

On certain unexpected gaps in transitive paradigms and their implication*

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In some Salish languages, certain logically possible combinations of persons in transitive clauses are ungrammatical. For example, Halkomelem disallows the co-occurrence of 3rd subject and 2nd object morphology. While previous accounts have attributed these gaps to the person hierarchy (c.f. Aissen 1999), we show that some of these gaps are opposite of what the person hierarchy would predict and thus require a different analysis. In Ntəʔkepmxcin, for example, clauses with 1pl subject and 3rd object morphology are ungrammatical. We show that it is the co-occurrence of two agreement suffixes in the same structural position that gives rise to person-based gaps. When subject agreement is in a different structural position as object agreement, no person-based gaps are attested. Thus, in Lushootseed, a language with only subject clitics, there are no constraints on person combinations.

1 The problem: unexpected gaps in transitive paradigms

It is commonly assumed that there is a markedness relation between person rankings and the realization of grammatical relations (cf. Silverstein, 1976; Dixon, 1979): the higher a person is on the person hierarchy, the more likely it is that this person will function as a transitive agent:

- (1) Person hierarchy (à la Silverstein 1976 and Dixon 1979)
1st > 2nd > 3rd Pronoun > Proper Noun > Human > Animate > Inanimate

←
likelihood of functioning as transitive agents

It has been argued that this markedness relation due to the Person hierarchy can capture certain gaps in the transitive paradigm found in Coast Salish languages (Jelinek & Demers 1983, Aissen 1999). For example, in Lummi sentences with *3/2 and *3/1 are ungrammatical:

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- (2) a. * $\text{x}\check{\text{c}}\text{i-t-o}\eta\text{\ae s-s}$ *Lummi*
 know-trans-1sg.o-3s
 "He knows me."
- b. * $\text{x}\check{\text{c}}\text{i-t-o}\eta\text{\ae s-s}$
 know-trans-2sg.o-3s
 "He knows you." Jelinek and Demers 1983:168

According to a person hierarchy account, a 3rd person subject is less likely to be a transitive agent than the 1st or 2nd person. Accordingly the sentences in (2) are ruled out.

In this paper we will challenge this analysis in terms of a person hierarchy in view of several gaps attested in Interior Salish languages which do not fall out from a person hierarchy account. For example, in N $\text{\text{t}\text{e}\text{?}\text{k}\text{e}\text{p}\text{m}\text{x}\text{c}\text{i}\text{n}}$, sentences with 1st plural subject and 3rd person object agreement are ungrammatical (we refer to this as *1pl/3).

- (3) * $\text{k}\text{\ae n-t-}\emptyset\text{-}\text{e}\text{\text{t}}$ *N $\text{\text{t}\text{e}\text{?}\text{k}\text{e}\text{p}\text{m}\text{x}\text{c}\text{i}\text{n}}$ ¹*
 help-trans-3o-1plTS
 intended: "We helped him/her/it."

The existence of this gap is completely unexpected under a person hierarchy account *à la* Silverstein 1976 because the argument realized as the transitive agent is in fact higher on the person hierarchy than the argument realized as the object of the clause.

In light of the gap illustrated in (3), we are faced with a number of related questions which we will address in the present paper:

- i) If it is not the person hierarchy, then what is responsible for the gap in the transitive paradigm of N $\text{\text{t}\text{e}\text{?}\text{k}\text{e}\text{p}\text{m}\text{x}\text{c}\text{i}\text{n}}$?
- ii) If the person hierarchy does not (need to) constrain the gaps found in transitive paradigms cross-linguistically, does this mean that it is completely arbitrary what types of gaps we find?
- iii) If the person hierarchy does not constrain all gaps found in transitive paradigms, does this imply that it does not constrain any gaps?

The paper is structured as follows. In section 2, we will introduce and motivate a morpho-syntactic proposal. In section 3, we will analyze gaps found in the Interior Salish languages, which violate a person hierarchy based approach. In section 4, we will extend the analysis to the gaps found in the Coast Salish languages which have previously received an account in terms of the

¹ See appendix for keys to orthography and gloss in N $\text{\text{t}\text{e}\text{?}\text{k}\text{e}\text{p}\text{m}\text{x}\text{c}\text{i}\text{n}}$.

person hierarchy. We will argue that even in the cases which seem to be predicted by the person hierarchy account, a purely morpho-syntactic account without reference to the person hierarchy fares better. In section 5, we show that according to our analysis there is a principled reason that yet another Salish language (Lushootseed) does not show any gaps. In section 6, we conclude.

2 Towards a morpho-syntactic account for the gaps in the transitive paradigm

2.1 The proposal

Following Brown et al. (2003), Wiltschko (2003), and Wiltschko and Burton (2004) we argue that the gaps in the transitive paradigm are purely morpho-syntactic in nature. In particular, we argue that we are dealing with a co-occurrence restriction on two agreement morphemes that compete for the same syntactic position. In particular, we assume that (certain) subject agreement endings occur in the same syntactic position as object agreement endings. We assume that this position is v , a head which selects for VP and which is generally assumed to be responsible for introducing the transitive agent (i.e. the external argument) while at the same time assigning accusative case to the object (Chomsky 1995). For those transitive combinations which are possible, we propose that we are dealing with a (lexicalized) portmanteau morpheme which simultaneously encodes agreement with a transitive subject and object.

There are two crucial predictions this analysis makes. First we expect gaps in transitive paradigms to be partly arbitrary (given that we are dealing with portmanteau morphemes). Second, we predict that the arbitrariness in the attested gaps is not completely arbitrary but syntactically constrained. In particular, we expect to find gaps only with agreement endings that compete for the same position; similarly, we also expect to find portmanteau morphemes only with agreement endings that occur in the same position (see also Bobaljik and Branigan 2002).

In this paper, we show that all of these predictions are indeed borne out and that a morpho-syntactic account without reference to the person hierarchy can successfully account for the gaps (and the absence thereof) in the Salish languages under consideration.

To summarize, we propose the following answers to the three questions asked in section 1:

- i) The gap in the transitive paradigm of Nt̥eʔkepmxcin results from the fact that the 1pl subject agreement morpheme occupies the same position as 3rd person object agreement. Attested subject-object combinations are lexicalized portmanteau morphemes.
- ii) The range of expected gaps is restricted to agreement endings which occur in the same syntactic position and thus not completely arbitrary.

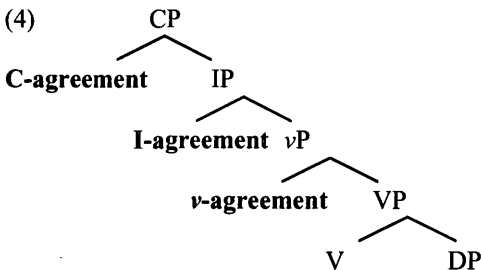
However, within the range of these endings it is indeed arbitrary which of the combinations gets lexicalized to a portmanteau morpheme.²

- iii) We further argue that all gaps in transitive paradigms can be analyzed without reference to a person hierarchy. In particular, our analysis predicts that the types of possible gaps we expect is restricted by the morpho-syntax of the agreement endings involved.

Before we analyze the attested gaps, we will briefly introduce our assumptions regarding the distribution of agreement endings in Salish.

2.2 Background assumptions: the distribution of subject agreement

Before we start analyzing the data, we have to briefly discuss our assumptions regarding the morpho-syntax of agreement endings. With respect to subject agreement, we depart from the standard (generative) assumption according to which all subject agreement is tied to the functional category INFL(ection). Rather, following Davis (2000), we assume that subject agreement is distributed across the functional projection of the clause. In particular, we assume that it can occur in at least three different functional positions: C(complementizer), INFL, and *v* as in (4) (Déchaine 2000, Wiltschko to appear).



As discussed in detail in Davis (2000), Salish languages provide striking evidence for the existence of different positions for subject agreement. In particular, Davis argues that subject agreement which is sometimes labeled as “ergative” agreement (since it is restricted to transitive subjects) or “subject suffixes” is low agreement (our *v*-agreement). On the other hand, both subjunctive³ agreement as well as so called indicative matrix subject agreement

² There might be historical reasons for this having to do with the fact that there used to be two object agreement endings available in Proto-Salish (Newman 1980). However, such a historical analysis goes beyond the scope of the present paper.

³ This is called “conjunctive” agreement in Interior Salish languages like Nt̄eʔkepmxcin, to avoid confusion with “subject” in glosses (see Thompson and Thompson 1992, Kroeber 1999).

- (7) a. máy-t-tsel *Upriver Halkomelem*
 help-trans-1sg.s
 “I help him.”
- b. li-tsel máy-t
 aux-1sg.s help-trans
 “I helped him.”
- c. li-chexw máy-t
 aux-2sg.s help-trans
 “You helped him.”

We further assume that object agreement is also associated with *v* (see Wiltschko and Burton 2004, Wiltschko to appear, for some evidence to this effect).

Together, these assumptions predict that morphological gaps can only arise with subject agreement which is associated with *v*. In what follows we will show that this prediction is indeed borne out.

3 Interior Salish

In Interior Salish, transitive subject suffixes are attested for all persons – 1st, 2nd, and 3rd. All three are a form of low agreement, since they are always suffixed to the verb. Intransitive subjects, on the other hand, are always clitics. As shown for Halkomelem in section 2, the position of these clitics in Nt̥eʔkepmxcin (Northern Interior) is variable relative to the verb, but fixed relative to the clause – they are second position elements, enclitics to the first word.

If transitive subject and object agreement are in the same syntactic position, then we predict that Interior Salish languages will potentially show person gaps involving all three subject persons: crucially, we expect to find gaps with 1st or 2nd person subjects, a finding that would run counter to the predictions of a person hierarchy. Indeed this is the case. We discuss just one of these restrictions here. A *1pl/3 restriction on agreement suffixes is attested in Nt̥eʔkepmxcin (Thompson River Salish), Shuswap and Spokane, though the languages all differ slightly in how they ‘fix’ this restriction.⁶

⁶ We also find restrictions on 2nd person subjects in these languages (*2sg/1pl in Thompson, *2/1pl in Shuswap and Spokane) and a restriction on all subject suffixes with 1sg object in Spokane (instead, 1sg object is marked with a proclitic, while verbs are marked for 3rd person object). See Carlson (1972), Gibson (1973) and Thompson and Thompson (1992) for further details.

First we show that transitive subject agreement in Ntɛʔkepmxcin is indeed suffixal, while intransitive subject clitics⁷ are just that: clitics. Then we examine the particular nature of the *1pl/3 restriction in each language.

3.1 Ntɛʔkepmxcin suffixes and clitics

In Ntɛʔkepmxcin, intransitive subjects in indicative clauses are marked by enclitics. 3rd person is null.

(8) Intransitive subject clitics in Ntɛʔkepmxcin

person	singular	plural
1 st	kn	kt
2 nd	k ^w	kp
3 rd	∅	∅

(adapted from Thompson & Thompson 1992:61)

These subject clitics always encliticize to the first element in a clause. This may be the verb, but can also be an auxiliary in initial position. Thus, these are indeed mobile clitics, not verb suffixes. The examples below show 1sg (9) and 1pl clitics (10).

- (9) a. cwúm-kn xéʔə † spiʔxáwt⁸
work-1sg dem det day
“I worked yesterday.”
- b. x^wúy-kn xeʔ cwúm tk spiʔxáwt
FUT-1sg dem work obl.irl day
“I’m gonna’ work tomorrow.”
- (10) a. (†əʔ)-†aʔxáns-kt xéʔə nmím† nwén⁹
(red)-eat-1pl dem 1plemph already
“We already ate.”
- b. nwén-kn xéʔ (†əʔ)-†aʔxáns
already-1pl dem (red)-eat
“We already ate.”

In transitive clauses, on the other hand, subject agreement is realized as a suffix to the verb. 3rd person subject agreement *-es* does not distinguish singular and plural (Thompson & Thompson 1992 refer to it as ‘GENERAL’).⁹

⁷ We restrict our discussion to indicative intransitive clauses.

⁸ The ‘demonstrative’ *xéʔə* is present in almost every clause elicited from the consultant, without having any apparent effect on the meaning of the sentence. This appears to be very common for speakers of Ntɛʔkepmxcin (Kroeber, p.c.). *xéʔə* behaves as a 2nd position particle in these instances.

(11) Transitive subject suffixes in Ntɛʔkepmxcin¹⁰

person	singular	plural
1 st	-en	-et
2 nd	-ex ^w	-ep
3 rd	-es	-es

(adapted from Thompson & Thompson 1992:58)

Object agreement is also suffixal. 3rd person is null.

(12) Transitive object suffixes in Ntɛʔkepmxcin

person	singular	plural
1 st	-sem, -sey	-ey
2 nd	-si	-uym
3 rd	∅	∅

(adapted from Thompson & Thompson 1992:58)

What Thompson and Thompson call indefinite (idf) or impersonal subjects can also be marked as a suffix. This construction has often been called a “passive” in Salishan, but does not behave like the English passive. The basic suffix form for impersonal subjects seems to be *-m*, though this varies with *-t* in combination with some objects. Thompson and Thompson (1992) provide the following paradigm:

(13) Transitive object with indefinite subject in Ntɛʔkepmxcin

person	singular	plural
1 st	-sey-me	-ey-et
2 nd	-si-et	-uym-et
3 rd	∅-em	∅-em

(adapted from Thompson & Thompson 1992:58)

These transitive subject and object suffixes always remain suffixed to the verb, whether or not the verb is in initial position (for example, when an auxiliary is present in the clause). Below we show cases with 1sg transitive subjects (1sgTS), 1plTS, and 1plTS with a 3rd object (note here that the idfTS suffix *-em* is used in the latter case). ‘TS’ stands for ‘transitive subject’ (from Kroeber 1997).

⁹ A portmanteau suffix *-iyxs* indicates that a 3rd plural subject is acting on a 3rd person object, though this morpheme has special properties and Thompson & Thompson do not consider it as part of the regular transitive suffix paradigm; see Thompson & Thompson 1992:80 for discussion of *-iyxs*).

¹⁰ Ntɛʔkepmxcin also has a *2sg/1pl constraint which we do not discuss here. The 2sg subject suffix *-ex^w* may not co-occur with the 1pl object suffix *-ey*. Instead, 2pl/1pl morphology is used, and is ambiguous between a singular and plural interpretation for the subject. See Thompson & Thompson (1992) for examples.

- (14) a. kən-t-Ø-éne xeʔə t n-skíxzeʔ
 help-trans-3o-1sgTS dem det 1sgposs-mother
 "I helped my mother."
- b. wʔéx xeʔ kən-t-Ø-éne t n-skíxzeʔ
 prog dem help-trans-3o-1sgTS det 1sgposs-mother
 "I am helping my mother."
- (15) a. kən-t-sí-t xeʔə
 help-trans-2sgo-1plTS dem
 "We helped you (sg)."
- b. xʷúy xeʔə kən-t-sí-t
 FUT dem help-trans-2sgo-1plTS
 "We're gonna' help you (sg)."
- (16) a. ník-ə-t-Ø-m xeʔ xʷúy e (k̄m)-k̄mxékeʔ
 cut-drv-trans-3o-idfTS dem FUT det (red)-branch
 ʔe k s-pém-ə-t-Ø-m
 INT irl nom-burn-drv-trans-3o-idfTS
 "We're gonna' cut the branches and burn them."
- b. xʷúy xeʔ ník-ə-t-Ø-m e (k̄m)-k̄mxékeʔ
 FUT dem cut-drv-trans-3o-idfTS det (red)-branch
 ʔe k s-pém-ə-t-Ø-m
 INT irl nom-burn-drv-trans-3o-idfTS
 "We're gonna' cut the branches and burn them."

Thus, we conclude that transitive subject agreement morphemes are suffixes, our low *v*-agreement. Crucially, unlike in Central (Coast) Salish, low agreement in Interior Salish is associated with a full paradigm and is not just restricted to 3rd person (see section 4).

3.2 Ntəʔkepmxcin *1pl/3 person restriction

As already hinted at above, the 1pl subject suffix *-et* does not appear in conjunction with a 3rd person object. Rather, the indefinite subject suffix is used for the intended 1pl/3 interpretation.

- (17) 1pl transitive subjects (from Thompson & Thompson 1992)
- a. kən-t-sí-t
 help-trans-2sgo-1plTS
 "We helped you (sg)."

- b. kən-t-úym-et
help-trans-2plo-1plTS
“We helped you (pl).”
- c. * kən-t-Ø-ét
help-trans-3o-1plTS
intended: “We helped him/her/it.”
- d. kən-t-Ø-ém
help-trans-3o-idfTS
“We helped him/her/it; someone helped him/her/it.”

This shows that any person hierarchy account would require a *1pl/3 constraint, which is a violation of any hierarchy where combinations of local subjects (like 1pl) and 3rd person objects are the least marked construction. We argue that this is a case of avoiding use of the ‘-3o-1plTS’ combination -Ø-et altogether, because both 1pl subject and 3 object suffixes are located in the same low structural position. The impersonal subject interpretation is the closest alternative to ‘we’, so this is what is employed to generate a 1pl/3 interpretation (though the result is ambiguous with an idf/3 reading). Under our account, the idf/3 combination -Ø-em has been reinterpreted as a portmanteau morpheme -em meaning idf/3, so there is no competition for the same syntactic position.

3.3 Shuswap suffixes and clitics

In Shuswap (Gibson 1973), we find a similar distribution of subject suffixes and clitics. In indicative intransitive clauses, subjects are enclitics. 3rd is null, and, like in Ntɛʔkepmxcin, general as to number. Shuswap differs in that 1pl inclusive and exclusive are distinguished (see van Eijk, in press).

(18) Intransitive subject enclitics in Shuswap

person	singular	plural
1 st	kə	kt (inclusive) k ^w ux ^w (exclusive)
2 nd	k	kp
3 rd	Ø	Ø

(adapted from Gibson 1973:62)

Davis (2000) notes that, in languages like Shuswap, which have no auxiliaries, the Clitic Mobility Criterion is not useful. (Spokan, discussed in the next section, also has no auxiliaries.) On determining clitic status for these languages, Davis remarks:

In these cases, we must fall back on more indirect evidence involving prosody, semantics, and/or morpheme ordering. For example, indicative subjects in Shuswap follow the question

particle, which is generally regarded as an enclitic on prosodic and semantic grounds (Gardiner 1993; 1998). It follows via the morpheme ordering criterion that the indicative subject markers must also have enclitic status. (Davis 200: 504)

We do not further discuss the clitic/affix distinction in Shuswap, but refer the reader to the relevant literature arguing that this distinction exists (Gardiner 1993, 1998, Kroeber 1999, Davis 2000).

Shuswap also marks transitive subjects with suffixes. Like in Nt̓eʔkepmxcin, 1pl/3 is expressed with the indefinite subject suffix *-em* instead of 1pl *-et*. However, unlike Nt̓eʔkepmxcin, the exclusive enclitic *k^wux^w* is added to these forms to distinguish the 1pl from the indefinite interpretation.

(19) Transitive subject suffixes in Shuswap

person	singular	plural
1 st	-en	-et (for 1pl/2) -em-k ^w ux ^w (for 1pl/3)
2 ^{nd/11}	-ex	-ep
3 rd	-es	-es

(adapted from Gibson 1973:56)

Object agreement is also suffixal. 3rd person is null. 1pl distinguishes inclusive and exclusive; 1pl exclusive objects are marked as 3rd person object suffixes (-Ø), but with the 1pl exclusive enclitic *k^wux^w* (“particle” for Gibson) also appearing.

(20) Transitive object suffixes in Shuswap

person	singular	plural
1 st	-sem, -sel	-el (inclusive) -Ø-subj-k ^w ux ^w (excl.)
2 nd	-si	-ulm
3 rd	Ø	Ø

(adapted from Gibson 1973:53)

Indefinite (what Gibson calls “obviative”) subject marking patterns in Shuswap as in Thompson, with an *-em* / *-et* alternation.

¹¹ Shuswap also has a *2/1pl restriction which we do not discuss here. In these cases, 2nd person subject suffixes co-occur with 3rd person object, and the 1pl exclusive enclitic indicates the 2/1pl reading. See Gibson (1973) for discussion and examples.

suffix is ruled out, but the 1pl *enclitic* is perfectly grammatical, even though both express 1pl.

Under our account, the facts above follow if clitics and suffixes are in different syntactic positions. 1pl subject suffix *-et* shares the low agreement position with 3rd person object agreement *-Ø*. Once again, the strategy is to avoid using this combination at all. The nearest alternative, the indefinite construction, is used instead. For Shuswap, 1pl and indefinite readings are disambiguated with the use of the 1pl enclitic; since this sits in a higher syntactic position, it may freely co-occur with a 3rd person object. We conclude that there is no *1pl/3 'person hierarchy' restriction, but merely a restriction on the co-occurrence of 1pl/3 verbal suffixes (low agreement).

3.5 Spokan clitics and suffixes

Spokan (Souther Interior Salish, Carlson 1972) also has the by now familiar pattern of intransitive subject clitics and transitive subject suffixes. In the intransitive paradigm, 3rd person is once again null and not distinguished for number.

(23) Intransitive subject enclitics in Spokan¹²

person	singular	plural
1 st	cn	qe?
2 nd	k ^w	p
3 rd	Ø	Ø

(adapted from Carlson 1972:35)

Again, there are no auxiliaries in Spokan, so we cannot apply the Clitic Mobility Criterion to differentiate subject clitics from subject suffixes. However, we follow the previous literature in distinguishing clitics and affixes in this language (see Carlson 1972, Kroeber 1999, Davis 1999, 2000).

Transitive subject suffixes follow a by now familiar looking pattern.

(24) Transitive subject suffixes in Spokan¹³

person	singular	plural
1 st	-n	-t
2 nd	-x ^w	-p
3 rd	-s	-s

(adapted from Carlson 1972:39)

The object suffix paradigm is slightly different. 3rd person plural is indicated by reduplicating the verb stem. Furthermore, there is no 1sg object

¹² We follow the orthography and gloss in Carlson (1972).

¹³ Spokan also has a *2/1pl restriction. In these cases, instead of 2nd person subject marking, 1pl subject marking is used to indicate a 2/1pl interpretation. We do not discuss this person restriction in this paper. See Carlson (1972) for further details.

suffix. Instead, verbs are marked for 3rd object (Ø), and proclitic *k^wu-* marks 1sg object. Also, 1pl objects are marked both as a suffix *-l* and with proclitic *qeʔ-*.

(25) Transitive object suffixes in Spokane

person	singular	plural
1 st	<i>k^wu-</i> ... -Ø	<i>qeʔ-</i> ...-l
2 nd	-si	-m
3 rd	Ø	Ø

(adapted from Carlson 1972:40-41)

In addition, Spokane has an indefinite subject marker *-m*, but this form is only attested with 3rd person or 1sg objects (Carlson 1972:88-89).

(26) Indefinite subjects in Spokane (adapted from Carlson 1972: 88-89)

a. *k^wúʔ-ən-t-Ø-əm*
do.to-trans-ctl-3sgo-idfTS
“Someone did something to him/them.”

b. *k^wu-k^wúʔ-ən-t-Ø-əm*
1sg-do.to-trans-ctl-3sgo-idfTS
“Someone did something to me.”

3.6 Spokane *1pl/3 person restriction

The *1pl/3 restriction in Spokane has a similar resolution to that in Shuswap. 1pl transitive subjects are usually indicated with a suffix *-t*. However, when the object is 3rd person, the *-Ø-et* combination is avoided. Like in Shuswap and Thompson, *idf/3* suffix marking is used instead, and the 1pl proclitic *qeʔ-* distinguishes the 1pl from the indefinite subject reading. This is exactly the pattern we observed in Shuswap, except that the 1pl marker *qeʔ-* is a pro- rather than an enclitic.

(27) *1pl/3 in Spokane (adapted from Carlson 1972: 37-38)

a. *tq-ən-t-si-t*
hit-trans-ctl-2sgo-1plITS
“We hit you (sg).”

b. *tq-lhúl-əm-t*
hit-trans.ctl-2plo-1plITS
“We hit you (pl).”

c. * *tq-ən-t-Ø-ét*
hit-trans-ctl-2sgo-1plITS
intended: “We hit him/her/it/them.”

- d. *qeʔ-tq-ən-t-Ø-ém*
 1pl-hit-trans-ctl-3sgo-idfTS
 ‘‘We hit him/them.’’

Once again, these facts run counter to any predictions made by the person hierarchy. *1pl/3 in (27c) should not be an ungrammatical form, nor should 1pl/3 be indicated with more overt machinery (idf suffix plus 1pl proclitic *qeʔ-*) than a 3rd person form like idf/3. Note again that the person hierarchy approach fails to account for the fact that it is the co-occurrence of morphology in the same position that gives us a person restriction in the first place.

Under the approach we advocate, the data above is explained straightforwardly. Once again, 1pl subject suffix *-t* and 3rd object suffix *-Ø* occur in the same low structural position. The strategy employed is to avoid using the illicit *-Ø-t* combination of morphemes. The closest alternative, the indefinite/3 combination, is chosen instead. To disambiguate indefinite from 1pl readings, the 1pl proclitic is used. When 1pl is expressed as a clitic (high agreement), the 1pl/3 meaning is perfectly expressible. Since the clitic is in a different structural position, there is no 1pl/3 ‘‘person hierarchy’’ constraint.

3.7 Summary

We have assumed (following Carlson 1972, Gibson 1973, Thompson & Thompson 1992, Kroeber 1999, Davis 2000, among others) that clitics and affixes are distinguished in all three Interior Salish languages discussed (Ntɛʔkepmxcin, Shuswap and Spokane). Transitive subjects (for all three persons, contrary to Central (Coast) Salish) and objects are marked as suffixes on the verb; these are cases of low agreement. Clitics, on the other hand, are not marked on the verb, as shown, for example, by their mobility in Ntɛʔkepmxcin; clitics thus occupy a higher syntactic position.

We have shown above that all three languages have a *1pl/3 person restriction. Crucially, this restriction holds for transitive person agreement which is marked as low *v*-agreement. In all three languages, the *1pl/3 suffix combination is avoided altogether. Instead, the closest alternative, idf/3, is used instead. Shuswap and Spokane differ from Thompson in that they distinguish the indefinite and 1pl subject interpretations by employing a 1pl clitic. This is entirely unpredicted under any approach that posits the person hierarchy as a primitive. The Shuswap and Spokane cases especially show that it is the position of morphology that is crucial here; the co-occurrence of low agreement (suffixes) is ruled out, because they are competing for the same position. The co-occurrence of a 1pl clitic with 3rd person object suffix marking is, however, perfectly acceptable, since the clitic is high agreement while the suffix is low agreement.

In this section, we discuss the patterns in the Coast Salish languages. These gaps have previously been analyzed as person hierarchy effects (Aissen 1999, Jelinek & Demers 1993, Gerdts 1988). However, Wiltschko and Burton (2004) and Brown et al. (2003) present arguments to the effect that a person hierarchy analysis faces severe problems even in the Coast Salish languages and that a morpho-syntactic account is necessary. Given that we have shown in section 3 that there are gaps which are not predicted by the person hierarchy, we can conclude that an account for gaps which does not rely on the person hierarchy is independently needed. Rather than posit two explanations, we therefore argue that the morpho-syntactic account developed in this paper holds for all such gaps.¹⁴

Here, we will only review the relevant data concerning the gaps and show that the predictions of the present analysis are indeed borne out: the attested gaps are restricted to morphology that co-occurs in the same functional head (*v*).

4.1 **Halkomelem and Squamish**

In Halkomelem and Squamish, the gap we find is initially consistent with the person hierarchy approach since it involves a *3/2 constraint.

- (28) a. * Máy-th-ome-s *Halkomelem*
 help-trans-2sg.s-3erg.
 “He/she helps you.”
- b. * Máy-t-ole-s
 help-trans-2sg.s-3erg
 “He/she helps you.” Galloway 1980: 126

Problems with the person hierarchy account include the following:

- i) the absence of a *3/1 constraint (but see Jelinek & Demers 1983 as well as Aissen 1999 for an account);
- ii) the fact that the constraint is tied to the overt occurrence of the agreement morphemes (i.e. in a context where the agreement morphemes are lacking for independent reasons 3/2 sentences are well-formed – see Wiltschko & Burton 2004, Brown et.al 2003 for detailed discussion).

¹⁴ There is a systematic exception to this generalization, which concerns gaps that are not tied to the co-occurrence of two agreement morphemes (see Wiltschko and Burton 2004 for detailed discussion).

(31) Non-subordinate subject and object agreement

	A	S	O
1sg.	tsel		-óx
2sg	chexw		-óme
1pl	tset		-óxw
2pl	chap		-óle
3sg./pl	-es	Ø	

In sum, our analysis allows us to understand why we expect gaps which violate the person hierarchy only in Interior Salish, where ν -agreement is associated with a full paradigm. Such gaps involving 1st and 2nd person subjects can never arise in Coast Salish languages, but this is independent of a person hierarchy.

4.3 Lummi

Lummi displays a *3/2 and *3/1 constraint. This is fully expected under the person hierarchy.

(32) a. * $\text{x}\check{\text{c}}\text{i-t-o}\eta\text{s-s}$ *Lummi*
 know-trans-1sg.o-3s
 "He knows me."

b. * $\text{x}\check{\text{c}}\text{i-t-o}\eta\text{s-s}$
 know-trans-2sg.o-3s
 "He knows you." Jelinek and Demers 1983:168

However, crucial support for the present analysis (as opposed to a person hierarchy account) stems from the fact that here the agreement endings for 1st and 2nd person objects are in fact identical (i.e. we are dealing with one morpheme). This of course predicts that the morpheme will pattern alike no matter whether it references 1st or 2nd person objects. Furthermore, in Lummi, just like in Halkomelem and Squamish, ergative agreement is ν -agreement, and it is restricted to 3rd person.

We illustrate the clitic/affix distinction here. In Lummi, as Jelinek (2000) has shown, a phonological word is formed by a root and its affixes. This is the primary domain for stress. Importantly, clitics fall outside of this domain. (33) illustrates a phonological word indicated with brackets. '-' indicates a suffix, and '=' a clitic.

(33) [le η -(i)t-Ø]=lɔ'=sx^w
 [see-C:TRANS-ABS3]=PAST=NOM2S
 "You looked at him/it." (Jelinek 2000:217)

Jelinek (2000:232) notes that "Nominative first and second person pronouns are 'external' [our high agreement - J.B, K.K., M.W.] following the

PAST clitic” as in (33). On the other hand, ergative *-s* agreement in (34) below precedes the PAST clitic (our low agreement).

- (34) [leŋ-t-s]=lə'=Ø
 [see-C:TRANS-ERG3]+PAST+ABS3
 “He looked at him/it.”

Finally, (35) shows an example of a first person pronominal in the clitic string, illustrating the point that 1st and 2nd person subjects are clitics in Lummi, while 3rd person subjects are suffixes.

- (35) [čey]=lə'=sən
 [work]=PAST=NOM1S
 “I worked.” (Jelinek 2000:216)

Thus, the Lummi pattern is fully consistent with our morpho-syntactic analysis. Given that this analysis works even where a person hierarchy account does not work (in Interior Salish *1pl/3), we will adopt it for Lummi as well.

5 Lushootseed

In Lushootseed, transitive subject inflection is expressed exclusively by clitics (Hess 1973, 1995, Davis 1999). The series of subject inflectional markers in Lushootseed is as follows:

- (36) Subject clitics in Lushootseed

person	singular	plural
1 st	čed	čət
2 nd	čex ^w	čətep
3 rd	Ø	Ø

(adapted from Hess 1995)

The analysis proposed here predicts that there should be no person-based gaps in Lushootseed, since the morphological expression of subject inflection is all located in the same structural position, namely high agreement. Object agreement is, on the other hand, low agreement (suffixes).

- (37) Object suffixes in Lushootseed

person	singular	plural
1 st	-š	-ubut
2 nd	-sid, -icid	-ubutəd
3 rd	Ø	Ø

(adapted from Hess 1995)

Thus, there is never competition for a single structural position. The examples below illustrate just this. Lushootseed not only allows 3/3 and 3/1

combinations, but in contrast to Halkomelem and Squamish, it also allows the 3/2 combination.

(38) 3/3, 3/1 and 3/2 in Lushootseed (examples from Hess 1995:22, 42)

- a. ʔuʔəy'dub ʔə ti sq^wəbayʔ ti č'ac'as *Lushootseed*
 "The dog found the boy."
- b. ʔubəčdubš
 "['3rd] knocked me down."
- c. ʔubəčdubut
 "['3rd] knocked us down."
- d. ʔubəčdubicid
 "['3rd] knocked you down."
- e. ʔubəčdubutəd
 "['3rd] knocked you folks down."

Lushootseed has no low subject agreement, and thus has no person-based gaps. Crucially, the replacement of subject suffixes with clitics results in a complete lack of person-based gaps that are tied to morphological marking. While the morpho-syntactic account advocated in this paper makes exactly this prediction, a person hierarchy account does not. Consequently, we reject a person hierarchy-based approach to the Salish data presented in this paper.

6 Conclusion

We have argued that, in Salish, certain restrictions on logically possible transitive person combinations are best given a morpho-syntactic account. Under this approach, subject suffixes are *v*-agreement (low agreement), and compete for the same syntactic position as object suffixes. Therefore, certain combinations of morphemes are ruled out; those person combinations that are permitted, we argue, are single portmanteau morphemes. Subject clitics, on the other hand, are in a different structural position (high agreement). Thus, subject clitics do not compete for a position with object suffixes, and may freely co-occur with any object person. This analysis predicts that in Lushootseed, a language with only subject clitics, there are no "person-based" gaps, as we showed in section 5.

Restrictions such as *3/2 in Halkomelem and the additional *3/1 in Lummi have previously been accounted for as marked combinations on a person hierarchy (c.f. Aissen 1999). However, such an approach fails to predict that ideal person combinations such as 1pl/3 may also be ruled out, as we saw in Nteʔkepmxcin, Shuswap and Spokane in section 3. Furthermore, in Halkomelem,

the *3/2 restriction is only tied to the presence of overt morphology; when, for independent reasons, ergative agreement is lost, 3/2 clauses are well-formed.

Consequently, we argue that all gaps in transitive paradigms can be analyzed without reference to a person hierarchy. The person hierarchy is epiphenomenal; the range of possible gaps is restricted by the morpho-syntax of the agreement endings involved.

Appendix

Table 1: Key to abbreviations used in Ntɛʔkepmxcin gloss (based on Thompson and Thompson 1992, 1996, Kroeber 1997, Jimmie 2002, 2003, Koch 2004)

-	<i>affix or clitic</i>	irl	<i>irrealis</i>
=	<i>lexical suffix</i>	LOC	<i>locative</i>
appl	<i>applicative</i>	neg	<i>negation</i>
AUT	<i>autonomous</i>	nom	<i>nominalizer</i>
caus	<i>causative</i>	o	<i>object</i>
CnCl	<i>conjunctive clitic</i>	obl	<i>oblique</i>
conj	<i>conjunctive</i>	PERS	<i>persistent</i>
dem	<i>demonstrative</i>	PoCl	<i>possessive clitic</i>
det	<i>determiner</i>	poss	<i>possessive</i>
drv	<i>directive transitivizer</i>	prog	<i>progressive</i>
emph	<i>emphatic</i>	PRP	<i>proportional -iʔCeʔ</i>
FUT	<i>future</i>	Q	<i>y/n question marker</i>
conj	<i>conjunctive</i>	red	<i>reduplicant</i>
idf	<i>indefinite</i>	refl	<i>reflexive</i>
IM	<i>immediate</i>	REL	<i>relational transitivizer</i>
inch	<i>inchoative</i>	RFM	<i>reaffirmative</i>
InCl	<i>indicative clitic</i>	STAT	<i>stative</i>
instr	<i>instrumental affix</i>	trans	<i>transitivizer</i>
int	<i>introductory predicate</i>	TS	<i>transitive subject</i>

Table 2: Orthography and phonemic correspondence in Ntɛʔkepmxcin (based on Thompson and Thompson 1992, 1996)

orthography	phonemic	orthography	phonemic
ʔ	ʔ	ḡ	ḡ
a	a	q	q
c	tʃ, č	ḡ	ḡ
ç	ts	q ^w	q ^w
č	ts'	ḡ ^w	ḡ ^w
e	e, æ, a, ε	s	ʃ, š
ə	ə	š	s
ɛ	ʌ	t	t

h	h	ḥ	ḥ
i	i (ei, ai before y)	u	u, o
k	k	w	w
ḳ	ḳ	ẉ	ẉ
k ^w	k ^w	x	x
ḳ ^w	ḳ ^w	x ^w	x ^w
l	l	ɬ	ɬ
ḷ	ḷ	ɬ ^w	ɬ ^w
ɬ	ɬ	y	y, i
ɬ̣	ɬ̣	ỵ	ỵ
m	m	z	z*
ṃ	ṃ	ẓ	ẓ
n	n	ʃ	ʃ
ṇ	ṇ	ʃ ^o	ʃ ^o
o	o, ɔ	ʃ ^w	ʃ ^w
p	p	ʃ ^w	ʃ ^w

*note: Nṭeʔkepmxcin [z] is considerably more lateral than English [z], and is easily confused with [l] by non-speakers. There appears to be considerable regional variation in its pronunciation, or perhaps even from speaker to speaker.

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