the data. Further, I account for a mismatch between syntactic transitivity and intransitive marking in Ojibwe, and Person restrictions on Theme arguments in ditransitives, which directly extends to Person restrictions in unrelated languages (e.g. Romance, Chinook, Icelandic). This proposal gives a new view on feature organization and valuation in the syntactic derivation, without impoverishing the morphosyntactic features.

1 Introduction

The morphology of the Algonquian Inverse System shows an acute sensitivity to both $\pi$-features and the interaction between internal and external arguments in a clause. The agreement slots are not describable by straightforward correspondences between grammatical function and $\pi$-feature specification, but vary dependent on which argument has a more highly specified $\pi$-feature with respect to the other argument. My first goal is to fully account for this complex agreement as a whole, where many previous accounts only cover a subset of the paradigm. I utilize the notion of Cyclic Agree on complex probes proposed by Béjar & Rezac (2009) and develop details of organized morphosyntactic features (e.g. Harley & Ritter 2002), where $\pi$-features are related by entailment relations (see Cowper 2005). Allowing for a fully specified geometry of $\pi$-features realized on a probe in the syntax obviates problems with analyses that oversimplify the featural set relating to the Inverse System and thus complicate the account of data at the edges of that paradigm. I further discuss certain issues with Béjar & Rezac’s (2009) proposal, namely the use of an insertion operation not equivalent to Merge and show that my analysis better covers the Ojibwe data. The use of these organized features and Cyclic Agree makes predictions beyond the Inverse System, both with Algonquian and in unrelated languages. I solve a long-standing puzzle in the Ojibwe literature where transitive verbs with an inanimate internal argument share morphology with intransitive verbs by appealing to the same Cyclic Agree present in the Inverse System and the representation of inanimates as lacking all $\pi$-features. I also present new data showing the Person-Case Constraint (Bonet 1991) is active in Ojibwe, and that it is accounted for by the proposed system when we consider intervention affects between competing goals. Finally, I show that the same analysis is harmonious with Person Restriction data from other languages, such as French, Spanish and Icelandic, and that these constructions can be unified with the Ojibwe data when their underlying argument structures are examined. The theory proposed here employs a detailed view of $\pi$-features, how they are licensed in the syntax and the relation of Person licensing to argument structure and restrictions.

This paper is organized as follows. Section 2 discusses the Inverse System, as realized in Ojibwe, in detail, proposing a detailed view of $\pi$-feature organization via entailment present on little $\nu$. I discuss the proposal of Béjar & Rezac (2009), adopting the spirit of their account but arguing for certain crucial changes to the mechanics. Section 3 looks at Algonquian data beyond the Inverse System, illustrating how my proposal straightforwardly extends to the account of other verbal paradigms and relates to certain syntactic data associated with the Inverse System (Bruening 2001, 2005, 2009). Section 4 looks
beyond Algonquian languages, discussing how this type of \( \pi \)-feature checking contributes to Person Restrictions in other languages. Section 5 concludes the paper.

2 The Algonquian Inverse System

2.1 The Core Inverse System

Algonquian languages are infamous for the morphological paradigm known as the Inverse System (IS) (discussed for Ojibwe, McGinnis 1995, 1999; Potawatomi, Halle & Marantz 1993; Passamaquoddy, Bruening 2001, 2009; Menominee, Macaulay 2005; among many others). IS refers to the complex morphology of the Transitive Animate verbal paradigm (VTA, where both arguments are animate). The two morphemes of interest are the Person proclitic and what is traditionally known as the theme-sign suffix (or final), which indirectly reflect the \( \pi \)-features and relative grammatical function of the clausal arguments. In this section I will focus on the independent order, found in plain matrix clauses, which is the traditional environment for the discussion of IS.

The verbal Person proclitic agrees with the clausal argument bearing the (descriptively) highest-ranking Person (\( \pi \)-)feature as per the Participant Hierarchy in (1). This morpheme makes no preference of a subject or object, or other grammatical function.

\[(1) \text{ Participant Hierarchy: } 2 > 1 > 3 \text{ proximate} > 3 \text{ obviative} > \text{Inanimate}\]

(Adapted from Valentine 2001:268)

The form of the theme-sign suffix is dependent on the Person feature specification and relative ranking with respect to (1) of the internal (IA) and external (EA) arguments. The theme-sign is direct (DIR) when the EA is higher ranked (or, equivalently, bears a more specific \( \pi \)-feature) than the IA. In the direct case, the EA corresponds with the form of the proclitic since it is highest ranked (2)a. The other possibility is that the theme-sign is inverse (INV), where the ranking of the EA and IA is switched such that the structurally lower IA bears more specific \( \pi \)-features and is encoded in the proclitic over the structurally higher EA (2)b. In both examples in (2) the proclitic is \textit{n}-‘1\textsuperscript{st}’ since 1\textsuperscript{st} person outranks 3\textsuperscript{rd}, and the theme-sign is \textit{–aa} ‘direct’ in (2)a because 1\textsuperscript{st} person is also the EA, and \textit{–ig(w)} ‘inverse’ in (2)b when 1\textsuperscript{st} is instead the IA.

\[(2) \begin{align*}
a. \quad \text{n-\text{waabm-aa} } \\
\quad \text{1-see-\text{DIR}(NL)} \\
\quad \text{‘I see him/her.’} \\
\hline
b. \quad \text{n-\text{waabm-ig} } \\
\quad \text{1-see-\text{INV}(NL)} \\
\quad \text{‘He/she sees me.’(Valentine 2001:270)}
\end{align*}\]

The theme-sign suffix tracks the relative ranking of the IA and EA but must also encode the \( \pi \)-features of both arguments, which becomes apparent when the Local (L) theme-signs are considered. When at least one of the relevant arguments is 3\textsuperscript{rd} person the Non-Local (NL) theme-signs are used (seen in (2)), but when both arguments are Speech Act Participants (SAPs, i.e. 1\textsuperscript{st} and 2\textsuperscript{nd} person) another set of suffixes is inserted, shown in (3). In Ojibwe (and many other Algonquian languages), 2\textsuperscript{nd} person

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\[1\] \( I \) will account for the other verbal paradigms not traditionally associated with the Inverse System in section 3.

\[2\] Macaulay (2005) discusses how the plural suffixes suggest a 1>2 ranking for \( \pi \)-features in some Algonquian languages. Although this is a topic of debate, I do not go into the detail of the plural suffixes in this paper and the different hierarchy rankings do not significantly affect my proposal.
outranks 1\textsuperscript{st} person giving the proclitic \textit{g-} ‘2\textsuperscript{nd} person’ in (3). (3)a is Local direct when 2\textsuperscript{nd} person is the EA and 1\textsuperscript{st} person is the IA, and (3)b is Local inverse when the person specifications of the arguments are swapped.

(3) a. g-waabam-i
   2-see-DIR(L)
   ‘You see me.’

b. g-waabm-in
   2-see-INV(L)
   ‘I see you.’ (Valentine 2001:270)

Note that the hierarchy in (1) includes more than one type of 3\textsuperscript{rd} person, namely \textit{proximate} (prox) and \textit{obviative} (obv), described as topic/foregrounded and backgrounded arguments respectively.\(^3\) Proximate outranks obviative, giving the direct/inverse distinction even when both relevant arguments are 3\textsuperscript{rd} person, illustrated in (4). Obviative arguments trigger \textit{–an} ‘obviative’ agreement on the verb.

(4) a. w-waabm-aa-n
   3-see-DIR(NL)-OBV
   ‘He(prox) sees him(obv).’

b. w-waabm-igo-on
   3-see-INV(NL)-OBV
   ‘He(obv) sees him(prox).’ (Valentine 2001:272)

The full set of Transitive Animate theme-sign suffixes is given in (5). Given that the system uses both Local and Non-Local morphemes, it is the case that the theme-sign must be able to encode the \(\pi\)-features of two arguments, for example when both arguments are SAPs the Local set.

(5) Ojibwe theme-signs:

\begin{center}
\begin{tabular}{lll}
& Direct & Inverse \\
Local (L) & -\textit{i} & -\textit{in(i)} \\
Non-local (NL) & -\textit{aa} & -\textit{igw} (also -\textit{igo}, -\textit{ig}) \\
\end{tabular}
\end{center}

The core Inverse System is summarized in (6), with external argument specification in the left column and internal arguments in the top row. Again, proclitics agree with the highest-ranking argument irrespective of grammatical role, and the theme-sign in turn encodes whether the EA outranks the IA or vice versa.

(6) Transitive Animate verbal paradigm (Adapted from Valentine 2001:287)

\begin{center}
\begin{tabular}{c|c|c|c|c|c}
& IA & 2 & 1 & 3 (prox) & 3\textsuperscript{'} (obv) \\
\hline
EA & & & & & \\
2 & reflexive & g-STEM-i & & & \\
1 & g-STEM-in & reflexive & & & \\
3 & g-STEM-ig & n-STEM-ig & reflexive & & \\
3\textsuperscript{'} & & & n-STEM-ig & w-STEM-aa-n & reflexive \\
\end{tabular}
\end{center}

\(^3\) Inanimates will be discussed in section 3.1.
2.2 Morphosyntactic Person feature organization

The set of Person features in Ojibwe is robust and complex, so here I propose a feature geometry to reflect their organization necessary for the full Inverse System paradigm (and in fact, the full set of verbal paradigms in Ojibwe) to be accounted for. The geometry must be structured to get the ranking (or entailment) between features, and detailed to allow for a unique representation of each feature type (including the different types of 3rd persons).

I propose the monovalent Person feature geometry illustrated in (7)a for Ojibwe, abbreviated as (7)b in representations later in the paper. The root node, and least specified Person feature, is [π], and the most specified, or specific, feature is [Addressee] (or [2]). Inanimate is unspecified in the geometry since inanimate arguments do not share the discourse properties or morphological agreement of the other π-specifications (discussed in section 3).

(7) Ojibwe φ-feature geometry

\[
\begin{align*}
\pi/\text{Animate} &= 3' \text{ (obviative)} & \pi \\
\text{Proximate} &= 3 \text{ (proximate)} & 3 \\
\text{Participant} &= 1 & 1 \\
\text{Addressee} &= 2 & 2
\end{align*}
\]

Feature geometries have been widely used to organize phonological features given evidence from phonological rules operating on a distinct set of features to the exclusion of other features (Clements & Hume 1995:266, e.g. vowel harmony across consonants). Cowper (2005) has employed geometries to account for realization of Infl across English and Spanish, which display quite distinct systems, for example. CENTRALLY, a feature geometry is simply a representation of dependency or entailment relations between features, where the presence of one feature can imply the presence of other features. Features at the bottom of the geometry entail those above it, namely those between itself and the root node, such that [2] in (7)b entails [1], [3] and [π], and the feature [π] does not entail any other features since it is the root node.

I posit that this kind of detailed feature organization is necessary to account for the full IS paradigm in Ojibwe (and other Algonquian languages), as well as verbal morphology in other paradigms. First of all, it must be possible to make contrasts between all the Person feature types, and second all these features must be somehow related to each other as described by the Participant Hierarchy in (1) to get the correct theme-signs. It has been noted many times that there is a split between SAPs (1st and 2nd person) and 3rd person, and some languages appear to make a [+Person] and [−/∅Person] (non-person, representing 3rd person) distinction (e.g. Benveniste 1974; Kayne 2000; Adger & Harbour 2007). However, such a view is over-simplified for certain languages (see Nevins 2007 on Spanish, for example), as is the case for Algonquian languages that have multiple 3rd person contrasts. I will show that only one type of 3rd person, the inanimate, is non-person in Ojibwe. As mentioned for the examples in (4), animate 3rd persons have a proximate/obviative contrast that can be seen as a system of disjoint reference to track different 3rd person arguments. 3rd person cannot be considered simply personless since there is a 3-way distinction (proximate, obviative and inanimate).4

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4 In fact, Western Ojibwa shows a 4-way morphological distinction among the 3rd persons, where further obviative is overtly marked (where prox>obv>f.obv):
Harley & Ritter (2002) developed the well-known morphosyntactic φ-feature geometry in (8) to account for the forms of pronoun cross-linguistically. This geometry makes a split between the SAPs, under a PARTICIPANT node, and 3rd person as essentially personless under the number node INDIVIDUATION, seen in the default specifications listed in (9).

(8) A morphosyntactic feature geometry – Harley & Ritter (2002:486)

```
Referring Expression (= Pronoun)

PARTICIPANT
  Speaker
  Addressee
  Group

INDIVIDUATION
  Minimal
  Augmented
  Animate
  Inanimate/Neuter

Feminine
Masc...
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<th>1st Person</th>
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<th>3rd Person</th>
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Although the Harley & Ritter (2002) geometry could potentially achieve distinct specifications for all the different types of Person in Ojibwe (e.g. using specifications like CLASS and Animate) it cannot be directly adopted since entailment is not sufficiently encoded. There is no direct dependency between the 3rd person and 1st and 2nd person which only share the root node, RE, and therefore cannot be directly compared or even described in Hierarchy terms. Further, I want to claim that π-features should be a distinct class of φ-features, apart from #-features for one, since they act as an independent set in Ojibwe and other languages. Other phenomena show Agreement interactions between π- and #-features, and I will set this aside as a concern of the φ-node rather than of the π-node.

The entailment relationships between the Person features are what cause the Hierarchy affects in the language. In the simpler case, the Person proclitic on the verb realizes the most specified feature (that is, the feature unentailed by other features in the clause). In the more complicated case of the direct or inverse theme-sign, the IA and EA must somehow be compared to each other to determine which one entails the other to properly insert the direct or inverse theme-sign.

Previous analyses of the Algonquian Inverse System fall short of being able to account for the full paradigm, including Local theme-signs and clauses with a 3rd person IA and EA. For example, Halle & Marantz (1993) treat the theme-sign in Potawatomi (an Algonquian language closely related to

(i) John o-gikeenimaan Mary-an o-miseeh-ini
John 3-know.TA-obv Mary-obv 3-sister-f.obv
‘John(prox) knows Mary’s(obv) sister(f.obv).’ (Grafstein 1984:24)
Ojibwe) as related to Case agreement for a 3\textsuperscript{rd} person argument, meaning \textsc{dir} –\textit{a} is ACC agreement and \textsc{inv} –\textit{uk} is NOM as in (10), but they admit this cannot account for Local interactions.

\begin{enumerate}
  \item \textbf{n-wapm-uk}
    \begin{itemize}
      \item \textit{‘He sees me.’}
    \end{itemize}
  \item \textbf{n-wapm-a}
    \begin{itemize}
      \item \textit{‘I see him.’} \hspace{1cm} \textnormal{(Halle & Marantz 1993:148)}
    \end{itemize}
\end{enumerate}

More syntactic views of IS (e.g. Anagnostopoulou 2005, Bianchi 2006, and others) generally impoverish the feature distinctions to some version of SAP vs. 3\textsuperscript{rd}, which again is not conducive to the 3-on-3 or Local constructions (often left out of IS paradigms). I aim to keep detail in the Person feature distinctions to cover the entire IS paradigm, as well as other verbal paradigms in Ojibwe, without relegating the phenomena completely to the morphological component (found in varying degrees in Halle & Marantz 1993; Chomsky 2000, and others).

In the following sections I will use the proposed Person feature geometry in (7) to account for the morphology of the Inverse System, and further for the forms of verbal suffixes that also appear to be in the theme-sign slot for other paradigms. I argue that a detailed organization of $\pi$-features is necessary given the set of distinct specifications that can all interact with one another to portray the kind of ranking that is often described in terms of hierarchy effects in the literature.

2.3 \textit{Cyclic Agreement}

My account of the Inverse System theme-signs adopts the concept of \textit{Cyclic Agree} as proposed by Béjar & Rezac (2009). However, I extend the context of Cyclic Agree to intransitive morphology in Ojibwe (section 3.1), employ distinct feature content on arguments and revise mechanics of their proposal that are problematic (section 2.4).

2.3.1 \textit{Sketch of Béjar & Rezac (2009)}

Béjar & Rezac (2009) posit that multiple arguments can potentially Agree with a complex \textit{core probe} that bears a set of uninterpretable $\pi$-features.\footnote{Béjar & Rezac (2009) apply their proposal to Ojibwe (termed \textit{Nishnaabemwin} in that article) to account for the complex forms of theme-signs in the VTA paradigm (to be discussed in section 2.4).} For languages like Ojibwe, little $v$ bears a probe with a full set of $\pi$-features, i.e. \([\pi [ \text{participant} [ \text{addressee} ] ]\) (versus other languages, such as English, which might bear a \textit{flat} probe bearing only $[\pi]$).

A sketch of their proposal is given in the derivation in (11) (illustrated in (12)). The VP containing the internal argument (IA) merges with little $v$, which bears a probe made up of a set of $\pi$-features (e.g. \([1, 2, 3]\), Step 1). If the IA bears $\pi$-features that match the probe then those features are deleted on $v$ (Step 2).

Next (Step 3), the EA merges into the specifier of $vP$ and can check $\pi$-features that are yet unmatched on $v$’s probe (that is, not checked by the IA goal), such that it is possible for two goals to Agree with the same probe.

\begin{enumerate}
  \item \textit{Derivation of a transitive vP} (Béjar & Rezac 2009:48)
    \begin{itemize}
      \item \textit{Step 0: VP constructed as \{V, \{V, IA\}\}; v becomes locus}
      \item \textit{Step 1: Merge(v, VP) $\Rightarrow$ \{v\}_I, \{V, \{V, IA\}\}}
      \item \textit{Step 2: Agree(v\_I, IA)}
      \item \textit{Step 3: Merge(vP, EA) $\Rightarrow$ \{v\}_II, \{EA, \{v, \{V, \{V, IA\}\}\}\}}
      \item \textit{Step 4: Agree(v\_II, EA), if there is still a probe on v\_II}
    \end{itemize}
\end{enumerate}
The diagram in (12) illustrates how $v$ checks with multiple local goals, the IA in its complement then the EA in its specifier.

(12) Cyclic expansion of the search space (Béjar & Rezac 2009:49)$^6$

Taking here the inspiration of Cyclic Agree from Béjar & Rezac (2009), I propose unique details in my analysis and will discuss how these obviate apparent inconsistencies in Béjar & Rezac’s formulation in subsection 2.4. The analysis I propose next better accounts for the Ojibwe data and relies on more simple mechanics for Agree and spell-out.

2.3.2 Derivation of the DIRECT and INVERSE

As I asserted in section 2.1, the theme-sign suffix encodes the Person features of both the EA and IA in a transitive animate clause. I propose that the theme-sign is the morphological spell-out of a single syntactic head, call it little $v$, bearing a complex probe of organized $\pi$-features that can Cyclically Agree with multiple argument goals.

First, I assume standard argument structure of EA as specifier and IA in the immediate complement (e.g. spec VP) of $vP$ respectively in Ojibwe, illustrated in (13).

(13) Transitive clause argument structure

Second, arguments bear contrastively underspecified sets of $\pi$-features, giving the representations in (14) when they enter the syntactic derivation.

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$^6$ I will return to discussing the details of Béjar & Rezac’s (2009) account in section 2.4, where features [F, G] are specified as $\pi$-features.
Arguments do not bear features they entail in the narrow syntax as this information is redundant and can be filled in at the interfaces. This filling in of features is akin to what has been proposed for another interface, where phonological distinctions are lexically minimal and full specification occurs later in the derivation, such as at the phonetic interface (see Steriade 1995; Kenstowicz 1993). Also, it will be shown later that fully specified \( \pi \)-features on arguments makes the wrong predictions about the grammaticality of overlapping reference between arguments (section 2.4). For example, a 1\(^{st} \) person argument bears [1] as the only (relevant) feature visible for syntactic operations, but the representation of this argument is fully specified as \([\pi-3-1]\) after the syntactic component.

Third, little \( v \) is the locus of \( \pi \)-feature checking or licensing (in line with Béjar & Rezac 2009) as it contains the IA in its complement and introduces the external argument such that both are local, potential goals. Little \( v \) bears the probe shown in (15), which is an uninterpretable version of the feature geometry introduced in section 2.2. Within my account, the uninterpretable features merged on \( v \) are inactive, or unentailed when they are introduced to the narrow syntax (represented as outlined features). Features are activated when they are entailed by a feature matched under Agree, which must be able to connect to the root node of the geometry since a feature is dependent on the features it entails (Clements & Hume 1995:267).\(^8 \) Note that entailed features are not deleted since they are not matched, and can be matched by another goal in the syntax. For example, if a goal bears [1] it matches [u1] on \( v \) and entails and activates [u\( \pi \)] so that it is connected to the root, but does not match and delete [u\( \pi \)].

To illustrate this account, consider first the derivation of a direct construction, where the \( \pi \)-features of the EA are more highly specified than those of the IA as in (16) ‘I see him/her.’ The structure is derived where first the IA merges with \( V \), which then merges with little \( v \) bearing the complex Person probe. Before the probe on \( v \) matches with any goals, its uninterpretable features are merged inactive, indicated by outline. In Cycle 1 in (16)a, the probe on \( v \) looks into the only available search space of its complement for an appropriate goal and finds the IA bearing [3], matching and deleting [u3] on the probe, indicated by strikethrough.\(^9 \) Checking with the contrastively underspecified IA does not match or delete [u\( \pi \)] on \( v \), but only entails and activates [u\( \pi \)] so that the matched [u3] is connected to the root node of the geometry. Note that the unmatched and unentailed features (i.e. [u1] and [u2]) remain

\(^{7}\) Inclusive ‘we’ checks both features [1,2] in the same cycle, at the same time.

\(^{8}\) This activation of features could also be compared to Node Interpolation (Sagey 1991) where node structure is interpolated (here activated) to preserve well-formedness of the representation, i.e. connecting checked features to the root node feature.

\(^{9}\) For this discussion, a ‘deleted’ feature is more accurately ‘marked for deletion’, to be deleted when the syntactic input is sent to the PF and LF interfaces.
inactive. Cycle 2 in (16)b merges the external argument. Since uninterpretable features remain on $v$ it continues to probe into its specifier (i.e. its expanded search space) and can match with the [1] feature on the external argument. [$u1$] is deleted, but no other features are activated since [$uπ-u3$] are the only features entailed by [$u1$] and were activated in the previous cycle.

(16) n-waabm-aa
1-see-DIR

‘I see him/her.’ (Valentine 2001:272)


Both arguments in a transitive clause can uniquely match and Agree with a single syntactic head, $v$, since it bears a set of (organized) features able to probe for multiple goals. The construction in (16) is direct since the matched features in both cycles were unentailed, and therefore inactive, at the moment of Agree. The derivation process is restated in (17) as the order of operations involved in Cyclic Agree.

(17) Order of operations for Cyclic Agree:
1. Merge $v$ (bearing complex Person probe) with VP.
2. $v$ searches complement/VP for matching $π$-features.
3. Internal argument [F1] matches and deletes [uF1] on $v$, and activates all entailed features (i.e. features between [F1] and root/[$uπ$] node).
5. $v$ searches specifier for matching $π$-features.

Next consider the inverse derivation in (18) which will differ from the direct in (16) in how the features are checked, specifically it will involve a feature that is already active at the moment of Agree. (18) ‘I see you’ is inverse since the IA ‘you’ is higher ranked on the hierarchy than the EA ‘I’. Cycle 1 in (18)a merges $v$ with VP again allowing the complex $π$-probe to search complement of $v$ for a matching goal where it finds the IA bearing [2]. [u2] on $v$ is matched and marked for deletion but also activates all the other features (since [2] is the most specified $π$-feature) [$uπ - u3 - u1$], so that the matched feature is connected to the root node. Then, in Cycle 2, $v$ can Agree with the EA in its specifier provided it bears a feature that has not already been matched on the probe. The EA has [1] which has been entailed by the checking of [u2] on $v$ in the previous cycle, but has not been matched and can now be matched as an already activated feature. No feature entailment can occur in Cycle 2 since all feature on the probe have already been activated. This derivation also follows the order of operations in (17).
(18) g-waabm-in
2-see-INV(L)
‘I see you.’ (Valentine 2001:272)

a. Cycle 1: IA Goal 

b. Cycle 2: EA Goal

In both the direct and inverse contexts both arguments can Agree with v, given that they match and delete matching features. However, the derivational difference between the direct and inverse is that the former involves only the checking of inactive features, while the latter checks a feature already activated by entailment. This is the case since in the direct (16) the internal argument, which Agrees with v first, is lower ranked than the external argument and therefore cannot entail and activate the external argument’s features. Conversely, the inverse derivation in (18) involves the matching of an already activated feature in Cycle 2. Because the internal argument is more highly specified than the external argument it entails and activates the external argument’s \( \pi \)-feature on v in the first cycle so that in the second cycle the external argument must match a previously activated feature.

Therefore, the direct and inverse can be derivationally determined and do not need to refer to prespecified structures or simplified agreement correspondences.

2.3.3 Vocabulary insertion for the Inverse System

The syntactic derivations for the direct and inverse in the previous subsection must correspond to the spell-out of the morphology of the Inverse System. Within Distributed Morphology (Halle & Marantz 1993) the spell-out of a syntactic unit is determined by the features it bears and the best matching Vocabulary Insertion rule. I posit that activation of features, alongside matching, is visible to the PF-interface and can be considered in the Vocabulary Insertion rules determining the phonological form of the theme-sign suffix in Ojibwe.

An inverse theme-sign is inserted if there is an active \([uF]\) deleted on v (boxed in (20)). A direct theme-sign is inserted elsewhere, that is, when only inactive \([\overline{uF}]\)s are deleted on v, as in (19). (19) and (20) illustrate the different possibilities for getting a DIRECT /-aa/ spell-out, and an INVERSE /-igw/ spell-out.
(19) Direct spell-out /-aa/:  
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<td>EA/IA</td>
<td>v</td>
</tr>
<tr>
<td>1/3</td>
<td>2/3</td>
<td>3/3'</td>
</tr>
<tr>
<td>(2)a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&amp; (16)</td>
<td></td>
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(20) Inverse spell-out /-igw/:  
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<tbody>
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<td>v</td>
<td>EA/IA</td>
<td>v</td>
</tr>
<tr>
<td>3/1</td>
<td>3/2</td>
<td>3/3</td>
</tr>
<tr>
<td>u3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

The charts in (19) and (20) cover the Non-Local theme-sign set where direct and inverse are /-aa/ and /-igw/ respectively. There is also the case of Local theme-signs, introduced in section 2.1, that are used when both the EA and IA are SAPs, namely 1st or 2nd person, using instead /-i/ for Local direct (21)a and /-in/ for Local inverse (21)b.

(21) a. g-waabam-i  
2-see-DIR(L)  
‘You see me.’  
b. g-waabm-in  
2-see-INV(L)  
‘I see you.’ (Valentine 2001:270)

To account for both the Local and Non-local theme-signs it is imperative for the probe to record the π-feature specification of both relevant arguments, otherwise the morphology would not be able to consistently indicate when all arguments are SAPs or not. The type of feature checked (i.e. while entailed or not) determines the direct or inverse status, and the content of the features checked indicate which set of theme-signs must be used. Descriptively speaking, a Local theme-sign is used when only [u1] and [u2] have been matched and deleted on v. A Non-local theme-sign is used elsewhere, that is when [u3] has been matched (and not just activated) on the Person probe. The spell-out rules are summarized in (22).
The morphology of IS also includes the Person proclitic that Agrees with the highest-ranking π-feature in the clause, regardless of grammatical role. I adopt the view of McGinnis (1995) who proposes that features compete for insertion into the Ojibwe proclitic position. Suppose the proclitic is the spell-out of C (or an element in spec TP) that can Agree with π-features in the clause, and the most highly specified feature wins the competition for insertion as per (23).

(23) Proclitic vocabulary items

- [2] ↔ /g/-
- [1] ↔ /n/-
- elsewhere ↔ /w-/  
  (Adapted from McGinnis 1995:2)

Appealing to the relationship of entailment between π-features and a complex probe that can potentially Agree with multiple, unique goals the core morphology of the Ojibwe Inverse System is accounted for fully. Finally, the following section discusses the details of Béjar & Rezac’s (2009) Cyclic Agree and why revisions to their view are imperative for the full explanation of IS, as well as to avoid issues in the mechanics of their account.

2.4 Issues for Béjar & Rezac (2009)

Returning to Cyclic Agree as proposed by Béjar & Rezac (2009), I have adopted the notion that v is the locus of Person Licensing and as such it can bear a complex probe that can potentially Agree with more than one goal. However, I will extend the application of Cyclic Agree within Ojibwe (section 3) and the mechanics of my account are significantly distinct from their proposal. Béjar & Rezac (2009) have fully specified π-features on arguments that are organized into subset relations with each other, while I have contrastively underspecified features organized by entailment relations. However, the main issue I will discuss is their use of an added probe, which appears only in inverse contexts to save a derivation that would otherwise crash.

Béjar & Rezac (2009) discuss IS in Ojibwe (i.e. Nishnaabemwin) using the feature arrangement in (24)a where features are related by subsets. For example, a 1st person is a [participant], which is in turn a subset of [π] that contains all the specified Person features. The complex probe on v is abbreviated as (24)b and is labeled the core probe, which is crucially the probe that initially enters the derivation on the first label of v, illustrated in (28). This type of subset relationship requires full feature specification on the arguments in the syntax, shown in (25).

(24) Algonquian Core Probe:

a.   [ π [ participant [ addressee ]]]   
    [u3]  
    [u1]  
    [u2]  
  (Béjar & Rezac 2009:49,50)
Within their proposal, the direct is derived as in (26) (read right to left) where both the IA and EA can check unique features on the core probe (feature checking indicated by ‘—’, features checked in a previous cycle in parentheses ([uF])). In Cycle I the IA matches [u3] on the core probe, and in Cycle II the EA, bearing [1, 3] can match at least one of its features [1] against the core probe.

For the inverse like in (27), the IA is more highly specified than the EA and fully Agrees with the core probe such that the EA cannot Agree with the core probe. To save the derivation and allow the EA to license its $\pi$-features, Béjar & Rezac (2009) propose that an added probe (bolded in (27)) can be inserted on a higher label of $v_{II}$ (dominating the EA in spec $v_P$, see (28) repeated from (12)) and Agree with the argument.

There are some issues that arise when the details of this account are considered. First I discuss the use of the added probe and its related morphology, and second I look at the impact made by appealing to full feature specifications within Béjar & Rezac’s (2009) analysis.
First, the main issue is their insertion operation required for the added probe in inverse contexts. As shown in (27), if the IA is more specified than the EA, it blocks the checking of the IA because \( \pi \)-features are fully specified on the arguments.

Béjar & Rezac (2009:48) assert that higher labels or copies of a head, like \( v \), will bear the same feature set as the original head modulo the effects of Agree and that these labels are lexical items projected from the head of a Merge operation as per Chomsky (2000:133). For simple objects, Chomsky proposes that “[t]o ensure that every category has a label, let us say that label(\( \alpha \))=\( \pi \), for \( \alpha \) an LI” (200:133). For complex syntactic objects constructed by merge, such as \{\( \gamma \),\( \alpha \),\( \beta \)\}, “the label \( \gamma \) should be the label of either \( \alpha \) or \( \beta \),..., its label is an LI, the head selected from the lexicon that has ‘projected’ through the derivation.” (2000:133). The view taken is illustrated in (28) where \([uF,uG]\) are copied with relevant marking for deletion from \( v \) to \( v_1 \) and \( v_{11} \).

However, in inverse contexts the IA has checked the features on the core probe that would have been matched by the EA (because the IA is more highly specified) therefore blocking the EA from licensing its \( \pi \)-features with the core probe (as per the Person Licensing Condition, Béjar & Rezac 2003:53). Since inverse constructions are not ungrammatical they propose the repair of the added probe, which is inserted on \( v_{11} \) (see position in (28)), a lexical item that is a label of \( v \) and therefore dependent on the form of \( v \). Crucially the node \( v_{11} \) is now featurally distinct from \( v \) since the former bears a probe/set of \([uF]s\) not found on the projecting head \( v \). \( v_{11} \) is not simply changed by the effects of Agree, contra the Chomsky (2000) theory they adopt. The lexical items acting as labels of a head are not independent, further the use of insertion on labels violates endocentricity and is unmotivated except as a rescue mechanism rendering the inverse construction non-derivational. Insertion is potentially a very powerful mechanism without obvious restriction and is expected to immediately overgenerate. I put forward that this operation should be avoided as it poses non-trivial difficulties for the Minimalist theory it is proposed under and confuses the syntactic distinction between the direct and inverse to an anomalous repair reflex.

Added probe morphology is important for Béjar & Rezac’s (2009) account as other languages, such as Mohawk in (29), and Basque, actually have an extra agreement slot in inverse contexts unlike Ojibwe (which only has the theme-sign slot).

\[(29) \quad \begin{align*}
\text{a.} & \quad \text{K-see} & \quad \text{DIRECT} \\
\text{b.} & \quad \text{wa-K-see} & \quad \text{INVERSE} \\
\quad & \quad \text{1-see} & \quad \text{INV-1-see} \\
\quad & \quad \text{‘I see him.’} & \quad \text{‘He sees me.’} \\
\end{align*} \quad \text{(Mohawk: template)}
\quad \text{(Béjar & Rezac 2009:59)}
\]

I could account for this type of data without an added probe by appealing to a null exponent spell-out for a \( \pi \)-probe on \( v \) in direct contexts, and overt vocabulary insertion for contexts with a checked entailed features on \( v \), namely the inverse (e.g. the \( wa \)- ‘inverse’ morpheme in (29)b). The Person morpheme found in both, here \( K \)- ‘1st person’, could parallel the Ojibwe person proclitic and spell-out on another head picking out highly specified features from the clause. The important point is that although there are different kinds of inverses in other languages none involve morphemes more complex than those in Ojibwe, which specifically record the relative ranking and \( \pi \)-features of two arguments (i.e. there are Local and Non-local theme-signs). For instance, the inverse in Mohawk above does not involve the featural complexity in Ojibwe, but has a simplex morpheme inserted in inverse contexts. Although I will not go into more detail here, the morphology of other languages considered by Béjar & Rezac (2009) does not require an added probe and can be described while assuming the kind features and Cyclic Agree proposed in this paper.

Second, the added probe approach requires the use of fully specified \( \pi \)-features on the arguments to trigger the need for such a probe (which, again is claimed to correspond with certain morphology). I have proposed that \( \pi \)-features are contrastively underspecified in the syntactic derivation since full specification is redundant and can be filled in on arguments at the interfaces. For my account
contrastive underspecification of features allows the IA and EA to Agree with the same probe in direct and inverse contexts provided they bear unique sets of features. The prediction is then made that arguments may not have overlapping reference/features in Ojibwe since once a feature is checked in a cycle it cannot be matched again by another argument in a later cycle. Conversely, Béjar & Rezac’s (2009) view would predict an inverse like context triggering an added probe. Looking to the Ojibwe data, the prediction of my account is borne out, contra Béjar & Rezac, since overlapping reference constructions are ungrammatical across the board, summarized in (30) and illustrated in (31).\footnote{I do not consider this an issue of binding. Reinhart & Reuland (1993) discuss how certain verbs that describe collective acts can have these kinds of argument feature overlaps: *We elected me* (compare with *We voted for me*, pg. 677). In Ojibwe, these kinds of feature specifications are ungrammatical across the board, regardless of choice in verb.}

\begin{enumerate}
\item[30]  a. *2-1 – 1sg/pl  
\item[30]  b. *2-1 – 2sg/pl  
\item[30]  c. *1sg – 1pl  
\item[30]  d. *2sg – 2pl  
\item[30]  e. *3(prox)sg – 3(prox)pl  
\end{enumerate}

\begin{enumerate}
\item[31]  a. *g-waabm-i-min  
\item[31]  2-see-DIR(L)-1pl  
\item[31]  ‘We(inclu) see me/us.’  
\item[31]  b. *g-waabm-in-im  
\item[31]  2-see-INV(L)-2pl  
\item[31]  ‘We(inclu) see you(sg/pl).’  
\end{enumerate}

Recall from (14) that ‘we(inclusive)’ has both a [1] and [2] feature since both features are encoded in the proclitic and plural morphology on the verb. (31)b must be ungrammatical since first the IA checks \[u2\] on v and the second cycle attempts to check \[u1,u2\] but \[u2\] has already been matched, leaving [2] on the EA unlicensed. This makes the correct prediction since any combination of arguments sharing a specific feature is ungrammatical in Ojibwe, seen in (30). All these combinations are predicted to be grammatical for Béjar & Rezac (2009). Considering again (31)b, the EA would check \[u2\] on their core probe and all features of the subset \[\{u2-u1-u3\}\] triggering the insertion of an added probe to Agree with the EA, making the derivation grammatical. The added probe does not consider the form of the core probe in the syntax and cannot block the licensing of the overlapping argument, a result that falls out of my proposal.

It should be noted that Béjar & Rezac cannot be modified to use contrastively underspecified features. For them, inverse contexts are marked by the added probe and the added probe is triggered by the inability of the external argument to check with v after the internal argument has matched all the features. If they used underspecified features they would lose their distinction between direct and inverse morphology and their theory of added probe morphology. The difference between their subset relations between \(\pi\)-features and my entailment relations is not a notational difference but makes unique predictions about data such as (30) and (31).

My version of Cyclic Agree, although inspired by Béjar & Rezac (2009), avoids some major mechanical and empirical problems (as well as avoiding contextual allomorphy and complications with extension to intransitive paradigms). I will show in later sections extensions to other verbal paradigms in Ojibwe, which are exactly suited to the account I have laid out here and make correct predictions seen in the data.
2.5 Section summary

This section has presented a Cyclic Agree account of the Ojibwe Inverse System where the direct and inverse are differentiated derivationally and not by pre-specified or repaired constructions. I appeal to underspecified features in the syntax and entailment relations between Person features, encoding the descriptive Person hierarchies seen cross-linguistically. My account obviates conceptual issues within the Béjar & Rezac (2009) approach, making unique predictions, which better fit the Ojibwe data (seen further in section 3). In the next section I look at data from other Ojibwe verbal paradigms that are not considered in other accounts of the Inverse System. I will show that my analysis makes the correct predictions for ditransitives as well as certain puzzling morphology shared between a transitive and intransitive paradigms.

3 Implications of the Inverse System in Algonquian morphosyntax

An interesting puzzle in the system of Ojibwe morphology involves certain verbs that appear to be transitive, yet systematically occur with theme-sign morphology associated with an intransitive paradigm. I propose that this puzzle results from a mismatch between the syntax and morphology, where the theme-sign suffix does not directly reflect the valency of a verb but rather the $\pi$-features of its arguments. I show that licensing the internal and external argument against a single locus of $\nu$ accounts for data beyond the core Inverse System, covering the transitive, intransitive and ditransitive paradigms. I also discuss some other syntactic effects of the Inverse System, looking at work by Bruening (2001, 2005, 2009) in Passamaquoddy (Eastern Algonquian) on scope and variable binding as related to IS.

3.1 Transitive Inanimate vs. Animate Intransitive verbs

In the traditional literature the theme-sign suffixes on the Ojibwe verb are described as encoding the transitivity of the verb as well as the animacy of its arguments. There are four verbal paradigms:

1. Transitive Animate verbs (VTA) are transitive or ditransitive with animate arguments (paradigm for the core Inverse System);
2. Transitive Inanimate verbs (VTI) are transitive, with an animate external argument but an inanimate internal argument;
3. Animate Intransitive verbs (VAI) are intransitive with an animate sole argument;
4. Inanimate Intransitive (VII) verbs are intransitive, or impersonal, with an inanimate sole argument.

Curiously, the divisions of both transitivity and animacy are not always reflected in the theme-sign morphology, as is the case for VTI forms, which bear VAI suffixes, bolded in (32).

(32) Transitive Inanimate (VTI): Animate Intransitive (VAI):
   a. waab-am-d-am ‘sees it’  a’. asosod-am ‘coughs’
   b. bii-d-o0 ‘bring it’    b’. bimibat-o0 ‘run’
   c. naa-d-i ‘fetch it’     c’. maw-i ‘cry’

(Piggott 1989:181-2)

The appearance of VAI finals on VTI constructions presents a puzzle since these two paradigms do not match with respect to transitivity or animacy, according to traditional divisions. They would be expected to occupy opposite paradigms, as in the table in (33).
Bloomfield’s (1957) view of this data is that VTIs are in fact syntactically intransitive, and that their inanimate internal arguments are oblique and do not count towards the valency of a verb. Although I agree with Bloomfield’s observation that there’s something impoverished about the objects in VTIs, I instead want to argue that VTIs are actually syntactically transitive. I claim that it is only the VAI morphology that indicates the apparent intransitivity of VTIs, which have inanimate internal arguments and only one animate external argument that appears in Person agreement.

First, VTIs must be transitive because they obligatorily select for two syntactic arguments, shown in (34). The VTI form waabamdam can only mean ‘He/she sees it,’ and the object cannot be absent or unspecified. If the object is non-specific, or absent, the form changes from VTI, dakondan ‘He/she bites it’ in (35)a, to a kind of ‘antipassive’, in the terminology of Kyriakaki (2009), marked by the -igee suffix seen in (35)b, dakonjigee ‘He/she bites (things)’.

(34)

waab-am-d-am
see-TRANS-INAN-VAI
‘He/she sees it(inan).’ (Piggott 1989:180)
* ‘He/she sees.’ / ‘He/she sees something(unspecified).’

(35)
a. dakom-d-am
bite-INAN-VAI
‘He/she bites it(inan).’ (Valentine 2001:441)
b. dakom-d-igee
bite-INAN-AP
‘He/she bites things(unspecified)’ (Piggott 1989:201)

Second, beyond the theme-sign morphology shared with VAI verbs, which are unambiguously transitive. Consider the data in (36), where the VTI in (a) and the VTA in (b) both bear –am13, a categorizing v marking their syntactic transitivity. This suffix is not shared with the intransitive (VAI and VII) paradigms.

(36)
a. n-waab-am-d-am
l-see-TRANS-INAN-VAI
‘I see it(inan).’ (Piggott 1989:181-2)
b. n-waab-am-aa
l-see-TRANS-DIR
‘I see him/her(anim).’ (Valentine 2001:270)

Therefore VTIs are syntactically transitive since their objects are obligatory and not oblique (only possible with –igee in a kind of antipassive, see Kyriakaki 2009), and VTIs bear marking that clearly relates to transitivity.

12 Compare with VTA form dakon-igee ‘He/she bites people(unspecified)’ (Piggott 1989:201) also with the ‘antipassive’ -ige.
13 Note that there are two distinct –am suffixes: (i) the VAI theme-sign like in (32)a’ that appears by the left edge of the stem, and (ii) the transitive marker like in (36)b that appears next to the verb root.
I claim that the presence of VAI finals on VTI forms is not due to syntactic intransitivity (unlike Bloomfield 1957), but is rather a mismatch in the mapping from syntax to morphology. I argue that all theme-sign suffixes in all verbal paradigms of Ojibwe are the spell-out of a little v head that can Cyclically Agree with the \( \pi \)-features of the internal and external arguments. While animate arguments bear interpretable \( \pi \)-features, inanimate arguments are completely unspecified for \( \pi \)-features (as has been proposed for 3\textsuperscript{rd} person in other languages: Harley & Ritter 2002; Anagnostopoulou 2005; Adger & Harbour 2007, for example). Given that theme-signs encode Person agreement, and not strict transitivity, inanimates will pattern with syntactically absent arguments since neither bear \( \pi \)-features. VAI and VTI clauses have only one animate argument that is visible to \( \pi \)-agreement, and so the spell-out of the theme-sign will be identical for both constructions.

Consider the derivations in (37) and (38). (37) involves the VTI waaband ‘see’: \( v \) merges with the inanimate internal argument ‘it’ in its complement, seen in Cycle 1 (a). No checking occurs since ‘it,’ as an inanimate, is featureless with respect to Person. Cycle 2 (b) shows the merging of the animate external argument, which does have an interpretable \( [\pi] \) feature that matches a feature on \( v \). This derivation involves only one instance of matching on \( v \) (although \( v \) bears multiple \([uF]\)s), corresponding to the theme-sign spell-out –\( am \) (for type I verbs).

\[
(37) \quad \text{VTI: w-waaband-} \text{am} 'He/she sees it.'
\]

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Derivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cycle 1 (no feature matching/checking)</td>
</tr>
<tr>
<td>2</td>
<td>Cycle 2: EA Goal</td>
</tr>
</tbody>
</table>

\[
\begin{align*}
\text{VP} & \quad \text{VP} \\
[\pi] & \quad [\pi] \\
\text{DP: 'it'} & \quad \text{VP: 'He/she' }
\end{align*}
\]

Now compare the VTI with the VAI derivation for asosod ‘cough’ given in (38). When \( v \) merges there is no argument in its complement (because the construction is intransitive) and no checking occurs in Cycle 1 (a), just like in (37)a for the VTI. In Cycle 2 (b) the animate external argument merges and Agrees with \( v \), which was also the case in (37)b for the VTI. Only one instance of matching \( v \) occurs, and so this spells-out the theme-sign –\( am \) (for type I verbs) because the probe on \( v \) has been marked in an identical way to the VTI.

14 I abbreviate the complex probe on \( v \) from its full form in (7) to \([u\pi]\).

---
Since VAIIs and VTIIs both have only one animate (and therefore personful) argument they must bear the same set of theme-signs because the theme-sign is the spell-out of Person Agreement on \( \nu \). Different VAI theme-signs occur on different classes of verbs – class I is shown above, but the same holds for other types of verbs. (39) illustrates another set of VTI and VAI derivations with verbs that take the \(-oo\) theme-sign rather than \(-am\):

(39) a. VTI: w-bii-d-\textbf{oo}  
‘He/she brings it.’  
\begin{tabular}{ccc}
EA & v & IA \\
\([\pi]\) & \([\text{?}\pi]\) & \(\emptyset\) \\
\end{tabular} 

b. VAI: bimbat-\textbf{oo}  
‘He/she runs.’  
\begin{tabular}{ccc}
EA & v \\
\([\pi]\) & \([\text{?}\pi]\) \\
\end{tabular} 

Vocab Insertion: \(\nu[\text{?}\pi]\) \(\rightarrow\) /-oo/ / VERB\(_I\) 

Therefore, syntactic transitivity can be realized as morphological intransitivity when an argument lacks \(\pi\)-features, since Ojibwe theme-signs are Person Agreement. VTI aligns with both VTA and VAI along two different dimensions – one in syntactic transitivity, and the other in the morphology (40):

(40) | Morph | Syntax | Transitive | Intransitive |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Transitive</td>
<td>VTA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intransitive</td>
<td>VTI</td>
<td>VAI</td>
<td></td>
</tr>
</tbody>
</table>

VTIs only appear to be intransitive when the theme-sign morphology is considered, but I am claiming that this morpheme does not directly reflect transitivity and instead directly indicates the \(\pi\)-features of the clausal arguments. Animate arguments bear interpretable \(\pi\)-features, but inanimate ones do not causing them to pattern alongside absent (or oblique) arguments with respect to Person Agreement.

### 3.2 Syntactic effects of the Inverse System

This subsection deals with the syntactic account of the Inverse System given by Bruening (2001, 2005, 2009) based on data from Passamaquoddy, an Eastern Algonquian language. First I will sketch Bruening’s account, which argues for the A-movement of the IA over the EA only in the inverse, such that there is actual syntactic inversion of arguments. He supports this view by looking at scope and variable binding data that have certain behaviours in Passamaquoddy that match up with the A-movement inversion. In contrast, I show that the scope restrictions in Passamaquoddy are not shared
with Ojibwe, which instead shows more standard scope. Also, I suggest that the A-movement analysis is not the only possible view of variable binding in Algonquian languages, which allows some internal arguments to bind into variables of external arguments and obviate Weak Crossover in some wh-constructions. Note that although I am discussing three versions of Bruening’s analysis, they are at heart the same view of the Inverse System and I have been careful to note when certain details are particular to one version.\(^{15}\)

First, an overview of Bruening’s (2005) proposal shows the core elements of his A-movement proposal. The direct involves a structure like (41)a, where the EA fills the spec InflP position maintaining the normal EA over IA structure. Conversely in the inverse in (41)b begins with the same merge positions, but a special EPP feature on Voiceº instead attracts the IA, thereby inverting the A-positions of the two arguments.

(41) a. Direct (EA>IA) b. Inverse (IA>EA via A-mv’t) (Bruening 2005:18)

Bruening (2001, 2005, 2009) argues for this type of A-movement in Passamaquoddy using scope and variable binding data. First, Passamaquoddy scope is restricted in the direct, where only surface scope is possible (42), and inverse scope is not available.\(^{16}\)

(42) a. Skitap psite ’-sakolon-à puhtayà. (Passamaquoddy)
man all 3-hold.onto-DIR.OBVP bottle.OBVP
‘A man is holding all the bottles.’ (only one man total)

b. Pesq putep psite ’t-askikom-à nomehsù.
one whale all 3-bite.clamp-DIR.OBVP fish.OBVP
‘One whale is biting all the fish.’ (only one whale total) (Bruening 2009:434)

However, in the inverse voice, both surface and inverse scope are available (43)

\(^{15}\) I do not choose to discuss only one version since Bruening (2005) deals mostly with the binding data, Bruening (2008) with the scope data and the Bruening (2001) version lacks some important data from the subsequent versions.

\(^{16}\) Bruening departs from traditional classification where DIRECT and INVERSE are aspects of the VTA paradigm, and not recognized in other paradigms (which generally lack the relevant morpheme correspondences). Bruening uses DIRECT/INVERSE classifications across paradigms, for example where a direct clause can be one with an animate EA and inanimate IA (part of the VTI paradigm). Bruening posits that such TI constructions are “syntactically direct” and are representative of the behaviour of direct constructions. Refer to discussion in section 3.1
Bruening (2001, 2009) proposes that in Passamaquoddy, and perhaps Algonquian, scope is calculated from A-positions and that an operation such as QR cannot adjust this at LF, as in (44).

(44) The Argument Scope Constraint:
If, in the input to LF, A is an A-position that c-commands B, B in an A-position, B may not cross A by LF movement. (Bruening 2009:437)

Bruening (2009) claims that the movement of the IA to spec IP in the inverse can occur either overtly or covertly: overt gives inverse scope and covert A-movement gives the surface scope. This aspect of the account is puzzling given movement at LF is usually input to interpretation and covert movement that does not alter meaning has no purpose.

Looking to the Ojibwe data, the scope facts do not support Bruening’s (2009) scope from A-positions proposal. The direct, like the inverse, can give either surface or inverted scope readings in Ojibwe seen in (45), showing no distinction between the voices in this respect. This type of data is consistent with a standard QR approach (May 1985).

(45) a. nine gii-kinowenm-a-n kina binoejii-un (Ojibwe)
man pst-look.after-DIR-OBV every child-OBV
‘A man looked after every child.’ ∃∀, ∀∃

b. gimaa gii-kowend-an kina shkogen(-ing)
chief pst-look.after-TI every reserve(-loc)
‘A chief looked after every reserve.’ ∃∀, ∀∃

c.17 kina gwiozens bamwidonun naagnun
every boy carry.TI plates
‘A boy is carrying every plate.’ ∃∀, ∀∃
(Berdina Johnson & Ella Waukey 16/7-12/08, 15/06/09)

Bruening (2005) also looks to variable binding data to support the inverse as A-movement approach. Variable and possessor binding have been claimed to show a direct versus inverse asymmetry across Algonquian languages (e.g. Rhodes 1992, 1993; Lin 2005, Bruening 2001, 2005). In the direct, quantifiers associated with the external argument can bind a variable in the internal argument, but a quantifier in the internal argument cannot bind a variable in the external argument (46)a. In the inverse voice the opposite is true, where quantifiers in the internal argument can bind variable in the external argument (46)b, but not vice versa.

(46) a. [Skitap musqitaham-ac-il] `-koti-tqon-a-l psi=te wen-il
[man hate-3conj-part.OBV] 3-fut-arrest-DIR-OBV all=emph who-OBV
‘A man that he+1(prox) hates will arrest everyone1(obv).’
(*For everyone x, a man that x hates will arrest x.’)

\[17\] Kina ‘every’ associates with naagnun ‘plate’ in (45)c, despite being dislocated and adjacent to another DP.
b. Yatte wen pilsqehsi ’-kis-cem-ku-l w-ikuwoss-ol
   each who girl 3-perf-kiss-INV-OBV 3-mother-OBV
   ‘Her₁ mother(obv) kissed each girl₁(prox).’
   (‘For each x, x’s mother kissed her.’) (Passamaquoddy; Bruening 2005:13)

The variable binding also holds for Ojibwe (and generally in Algonquian). A further related fact is that weak crossover effects in wh-constructions are active in the direct but appear to be non-existent in the inverse. The inverse case is shown in (47).

(47) Wenesh agashw-an e-jiismaabin-igoo-d (Odawa)
   who mother-OBV past.conj-pinch-INV-OBV.conj
   ‘Who₁/₂(prox) did his₁ mother(obv) pinch?’ (Christianson 2002:37)

Bruening (2001, 2005) claims that the variable binding data falls out of his A-movement proposal, where the IA can potentially bind into the EA in the inverse because it has moved to an A-position commanding the EA. One view of Ojibwe would be that it undergoes this A-movement, but unlike Passamaquoddy it does not calculate scope positions from A-positions as per (44).

I suggest that there is another view where the Inverse System itself does not involve movement, and the variable binding facts are due to the system of obviation, a separate but interacting system with IS. We do not need a two part generalization for the behaviour of the direct and inverse, but only one that indicates that proximate (foregrounded or topic) arguments can bind into obviatives (backgrounded), but not vice versa. The obviative-proximate contrast was shown in example (4). Animate 3rd person arguments in Ojibwe have discourse features, namely [uProx] and [uObv] that provide disjoint reference between multiple 3rd persons in a clause or narrative, and these features must be licensed. To sketch an analysis, suppose there are vP external projections (48) that can Agree with these arguments to license these features, and it is then these heads that control the binding relations between the arguments.

(48) Discourse licensing field

\[
\text{ProxP} \\
\text{Prox}^o \\
\text{ObvP} \\
\text{Obv}^o \\
\text{vP} \\
\vdots
\]

An argument bearing [uProx] would Agree with Prox\(^o\), and the contrasting 3rd person argument can bear [uObv] and license its own discourse feature with Obv\(^o\).\(^{18}\) The binding facts (as well as restrictions in possessives and relative foregrounding of arguments) strongly indicate that a proximate always commands an obviative in its domain and never vice versa, which I suggest is because it is the Prox\(^o\) and Obv\(^o\) heads that can control binding after linking with the arguments within vP. Ritter & Rosen (2005) note that the elimination of WCO in the Algonquian inverse is comparable to the data discussed by Hornstein (1995) for Spanish and Modern Greek, which can get around WCO by the use of clitic doubling. Suppose the elements of ProxP and ObvP act as clitics that link to the arguments in vP, without movement, and compute the relevant relations from these higher positions. This rough sketch involves the obligatory discourse licensing of 3rd animates in Ojibwe, gives an explanation of the

\(^{18}\) I assume SAPs license their discourse features higher, in the CP domain, as is generally assumed.
binding facts and maintains the distinction between the Inverse System and the system of obviation, which has its own set of facts (see Lin 2005) and restrictions although it interacts with IS.

Other alternatives to the Bruening (2001, 2005, 2009) view have also been proposed. Ritter & Rosen (2005) have argued against Bruening’s A-movement proposal in favour of A-bar relations since their overview of Algonquian data shows a lack of canonical A-phenomena. Ojibwe and other Algonquian languages do not have evidence for standard A-phenomena, lacking the passive, ECM and A-binding. Ritter & Rosen suggest a view of Algonquian binding formed around a Point of View (POV) projection as per Speas & Tenny (2003) that Agrees with the more proximate argument in a 3-on-3 clause (or an SAP if present). Bruening (2009) rejects the POV analysis because of the ‘base generation’ of the element high in POV, citing scope facts in the inverse which must allow two A-positions for the IA since surface and inverted scope are possible. However, I have shown that not all Algonquian languages must calculate scope from A-positions. As (45) illustrates, Ojibwe does not have only surface scope in the direct as Passamaquodd does. Bruening’s (2009) argument is so far only valid for Passamaquoddy and not Algonquian in general.

The comparison of the Ojibwe and Passamaquoddy data shows that there are significant differences in the grammars of these related languages. One could assume that Ojibwe is a kind of Passamaquoddy-prime language, differing in the use of A-positions for the determination of scope, but the complex morphology of IS that is very similar between languages still needs to be accounted for. Bruening’s (2005) paper claims that it is a [+EPP] feature on Voice that raises the IA in the inverse that spells-out as the inverse theme-sign, and [-EPP] spell-out gives the direct theme-sign. For the Local theme-signs the spell-out must also take into account the π-features of the subject it projects (Bruening 2005:23). This view requires the phonological interface to consider both the features on a syntactic head and its syntactic featural context to spell-out the theme-sign. Further, the syntactic distinction between direct and inverse is complicated in Local or 3-on-3 contexts. An impoverished set of features are proposed where the participant hierarchy is encoded in the grammar via a [+Proximate] or [Participant] feature that appears on SAPs and some 3rd persons (in 3-on-3 constructions), but not on other 3rd persons or inanimates (Bruening 2001:120). In Local constructions, Bruening (2001, 2005) posits that both arguments bear such a [Participant] feature requiring both to raise out of VP to license these features higher in the clause, blurring the movement distinction between direct and inverse and requiring [Participant] in addition to standard π-features. Similarly for 3-on-3 where 3rd persons normally do not require this licensing, lacking the relevant feature, or somehow assigning one argument a [Proximate] or [Participant] feature to be checked.

My account, unlike Bruening (2001, 2005, 2009), allows for a more straightforward way for the phonological interface to recover and spell-out the π-features of multiple arguments on the theme-sign suffix. Bruening’s view is not compatible with the apparent lack of standard A-phenomena in Algonquian (Ritter & Rosen 2005), nor can it naturally account for transitive inanimate verbs bearing animate intransitive morphology presented in section 3.1. I claim that the Passamaquoddy morphology, which is largely parallel to Ojibwe, can be covered by the same mechanics and spell-out I have proposed for Ojibwe. The proposal given in section 2 does not stand in direct opposition to Bruening’s perspective of the Inverse System and A-movement may occur in a language like Passamaquoddy but encode person features on the theme-sign via Cyclic Agree.

---

19 Bruening (2001:122) proposes a kind of multiple Agree view of spelling-out the theme-signs but does not explain how his ν is able to encode the features of two arguments or how it records which π-features belong to the subject or object. The details of his suggestion are left out. Also, this part of his analysis does not appear to be maintained in the later versions (2005, 2008).
3.3 Extension to ditransitives

Finally, ditransitive constructions in Ojibwe show both the Inverse System (as part of the VTA paradigm) and introduce a new syntactic context with the presence of another Goal argument. I show that the Cyclic Agree proposed in section 2 accounts for the forms of the theme-signs in ditransitive clauses, where only two out of three arguments are encoded in that suffix, and which two is determined by the syntactic structure. Further, ditransitives overtly display the effects of v as the locus of Person licensing where intervention between arguments and v can result in unlicensed π-features and therefore ungrammaticality. I give new data showing that the Strong Person-Case Constraint (PCC) is active in Ojibwe and that the PCC is predicted by the Cyclic Agree analysis of this language. The presence of Person restrictions connects the Ojibwe data to unrelated languages, such as French, Spanish, Icelandic and Chinook, which also display such restrictions. I will claim in the next section that the constructions in these languages can be also accounted for with v as the Person licensor since they share similar underlying syntactic structures.

Ditransitives in Ojibwe take the Double Object Construction (DOC) where both internal arguments are DPs – there is no Dative or prepositional alternative to these constructions. The theme-sign suffix reflects the relationship between the external argument and the internal argument that is highest in the structure, typically the Goal or indirect object (IO). The direct object (DO), or Theme, is not encoded on the theme-sign. (49)a is non-local direct with the 1st person EA outranking the 3rd person IO ‘Mary’, and (49)b is non-local inverse since the EA is 3rd person and the IO is 1st person.

(49) 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. emkwaanes n-gii-miin-ig
      spoon 1-pst-give-INV(NL)
      ‘He gave a spoon to me.’ (Philomene Chegahno, 20/04/07)

The data in (50) more clearly shows that the theme-sign is only concerned with the EA and IO in a ditransitive, and that the DO is not involved. (50)a contains a 2nd person EA and a 1st person IO, which spells-out the local direct theme-sign. The 3rd person DO *emkwaanes* ‘spoon’ is not encoded on the theme-sign, since that would trigger the non-local form, but the ditransitive theme-sign only considers the Person features of the external argument and the highest internal argument. Similarly for (50)b, the local inverse is spelled-out which encodes the relationship between the EA and IO only.

(50) a. gi-gii-miin-i emkwaanes
   2-pst-give-DIR(L) spoon
   ‘You gave a spoon to me.’
   b. gi-gii-miin-in emkwaanes
      spoon 2-pst-give-INV(L)
      ‘I gave a spoon to you.’ (Philomene Chegahno, 20/04/07)

I propose that the DO is not encoded in the theme-sign because it is blocked from Agree with v by the intervening IO. Only the EA and IO are local to v and therefore are the only arguments to Agree with it.\(^\text{20}\)

The assumed structure of the Ojibwe is shown in (51) with a 2nd person EA and 1st person IO, resulting in a direct Local theme-sign. Again, the 3rd person DO *emkwaanes* ‘spoon’ cannot Agree with

\(^{20}\) I will not discuss the formation of the ditransitive stem here.
Since it is too far and is blocked by the 1\textsuperscript{st} person Goal argument.

\[(51)\]  
\[\text{gi-gii-miin-i emkwaanes}\]  
\[2-pst-give-\text{DIR(L)} \text{ spoon}\]  
\['You gave a spoon to me.'\]

If \(v\) is the locus of Person licensing of the clausal arguments, as proposed by Béjar & Rezac (2009), then the approach I have presented restrictions on the Person specification of the lower, direct object. The intervention of the IO between \(v\) and the DO leaves the DO unlicensed by \(v\). The effects of this intervention are borne out in the data (52) where the lower internal argument in a ditransitive can only be a less specified 3\textsuperscript{rd} person and a construction is rendered ungrammatical if it is a more highly specified 1\textsuperscript{st} or 2\textsuperscript{nd} person.

\[(52)\]  
a. *ni-gii-miin-aa giin  \text{(Ojibwe)}  
1-pst-give-\text{DIR(NL)} you  
'I gave you to him/her.'

b. *gi-gii-miin-aa niin  
2-pst-give-\text{DIR(NL)} me  
'You gave me to him/her.'

The data in (52) can be easily classified as the Strong Person-Case Constraint (PCC), which has not been explicitly shown to exist in Ojibwe before. The PCC is found across the Romance languages and in other language families, described by Bonet (1994) in terms of Case marking in (53)(i), and restated in (ii) in more general terms.

\[(53)\]  
(i) \textbf{Strong Person-Case Constraint:}\nIf DAT then ACC-3\textsuperscript{rd}. (Bonet 1994:36)

(ii) \textbf{Strong Person-Case Constraint (Revised):}\nThe direct object (Theme) must be 3\textsuperscript{rd} person in the presence of a DP indirect object (Goal).

Positioning little \(v\) as the locus of Person licensing in the clause with a complex probe that can license all strictly local arguments can not only account for the Inverse System morphology and theme-signs across Ojibwe paradigms but further accounts for the Person restriction found in the ditransitives. In section 4.1 I discuss the extension of my analysis to Person phenomena in unrelated languages, claiming that it is not only Ojibwe that has this kind of Agreement but rather has the most transparent
morphology.

3.4 Section summary

I have proposed a solution to the mismatch between morphological and syntactic transitivity in VAI and VTI verbs in Ojibwe by appealing to an extension of Cyclic Agree. By treating inanimate arguments as personless, they pattern with absent arguments in the context of Person Agreement like with the theme-signs. Looking at other syntactic exponents related to IS by Bruening (2001, 2005, 2009) it remains a question whether there must be a kind of A-movement involved in the Ojibwe system, which differs empirically from Passamaquoddy in terms of scope availability. Finally, the position of \( v \) in the syntactic structure allows it to Agree with multiple arguments, since there are potential goals in its complement and specifier. Because ditransitives have two goals in the complement of \( v \), the higher DP blocks Agreement with the lower DP, such that the DO does not affect the form of the ditransitive theme-sign.

4 Person Phenomena

The type of Person licensing proposed is not Ojibwe or Algonquian specific, but directly connects the Inverse System phenomenon with Person restrictions in unrelated languages. Ojibwe shares properties with French, Italian, Spanish and Icelandic, which I claim also bear a complex \( \pi \)-probe on \( v \) and that constructions showing Person restrictions share an underlying structure of competing internal arguments.

This section examines data from languages unrelated to Ojibwe that show Person restrictions, in particular the Person Case-Constraint in French and Catalan and Quirky Person Restrictions in Spanish and Icelandic. I discuss how previous accounts to unify IS in Algonquian and the PCC in Romance languages make incorrect predictions about Ojibwe, and then show how the kind of Cyclic Agree proposed can elegantly unify the restrictions across these languages. I claim the Person restrictions share little \( v \) as the locus of Person licensing and further that they share underlying structures that place multiple argument goals in the search space below the probe on \( v \), causing intervention effects between goals.

4.1 The Person-Case Constraint

The Person-Case Constraint is well known in across Romance, Chinook, Tagalog, Kiowa, Modern Greek, and many other languages, receiving much attention in the literature (Perlmutter 1971; Bonet 1991, 1994; Haspelmath 2001; Anagnostopoulou 2003, 2005; Béjar & Rezac 2003; Bianchi 2006; and many others). For example, Italian is a (Weak) PCC (53) language that disallows 1\textsuperscript{st} person accusative (DO) clitics in the presence a 3\textsuperscript{rd} person dative (IO) clitic, as in (54)a (i.e. in the double object construction). SAP dative clitics are grammatical (54)b.

\begin{itemize}
\item[(54) a. ] *Mi gli ha affidato. (Italian)
\begin{align*}
1.{\text{ACC}} & \quad 3.{\text{DAT}} \\
\text{has} & \quad \text{entrusted}
\end{align*}
\text{‘He entrusted me to him.’}
\item[(54) b. ] Me lo ha affidato.
\begin{align*}
1.{\text{DAT}} & \quad 2.{\text{ACC}} \\
\text{has} & \quad \text{entrusted}
\end{align*}
\text{‘He entrusted him to me.’} \quad (\text{Bianchi 2006:2027})
\end{itemize}

Anagnostopoulou (2005) and Bianchi (2006) present syntactic analyses of the PCC in Italian and extend these analyses to the Inverse System data in Passamaquoddy and Plains Cree respectively.
Essentially the proposals are that PCC languages have two Person licensing domains or fields: one to license the subject, and one to license the objects. Bianchi’s fields are shown in (55), with a set of projections that can license the \( \pi \)-feature of the objects below \( T \), and another set higher to license the subject. Anagnostopoulou (2005:25) formulates this notion with respect to her *Multiple Agree* analysis: “…in Italian \( v-Tr \) enters multiple Agree with the indirect object and the direct object because \( v-Tr \) has participant features, and the subject checks its person feature separately on \( T \).”

(55) Two licensing fields for Italian/PCC (Bianchi 2006:2059)

\[
\begin{array}{c}
\text{subject licensing area} \\
\text{objects licensing area}
\end{array}
\]

The Bianchi (2006) analysis is that a higher argument, such as an indirect object in a double object construction, can move to either projection, SAP-O or 3P-O in (55). The lower, direct object cannot move over the IO, say to license \{1,2\} with SAP-O, since this will create nested paths and violate superiority. The subject has its own licensing field and is not considered to affect the PCC phenomenon. Anagnostopoulou (2005) similarly has both objects competing to Agree with transitive little \( v \), but assumes that \( v \) is a phi-licensor that allows *Multiple Agree* where the first goal (the IO) to Agree with it can license with the Person part of the feature, and second (the DO) can only Agree with the leftover Number.

For the Algonquian data, Anagnostopoulou (2005) and Bianchi (2006) propose that there is instead only one licensing locus for the internal and external argument in a transitive, attempting to capture that IS is an interaction between the IA and EA rather than between objects. As shown in (56) for Bianchi’s account, the EA and IA move up into the same field, and the inverse, which should involve nested paths, is rescued by an extra step of movement of the IA in spec InvP before moving above the EA to license a 1\(^{st}\) or 2\(^{nd}\) feature.\(^{21}\)

(56) One licensing field for Plains Cree/Inverse System (Bianchi 2006:2058)

\[
\text{These analyses make the prediction that a language (or clause) can either have IS or the PCC, but not both since these licensing fields derive an interaction either between an internal and external argument, or between two internal arguments, but not both. A language with both IS and PCC is not possible for Anagnostopoulou (2005) and Bianchi (2006) because at best there would be an overlap in licensing of the highest IA by two licensing fields, destroying any possible superiority effects between the IA and the EA.}

I have clearly shown in the data in (52) that Ojibwe is a Strong PCC language, and even shows the use IS morphology in ditransitives, which contain the PCC contexts. Since PCC and IS are showing up in the same language, and further in the same clause, the Anagnostopoulou (2005) and Bianchi (2006) view must be rejected. I claim that PCC in Romance languages, like Italian, French and Catalan is accounted for by the Cyclic Agree approach I have given for IS in Ojibwe. These Romance languages and Ojibwe share both the complex \( \pi \)-licensor on \( v \) and the underlying structure of two

\(^{21}\) Again, Anagnostopoulou’s (2005:25) formulation of this is that only T can license \( \pi \)-features in Passamaquoddy, and that \( v-Tr \) does not license features in this language (although it can in Italian).
internal arguments in the search space of ditransitive \( v \). The PCC is then an intervention effect between two goals and the \( v \) probe.

Consider French, a Strong PCC (53) language which disallows 1\(^{st}\) or 2\(^{nd}\) person accusative clitics (direct objects) in the presence of a dative clitic (indirect object), shown in (57)a (also known as the \textit{me-lui} constraint). The repair for this construction replaces the dative clitic with a prepositional phrase, as in (57)b.\(^{22}\)

\[(57)\]
\[
a. \quad * \text{Paul me lui présentera. (French)}
\]
\[
P \text{Paul 1.ACC 3.DAT will.introduce}
\]
\['\text{Paul will introduce me to him.}'
\]
\[
b. \quad \text{Paul me présentera à lui.}
\]
\[
P \text{Paul 1.ACC will.introduce to him}
\]
\['\text{Paul will introduce me to him.}' (Anagnostopoulou 2005:16)
\]

I am proposing that the complex \( \pi \)-licensor on \( v \) is not Ojibwe specific, but can be found in a language such as French – the relevant difference between these languages is that Ojibwe has robust, transparent Person morphology while French does not. I posit that they share the underlying mechanism for Person licensing. Considering the underlying argument positions (abstracting away from clitic dislocation) we have a double object construction for (57)a, shown in (58) (compare with (51) in Ojibwe). Little \( v \) bears multiple features that can license the \( \pi \)-features on the EA ‘Paul’ and IO ‘lui’ which are local to it, but cannot license \( \pi \) on the DO ‘me’ because the IO intervenes between them. The repair used in (57)b changes the structure from the double object construction, where two arguments are competing below \( v \), to the Dative prepositional phrase construction that removes the IO as an intervener between the DO and \( v \) and can license the IO within the PP.

\[(58)\] PCC structures in French
\[
a. \quad \text{PCC violation (57)a}
\]
\[
b. \quad \text{PCC repair (57)b}
\]

PCC repairs are language specific, but they always resolve the licensing issue between the internal arguments intervening inside \( v \)’s complement. Catalan also has PCC effects, like in (59)a and uses a morphological repair where the form of the dative clitic is changed to an impersonal clitic, the locative or inanimate \textit{hi} (59)b. Within my account, the use of the impersonal clitic removes the IO as an intervener between \( v \) and the DO by removing its \( \pi \)-features – it is no longer a possible goal for the \( \pi \)-probe.

\(^{22}\) Note that 3\(^{rd}\) person DOs are not restricted because they appear to be personless in French, therefore not requiring licensing.
(59) a. *A en Pere, me li va recomanar en Josep (Catalan)
to the Pere 1.ACC 3.DAT recommended.3 the Josep
‘As for Pere, Josep recommended me to him.’
b. A en Pere, m’ hi va recomanar en Josep
to the Pere 1.ACC hi recommended.3 the Josep
‘As for Pere, Josep recommended me to him.’ (Bonet 1991:209)

Conversely, Chinook (Penutian) lacks a PCC repair and has no grammatical clause equal in meaning to a PCC violation (60), as is also the case for Ojibwe and Basque (Bonet 1991, Arregi & Nevins 2006).

(60) *č-n-a-l-u-√i-amit (Chinnook)
3rd.sg.masc.ERG- 1st.sg.ABS- 3rd.sg.fem.DAT- to away-√taking
‘He is taking me for her.’ (Silverstein 1986:190)

I argue that the PCC arises because of intervention effects between multiple IA goals and the v probe. The repairs, exemplified here in French and Catalan, support this view because even though they have different forms dependent on the language they reach the same goal of obviating the intervention effects and allowing all arguments bearing person features to be licensed. Next I look at other Person restrictions, claiming they share the same basic underlying structure that causes these intervention effects and are dependent on v as the locus of Person licensing.

4.2 Quirky person restrictions

I have shown that my approach to the Ojibwe Inverse System predicts the presence of the Person-Case Constraint in Ojibwe in section 3.3, and that this approach is harmonious with the PCC and repair facts in other languages. In this subsection I will discuss a few other Quirky Person Restrictions in Spanish and Icelandic, claiming they also fall under my account by sharing (i) a complex v probe, and (ii) a shared underlying structure with two internal arguments in v’s lower search space.

First, Rivero (2008) discusses Quirky Person Restrictions (QPRs) in some unaccusative psych verbs and inchoatives in Spanish where nominative objects can only be 3rd person in the presence of the dative subject clitic (61):

(61) a. A Ana se le antojan ellos.
Ann.DAT 3REFL 3sg.DAT fancy.3pl they.NOM
‘Ann fancies them.’
b. *A Ana nos le antojamos nosotros.
Ann.DAT 1plREFL 3sg.DAT fancy.1pl we.NOM
‘Ann fancies us.’ (Rivero 2008:215)

The psych verb construction has a Person restriction like the PCC in ditransitives because both structures share multiple internal arguments. Belletti & Rizzi’s (1988) analysis of psych verbs cross-linguistically concludes that the Experiencer subject of a psych verb is merged VP internally commanding the Theme object. In the same line, Rivero (2008) indicates that these Spanish QPRs are unaccusative with dative Experiencers that can antecede nominative Themes, but not vice versa, showing a strict DAT>NOM hierarchy.23

23 The QPR verbs differ from those without restrictions in that they require the reflexive, seen in the nominative clitic (se and nos in (61)).
Taking the Belletti & Rizzi (1988) structure, the Experiencer subject can intervene between little \( v \) and the lower Theme IA, illustrated in (62). Therefore, like the PCC violations in (58)a, the \( \pi \)-probe on \( v \) can license the higher argument, but is blocked from Agreeing with the lower argument disallowing SAPs and forcing the Theme to be an impoverished 3\(^{rd} \) person (e.g. \( se \) in (61)a). For my analysis, the difference between the Spanish QPR and PCC is the absence of an EA merged in spec \( vP \) in the former construction. However, both constructions share multiple IAs underlying.

(62) Psych verb QPR as intervention

Rivero (2008) discusses some analyses of Person restrictions (Sigurðsson 2002, 2004; Stepanov 2003; Anagnostopoulou 2003, 2005) that place Person (or Phi) licensors high in the structure, usually in T or the inflectional domain of T. She asserts that these accounts are inadequate when considering Spanish QPRs since the restrictions can occur with bare infinitive verbs, which are generally considered to have some kind of defective T that lacks the ability to Agree with the phi-features of an argument. Non-finite T is then not an appropriate licensor of \( \pi \)-features. My view of Person restrictions does not involve T as a licensor and is not affected by the finiteness of a clause or whether T is defective. I have posited little \( v \) as the center of Person licensing, following Béjar & Rezac (2009), where \( v \) is local to both an internal and external argument to encode the \( \pi \)-features needed on the Ojibwe theme-sign. The Spanish QPR data then appears to fit with the theory of Person licensing presented for Ojibwe.

A second set of data is found in Icelandic, which is famous for Person restrictions surrounding its Quirky Dative Subjects. As Sigurðsson (1991,1996) discusses, quirky DAT subjects do not agree with the verb, which only agrees with nominatives and exhibits default agreement if there is no NOM available. In these constructions, the object can be NOM and trigger number agreement on the verb (63)a, however the object must be 3\(^{rd} \) person and cannot be 1\(^{st} \) or 2\(^{nd} \) person as shown in (63)b.

(63) a. Henni leiddust strákarnier.
   her.DAT bored.3pl the.boys.NOM.pl
   ‘She found the boys boring.’

   her.DAT bored.1pl/ bored.3pl/ bored.dft we.NOM
   Intended: ‘She found us boring.’ (Sigurðsson 1996:1,25)

Sigurðsson (1996) proposes the Split Agr Hypothesis (a subcase of the Split Infl Hypothesis, Pollock 1989) to separate phi-features into Person on AgrS above TP and AgrO, below TP. Sigurðsson notes that quirky subjects, although they are structural subjects residing in spec TP and behave as expected for reflexivization, ECM, and so on, are likely generated lower in the structure, below what I have been labeling spec \( vP \) (i.e. the lower VP in a Larsonian VP-Shell, Sigurðsson 1996:33).

Icelandic, then, also lines up with the Ojibwe and Romance data, where the Person restriction arises because two arguments are merged in the complement of \( v \) – the nominative object below the
dative subject (before raising to spec TP). Again, the placement of the Person licensor on \( v \) derives the desired restriction, where the DAT (like the Experiencer in (62)) intervenes between the NOM argument (Theme in (62)) and the \( \pi \)-probe on \( v \). Therefore the NOM object can only be personless, encoded as 3\textsuperscript{rd} person, since it cannot license any \( \pi \)-features with \( v \).

Sigurðsson (1991, 1996) and Taraldsen (1994, 1995) make a point that this Person restriction only occurs when the NOM object is agreeing with the verb, seen more clearly in bi-clausal examples like (64).

(64) a. *þeim höfum alltaf fundist [við vinna vel]. (Icelandic)  
    them.DAT have-pl always found we.NOM work well  

b. þeim hefur alltaf fundist [við vinna vel]. (Icelandic)  
    them.DAT has-sg always found we.NOM work well  

‘They have always thought that we work well.’ (Sigurðsson 1996:26-7)

Sigurðsson (1996:27) suggests that the agreeing verbs Case license the NOM object with matrix T, while the non-agreeing versions are licensed in the infinitive clause “by an Infl-type element that can be activated as a Case assigner.” Assuming Sigurðsson is on the right track, a sketch of my proposal would be as follows. The agreeing version in (64)a would require the lower argument \( við ‘we’ to Agree with the matrix \( v \) over the higher subject \( þeim ‘them’ \), which I have shown not possible. The non-agreeing form in (64)b would instead involve \( við ‘we’ being licensed by \( v \) in the lower clause, removing the intervention effect with the subject in the upper clause.\(^{24}\)

4.3 Section summary

I have presented Person restrictions in several different languages which I have argued fall under the proposal given for Ojibwe Inverse System. The Person-Case constraint and Quirky Person restrictions with psych verbs and dative subjects all share an underlying structure with two arguments merged below \( v \). Accepting that little \( v \) (rather than T, or higher) is the locus of Person licensing allows for a unified view of these restrictions alongside the Inverse System, where it can encode the \( \pi \)-features of an EA and IA in IS and creates intervention effects between multiple internal arguments. It is always the lower of two IAs that is restricted in Person (usually to 3\textsuperscript{rd} person), and repairs for this class of constructions consistently obviate the intervention between arguments, for example, by displacing them or removing them as licensing goals.

5 Conclusion

I have proposed specific mechanics of Cyclic Agree and a fine-grained approach to morphosyntactic feature organization that account for mismatched morphological and syntactic transitivity in Ojibwe (Central Algonquian). My analysis includes important revisions to Béjar & Rezac’s (2009) version of Cyclic Agree, which requires that syntactic labels behave like independent heads and the acyclic insertion of a probe. I derive unique predictions, for example involving the presence of animate intransitive morphology on transitive inanimate verbs due to the personless specification of inanimate arguments. I account for the full range of Ojibwe verbal paradigms (in the independent order). Typological extension involve languages exhibiting the Strong Person-Case constraint, active in Ojibwe, as well as Quirky Person restrictions (e.g. involving Dative, Experiencer subjects) that share a

\(^{24}\) Further research will determine the details of this approach concerning Icelandic and the role of non/agreeing verbs.
structure with multiple arguments in the complement of vP and therefore intervention effects between them and the probe on v.

References


