

Menominee Agreement: Two Probes for Two Hierarchies¹

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Abstract

In this paper, I present an agreement mechanism for Menominee. Béjar & Rezac (2009) offer an analysis of Algonquian agreement based on the notion of Cyclic Agree whereby one articulated probe is capable of targeting multiple points on the ϕ -geometry independently. However, Macaulay (2005) has shown that Menominee follows different person hierarchies in different agreement slots. I propose that there are two probes corresponding to person and number features, ultimately selecting two different hierarchies in Menominee agreement system. I further argue that both of the probes only need to license second and first person, but not third person arguments.

1 Introduction

This paper concerns itself with the complex agreement system in Menominee, an Algonquian language. The Algonquian languages are very often cited as ranking 2nd person over 1st. Taking Ojibwe as one of the exemplary languages, Béjar & Rezac (2009) offer a compelling analysis of Algonquian agreement based on the notion of cyclic agree, following this ranking in which 2nd > 1st > 3rd person, where > means ‘outranks.’

In general, this Cyclic Agree system accounts reasonably well for the singular paradigm in Algonquian languages. However, it fails to give a satisfactory record of the plurality agreement. Furthermore, not only does Menominee has multiple instances of ϕ -agreement, but it also has different rankings in person hierarchy for different agreement slots. In particular, while the core agreement and theme sign of Menominee follow the typical 2nd > 1st > 3rd ranking in person hierarchy, the plural suffix selects the 1st > 2nd ranking.

This study aims to present an agreement mechanism for Menominee, and to thereby discuss a system that accounts for number agreement in Algonquian languages in which two distinct hierarchies are active. The claims made in this study can also extend to the analysis of a broader range of languages, shedding light on a broader picture on linguistic typology.

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My analysis proposes that in the Menominee agreement system, there are two probes corresponding to the person and number features, ultimately selecting two different rankings in the person hierarchy. As a result, besides the π probe that Béjar & Rezac has proposed, a new full ϕ probe needs to be introduced in order to capture these additional facts. Furthermore, only Speech Act Participants, which are first and second persons, need to have their features checked by entering into an Agree relation with a probe. Third person, on the other hand, needs not to be licensed.

The paper is structured as follows. In Section 2, a verbal template in Menominee will be briefly introduced. In Section 3, a detailed analysis of the ranking in person hierarchy of the core agreement will be presented. In section 4, the Cyclic Agree mechanism that Béjar & Rezac proposed for the agreement system of Algonquian languages, especially Ojibwe, will be applied to the singular paradigm in Menominee. Section 5 illustrates the plurality agreement system with two argument positions, which are local and non-local. Then, based on some adaptations and developments from the Cyclic Agree system, a new mechanism that can account for both the person and number features in Menominee agreement system will be proposed in section 6. Section 7 will then show how the proposed system can account for both direct and inverse context in the Menominee plural paradigm. Lastly, Section 8 summarizes the main points and concludes the paper.

2 Verbal Template

The agreement patterns in Algonquian languages can be characterized as having multiple arguments competing for the control of one agreement slot. Therefore, the result is sensitive to the values of person features on both the subject and object. In other words, the Algonquian agreement systems are sensitive to person hierarchies in which the controller is given by some ranking of the subject and the object on the basis of their person specifications.

This system also generates two classes of derivations for transitive clauses in Algonquian. Firstly, there is a class corresponding to direct contexts. In this class, the subject controls agreement. On the other hand, there also exists another class in which agreement tracks the object. This class corresponds to inverse contexts.

The traditional Algonquianist analysis² breaks agreement down into three main categories, which are core agreement, theme sign, and plurality agreement.

²Work on Algonquian morphosyntax has involved research by Bruening (2001) on Passamaquoddy, Clarke & MacKenzie (2005) on Innu, Dahlstrom (1991) on Plains Cree, Macaulay (2005) on Menominee, and Valentine (2001) on Ojibwe, among others.

In the independent order³, Menominee verbal morphology obeys the following rough template:

Table 1: The Menominee Verbal Template (Bloomfield 1962)

Morpheme	CORE	ROOT	THEME SIGN	LOC PL	NL PL
Features	[π]		[π]	[π] [#]	[π] [#]
Exponents	1: ne- 2: ke- 3: Ø-	V	DIR.NL: -aw INV.NL: -ekow DIR.LOC: -em INV.LOC: -enenem	1PL: -enaw 2PL: -waw	3PL: -ak

Each template position may only host one affix, and may be empty if no relevant arguments are present. The following example represents all the inflectional slots of the above template:

- (1) ne- tepan -aw -enaw -ak
 1 love DIR.NL 1PL 3PL
 ‘We (exc.) love them.’ (Bloomfield 1962:153)

One of the positions where fusion of two morphemes can be found is the theme sign. The morphemes *-a*, *-eko*, *-e*, and *-enene* appear in the direct non-local, inverse non-local, direct local, and inverse local contexts, respectively. Furthermore, according to Trommer (2006), the morpheme *-w* appears if there is at least one third person argument, and *-m* appears if there is no third person argument.

3 Core Agreement

In a clause where the π specification of the subject is first person, and that of the object is third person, agreement is controlled by the first person argument, as shown in (2) (Bloomfield 1962:152). Meanwhile, as illustrated in (3), when the subject is a 3rd person argument, and the object is a 1st person argument, agreement also tracks 1st person (Bloomfield 1962:154):

³There are two different syntactically-conditioned paradigms in Menominee. The basic one, which is the focus of this paper, is called “independent order,” and is simply the indicative mood. There is also a “conjunct order,” which will not be addressed in the discussion, is most often used in embedded contexts.

(2) **ne-** tepan -aw
1 love DIR.NL
'I love him.'

(3) **ne-** tepan -ekow
1 love INV.NL
'He loves me.'

In (2), when the subject is a first person argument, and the object is a third person argument, agreement tracks the subject. However, in (3), while the subject is third person, and the object is first person, it is the object that controls the agreement. This can be characterized as the person hierarchy effect such that 1st > 3rd person. In other words, because in Menominee, the hierarchy of 1st > 3rd determines the choice of controller in the core agreement, a first person argument will always win over a third person argument. As a result, the agreement morpheme *ne-*, which marks the presence of first person, is selected to appear in this prefix slot.

The direct-inverse alignment system is what distinguishes (2) and (3). While the subject controls agreement in (2), it is the object that is tracked by agreement in (3). Therefore, the morphemes *-aw* corresponding to direct contexts appears in (2). Meanwhile, since (3) corresponds to an inverse context, it is marked with *-ekow*.

Likewise, the ranking 2nd > 3rd is also determined in this slot. As shown in the data taken from Bloomfield (1962:152–154) in (4) and (5) below, when one of the DPs is a second person argument, and the other is a first person argument, the morpheme that surfaces in the prefix core agreement slot is always *ke-*, which marks the presence of second person:

(4) **ke-** tepan -aw
2 love DIR.NL
'You (sg.) love him.'

(5) **ke-** tepan -ekow
2 love INV.NL
'He loves you (sg.).'

This shows that the person hierarchy observed in the core agreement slot is 1st and 2nd > 3rd. The ranking in which first and second persons outrank third person argument found in Menominee reflects the natural classes for person features. According to Harley & Ritter (2002), third person is unmarked. Meanwhile, first and second persons are specified as discourse participants, and thus they are grouped into a natural class of the exclusion of third person.

In order to determine the ranking between first and second persons in person hierarchy, the following Menominee examples, taken from Bloomfield (1962:156), which involve the interaction between the Speech Act Participants will be taken into account:

(6) **ke-** tepan -em
2 love DIR.LOC
'You (sg.) love me.'

(7) **ke-** tepan -enenem
2 love DIR.LOC
'I love you (sg.).'

Whether the second person is the subject, as in (6), or the object, as in (7), *ke-*, which marks the presence of second person will ultimately appear in the prefix position. This

means that for the core agreement, second person is ranked higher than first in the hierarchy. The controller for the Menominee prefix is given by the 2nd > 1st > 3rd person hierarchy. Therefore, for the core agreement slot, the morphological π features reflect the following entailment relations among person features (Harley & Ritter 2002):

- (8) Entailment: [addressee] \subset [participant] \subset [π]

As a result, Menominee differentiates first and second persons by specifying the latter as [addressee] rather than by specifying the former as [speaker]. A bare [participant] is then interpreted as first. Consequently, second person is the most specified, as illustrated in Table 2:

Table 2: Person specifications in the core agreement slot in Menominee

(3)	1	2
($[\pi]$)	$[\pi]$ [participant]	$[\pi]$ [participant] [addressee]

4 Cyclic Agree for the Singular Paradigm

Thus far, the Menominee data appear to fit with the claim that Algonquian languages have a fully articulated probe with the structure [π [participant [addressee]]], which is notated as [*u*-3-1-2]. Béjar & Rezac (2009) offer a compelling analysis for the agreement system of Ojibwe, an Algonquian language that is closely related to Menominee, based on the notion of cyclic agree. They propose an articulated probe capable of targeting multiple points on the ϕ -geometry independently. Their system accounts reasonably well for a subset of the Menominee independent order inflection, namely the core agreement and theme sign.

The following table summarizes the derivations for this paradigm. Instances of Agree are represented by dashes. First- and second-cycle Agree are represented by a dash to the right of the probe and to the left of the probe, respectively. The shaded cells are those having only one Agree step, with the object. The probe has no segments left that can Agree with the subject. Meanwhile, the unshaded cells are those where the characteristic [*u*-3-1-2] probe of Menominee has an active residue after Agree with the object, which will then Agree with the subject on its second cycle.

Instructions to PF for spelling out the prefix can originate either on v_I or on v_{II} depending on whether the probe was deactivated on the first or second cycle. The prefix agreement morpheme's spell-out is *ne-* for [3-1], *ke-* for [3-1-2], and null for [3]:

Table 3: Cyclic Agree for the singular paradigm in Menominee (Béjar & Rezac 2009)

EA → IA	2	1			3					
		EA	AGR	IA	EA	AGR	IA			
2	–	[3]	[u3]	– [3]	[3]	[u3]	– [3]			
		[1]	[u1]	– [1]	[1] –	[u1]				
		[2] –	[u2]		[2] –	[u2]				
		EA	AGR	IA		EA	AGR	IA		
1		[3]	[u3]	– [3]		[3]	[u3]	– [3]		
		[1]	[u1]	– [1]	–	[1] –	[u1]			
			[u2]	– [2]			[u2]			
		EA	AGR	IA	EA	AGR	IA	EA	AGR	IA
3		[3]	[u3]	– [3]	[3]	[u3]	– [3]	[3]	[u3]	– [3]
			[u1]	– [1]	[1]	[u1]	– [1]		[u1]	
			[u2]	– [2]		[u2]			[u2]	

Firstly, in direct contexts, the subject is more highly specified than the object, as shown in (9) below:

(9) **ke- tepan -aw**

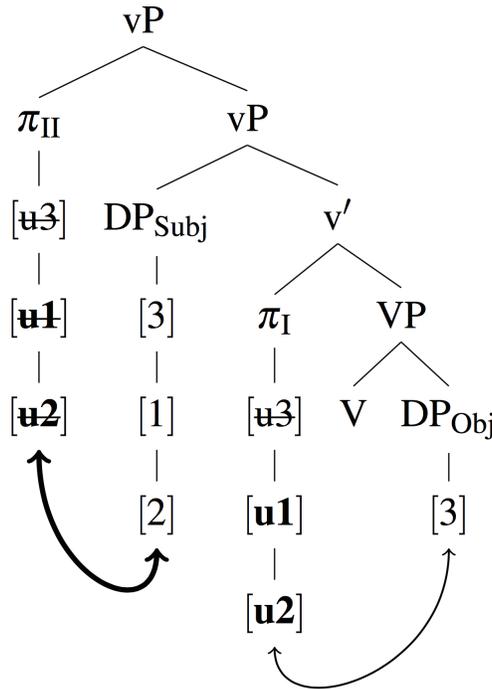
2 love DIR.NL

‘You (sg.) love him.’

(Bloomfield 1962:152)

After the π probe has Agreed as fully as possible with the object, it Agrees for its unchecked segments with the subject. In the first cycle, the Menominee characteristic [u3-u1-u2] π probe will match with the segment [3] in the object. This will leave [u1-u2] as active residue. Then, in the second cycle, the π probe expands its search space upwards. The subject, which is a 2nd person argument, will value the [u1-u2] active residue, and thus it ends up controlling agreement for the core prefix slot, as illustrated in (10) below:

(10) *Cyclic Agree for the Menominee direct contexts*



In this structure, the thin arrow indicates the first-cycle Agree, while the thick one shows the second-cycle Agree for the core agreement.

In direct context, v_{II} is the locus of a probe by virtue of second-cycle agreement. The default *-aw* surfaces whenever v_{II} hosts the core probe, discharged prior to v_{II} itself, leaving a bare head to be spelled out. The theme sign *-em* for the direct local forms falls into the class of portmanteau morphology in [participant] contexts, and thus it will be taken to be allomorphy of the core probe in the context of a [participant] valuation of the same probe on v_I .

On the other hand, in inverse contexts, the object is more highly specified than the subject, as shown in (11) below:

- (11) **ke- tepan -ekow**
 2 love INV.NL
 'He loves you (sg.)' (Bloomfield 1962:152)

In this case, the π probe is fully valued by the object, and thus it is not reaching the subject at all. As a result, for the second cycle, there will be an added probe Agreeing with the subject to avoid Person Licensing Condition, which is stated as follows:

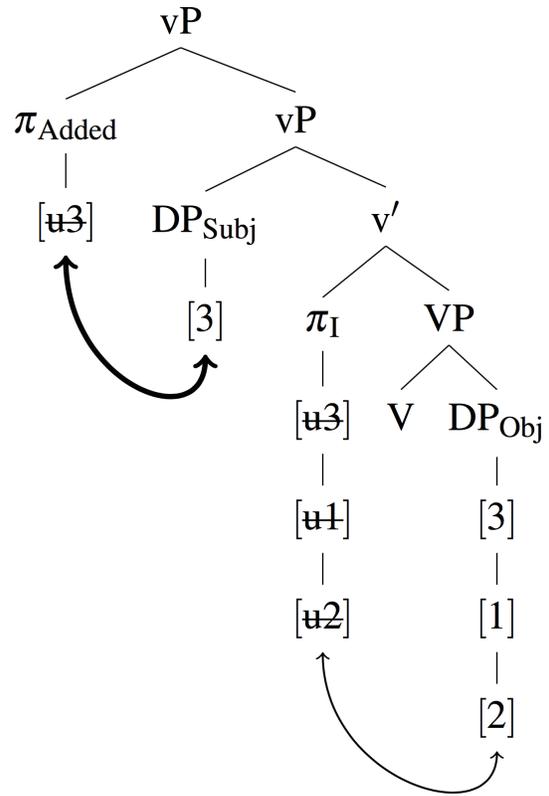
- (12) *Person Licensing Condition*
 A π feature [F] must be licensed by Agree of some segment in a feature structure of which [F] is a subset.

Similar to direct contexts, there are also two cycles in the Cyclic Agree mechanism for inverse contexts. In the first cycle, the second person object matches with the [u3-u2-u1] segments, fully valuing the π probe. Therefore, it ends up controlling the agreement for the core prefix slot.

In the second cycle, as there is no active residue from the first cycle, an undischarged [u-3] probe will be added in order to Agree with the subject, whose person features need to be licensed, as illustrated in (13).

In contrary to the pattern observed in direct contexts, v_{II} hosts the added probe in inverse contexts. The core probe is discharged on v_I . Then, v_{II} is realized as *-ekow* when it has an undischarged [u-3] probe, and as *enenem* when it has an undischarged [u-3-1] probe.

(13) *Cyclic Agree for the Menominee inverse contexts*



5 Plurality Agreement

5.1 Local Plural and Non-Local Plural: Two Agreement Slots

Although this Cyclic Agree system is able to cover the Menominee singular paradigm, it is not clear how it can extend to the analysis of plurality agreement. The following examples illustrate the two types of plurality agreement in Menominee, which are referred as “local,” as shown in (14), and “non-local,” as shown in (15), taken from Bloomfield (1962:152–153):

(14) ne- tepan -aw **-enaw**
 1 love DIR.NL 1PL
 ‘We (exc.) love him.’

(15) ne- tepan -aw **-ak**
 1 love DIR.NL 3PL
 ‘I love them.’

In other words, “local” plurals are the plural arguments of the Speech Act Participants, which are first and second persons. Meanwhile, “non-local” refers to the plural of third person.

Plurality is able to Agree with both the subject and the object independently, suggesting that there are two relevant probes, but sometimes one or both of these probes

will fail to agree. Therefore, there are two plural agreement slots roughly corresponding to agreement for local and non-local arguments, as shown in Bloomfield's (1962) Menominee data (153–154):

(16) ne- tepan -aw **-enaw -ak**
 1 love DIR.NL 1PL 3PL
 'We (exc.) love them.'

(17) ke- tepan -ekow **-waw -ak**
 2 love INV.NL 2PL 3PL
 'They love you (pl).'

As shown in (16) and (17), either a first or a second person plural argument can co-occur with a third person plural argument. This results in an interesting pattern, in which verbs with local and non-local arguments will agree with both.

5.2 Local Plural: First Person Wins

The local plurals include the plural agreement of first and second persons, whose morphemes will only appear if there is a relevant corresponding argument, as illustrated in the following data from Bloomfield (1962:154–156):

(18) ke- tepan -em **-waw**
 2 see DIR.LOC 2PL
 'You (pl.) love me.'

(19) ke- tepan -em **-enaw**
 2 love DIR.LOC 1PL
 'You (sg.) love us (exc).'

When the subject is second person plural, and the object is first person singular, as in (18), the expected second person prefix *ke-*, which marks the presence of second person, and second person plural suffix *-waw* appear. Likewise, when the subject is second person singular, and the object is first person plural, as in (19), the expected prefix *-ke* and suffix *-enaw*, which marks the presence of first person plural, appear.

As noted earlier, each template position may host only one affix. Since there are two candidate controllers, which are 1PL and 2PL, competing for the control of the plural suffix, the local plural agreement shows a more complicated pattern. If both first and second person plural arguments are present in one clause, person hierarchy effect will come into play to determine the local plural agreement morpheme that will appear in this suffix slot, as shown below:

(20) ke- tepan -em **-enaw**
 2 love DIR.LOC 1PL
 'You (pl.) love us (exc).'

(Bloomfield 1962:156)

While Béjar & Rezac (2009) dismiss plurality agreement as being easily accounted for, it seems that this form of agreement does display a complicated dependence on the ϕ features of both the object and the subject. Crucially, when both plural agreements are local, only one plural suffix may occur, and the one which appears is the first person

plural *-enaw*, as in (20). In other words, first person outranks second for purposes of selection of plural suffix. Since local plural preferentially agree with the first person argument, this probe is articulated differently to the core agreement, which follows the $2^{\text{nd}} > 1^{\text{st}} > 3^{\text{rd}}$ person hierarchy.

This means that besides the often-cited $2^{\text{nd}} > 1^{\text{st}}$ ranking, the controllers in the two agreement slots are also given by a $1^{\text{st}} > 2^{\text{nd}}$ hierarchy. In particular, the general pattern observed in Menominee is that while the $2^{\text{nd}} > 1^{\text{st}}$ PH still determines the morpheme that appears in the core prefix slot, it is the $1^{\text{st}} > 2^{\text{nd}}$ ranking that the local plural suffix follows. Then, for the local plural suffix slot, the morphological π features reflect a different entailment, as shown below (Harley & Ritter 2002):

(21) Entailment: [speaker] \subset [participant] \subset [π]

The different entailment relations give rise to an interesting puzzle about person specifications. A contradiction emerges because while the prefix specifies a second person as [addressee], the local plural suffix specifies a first speaker as [speaker], as illustrated below:

(3)	2	1
([π])	[π] [participant]	[π] [participant] [speaker]

Table 4: Person specifications in the local plural agreement suffix slot in Menominee

Therefore, when it comes to the interactions between the Speech Act Participants in Menominee, agreement tracks the second person argument in the core prefix agreement slot, but the first person plural argument in the local plural suffix slot.

6 Proposal

6.1 No Licensing for Third Person

Firstly, the study proposes that third person plural does not need licensing. The plurality agreement without being specified as first or second person will be defaulted as third person plural. In fact, the only arguments that are relevant to both the core prefix and local plural suffix agreement slots are first and second persons.

Crucially, third person argument only controls the prefix agreement when there is neither a first nor a second person argument present in the transitive clause. Moreover, the general picture in Algonquian languages is that whenever the prefix agreement

ends up tracking a third person argument, a null morpheme will appear in this slot. While a second person argument has its presence marks with *ke-*, and a first person argument *ne-*, a third person argument has no specific agreement morphemes to mark its presence. Third person is indeed the least specified in Menominee. Therefore, being specified as [participant] entails being specified as [π]. This requires specifying default interpretations for underspecified representations. In other words, [π] is common to all persons, but a bare [π] feature will be interpreted as third person.

Furthermore, there are two different plural suffix slots corresponding to local and non-local plural arguments in Algonquian languages. Since third person is a non-local argument, its plural marking appears in a different slot than those of the local arguments. In other words, while 3PL has its own non-local plural slot, 1PL and 2PL arguments have to compete for the control of one local plural agreement slot. Third person plural argument, therefore, is not affected by person hierarchy in the plural suffix. There will never be competitions between a third person plural and a first or second person plural argument. As a result, a plural argument that is not 1PL or 2PL will be automatically put into the non-local plural suffix slot.

6.2 A New ϕ Probe

In order to account for the plural agreement system, a new probe, ϕ , needs to be introduced. Unlike the π probe that has been previously introduced by Béjar & Rezac (2009), this probe is fully relativized for both person and number features.

As shown in previous sections, Menominee makes use of two distinct rankings for first and second persons. While the core prefix agreement slot follows a 2nd > 1st ranking, the local plural suffix slot follows a rather opposite ranking in which first person outranks second person. Because the local plural suffix slot follows the 1st > 2nd hierarchy, this π probe will have the structure [u2-u1]. On the other hand, the π probe will have the [u1-u2] structure.

The [u1-u2] π -probe only checks for number features in the object and the subject to determine the agreement morpheme that appears in the core prefix agreement slot. Meanwhile, the [u2-u1] ϕ probe is responsible for licensing both person and number features in the local plural agreement suffix slot.

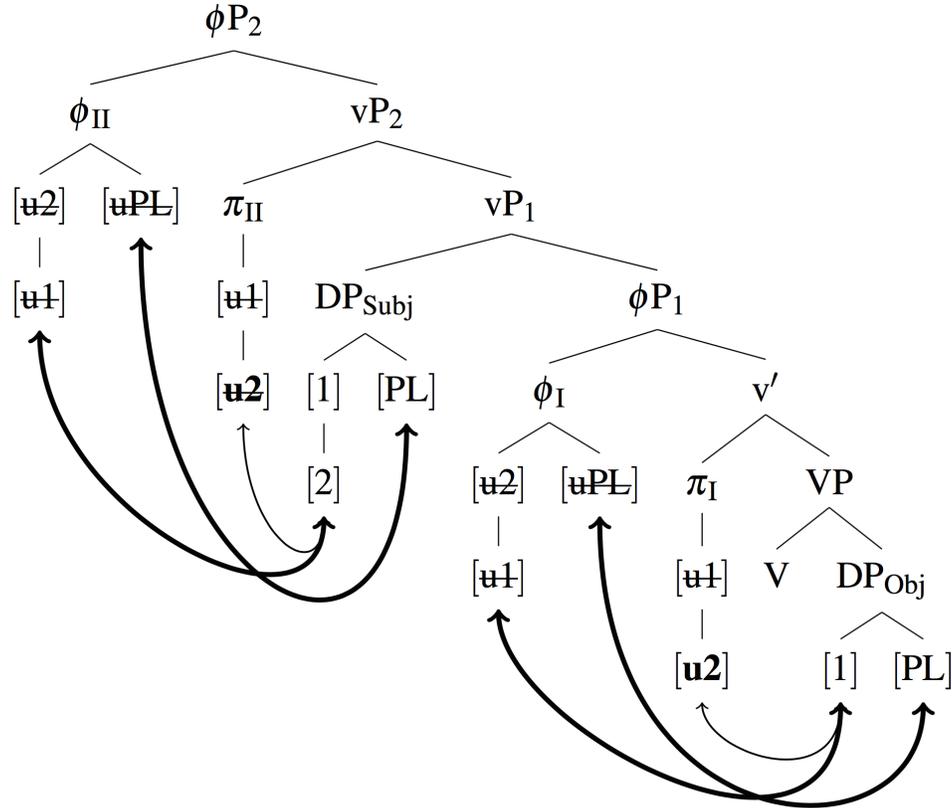
7 Derivations

7.1 Direct Contexts in the Menominee Plural Paradigm

Following the notion of Cyclic Agree mechanism, there are also two cycles of Agree in direct contexts in Menominee in this system. In the first cycle, both the π and ϕ probes Agree as fully as possible with the object. Then, in the second cycle, both

probes expand their search areas upwards to Agree with the subject for their remaining unchecked segments.

- (22) **ke- tepan -em -enaw**
 2 love DIR.LOC 1PL
 ‘You (pl.) love us (exc.).’ (Bloomfield 1962:156)
- (23) *Cyclic Agree for direct contexts for the Menominee plural paradigm*



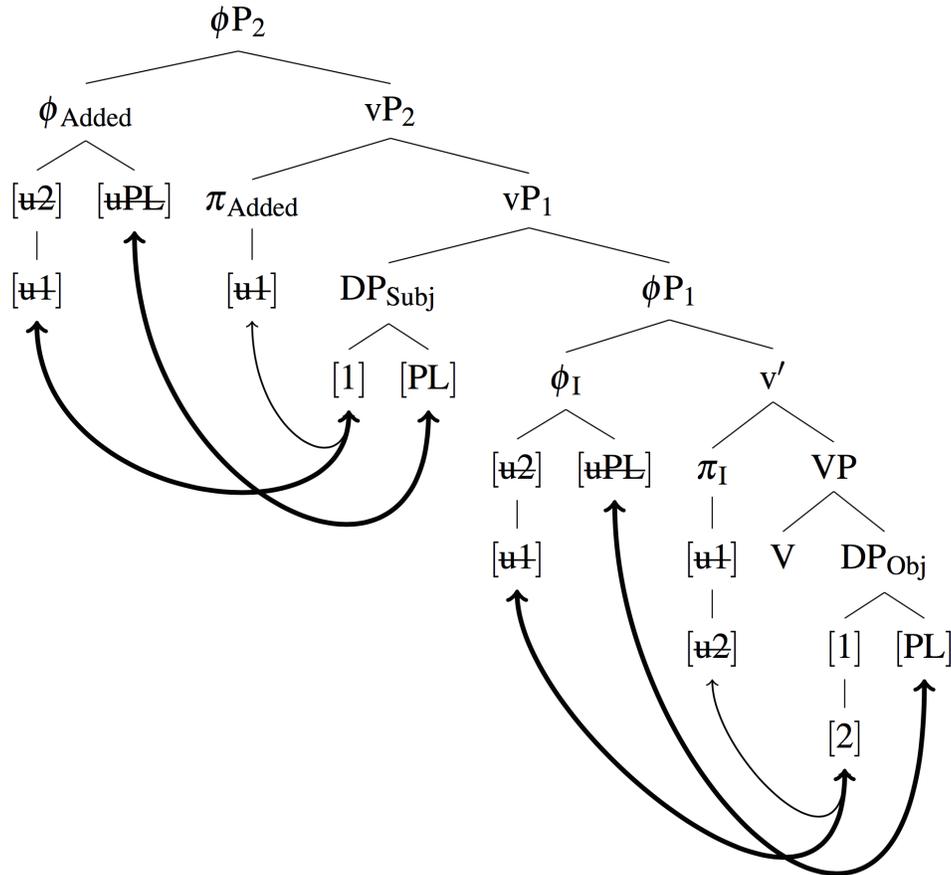
In the structure above, the thin arrows represent instances in which number features in the DP goals are checked against the π probe in both first and second cycles. Meanwhile, the thick arrows represent instances in which the features for the plural suffix are licensed with the ϕ probe in both cycles.

7.2 Inverse Contexts in the Menominee Plural Paradigm

Meanwhile, in inverse contexts, the π and ϕ probes also follow the same Agree mechanism. The only variation in this case is the presence of an added probe, which helps prevent the system from violating the Person Licensing Condition. In the first cycle, both the π and ϕ probes are fully valued by the object. Afterwards, in the second cycle, added probes are added to value the π and # features of the subject, as illustrated in (24) and (25) below:

- (24) **ke- tepan -en -enaw**
 2 love INV.LOC 1PL
 ‘We (exc.) love you (pl.).’ (Bloomfield 1962:156)

(25) *Cyclic Agree for inverse contexts for the Menominee plural paradigm*



8 Conclusion

This study first examines the agreement system in Menominee. In particular, in contrary to the assumption that Algonquian languages consistently follow one person hierarchy in all of the agreement slots, the Menominee data has shown that there are two distinct rankings in this language. In particular, while the controller of the core prefix agreement slot is determined by the 2nd > 1st ranking, the local plural suffix slot takes on the 1st > 2nd hierarchy.

In previous literature, Macaulay (2005) has worked on this phenomena with a broader set of Algonquian languages. However, there have been no accounts proposed for the complex agreement mechanism observed. The Cyclic Agree approach introduced by Béjar & Rezac (2009) explains the syntactic derivations for the prefix and theme sign agreement for the singular paradigm in Ojibwe, which is also an Algonquian language,

reasonably well. However, it fails to extend to both the analyses of the plural paradigm and the different PH effects observed in the agreement system of Menominee.

This paper then proposes a mechanism to account for the complex derivations observed in this language. In particular, one of the proposals is that third person needs not to be licensed. Then, the study argues that instead of having one probe account for a whole agreement system in a language, the number of probes is proposed to be equal to the number of hierarchies existing in the language. This analysis suggests a more flexible solution to the displacement agreement puzzle. This modified Cyclic Agree mechanism could potentially provide insight into related Algonquian languages such as Meswaki, Micmac, and Blackfoot, where more than one active hierarchy is found.

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