Parallels between passive allomorphy and object agreement in Montana Salish*

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Abstract: Many Salish languages have passive constructions with demoted or impersonal agents, but fail to fully promote the object. In place of subject agreement on the verb, there is a demotion suffix which, in many Interior Salish languages, shows allomorphy sensitive to the object. In this paper, I first show morphological evidence to support an asymmetrical distribution of the passive suffixes *-em/-t* in Montana Salish. Then, I outline a post-syntactic account that captures the important generalization that passive allomorphy distribution directly parallels the distribution of objects that have overt agreement on the verb. I show that relatively simple syntactic Agree operations paired with post-syntactic Impoverishment of features accounts for the morphological relationship between objects and passive allomorphy.

Keywords: Agent demotion, passive, object agreement, Distributed Morphology

1 Introduction

A well-known characteristic of Salish languages is that many have an 'agent demotion' (Kroeber 1999) or passive construction. These constructions either have a demoted or impersonal syntactic subject, but the object is not fully promoted to subjecthood. In many Interior Salish languages, the passive suffix, which appears in place of the subject suffix, shows allomorphy sensitive to the patient (Kroeber 1999). In Montana Salish, these constructions have been referred to as 'backgrounded agent constructions' (Everett and Thomason 1993).

In this paper, I show an interesting parallel between this asymmetrical distribution of the passive suffixes *-em/-t* and the distribution of overt object agreement on the verb. While there is a designated object morpheme slot on the verb, only three objects utilize this morpheme slot: 1PL, 2SG, 2PL (henceforth, 1PL/2). These are exactly the objects which trigger the passive allomorph *-t*. In conjunction with other evidence that 1SG does not pattern as a participant in these constructions, I show that post-syntactic Impoverishment of features captures the morphological relationship between 1PL/2 objects and the demotion suffix *-t*. Crucially, I show the reoccurring grouping of 1PL/2 can not cleanly be captured with syntactic mechanisms — post-syntactic (morphological) processes must be at play.

The format of this paper is as follows: In Section 2, I briefly cover the basics of passive in Salish, and show morphological evidence that Montana Salish constructions with *-em/-t* are indeed passive. In Section 3, I walk through the distribution of passive allomorphs, *-em/-t*. In Section 3.1, I pay special attention to the *-t* allomorph, as it has previously been identified as a 1PL ergative marker. I show morphological evidence that this *-t* is simply the passive allomorph and there is a gap in the transitive paradigm for 1PL ergative subjects. In Section 4, I introduce the focal interest of this paper — the parallel between overt object suffixes and passive allomorphy. In Section 5, I outline

my formal proposal for how we can capture these parallel patterns in the syntax and morphology (post-syntactic). I conclude in Section 6.

2   The Salish passive

Before jumping into the main discussion, I will first give a brief overview of the discussion on passive constructions in Salish. The modern Salish *-em* suffix is historically connected to Proto-Salish passive *-m* (Kroeber 1999). Across many Salish languages, the reflexes of this *-m* behave like a passive, by having a demoted or impersonal subject without fully promoting the object. There have been a handful of morphological and syntactic tests proposed in order to verify the status of objects and subjects in these constructions. For example, negated transitive constructions in Halkomelem have overt morphology for both the subject and object, and a negated passive construction shows the failure to promote the object. An expletive third person auxiliary is inserted to take the place of the absent subject in Halkomelem, shown below (Wiltschko 2001).[1]

(1)   éwe   ís   xwemékwathethàlem   (Wiltschko 2001:321, ex 6)
      éwe   í**-s**   xwemékwathe-th-**àl-em**
      NEG   AUX-**3SG.SBJV**   kiss-TRANS-**1SG.PASS-EM**
      'Nobody kissed me.' / 'I wasn't kissed.'

Additional tests have been used to identify passive constructions, including the distribution of determiners used only with transitive subjects (Wiltschko 2001 shows this for *tl'* in Halkomelem), the One Nominal Interpretation (Gerdts 1988), and raising construction restrictions (H. Davis 2018). Unfortunately, for a variety of reasons, these tests will not work for Montana Salish.

First, Montana Salish does not have auxiliaries, which means there is no overt expletive subject agreement to show failure to promote the object. Second, the transitive subject determiner in Montana Salish, the oblique *t*, is used to mark a variety of arguments/adjuncts, not just transitive subjects. In fact, this oblique *t* is still present in passive constructions (see below). Third, the One Nominal Interpretation rule doesn't hold in Montana Salish — if there is one overt argument in a transitive clause, it does not have to be the object. The data needed to discuss syntactic behavior is set aside at present.

How then do we confirm these *-em/-t* constructions in Montana Salish are indeed passive? There is morphological evidence to support this. As mentioned in the above paragraph, overt subjects separate from the verb are obligatorily marked oblique in regular transitive constructions, see (2). In passive constructions with an overt subject, the overt subject is still marked oblique, even though the subject is demoted on the verb, see (3). Relevant agreement suffixes are **bolded**.

(2)   kʷu   kʷ'eʔnt**és**   t   smxe
      kʷu   kʷ'eʔ-nt-**és**   t   smxe
      1SG.OBJ   bite-TRANS-**3SBJV**   OBL   grizzly bear
      'The grizzly bear bit me.' (active; overt subject marked OBL)

(3)   kʷu   kʷ'eʔnt**ém**   t   smxe
        kʷu   kʷ'eʔ-nt-**ém**   t   smxe
        1SG.OBJ   bite-TRANS-**PASS**   OBL   grizzly.bear
        'The grizzly bear bit me.' (passive; overt subject marked OBL)

Additional evidence against full object promotion is found looking at 1SG behavior. 1SG objects are not marked on the verb, but with a preverbal clitic *kʷu*, see (2). As shown in (3), in a passive construction with a 1SG object, the person is still marked with the object clitic *kʷu*. While Montana Salish displays an ergative-absolutive pattern, the 1SG intransitive clitic (*čn*) is different from the 1SG transitive object clitic *kʷu*, so we can clearly see that the patient is remaining an object. The 1SG object is not being promoted in these passive constructions.

A third piece of morphological evidence is found in considering agent ambiguity in these passive constructions. Morphologically, to create a passive, the subject suffix is replaced with *-em/-t*. Below are two (near) minimal pairs. Note that in (2–3), the agent is present externally from the verb and thus remains unambiguous. In (4–5), however, when the agent is demoted with no external agent present, it becomes ambiguous across persons. Agreement suffixes of interest are **bolded** below.

(4)   kʷu   čɫpntés
        kʷu   čɫp-nt-**és**
        1SG.OBJ   hunt-TRANS-**3SBJV**
        'He/they hunted me.' (active)

(5)   kʷu   kʷ'eʔntém
        kʷu   kʷ'eʔ-nt-**ém**
        1SG.OBJ   bite-TRANS-**PASS**
        'He/they/you(SG/PL) bit me.' (passive)

The above examples show this agent ambiguity with the passive suffix *-em*. The same ambiguity arises when the *-t* allomorph is used, shown in (6–7). The parenthetical *qe* in (7) will be discussed in the next section.

(6)   qe   čɫpɫúllt
        qe   čɫp-ɫúl-l-t
        1PL   hunt-TRANS-1PL.OBJ-PASS
        'You(SG/PL)/(s)he/they hunted us.'

(7)   (qe)   čɫpntcít
        (qe)   čɫp-nt-sí-t
        (1PL)   hunt-TRANS-2SG.OBJ-PASS
        '(S)he/they/we hunted you (SG).'

Based off of these morphological patterns, I maintain that these *-em/-t* constructions in Montana Salish are agent demotion constructions — passive, with the understanding that there is not object promotion. In the next section, I identify the distribution of the passive morphemes.

3 The distribution of *-em/-t*

The distribution of the two passive suffixes is shown below in Table 1. One interesting thing to note here is that 1SG subjects cannot be demoted.[2] This important gap in the system will become more relevant in later sections, when I show reoccurring groupings of 1PL/2.

Table 1: Distribution of Passive Suffixes

O → / S ↓	1SG	2SG	3SG	1PL	2PL	3PL
1SG	(RFLX)	∅	∅		∅	∅
2SG	-em	(RFLX)	-em	-t		-em
3SG	-em	-t	-em	-t	-t	-em
1PL		-t	-em	(RFLX)	-t	-em
2PL	-em		-em	-t	(RFLX)	-em
3PL	-em	-t	-em	-t	-t	-em

The distribution of *-t* presented in Table 1 deserves more discussion. Grammatical constructions with a 1PL subject must utilize a passive suffix. 1PL subject is marked with *-em* when the object is third person, and marked with *-t* when the object is second person.[3] There has been debate, summarized below, about the status of 1PL ergative subjects. In Section 3.1, I show support for (i).

(i) There is no 1PL ergative subject suffix, and passive morphology is used instead.

(ii) 1PL ergative subjects have a regular morpheme *-em* or *-t*, and it is simply impossible to morphologically tell apart active and passive forms.

In Section 3.1 below, I argue that all instances of this *-t* are passives in Montana Salish, and there is a gap in the transitive paradigm for 1PL ergative subjects.

3.1 A discussion on *-t*

All evidence I provide here is morphological. First, there are some clear instances of passive *-t* (8–9) because they create agent ambiguity just like with *-em* (10):

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[2] In the literature on Montana Salish, this passive construction has been described mostly using its pragmatic and discourse effects — focusing the discourse on the object (Everett and Thomason 1993). S. Thomason (p.c.) noted a 1SG agent can never be "backgrounded" (demoted), presumably for pragmatic reasons. J. Lyon (p.c.) notes the same restriction in Okanagan. Speakers strongly disprefer 1SG demoted agents, and instead use a 1PL agent.

[3] Brown, Koch, and Wiltschko (2005) looks at this *-t* across four Salish languages — Halkomelem, Thompson River Salish, Shuswap, and Spokane. They propose that *-t* is the regular 1PL subject suffix, and that *-em* is the indefinite agent suffix (passive) used for 1SG and 3rd person objects. They suggest a person hierarchy exists where 1PL > 3 is not allowed and the morphological combination of *-∅-t* must be avoided. Instead, *-em* is employed. They, however, fail to incorporate the other instances of passive *-t* into their analysis, when *-t* appears with second person objects.

(8) qe   čɫpɫúllt
     qe   čɫp-ɫúl-l-t
     1PL   hunt-TRANS-1PL.OBJ-PASS
     'You(SG/PL)/(s)he/they hunted us.'

(9) čɫpntcít
     čɫp-nt-sí-t
     hunt-TRANS-2SG.OBJ-PASS
     '(S)he/they hunted you (SG).'

(10) kʷu   kʷ'eʔntém
      kʷu   kʷ'eʔ-nt-**ém**
      1SG.OBJ   bite-TRANS-**PASS**
      '(S)he/they/you(SG/PL) bit me.'

In 1PL over 2SG/PL constructions with -*t*, the agent is unambiguously 1PL because of the *qe*, see (11). But in fact there might be a bit of optionality of using *qe*, at least with 1PL over 2SG/PL constructions. Examples (12–13) lack *qe*, but were meant for a 1PL agent. Without the *qe*, the constructions become just as ambiguous as other passives. This optionality in the below examples is indicated with parentheses.

(11) qe   čɫpntcít
      qe   čɫp-nt-sí-t
      1PL   hunt-TRANS-2SG.OBJ-PASS
      'We hunted you (SG).'

(12) (qe)   čɫpntcít
      (qe)   čɫp-nt-sí-t
      (1PL)   hunt-TRANS-2SG.OBJ-PASS
      '(S)he/they/we hunted you (SG).'

(13) (qe)   čɫpɫúləmt
      (qe)   čɫp-ɫúl-əm-t
      (1PL)   hunt-TRANS-2PL.OBJ-PASS
      '(S)he/they/we hunted you (PL).'

Additionally, there is evidence of clear passive -*t* with *qe* with 3 over 1PL, see (15).

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[4]

(14) qe čłpntém
      qe čłp-nt-ém
      1PL hunt-TRANS-PASS
      'We hunted him/her/them.'

(15) qe qʷ'óm'łlt
      qe qʷ'óm'-łúl-l-t
      1PL take.PL -TRANS-1PL.OBJ-PASS
      'We were taken (by him/her/them).'

This morphological evidence points towards a gap in the transitive paradigm for 1PL ergative subjects. This gap in transitive paradigms is common across the Interior Salish branch. Lillooet (Northern Interior) is missing all 1PL ergative subjects, and uses passive morphology instead. Okanagan (Southern Interior), Shuswap (Interior), and Thompson (Northern Interior) all ban 1PL ergative subjects with 2SG/PL objects and use passive morphology instead (H. Davis p.c.).

What we see in Montana Salish, then, is consistent with paradigm gaps (or bans) across the Interior branch. There is a gap in the transitive paradigm with missing a 1PL ergative subject, and is circumvented by the use of passive suffixes *-em/-t*. Which passive suffix is used is dependant on the object, shown again below.

Table 2: Distribution of Passive Suffixes

O → / S ↓	1SG	2SG	3SG	1PL	2PL	3PL
1SG	(RFLX)	∅	∅		∅	∅
2SG	-em	(RFLX)	-em	-t		-em
3SG	-em	-t	-em	-t	-t	-em
1PL		-t	-em	(RFLX)	-t	-em
2PL	-em		-em	-t	(RFLX)	-em
3PL	-em	-t	-em	-t	-t	-em

4 The interesting parallel

The goal of this paper is to capture the parallel between passive allomorphy distribution and overt object agreement on the verb. Now that the distribution of passive morphology has been clarified, we turn to object agreement morphology. Table 3 below shows the distribution of object marking on the Montana Salish verb. Crucially, only 1PL, 2SG, and 2PL objects have an overt agreement suffix.[5] Third person objects are null (unmarked), but if plural, the plurality can optionally be marked by prefixed reduplication of the root. First person singular objects are marked as a clitic, *kʷu*.

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[5] 1PL objects are doubly marked with *qe* and *-l*. This is a possible complication, though for now I leave that to future research.

Table 3: Object Agreement on/around Montana Salish Verb

CLITIC	(REDUP-)	VERB ROOT	-TRANS	-OBJ	-SUBJ
1SG.OBJ $k^w u$ 1PL *qe*				1PL *-l* 2SG *-sí* 2PL *-m*	
	(3PL.OBJ *CVC-*)				

Now we see the parallel: *-t* occurs exactly where there is overt object suffix, *-em* occurs exactly where there is a zero/null object suffix. The below itemized facts lay out the foundation for the rest of the paper:

(i) The distribution of passive morpheme *-t* is 1PL/2

(ii) The distribution of overt object suffixes is 1PL/2

(iii) The distribution of passive morpheme *-t* is 1SG/3

(iv) The distribution of objects with null/unmarked object suffixes is 1SG/3

Table 4: Distribution of Passive Suffixes

OBJ SUFF:		-sí		-l	-um	
O → S ↓	1SG	2SG	3SG	1PL	2PL	3PL
1SG	(RFLX)	∅	∅		∅	∅
2SG	-em	(RFLX)	-em	-t		-em
3SG	-em	-t	-em	-t	-t	-em
1PL		-t	-em	(RFLX)	-t	-em
2PL	-em		-em	-t	(RFLX)	-em
3PL	-em	-t	-em	-t	-t	-em

Why do these two have parallel distributions? We know that objects are not fully promoted in passive constructions, yet we see object agreement with Voice. Additionally, this consistent grouping of 1PL/2 is curious. Why is 1PL patterning with second person instead of third person (which is more consistent with family behavior)? Or, why is 1SG not included to have a natural class of participants? There is a growing list of evidence that this group of persons form some natural grouping in the language, excluding 1SG.

(16) Evidence for a natural grouping of participants, excluding 1SG:

1. 1PL/2SG/2PL have overt object suffixes – 1SG objects do not (they have the particle $k^w u$)

2. 1PL/2SG/2PL objects occur with *-t* – 1SG objects do not (they occur with *-em*)

3. 1SG subjects are the only person that can not be demoted

Considering the above observations, we arrive at: formally, how do we get a natural feature grouping of 1PL/2? How do we get 1SG to not pattern with other participants? We now turn to the analysis, but it is important to consider what part of the process can capture this feature class/combination, as both syntactic Agree (probing) and post-syntactic (morphological) Vocabulary Insertion are built on feature combinations/classes, and as we will see 1PL/2 is a difficult feature class to capture.

5 Towards a formal analysis

I assume a Distributed Morphology framework, which postpones much of morphology until after syntax (Embick and Noyer 2007). Vocabulary insertion matches features of abstract morphemes in syntax to their realizations, or vocabulary items. The mechanics of this framework is important because it requires features to play an important role in syntax and after syntax.

5.1 Features

We need to capture the person class of 1PL, 2SG, and 2PL. Since both syntactic Agree and post-syntactic Vocabulary Insertion are built on feature satisfaction and specification, it is important to consider where to capture this person grouping of 1PL/2. I assume a binary feature geometry, that allows us to capture person combinations by referring to feature classes (for example Harley and Ritter 2002).

However, while it may seem intuitive that 1PL and 2nd person form some natural grouping of features, it is not very clean. When trying to capture this grouping of 1PL, 2SG, and 2PL, binary geometries will always either under- or over-generalize:[6]

(17) [+PART] (1PL, 1PL, 2SG, 2PL)

(18) [+PART+PL] (1PL, 2PL)

(19) [+PART+PL][+ADD] (disjunctive and overlapping)

Since both syntactic operations and (post-syntactic) morphological operations are built on feature specifications/mappings, we have to restrict the feature class somewhere in the process. If we tried to restrict the feature class in syntax, it would result in disjunctive person features that overlap

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[6] An obvious possible feature solution is to assume that 1PL is an inclusive 'we', in which case there is a natural grouping that encompasses all three persons, [+ADD] (Addressee). However, there is not an inclusive/exclusive morphological distinction in the language, and I have not seen evidence for a purely inclusive 'we' system. There is some weight to this direction, from Shuswap (another Salish language) that does have an inclusive 'we', but at this point, I do not have the evidence to continue in that direction.

. A disjunctive probe here would be divided into [person and number] and [more specific person].[7] Where then can we restrict features in order to get the right person distribution of object suffixes and the demotion suffix *-t*? In the next section, I argue for post-syntactic restriction of features with the morphological process Impoverishment.

## 5.2 Post-syntactic restriction of features: Impoverishment

A Distributed Morphology framework assumes the syntactic structure goes through post-syntactic operations like Impoverishment and then to Vocabulary Insertion where features are mapped to phonological realizations (the actual morphemes). Impoverishment has been used in order to account for phenomena like suppletive allomorphy.

> "When Impoverishment occurs, a feature of a morpheme is deleted in a specific context; after deletion, the morpheme in question escapes the insertion of any vocabulary item requiring that feature. **The effects of Impoverishment are usually seen when in some particular circumstance a category fails to exhibit the expected exponent but instead exhibits a default exponent.**" (Embick and Noyer 2007:311, bolded added).

Seeing 1SG objects pattern with the *-em* is an example of Impoverishment. All other participants pattern with the *-t* suffix. 1SG objects are impoverished post-syntactically so they no longer can pair with the participant grouping.

Before Impoverishment, however, is syntax. As demonstrated in the below syntactic tree, I assume object agreement is situated in little-*v*, and the syntactic subject sits in the specifier of little-*v*. I propose that there is an agreement probe on little-*v* which, in passive constructions, moves the object to the specifier of little-*v*. This agreement and movement will only occur with the objects that satisfy the probe — that is, with objects that are participants. This overspecification to participation is necessary because, as explained above, there is no clean way to specify the exact person combination that we want. I reserve correction of this overspecification to post-syntactic mechanisms.

(20)

VoiceP

Voice'

Voice   *v*P

v'

$v_{\phi[\text{PART}\text{---}]}$ VP

V   DP

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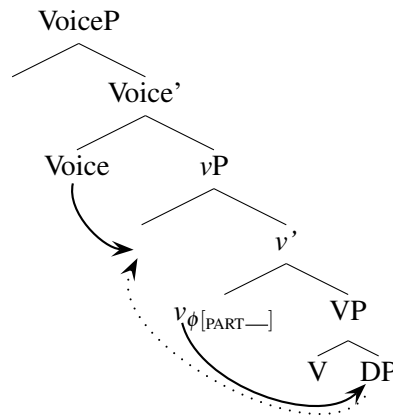
[7] If we tried to restrict the features at Vocabulary Insertion, we run into the above problem of not being able to match the person grouping perfectly without either over-/undergeneralizing or creating problems with the Subset Principle (Embick and Noyer 2007).

-t ↔ [+PART+PL] [ADD]

-em ↔ elsewhere

In regular transitive constructions, the Voice head will agree with the subject. In passive constructions (23), since the subject is demoted, the Voice head continues to try and agree with local arguments. Since only objects which satisfy the [PART__] probe are raised, Voice will only agree with those raised objects. When Voice does not agree with an object, the default/elsewhere vocabulary item is inserted.

Post-syntactically, we need to restrict features on Voice in order to get the correct vocabulary item for *-t*. In other words, we need to restrict the distribution of *-t* to exclude 1SG objects. Assuming a Distributed Morphology framework, we can do that with an Impoverishment rule that states the feature [SP] collected by probes [PART+SPEAKER], is deleted in the context of [+SG].

(21) [PART+SPEAKER] $\rightarrow$ $\emptyset$ / ___ [+SG]

This allows the syntactic Agree operations to be relatively simple (instead of trying to capture the agreement patterns with disjunctive or overlapping features on probes).[8] When [PART+SPEAKER] is impoverished, the feature set can no longer pair with [+PART] at vocabulary insertion. This means it cannot be mapped to *-t*, and the elsewhere suffix *-em* is inserted instead, which is what we see in the data with *-em* appearing with 1SG objects.

(22) Vocabulary items:
      -t $\leftrightarrow$ [+PART]
      -em $\leftrightarrow$ elsewhere
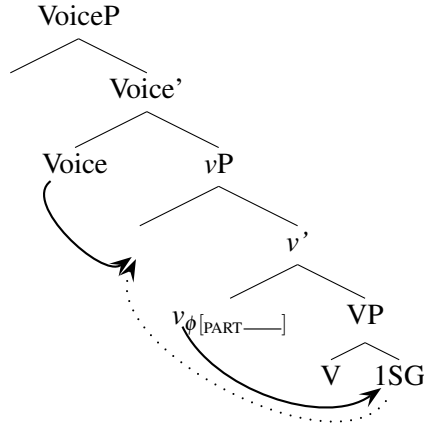
5.3 Putting it all together

First, consider a passive construction with a 1SG object, in (23). The syntactic tree in (27) shows the process. The object satisfies the agreement probe on little-*v*, and the object moves to the specifier of little-*v*. There, the agreement probe on Voice can view and agree with the raised object. Post-syntactically, then, the features collected by Voice will go through Impoverishment: [PART+SPEAKER] $\rightarrow$ $\emptyset$ / ___ [+SG].[9] Consequently, the vocabulary item for Voice passive specified for participants will not be inserted, and the default *-em* appears instead.

(23) kʷu   kʷ'eʔntém
      kʷu   kʷ'eʔ-nt-**ém**
      1SG.OBJ bite-TRANS-**PASS**
      '(S)he/they/you(SG/PL) bit me.' (demoted)

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[8] Restricting features in syntax requires the use of a disjunctive Agreement probe with overlapping features, something like: [+PART +PL] [+ADDRESSEE]. It is not clean, or very informative why a disjunctive probe would split person (most proposed disjunctive probes are split between person and number (Coon & Bale 2014; Despić et al. 2018)).

[9] Features collected by little-*v* might also go through this impoverishment, resulting in a null/zero object suffix for 1SG objects, though this needs more development.
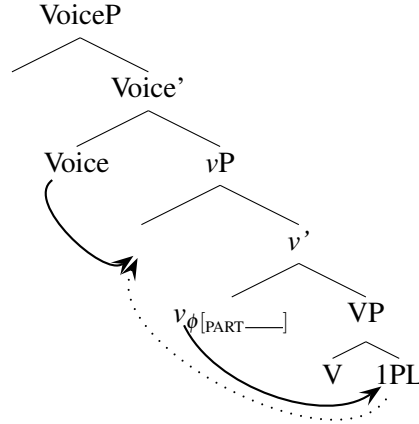
(24)

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                    VoiceP
                   /    \
                      Voice'
                     /    \
                  Voice    vP
                    |     /  \
                    |        v'
                    |       /  \
                    v_φ[PART__]  VP
                              /  \
                             V   1SG
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Next, consider a passive construction with a 1PL object, in (25). The syntactic tree in (29) shows the process. The object satisfies the agreement probe on little-*v*, and the object moves to the specifier of little-*v*. There, the agreement probe on Voice can view and agree with the raised objects. Post-syntactically, the features collected by Voice will not be affected by Impoverishment. Therefore, the vocabulary item for Voice passive specified for participants will be inserted, and the allomorph -*t* appears.

(25) qe   čłpłúllt
      qe   čłp-łúl-l-t
      1PL   hunt-TRANS-1PL.OBJ-PASS
      'You(SG/PL)/(s)he/they hunted us.'

(26)

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                    VoiceP
                   /    \
                      Voice'
                     /    \
                  Voice    vP
                    |     /  \
                    |        v'
                    |       /  \
                    v_φ[PART__]  VP
                              /  \
                             V   1PL
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6   Conclusion

The main generalization noted in this paper is that passive allomorphy distribution parallels the distribution of objects that have overt (suffix) agreement on the verb. This parallel is one example of 1PL/2 forming a natural feature grouping in the language. Formally, however, this feature combination cannot easily be captured, lending support for Impoverishment. Future research should note the behaviors of these morphemes across the Interior branch more thoroughly. Such investigations

could reveal further evidence for 1SG Impoverishment both in Montana Salish and other Salish languages.

More importantly, I hope that this investigation informs further inquiries that reveal more patterns, restrictions, etc., in the morphology that inform similarities and differences across the language family.

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