

# **Feature Competition in Algonquian Agreement**

by

Yadong Xu

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Department of Linguistics

University of Manitoba

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# Abstract

This thesis investigates the patterning of the Algonquian “central agreement”, i.e. the primary person-number agreement marking, from a diachronic and comparative perspective. In the existing literature, syntactic approaches (e.g. Béjar 2003) and morphological approaches (e.g. McGinnis 2008) have both exclusively focused on the “independent order” inflection, which occurs in main clauses, while ignoring the equally important “conjunct order” inflection, which occurs in subordinate clauses. The central agreement patterns differ in the two orders: in the conjunct it is fusional and often portmanteau while in the independent it is discontinuous and non-portmanteau. In addition to these differences, there are also some commonalities, such as a pattern in which 1p consistently outranks 2p in both orders. This thesis shows that the differences between the two orders can be taken to reflect variation in the features of the syntactic probe and different morphological spell-out rules, while the shared properties follow from the underlying structure of  $\varphi$ -features. In particular, it is proposed that an additional person feature under the [plural] node causes first person plural to be privileged over second person plural in the competition among vocabulary items in post-syntactic spellout. The overall conclusion of the thesis is that the patterning of Algonquian central agreement is derived by a combination of syntax (Agree) and morphology (feature competition in spellout), with the subject-object asymmetry and the relative richness of  $\varphi$ -features both playing crucial roles. Major contributions of the thesis include the close examination of the understudied conjunct inflection, the derivation of a variety of surface agreement patterns from the same set of person feature specifications, and the development of an analysis from a broad empirical base involving a survey of ten Algonquian languages.

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# Dedication

*xiàn gěi wǒ zuì qīnàide māma, bàba, hé jiějie.*

‘To my dearest mom, dad, and sister.’

# List of Abbreviations

0	inanimate person
1, 2	first or second person
3	third proximate person
3'	third obviative person
1p	first person plural exclusive
21	first person plural inclusive
3>1	portmanteau (3rd-person subject, 1st-person object)
3—1	3rd-person logical subject, 1st-person logical object
AC	Activity Condition
Addr	addressee
C <sup>0</sup>	complementizer head
Centr SFX	central suffix
CFC	Core Functional Categories
AI	Animate Intransitive
CJ	conjunct order
Comp	complementizer
Dim	diminutive
DIR	direct
DM	Distributed Morphology
EPP	Extended Projection Principle
F	features
{F}	subset of F
Ftv	formative suffix
IND	independent order
Infl <sup>0</sup>	inflectional head
INV	inverse

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IL	Interface Level
II	Inanimate Intransitive
LF	Logical Form
LI	Lexical Item
LOC	local forms, i.e. forms in which both arguments are 1st or 2nd person
Mod <sup>0</sup>	modal head
Neg	negative
Neg <sup>0</sup>	negative head
Nom	nominalizer
OBJ	object
Obv	obviation
PA	Proto-Algonquian
Pej	pejorative
Periph SFX	peripheral suffix
Pers	person
PF	Phonological Form
PFX	prefix
pl	plural
Poss	possessive
pret	preterite
Prox	proximate
Ref	reflexive
SFX	suffix
s	singular
SBJ	subjunctive
Spkr	speaker
SUBJ	subject
T <sup>0</sup>	tense head
TA	Transitive Animate
TI	Transitive Inanimate
T.S.	Theme Sign
<i>u</i>	uninterpretable
V	verb stem
v <sup>0</sup>	light verb
*	indicating Proto-Algonquian

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# Chapter 1

## Introduction

*“Agreement is a fascinating topic, in part because it involves many different factors: syntax, morphology, semantics, and pragmatics all come into play, as well as issues about how all of these are processed in real time.”* (Baker 2011: 875)

As Baker describes, the interest of topics involving agreement lies in the complexities of interactions amongst various factors. When we put the polysynthetic morphology of Algonquian languages together with all the other aspects that agreement needs to deal with, the resulting interactions are unsurprisingly challenging. In fact, if we consider Algonquian agreement as a massive iceberg, the complex morphology is simply the tip of the iceberg that appears above the surface. The morphology guides us toward an understanding of what the syntactic operations that make up the agreement iceberg are really like.

When a single agreement slot is able to agree with either the internal argument (object) or the external argument (subject) depending on particular factors, the variable agreement pattern is known as DEPENDENT AGREEMENT (McGinnis 2008: 155). The most well-studied languages with dependent agreement are Georgian and Algonquian (Béjar 2003, Béjar & Rezac 2009; Halle & Marantz 1993; McGinnis 2008, 2013; Nevins 2011). Approaches fall into two camps: syntactic and morphological. The syntactic camp holds that the agreement patterns follow directly from the

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structure (Béjar 2003, Béjar & Rezac 2009; Nevins 2011) while the morphological camp holds that the patterns reflect the feature competitions that occur in the spell-out of vocabulary items (Halle & Marantz 1993; McGinnis 2008, 2013).

Regardless of the approach taken to dependent agreement in Algonquian, however, existing work has focused only on the “independent order” inflection, which occurs canonically in main clauses. The other major inflectional system, the “conjunct order”, which occurs canonically in subordinate clauses, has been completely neglected. The data reveal that the treatment of dependent agreement in the independent order can never simply be transferred to the conjunct order.

This thesis seeks to understand the patterning of dependent agreement in both inflection systems in Algonquian and to determine the degree to which both syntax and morphology play a role in the agreement patterns. The agreement marking in Algonquian that exhibits the dependent pattern is known as the “central agreement”. I will show that the central agreement in both orders is determined by a combination of the syntactic operation Agree and post-syntactic spellout operations. In both operations,  $\varphi$ -features play a significant role.

In the remainder of this chapter, I begin by introducing the patterning of agreement in Algonquian and illustrating the key data (§1.1). Next, I discuss the theoretical framework employed in this thesis: the probe-goal model of agreement (Chomsky 2000, 2001) and the Distributed Morphology model approach to morphological exponence (Noyer 1992; Halle & Marantz 1993; Halle 1997; Cowper & Hall 2004; Embick & Noyer 2007; Harbour 2008; McGinnis 2008) (§1.2). I then set out the empirical and theoretical goals of the thesis (§1.3), followed by an outline which gives a short description of each chapter (§1.4).

## **1.1 Algonquian agreement**

This section introduces the patterning of Algonquian agreement with a focus on the problems that I will be concerned with in this thesis. I focus on the central agreement, which is the primary person-number agreement marker on an Algonquian verb and displays a dependent agreement pat-

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tern. Before I illustrate the patterning of the central agreement, I begin with an introduction to the Algonquian language family (§1.1.1) and a short grammatical sketch (§1.1.2). I then set out the questions regarding Algonquian central agreement that this thesis will address (§1.1.3).

### 1.1.1 PA and daughter languages

The Algonquian languages are a family of North American Indigenous languages whose speakers can be found from the Rocky Mountains to the east coast of Canada and the United States. There are roughly 25 Algonquian languages, some of which consist of several different dialects (Goddard 1996; Mithun 1999).

Proto-Algonquian (PA) is the reconstructed ancestor of the Algonquian languages. According to Goddard (1978: 587), PA was spoken around 2,500 to 3,000 years ago. It is thought that PA was spoken around the Great Lakes area, perhaps north of Lake Ontario (Siebert 1967) or west of Lake Superior (Goddard 1994b: 207). The Algonquian languages are conventionally divided into the Central, Eastern and Plains subgroups (Goddard 1996; Mithun 1999), as listed in (1). Eastern Algonquian is a genetic subgroup but the Central and Plains Algonquian groupings are only geographical.

(1) Algonquian languages

- a. **Central:** Meskawaki-Sauk-Kickapoo, Shawnee, Miami-Illinois, Ojibwe-Potawatomi, Cree-Innu-Naskapi, Menominee
- b. **Eastern:** Mi'gmaq, Maliseet-Passamaquoddy, Abenaki, Southern New England Algonquian, Mahican, Delaware (Munsee and Unami), Nanticoke, Powhatan
- c. **Plains:** Cheyenne, Arapaho-Gros Ventre, Blackfoot

This thesis focuses on Proto-Algonquian (Bloomfield 1946; Goddard 1979a; Pentland 1999; Proulx 1990; Oxford 2014a) as well as nine languages from the Central and Eastern subgroups: Meskwaki (Goddard 1994a), Kickapoo (Voorhis 1967), Shawnee (Andrews 1994), Miami-Illinois

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(Costa 2003), Ojibwe (Jones 1977; Valentine 2001), Plains Cree (Dahlstrom 1991; Wolfart 1973), Menominee (Bloomfield 1962), Massachusetts (Goddard & Bragdon 1988), and Delaware (Goddard 1979b). The languages in the Plains subgroup are excluded because they have undergone many innovations which make them more difficult to compare with the Central and Eastern languages. The divergence of the Plains languages is illustrated by the reflexes of Proto-Algonquian *\*eθkwe·wa* ‘woman’, which bear a great similarity in the Central and Eastern languages but are “markedly divergent” (Oxford 2014a: 20) in the Plains languages.

- (2) Reflexes of Proto-Algonquian *\*eθkwe·wa* ‘woman’ (Oxford 2014a: 20)
- a. Central: Meskwaki *ihkwe·wa*, Shawnee *-ehkwe·w*, Miami-Illinois *-ihkwe*, Ojibwe *ikkwe·*, Menominee *-hki·w*, Plains Cree *iskwe·w*
  - b. Eastern: Mi’gmaq *skwe-*, Western Abenaki *(a)skwa*, Massachusetts *skwa*, Mahican *-axkwa·w*, Munsee *óxkwe·w*
  - c. Plains: Cheyenne *hē?e*, Arapaho *ísei*, Gros Ventre *íθe·*, Blackfoot *ski·ma*

The reflexes in the Central and Eastern languages result from a set of simple sound changes such as vowel deletion, merger of *\*e* with *\*i*, and modification of the *\*θk* cluster. For the Plains languages, however, the changes are much more dramatic. The same degree of divergence is found in the verb inflection as well. In order to restrict my comparisons to fine-grained details, I consider only Central and Eastern Algonquian languages in this thesis.

### 1.1.2 Grammatical sketch

The descendants of Proto-Algonquian share many similarities in morphology and syntax. A comparative study not only raises interesting crosslinguistic differences but can also reveal possible explanations for these differences, and for the patterning of the system more generally. As Goddard said, “comparative information often sheds light on the synchronic grammars of the individual languages, since where reflexes of structures in the proto-language are shared by descendant lan-

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guages, the grammar of one language may point the way to the best analysis of another” (1979a: 70). This section provides a brief sketch of some important points of Algonquian grammar.

Bloomfield (1946) distinguished three parts of speech in Algonquian: verbs, nouns and particles. Within the verb category, four classes are distinguished according to transitivity and animacy of the arguments, as explained in (3).

(3) Algonquian verb classes

Class	Description
Animate Intransitive ( <b>AI</b> )	intransitive verb, argument is animate
Inanimate Intransitive ( <b>II</b> )	intransitive verb, argument is inanimate
Transitive Inanimate ( <b>TI</b> )	transitive verb, inanimate object
Transitive Animate ( <b>TA</b> )	transitive verb, animate object

This thesis primarily focuses on the Transitive Animate (TA) verb class since its agreement is the most complex. TA forms typically involve two animate arguments, each of which can be either first, second, or third person, and the forms involve a “direct-inverse” pattern whose status is often debated.

Verb inflection in the Algonquian languages is divided into (at least) three ORDERS: the independent, the conjunct and the imperative. Each order has a completely different set of agreement morphology. This thesis compares the TA inflection in the two major orders, the independent and the conjunct. (The imperative is used less often and has only second person forms.) Most previous analyses of Algonquian agreement (e.g. Béjar 2003; Béjar & Rezac 2009; McGinnis 2008) have ignored the conjunct order. Through a demonstration of the differences between the two orders in the following, I will conclude that the conjunct inflection cannot be analyzed simply by transferring the analysis of the independent inflection.

Generally speaking, the independent order is used in main clauses and the conjunct order is used in embedded clauses, but this is an oversimplification; the conjunct can also occur in some

main clauses, as in the Plains Cree example in (4b). According to Cook (2014: 41-44), unlike the usual independent main clause as illustrated in (4a), the occurrence of the conjunct in a main clause, while not syntactically subordinate, still indicates a dependency on the context: the ‘I remember’ in (4b) is connected to the preceding discourse.

- (4) a. *ni-kiskisi-n mâna ni-mâmâ [ê- wîcih-ak].*  
 1-remember-Ftv usually 1-mom COMP- help-1s>3s  
 ‘I remember helping my mom.’ (Independent main clause, Wolfart 1996: 393)
- b. *ê- kiskisi -yân ni-mâmâ [ê- wîcih-ak].*  
 COMP- remember -1s 1-mom COMP- help-1s>3s  
 ‘I remember helping my mom.’ (Conjunct main clause, Wolfart 1996: 393)

The preverb *ê-* that occurs on the conjunct verb in these examples is a complementizer, similar to English *that*. Preverbs never take inflection and are always separated from the verbal complex by a hyphen in most orthographies. Although conjunct verbs often occur with such a preverb, I will omit preverbs in all the conjunct examples used in this thesis, as my focus is purely on the agreement inflection.

### 1.1.3 Verb template and central agreement

Templates for verb inflection have been proposed for various Algonquian languages (e.g. Dahlstrom 1991 for Plains Cree, Goddard 1979b for Delaware, and Pentland 1999 for Proto-Algonquian). From this work I have adapted the pan-Algonquian template in (5). In the template, four slots involve agreement: the prefix, the “theme sign” (T.S.) in Slot 1, the “central suffix” (Goddard 1979b) marking person and number in Slot 5, and the “peripheral suffix” (Goddard 1979b) marking third-person features in Slot 7. The prefix and the Slot 5 central suffix normally work together to index a single argument; Goddard (1979b) refers to the prefix-suffix combination as the “central agreement”. Other non-agreement markers (diminutive; obviative; negative; preterite) may be interspersed among the agreement slots, as indicated in the template.

(5) Algonquian verb inflection template

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	1	2	3	4	5	6	7	8
<span style="border: 1px solid black; padding: 2px;">PFX</span> Verb	T.S	dim	obv	neg	<span style="border: 1px solid black; padding: 2px;">person &amp; number</span>	pret	<u>3rd</u>	mode

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Slot 5 in this template actually consists of two slots in the independent order, as I will show below.

The template is illustrated in (6) using examples from Delaware, which show the same form ‘we didn’t give to them’ in the independent (6a) and the conjunct (6b). Both forms share the same Slot 1 theme sign *-a-* (in bold) and the same Slot 7 peripheral suffix *-i-k* 3p (underlined), but the two forms are completely different with respect to the Slot 5 central suffix and the prefix (boxed): no prefix occurs in the conjunct and the form of the 1p central suffix is completely different in the two orders (*-əná-* vs. *-e-nkw*). The conjunct also differs in the presence of a Slot 8 mode sign.

(6) Delaware 1p—3p inflection

- a. nə- *mi-l* **-a-** *-(w)i-* *-w* -əná- *-p-an* *-i-k*  
1- give.to -T.S. -Neg -Ftv -1p -pret -3p  
‘We didn’t give to them.’ (INDEPENDENT; Goddard 1979b: 173)
- b. *mi-l* **-á-** *-w* -e-nkw *-əpan* *-i-k* *-e*  
give.to -T.S. -Neg -1p -pret -3p -SBJ.mode  
‘We didn’t give to them.’ (CONJUNCT; Goddard 1979b: 185)

Although the template in (5) is meant to summarize the inflection of both the independent and conjunct orders, it is important to note that the central agreement differs significantly in the two orders. In the conjunct, the central agreement is fusional, consisting solely of a central suffix in Slot 5 (*-e-nkw* 1p in (6b)). In the independent, on the other hand, the central agreement consists of three components: in (6a), the first-person prefix *nə-* co-occurs with the first-person plural central suffix *-wəná-*, which is itself composed of a “formative element” *-w* (Goddard 1979b: 104) followed by a pluralizer *-əná-* 1p (cf. Pentland 1999).

To further illustrate the differences between the independent and conjunct, compare the Proto-Algonquian forms for ‘s/he sees us’ in (7). In the independent form in (7a), the central agreement

consists of the second-person prefix *\*ke-*, the formative *\*-ehm*, and the pluralizer *\*-ena*. By contrast, in the conjunct form in (7b), the central agreement consists of a single suffix *\*-ankw* 21<sup>1</sup>.

(7) 3s—21 Proto-Algonquian inflection in two orders

a. Independent

\*ke-*wa:pam-ekw-*ehm-ena

2-see(TA)-T.S.-Ftv-21

‘S/he sees us (incl)’

b. Conjunct

\**wa:pam-eθ-*ankw-*e*

see(TA)-T.S.-21-mode

‘if s/he see us (incl)’

The examples in (7) both involve a third person subject acting on a plural first person inclusive object, and in both orders, the central agreement uniformly indexes the plural first person object. Based on these examples alone, we might speculate that the central agreement agrees with the object. However, this is not correct. The central agreement can index either the subject, as in (8a), or the object, as in (8b) and (9a), or even both the subject and the object simultaneously, as in (9b).

(8) Conjunct forms in Plains Cree (Wolfart 1973: 42)

a. *wâpam-i-*t

see -T.S.-3

‘He sees me.’

b. *wâpam-i-*yâhk

see -T.S.-1p

‘You see us.’

(9) Independent forms in Delaware (Goddard 1979b: 174; 178)

a. n-*lo·s-o-k-*hóm-əna<sup>2</sup>

1-burn(TA)-T.S.-Ftv-1p

‘He burns us (excl).’

b. kə-*mi·l-í-*h-əna

2-give.to(TA)-T.S.-Ftv-1p

‘You give to us (excl).’

<sup>1</sup>In this thesis, the asterisk symbol indicates a reconstructed Proto-Algonquian form. The abbreviations specific to Algonquian agreement are: 21=first person inclusive plural, 3=third proximate person (topic of discourse), 3'=third obviative person (non-topic third person in discourse).

<sup>2</sup>The verb root is *lōsw-* ‘burn’, the underlying form is *n-lōsw-ək-w-əhm-ənā*. The phonological rule *w* plus a short *ə* results a long *o*.



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Through the examples shown above (Proto-Algonquian, Plains Cree and Delaware), we can summarize the differences between two orders regarding the central agreement as in (10): central agreement in the conjunct order consists of a single fusional suffix in Slot 5, whereas the central agreement in the independent order consists of three components: prefix, formative, and pluralizer.

(10) Summary of differences between the independent and the conjunct

	CONJ	IND
a. Prefix	✗	✓
b. Formative	✗	✓
c. Central suffix	fusional	pluralizer

Of the three components of the central agreement in the independent order, the analysis in this thesis will consider the prefix and pluralizer, which mark person and number, but not the formative, whose function is less clear. I omit the formative for three reasons. First, unlike the remainder of the central agreement, the formative is not a straightforward person or number marker—its realization is instead conditioned by properties of the following peripheral suffix (Goddard & Bragdon 1988; Goddard 2007). Since my focus is on problems involving person and number in the central agreement, the formative is not relevant. Second, the status of the formatives is controversial in the literature: Pentland (1999) regards them as marking the participant that ranks the lowest on the person hierarchy while Goddard (2007) regards them simply as allomorphs of the central suffix conditioned morphologically by the following peripheral suffix. Third, the formative derives diachronically from a nominalizing suffix which later became part of the verb inflection when a noun-to-verb reanalysis took place (Goddard 2007; Oxford 2014a). For instance, the formative *\*-ehm* originated as a nominalizer which, as (11) illustrates, can be used to nominalize the verb stem *akwi-* ‘to wear as a robe’ to a noun ‘robe’. This origin is a further indication that the formative is something other than a simple person/number marker.

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(11) The *-ehm* nominalizer in Proto-Algonquian (Goddard 2007: 259)

VERB		DERIVED NOUN
<i>akwi-</i>	⇒	<i>[akwi]-ehm-i</i>
wear.as.robe		[wear.as.robe]-NOM-0s
‘to wear as a robe’		‘robe’

Thus, due to their insensitivity to number, their controversial status, and their origin as nominalizers, the formatives are excluded from my discussion of the patterning of person and number within the central agreement and left as a separate problem for future research.

A key question regarding the central agreement is the following: What is the underlying explanation for why the central agreement indexes the subject and/or the object in a particular form? Is the outcome determined in the syntax or in the morphology? Based on my survey of central agreement across ten Algonquian languages, I argue that both the syntax and the morphology play crucial roles. I extend Oxford (2014a, forthcoming)’s syntactic analysis of the articulated probe on  $\text{Infl}^0$  by adding a morphological component in which the structure of  $\varphi$ -features, the [plural] feature in particular, plays a vital role in the spell-out of the central agreement. The analysis that I will propose differs in the independent and the conjunct, as sketched in (12).

(12) Proposed analysis of Algonquian central agreement

a. **CONJUNCT**

$\text{Infl}^0$  carrying [*uPerson*, *uProximate*, *uPlural*] features agrees, by default, with the subject due to the Activity Condition (Chomsky 2000, 2001), except when the object is local plural. In that case, the presence of the [plural] feature on the object will attract  $\text{Infl}^0$ -agreement. If both the subject and the object are plural, only the plural person with more richly specified features under the [plural] node is spelled out.

b. **INDEPENDENT**

Unlike in the conjunct,  $\text{Infl}^0$  does not probe for number, but its person feature specification, [*uPerson*, *uProximate*, *uParticipant*], is more articulated, as it includes the

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[*u*Participant] subfeature. As a result of this increased articulation, the probe targets whichever of the two arguments is a better match for its features. In “you-and-me” forms, where both arguments have the [Participant] feature, Infl<sup>0</sup> agrees with both. The agreement features on Infl<sup>0</sup> undergo Fission post-syntactically: the prefix discharges the person features and the central suffix discharges the plural features (§4).

## 1.2 Theoretical framework

This thesis employs the PROBE-GOAL model of syntactic agreement (Chomsky 2000, 2001) and the DISTRIBUTED MORPHOLOGY approach to morphological exponence (Halle & Marantz 1993; Embick & Noyer 2007).

### 1.2.1 Probe-Goal agreement in the Minimalist Program

I adopt the Probe-Goal model from the Minimalist Program (Chomsky 2000, 2001) in my analysis of the syntactic derivation of Algonquian agreement. Chomsky (2000) recognizes three operations that drive syntactic derivations: MOVE, AGREE, and MERGE. The operation of most interest in this thesis is Agree, which establishes a relation between a probe bearing uninterpretable  $\varphi$ -features and the closest c-commanded goal with matching  $\varphi$ -features. Chomsky (2000 2001) states that three Core Functional Categories can bear uninterpretable  $\varphi$ -features: C, T, and *v*. T carries a probe which has uninterpretable ([*u*]) features and an [EPP] feature. The unvalued and uninterpretable features of the probe on T are valued by matching with a goal in its c-command domain and the [EPP] feature on the probe triggers the movement of the goal to the probe’s specifier position.

To apply this model to the Algonquian data, I start with Oxford (2014a, forthcoming)’s structural analysis of Algonquian central agreement, which attributes the central agreement to a probe on Infl<sup>0</sup> (equivalent to T). Both the probe on Infl<sup>0</sup> and the exponents of Infl<sup>0</sup> differ in the independent and conjunct orders. Another important ingredient is Chomsky’s ACTIVITY CONDITION (AC), which restricts probes to targeting active goals, i.e. goals that have not yet been agreed with by

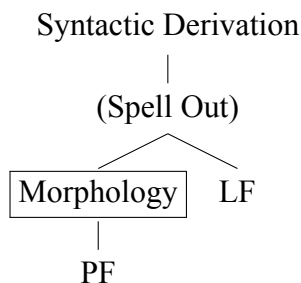
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other probes. I take the AC to be a parameter rather than an inviolable principle, since it plays a role in the patterning of central agreement but can be overridden in cases where an inactive goal is the best match for the features of the probe.

## 1.2.2 Distributed Morphology

Distributed Morphology is theory of how the structure of words (morphology) is mapped from the structure of sentences (syntax). As Embick & Noyer (2007: 290) put it, “the theory of Distributed Morphology proposes an architecture of grammar in which a single generative system is responsible both for word structure and phrase structure.” Distributed Morphology uses the basic structure of a Principle-and Parameters grammar (Halle & Marantz 1993) to account for the derivations at the PF and LF interface levels. The structure assumed by the model is illustrated in (13) (Embick & Noyer 2007; Halle & Marantz 1993). Embick & Noyer (2007) regard every word as being formed by syntactic operations (i.e. Merge and Move), and thus the morphological structure at PF is in fact a syntactic structure. However, additional operations can apply at PF to modify the syntactic structure.

(13) Layout of the grammar (Embick & Noyer 2007: 292)



Morphemes in Distributed Morphology are considered as units that “are subject to the syntactic operations Move and Merge” (Embick & Noyer 2007: 295). The basic inventory of syntactic terminals is divided into two kinds: ABSTRACT MORPHEMES (a.k.a. *f-morphemes*) composed of non-phonetic features such as [past] and [pl], and ROOTS (a.k.a. *l-morphemes*) which carry core lexical meaning. According to the CATEGORY ASSUMPTION in (14), a Root can never appear in bare form

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and must be accompanied by an abstract morpheme in order to be assigned a grammatical category. For example, whether the Root  $\sqrt{master}$  is a noun, an adjective or a verb depends on the abstract  $n$ ,  $a$ , and  $v$  morphemes in the syntactic structure.

(14) **Category Assumption** (Embick & Noyer 2007: 296)

Roots cannot appear without being categorized. Roots are categorized by combining with category-defining functional heads.

VOCABULARY INSERTION is a mechanism that supplies phonological features to the abstract morphemes combined in the syntax (Embick & Noyer 2007: 297). Taking the verb *mastered* as an example, Vocabulary Insertion takes the [past] feature on the head T and realizes it as /-ed/, as formally expressed by the vocabulary item in (15).

(15)  $ed \longleftrightarrow$  [past]

It is often the case that more than one vocabulary item could potentially realize a particular abstract morpheme. In such instances of competition among vocabulary items, the THE SUBSET PRINCIPLE in (16) “controls the application of vocabulary items and resolves (most) cases of competition of this sort” (Embick & Noyer 2007: 289).

(16) **Subset Principle** (adapted from Halle 1997)

- a. The phonological exponent is inserted into a position if the item matches all or a subset of the features specified in that position;
- b. Insertion does not take place if vocabulary item contains a feature not present in the morpheme;
- c. If several items meet the condition for insertion, the item matching the greatest number of features specified in the terminal morpheme must be chosen.

The syntactic rules that generate structures are universal, and in the default case the morpho-

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logical structure remains the same as the output of the syntax, but Distributed Morphology allows for language-particular mismatches between syntax and morphology through operations that adjust the structure prior to its spell-out (Embick & Noyer 2007:304). Impoverishment and Fission are two such operations. Impoverishment, first proposed by Bonet (1991), involves feature deletion and results in systematic syncretism. When a feature is deleted through Impoverishment, a vocabulary item that spells out that feature cannot be inserted, and a less specified vocabulary item must be inserted instead. The effect is that a default exponent replaces the expected exponent. Fission essentially splits a morpheme into several “pieces” at PF, allowing an abstract morpheme to be realized by more than one vocabulary item. When Fission occurs, Vocabulary Insertion does not stop after until the features of all the fissioned nodes have been discharged.

In this thesis, I argue that Agree in the Probe-Goal model (Chomsky 2000, 2001) is responsible for the derivation of the basic patterning of the central agreement, but that post-syntactic operations in the framework of Distributed Morphology are responsible for the feature competitions that arise with respect to plural persons as well as the phenomenon of discontinuous prefix+suffix agreement in the independent order. To account for the spell-out of plural features, I will propose that the distinction between inclusive and exclusive first person plural involves an additional person feature under the plural node, given the semantic indication that the inclusive first person plural consists of two persons (Cowper & Hall 2004; Cowper 2005; Harley & Ritter 2002; McGinnis 2005; Mühlhäusler 2001). Two kinds of feature competition will play a part in this thesis: Béjar-style competition for agreement in the syntax, which depends on the features of the probes and goals (Béjar 2003), and DM-style competition for spell-out, which depends on the features of vocabulary items (Halle & Marantz 1993).

### **1.3 Goals of this thesis**

There are two sides to the goals of this thesis. Empirically (§1.3.1), the thesis provides a panoramic view of problems in the analysis of Algonquian agreement. A comparative survey demonstrates

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that agreement in the conjunct order has to be analyzed separately from that of the independent order; nevertheless, the similarities that exist between the two orders indicate that they must still somehow be related. Theoretically (§1.3.2), the thesis demonstrates that an adequate analysis of Algonquian central agreement must recognize crucial roles both for the operation of Agree in the syntax as well as post-syntactic operations in the morphology. Neither syntax nor morphology alone determines the patterning of the central agreement.

### **1.3.1 Empirical goal**

Theoretical work on Algonquian agreement has long been deficient in its treatment of the central agreement. Most work on Algonquian morphosyntax has been drawn to the famous Algonquian direct-inverse system, which has typically been considered in isolation from the central agreement. However, the complicated patterns involving number and person in the central agreement are in fact interwoven with the patterning of the direct-inverse system. A further deficiency of existing work involves the independent-conjunct distinction. Most theoretical work has focused exclusively on the independent (Béjar 2003; McGinnis 2008), and when the conjunct has been considered, it has typically been given an analysis based upon that of the independent (Brittain 2001; Campana 1996). Such an approach does not provide a satisfactory account of the more fusional conjunct spell-out, in which number, plurality in particular, plays a more crucial role than in the independent.

An additional opportunity to advance upon previous work comes from the fact that most existing analyses are based solely on one language (e.g. Béjar 2003, McGinnis 2008, Béjar & Rezac 2009 for Ojibwe; Brittain 2001 for Naskapi; Bruening 2009 for Passamaquoddy; Coon & Bale 2014 for Mi'gmaq; Oxford 2014a for Proto-Algonquian). Pentland (1999: 222) has commented on the absence of a unified crosslinguistic perspective on Algonquian agreement in analytical work: “Crucial arguments have been based on the verb inflections, but no two syntacticians seem to agree on the details, with the same morpheme in various Algonquian languages being interpreted in very different ways.” The analysis in this thesis is based on a survey of ten Algonquian languages. The significant similarities shared across the family reveal the components of the system that are

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most central, while the language-specific divergences that have arisen through diachronic change indicate aspects in which the analysis must allow for variation. An example of the usefulness of this comparative perspective involves the patterning of the direct-inverse system, which differs across languages and even across the independent and conjunct orders within a single language. Fry (2015) has proposed that the direct-inverse theme signs in the independent and conjunct are two completely different sets of morphemes despite the fact that their forms are the same in the two orders. However, from a pan-Algonquian perspective, we can observe a tendency for the direct-inverse pattern in the conjunct to be gradually modified to be more like that of the independent. This interaction leads me to reject a strict dichotomy between the theme signs of the independent and conjunct and to instead adopt a unified treatment of theme signs in which the variations between the independent and conjunct are derived by other factors (Brittain 1999; Oxford 2014a, 2015a). In this way, the diachronic and comparative perspective not only serves as a useful source of data, but also as a means by which an analysis can be tested. This panoramic view has the potential to bring us to a unified account that settles the disputes among previous studies.

### **1.3.2 Theoretical goal**

The major theoretical contribution of this thesis is the illustration that Algonquian central agreement is neither determined exclusively by syntax nor by morphology. McGinnis (2008) has shown that a purely syntactic analysis (Béjar 2003) fails to capture all the properties of Algonquian agreement, but the morphological feature-based analysis proposed by McGinnis (2008) also cannot capture all the facts, particularly in the conjunct order. Under my analysis, the syntax plays a crucial role in two ways: the probe on  $\text{Infl}^0$  differs between the independent and conjunct, thus guaranteeing that the outcome of agreement will be different in the two orders, and the syntactic asymmetry between subjects and objects also plays a role in the outcome of agreement, although not to the extent that is familiar from most languages. Feature competition in the morphology also plays a crucial role in determining the spell-out of forms in which both arguments are first/second person and/or plural.

A second theoretical contribution involves the nature of the probe(s) that are active in agree-



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ment. I show that an elegant account of Algonquian central agreement is possible while assuming only a single probe on  $\text{Infl}^0$ ; it is not necessary to posit multiple  $\varphi$ -feature projections along the clausal spine, each hosting a separate probe (e.g. a person probe on  $\pi^0$ , a number probe on  $\#^0$ , and even a gender probe on  $\gamma^0$ ; cf. Anagnostopoulou 2003; Béjar 2003; Preminger 2012; Bhatia et al. 2016)). This conclusion is consistent with that of Coon & Bale (2014), who demonstrate that person and number must probe together in the Eastern Algonquian language Mi'gmaq.

Finally, my analysis involves a significant difference between the representation of first-person plurals and non-first-person plurals. I will propose that inclusive and exclusive first-person plurals are distinguished by the presence of an additional person feature under the [plural] node, whereas plural second and third persons are marked simply by a [plural] feature. The presence of an additional person feature in the representation of first-person plurals accounts for the consistent preference of plural morphology to spell out first persons rather than second persons, in contrast for the preference of person morphology to spell out second persons rather than first persons.

In summary, the theoretical contributions of this thesis involve the balance of syntax and morphology in the derivation of complex agreement patterns, the possibility for such complex patterns to derive from a single probe ( $\text{Infl}^0$ ), and the representation of the features of first-person plurals.

## 1.4 Thesis outline

The outline of my thesis is centered on the interactions of person and number in Algonquian central agreement for both the independent and the conjunct inflection. Previously, I have described the data and frameworks upon which my analysis is based, and I have briefly introduced the problems raised by the central agreement. This section serves as a guide to the organization of the following chapters.

*Chapter 2: Algonquian Morphosyntax.* This chapter describes the overall patterning of Algonquian agreement, including not just the central agreement, which is the main focus of this thesis, but also the direct-inverse theme signs and the peripheral suffix. The theme signs will be analyzed

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as object agreement markers, with the special inverse theme sign an elsewhere form that arises from an impoverishment operation. This analysis of the theme signs paves the way for the analysis of the central agreement because it creates a configuration in which the subject and object are equidistant, thus allowing the central agreement to target either or both of the two arguments.

**Chapter 3: *Conjunct Central Agreement.*** This chapter presents my analysis of the central agreement in the conjunct order. I first show that person hierarchy  $2 > 1 > 3 > 3' > 0$  correctly describes the relative richness of the features of each person. I then propose that the exclusive and inclusive first person plurals are represented by an additional person feature: exclusive is  $[1] + [3]$  and inclusive is  $[2] + [1]$ . I argue that  $\text{Infl}^0$  controls the central agreement and carries the features  $[u\text{Person}, u\text{Proximate}, u\text{Plural}]$ . When the object is first or second person but not plural,  $\text{Infl}^0$  targets the subject because of the ACTIVITY CONDITION, which restricts agreement to active goals. When the first or second person object is plural, however, the presence of the [plural] feature attracts  $\text{Infl}^0$ -agreement in spite of the Activity Condition. I also discuss the portmanteau agreement that arises in the conjunct order, which I take to be the result of Multiple Agree. The variations of portmanteau agreement in languages like Plains Cree, Massachusett, and Delaware further support the presence of a  $[u\text{Plural}]$  feature in the probe on  $\text{Infl}^0$ .

**Chapter 4: *Independent Central Agreement.*** This chapter extends the analysis of central agreement to the independent order by making a slight modification to the  $\text{Infl}^0$  probe. I propose that in the independent,  $\text{Infl}^0$  carries the features  $[u\text{Person}, u\text{Proximate}, u\text{Participant}]$ . I take the discontinuous spell-out of independent central inflection (prefix plus plural suffix) to be the result of Fission of  $\text{Infl}^0$  into person and number nodes, whose relative order is motivated by the inner structure of  $\varphi$ -features proposed by Harbour (2008). The spell-out of plurals in the independent provides support for my proposal that the representation of first person plurals (exclusive 1p and inclusive 21) involves an additional person feature, in contrast to second and third person plurals.

**Chapter 5: *Conclusions.*** This chapter summarizes the overall analysis of Algonquian central agreement that has been developed in the thesis and considers its theoretical implications. The chapter also calls attention to problems in Algonquian agreement that lie outside the scope of this

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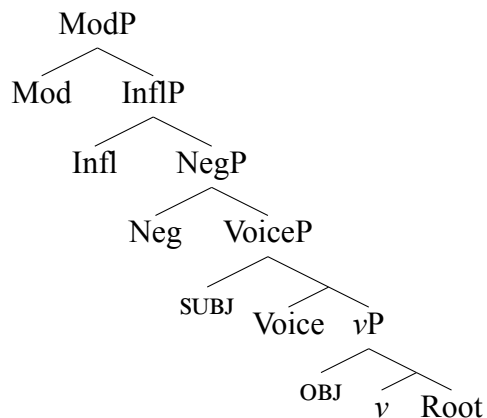
thesis and identifies paths for future research.

## Chapter 2

# Algonquian morphosyntax

This chapter provides a detailed description of Algonquian morphosyntax centering on the verb agreement. Examining the inner structure of the Algonquian verb complex leads us to the underlying syntactic structure shown in (1), with lexical verb finals as  $v^0$ , direct-inverse theme signs as  $\text{Voice}^0$ , central agreement as  $\text{Infl}^0$ , and the rest are self-explanatory: negative morpheme as  $\text{Neg}^0$  and mode as  $\text{Mod}^0$ .

- (1) Syntactic structure of the Algonquian verb (cf. Oxford 2014a, 2015a)



The derivation of the surface linear order (Root- $v$ -Voice-Neg-Infl-Mod) is the result of a series of head-movements consistent with the Mirror Principle (Baker 1985).

The following sections provide a background analysis of the morphosyntax of the Algonquian verb. Section 2.1 begins with the salient morphosyntactic properties of Algonquian. Section 2.2

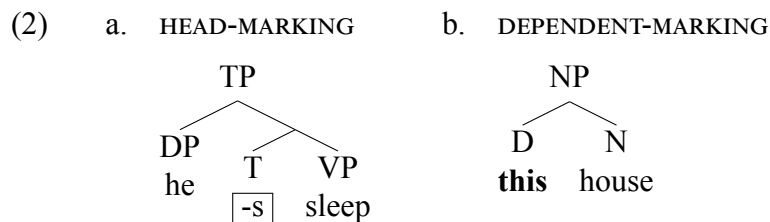
discusses the direct-inverse theme signs and adopts the analysis of Oxford (2014a, 2015a) in which the non-inverse theme signs are object markers and the inverse theme sign is the elsewhere case. Finally, section §2.3 presents a description of the central agreement in the conjunct order and the independent order.

## 2.1 Algonquian morphosyntactic properties

In this section, through examples from various Algonquian languages, we will get to know what Algonquian morphosyntax is like: it is head-marking (§2.1.1) and polysynthetic (§2.1.2).

### 2.1.1 Head-marking

In signalling grammatical relations, Algonquian agreement largely employs the HEAD-MARKING strategy. As illustrated by the English examples in (2), the distinction between head-marking and dependent-marking lies in the question whether agreement features get marked on the HEAD (indicated by a box) or on a DEPENDENT of the head (indicated by boldface).



The form in (2a) displays head marking in that the head of the clause, T, is marked for the third-person singular feature of the subject *he*. The form in (2b) displays dependent marking in that the number of the dependent demonstrative depends on the number of the head noun.

Similar to English, Algonquian displays both head-marking and dependent-marking; the expression of subjects and objects predominantly employs head-marking. The examples in (3) from Cree show that agreement between the demonstrative and noun uses the same strategy as in English: the demonstrative *ana* ‘that’ is inflected according to the number and animacy of the head

noun *atim*- ‘dog’ or *cîmân*- ‘boat’. The noun is also head-marking in that it inflects to indicate its own number and gender.

- (3) Dependent-marking and head-marking within the NP
- |           |    |                    |    |  |
|-----------|----|--------------------|----|--|
| Animate   | a. | <i>ana atim</i>    | b. | <i>aniki atimw-</i> <span style="border: 1px solid black; padding: 0 2px;">ak</span> |
|           |    | that dog-Ø         |    | those.3p dog-3p  |
| Inanimate | c. | <i>anima cîmân</i> | d. | <i>anihi cîmân-</i> <span style="border: 1px solid black; padding: 0 2px;">a</span>  |
|           |    | that boat-Ø        |    | those.0p boat-0p   |

Inflection for nominal possessors and verbal subjects and objects is strongly head-making. The independent verb inflection is closely parallel to possessed noun inflection, as illustrated by the Kickapoo examples in (4).

- (4) a. ne- *koohkoos -em -a*  
 1- pig -Poss -3s  
 ‘my pig’ (Voorhis 1967: 66)
- b. ne- *miin -em -aa -a*  
 1- give.to -obv -T.S. -3s  
 ‘I give it to him (obv.)’ (Voorhis 1967: 99)

As we can see, both noun inflection and TA verb inflection use the same prefix *ne-* to indicate first person and the same suffix *-a* to indicate animate singular third person. The suffix *-em* is used differently in noun and verb inflection. In noun inflection, it is glossed as ‘possessive’ because it appears when an independent third person noun has a possessor, whereas in a TA verb it is glossed as ‘obviative’ because it appears when a third person argument is dependent on some more central third person. (The Algonquian obviative marks a secondary third person which is not the primary focus in the discourse.) The direct theme sign *-aa* shown in (5b) indicates that the third person is the object. The forms of TA theme signs will be discussed in the next section (§2.2).

As introduced in the previous chapter (§1.1.1), Algonquian has two parallel but distinct sets of verb inflection known as the independent and conjunct orders. The form in (4b) employs the

independent inflection. To give a sense of the difference between the independent and conjunct inflection, the table in (5) displays the Delaware animate intransitive (AI) verb inflection in both orders. The most noticeable difference is that the conjunct inflection does not employ a person prefix, while the independent inflection can employ multiple positions to indicate the subject. For example, in the independent 1p form, the 1p marking *n- -hmənā* consists of the first-person prefix *n-* and the central suffix *-hmənā*, which itself consists of the formative *-hm* and the 1p suffix *-ənā*. The conjunct, in contrast, uses only the single 1p central suffix *-ēnk*, which is completely different from the 1p suffix *-ənā* that occurs in the independent.

(5) Delaware (Unami) AI inflection in two orders (Goddard 1979b)

a. <b>Conjunct</b> (1979b: 181)			b. <b>Independent</b> (1979b: 167)				
	STEM	Central AGR		PFX	STEM	Central AGR	Periph AGR
1s	V	-ā 1s	1s	n- 1	V	—	—
2s	V	-an 2s	2s	k- 2	V	—	—
3s	V	-t/-k 3s	3s	—	V	-w 3s	—
1p	V	-ēnk 1p	1p	n- 1	V	-hmənā 1p	—
21	V	-ankw 21	21	k- 2	V	-hmənā 1p	—
2p	V	-ēkw 2p	2p	k- 2	V	-hmwā 2p	—
3p	V	-(ə)h(ə)tīt 3p	3p	—	V	-w 3	-ak 3p

Previous analyses of Algonquian agreement (e.g. Béjar & Rezac 2009; McGinnis 2008) have neglected the conjunct inflection. The extensive differences between the conjunct and the independent indicate that the analysis of the conjunct inflection cannot simply be transferred from the analysis of the independent inflection.

## 2.1.2 Polysynthetic

Algonquian languages are polysynthetic: “single words can consist of long strings of roots and affixes that often express meanings that are associated with entire sentences in other languages” (O’Grady & Archibald 2012: 292). This property is illustrated by the Plains Cree example in (6).

- (6) *sâkih -iso -si -hkâso -ski -w*  
 love Ref Dim pretend habitual 3s  
 ‘He is in the habit of pretending to love himself a little bit.’ (Dahlstrom 1991: 202)

Algonquian words are formed by derivation and inflection. The derivational morphology consists of two layers known as PRIMARY derivation and SECONDARY derivation (Bloomfield 1946). Primary derivation forms a stem from a root while secondary derivation forms a stem from an existing stem. In the example in (6), the primary verb stem is *sâkih-* ‘love’, and other than the central agreement suffix *-w* indicating the third-person subject, the rest of the suffixes are secondary derivation.

Primary derivation, which builds a stem from components that cannot stand on their own as stems, has three constituents: INITIALS, MEDIALS and FINALS. Medials are optional and carry concrete noun-like meanings. In the examples from Meskwaki in (7), both stems contain the same initial *wa:pešk-* providing the core meaning ‘white’. The final marks the stem as an AI verb and also adds the abstract meaning of ‘be’ or ‘have’. The form in (7b) also contains the medial *-inamešk* which adds the concrete nominal meaning ‘skin’.

- (7) Primary derivation (Goddard 1990: 451)

	INITIAL	(MEDIAL)	FINAL	AGREEMENT	
a.	<i>wa:pešk-</i>		<i>-esi</i>	<i>-wa</i>	‘he is white’
	‘white’		AI	3	
b.	<i>wa:pešk-</i>	<i>-inamešk</i>	<i>-e·</i>	<i>-wa</i>	‘he has white skin’
	white	skin	AI	3	



Algonquian stem structure fits well with a Distributed Morphology (DM) analysis (Halle & Marantz 1993; Embick & Noyer 2007). In DM, the basic inventory of syntactic terminals is composed of abstract morphemes and roots. The root contributes the core meaning and the abstract morpheme creates a word with a particular lexical category. In an Algonquian verb stem, the initial can be understood in DM terms as the root and the final can be understood as the category-defining abstract morpheme *v* (Brittain 2003; Mathieu 2008; Quinn 2006).

Moving from derivation to inflection, the template given for Algonquian verb inflection in the preceding chapter (§1.1.3) is repeated in (8) in simplified form, omitting the obviative, diminutive, preterite, and mode slots that are not relevant to this thesis. Agreement is distributed over four slots, with the prefix and central suffix (person-number) slots usually working together to index a single argument.

(8) Algonquian verb inflection template

1	2	3	4	5	6
<span style="border: 1px solid black; padding: 2px;">PFX</span>	Verb	<b>T.S.</b>	Neg	<span style="border: 1px solid black; padding: 2px;">person &amp; number</span>	<u>3rd</u>

This template is exemplified by the following independent forms from Algonquin, Delaware, and Massachusetts, which reflect the great similarities Algonquian languages share in verb inflection. Each form contains a prefix and central suffix indexing the first person plural (boxed), a peripheral suffix indexing the third person plural (underlined), and a theme sign (bold).

(9) 1p—3p Independent Negative

a. Algonquin (Jones 1977: 76)

ni-wàbam-**â**-sì-nàn-ig

1-see-T.S.-Neg-1p-3p

‘We (excl.) didn’t see them.’

- 
- b. Delaware (Goddard 1979b: 172)

$\boxed{nə}$ -*mi-l-a*-(w)*i*- $\boxed{wəná·n}$ -*a(·)k*

1-give.to-T.S.-Neg-1p-3p

‘We (excl.) didn’t give it to them.’

- c. Massachusetts (Goddard & Bragdon 1988: 534)

$\boxed{nu}$ -*wadchan-ô-wu*- $\boxed{nôn}$ -*ak*<sup>1</sup>

1-keep-T.S.-Neg-1p-3p

‘We (excl.) didn’t keep them.’

The same template applies to the conjunct order agreement with the exception of the absence of the prefix slot and the appearance of a word-final mode sign. In the independent inflection, the prefix and the central suffix (Slot 5) seem to be a single discontinuous agreement marker since they normally work together to index the same person. I consider the prefix and central suffix to be controlled by one syntactic head  $\text{Infl}^0$  and spelled out into two positions because of fission. This analysis will be presented in Chapter 4.

The peripheral suffix in Slot 6 is the spell-out of some other syntactic head which differs from the central agreement ( $\text{Infl}^0$ ) and the theme sign ( $\text{Voice}^0$ ). Unlike the other agreement slots, the peripheral suffix is restricted to indexing third person arguments only. The explanation of the peripheral suffix is not clear but one suggestion made by Branigan & MacKenzie (1999) is that the peripheral suffix in Innu-aimun (Eastern Cree) is controlled by the higher functional head  $C^0$ . The analysis of the peripheral suffix is outside the scope of this thesis. It is clearly different from the central agreement in both its position and its patterning and it thus will not be discussed in my analysis of the central agreement.

Having set aside the peripheral suffix, and leaving the central agreement (prefix plus Slot 5 central suffix) to be examined in the following chapters, the remaining agreement marker in the template in (8) above is the “theme sign” in Slot 3. Algonquian theme signs have drawn a great

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<sup>1</sup>In order to clearly show the inflectional morphemes, the form here is the underlying form. The real recorded example form is *mat n8wadchanounonog*, in which *mat* is a negative particle.

deal of attention. Due to the disputes and the complexity of the data, the theme signs will be discussed separately in the following section.

## 2.2 TA theme signs

This section examines the four TA theme signs, which are often described as direct-inverse markers. First I will show that the common direct-inverse description is problematic (§2.2.1). Then, following Oxford (forthcoming), I will argue that three of the theme signs, *\*-i*, *\*-eθ*, and *\*-a/∅*, are the spell-out of Voice<sup>0</sup> as object agreement (§2.2.2), while the inverse theme sign *\*-ekw* is an elsewhere spellout of Voice<sup>0</sup> realized in contexts where impoverishment has been triggered by the presence of adjacent identical person features (§2.2.3).

### 2.2.1 Problems with the direct-inverse description

In TA verb inflection, there are four theme signs, reflecting Proto-Algonquian *\*-i*, *\*-eθ*, *\*-a/∅*, and *\*-ekw*. The table in (10) illustrates the phonological forms of the four theme signs in the Algonquian languages surveyed in this thesis.

(10) Forms of the four TA theme signs across Algonquian languages<sup>2</sup>

	PA	Ojibwa	Mes/Kp	Menominee	Shawnee/MI	Massachusetts	Delaware	Cree
1	<i>*i</i>	<i>i</i>	<i>i</i>	<i>e</i>	<i>i</i>	<i>i</i>	<i>i·</i>	<i>i</i>
2	<i>*eθ</i>	<i>in/ih</i>	<i>en/eh</i>	<i>en/eh</i>	<i>el/eh</i>	<i>el/eh</i>	<i>əl</i>	<i>it/is</i>
3	<i>*a/∅</i>	<i>a/∅</i>	<i>a/∅</i>	<i>a/∅</i>	<i>a/∅</i>	<i>a/∅</i>	<i>a/∅</i>	<i>a/∅</i>
4	<i>*ekw</i>	<i>igw</i>	<i>ekw</i>	<i>ekw</i>	<i>ekw</i>	<i>akw</i>	<i>əkʷ</i>	<i>ikw</i>

According to Oxford (2014b), there have been three major approaches to the analysis of TA theme signs: the full direct-inverse analysis in (11a), the symmetrical split analysis in (11b), and

<sup>2</sup>“Mes/Kp” refers to Meskwaki and Kickapoo and “Shawnee/MI” refers to Shawnee and Miami-Illinois.

the asymmetrical split analysis in (11c).

(11) Three analyses of TA theme signs

a. Full direct-inverse (Wolfart 1973)	b. Symmetrical split (Hockett 1966)	c. Asymmetrical split (Brittain 1999, Oxford 2014a)
<i>*i</i> LOC DIR <sup>3</sup>	<i>*i</i> 1OBJ	<i>*i</i> 1OBJ
<i>*eθ</i> LOC INV	<i>*eθ</i> 2OBJ	<i>*eθ</i> 2OBJ
<i>*a·/∅</i> DIR	<i>*a·/∅</i> DIR	<i>*a·/∅</i> 3OBJ
<i>*ekw</i> INV	<i>*ekw</i> INV	<i>*ekw</i> INV

Under the full direct-inverse view, all theme signs reflect the PERSON HIERARCHY  $2 > 1 > 3 > 3' > 0$ . Each theme sign expresses the direction of the action with respect to the hierarchy (Ahenakew 1987: 93; Ellis 1982: 230; Valentine 2001: 268). A direct theme sign indicates that the action proceeds in accordance with the hierarchy: the higher-ranked person acts on the lower-ranked person. An inverse theme sign indicates the reverse: the lower-ranked person acts on the higher-ranked person.

(12) Directional marker

a. <b>Direct</b> <i>*-a·/(∅), *-i:</i>	$\xrightarrow{\text{Direct}}$ $2 > 1 > 3 > 3' > 0 > 0'$
b. <b>Inverse</b> <i>*-ekw, *-eθ:</i>	$\xleftarrow{\text{Inverse}}$

Taking Plains Cree as an example, in the direct-inverse pair in (13a–b), the prefix *ni-* indexes the first-person argument in both forms; it is the theme sign that indicates whether this argument is the subject or the object (direct = first acts on third, inverse = third acts on first). The same is true for the second-person prefix *ki-* in (13c–d).

<sup>3</sup>LOC denotes local forms, i.e. forms in which both arguments are first or second person.

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(13)	<b>Direct</b>	<b>Inverse</b>
	a. <i>ni-wâpam-â-w</i>	b. <i>ni-wâpam-ikw-w</i>
	1-see-T.S.-3	1-see-T.S.-3
	‘I see him/her.’ (DIR)	‘S/he sees me’. (INV)
	c. <i>ki-wâpam-i-n</i>	d. <i>ki-wâpam-it-in</i>
	2-see-T.S.-non3	1-see-T.S.-non3
	‘You see me.’ (DIR)	‘I see you.’ (INV)

Under the second approach to theme signs, the symmetrical split analysis, the direct-inverse contrast applies to the theme signs *\*-a·* and *\*-ekw* (as in the Plains Cree examples in (13a–b)) but not to the theme signs *\*-i* and *\*-eθ*, which are instead regarded as object markers: *\*i* in (13c) is regarded as a first-person object marker since it only ever appears with first-person objects and *\*eθ* in (13d) is regarded as a second-person object marker since it only ever appears with second-person objects. Under this approach, then, there are two pairs of theme signs: a direct-inverse pair and an object-agreement pair.

The symmetrical split approach captures the fact that two of the theme signs correspond with particular objects, but it faces other empirical and theoretical problems, which also apply to the full direct-inverse analysis. One problem is that the same logic that leads to the recognition of *\*-i* and *\*eθ* as object markers—i.e. that they systematically correspond with the person of the object—applies to the “direct” theme sign *\*-a·* as well, which only ever occurs with third-person objects. This can be observed in (14), which shows the distribution of theme signs in Proto-Algonquian. Although the distribution differs slightly in the independent and conjunct orders, the theme signs *\*i*, *\*eθ* and *\*a·/∅* are always found with first-, second-, and third-person objects respectively. It is only the inverse marker *\*-ekw* that cannot be characterized in this manner.

(14) Proto-Algonquian TA theme signs in conjunct and in independent order

PA	2—1	3—1	1—2	3—2	1—3	2—3	3—3'	3'—3
Indp.	*i	*ekw	*eθ	*ekw	*a·/Ø	*a·/Ø	*a·/Ø	*ekw
Conj.	*i	*i	*eθ	*eθ	*a·/Ø	*a·/Ø	*a·/Ø	*ekw

A second problem involves the person hierarchy that the direct-inverse alignment is said to rely on. From a descriptive perspective, Zúñiga (2008) and Macaulay (2009) have shown that different morphemes are governed by different hierarchies: the  $2 > 1$  hierarchy that is said to govern the theme sign is not identical to the hierarchy that governs the central suffix, which displays a  $1p > 2p$  preference. Even within the theme signs themselves, the distribution differs in the independent and conjunct orders, as shown in (14) above: a 3—1 form is marked as inverse (*\*-ekw*) in the independent but not in the conjunct, where the theme sign instead marks the first-person object (*\*-i*). The person hierarchy is thus insufficient on a descriptive level, let alone an analytic level.

Finally, the hierarchical analysis of the direct-inverse system poses a significant problem within generative grammar. As Brittain (1999: 35) puts it, “one of the basic assumptions of a generative model is that thematic rules and grammatical functions are assigned to arguments by virtue of their hierarchical position within a phrase structure.” The forms in (15) contain two arguments (1s and 3s) that appear to be in the same morphosyntactic position in both forms but turn out to have the opposite grammatical relations. The means by which this inversion of grammatical relations arises is the key problem to be explained, and within generative grammar, the stipulation of a person hierarchy is not a sufficient explanation.

(15) Proto-Algonquian forms involving 1s and 3s

a. 1s—3s	<i>*ne-wa·pam-a·-w</i>	b. 3s—1s	<i>*ne-wa·pam-ekw-w</i>
	1-see- <b>DIR</b> -3		1-see- <b>INV</b> -3
	‘I see him/her.’		‘She/he sees me.’

I will adopt the asymmetrical split approach to TA theme signs, under which all except the inverse theme sign *\*-ekw* are regarded as object-agreement markers (*\*-i* first-person object, *\*eθ* second-person object, *\*-a* third-person object). This approach confines the problematic “direct-inverse” patterning to a single morpheme, the inverse theme sign. This opens the door to a new way of understanding the role of this morpheme, as shown in the next section.

### 2.2.2 Object agreement

I adopt Oxford (2014a: 95)’s analysis of Algonquian alignment as the result of an interplay between two person-agreement probes: a lower probe on Voice<sup>0</sup> and a higher probe on Infl<sup>0</sup>. The object theme signs *\*i*, *\*eθ*, and *\*a/∅* are the spell-out of Voice<sup>0</sup>, which agrees with the object and creates a configuration in which the subject and the object are equidistant. The inverse theme sign *\*ekw* is the elsewhere spellout of Voice<sup>0</sup> and will be further discussed in next section §2.2.3.

The table in (16) illustrates the distribution of the theme signs in Proto-Algonquian. From this table it is clear that *\*i*, *\*eθ*, and *\*a/∅* can be analyzed as object markers because they occur only with first, second, and third person objects respectively. It is also clear that inverse *\*ekw* cannot be an object marker because it occurs with objects of all persons.

(16) Proto-Algonquian TA theme signs summary

a. Independent order

	Theme sign	Analysis	Contexts
a.	<i>*-i</i>	OBJ1	2—1
b.	<i>*-eθ</i>	OBJ2	1—2
c.	<i>*-a/∅</i>	OBJ3	1—3, 2—3, 3—3'
d.	<i>*-ekw</i>	INV	3—1, 3—2, 3'—3

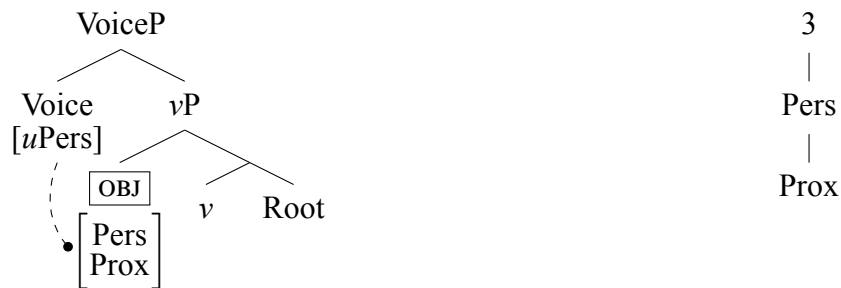
b. Conjunct order

	Theme sign	Analysis	Contexts
a.	*-i	OBJ1	2—1, 3—1
b.	*-eθ	OBJ2	1—2, 3—2
c.	*-a/Ø	OBJ3	1—3, 2—3, 3—3'
d.	*-ekw	INV	3'—3

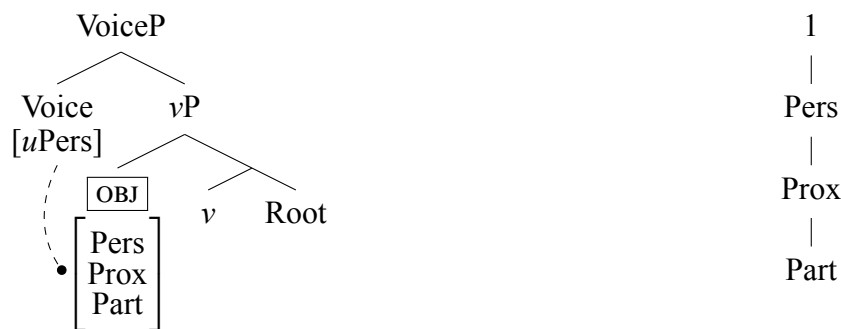
Oxford (2014a: 100) proposes that Voice<sup>0</sup> hosts a [*uPerson*] probe that always agrees with the object, as shown in (17) for all three persons. (The dotted line indicates probing.)

(17) The Voice<sup>0</sup> for different person-object forms

a. Third-person object

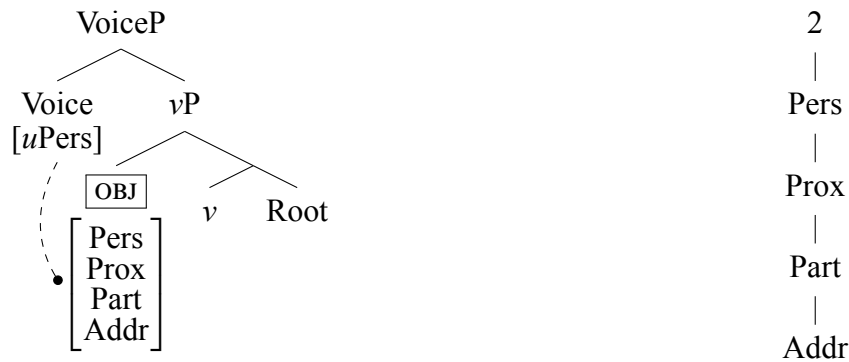


b. First-person object





c. Second-person object



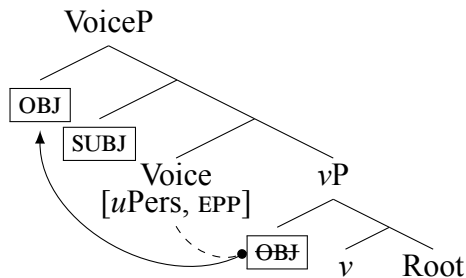
The uniform agreement of Voice<sup>0</sup> with the object is consistent with the object-agreement spell-out of three of the theme signs, which can be represented as realizations of Voice<sup>0</sup> conditioned by its person features, as in (18).

(18) Spell-out of Voice<sup>0</sup>

<i>*eθ</i>	[Person, Proximate, Participant, Addressee]	2nd-person
<i>*i</i>	[Person, Proximate, Participant]	1st-person
<i>*a/∅</i>	[Person]	3rd-person

Oxford (2014a) also proposes that Voice<sup>0</sup> has an [EPP] feature that causes the object to move to the specifier of VoiceP, as shown in (19) (cf. Hirose 2003).

(19) Movement of the object to Spec-VoiceP (Oxford 2014a: 101; cf. Hirose 2003: 110–11)



What is important about this movement is that it creates a configuration in which the object and the subject are equidistant from higher heads: they are both specifiers of VoiceP. This equidistance has a profound effect on the subsequent probe Infl<sup>0</sup>: the subject and object are not distinguished

by locality and are thus both equally eligible as targets for Infl<sup>0</sup>-agreement (i.e. central agreement). As shown in the next section, the subject-object omnivory of the central agreement can be used to derive the distribution of the last outstanding member of the set of theme signs, the inverse marker.

### 2.2.3 Inverse as elsewhere

Oxford (2015a) describes the inverse marker as “a wildcard” because its distribution is conditioned quite differently from that of the other three theme signs. First, unlike the object-marking theme signs, inverse *\*ekw* can occur with objects of all three persons (i.e. in 3—1, 3—2, and 3’—3 forms, as shown in (16) above). Second, the contexts in which the inverse marker appears differ between the conjunct inflection and the independent inflection: the Proto-Algonquian independent order uses the inverse theme sign in two additional contexts (3—1 and 3—2) than in the conjunct order. Third, in pan-Algonquian variation and change in the distribution of theme signs, it is always the inverse marker whose distribution is extended; none of the other theme signs are ever extended to additional forms. A survey of this variation is shown in (20): in conjunct forms with a third person subject and first or second person object, the inverse marker never appeared in Proto-Algonquian, but some languages have extended inverse marking to these forms in varying extents. Lac Simon Algonquin has extended the inverse to the 2p object form only, while Plains Cree has extended it to both plural-object forms (1p and 2p) and Delaware has extended it to all but the 1s object. An analysis of inverse marking must allow for this kind of variation.

(20) Variations of inverse in conjunct mixed forms (Oxford 2014b)

	Proto-Algonquian	LS Algonquin	Plains Cree	Delaware
3—1s	*i	*i	*i	*i
3—1p	*i	*i	*ekw	*ekw
3—2s	*eθ	*eθ	*eθ	*ekw
3—2p	*eθ	*ekw	*ekw	*ekw

Across all the variation in the distribution of the inverse marker, there is a generalization that remains systematic: whenever the inverse marker appears in Voice<sup>0</sup>, the central agreement (Infl<sup>0</sup>) always indexes the object. Compare the Algonquin and Plains Cree 3s—1p forms in (21): in the Algonquin form in (21a), the theme sign *-i* indexes the object and the central suffix *-yamindj* is a portmanteau marker that indexes the 3>1p subject-object combination. In the Plains Cree form in (21b), where the theme sign has been changed to the inverse marker *-iko*, the central suffix has also been changed to index only the 1p object.

(21) 3s—1p conjunct central agreement in Algonquin and Plains Cree

a. ALGONQUIN (Jones 1977: 80)

*wàbam-i-yamindj*

see(TA)-**OBJ1**-3>1p

‘S/he sees us (excl).’

b. PLAINS CREE (Wolfart 1973: 41)

*wâpam-iko-yâhk*

see(TA)-**INV**-**1p**

‘S/he sees us (excl).’

Similarly, the Meskwaki 3s—2s form in (22a) contains a theme sign that indexes the second-person object and a central suffix that indexes the third-person subject, while the corresponding Delaware 3s—2s has been changed not only by making the theme sign inverse, but also by making the central suffix index the 2s object.

(22) 3s—2s conjunct central agreement in Meskwaki and Delaware

a. MESKWAKI (Goddard 1994a: 203)

*wa:pam-eh-k*

see(TA)-**OBJ2**-3s

‘S/he sees you (sg).’

b. DELAWARE (Goddard 1979b: 135)

*mí-l-(ə)kw-an*

give.to(TA)-**INV**-**2s**

‘S/he gives to you (sg).’

This correlation holds across the Algonquian family: when the theme sign (Voice<sup>0</sup>) is inverse, the central agreement (Infl<sup>0</sup>) indexes the object. Otherwise, it is the theme sign that indexes the object, as the three non-inverse theme signs are object markers. We can conclude, then, that “the

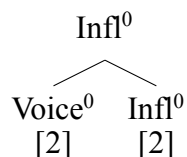
theme sign (Voice<sup>0</sup>) indexes the object except when the central agreement (Infl<sup>0</sup>) does” (Oxford 2015a). In other words, the presence of object agreement on Infl<sup>0</sup> somehow causes the object agreement that otherwise appears in Voice<sup>0</sup> to disappear, with the inverse marker occurring in its place.

Oxford (2015a) proposes that the complementarity of object agreement on Voice<sup>0</sup> and object agreement on Infl<sup>0</sup> is the result of a constraint against the presence of two adjacent identical person features (Nevins 2007). A prominent example of such a constraint involves the phenomenon in Spanish known as “spurious *se*”, in which the expected clitic cluster *le lo* (3.DAT + 3.ACC) is realized as *se lo*. Nevins (2007) proposes that the sequence of adjacent identical person features results in the deletion of the person features of the first clitic, which is then spelled out as the underspecified form *se*.

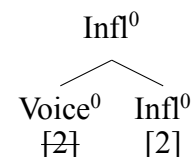
The application of this idea to Algonquian is shown in (23), using a 3—2 form as an example. In this form, as in all forms, Voice<sup>0</sup> agrees with the object, thus copying the object’s second-person features. If Infl<sup>0</sup> subsequently agrees with the object as well, the result is that both heads have the same second-person features, as shown in (23a). Assuming that the same constraint and repair apply as in Spanish, the result is that the person features of Voice<sup>0</sup> are deleted, as in (23b). This deletion prevents Voice<sup>0</sup> from being spelled out as a person marker, and it must instead be spelled out as an underspecified elsewhere form parallel to Spanish *se*. This, Oxford (2015a) proposes, is what the inverse marker actually is: an underspecified elsewhere form of Voice<sup>0</sup> that is spelled out when dissimilation has caused deletion of the person features of Voice<sup>0</sup>.

(23) Inverse as a *spurious se* effect (Oxford 2015a)

a. Person feature reduplication on Infl



b. Feature deletion on Voice



The “elsewhere” analysis of the inverse allows us to capture all four of the TA theme signs with the spell-out rule for Voice<sup>0</sup> in (24): the theme signs *\*i*, *\*eθ*, and *\*a/∅* are conditioned by the

person features of Voice<sup>0</sup> and the “inverse” marker *\*ekw* occurs elsewhere, i.e. when the person features have been deleted.

(24) TA theme sign spell-out rule (Oxford 2015a)

*\*i*       $\longleftrightarrow$  [1]

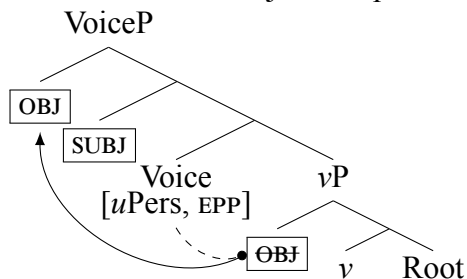
*\*eθ*      $\longleftrightarrow$  [2]

*\*a:/∅*  $\longleftrightarrow$  [3]

*\*ekw*     $\longleftrightarrow$  [ ]

Under this analysis, it is not Voice<sup>0</sup> itself that is responsible for the inverse pattern: the inverse marker appears in Voice<sup>0</sup> when a higher probe in the structure, on Infl<sup>0</sup>, chooses to target the object. It is thus really Infl<sup>0</sup>, not Voice<sup>0</sup>, that is responsible for the inverse pattern. Nevertheless, it is the occurrence of object agreement on Voice<sup>0</sup> that allows this pattern to arise in the first place. As shown in (25), the agreement of Voice<sup>0</sup> with the object triggers A-movement of the object to [Spec, VoiceP]. The resulting configuration in which the subject and object are equidistant from higher probes (such as Infl<sup>0</sup>) is the reason why Infl<sup>0</sup> is able to agree with either the subject or the object, with object agreement on Infl<sup>0</sup> giving rise to inverse marking on Voice<sup>0</sup>.

(25) Movement of the object to Spec-VoiceP (Oxford 2014a: 101, cf. Hirose 2003: 110–11)



## 2.3 Central agreement

Now that we have established that the theme sign is object agreement, we are ready to turn to the main focus of the thesis, which is the central agreement. We cannot jump to the conclusion that the central agreement is subject agreement, as we have already seen that the central agreement

can agree with either the subject or the object. Beyond the subject-object omnivory of the central agreement, additional analytical problems arise in both the independent and conjunct orders, such as the discontinuous realization of the central agreement in the independent order and the existence of portmanteau subject-object suffixes in the conjunct order. These problems are compounded by the fact that the patterning of the central agreement varies across the Algonquian languages.

Central agreement in the two orders must be analyzed separately, in view of the significant differences indicated in (26) (repeated from (10) in §1.1.3): in the conjunct order, central agreement is fusional, whereas in the independent order, it consists of a prefix, formative, and pluralizer.

(26) Differences between the independent and the conjunct

	CONJ	IND
a. Prefix	✗	✓
b. Formative	✗	✓
c. Central suffix	fusional	pluralizer

The following sections describe the patterning of the central agreement in the independent and conjunct. The description is divided into three groups of forms: local forms, which involve a first person and a second person (§2.3.1), mixed forms, which involve a first or second person and a third person (§2.3.2), and non-local forms, which involve two third persons (§2.3.3). In the examples, the central agreement is boxed and the third-person peripheral agreement is underlined. For reasons discussed in the preceding chapter (§1.1.3), I do not examine the “formative” morphemes which occur as part of the central agreement and the formative is not boxed in the examples.

### 2.3.1 Local forms

Local forms involve two non-third-person arguments. The Proto-Algonquian local forms are shown in (27). All local forms employ the object-marking theme signs *\*-i* (first person) and *\*-eθ* (second person). The central inflection, as always, is completely different between the conjunct and the

independent. The conjunct employs fusional central suffixes that indicate the person and number of one argument, or even of two arguments in the case of the portmanteau central suffix *\*-akokw* in (27b), which is dedicated to marking the first-singular acting on second-plural combination. The independent employs a prefix that is accompanied by a suffix in plural forms. The prefix is always the second-person form *\*ke-* regardless of whether the second person is the subject (as in (27a)) or the object (as in (27b)).

(27) Proto-Algonquian TA inflection, local forms (Oxford 2014a: 297-298, 309)<sup>4</sup>

a. 1st-person object

	CONJUNCT	INDEPENDENT
2s—1s	*V-i- <span style="border: 1px solid black;">yan</span> -i V-OBJ1-2s-mode	* <span style="border: 1px solid black;">ke</span> -V-i-n 2-V-OBJ1-ftv
2(s/p)—1p	*V-i- <span style="border: 1px solid black;">ya·nk</span> -e V-OBJ1-1p-mode	* <span style="border: 1px solid black;">ke</span> -V-i-ne·- <span style="border: 1px solid black;">na·n</span> 2-V-OBJ1-ftv-1p
2p—1s	*V-i- <span style="border: 1px solid black;">ye·kw</span> -e V-OBJ1-2p-mode	* <span style="border: 1px solid black;">ke</span> -V-i-ne·- <span style="border: 1px solid black;">wa·w</span> 2-V-OBJ1-ftv-2p

b. 2nd-person object

	CONJUNCT	INDEPENDENT
1s—2s	*V-eθ- <span style="border: 1px solid black;">a·n</span> -i V-OBJ2-1s-mode	* <span style="border: 1px solid black;">ke</span> -V-eθ-en 2-V-OBJ2-ftv
1p—2(s/p)	*V-eθ- <span style="border: 1px solid black;">a·nk</span> -e V-OBJ2-1p-mode	* <span style="border: 1px solid black;">ke</span> -V-eθ-ene·- <span style="border: 1px solid black;">na·n</span> 2-V-OBJ2-ftv-1p
1s—2p	*V-eθ- <span style="border: 1px solid black;">akokw</span> -e V-OBJ2-1s>2p-mode	* <span style="border: 1px solid black;">ke</span> -V-eθ-ene·- <span style="border: 1px solid black;">wa·w</span> 2-V-OBJ2-ftv-2p

<sup>4</sup>The forms illustrated here are the TA+O objective forms, the peripheral suffix *\*-i 0s* (inanimate singular) is omitted due to the irrelevance.

A further important property of the local forms can be observed from these examples: whenever the first-person argument is plural, the number of the second-person argument is ambiguous. This ambiguity arises in the 2—1p form in (28a) and the 1p—2 form in (28b). The ambiguity can be understood as the result of competition for the central suffix slot. The central suffix is the only agreement marker that can express first and second person plural, as the prefix and theme signs express only person while the peripheral agreement only marks third persons (and is thus absent in local forms). If a form involves both a first person and a second person, then, it is only possible to mark one of the two arguments as plural. It is evidently the first person that takes priority in this competition, as it is the second person whose number is neutralized. This 1p>2p ranking holds not only in Proto-Algonquian but in all of the Algonquian languages that are surveyed in this thesis.<sup>5</sup>

One crosslinguistic difference in the local forms involves the 1s—2p form, which uses a special portmanteau central suffix *\*akokw* 1s>2p in Proto-Algonquian and most of the daughter languages. In Massachusetts and Delaware, however, this suffix has been replaced by the more general 2p central suffix *\*ekw* 2p.

(28) 1s—2p Conjunct Variations

	PROTO-ALGONQUIAN	MASSACHUSETT	DELAWARE
1s—2p	*V-eθ- <b>akokw</b>	V-un- <b>ák</b>	V-əl- <b>ēkw</b>
	V-OBJ2- <b>1s&gt;2p</b>	V-OBJ2- <b>2p</b>	V-OBJ2- <b>2p</b>

### 2.3.2 Mixed forms

I separate mixed forms into two groups according to the person hierarchy. The table in (29) shows mixed forms in which a first or second person acts on a third person. The third-person theme sign

<sup>5</sup>The 1p>2p ranking is not completely universal across the family, however. Swampy Cree displays the opposite 2p>1p ranking, as shown in the following examples (McGinnis 2008: 175 cited Déchaine 1999). This is a very rare case and I will not attempt to analyze it in this thesis.

- a. *ki-waapam-iti-naawaaw* ‘I/We see you (pl).’      b. *ki-waapam-i-naawaaw* ‘You (pl) see me/us.’  
 c. *ki-waapam-i-naan* ‘You (sg) see us (excl).’      d. *ki-waapam-iti-naan* ‘We(excl) see you (sg).’



\*-a·/Ø occurs in all forms.<sup>6</sup> In the independent forms, the central agreement (boxed) indexes the first or second person while the peripheral agreement (underlined) indexes the third person. In the conjunct forms, the central agreement is either a dedicated portmanteau subject-object marker (\*-ak 1s>3, \*-at 2s>3, \*-akent 1p>3) or a more general marker that indexes only the subject (\*-ankw 21, \*-e·kw 2p). Plurality of the third person argument is indicated by the addition of a suffix \*-wa·w.

(29) Proto-Algonquian TA inflection, 1/2—3 forms (Oxford 2014a: 298, 306)

	CONJUNCT	INDEPENDENT	
1s—3	*V-Ø- <u>ak</u> (-wa·w)-i	* <u>ne</u> -V-a·-w	- <u>a/aki</u>
	V-OBJ3-1s>3-3p-mode	1-V-OBJ3-ftv	-3s/3p
2s—3	*V-Ø- <u>at</u> (-wa·w)-i	* <u>ke</u> -V-a·-w	- <u>a/aki</u>
	V-OBJ3-2s>3-3p-mode	2-V-OBJ3-ftv	-3s/3p
1p—3	*V-Ø- <u>akent</u> (-wa·w)-i	* <u>ne</u> -V-a·-w- <u>e·na·n</u>	- <u>a/aki</u>
	V-OBJ3-1p>3-3p-mode	1-V-OBJ3-ftv-1p	-3s/3p
21—3	*V-Ø- <u>ankw</u> (-wa·w)-e/i	* <u>ke</u> -V-a·-w- <u>enaw</u>	- <u>a/aki</u>
	V-OBJ3-21-3p-mode	2-V-OBJ3-ftv-21	-3s/3p
2p—3	*V-Ø- <u>e·kw</u> (-wa·w)-e/i	* <u>ke</u> -V-a·-w- <u>w·a·w</u>	- <u>a/aki</u>
	V-OBJ3-2p-3p-mode	1-V-OBJ3-ftv-2p	-3s/3p

An example of crosslinguistic variation in these forms involves the 1p—3 form. As (30) illustrates, Plains Cree and Delaware use the general 1p central suffix \*-a·nk in this form, indexing only the 1p subject, in contrast to the subject/object portmanteau central suffix \*-akent 1p>3 that occurs in Proto-Algonquian and the other seven languages in my survey.

<sup>6</sup>This theme sign is realized as -a· when followed by a consonant, as in the independent forms, and as -Ø when followed by a vowel, as in the conjunct forms.

## (30) 1p—3 conjunct variations

	PROTO-ALGONQUIAN	PLAINS CREE	DELAWARE
1p—3	*V-Ø- <span style="border: 1px solid black;">akent</span>	V-á- <span style="border: 1px solid black;">yáhk</span>	V-Ø- <span style="border: 1px solid black;">ēnk</span>
	V-OBJ3-1p>3	V-OBJ3-1p	V-OBJ3-1p(-3p)

I turn now to the other set of mixed forms: those in which a third person acts on a first or second person, shown in (31). As discussed above (§2.2.3), the theme sign displays variation in these forms: the conjunct 3—1/2 forms use the object theme signs (i.e. *\*-i* for first-person object and *\*-eθ* for second-person object, as in the local forms) while the independent 3—1/2 forms use the inverse theme sign *\*-ekw*. As for the central inflection, it consistently indexes the first or second person argument in the independent, but in the conjunct, it varies between indexing the subject (e.g. third-person *\*-t* in the 3—1s form), the object (e.g. 21 *\*-ankw* in the 3—21 form), or the subject and object together using a dedicated portmanteau suffix (*\*-ament* 3>1p, *\*-a·kw* 3>2p).

## (31) Proto-Algonquian TA inflection, 3—1/2 forms (Oxford 2014a: 298, 307)

	CONJUNCT	INDEPENDENT	
3—1s	*V-i- <span style="border: 1px solid black;">t</span> (-wa·w)-i	* <span style="border: 1px solid black;">ne</span> -V- <span style="background-color: #e0e0e0;">ekw</span> -w	- <span style="border: 1px solid black;">a/aki</span>
	V-OBJ1-3-mode -3p	1-V-INV-ftv	-3s/3p
3—2s	*V-eθ- <span style="border: 1px solid black;">k</span> (-wa·w)-i	* <span style="border: 1px solid black;">ke</span> -V- <span style="background-color: #e0e0e0;">ekw</span> -w	- <span style="border: 1px solid black;">a/aki</span>
	V-OBJ2-3s-mode -3p	2-V-INV-ftv	-3s/3p
3—1p	*V-i- <span style="border: 1px solid black;">yament</span> (-wa·w)-i	* <span style="border: 1px solid black;">ne</span> -V- <span style="background-color: #e0e0e0;">ekw</span> -w- <span style="border: 1px solid black;">ena·n</span>	- <span style="border: 1px solid black;">a/aki</span>
	V-OBJ1-3>1p-mode -3p	1-V-INV-ftv-1p	-3s/3p
3—21	*V-eθ- <span style="border: 1px solid black;">ankw</span> (-wa·w)-e/i	* <span style="border: 1px solid black;">ke</span> -V- <span style="background-color: #e0e0e0;">ekw</span> -w- <span style="border: 1px solid black;">enaw</span>	- <span style="border: 1px solid black;">a/aki</span>
	V-OBJ2-21-mode -3p	2-V-INV-ftv-21	-3s/3p
3—2p	*V-eθ- <span style="border: 1px solid black;">a·kw</span> (-wa·w)e/i	* <span style="border: 1px solid black;">ke</span> -V- <span style="background-color: #e0e0e0;">ekw</span> -w- <span style="border: 1px solid black;">wa·w</span>	- <span style="border: 1px solid black;">a/aki</span>
	V-OBJ2-3>2p-mode -3p	2-V-INV-ftv-2p	-3s/3p

An example of crosslinguistic variation in these forms involves the portmanteau central suffixes *\*-ament* 3>1p (in 3—1p) and *\*-a·kw* 3>2p (in 3—2p) that occur in the conjunct. In Plains Cree, Massachusetts, and Delaware, these portmanteau central suffixes have been replaced by central suffixes that index only the local plural object, as illustrated in (32). At the same time, the theme sign has also been changed to the inverse marker *\*-ekw* (following the pattern discussed in §2.2.3 above).

(32) Variation in 3—1p/2p conjunct forms

	PROTO-ALGONQUIAN	PLAINS CREE	MASSACHUSETT	DELAWARE
3(s/p)—1p	*V-i- <b>yament</b>	V-iko- <b>yáhk</b>	V-ək̄wē- <b>yak</b>	V-ək̄w- <b>ēnk</b>
	V-OBJ1- <b>3&gt;1p</b>	V-INV- <b>1p</b>	V-INV- <b>1p/21</b>	*V-INV- <b>1p</b>
3(s/p)—21	V-eθ- <b>ankw</b>	V-iko- <b>yahk</b>	V-ək̄wē- <b>yak</b>	V-ək̄w- <b>ankw</b>
	V-OBJ2- <b>21</b>	V-INV- <b>21</b>	V-INV- <b>1p/21</b>	V-INV- <b>21</b>
3(s/p)—2p	*V-eθ- <b>a·kw</b>	V-iko- <b>yék</b>	V-ək̄wē- <b>yák</b>	V-ək̄w- <b>ēkw</b>
	V-OBJ2- <b>3&gt;2p</b>	V-INV- <b>2p</b>	V-INV- <b>2p</b>	V-INV- <b>2p</b>

A further difference between the independent and conjunct emerges when we compare the structure of the two sets of mixed forms (1/2—3 vs. 3—1/2). In the independent, opposite forms always display symmetrical central agreement. Consider the 1s—3s and 3s—1s forms in (33). In the independent, both forms display the same central agreement: the first-person prefix *ne-*. (The peripheral agreement is also the same in both forms: third-person singular *-a*.) The only difference between the two forms is the theme sign. In the conjunct, however, the central agreement is not symmetrical: the 1s—3s form uses a portmanteau central suffix *\*-ak* 1s>3 which indexes both arguments while the 3s—1s form uses the general third-person central suffix *\*-t* 3s which indexes only the subject.

(33) Central agreement in 1s—3s and 3s—1s forms

	CONJUNCT	INDEPENDENT
1s—3s	V-Ø- <span style="border: 1px solid black; padding: 0 2px;">ak</span>	<span style="border: 1px solid black; padding: 0 2px;">ne</span> -V-a·-w- <u>a</u>
3s—1s	V-i- <span style="border: 1px solid black; padding: 0 2px;">t</span>	<span style="border: 1px solid black; padding: 0 2px;">ne</span> -V- <span style="background-color: #cccccc; padding: 0 2px;">ekw</span> -w- <u>a</u>
	<b>Asymmetrical</b>	<b>Symmetrical</b>

### 2.3.3 Non-local forms

The final group of TA forms is the non-local forms in (34), which involve two third persons—one proximate (3) and the other obviative (3'). Forms in which the proximate acts on the obviative (3—3') are marked with the “direct” (i.e. 3rd-person object) theme sign \*-a· while forms in which the obviative acts on the proximate (3'—3s) are marked with the inverse theme sign \*-ekw.

(34) Proto-Algonquian TA inflection, non-local forms (Oxford 2014a: 298, 306-207)

	CONJUNCT	INDEPENDENT	
3s—3'	*V-a·- <span style="border: 1px solid black; padding: 0 2px;">t</span> -i	* <span style="border: 1px solid black; padding: 0 2px;">we</span> -V-a·-w	- <u>ari/ahi</u>
	V-OBJ3-3-mode	3-V-OBJ3-ftv	-3's/3'p
3p—3'	*V-a·- <span style="border: 1px solid black; padding: 0 2px;">t</span> - <u>wa·w</u> -i	* <span style="border: 1px solid black; padding: 0 2px;">we</span> -V-a·-w- <span style="border: 1px solid black; padding: 0 2px;">wa·w</span>	- <u>ari/ahi</u>
	V-OBJ3-3-3p-mode	3-V-OBJ3-ftv-3p	-3's/3'p
3'—3s	*V- <span style="background-color: #cccccc; padding: 0 2px;">ekw</span> - <span style="border: 1px solid black; padding: 0 2px;">et</span> -i	* <span style="border: 1px solid black; padding: 0 2px;">we</span> -V- <span style="background-color: #cccccc; padding: 0 2px;">ekw</span> -w	- <u>ari/ahi</u>
	V-INV-3-mode	3-V-INV-ftv	-3's/3'p
3'—3p	*V- <span style="background-color: #cccccc; padding: 0 2px;">ekw</span> - <span style="border: 1px solid black; padding: 0 2px;">et</span> - <u>wa·w</u> -i	* <span style="border: 1px solid black; padding: 0 2px;">we</span> -V- <span style="background-color: #cccccc; padding: 0 2px;">ekw</span> -w- <span style="border: 1px solid black; padding: 0 2px;">wa·w</span>	- <u>ari/ahi</u>
	V-INV-3-3p-mode	3-V-INV-ftv-3p	-3's/3'p

The patterns in (34) are not tremendously different from the local and mixed forms. In the independent, the central agreement targets the proximate argument in all forms and is realized as the

third-person prefix *\*we-* plus, in plural forms, the central suffix *\*-wa·w* 3p. In the conjunct, the central agreement also targets the proximate argument in all forms and is realized as the suffix *\*-(e)t*, which can be pluralized by the following suffix *-wa·w*. In non-local forms, then, the patterning of the central agreement is symmetrical in both the independent and the conjunct: the same central agreement appears in a 3s—3' form as in a 3'—3s form. The conjunct non-local forms also do not involve any portmanteau central suffixes, unlike in the local and mixed forms.

### 2.3.4 Summary: central agreement

In summary, across the TA inflectional forms of Proto-Algonquian, there is no question that important differences exist between the conjunct and independent orders, such as i) the absence of a person prefix in the conjunct, ii) the absence of a “formative” in the conjunct, iii) the absence of fusional portmanteau central suffixes in the independent, iv) the symmetry of opposite forms in the independent but not in the conjunct.

The differences between the conjunct and the independent order indicate that the analysis of the central inflection must be at least partially different for the two orders. This leads to a more difficult question: what is the function of the central agreement? In the independent order, the central agreement can index the subject, as in (35a), or the object, as in (35b). In the conjunct order, the central agreement can index not only the subject, as in (35c), or the object, as in (35d), but also both arguments together, as in (35e).

- (35) a. *\*[ne]-wa·pam-a·w-[e·na·n]-aki* ‘We see him/them.’ (1p—3p)  
 b. *\*[ke]-wa·pam-eθ-ehm-[wa·]* ‘I see you (pl).’ (1s—2p)  
 c. *\*wa·pam-a·-[t]-i* ‘S/he sees him/her (obv).’ (3s—3’s)  
 d. *\*wa·pam-eθ-[ankw]-e* ‘He sees us (inclusive).’ (3s—21)  
 e. *\*wa·pam-Ø-[akent]-i* ‘We (exclusive) see him.’ (1p—3s)

What determines the argument(s) indexed by the central agreement? Why do portmanteau

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central suffixes exist in the conjunct order but not the independent order? Why do the mixed forms in conjunct have more portmanteau agreement than the local forms and the non-local forms? What are the variations in the patterning of conjunct central agreement across Algonquian telling us? The next two chapters are intended to answer such questions. I will argue that the properties of the central agreement can be captured if we posit an articulated probe on  $\text{Infl}^0$  that varies slightly between the independent and the conjunct and can also vary across languages.

# Chapter 3

## Conjunct central agreement

So far we have seen that the theme sign indexes the object but the central agreement is messy, as it can index the subject, the object or both. In this chapter I focus on the conjunct central agreement and the interactions of person and number that determine its realization. In Section 3.1 I set out a model of the features of each person-number combination, including the key proposal that the number features of first persons differ from those of non-first-persons. In Section 3.2 I argue that central agreement in the conjunct is, by default, subject agreement, unless there is a first or second plural object, which causes the default preference for subject agreement to be overridden. I propose that this pattern can be captured if  $\text{Infl}^0$  in the conjunct probes for both person and number features. In particular, I propose that  $\text{Infl}^0$  is specified as [ $u\text{Person}$ ,  $u\text{Proximate}$ ,  $u\text{Plural}$ ].

### 3.1 Person and number features

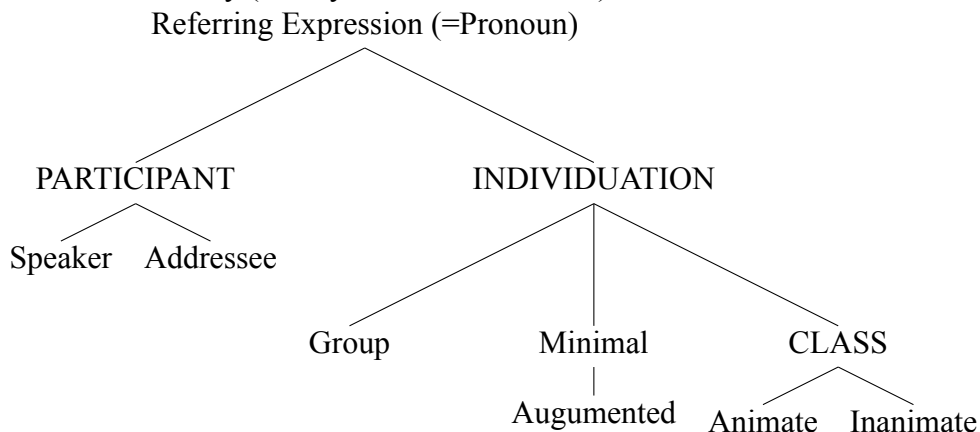
In this section, I consider the relevance of the person hierarchy  $2 > 1 > 3$  to the featural specification of Algonquian persons (§3.1.1). I then turn to number and show that the seemingly contradictory  $1p > 2p$  hierarchy displayed by the central suffix can be understood as the result of an extra person feature in the representation of first-person plurals (§3.1.2).

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### 3.1.1 Person hierarchy

In the discussion of the direct-inverse system in the preceding chapter (§2.2.1), I showed that the direct-inverse pattern is not, in fact, governed by a global person hierarchy of the form  $2 > 1 > 3$ , as often assumed. Nevertheless, although this hierarchy does not govern the direct-inverse system, it still does play a role in Algonquian, as it is actually a reflection of the feature-geometric structure of person representations. The hierarchy can be understood as following from the universal feature geometry proposed by Harley & Ritter (2002), illustrated in (1). In this geometry, the Referring Expression node represents a nominal element. Three groups of features, representing person, number, and gender, are identified by the nodes in capitals: PARTICIPANT, INDIVIDUATION, and CLASS.

(1) Feature Geometry (Harley & Ritter 2002: 486)



Under this geometry, first and second persons are specified as [Participant]; I add to this assumption that all three persons have a more general person feature, which I represent as [ $\pi$ ] (Béjar 2003; Béjar & Rezac 2009).

According to Harley & Ritter (2002), there are two alternatives for the contrast between first and second person: it can be represented by the [Addressee] feature, as in (2a), in which case second persons will be more richly specified than first persons, or by the [Speaker] feature, as in (2b), in which case first persons will be more richly specified than second persons.



- 
- (2) a.  $2 > 1 > 3$
- |            |            |            |
|------------|------------|------------|
| 2nd-person | 1st-person | 3rd-person |
| [ $\pi$ ]  | [ $\pi$ ]  | [ $\pi$ ]  |
|            |            |            |
| [Part]     | [Part]     |            |
|            |            |            |
| [Addr]     |            |            |
- b.  $1 > 2 > 3$
- |            |            |            |
|------------|------------|------------|
| 1st-person | 2nd-person | 3rd-person |
| [ $\pi$ ]  | [ $\pi$ ]  | [ $\pi$ ]  |
|            |            |            |
| [Part]     | [Part]     |            |
|            |            |            |
| [Spkr]     |            |            |

The ranking of  $2 > 1$  in the conventional Algonquian person hierarchy reflects the fact that in local forms, where the arguments are first and second person, it is always the second person that is indexed by the prefix (§2.3.1). Given this evidence that second person takes precedence in Algonquian, I adopt the feature exponents shown in (2a).

Algonquian is known for two additional person-related categories: the obviative (3') and the inanimate (0). Following existing work (Lochbihler 2012; Lochbihler et al. 2015; Oxford 2014a), I will assume that inanimates are distinguished from animates by the absence of the person feature [ $\pi$ ]. I borrow the [Proximate] feature used by Lochbihler (2012) to distinguish proximates from obviatives. The resulting set of feature representations for Algonquian persons is shown in (3).

- (3) Person features of Algonquian nominals
- |            |            |            |                  |                  |
|------------|------------|------------|------------------|------------------|
| 2nd-person | 1st-person | 3rd-person | obv. person (3') | inan. person (0) |
| [ $\pi$ ]  | [ $\pi$ ]  | [ $\pi$ ]  | [ $\pi$ ]        |                  |
|            |            |            |                  |                  |
| [Prox]     | [Prox]     | [Prox]     |                  |                  |
|            |            |            |                  |                  |
| [Part]     | [Part]     |            |                  |                  |
|            |            |            |                  |                  |
| [Addr]     |            |            |                  |                  |

Under this model of person features, the Algonquian person hierarchy ( $2 > 1 > 3 > 3' > 0$ ) in its

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richest form) can be understood as a reflection of the degree of articulation of the features of each person. The second person contains the most features [Person, Proximate, Participant, Addressee], followed by the first person [Person, Proximate, Participant], the third person [Person, Proximate], the obviative person [Person], and the inanimate without any person features.

### 3.1.2 Number features

This section explores the plural features of first, second, and third persons. In Algonquian, first person plural distinguishes the inclusive 21 ‘we (including you)’ and the exclusive 1p ‘we (not including you)’. I will propose that the representation of first person plurals differs from that of non-first person plurals.

As mentioned above, the  $2 > 1$  person hierarchy accurately describes the patterning of the prefix but is contradicted by the central suffix, which prefers to index 1p over 2p. This preference is displayed in local forms, in which the central suffix is the only slot that can pluralize either the first-person argument or the second-person argument. The first person wins the competition for this slot; in any local form with a plural first person, the number of the second person is ambiguous, as in the 1p—2 form in (4).

- (4) \**ke-wa·pam -eθ -ehm -e·na·*  
 2- see -T.S. -Ftv -1p  
 ‘we see you (sg/pl)’ (Proto-Algonquian 1p—2)

The ranking of 1p above 2p in the realization of the central suffix is unexpected given the geometry in (3) above, which formalizes the  $2 > 1$  preference displayed by the prefix. If pluralization simply involves adding a [plural] node to the given person, as in (1), we would expect 2p to rank above 1p just as 2 ranks above 1. An explanation is needed for why pluralization has the effect of reversing the person hierarchy.

I suggest that the path to a solution lies in the semantics. In terms of meaning, first person plural is not equivalent to non-first person plural. While 3p *they* denotes multiple third persons, 1p *we*

does not denote multiple speakers. As Mühlhäusler (2001: 744) explains, “the meaning of the term plural of the so-called first person plural pronoun, as strictly speaking, does not mean ‘more than one speaker’ and typically has several meanings.”

First person plural can have two basic meanings: “exclusive *we*” (1p) denotes ‘me and other person(s)’ while “inclusive *we*” (21) denotes ‘me and you’. Harley & Ritter (2002), Cowper & Hall (2004), Cowper (2005), and McGinnis (2005) all acknowledge that the inclusive first person contains both first person and second person. They all use both an [Addressee] feature and a [Speaker] feature together in their feature-geometric representations of the inclusive, as shown for Cowper & Hall’s 2004 analysis in (5).

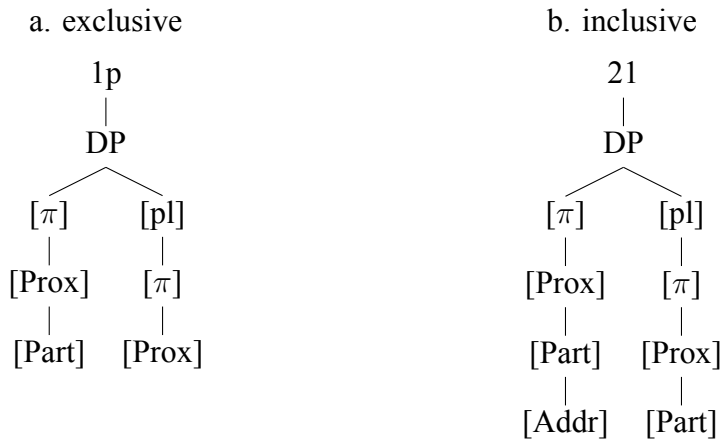
(5) 1st-person and 1st-person inclusive (Cowper & Hall 2004: 2)



I propose that this multiple person feature approach should be extended from the inclusive to the exclusive. If the meaning of the inclusive, ‘me and you’, justifies its representation as [1] + [2], then the meaning of the exclusive, ‘me and other(s)’, should justify its representation as [1] + [3]. That is, both first person plurals contain an additional person feature, as shown in (6). I further propose that the additional person feature is a dependent of the [plural] node. In second and third person plurals, the [plural] node alone is sufficient to identify a group of referents, but in first person plurals, the addition of a person feature is under the [plural] node serves to specify whether the group involves the addressee or a third person.

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(6) Feature geometry of Algonquian 1p and 21



Notice that my representation of the inclusive in (6b) actually consists of the person feature [2] plus a plural node with the dependent person feature [1]. That is, the inclusive is represented not as a first-person group that includes the addressee, but rather as a second person group that includes the speaker. The second-person status of the inclusive is indicated by the fact that inclusive forms are indexed by the second person prefix *\*ke-* rather than the first person prefix *\*ne-*. The additional [ $\pi$ ]-node in 1p and 21 addresses the empirical problem argued in McGinnis (2005: 709) where Algonquian is regarded as abnormally allowing both [Speaker] syncretism and [Addressee] syncretism, given that the Ojibwa independent inclusive prefix conflates with the second person *kiin-*, whereas the suffix conflates with the first plural *-awint*. I will show that the inclusive plural feature sharing the same spell-out with the exclusive plural feature is due to the presence of the additional person feature under the plural node (detailed discussion will be presented in next chapter at §4.1.2).

From the perspective of the Algonquianist literature, the “double-person” analysis of first person plurals is not innovative. Goddard (1979b: 30) has commented that “the singular persons each have one of these fundamental persons, while the plural persons each have basically two. The first plural exclusive has first and third, the inclusive has first and second, the second plural has second and third, and the third plural has third and third.” What Goddard (1979b) has pointed out is exactly what I have proposed in the representation of 1p as first plus third and 21 as second plus first.

The added-person approach to plural features is able to explain why the 1p > 2p hierarchy displayed by the plural central suffix differs from the 2 > 1 hierarchy displayed by the prefix. Under my analysis, 1p is essentially [1] + [pl] + [3] while 2p is [2] + [pl]. That is, the representation of 1p involves two person features while that of 2p involves only one person feature. According to Noyer's (1992) Universal Feature Hierarchy (UFH) shown in (7), person features outrank number features in competitions for morphological spell-out. As a consequence, whenever 1p and 2p exponents are in competition for a given slot, the 1p exponent with its double person specification will win the competition.

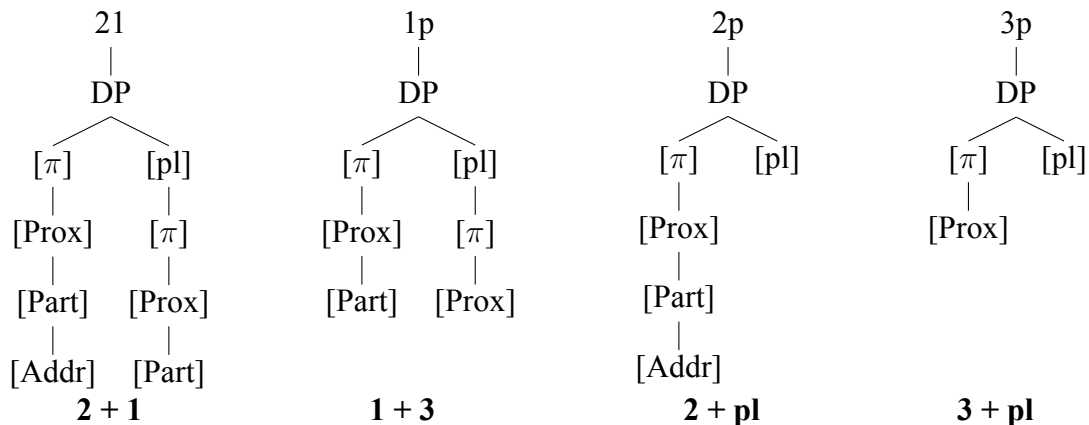
(7) Noyer's (1992) Universal Feature Hierarchy

person features > number features > gender features > class features

In this way it is possible for a 1p > 2p hierarchy to coexist with a 2 > 1 hierarchy: when no plural features are present, the additional [Addressee] feature of the second person makes it win out over first person, but in plural forms, the double person specification of the first person plural ([1] + [3]) makes it win out over the single person specification ([2]) of the second person plural.

In summary, the representation of Algonquian plurals depends on person as shown in (8). Second and third person plurals simply involve the addition of a [plural] feature, while first person plurals involve a combination of two person features, one of which is a dependent of the [plural] node and serves to narrow down the makeup of the plural group (2+1 or 1+3).

(8) Summary of Algonquian plural features



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## 3.2 Analysis of central agreement

We have seen in the previous chapter that the central agreement in the conjunct order is fusional. We also have seen that TA theme sign is  $\text{Voice}^0$  which bears a [ $\mu\text{Person}$ ] probe that always agrees with the object and creates an equidistant configuration for the subject and the object. In this section I adapt the structural treatment of Oxford (2014a, forthcoming) to treat the central agreement as  $\text{Infl}^0$ . I propose that  $\text{Infl}^0$  in the conjunct carries the features [ $\mu\text{Person}$ ,  $\mu\text{Proximate}$ ,  $\mu\text{Plural}$ ] and it targets the subject by default, unless there is a local plural object (§3.2.1). I examine the patterning of local plural objects in local forms (§3.2.2) and mixed forms (§3.2.3). Finally, I discuss the complementary distribution of portmanteau agreement and inverse theme signs and I account for portmanteau agreement as a result of Multiple Agree (§3.2.4).

### 3.2.1 A default preference for subject agreement

Oxford (2014a) has proposed that due to the equidistance of the subject and object,  $\text{Infl}^0$  can agree with either, and the choice is determined purely by feature matching: “ $\text{Infl}^0$  agrees with whichever of the equidistant specifiers of  $\text{VoiceP}$  is a better match for its probe(s), or with both arguments if they are equally good matches” (2014a: 179). However, I argue that this is not the case. Instead, I propose that  $\text{Infl}^0$  targets the subject by default. The reason for this default subject preference is the Activity Condition (Chomsky 2000), which prevents a probe from targeting a goal that has already been agreed with. Since  $\text{Voice}^0$  has already agreed with the object, the Activity Condition should prevent  $\text{Infl}^0$  from agreeing with the object as well. I will show that this is, in general, the case: central agreement displays a subject preference except when the Activity Condition is overridden by the presence of local plural features on the object (cf. Bhatia et al. 2016 for Ojibwe).

Before I show the evidence for the default subject preference of the central agreement, I begin by presenting the spell-out rules for the central suffixes of the conjunct order. The singular central suffixes are conditioned by the relevant person features, as shown in (9).

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(9) Spell-out of conjunct central suffixes (singular)

Person	Feature		Spell-out
1	[Person, Participant]	↔	*-a·n
2	[Person, Participant, Addressee]	↔	*-an
3	[Person]	↔	*-t/k

The plural central suffixes are conditioned by the relevant combinations of person and number features—including the additional person feature that I have proposed for first person plurals (§3.1.2). To save space, I have shown the additional person feature simply as a number in (10) (e.g. [1]), but this should be understood as a shorthand for a feature structure (e.g. [Person, Participant]).

(10) Spell-out of conjunct central suffixes (plural)

Plural	Feature		Spell-out
1p	[Person, Participant] + [3]	↔	*-a·nk
21	[Person, Participant, Addressee] + [1]	↔	*-ankw
2p	[Person, Participant, Addressee] + [plural]	↔	*-e·kw
3p	[Person] + [plural]	↔	*-twa·w <sup>1</sup>

With the spell-out of each central suffix established, let us now consider the evidence that the central suffix has a default preference to target the subject. The evidence arises in two distinct sets of forms. The first set is local forms in which both arguments are singular (i.e. ‘I see you’ and ‘you see me’). In both of these forms, the central agreement indexes only the subject, as shown in (11).

---

<sup>1</sup>There is no single morpheme for 3p. The spell-out of 3p in the table differs from the fusional non-third plural persons in that 3p consists of 3rd-person \*-t and plural \*-wa·w, which is similar to the independent 3p \*we- -wa·w with person feature fissioned to \*we- 3 and number feature to \*-wa·w pl.

---

(11) In 1s/2s forms, central agreement targets the subject

- |  |   |
|--|---|
| a. 1s—2s    * <i>wa·pam-eθ-<span style="border: 1px solid black; padding: 0 2px;">a·n</span>-i</i> | b. 2s—1s    * <i>wa·pam-iy-<span style="border: 1px solid black; padding: 0 2px;">an</span>-i</i> |
| see(TA)-OBJ2-1s-mode   | see(TA)-OBJ1-2s-mode  |
| <span style="border: 1px solid black; padding: 0 2px;">I</span> see you.’                          | <span style="border: 1px solid black; padding: 0 2px;">you (sg)</span> see me.’                   |

If  $\text{Infl}^0$  simply agreed with whichever of the two arguments is a better match for its probe, we would expect to find the same central agreement in both forms in (11), since both forms involve the same arguments. The fact that the central agreement instead indexes the subject of each form (1s in (11a), 2s in (11b)) shows that the outcome of  $\text{Infl}^0$ -agreement cannot be determined purely by featural richness. The status of a goal as a subject or object plays a role as well.

The second context where a subject preference can be observed is mixed forms with a third person subject and a first or second person singular object (i.e. ‘he sees me’ and ‘he sees you’). In these forms, the central agreement indexes the third person subject, as shown in (12).

(12) 3rd-person subject — singular object in mixed inverse forms

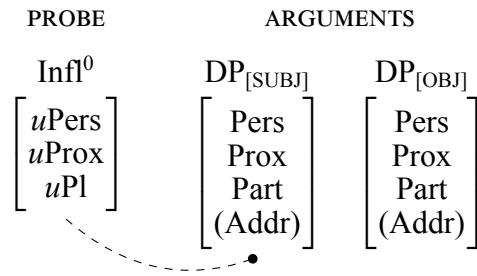
- |   |  |
|---|--|
| a. 3s—1s    * <i>wa·pam-i-<span style="border: 1px solid black; padding: 0 2px;">t</span>-i</i> | b. 3s—2s    * <i>wa·pam-eθ-<span style="border: 1px solid black; padding: 0 2px;">k</span>-i</i> |
| see(TA)-OBJ1-3-mode   | see(TA)-OBJ2-3-mode  |
| ‘ <span style="border: 1px solid black; padding: 0 2px;">He</span> sees me.’                    | ‘ <span style="border: 1px solid black; padding: 0 2px;">He</span> sees you (sg)’.               |

This outcome again does not follow from featural richness: if anything, it is the first/second person objects that are richer in these examples, and yet the central agreement targets the third person subject instead. The only way to explain this outcome is to assume that the central agreement has a default preference to target the subject.

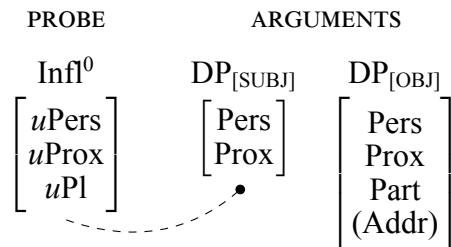
The evidence for a subject preference is schematized in (13). In local forms and in mixed forms with a third person subject,  $\text{Infl}^0$  targets the subject as long as the object is singular.



- (13) a. Conjunct local forms:  $\text{Infl}^0$  agrees with subject if object is singular



- b. Conjunct 3—1/2 forms:  $\text{Infl}^0$  agrees with subject if object is singular



Therefore, despite the equidistance of the subject and the object—which is still a necessary part of the analysis in order to account for the possibility of targeting the object—the probe on  $\text{Infl}^0$  is not equally predisposed to target either the subject or the object. Instead, it prefers to target the subject as long as the local object is singular. This pattern, as indicated at the start of this section, can be understood as a result of the Activity Condition, which prevents a probe from agreeing with a goal that some other probe has already agreed with (in this case,  $\text{Voice}^0$  has already agreed with the object). However, this default subject preference cannot be the whole story, as the agreement pattern changes when the object is pluralized. I turn to this issue in the next two sections.

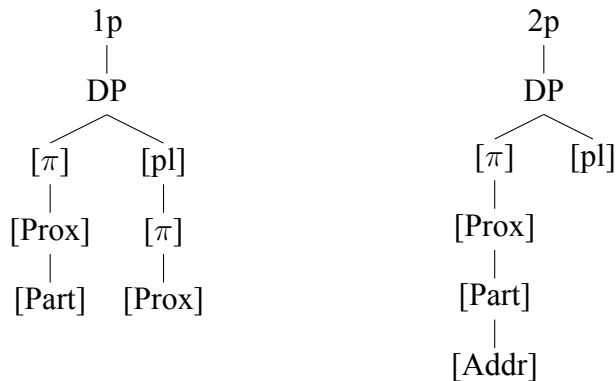
### 3.2.2 Plural features in local forms

The default subject preference of  $\text{Infl}^0$  is disrupted when the object is local plural. Given that the probe on  $\text{Infl}^0$  is [ $u\text{Person}$ ,  $u\text{Proximate}$ ,  $u\text{Plural}$ ], I propose that the presence of the [Plural] feature on the object is sufficient to attract  $\text{Infl}^0$ -agreement in violation of the Activity Condition. It thus must be the case that in Algonquian, the Activity Condition is a violable constraint rather than an inviolable principle: by default, a probe avoids agreement with an inactive goal, but if the features

of the goal are sufficiently rich, the Activity Condition can be violated and agreement can take place.

In this section I consider the treatment of plural objects in local forms; mixed forms are discussed in the following section. If the subject of a local form is singular and the object is plural, central agreement indexes the plural object. If both arguments are plural, central agreement indexes the 1p argument due to the 1p > 2p effect discussed above (§3.1.2): the representation of 1p includes an additional person feature, as shown in (14), which makes 1p win out in morphological competition with 2p, which has only a single person feature.

(14) Feature geometry of 1p and 2p



An example form is given in (15). Here the subject is second person and the object is first person plural. Regardless of whether the subject is singular or plural, the central agreement indexes the 1p object (which makes it impossible to index the number of the second person subject). In this form, agreement with the 1p object is guaranteed on two grounds: the attraction of Infl<sup>0</sup>-agreement by plural objects and the 1p > 2p hierarchy effect.

(15) \**wa·pam -i -[ya·nk] -e*  
 see(TA) -OBJ1 -1p -mode  
 ‘You see us (excl).’

A problem for this analysis arises, however, when we consider the 1s—2p form. My analysis predicts that the plural object should attract the central agreement. The actual outcome, shown in

(16), is the portmanteau central suffix *\*-akokw*, which indexes the 1s—2p combination.

- (16) *\*wa-pam -eθ -[akokw] -e*  
 see(TA) -OBJ2 -1s>2p -mode  
 ‘I see you (pl).’

The occurrence of portmanteau agreement indicates that my proposal that local plural objects attract central agreement is too simplistic—it is also possible for local plural objects to *share* central agreement with the subject.

Interestingly, from a pan-Algonquian perspective, certain languages have replaced the Proto-Algonquian portmanteau 1s—2p form in (16) with a form in which the central agreement indexes only a single argument. This change has taken place in Massachusetts and Delaware, and, as shown in (17), the outcome is that the central agreement indexes only the 2p object, as my analysis predicts.

- (17) 1s—2p conjunct variations

	PROTO-ALGONQUIAN	MASSACHUSETT	DELAWARE
1s—2p	V-eθ-[akokw]	V-un-ák	V-əl-ēkw
	V-OBJ2-1s>2p	V-OBJ2-2p	V-OBJ2-2p

From a diachronic perspective, then, my analysis does appear to be on the right track, but the occurrence of portmanteau agreement in Proto-Algonquian remains to be explained. I will return to the derivation of portmanteau agreement in the next section.

To sum up,  $\text{Infl}^0$  in local conjunct forms targets the subject when the object is singular and the object when the object is plural. The ability of a plural object to override the default subject preference and attract  $\text{Infl}^0$ -agreement indicates that the probe on  $\text{Infl}^0$  includes a [*u*Plural] feature. When both of the local arguments are plural, 1p wins the competition for spell-out in the central slot due to the richness of its person feature representation.

### 3.2.3 Plural features in mixed forms

The central agreement in conjunct mixed forms has similar patterning to the local forms: Infl<sup>0</sup> indexes the subject when the local object is singular. (I temporarily omit forms involving portmanteau agreement, i.e. 1s—3 and 2s—3, and will return to them in the next section.) In forms with a singular local object, as in (18), the central agreement indexes the third-person subject (\*-t/k 3).

(18) Singular local object in mixed forms

- |         |   |         |  |
|---------|---|---------|--|
| a. 3—1s | <i>wa-pam-i-<span style="border: 1px solid black; padding: 0 2px;">t</span>-i</i> | b. 3—2s | <i>wa-pam-eθ-<span style="border: 1px solid black; padding: 0 2px;">k</span>-i</i> |
|         | see(TA)-OBJ1-3s-mode  |         | see(TA)-OBJ2-3s-mode   |
|         | ‘ <span style="border: 1px solid black; padding: 0 2px;">He</span> sees me.’      |         | ‘ <span style="border: 1px solid black; padding: 0 2px;">He</span> sees you (sg).’ |

When the local object is plural, however, Infl<sup>0</sup> indexes the object. Taking “21”, the inclusive first-person plural as an example in (19), regardless of whether 21 is the subject or the object, it is always indexed by the central agreement.

(19) Mixed forms involving local plural 21

- |            |  |            |   |
|------------|--|------------|---|
| a. 21 — 3s | <i>wa-pam-∅-<span style="border: 1px solid black; padding: 0 2px;">ankw</span>-e</i> | b. 3s — 21 | <i>wa-pam-eθ-<span style="border: 1px solid black; padding: 0 2px;">ankw</span>-e</i> |
|            | see(TA)-OBJ3-21-mode   |            | see(TA)-OBJ2-21-mode  |
|            | ‘ <span style="border: 1px solid black; padding: 0 2px;">We (incl)</span> see him.’  |            | ‘He sees <span style="border: 1px solid black; padding: 0 2px;">us (incl)</span> .’   |

Mixed forms involving a 1p argument are complicated by the occurrence of portmanteau agreement. In the 1p—3 form, my analysis predicts that the central agreement should index the 1p argument, but in fact the form displays a portmanteau central suffix that indexes both the subject and object (\*-akent 1p>3), as illustrated for Proto-Algonquian in (20a). However, in Plains Cree and Delaware, as indicated in (20b) the form has changed such that the central agreement indexes only the 1p subject as predicted by my analysis. As with the local forms in the previous section, then, I take the evidence from Plains Cree and Delaware to indicate that my analysis is on the right track, but an account of portmanteau agreement is required and will be provided in the following section.

- (20) a. PA 1p—3  
 \**wa·pam-Ø-akent*-i  
 see(TA)-OBJ3-1p>3-mode  
 ‘We (excl) see him/her.’

- b. 1p—3 conjunct variations

	PROTO-ALGONQUIAN	PLAINS CREE	DELAWARE
1p—3(s/p)	V-Ø-akent	V-â-yâhk	V-Ø-ēnk
	V-OBJ3-1p>3	V-OBJ3-1p	V-OBJ3-1p

The preceding examples involved mixed forms with a local plural subject. In mixed forms with a local plural object, portmanteau agreement is also attested: the 3—1p form in Proto-Algonquian uses the portmanteau central suffix *\*-ament* 3>1p, as shown in (21a). However, as shown in (21b), Plains Cree, Massachusetts, and Delaware have changed this form such that the central agreement indexes only the 1p object. The same change has applied to the 3—2p form, which also displayed portmanteau agreement in PA but indexes only the object in Plains Cree, Massachusetts, and Delaware. Together with the shift to indexing only the object, the theme sign has shifted to the inverse marker in these forms. The appearance of the inverse marker is consistent with what was shown in Section 2.2.3: the inverse marker appears due to person feature deletion on Voice<sup>0</sup> triggered by the agreement of Infl<sup>0</sup> with the object.

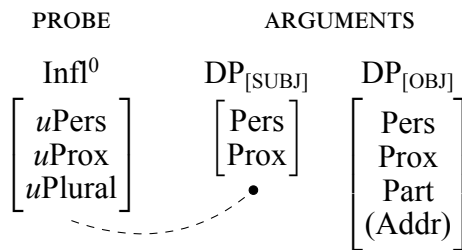
- (21) a. PA 3s—1p  
 \**wa·pam-i-yament*  
 see(TA)-OBJ1-3>1p  
 ‘He sees us (excl).’

b. 3—1p/2p conjunct variations

	PA	PLAINS CREE	MASSACHUSETT	DELAWARE
3s—1p	V-i- <b>yament</b>	V-iko- <b>yáhk</b>	V-əkwē- <b>yak</b>	V-əkw- <b>ēnk</b>
	V-OBJ1-3>1p	V-INV-1p	V-INV-1p/21	V-INV-1p
3s—21	V-eθ- <b>ankw</b>	V-iko- <b>yahk</b>	V-əkwē- <b>yak</b>	V-əkw- <b>ankw</b>
	V-OBJ2-21	V-INV-21	V-INV-1p/21	V-INV-21
3s—2p	V-eθ- <b>a·kw</b>	V-iko- <b>yék</b>	V-əkwē- <b>yák</b>	V-əkw- <b>ēkw</b>
	V-OBJ2-3>2p	V-INV-2p	V-INV-2p	V-INV-2p

In summary, in the mixed set of TA conjunct inflection, when the object is a singular local person,  $\text{Infl}^0$  agrees with the third-person subject as in (22), an example of the default preference for subject agreement.

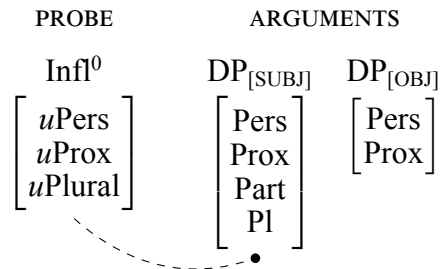
(22) Conjunct inverse forms:  $\text{Infl}^0$  agrees with subject when local object is singular



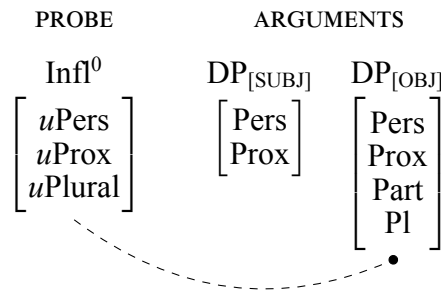
When the local person is plural,  $\text{Infl}^0$  agrees with it regardless of whether it is the subject (23a) or the object (23b). The attraction of  $\text{Infl}^0$  by the local plural object affirms that there is a  $[u\text{Plural}]$  feature in the probe, which is sufficient to override the default preference for subject agreement.

(23) Infl<sup>0</sup> agrees with local plural argument

a. Conjoint mixed direct: Infl<sup>0</sup> agrees with local plural subject



b. Conjoint mixed Inverse: Infl<sup>0</sup> agrees with local plural object



So far, almost all of the forms that I have examined conform to the following pattern: Infl<sup>0</sup> agrees with the subject if the object is local singular as in (24a); otherwise, Infl<sup>0</sup> agrees with the local plural object as in (24b).

(24) Conjoint Infl<sup>0</sup> agreement summary (boxes indicate target of agreement)

a. Infl<sup>0</sup> as subject agreement

<b>LOCAL</b>	<b>NON-LOCAL</b>	<b>MIXED</b>
$\boxed{2s}$ — 1s	$\boxed{3s}$ — 3'(s/p)	$\boxed{3s}$ — 1s
$\boxed{1s}$ — 2s	$\boxed{3s}$ — 3'(s/p)	$\boxed{3s}$ — 2s
$\boxed{1p}$ — 2(s/p)		$\boxed{1p}$ — 3(s/p)
$\boxed{2p}$ — 1s		$\boxed{21}$ — 3(s/p)
		$\boxed{2p}$ — 3(s/p)

- 
- b. Local plural object wins the competition over the subject for Infl<sup>0</sup>

<b>LOCAL</b>	<b>MIXED</b>
2(s/p) — <span style="border: 1px solid black; padding: 0 2px;">1p</span>	3(s/p) — <span style="border: 1px solid black; padding: 0 2px;">1p</span>
1s — <span style="border: 1px solid black; padding: 0 2px;">2p</span>	3(s/p) — <span style="border: 1px solid black; padding: 0 2px;">21</span>
	3(s/p) — <span style="border: 1px solid black; padding: 0 2px;">2p</span>

For some of the forms in (24), my generalization regarding subject agreement and plural agreement holds in some of the daughter languages but not in Proto-Algonquian, which displays portmanteau agreement instead. I turn to the occurrence of portmanteau agreement in the next section.

### 3.2.4 Portmanteau and inverse forms

This section turns to the forms that are left out of the preceding generalization: portmanteau forms and non-local inverse forms. I begin by looking at the non-local inverse forms (3'—3), which are the only conjunct forms in which the inverse theme sign occurred in Proto-Algonquian. I propose that in these forms, Infl<sup>0</sup> always agrees with the goal that best matches its features, which is always the proximate 3 rather than the obviative 3' (§3.2.4.1). I then turn to the portmanteau forms. I propose that these forms reflect the occurrence of an optional Multiple Agree operation on Infl<sup>0</sup> in some Algonquian languages (cf. Oxford forthcoming). I also discuss the complementary distribution of the inverse theme sign and portmanteau central agreement and the changes to both that have taken place in Plains Cree, Massachusetts, and Delaware (§3.2.4.2).

#### 3.2.4.1 Non-local inverse forms

The inverse theme sign appears when Infl<sup>0</sup> indexes the object, triggering impoverishment of the object features that would otherwise appear in Voice<sup>0</sup> (cf. Oxford 2015a). In Proto-Algonquian as well as six of the languages surveyed in this thesis (Algonquin, Kickapoo, Menominee, Meskwaki, Miami-Illinois, and Shawnee), the only conjunct forms in which the inverse theme sign occurs are the non-local forms (i.e. 3'—3). The Proto-Algonquian non-local inverse forms are illustrated in



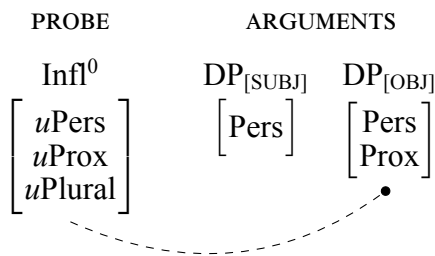
(25). In both forms, the central agreement indexes the proximate 3s/3p argument: \*-(e)t 3 (singular) in (25a); \*-(e)t-wa-w 3 + plural in (25b).

(25) Conjunct non-local inverse forms

- |          |  |          |   |
|----------|--|----------|---|
| a. 3'—3s | *wa·pam-ekw- <span style="border: 1px solid black; padding: 0 2px;">et</span> -i | b. 3'—3p | *wa·pam-ekw- <span style="border: 1px solid black; padding: 0 2px;">et</span> -wa·w-i |
|          | see(TA)-INV-3-mode   |          | see(TA)-INV-3-3p-mode   |
|          | ‘He (obv) sees him.’   |          | ‘He (obv) sees them.’   |

Infl<sup>0</sup> targets the proximate object in these forms because only the object satisfies the [*u*Proximate] feature on the probe, as schematized in (26).

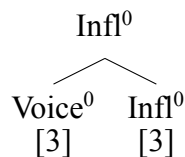
(26) Non-local inverse: Infl<sup>0</sup> agrees with better matched goal, the object



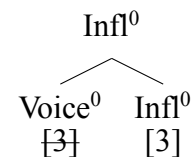
Since Voice<sup>0</sup> always targets the object, the agreement of Infl<sup>0</sup> with the object in this form causes Voice<sup>0</sup> and Infl<sup>0</sup> to have the same person features, as shown in (27). This illicit configuration is repaired by deleting the person features of Voice<sup>0</sup>, as shown in (27), which results in the spell-out of Voice<sup>0</sup> as the elsewhere inverse form.

(27) Inverse as a *spurious se* effect (Oxford 2015a)

a. Person feature reduplication on Infl



b. Feature deletion on Voice



Recall that in the preceding section, I proposed that Infl<sup>0</sup> has a default preference to agree with the subject, unless overridden by the presence of a local plural object. Under this view, we might

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expect Infl<sup>0</sup> in (26) to target the subject. Why does it instead target the object? The reason, I propose, is the [Proximate] feature on the object. Non-local forms are the only forms in which there is an argument that lacks the [Proximate] feature (since it is only obviatives that lack the [Proximate] feature). The asymmetry between the two arguments in a non-local form is thus parallel to the asymmetry between the two arguments in a mixed plural form: just as the [*u*Plural] feature of the probe on Infl<sup>0</sup> can be attracted by a plural object when the subject is singular, so too can the [*u*Proximate] feature of the probe on Infl<sup>0</sup> be attracted by a proximate object when the subject is obviative. The patterning of central agreement and inverse marking is thus consistent with my overall analysis: the object can attract Infl<sup>0</sup>-agreement when the object matches a feature of the probe that is not present on the subject.

#### 3.2.4.2 Portmanteau central agreement

Now let us turn to the portmanteau central agreement morphology. Portmanteau central agreement occurs only in certain local and mixed forms. All of the portmanteau central suffixes that we encountered above are listed in (28). One of the portmanteau suffixes appears in a local form and the other five occur in mixed forms. From another perspective, four of the portmanteau suffixes involve a plural argument (shown in bold) while two involve only singular arguments. Across the Algonquian languages, it is only the portmanteau suffixes involving plural participants that display variation. (Examples of this variation were given in Section 3.2.2.) In this section I will consider only the four plural portmanteau forms, as the special patterning of plural forms has been the primary focus of my analysis of the conjunct central inflection<sup>2</sup>.

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<sup>2</sup>The question why the forms *\*-akent* 1p>3, *\*-ak* 1s>3, and *\*-at* 2s>3 are portmanteau is unclear and left for future research. The point of this section is to show that the presence of [*u*Plural] in conjunct probe can result in Multiple Agree in order to satisfy the probe while respecting the AC.

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(28) Portmanteau central suffixes in Proto-Algonquian

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Plural participant	<i>*akokw</i>	1s>2p
	<i>*akent</i>	1p>3
	<i>*ament</i>	3>1p
	<i>*a-kw</i>	3>2p

---

Singular participant	<i>*ak</i>	1s>3
	<i>*at</i>	2s>3

---

Regarding the analysis of portmanteau agreement, purely morphological approaches involving the post-syntactic operation of fusion have been proposed (Noyer 1992). I reject the post-syntactic analysis of portmanteau agreement in Algonquian and instead adapt Oxford's forthcoming syntactic treatment, which is motivated by the complementary distribution of portmanteau agreement and inverse marking.

We have seen that in the conjunct order, the inverse theme sign occurs only in the non-local set while portmanteau agreement occurs only in the local and mixed sets. So portmanteau agreement and inverse marking in the conjunct are in perfectly complementary distribution, as shown in (29).

(29) Distribution of portmanteau central agreement and inverse marking in the conjunct

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	Local	Mixed	Non-local
Portmanteau	+	+	-
Inverse	-	-	+

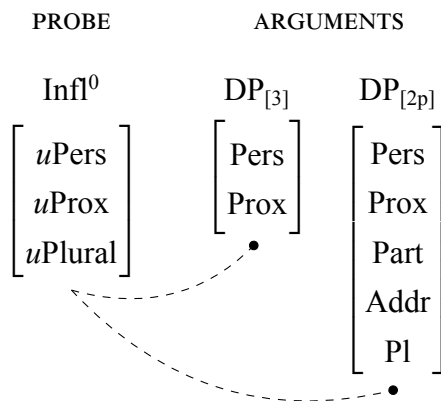
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Oxford (2015b: 24) proposes that portmanteau agreement and inverse marking are in complementary distribution “because they are both determined by the articulated probe on Infl<sup>0</sup>: inverse marking occurs when Infl<sup>0</sup> agrees *only with the object* while portmanteau agreement is possible only when Infl<sup>0</sup> agrees with *both arguments*.” I have already discussed the conditioning of inverse marking in (26) and (27) above. I focus here on portmanteau agreement.

Unlike the standard Agree operation in which  $\text{Infl}^0$  carries a single probe that searches downwards restricted by locality (as in Chomsky 2000, 2001), or the Cyclic Agree operation proposed by Béjar & Rezac (2009) in which  $\text{Infl}^0$  can search both downward and, subsequently, upward, the form of Multiple Agree adopted by Oxford (2015b) involves a single probe that can agree with two goals only in the restricted circumstance in which the two goals are equidistant (cf. van Koppen 2005, 2006, 2008). This Multiple Agree configuration makes portmanteau agreement possible.

In order to derive the precise distribution of the portmanteau forms, I propose that in Proto-Algonquian and the more conservative Algonquian languages, the Multiple Agree operation is subject to the Contiguous Agree constraint proposed by Nevins (2011). Under this constraint, Multiple Agree is possible but “requires that valuation of the probe with a certain feature not involve skipping of any of the arguments along its path” (Nevins 2011: 941). Contiguous Agree means that a probe on  $\text{Infl}^0$  that wishes to value its [ $u\text{Plural}$ ] feature by agreeing with the object cannot skip over the subject. In order to agree with the object, it must agree with the subject as well. This Contiguous Agree requirement explains why forms with local plural objects can display portmanteau central agreement rather than simply indexing the plural object as my analysis initially predicted. This is illustrated for a 3—2p form in (30): in order for the probe to agree with the 2p object, Contiguous Agree requires it to agree with the third person subject as well.

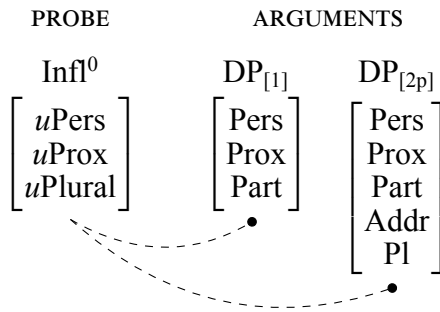
(30) Portmanteau agreement (\*-a-kw 3>2p) due to the Contiguous Agree constraint



The same explanation applies to the occurrence of portmanteau agreement in the 1s—2p local form

(\*-*akokw* 1s>2p): in order to agree with the object's plural feature, Infl<sup>0</sup> must also agree with the 1s subject, as in (31).

(31) Portmanteau agreement (\*-*akokw* 1s>2p) due to the Contiguous Agree constraint



Recall that the occurrence of portmanteau agreement varies across the Algonquian languages. Some languages have lost some of the original portmanteau forms and replaced them with a more general central suffix that indexes only the plural argument. This is illustrated in (32) for the 1s—2p form whose derivation in Proto-Algonquian was sketched in (31) above. In Massachusetts and Delaware, the portmanteau central suffix \*-*akokw* (1s>2p) in this form has been replaced by a more general central suffix that indexes only the 2p object.

(32) 1s—2p conjunct variations

	PROTO-ALGONQUIAN	MASSACHUSETT	DELAWARE
1s—2p	V-eθ- <b>akokw</b>	V-un- <b>ák</b>	V-əl- <b>ēkw</b>
	V-OBJ2- <b>1s&gt;2p</b>	V-OBJ2- <b>2p</b>	V-OBJ2- <b>2p</b>

I propose that in languages such as Massachusetts and Delaware, the vocabulary item for 1s>2p has simply been lost. As a result, the 1s/2p agreement features on Infl<sup>0</sup> are spelled out by the next most specified vocabulary item, which is the 2p suffix rather than the 1s suffix. The loss of portmanteau agreement in Massachusetts and Delaware is thus a purely morphological effect.

In some languages, a similar change has taken place in mixed forms with local plural objects. In Proto-Algonquian and the more conservative languages, the 3—1p/2p forms display a portmanteau

central suffix and an object-marking theme sign. In Plains Cree, Massachusetts, and Delaware, the central suffix has changed to index only the object and the theme sign has changed to inverse.

(33) Variation in mixed forms with local plural objects

	PA	PLAINS CREE	MASSACHUSETT	DELAWARE
3s—1p	V-i- <b>yament</b>	V-iko- <b>yáhk</b>	V-əkwē- <b>yak</b>	V-əkw- <b>ēnk</b>
	V-OBJ1-3>1p	V-INV-1p	V-INV-1p/21	V-INV-1p
3s—21	V-eθ- <b>ankw</b>	V-iko- <b>yahk</b>	V-əkwē- <b>yak</b>	V-əkw- <b>ankw</b>
	V-OBJ2-21	V-INV-21	V-INV-1p/21	V-INV-21
3s—2p	V-eθ- <b>a·kw</b>	V-iko- <b>yék</b>	V-əkwē- <b>yák</b>	V-əkw- <b>ēkw</b>
	V-OBJ2-3>2p	V-INV-2p	V-INV-2p	V-INV-2p

The variation in the local forms in (33) differs from the variation in the mixed form in (32) in that the change from portmanteau agreement to object agreement has been accompanied by the appearance of inverse marking. Under the elsewhere analysis of inverse marking, the appearance of the inverse marker in the Plains Cree, Massachusetts, and Delaware forms in (33) indicates that in these forms, the syntactic Agree operation on  $\text{Infl}^0$  must target only the object, as this is the only way for inverse marking to be triggered. In order for  $\text{Infl}^0$  to agree with only the object in these forms, the Contiguous Agree constraint must have been relaxed in these languages: rather than being required to agree with the third-person subject in addition to the plural object,  $\text{Infl}^0$  is permitted to skip the subject and agree only with the plural object. If this proposal is correct, then the Contiguous Agree constraint is a microparameter along which agreement systems can vary.

### 3.3 Summary

This chapter has proposed an analysis of the central agreement in the conjunct order. The following are some of the important points. The traditional Algonquian person hierarchy is not a global

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constraint but it does reflect the geometry of Algonquian person features. Plural features play a vital role in the patterning of central agreement. First-person plurals (exclusive and inclusive) both carry an additional person feature under the [plural] node and therefore rank above second-person plurals in morphological competition for vocabulary insertion. Central agreement in the conjunct order is determined by  $\text{Infl}^0$  which carries an articulated probe [ $u\text{Person}$ ,  $u\text{Proximate}$ ,  $u\text{Plural}$ ]. This probe has a default preference to target the subject, except when i) there is a local plural object, or ii) the subject is obviative and the object is proximate. Portmanteau agreement arises when  $\text{Infl}^0$  targets both arguments, an outcome that is forced by the Contiguous Agree constraint.

## Chapter 4

# Independent central agreement

This chapter examines the counterparts of the conjunct central suffix in the independent order: the person prefix and the pluralizer suffix. Following Oxford (2014a), I assume that  $\text{Infl}^0$  in the independent order carries a slightly different probe from the conjunct. The probe on  $\text{Infl}^0$  in the independent is  $[\mu\text{Person}, \mu\text{Proximate}, \mu\text{Participant}]$ , which differs from the conjunct in the absence of a  $[\mu\text{Plural}]$  feature and the presence of a  $[\mu\text{Participant}]$  feature. The realization of the independent central agreement is more regular than that of the conjunct and there is little cross-linguistic variation in the basic patterning of the person and number marking.

The examples in this chapter are drawn mainly from Proto-Algonquian but the analysis applies to all of the languages in my sample. I argue the split of the central inflection into a prefix and a pluralizer (central suffix) is the result of the post-syntactic operation Fission. I adopt Harbour's (2008) account for the motivation of fission. The syntactic process of agreement in the independent is less complicated than in the conjunct.  $\text{Infl}^0$  in the independent always selects whichever goal best matches the features of the probe; there are no manifestations of the default subject preference.

I begin by showing the spell-out of  $\text{Infl}^0$  as a prefix and central suffix and reinforcing the distinction between the feature structures of first-person plurals and non-first person plurals (§4.1). I then set out my analysis of independent central agreement, beginning by discussing the application of Fission and then showing how the analysis applies to local, mixed, and non-local forms (§4.2).



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## 4.1 Person and number marking in the independent

The geometry of person and number features that I proposed in the preceding chapter is an invariant property of the language that holds in both the conjunct and independent. However, the spell-out of these features differs significantly in the independent. In this section I illustrate the morphology that realizes person and number features in the independent. I show that the prefix is conditioned by the hierarchy  $2 > 1 > 3$  (§4.1.1) while the pluralizing central suffix provides further evidence that first person plural is represented differently from second and third person plural (§4.1.2).

### 4.1.1 Prefix and person hierarchy

In comparison with the conjunct, the independent verb inflection makes use of an additional slot in the template: the person prefix.

(1) Algonquian verb inflection template

1	2	3	4	5	6
<b>PFX</b>	Verb	<b>T.S.</b>	Neg	person/number	<u>3rd</u>

As the examples from Ojibwe in (2) show, the prefix always indexes the higher-ranked person on the hierarchy  $2 > 1 > 3$ . In local forms, the prefix always indexes the second person rather than the first person. In mixed forms, the prefix always indexes the first or second person rather than the third person. In non-local forms, the prefix always indexes the proximate third person rather than the obviative.

(2) Prefix agreement in Ojibwe (McGinnis 2008: 176-177 cited Rhodes 1976)

LOCAL	<b>2s</b> — 1s g-biin-ini 'I bring <b>you</b> .'	1s — <b>2s</b> g-biin-i ' <b>You</b> bring me.'
MIXED	<b>1s</b> — 3s n-biin-aa ' <b>I</b> bring him.'	3s — <b>1s</b> n-biin-igw 'He brings <b>me</b> .'
NON-LOCAL	<b>3s</b> — 3' w-biin-aa ' <b>He</b> bring him (obv).'	3' — <b>3s</b> w-biin-igw 'He (obv) brings <b>him</b> .'

This pattern is consistent with the person representations that I adopted in the previous chapter, which are repeated in (3). Second person has the richest feature specification [Person, Proximate, Participant, Addressee], followed by first person [Person, Proximate, Participant] and third person proximate [Person, Proximate].

(3) Person features of Algonquian nominals

2nd-person	1st-person	3rd-person
[ $\pi$ ]	[ $\pi$ ]	[ $\pi$ ]
[Prox]	[Prox]	[Prox]
[Part]	[Part]	
[Addr]		

Given these features, the spell-out rule for the person prefixes can be formulated as in (4). As McGinnis (2008: 174) puts it, “since all syntactic representations with an [addressee] feature have a [participant] feature, but not vice versa, [addressee] is more specific than [participant], and thus more highly ranked.”

---

(4) Spell-out rule for Algonquian independent proclitics

Person	Feature		Spell-out
2	[Person, Participant, Addressee]	↔	* <i>ke-</i>
1	[Person, Participant]	↔	* <i>ne-</i>
3	[Person]	↔	* <i>we-</i>

### 4.1.2 Spell-out of number feature

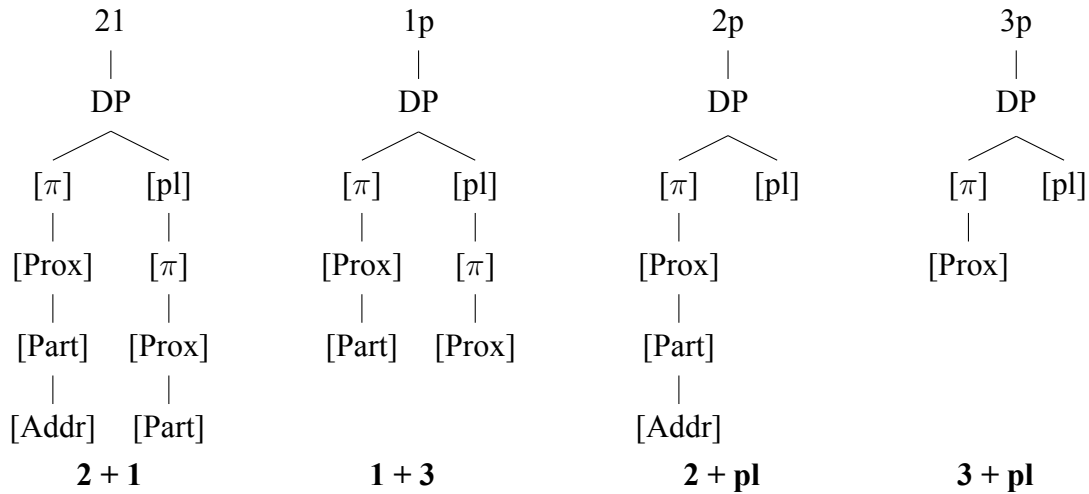
Unlike the fusional central agreement in the conjunct order, the independent central agreement is made up of a prefix that expresses only person and a pluralizer (central suffix) that expresses both person and number. The pluralizer is absent if the number of the indexed person is singular, as illustrated by the difference between (5a) and (5b) in Miami-Illinois.

(5) Miami-Illinois independent inflection, mixed direct form (Costa 2003: 277)

a. 1s—3s	<span style="border: 1px solid black; padding: 0 2px;">ni</span> - <i>waapam-aa</i>	b. 1p—3s	<span style="border: 1px solid black; padding: 0 2px;">ni</span> - <i>waapam-aa</i> - <span style="border: 1px solid black; padding: 0 2px;">mina</span>
	1-see(TA)-OBJ3		1-see(TA)-OBJ3-1p
	'I look at him'		'we (excl.) look at him'

Recall the analysis of plurals that I proposed in the preceding chapter. As the summary in (6) shows, first-person plurals contain an additional person feature under the [plural] node which serves to specify who is included in the group. The exclusive first-person plural consists of first person and third person features while the inclusive first-person plural consists of second person and first person features. Non-first-person plurals, on the other hand, consist simply of the appropriate person features accompanied by a bare [plural] node, as shown for 2p and 3p in (6).

(6) Representation of Algonquian plurals



This analysis allows us to explain an interesting property of the Algonquian pluralizer: second person and third person are both pluralized by the same suffix *\*-wa·w* while the exclusive and inclusive first person plurals each have a dedicated suffix (*\*-(e)na·n* 1p, *\*-(e)naw* 21). This pattern follows naturally from the representations in (7): the *\*-wa·w* suffix shared by 2p and 3p is the general spell-out of the [plural] feature while the special suffixes dedicated to the 1p and 21 forms are specified as spelling out the [plural] feature plus its dependent person features. The null elsewhere form is spelled out in the absence of any plural features (i.e. in singular forms).

(7) Spell-out rule for Algonquian pluralizers

	Conditioning features	Spell-out
1p plural	[Plural, Person, Proximate]	$\longleftrightarrow$ <i>*-(e)na·n</i>
21 plural	[Plural, Person, Proximate, Participant]	$\longleftrightarrow$ <i>*-(e)naw</i>
2p/3p plural	[Plural]	$\longleftrightarrow$ <i>*-wa·w</i>
singular	[]	$\longleftrightarrow$ $\emptyset$

Although the [plural] features are spelled out as a suffix that is separate from the person prefix, the pluralizers cannot occur independently of the person prefix. The reason for the spellout of

person and number features in different slots is the post-syntactic operation Fission, which I will explain further in next section §4.2.1.

Some Algonquian languages have lost the contrast between the two dedicated first-person plural suffixes (\*-(e)*na-n* 1p exclusive, \*-(e)*naw* 21 inclusive), using a single suffix in both functions. Algonquin<sup>1</sup> is an example, as shown in (8): the 1p exclusive form in (8a) and the 21 inclusive form in (8b) both use the suffix *-nàn*, which was dedicated to the 1p exclusive form in Proto-Algonquian. (The 2p and 3p forms continue to share the general plural suffix *-wà*, as in Proto-Algonquian.)

(8) TA forms with plural subjects in Algonquin (Jones 1977: 76)

- |    |  |           |
|----|--|-----------|
| a. | <i>ni-wàbam-à</i> <span style="border: 1px solid black; padding: 0 2px;"><i>-nàn</i></span>  | (1p — 3s) |
|    | 1-see(TA)-OBJ3-1p  |           |
| b. | <i>gi-wàbam-à</i> <span style="border: 1px solid black; padding: 0 2px;"><i>-nàn</i></span>  | (21 — 3s) |
|    | 2-see(TA)-OBJ3-1p/21   |           |
| c. | <i>gi-wàbam-à</i> <span style="border: 1px solid black; padding: 0 2px;"><i>-wà</i></span>   | (2p — 3s) |
|    | 2-see(TA)-OBJ3-2p/3p   |           |
| d. | <i>o-wàbam-à</i> <span style="border: 1px solid black; padding: 0 2px;"><i>-wà</i></span> <span style="border: 1px solid black; padding: 0 2px;"><i>-an</i></span> | (3p — 3') |
|    | 3-see(TA)-OBJ3-2p/3p-3'  |           |

The merger of the 1p and 21 suffixes can be handled naturally within my analysis, as this merger continues to reflect the crucial distinction that I have drawn between first person plural forms and non-first person plural forms. The Algonquin spell-out rule simply no longer distinguishes between 1p and 21, as indicated in (9). This change causes 1p and 21 to be spelled out by the same suffix, which continues to be distinct from the more general plural suffix that spells out 2p and 3p.

<sup>1</sup>Algonquin is a dialect of Ojibwe. The 1p and 21 forms in (8) display what McGinnis (2005: 707;709) characterizes as the [Speaker] syncretism of the 1p suffix, as the same suffix appears in both the 1p and 21 forms.

---

(9) Variation in the spell-out of pluralizers

a. Proto-Algonquian (repeated from (7))

	Conditioning features		Spell-out
1p	[Plural, Person, Proximate]	↔	*-(e)na·n
21	[Plural, Person, Proximate, Participant]	↔	*-(e)naw
2p/3p	[Plural]	↔	*-wa·w

b. Algonquin

	Conditioning features		Spell-out
1p/21	[Plural, Person, Proximate]	↔	-(i)nà·n
2p/3p	[Plural]	↔	-wà

The continued maintenance of a distinction between first-person plurals and non-first-person plurals even in languages such as Algonquin reinforces my proposal that the representation of the first-person plurals should differ from that of non-first-person plurals.

## 4.2 Analysis of independent central agreement

Now we are familiar with the spell-out of person and number features in the independent order. In this section we analyze the patterning of the independent central agreement. I propose that the central agreement is determined by  $\text{Infl}^0$ , which bears the articulated person-feature specification [ $u\text{Person}$ ,  $u\text{Proximate}$ ,  $u\text{Participant}$ ]. The presence of the [ $u\text{Participant}$ ] sub-feature makes this person-feature specification slightly more articulated than that of the conjunct, but unlike the conjunct, the independent probe does not include a [ $u\text{Plural}$ ] feature. I begin by explaining the motivation for the split of central agreement into a separate prefix and pluralizer (§4.2.1). I then analyze the outcome of  $\text{Infl}^0$ -agreement in local forms (§4.2.2), mixed forms (§4.2.3), and non-local forms (§4.2.4).

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### 4.2.1 Fission to prefix and pluralizer

Discontinuous agreement, in which agreement with a single argument is split into separate exponents that appear on both sides of the verb, is not an unusual occurrence. Harbour (2008: 186) describes it as “a genetically and geographically diverse phenomenon.” Languages which display discontinuous agreement include Georgian (Hewitt 1995), Hebrew (Halle 1997), Walmatjari (Hudson 1978), Yimas (Foley 1991), Basque (Arregi 1999), Cuzco Quechua (van de Kerke 1996), and of course, Algonquian. According to Harbour (2008), discontinuous agreement in all languages universally obeys a “person left, number right” pattern, as illustrated in (10) for Georgian, Hebrew, and Shawnee (Algonquian).

- (10) a. *v-c'er-t*  
I-write-pl  
“We write.” (Georgian; Hewitt 1995: 200)
- b. *yi-zrq-uu*  
3-throw-pl  
“They all will throw.” (Hebrew; Halle 1997: 432)
- c. *ki-tkawehšee-pwa*  
2-listen-2p  
“You (pl) listen.” (Shawnee; Andrews 1994: 188)

I take this discontinuity to arise from the post-syntactic operation of Fission (cf. Noyer 1992, Halle 1997), which splits one syntactic node into two separate nodes for vocabulary insertion. To account for the “person left, number right” order of the fissioned nodes, Harbour (2008: 188) proposes that  $\varphi$ -features have the internal structure in (11), in which person dominates number, and that the dominance relations in this structure must be preserved by Fission (cf. the Linear Correspondence Axiom; Kayne 1994). Since person dominates number, exponents that realize person must always precede exponents that realize number.

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(11)  $\varphi$ -feature structure (Harbour 2008: 187)

$\varphi$   
|  
 $\pi$   
|  
#

In the Shawnee form in (10c), for example, the person prefix *ki* precedes the pluralizer *pwa* because person dominates number in the structure in (11). As for the discontinuity of these two exponents—the person marker is a prefix while the number marker is a suffix—Harbour proposes that the exponents must both remain adjacent to the verbal head. The only way for both exponents to be directly adjacent to the head is for one exponent to be a prefix and the other to be a suffix.

I adopt Harbour’s proposals to account for the discontinuous realization of central agreement in the independent. The prefix and central suffix originate in the syntax on the single head  $\text{Infl}^0$  (contra Cook 2014). The existence of separate exponents for person and number causes  $\text{Infl}^0$  to undergo Fission, with the person-marking exponent appearing to the left of the verb and the number-marking exponent appearing to the right of the verb.

#### 4.2.2 Local forms

I now show how the representations and operations established above interact to produce the attested patterning of the independent central inflection, beginning with the local forms. The simplest case is local forms in which both arguments are singular: 1s—2s and 2s—1s, illustrated for Proto-Algonquian in (12).

(12) Proto-Algonquian Independent local singular forms

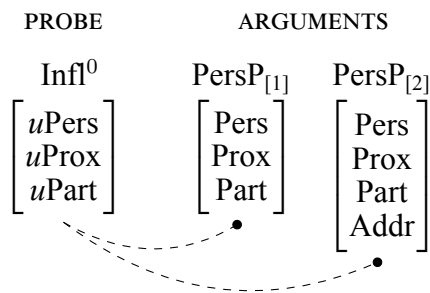
- |          |   |          |   |
|----------|---|----------|---|
| a. 2s—1s | * <span style="border: 1px solid black; padding: 0 2px;">ke</span> -wa·pam-i-hm   | b. 1s—2s | * <span style="border: 1px solid black; padding: 0 2px;">ke</span> -wa·pam-eθ-ehm |
|          | 2-seeTA-OBJ1-ftv  |          | 2-seeTA-OBJ2-ftv  |
|          | ‘ <span style="border: 1px solid black; padding: 0 2px;">You (sg)</span> see me.’ |          | ‘I see <span style="border: 1px solid black; padding: 0 2px;">you (sg)</span> .’  |

Since both arguments are an equally good match for the [*u*Person, *u*Proximate, *u*Participant] probe



on  $\text{Infl}^0$ , I assume that  $\text{Infl}^0$  agrees with both arguments as schematized in (13), thus gaining both first-person and second-person features. At spell-out, this set of person features will be realized by the second-person prefix, as it discharges more of the features (i.e. [Person, Proximate, Participant, Addressee]) than the first-person prefix would (i.e. [Person, Proximate, Participant]). This competition accounts for the uniform appearance of the second-person prefix in all local forms.

- (13) Independent local singular forms:  $\text{Infl}^0$  probes for both arguments, the spell-out is determined by feature competition



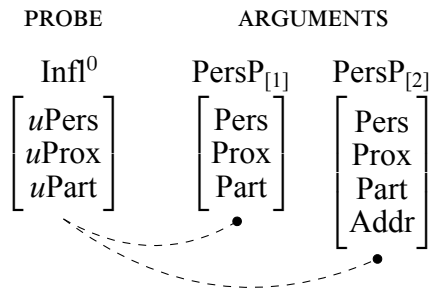
The 2p—1s and 1s—2p work the same as the singular forms shown above, but with the addition of a central suffix to spell out the second-person plural features. The more interesting forms are those in which the first person is plural: 2—1p and 1p—2, shown for Proto-Algonquian in (14).

- (14) Proto-Algonquian independent local forms involving 1p argument

a. 2—1p * $\boxed{ke}$ - <i>wa·pam-i-hm</i> - $\boxed{ena}$ ·	b. 1p—2 * $\boxed{ke}$ - <i>wa·pam-eθ-ehm</i> - $\boxed{ena}$ ·
2-seeTA-OBJ1-ftv-1p	2-seeTA-OBJ2-ftv-1p
‘ $\boxed{\text{You (sg)}}$ see $\boxed{\text{us}}$ .’	‘ $\boxed{\text{We}}$ see $\boxed{\text{you (sg)}}$ .’

What is interesting about these forms is that the central agreement indexes both arguments: the prefix \**ke*- indexes the second person while the suffix \**ena*· indexes the plural first person. The ability of the central agreement to index both arguments confirms the proposal that  $\text{Infl}^0$  agrees with both arguments in local forms, as shown in (15).

- (15) Independent local forms involving 1p: Infl<sup>0</sup> probes both arguments but the richer feature arguments wins the spell-out



Infl<sup>0</sup> thus gains first-person plural and second-person features in both forms. The realization of the morphology then follows directly from feature competition. Since the person feature of the second person is richer than that of the first person (as it contains the [Addressee] subfeature), the person prefix will be realized as the second-person form *\*ke-*. Conversely, since the plural specification of the first person is richer than that of the second person (as it includes not only [plural] but also a dependent person feature), the pluralizer suffix will be realized as the 1p form *\*-ena-*.

### 4.2.3 Mixed forms

Unlike in the local set, central agreement in the mixed set does not involve Multiple Agree, as the [uParticipant] feature of the probe on Infl<sup>0</sup> will always favor agreement with the first/second-person argument rather than the third-person argument. Since Infl<sup>0</sup> has only one goal, the realization of the central agreement is straightforward: the prefix expresses the person of the goal and the central suffix expresses its number. As an example, consider the Proto-Algonquian 21—3p and 3p—21 forms in (16).

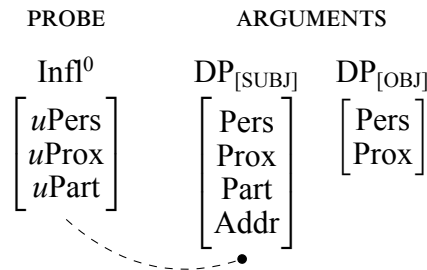
- (16) Proto-Algonquian mixed forms
- a. 21—3p \*ke-wa·pam-a·w-enaw-aki
- 2-seeTA-OBJ3-ftv-21-3p
- ‘We (incl) see them.’

- b. 3p—21 \*ke-wa·pam-ekw-w-enaw-aki  
 2-seeTA-INV-ftv-21-3p  
 ‘They see us (incl).’

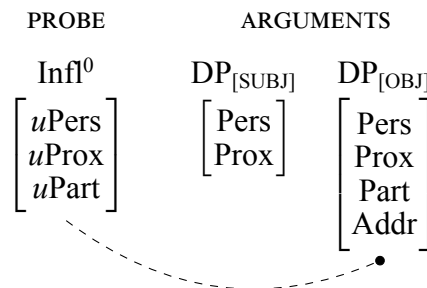
As schematized in (17), central agreement in both forms targets the 21 argument, as it is the best match for the [*uParticipant*] feature on  $\text{Infl}^0$ . The 21 agreement features on  $\text{Infl}^0$  then undergo Fission, giving rise to the second-person prefix \**ke*- and the 21 central suffix \**-enaw*.

(17) Independent mixed:  $\text{Infl}^0$  agrees with better matched goal, 21

- a. when 21 is subject



- b. when 21 is object



#### 4.2.4 Non-local forms

The non-local set works similarly to the mixed set in that one of the two arguments is always a better match for the probe on  $\text{Infl}^0$ : the proximate third-person argument matches the [*uProximate*] feature on  $\text{Infl}^0$  while the obviative third-person argument does not.  $\text{Infl}^0$  thus always targets the proximate argument, resulting in central agreement which indexes the proximate. Examples are given in (18) and the analysis is schematized in (19).

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(18) Proto-Algonquian Independent non-local inflection

a. 3p—3'p \*we-wa·pam-a·-w-wa·w-*ahi*

3-seeTA-OBJ3-ftv-pl-3'p

‘They see them (obv).’

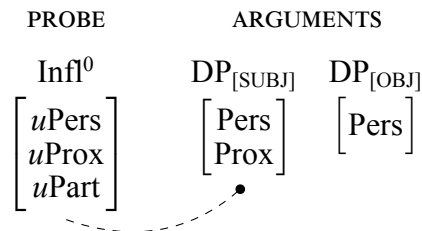
b. 3'p—3p \*we-wa·pam-ekw-w-wa·w-*ahi*

3-seeTA-INV-ftv-pl-3'p

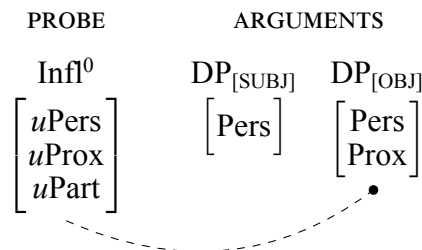
‘They (obv) see them.’

(19) Independent non-local: Infl<sup>0</sup> agrees with better matched goal, proximate 3p

a. when proximate 3p is subject (3p—3'p)



b. when proximate 3p is object (3'p—3p)



### 4.3 Summary

This chapter has presented an analysis of the patterning of central agreement in the independent order. The probe on Infl<sup>0</sup> in the independent was proposed to differ from that in the conjunct in the presence of a [*uParticipant*] subfeature and the absence of a [*uPlural*] feature. In local forms, both arguments have a [*uParticipant*] feature and are thus both an equally good match for the probe; the result is Multiple Agree. In mixed and non-local forms, one of the two arguments is always a better match for the probe, so Multiple Agree never takes place and the spell-out of the agreement

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morphology is straightforward. The discontinuous realization of independent central agreement was attributed to a Fission operation which splits apart the person and number agreement features on  $\text{Infl}^0$ . The shapes of the pluralizer suffixes were shown to further support the proposed distinction between first-person and non-first-person plural features.

In the analysis of Algonquian central agreement proposed in the preceding two chapters, the extensive differences between the independent order and the conjunct order have been accounted for by positing different probes on  $\text{Infl}^0$  and different spell-out rules. What has remained constant, however, are the underlying feature structures. A benefit of this approach is that the different probes and spell-out rules can capture the ways in which the agreement system varies while the underlying feature structures can capture the properties of the system that do not vary. One such invariant property is the fundamental split between first-person plural and non-first-person plural and the related 1p-over-2p hierarchy. Since this split is found in both the independent and conjunct orders despite their different morphological systems, its source cannot be a simple matter of morphology, and any analysis that attributes it to surface morphological rules is insufficient. My analysis captures the deep source of this split by attributing it directly to the representation of the features themselves.

# Chapter 5

## Conclusions

This chapter summarizes the thesis and looks ahead to future research. Section 5.1 reviews the main proposals regarding central agreement in the conjunct and independent. Section 5.2 raises some questions for future research and discusses some implications of the thesis.

### 5.1 Summary of analysis

This section summarizes the whole thesis. Due to the polysynthetic nature of Algonquian, person and number agreement involves several slots: prefix, theme sign, formative, central suffix, and peripheral suffix. Section 5.1.1 reviews the syntactic structures that underlie Algonquian agreement, Section 5.1.2 outlines the featural representations and vocabulary items involved in central agreement, and §5.1.3 summarizes the derivation of central agreement in syntax and morphology.

#### 5.1.1 Syntactic structures of Algonquian agreement

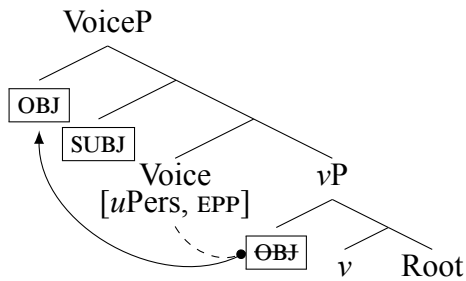
As a polysynthetic language, it is undeniable that Algonquian employs a great deal of morphology to do the work of syntax. What makes either a pure syntactic analysis or a pure morphological analysis shaky is that morphology and syntax both play a role in the patterning of Algonquian agreement. No matter which stance the previous analyses choose, the significant differences between

the independent and conjunct orders require a completely different approach.

I follow Oxford (2015a) in assuming a lower probe on Voice<sup>0</sup> and a higher probe on Infl<sup>0</sup>. Voice<sup>0</sup> carries a simple [*uPerson*] probe that always agrees with the object. The theme signs *\*-i*, *\*-eθ*, and *\*-a/∅* are the spell-out of object agreement on Voice<sup>0</sup> while the inverse theme sign *\*-ekw* is the elsewhere spell-out of Voice<sup>0</sup> realized when the person features of Voice<sup>0</sup> have been deleted due to their duplication on Infl<sup>0</sup>.

What makes Voice<sup>0</sup> significant to the concerns of this thesis is that it also carries an [EPP] feature which causes the object to move to the specifier position of VoiceP. The result, as shown in (1), is a configuration in which the subject and object is in equidistant, which profoundly influences the agreement options available to the higher probe on Infl<sup>0</sup>.

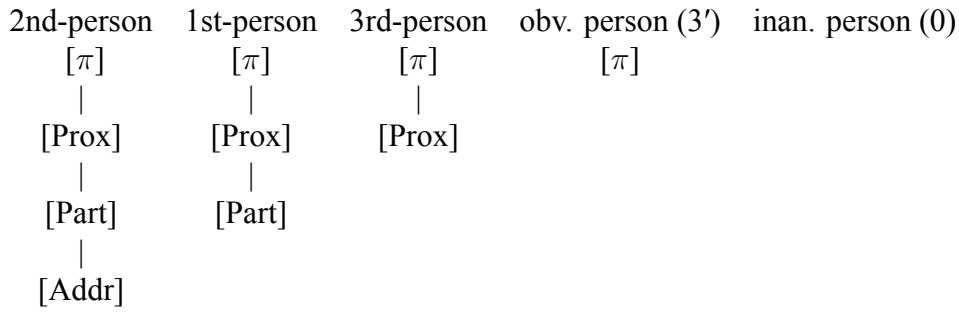
- (1) Movement of the object to Spec-VoiceP (Oxford 2014a: 101)



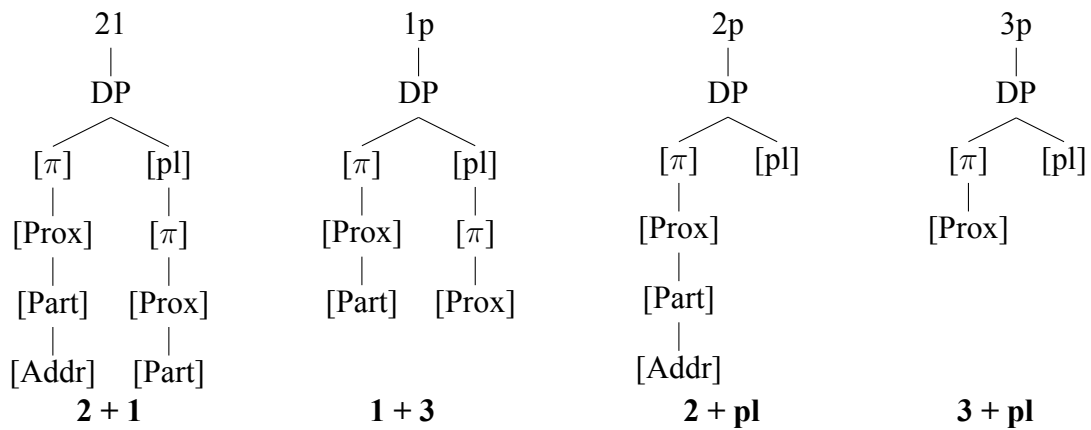
### 5.1.2 Exponents of Algonquian person and number features

I posit that the Algonquian person hierarchy ( $2 > 1 > 3 > 3' > 0$ ) is valid in that it reflects the richness of person features as shown in the representations in (2). I also propose that these representations involve an important split between first-person plural and non-first-person plural, as shown in (3): first-person plurals have an additional person feature under the [plural] node while non-first person plurals have a bare [plural] node.

(2) Person features of Algonquian nominals (Lochbihler 2012: 37; Oxford 2014a: 118)



(3) Summary of Algonquian plural features



The spell-out rules employed in the two orders are summarized in (4) for singular person markers and (5) for plural person markers. In the independent inflection, person features and number features are fissioned to the prefix and central suffix respectively, while in the conjunct the spell-out of person and number involves a single fusional central suffix position.

(4) Spell-out rule for singular person

Person	Feature		CJ	IND
1	[Person, Proximate, Participant]	$\longleftrightarrow$	*-a-n	*ne-
2	[Person, Proximate, Participant, Addressee]	$\longleftrightarrow$	*-an	*ke-
3	[Person]	$\longleftrightarrow$	*-t/k	*we-



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(5) Spell-out rule for plural person

Person	Feature		CJ	IND
1p	[1]+[Person, Proximate]	↔	*-a·nk	*ne- -(e)na·n
21	[2]+[Person, Proximate, Participant]	↔	*-ankw	*ke- -enaw
2p	[2]+[pl]	↔	*-e·kw	*ke- -w·a·w
3p	[3]+[pl]	↔	*-twa·w	*we- -w·a·w
[ ]	elsewhere	↔	—	∅

### 5.1.3 Central agreement in conjunct and independent

Extending the work of Oxford (2014a, 2015a), I have proposed that the central agreement is the outcome of an articulated probe on  $\text{Infl}^0$  which is specified differently in the two orders: [ $u\text{Person}$ ,  $u\text{Proximate}$ ,  $u\text{Participant}$ ] in the independent and [ $u\text{Person}$ ,  $u\text{Proximate}$ ,  $u\text{Plural}$ ] in the conjunct. This differs from Oxford's (2014a) proposal that the conjunct involves the less articulated probe [ $u\text{Person}$ ,  $u\text{Proximate}$ ].

In the conjunct central agreement,  $\text{Infl}^0$  indexes the subject unless there is a local plural object. When the local object is plural,  $\text{Infl}^0$  agrees with the object in order to satisfy the [ $u\text{Plural}$ ] feature in the probe. Portmanteau agreement is possible in such plural-object forms, as the Contiguous Agree constraint forces  $\text{Infl}^0$  to agree with the subject as well as the object in at least some of the Algonquian languages. In Plains Cree, Massachusetts and Delaware, however, we saw indications that the Contiguous Agree constraint has been relaxed.

In the independent central agreement,  $\text{Infl}^0$  carries the slightly more articulated person probe [ $u\text{Person}$ ,  $u\text{Proximate}$ ,  $u\text{Participant}$ ]. In the local forms, both arguments are an equally good match for this probe and Multiple Agree takes place, but in mixed and non-local forms there is always one argument that is a better match than the other, so no Multiple Agree occurs. The spell-out of the person prefix is conditioned by the relative richness of the person features (second over first over third) while the spell-out of the pluralizer favours first-person plural over second-person plural

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because of the presence of an additional person feature in the representation of first-person plurals.

In summary, the patterning of Algonquian central agreement is determined by both a syntactic  $\text{Infl}^0$  probe and morphological feature competition. In the syntax,  $\text{Infl}^0$  searches for the goal that best matches its features, subject to constraints such as the Activity Condition and Contiguous Agree. At the level of morphology, the structure of  $\varphi$ -features plays a crucial role in conditioning the spell-out of plural features. Thus neither syntax nor morphology alone determines the patterning of Algonquian central agreement; a complete analysis must recognize the contributions of both.

## 5.2 Future research and implications

Two agreement slots were excluded from this study: the “formative”, which combines with the central suffix pluralizers, and the peripheral suffix, which indexes third persons only. Although it is possible to understand much of the patterning of the central agreement without considering these two slots, they are nevertheless vital components of Algonquian agreement and their patterning differs amongst the languages. The integration of the analysis of central agreement proposed in this thesis with the formative and peripheral suffix is an important path for future research.

Another topic that this thesis did not focus on is the pluralization of third persons. Across the ten Algonquian languages surveyed, the third-person plural conjunct form always involves both a third-person central suffix *\*-t* and a separate pluralizer *\*-wâw*. Interestingly, the order of these two elements varies across the languages, as shown in (6). No parallel variation occurs in the independent inflection.

(6) Variations of conjunct 3+3p

a.  $V + -t$  ‘3’ +  $-wâw$  ‘3p’

(PA, Cree, Menominee)

b.  $V + -wâw$  ‘3p’ +  $-t$  ‘3’

(Ojibwe, Kickapoo, Meskwaki, Miami-Illinois, Massachusetts, Delaware, Shawnee)

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The relationship between the *\*-t* and *\*-wâw* suffixes and the source of their ordering variation is worth pursuing, as it will help to clarify the role of third-person plural features in the central agreement.

This thesis has proposed an analysis of the patterning of person and number in Algonquian central agreement. Properties shared between the independent and conjunct, such as the  $2 > 1 > 3$  person hierarchy and the  $1p > 2p$  plural hierarchy, have been mapped to the underlying structure of  $\varphi$ -features, while the differences between the independent and conjunct have been attributed to a syntactic difference in the makeup of the probe and a morphological difference in spell-out rules and post-syntactic operations such as Fission. The primary empirical contribution of this thesis is its pan-Algonquian approach to the patterning of the central agreement, seeking understanding of the variations from diachronic and comparative perspectives. Theoretically, the thesis has demonstrated that there is a subject-object asymmetry in the conjunct central agreement (contrary to Oxford 2014a), that the Activity Condition is a violable constraint rather than an inviolable principle (contrary to Chomsky 2000), and that there is a deep difference in the representation of first-person and non-first-person plurals, the effects of which are evident in both the independent and conjunct agreement.

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