

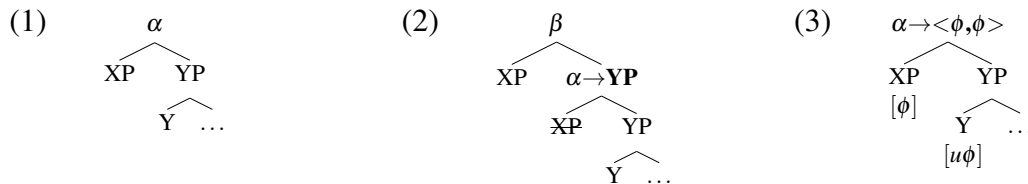
Consequences of labeling for morphophonology*

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1. Introduction

One of the scenarios that Chomsky (2013, 2015) identifies as a Problem of Projection (POP) is when two phrases merge, i.e., $\{XP, YP\}$, since there is no single unique head to determine the label, i.e., α in (1). One possible resolution of this POP is the XP undergoing another instance of Merge (internal merge; IM) which leaves only Y visible to the Labeling Algorithm (LA), thus, YP becomes the label, as in (2). The other possible resolution is labeling via LA if X and Y are “identical in a relevant respect” for instance, if they share some feature, e.g., person (ϕ), as in (3), or question (Q) features.

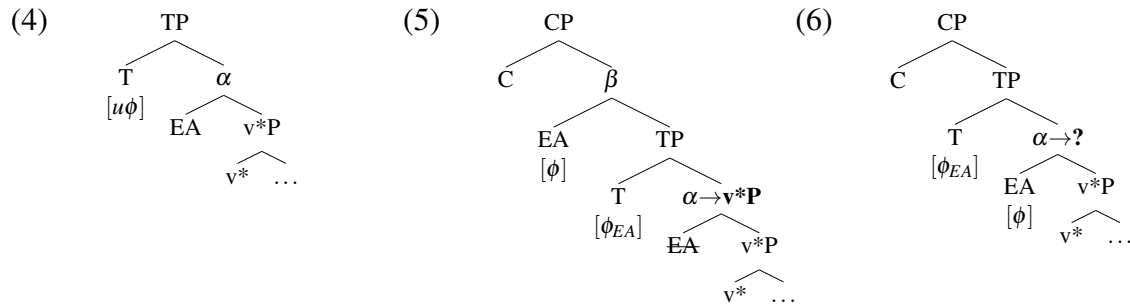


Chomsky (2015) only discusses this latter resolution in situations which involve valuation of one head via Agree with the other, such as in (3) between X with valued ϕ and Y with unvalued ϕ -features. However, it is an open question about what would happen in (3) when there is not a clear $\{\text{valued, unvalued}\}$ relationship between X & Y. Miyagawa et al. (2019) propose that the “shared identity” requirement on labeling via the LA does not always hold. They point to several instances in which the XP is rendered invisible, i.e., via case in Japanese (following Saito 2016), or the XP is featurally deficient in some manner, e.g., English expletive ‘there’ constructions. In our paper we assume that labeling via “shared identity” need not involve valuation.

In addition, Chomsky (2013, 2015) makes a distinction between ‘strong’ & ‘weak’ heads in their ability to project. ‘Weak’ heads cannot project after they Merge (external

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merge; EM), thus, need an argument to help it project, e.g., T in English and Icelandic. ‘Strong’ heads, on the other hand, can project independently after they Merge, e.g., T in Italian & Japanese. There is an interesting interaction between POP resolution and the ‘strong’/‘weak’ nature of heads. Let’s use the {EA,v*P} POP, i.e., α in (4), as a case study. In ‘weak’ T languages with an unvalued ϕ -feature, the EA will necessarily IM with TP in order to allow it to project. This will resolve the {EA,v*P} POP via movement (resulting in a v*P label) and T will (typically) be valued by the EA’s ϕ -features, as shown in (5). In ‘strong’ T languages, on the other hand, T can be valued by the EA’s ϕ -features without movement (since it can independently project), in which case, the {EA,v*P} POP is not resolved via movement, as in (6). This leaves ‘shared identity’ as the only possible resolution. However, features do EA & v*P plausibly share? We assume that the EA & v* can share ϕ -features, e.g., [D] or [participant] following (Harley and Ritter 2002).



In this paper we explore two specific scenarios involving “shared identity” labeling of the {EA,v*P} POP in (6) with transitive clauses in ‘strong’ T languages. In the first scenario, shown in (7) below, EA has a ϕ -feature set but v* has neither valued nor unvalued ϕ -features. We propose that the resulting label for the α is $\langle \phi, \phi \rangle$ (or more specifically $\langle \phi_{EA}, \phi_{\emptyset} \rangle$) by default. We believe that this is the default because there is no other labeling alternative. We exemplify this scenario with the person/politeness verbal prefix in Acehnese (Legate 2012, 2014) in Section 2. We discuss this prefix as being derived via {EA,v*P} labeling, in which v* does not have a ϕ -feature set or probe (compatible with Legate 2014). In the second scenario, v* has a set of valued ϕ -features via a probe-goal Agree configuration with the IA. We propose that the resulting label for the α is also $\langle \phi, \phi \rangle$, (or more specifically $\langle \phi_{EA}, \phi_{IA} \rangle$) as in (8). This results from LA finding the 2 valued but different ϕ -feature sets, i.e., the EA’s and the IA’s via v*. We exemplify the second scenario with Algonquian theme signs in Section 3. We discuss how the one-way interaction of the EA ϕ -features with IA ϕ -features can account for the ‘spell-out of the inverse’ theme sign, which we analyze as an elsewhere form (following Oxford 2017).



2. Acehese person/politeness prefix

Acehnese (Austronesian) is a ‘strong’ T language since it has pro-drop and the EPP is not mandatory (Legate 2012, 2014). Legate (2012) argues that v^* (her Voice) appears with the features of the EA. Acehese has a prefix that indexes the person and politeness of the EA when it is in the active (9) or passive (10) (Legate 2012).¹

- | | |
|--|--|
| (9) Uleue nyan di -kap lôn.
snake DEM 3FAM -bite 1SG
‘The snake bit me.’ | (10) Lôn di -kap lé uleue nyan.
1SG 3FAM -bite LE snake DEM
‘I was bitten by the snake.’ |
|--|--|

(Acehnese; Legate 2012:497)

Legate (2012) argues that this prefix is not a true instance of agreement, but simply the presence of interpretable subject features on v^* which either only restricts the interpretation of the subject (in the passive), or saturates it, as in the active. In support of the argument that only the EA is important to the person/politeness prefix, notice that it can appear on unergative verbs, as in (11), but not accusatives, as in (12).

- | | |
|---|---|
| (11) Lôn lôn -duek ateueh kursi
1SG 1SG -sit above chair
‘I sat on the chair’ | (12) Lôn ka (*lôn)-reubah
1SG PFV (1SG)-fall
‘I fell’ |
|---|---|

(Acehnese; Legate 2014:30)

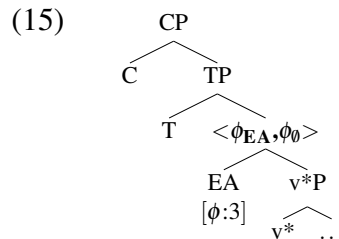
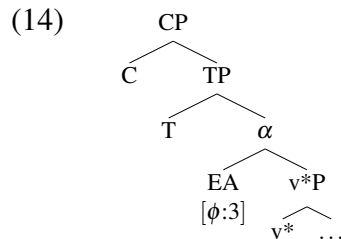
We entertain an alternative proposal which is consistent with Legate’s 2014 analysis of the EA’s ϕ -features interacting with v^* . We propose that it is the direct result of the resolution of the {EA, v^* P} POP configuration via labeling this syntactic object as $\langle \phi, \phi \rangle$. This is why v^* in Acehese has the exceptional ability to display ϕ -features of the EA.

Following Legate, we analyze Acehese as lacking object agreement altogether (Legate 2012:fn.36; 517). We propose that after EM and Feature Inheritance, v^* does not agree with the IA since it does not have a set of unvalued ϕ -features in Acehese. We exemplify this with the 3>1 form from (9) beginning at the v^* P level in (13) below.

- (13)
- $$\begin{array}{c}
 v^*P \\
 \swarrow \quad \searrow \\
 v^* \quad \quad RP \\
 \quad \quad \swarrow \quad \searrow \\
 \quad \quad IA \quad \quad R \\
 \quad \quad [\phi:1]
 \end{array}$$

¹Abbreviations: 1 = 1st person, 2 = second person, 3 = 3rd person proximate (topical), CL = classifier, COMP = complementizer, CONJ = conjunct clauses (roughly embedded clauses), DEM = demonstrative, DIR = direct, ELSE = elsewhere, EP = epenthetic, EXC = exclusive, FAM = familiar, FEM = feminine, IMP = impersonal, INC = inclusive, INV = inverse, LOC = local (forms with only 1st and 2nd persons), MASC = masculine, NEG = negation, NEUT = neuter, OBJ = object, OBV = obviative (non-topical 3rd person), PFV = perfective, PL = plural, POL = polite, REFL = reflexive, SAP = speech act participant, SG = singular, TA = transitive verb with animate subject and animate object.

When the 3rd person subject (EA) EMs with v^*P , a POP is created: $\{EA, v^*P\}$. After C EMs and undergoes Feature Inheritance, T has a set of unvalued ϕ -features. Since Acehnese has ‘strong’ T, T can search and value its ϕ -features via agree without needing the EA to IM. This does not resolve the $\{EA, v^*P\}$ POP, as shown in (14) & (15). LA searches the heads of both the EA and v^*P and does not find a common feature to label. As a default, we propose that LA resolves this POP by labeling it $\langle \phi, \phi \rangle$. In this instance, the ϕ -features of the EA (3rd person) appear on the label and condition the spell out of the person/politeness prefix. However, since v^* does not have a ϕ -feature set at all, its contribution to the label is represented as null ($\langle \phi_{EA}, \phi_{\emptyset} \rangle$).



Before moving on, it is important to discuss why a $\langle \phi, \phi \rangle$ label is the default. First, the presence of both the EA and v^*P make it impossible for either to project by itself. Earlier we discussed instances of the YP being able to project if the XP was either (i) absent (e.g., via movement), (ii) inaccessible (e.g., blocked by case; Japanese), or (iii) featureless (e.g., if the YP has an unvalued feature and can be valued by a lower XP; English). But in this instance, the XP is present, accessible, and has a ϕ -feature set. Although the YP lacks a valued or unvalued set of ϕ -features, there is no reason why it should be ignored for labeling. In fact, we have not seen instances in which a YP can be ‘ignored’ to allow the XP to project. Second, it is unexpected that there is any category feature in common between the D/N head ([+D,-V]) and v^* head ([-D,+V]) (Chomsky 1970). Thus, in order to be labeled, there must be some form of alternate featural content shared between them. This is what we argue makes ϕ -features the default target of the LA, since all ϕ -feature sets have some feature in common, e.g., [D] or [participant] following (Harley and Ritter 2002).

If the EA were to IM before $\{EA, v^*P\}$ labeling, then it would bleed the presence of the EA’s ϕ -feature on the label, thus, the conditioning of the person/politeness prefix. If the EA plays a role in the person/politeness prefix distribution via labeling, then it should not when $\langle \phi, \phi \rangle$ labeling does not occur. This prediction is correct for Acehnese, as shown in (16-17). The 3rd person and politeness prefix (*geu-*) is absent in forms with a *wh*-EA (16), but still present in those with a *wh*-IA (17).²

²Legate (p.c.) notes that while she did not focus on testing the optionality of the person/politeness prefix with her consultants, Asyik (1987) shows that it is optional for some consultants. However, regardless of this optionality, the prefix cannot appear with *wh*-EAs, which is important for our account (also see Asyik 1987:282, although there are some exceptions for verbs with person/politeness enclitics).

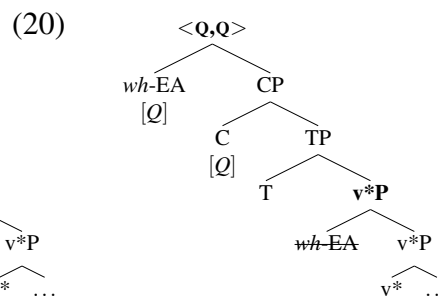
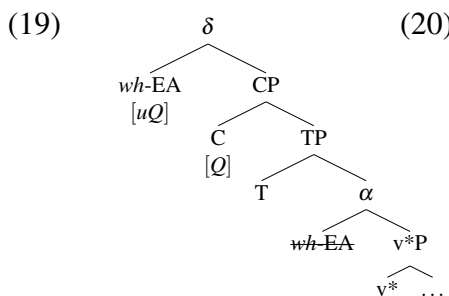
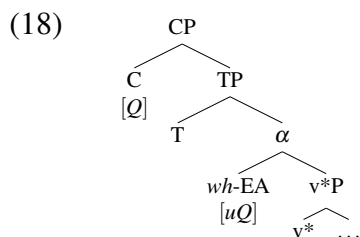
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(16) Soe yang pajôh ungkot
 who COMP eat fish
 ‘Who ate the fish?’

(17) Ibrahim **geu**-pajôh peue
 Ibrahim **3POL**-eat what
 ‘What does Ibrahim eat?’

(Acehnese; Legate 2014:84,153 fn.35)

In a form such as (16), C EMs with a valued Q-feature, as in (18). Before labeling α , the *wh*-EA IMs with CP, creating another POP; the δ {*wh*-EA, CP} POP, as in (19). The LA resolves the δ by labeling it $\langle Q, Q \rangle$ by matching the unvalued Q-feature in the *wh*-EA and the valued Q-feature in C. The IM of the *wh*-EA with CP also resolves the α POP and it is labeled *v**P, as in (20). This means that *v** never has access to the ϕ -features of the EA, and *v** is consequently spelled-out as null.



There are forms in which the prefix is mandatory in Acehnese. In passive forms, such as in (21), the overt subject in the by-phrase is optional, while the person/politeness prefix is mandatory regardless of the presence of the by-phrase (Legate 2012). The forms in (22) show that the prefix is tracking the 1st (22a), 2nd (22b), and 3rd person (22c) EAs and not ‘the child’ IA.

(21) Aneuk miet nyan *(**di-**)kap (lé uleue nyan)
 child small DEM (**3.FAM-**)bite (by snake DEM)
 ‘The child was bitten (by the snake)’

(Acehnese; Legate 2012:517)

- (22)
- a. Aneuk miet nyan **meu**-tingkue lé kamoe
 child small DEM **1.EXC**-carry by 1.EXC
 ‘The child is carried by us’
 - b. Aneuk miet nyan **neu**-tingkue lé droeneuh
 child small DEM **2.POL**-carry by 2.POL
 ‘The child is carried by you’
 - c. Aneuk miet nyan **geu**-tingkue lé gopnyan
 child small DEM **3.POL**-carry by 3.POL
 ‘The child is carried by her/him’

We follow Legate's 2014 analysis in proposing that the ϕ -features of the EA appear on v^* in these passive forms. However, while Legate base generates these features on v^* , we propose that there is an EA argument that EMs with v^* . This argument does not IM higher, thus, leaving the LA to resolve this {EA, v^* P} POP. In the next section, we discuss the second scenario with Algonquian theme signs.

3. Algonquian theme signs

Algonquian languages also typically have a 'strong' T, as they can have null subjects (and objects) and variable word order, thus, do not adhere to the ECP or EPP. For example, the transitive verbs alone in (23) below can be uttered without overt arguments as well formed complete utterances. With transitive verbs that have an animate object, v^* is spelled out as a verbal affix called a theme sign, underlined and bolded in (23). There is a referential distinction between 3rd persons with the one central to the discussion called proximate (represented as 3) and the one less central called obviative (represented as 3OBV).³

- | | | | | |
|------|----|---|----|---|
| (23) | a. | kiwaapamin
ki-waapam- <u>i</u> -n
2-see.TA- <u>1OBJ</u> -SAP
'You see <u>me</u> '
(2> <u>1</u>) | d. | kiwaapamitin
ki-waapam- <u>iti</u> -n
2-see.TA- <u>2OBJ</u> -SAP
'I see <u>you</u> '
(1> <u>2</u>) |
| | b. | kiwaapamaaw
ki-waapam- <u>aa</u> -w
2-see.TA- <u>3OBJ</u> -3
'You see <u>her/him</u> '
(2> <u>3</u>) | e. | kiwaapamikw
ki-waapam- <u>ikw</u>
2-see.TA- <u>ELSE</u> -3
'S/he sees you'
(3>2) |
| | c. | waapameu
waapam- <u>ee</u> -u
see.TA- <u>3OBV</u> -3
'S/he sees <u>her/him(OBV)</u> '
(3> <u>3OBV</u>) | f. | waapamikow
waapam- <u>iko</u> -w
see.TA- <u>ELSE</u> -3
'S/he(OBV) sees her/him'
(3OBV>3) |

(Moose Cree; Ellis 1971:88)

We follow an analysis of theme signs as predominantly object markers (e.g., Rhodes 1994, McGinnis 1999, Brittain 1999), with *-ikw~ikawi* being the elsewhere form (Oxford 2017). This is summarized in (24).

³3rd person obviative is often referred to as 3' or 4th person in Algonquian literature.

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(24) *Moose Cree theme signs (Data: Ellis 1971; Analysis follows Oxford 2019)*

suffix	gloss
<i>-i</i>	1st person object
<i>-iti</i>	2nd person object
<i>-aa</i>	3rd person object
<i>-imaa~ee</i>	3rd obviative object
<i>-ikw~ikawi</i>	elsewhere

A common alternate analysis of the elsewhere morpheme is as the ‘inverse’ morpheme, with the 3rd person object (*-aa*) being considered the ‘direct’ theme sign (e.g., Hockett 1966, Wolfart 1973, Dahlstrom 1991).⁴ For now we will discuss the distribution of these main clause declarative forms (the Independent Order in Algonquian terminology). After we present our analysis, we will expand it to embedded, focus, and interrogative forms (the Conjunct Order in Algonquian terminology).

The table in (25) below shows the distribution of the theme sign.⁵

(25) *Independent Moose Cree theme signs (Data: Ellis 1971; Format: Jacques and Antonov 2014)*

		SAP object		3rd object	
		2	1	3	3OBV
SAP subject	2		<i>-i</i>	<i>-aa</i>	<i>-imaa</i>
	1	<i>-iti</i>		<i>-aa</i>	<i>-imaa</i>
3rd subject	3	<i>-ikw</i>	<i>-ikw</i>		<i>-ee</i>
	3OBV	<i>-ikw</i>	<i>-ikw</i>	<i>-ikw</i>	

In a previous account, Oxford (2019) proposes that it is the interaction of ϕ -features on T (or INFL) and v^* (or Voice) which results in the insertion of the elsewhere morpheme. He proposes that if both T and v^* agree with the object, feature impoverishment occurs on v^* , with the elsewhere is inserted in Vocabulary Insertion (VI). While we ultimately follow Oxford (2019) in positing that elsewhere insertion is the result of the impoverishment, we differ in proposing that the interaction that triggers impoverishment occurs (i) in a much more local manner, i.e., the interaction of subject and object ϕ -feature sets via a single head v^* via the projection $\langle \phi_{EA}, \phi_{IA} \rangle$, and (ii) post-syntactically.

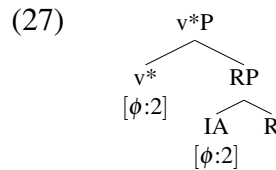
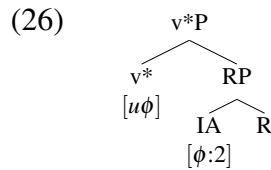
⁴We have added the 3rd obviative object theme sign here which often assumed to be a 3rd proximate object allomorph.

⁵The black cells are reflexive forms which appear with a reflexive morpheme in v^* , such as *-itiso* in (i).

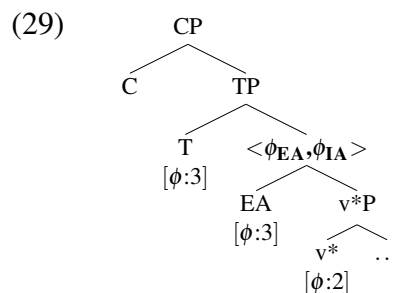
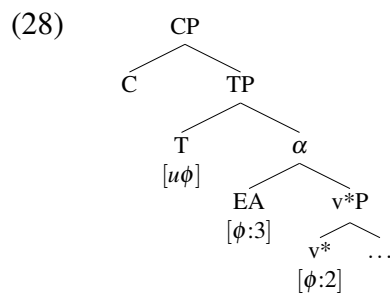
- (i) waapamititsow
 waapam-**itiso**-w
 see.TA-REFL-3
 ‘S/he sees **her/himself**’
 (3>3)

On the syntax side of this proposal, we attribute this interaction to the fact that Algonquian languages have a ‘strong’ T, thus, the subject typically does not IM higher leaving LA as the lone resolution the $\{EA, v^*P\}$ POP. The result is $\langle \phi_{EA}, \phi_{IA} \rangle$ labeling, with the subject’s ϕ -features on the label able to interact with the object’s, already on v^* . This asymmetry between the subject and object offers a straightforward account of why the subject can only interact with v^* , i.e., causing feature impoverishment or triggering allomorphy, but not be spelled out itself. We attribute the $3 > SAP$ alternation as being syntactic in nature and related to the presence or absence of the subject for $\{EA, v^*P\}$ POP resolution; presence feeds the appearance of the elsewhere (via interaction and impoverishment) and absence bleeds it.

Beginning with the main clause declarative $3 > 2$ form as shown in (26,⁶ after EM and Feature Inheritance with R, v^* retains a set of unvalued ϕ -features.⁷ Then, v^* searches and copies the 2nd person ϕ -features from the object (IA). Here we follow the analysis of the theme sign as the spellout of v^* (or Voice) and the verb final as the spellout of R (or v), e.g., Oxford 2014.



When the 3rd person EA EMs with v^*P , a $\{EA, v^*P\}$ POP is created, i.e., α in (28). After C EMs and undergoes Feature Inheritance with T, T has a set of unvalued ϕ -features. Since Algonquian languages have ‘strong’ T, it can search and value its ϕ -features via agree without needing the EA to IM with. This does not resolve the $\{EA, v^*P\}$ POP, as shown in (28). The LA searches the heads of both the EA and v^*P and finds that both have valued ϕ -feature sets; 3rd person and 2nd person (via IA) respectively. As discussed above, we propose that LA resolves this POP by labeling it $\langle \phi_{EA}, \phi_{IA} \rangle$.



Regardless of whether the EA IMs after labeling, the features are present, thus, the label is in essence a snapshot of the derivation at a point in time. This is because a copy of a DP that IMs higher before labeling is not sufficient to trigger a $\langle \phi, \phi \rangle$ label, and the IM of

⁶For simplicity, we ignore the δ POP here, as shown in (26- 27), and label it RP.

⁷Here we assume that v^* both passes a set of unvalued ϕ -features to R and retains a set of unvalued ϕ -features, i.e., SHARE in Ouali’s 2008 terminology.

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a DP to a higher position after labeling does not impact a syntactic object already labeled $\langle \phi, \phi \rangle$.

Similar to our discussion of Acehnese, if it is the case that movement can bleed labeling, then any instance in which the EA IMs before labeling would resolve the POP via movement, without the need for the LA. Although EAs need not IM for the purposes of ('weak') T labeling, *wh*-EAs IM with CP in interrogative clauses. The prediction is that if the EA plays a role theme sign distribution via labeling, then it should not when labeling does not occur. This is correct for Moose Cree and similar set of Algonquian languages, including Plains Cree as shown in 30.⁸ In the 3>SAP forms in (30a) and (31a), the elsewhere theme sign (*-ikw*) appears, however, in the *wh*-3>SAP forms in (30b) and (31b), object-marking theme signs (*-it* for 2nd person and *-i* for 1st person) appear. In fact, all Conjunct Order forms, pattern with interrogatives and include embedded and focus forms as well. We can see this with embedded 3>SAP forms in (30c) and (31c) which appear with object-marking theme signs in the same manner as interrogatives.⁹

- | | | | | |
|------|----|--|----|---|
| (30) | a. | kiwaapamikw
ki-waapam- ikw
2-see.TA- ELSE
'S/he saw you'
(3>2) | b. | awina ewaapamisk
awina e-waapam- is -k
who WH-see.TA- 2OBJ -3
'Who saw you ?'
(<i>wh</i> -3> 2) |
| | | | c. | waapamisk
waapam- is -k
see.TA- 2OBJ -3
'That s/he saw you . . .'
(3> 2) |

(Plains Cree; Blain 1997:44,244)

- | | | | | |
|------|----|---|----|---|
| (31) | a. | niwaapamikw
ni-waapam- ikw
1-see.TA- ELSE
'S/he saw me'
(3>1) | b. | awina ewaapamisk
awina e-waapam- i -t
who WH-see.TA- 1OBJ -3
'Who saw me ?'
(<i>wh</i> -3> 1) |
| | | | c. | waapamikw
waapam- i -t
see.TA- 1OBJ -3
'That s/he saw me '
(3> 1) |

(Plains Cree; Blain 1997:44,244)

⁸Please note that we shift from Moose Cree to Plains Cree due to lack of available Moose Cree data. It is clear from the paradigms in Ellis 1971 what the form would be, which is as seen in Plains Cree in (30b) & (31b), but it is difficult to find published *wh*>SAP forms.

⁹Although Plains Cree has an additional difference between 3<SAP.SG and 3<SAP.PL forms, we stick to the 3<SAP.SG forms to make our point here since they are consistent with what is reported for Moose Cree.

To summarize the difference, (32) shows the distribution of theme signs in the Independent (i.e., predominantly main clauses) again in order to compare with the Conjunct (i.e., embedded, focus, and interrogatives) for Moose Cree in (33). The important difference to note is that while the Independent has the elsewhere *-ikw* theme sign in 3>SAP & 4>3 forms, the Conjunct only has it in 4>3 forms.

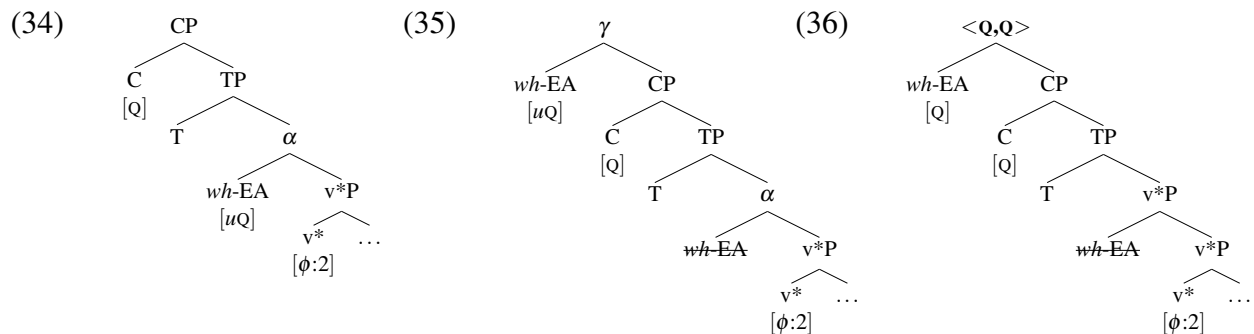
(32) *Independent Moose Cree theme signs (Data: Ellis 1971; Format: Jacques and Antonov 2014)*

		SAP object		3rd object	
		2	1	3	3OBV
SAP subject	2		<i>-i</i>	<i>-aa</i>	<i>-imaa</i>
	1	<i>-iti</i>		<i>-aa</i>	<i>-imaa</i>
3rd subject	3	<i>-ikw</i>	<i>-ikw</i>		<i>-ee</i>
	3OBV	<i>-ikw</i>	<i>-ikw</i>	<i>-ikw</i>	

(33) *Conjunct Moose Cree theme signs (Data: Ellis 1971; Format: Jacques and Antonov 2014)*

		SAP object		3rd object	
		2	1	3	3OBV
SAP subject	2		<i>-i</i>	<i>-aa</i>	<i>-imaa</i>
	1	<i>-iti</i>		<i>-aa</i>	<i>-imaa</i>
3rd subject	3	<i>-iti</i>	<i>-i</i>		<i>-ee</i>
	3OBV	<i>-iti</i>	<i>-i</i>	<i>-ikw</i>	

In interrogative forms such as (30b), we can follow a similar analysis to interrogatives in Acehnese. C EMs with a valued Q-feature, as shown in (34). Before labeling the $\{wh\text{-EA}, v^*P\}$ POP, the *wh*-EA IMs with CP, creating a new hybrid $\{wh\text{-EA}, CP\}$ γ POP in (35). This is ultimately resolved by the LA finding the unvalued Q-feature in the *wh*-EA and valuing it with the valued Q-feature in C; resulting in a $\langle Q, Q \rangle$ label in (36). The IM of the *wh*-EA with CP resolves the α POP and it is labeled v^*P in (36). This means that v^* only has the ϕ -features of the IA (2nd person), thus, leads to a straightforward spell-out of v^* as the 2nd person theme sign (*-it*).



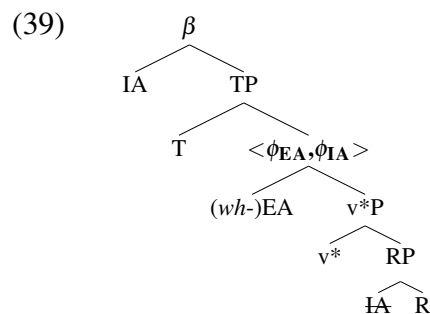
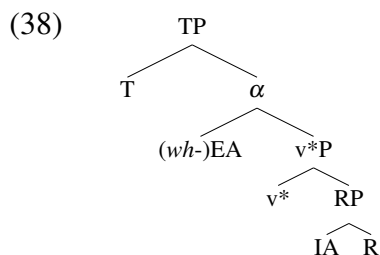
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We assume, following many others before us (e.g., Brittain 2001; Richards 2004; Lochbihler 2012; Bliss 2013; Oxford 2014; Lochbihler and Mathieu 2016) that there is a syntactic difference between the Independent and Conjunct Orders. Therefore in Conjunct forms, in addition to *wh*-EAs, 3rd person EAs must also move before labeling. Oxford (2014) argues that Conjunct T (his Infl) has an unvalued D feature ([uD]) not present in Independent T, that needs to be satisfied. Lochbihler and Mathieu (2016) argue that Conjunct T has a discourse ([δ]) feature (e.g., Miyagawa 2010, 2017) which needs to be satisfied by an unvalued discourse feature ([u δ]), such as [uQ], [uFOCUS], or [uTOPIC]. If we were to assume that proximate 3rd persons have discourse feature, this would explain why 3rd person EAs would move before labeling, similar to *wh*-EAs.

In fact, this would explain the presence of the elsewhere *-ikw* theme sign only in 4>3 forms in the Conjunct, i.e., the highlighted cell in (33) exemplified in (37a) below. Since the proximate 3rd person IA would IM with the TP instead of the obviative 3rd person EA, following Bruening's (2001) 'inverse movement' analysis for Passamaquoddy amongst others. If the IA and not the EA IMs before the resolution of the {EA,v*P} POP, this would result in the EA being present for labeling and a $\langle \phi_{EA}, \phi_{IA} \rangle$, which would allow the EA to trigger the elsewhere allomorph on v*, regardless of whether the EA IMs at a later point in the derivation. This would also explain why *wh*-4>3 forms still have the elsewhere *-ikw* theme sign, as shown in (37b). Although the *wh*-obviative EA will IM with the CP at some point in the derivation, it need not precede labeling of the {*wh*-EA,v*P} POP, particularly if this is preceded by the IM of the proximate 3rd person IA with TP.

- (37) a. eeko Mary kaawaapamikot Johna
 eeko Mary kaa-waapam-**iko**-t John-a
 the very one Mary REL-see-ELSE-3 John-OBV
 'It was Mary that John(OBV) saw'
 (3OBV>3)
- b. awiiniwa eepakamahwikot
 awiini-wa ee-pakamahw-**iko**-t
 who-OBV CONJ-hit-ELSE-3
 'Who(OBV) saw her/him?'
 (*wh*-OBV>3)

(Plains Cree; Blain 1997:43,44)



Thus far, we have seen an alternation in 3>SAP forms in which the 3rd person EA either (i) does not IM higher and its ϕ -features can interact with the IA's ϕ -features via v^* (resulting in the elsewhere theme sign), or (ii) IMs higher (i.e., *wh*-subject) bleeding and interaction with v^* (resulting in an object-marking theme sign). Similar to Acehnese, the implication of this analysis is that movement results in the object-marking theme sign distribution and lack of movement in the elsewhere distribution. If this is on the right track then a 3rd person argument that is not able to be a target of movement should always pattern with the elsewhere theme sign distribution. We find that forms with an impersonal subjects have an elsewhere theme sign distribution, even in forms that would typically result in the object-marking pattern.¹⁰ In 40, the theme sign distribution remains constant across IMP>SAP forms with the elsewhere variant *-ikawi*.

- | | | | | |
|------|----|---|----|--|
| (40) | a. | Niwaapamikawin
Ni-waapam- ikawi -n
1-see.TA- <u>ELSE</u> -SAP
'Someone sees me.' | c. | Waapamikawiyaan
Waapam- ikawi -y-aan
see.TA- <u>ELSE</u> -EP-1
'That someone sees me...' |
| | b. | Kiwaapamikawin
Ki-waapam- ikawi -n
2-see.TA- <u>ELSE</u> -SAP
'Someone sees you.' | d. | Waapamikawiyān
Waapam- ikawi -y-an
see.TA- <u>ELSE</u> -EP-2
'That someone sees you...' |
- (Moose Cree; Ellis 1971:88,90)

We can make sense of this if we assume that impersonal subjects do not IM higher in these instances, thus, they can always condition the spell-out of v^* . Impersonal subjects present a contrast with *wh*-subjects, since the former cannot IM higher and the latter must, which presents a simple explanation for the contrast in their ability to consistently condition, or not, the spell-out of v^* . The resulting hypothesis is that all 3>SAP forms with the elsewhere theme sign involve a 3rd person argument that is labeled in order to resolve the {EA, v^* P} POP, while those with a straightforward object-marking theme sign involve IM of the 3rd person subject before {EA, v^* P} labeling.

4. Conclusion

In both Acehnese and Algonquian, we have argued that the presence of the EA in a {EA, v^* P} POP configuration is directly related to the ability of the EA to influence the spell-out of v^* . If the POP is resolved via IM of the EA with a higher phrase, the EA does not condition the spell out of v^* . This is shown by the absence of the elsewhere theme sign in *wh*-EA>SAP forms in Plains Cree and absence of the person/politeness prefix in *wh*-EA forms in Acehnese. If the POP is not resolved via movement, then the $\langle \phi, \phi \rangle$ labeling of

¹⁰Note that we follow Oxford (2014) in analyzing these forms as impersonals. These Moose Cree forms are listed as having an indefinite subject in Ellis (1971), similar to Wolfart (1973) for Plains Cree. Other names include unspecified actor forms (e.g., Valentine 2001) and passive (e.g., Rhodes 1976 and Dahlstrom 1991).

this POP feed the ability of the EA to condition the spell out of v^* .¹¹ This is shown by the presence of the elsewhere theme sign in all 4>3 and IMP>SAP forms in Moose Cree and the obligatory presence of the person/politeness prefix in passive forms in Acehnese. While labeling accounts for the ability of v^* to have access to the ϕ -features of the EA, further attention is needed on the post-syntactic aspect of this interaction (see Despić and Hamilton 2018 for a brief sketch of this interaction).

References

- Asyik, Abdul Gani. 1987. A Contextual Grammar of Acehnese Sentences. Doctoral dissertation, University of Michigan.
- Baier, Nico. 2017. Antilocality and antiagreement. *Linguistic Inquiry* 48:367–377.
- Blain, Eleanor M. 1997. Wh-constructions in Nehiyawewin (Plains Cree). Doctoral dissertation, University of British Columbia.
- Bliss, Heather Anne. 2013. The Blackfoot configurationality conspiracy: Parallels and differences in clausal and nominal structures. Doctoral dissertation, University of British Columbia.
- Brittain, Julie. 1999. A reanalysis of transitive animate theme signs as object agreement: Evidence from Western Naskapi. In *30th Algonquian Conference*, 34–46.
- Brittain, Julie. 2001. *The morphosyntax of the Algonquian conjunct verb: A minimalist approach*. Routledge.
- Cheng, Lisa Lai-Shen, Christopher Davis, AR Deal, and Youri Zabbal. 2006. Decomposing Bantu relatives. *NELS* 36 197–215.
- Chomsky, Noam. 1970. Remarks on nominalization. Readings in English Transformational grammar, Eds. Roderick A. Jacobs and Peter S. Rosenbaum, 184–221. *Waltham, Mass.: Ginn and company*.
- Chomsky, Noam. 2013. Problems of projection. *Lingua* 130:33–49.
- Chomsky, Noam. 2015. Problems of projection: Extensions. *Structures, strategies and beyond: Studies in honour of Adriana Belletti* 223:1–16.
- Dahlstrom, A. 1991. *Plains Cree morphosyntax*. Garland.
- Despić, Miloje, and Michael David Hamilton. 2018. Syntactic & post-syntactic aspects of algonquian theme signs. In *Proceedings of the 48th North East Linguistic Society*, ed. by S. Hucklebridge & M. Nelson M. Nelson, 207–216. University of Massachusetts GLSA Publications.
- Ellis, C Douglas. 1971. Cree verb paradigms. *International Journal of American Linguistics* 37:76–95.
- Erlewine, Michael Yoshitaka. 2016. Anti-locality and optimality in kaqchikel agent focus. *Natural Language & Linguistic Theory* 34:429–479.

¹¹The Acehnese and Algonquian facts discussed in this paper in many ways resemble anti-agreement phenomena (e.g., Ouhalla 1993, Cheng et al. 2006, Schneider-Zioga 2007, Erlewine 2016, Baier 2017, etc), but we leave investigation of this potential connection to future research.

- Harley, Heidi, and Elizabeth Ritter. 2002. Person and number in pronouns: A feature-geometric analysis. *Language* 78:482–526.
- Hockett, Charles F. 1966. What Algonquian is really like. *International Journal of American Linguistics* 59–73.
- Jacques, Guillaume, and Anton Antonov. 2014. Direct/inverse systems. *Language and Linguistics Compass* 8:301–318.
- Legate, Julie Anne. 2012. Subjects in acehnese and the nature of the passive. *Language* 88:495–525.
- Legate, Julie Anne. 2014. *Voice and v: Lessons from Acehnese*. MIT Press.
- Lochbihler, Bethany. 2012. Aspects of argument licensing. Doctoral dissertation, McGill University.
- Lochbihler, Bethany, and Eric Mathieu. 2016. Clause typing and feature inheritance of discourse features. *Syntax* 19:354–391.
- McGinnis, Martha. 1999. Is there syntactic inversion in Ojibwa. In *Papers from the Workshop on Structure & Constituency in Languages of the Americas*, volume 17, 101–118.
- Miyagawa, Shigeru. 2010. *Why Agree? Why Move?: Unifying Agreement-Based and Discourse Configurational languages*. MIT Press.
- Miyagawa, Shigeru. 2017. *Agreement beyond phi*. MIT Press.
- Miyagawa, Shigeru, Danfeng Wu, and Masatoshi Koizumi. 2019. Inducing and blocking labeling. *Glossa: a journal of general linguistics* 4.
- Ouhalla, Jamal. 1993. Subject-extraction, negation and the antiagreement effect. *Natural Language & Linguistic Theory* 11:477–518.
- Oxford, Will. 2017. Inverse marking as impoverishment. In *Proceedings of the 34th West Coast Conference on Formal Linguistics*, 413–422.
- Oxford, Will. 2019. Inverse marking and multiple agree in Algonquin. *Natural Language & Linguistic Theory* 37:955–996.
- Oxford, William Robert. 2014. Microparameters of agreement: A diachronic perspective on Algonquian verb inflection. Doctoral dissertation, University of Toronto.
- Rhodes, Richard. 1976. The morphosyntax of the central ojibwa verb. Doctoral dissertation, University of Michigan.
- Rhodes, Richard. 1994. Agency, inversion, and thematic alignment in Ojibwe. In *Proceedings of the 20th annual meeting of the Berkeley Linguistics Society*, 431–446.
- Richards, Norvin W. 2004. The Syntax of the Conjunct and Independent Orders in Wampanoag. *International Journal of American Linguistics* 70:327–368.
- Saito, Mamoru. 2016. (A) Case for Labeling: Labeling in Languages without ϕ -feature Agreement. *The Linguistic Review* 33:129–175.
- Schneider-Zioga, Patricia. 2007. Anti-agreement, anti-locality and minimality. the syntax of dislocated subjects. *Natural Language & Linguistic Theory* 25:403–446.
- Valentine, Randy. 2001. *Nishnaabemwin reference grammar*. University of Toronto Press.
- Wolfart, H Christoph. 1973. Plains Cree: A grammatical study. *Transactions of the American Philosophical Society* 63:1–90.

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