Person-hierarchy effects without a person-hierarchy

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1. Introduction

It is a pervasive property of natural languages that they display agreement between predicates and their arguments, henceforth *predicate-argument agreement*. Descriptively, predicate-argument agreement holds if certain features of an independent argument DP are marked on the predicate. While predicate-argument agreement is generally an obligatory and productive morphological process, many languages display restrictions to the effect that certain agreement markers are banned in certain environments. Here I will discuss two such agreement restrictions found in Halkomelem Salish. Both these restrictions appear to be sensitive to the grammatical person of the argument.

i) 3rd person agreement does not occur with intransitive subjects. This suggests that Halkomelem displays *split ergativity* which is sensitive to *person*;
ii) 3rd person subject agreement cannot co-occur with 2nd person object agreement. This suggests that Halkomelem has *transitive gaps* that are sensitive to *person.*

Both types of agreement restrictions are found in many languages of the world and have been argued to be the result of the so called *person-hierarchy* (Silverstein 1976; Dixon 1994). According to a person-hierarchy approach, agreement restrictions of the type introduced above arise because certain persons are higher ranked than others and higher ranked persons naturally align with higher ranked arguments. This type of analysis is especially prominent in functional typological approaches (including Optimality Theory).

The status of the person-hierarchy is however not clear in a formal framework such as the principles and parameters framework (Chomsky 1981) and its minimalist incarnations (Chomsky 1995 and subsequent work). That is,

however successful the person-hierarchy is at a descriptive level, it is not clear where and how it operates in the grammar of natural languages. Researchers within this framework generally agree that the person-hierarchy is not a primitive of the grammar (Newmeyer 1998) and consequently they attempt to derive person-hierarchy effects from independently established principles of the grammar (Jelinek 1993; Alexiadou and Anagnostopoulou 2002; Jelinek and Carnie 2003).

The main objective of this paper is to show that the apparent person-hierarchy effects of Halkomelem Salish (discussed in detail in section 2) are not the result of the person-hierarchy. I show that the relevant restrictions should not even be described in terms of the person-hierarchy since the sensitivity to person is only apparent (section 3). Consequently, any approach that seeks to analyze the Halkomelem agreement restrictions in terms of a person-hierarchy will not achieve descriptive adequacy. This holds for approaches which take the person-hierarchy to be a primitive of the grammar (as in OT-approaches such as Aissen 1999; Aissen 1999) but also for approaches which seek to directly build the person-hierarchy into the functional hierarchy (as in Jelinek & Carnie 2003). Instead I show that the apparent person-hierarchy effects are the result of the morpho-syntax of agreement morphology and the existence of certain (partly arbitrary) paradigmatic gaps. This holds for both types of restrictions. I discuss apparent split ergativity in section 4 and transitive gaps in section 5. In section 6 I conclude.

2. The facts: two apparent person-hierarchy effects in Halkomelem Salish

Halkomelem is a Central Coast Salish language spoken on the West coast of British Columbia (Canada).[1] Like most languages of the North West coast, Halkomelem is a head-marking language: full DP-arguments are optional and we find a rich agreement system which marks the person and number of a given argument directly on the predicate. In this section I will introduce the Halkomelem agreement system (2.1) and the two types of agreement restrictions that appear to be due to a person-hierarchy: person sensitive split ergativity (2.2) and person sensitive transitive gaps (2.3).

2.1. Agreement in Halkomelem

Predicate-argument agreement in Halkomelem is a complex system. As illustrated in (1), the (verbal) predicate bears two morphemes that indicate the person and number of the two arguments involved: the object marker *-ox* and the subject marker *–es*. The corresponding full DP-arguments are optional.

(1) *kw'éts-l-**óx-es***   *(te*   *swiyeqe)*   *(te-e'elthe)*
     see-trans-1SG.O-3S   DET   man   DET-1SG.INDEP
     'The man saw me.'

If we restrict ourselves to matrix, transitive clauses without an auxiliary, the predicate-argument agreement pattern of Halkomelem can be described as follows. There are two full paradigms: one for object and one for subject agreement (table 1). Object agreement always appears closer to the verb and thus precedes subject agreement (table 2).

Table 1: Predicate-argument agreement paradigms (to be revised)

		object agreement	subject agreement
1	sg	*ox*	*tsel*
	pl	*oxw*	*tset*
2	sg	*ome*	*chexw*
	pl	*ole*	*chap*
3		∅	*es*

Table 2: Predicate-argument agreement template (to be revised)

V-transitive	object agreement	subject agreement

Everything else being equal, we might expect that we can now predict the form of all clauses. That is, once we know the inventory of predicate-argument agreement (i.e. the paradigms) and the linear order holding between two co-occurring agreement endings we should be able to generate the predicate-argument agreement patterns of all clauses. As it turns out, this is not the case. Rather, there are a number of restrictions on predicate-argument agreement which complicate matters.

2.2. Agreement restriction #1: 3rd agreement is restricted to transitive subjects

Subject-predicate agreement is sensitive to the transitivity of the predicate. As illustrated below, only transitive but not intransitive subjects trigger the occurrence of the 3rd person agreement ending (-*es*). This transitive split is however sensitive to person features: only 3rd but not 1st or 2nd person subject agreement differs depending on the transitivity of the clause as shown in the examples (2) and (3).

(2) TRANSITIVE VERB   INTRANSITIVE VERB
     máy-t-(es)*   *í:mex-(*es)*
     help-TRANS-3S   walk.CONT-3S
     'He/she helps him.'   'He/she is/was walking.'
                                             From Galloway (1980: 126)

(3) TRANSITIVE VERB   INTRANSITIVE VERB
     a. *máy-t-tsel*   *í:mex-tsel*
        help-TRANS-1SG.S   walk.CONT-1SG.S
        'I help him.'   'I'm walking.'
     b. *máy-t-chexw*   *í:mex-chexw*
        help-TRANS-2SG.S   walk.CONT -2SG.S
        'You help him.'   'You are walking.'
     c. *máy-t-tset*   *í:mex-tset*
        help-TRANS-1PL.S   walk.CONT-1PL.S
        'We help him.'   'We are walking.'
     d. *máy-t-chap*   *í:mex-chap*
        help-TRANS-2PL.S   walk.CONT-2PL.S
        'You folks help him.'   'You folks are walking.'
                                             From Galloway (1980: 126)

Accordingly, we need to revise the predicate-argument agreement paradigms to reflect the sensitivity to the transitivity of the predicate:

Table 3. Predicate-argument agreement is sensitive to transitivity

		object agreement	transitive subject agr.	intransitive subject agr.
1	sg	*ox*		*tsel*
	pl	*oxw*		*tset*
2	sg	*ome*		*chexw*
	pl	*ole*		*chap*
3	sg	∅	*es*	∅

2.3. Agreement restriction #2: 3rd subject and 2nd object cannot co-occur

Another restriction on predicate-argument agreement manifests itself in a different way. Observe in (4) that not all logically possible person combinations in transitive clauses are possible. In particular, transitive clauses with 3rd subjects and 2nd objects (both singular and plural) are ill-formed (4n), while all other combinations are well-formed.

(4) a. *máy-th-óx-tsel*   *máy-t-óxw-tsel*   [1>1][2]
    help-TRANS-1SG.O-1SG.S help-TRANS-1PL.O-1SG.S
    'I help myself.'   'I help us.'

   b. *máy-th-óx-tset*   *máy-t-óxw-tset*
    help-TRANS-1SG.O-1PL.S help-TRANS-1PL.O-1PL.S
    'We help myself.'   'We help us.'

   c. *máy-th-óme-tsel*   *máy-t-óle-tsel*   [1>2]
    help-TRANS-2SG.O-1SG.S help-TRANS-2PL.O-1SG.S
    'I help you.'   'I help you guys.'

   d. *máy-th-óme-tset*   *máy-t-óle-tset*
    help-TRANS-2SG.O-1PL.S help-TRANS-2PL.O-1PL.S
    'We help you.'   'We help you guys.'

   e. *máy-t-tsel*   [1>3]
    help-TRANS-1SG.S
    'I help him.'

   f. *máy-t-tset*
    help-TRANS-1PL.S
    'We help him.'

g. *máy-th-óx-chexw*   *máy-t-óxw-chexw*   [2>1]
help-TRANS-1SG.O-2SG.S   help-TRANS-1PL.O-2SG.S
'You help me.'   'You help us.'

h. *máy-th-óx-chap*   *máy-t-óxw-chap*
help-TRANS-1SG.O-2PL.S   help-TRANS-1PL.O-2PL.S
'You guys help me.'   'You guys help us.'

i. *máy-th-óme-chexw*   *máy-t-óle-chexw*   [2>2]
help-TRANS-2SG.O-2SG.S   help-TRANS-2PL.O-2SG.S
'You help yourself.'   'You help you guys.'

j. *máy-th-óme-chap*   *máy-t-óle-chap*
help-TRANS-2SG.O-2PL.S   help-TRANS-2PL.O-2PL.S
'You guys help you.'   'You guys help yourselves.'

k. *máy-t-chexw*   [2>3]
help-TRANS-2SG.S
'You help him.'

l. *máy-t-chap*
help-TRANS-2PL.S
'You folks help him.'

m. *máy-th-óx-es*   *máy-t-óxw-es*   [3>1]
help-TRANS-1SG.OBJ-3S   help-TRANS-1PL.OBJ-3S
'He helps me.'   'He helps us.'

n.*máy-th-óme-s   *máy-t-óle-s   *[3>2]
help-TRANS-2SG.S-3S   help-TRANS-2PL.S-3S
'He/she helps you.'   'He/she helps you folks.'

o. *máy-t-es*   [3>3]
help-TRANS-3S
'He helps him.'

Galloway 1993: 177f.

To make up for this gap in the transitive paradigm (henceforth *[3>2]) speakers of Halkomelem can instead use a passive form as illustrated in (5).

(5)   a. *máy-th-ò:m*   *(te   swíyeqe)*
        help-TRANS-2SG.PASS DET   man
        'You were helped (by the man).'

b. *máy-t-òlèm*   *(te   swíyeqe)*
    help-TRANS-2PL. PASS DET   man
    'You folks were helped (by the man).'

3. Agreement restrictions and the person-hierarchy

We have seen that there are two types of agreement restrictions found in Halkomelem:

i) 3rd person subject agreement is restricted to transitive clauses; and
ii) sentences with 3rd person subject and 2nd person objects are ruled out.

    The question we are faced with then is how these restrictions are to be analyzed and whether or not they can receive a unified analysis.
    Since both type of agreement restrictions have in common that they involve a certain sensitivity to person, previous analyses have treated them as the effects of the person–hierarchy (Jelinek and Demers 1983; Gerdts 1988a; Aissen 1999).

3.1. How the person-hierarchy accounts for the agreement restrictions

For reasons of space I will only discuss in detail person-hierarchy approaches which take the person-hierarchy to be a primitive of the grammar. All problems I identify for these approaches carry over to analyses that seek to derive the person-hierarchy because - as I will show - person-hierarchy accounts already fail at the descriptive level.
    According to any person-hierarchy account á la Silverstein (1976), natural languages make use of a (semantically grounded) hierarchy of potential (nominal) agents in transitive sentences. The core insight of all person-hierarchy analyses is that the higher the nominal on the hierarchy, the more likely it is to serve as the agent of the event. If the argument is more likely to be an AGENT the better suited it is to function as the subject of the clause. In other words, in the unmarked case, a nominal which is higher on the person-hierarchy in (6) is mapped onto the grammatical function which is higher on an

independently motivated argument-hierarchy as in (7): subjects are structurally higher than objects, for example.

(6)   Local ($1^{st}/2^{nd}$) > 3rd Pron > Proper N > Human N > Anim N > Inanim N

(Silverstein 1976)

(7)   Subj(ect) > Obj(ect) > Obl(ique)

   While the insight of the person-hierarchy account remains constant across different person-hierarchy effects, there are nevertheless further assumptions we need in order to derive the agreement restrictions under consideration.
   Let us start with the question as to how person-based split ergativity is derived. There are two ways in which the person-hierarchy plays a role here: first, it defines the types of nominals which pattern in an ergative way as summarized in (8).

(8)   Local ($1^{st}/2^{nd}$) > 3rd Pron > Proper N > Human N > Anim N > Inanim N
       NOM/ACC → ←-- ERG/ABS

   Moreover, the ergative pattern itself can be viewed as the result of alignment constraints between nominal types and arguments which regulate the morphological marking of 3rd person arguments. In particular, if the argument realization is well-aligned such that the lower ranked 3rd person is realized as the lower ranked object, then the 3rd person argument is unmarked. If, on the other hand, the argument realization is ill-aligned such that the lower ranked 3rd person is realized as the higher ranked subject, then the 3rd person argument is morphologically marked:

(9)   a. 1/2   > 3   b. 3   < 1/2
           subj > obj   subj > obj
           well-aligned   ill-aligned
           3rd unmarked 3rd marked

   This derives only part of the ergative pattern, however. The alignment constraints are mute regarding the morphological marking of intransitive subjects. To account for the fact that intransitive subjects pattern with transitive objects (i.e., that they are unmarked), person-hierarchy accounts typically

assume that an intransitive subject does not need to be contrasted with another argument and therefore it does not need to be morphologically marked.

Next, we turn to the person-hierarchy account for transitive gaps. Here the person-hierarchy regulates which combinations are ill-formed (and not which argument-realizations are marked). In particular, according to a person-hierarchy account gaps can arise if the argument realization is ill-aligned. So for example, when a clause contains both a 2nd and a 3rd person argument, it must be the higher ranked argument (i.e., 2nd person) which is realized as the higher ranked argument (i.e., the subject). The inverse alignment where the 3rd person functions as the subject and the 3rd person functions as the object is ill-aligned and thus ruled out.

(10)   a. 2   > 3   b. 3   < 2
                  <u>subj > obj</u>   <u>subj > obj</u>
                  well-aligned: OK   ill-aligned: *

3.2. Problems with a person-hierarchy account

I now turn to problems a person-hierarchy account faces in light of the specific agreement restrictions of Halkomelem introduced in section 2. There are three general problems I identify:

i)   Split ergativity and transitive gaps should not receive a unified analysis.
ii) Halkomelem does not really display an ergative pattern.
iii) Transitive gaps are ruled out on the basis of agreement combinations, not person combinations

I discuss each of these problems in turn.

3.2.1 *Against a unified analysis for split ergativity and transitive gaps*

According to the account based on the person-hierarchy outlined above there is a common source for both split ergativity and transitive gaps: both phenomena are sensitive to person and thus they have been argued to be the result of the workings of the person-hierarchy. On closer inspection however, we observe

that there are a number of non-trivial differences between the two types of agreement restrictions which cast doubt on the empirical validity of a unified analysis.

First, we observe that in Halkomelem the relevant rankings needed to derive the right results differ across the two types of agreement restrictions. While for split ergativity, 1st and 2nd person pattern together in accordance with the original Silverstein hierarchy, for transitive gaps 2nd person differs from 1st person. A well-behaved language would rule out both [3>2] sentences *and* [3>1] sentences. Note for completeness, that the closely related language Lummi (on which the Jelinek & Demers 1993 analysis is based) displays exactly this pattern:

(11)   a. * *xči-t-oŋə-əs*   b. * *xči-t-oŋəs-əs*
               know-1SG.O-3S   know-2SG.O-3S
               'He knows me.'   'He knows you.'

                                                  Jelinek and Demers (1983: 1, ex. c1)

The existing analyses acknowledge that the Halkomelem transitive gaps do not quite accord with the Silverstein hierarchy. Consequently such analyses assume either a different (language-specific) ranking of the person-hierarchy such that 1st person is simply not ranked (Jelinek and Demers 1983); alternatively they assume various language specific rankings of individual alignment constraints (such that *[3>2] is ranked above *[3>1] as in Aissen 1999). While this might be possible, it results in a non-unified analysis for the two types of agreement restrictions: not only do we have to assume a language-specific person-hierarchy for Halkomelem (with 1st person unranked), we also have to assume that this language-specific ranking is relativized to the two different agreement restrictions.

Another problem for a unified account has to do with the fact that the effects of the two types of agreement restrictions differ in non-trivial ways. For split ergativity, the person-hierarchy regulates which alignments require morphological marking and which ones don't. In contrast, for transitive gaps the person-hierarchy regulates which alignments are ruled out and which ones are ruled in.

Finally, the two phenomena differ in whether the person-hierarchy effects are absolute or instead relative to other arguments in the clause. The

morphological marking of 3rd person transitive subjects is independent of the other arguments present in the clause. That is, even if the object argument is also 3rd person - in which case the alignment is not really ill-aligned – 3rd person subjects must be marked:

(12)   *kw'áts-et-*(es)*
       see-TRANS-3S
       'S/he saw him/her.'

(13)   3   = 3
       <u>Subj   >   Obj</u>

   In contrast, transitive gaps are determined relative to the other person. That is, a 3rd person subject is only ruled out in the presence of a 2nd person object but not in the presence of a 1st or 3rd person object.
   These differences between split ergativity and transitive gaps (summarized in table 4) cast serious doubt on the empirical adequacy of any approach which seeks to account for these agreement restrictions in a unified fashion.

Table 4: Differences between the two person-based agreement-restrictions in Halkomelem

	split ergativity	transitive gaps
Relevant Person-hierarchy	1/2 > 3	2 > 3
Has effect on grammaticality?	no	yes
Has effect on morphological marking?	yes	no
Effect is relative to other arguments?	no	yes

Even if a unified account is untenable however, it might still be the case that either one of the two agreement restrictions is best explained by means of a person-hierarchy. In the remainder of this section I show that neither split ergativity nor transitive gaps should be viewed as the result of a person-hierarchy.

3.2.2. Halkomelem is not really ergative

Most descriptions of Halkomelem treat the pattern of 3rd person agreement as essentially ergative (Gerdts 1988b): transitive subjects are associated with a dedicated overt agreement marker (*-es*) while intransitive subjects have in common with transitive objects that they are unmarked (or rather marked with a zero morpheme). This means that – like in other ergative systems – intransitive subjects pattern with transitive objects (see Table 5).

Table 5: 3rd person agreement is ergative

	object	intransitive subject	transitive subject
3		$\varnothing$	*es*

On closer inspection however, it turns out that Halkomelem has (in certain well-defined environments) an overt 3rd person object agreement marker, which sets it apart from the 3rd person intransitive marker which is always $\varnothing$ (Wiltschko 2003). This suggests that object agreement, but not intransitive subject agreement has allomorphic variants. This allomorphy is morphologically conditioned and depends on the choice of the transitive suffix. That is, Halkomelem has three fully productive transitivizing suffixes: *-(e)t/-(e)th* which indicates full control of the agent over the event, *-l* which indicates limited or no control of the agent over the event, and *–st/-sth* which indicates a causative construal:

(14) a. *kw'áts-**eth**-òmè-tsel*   b. *kw'áts-**et**-òlè-tsel*
       see-TRANS-2SG.O-1SG.S   see-TRANS-2PL.O-1SG.S
       'I look at you.'   'I look at you folks.'

(15) a. *kw'éts-**l**-òmè-tsel*   b. *kw'éts-**l**-òlè-tsel*
       see-TRANS-2SG.O-1SG.S   see-TRANS-2PL.O-1SG.S
       'I see you.'   'I see you folks.'

(16) a. *ímex-**sth**-òmè-tsel*   b. *ímex-**st**-òlè-tsel*
       walk-CAUS-2SG.O-1SG.S   walk-CAUS-*2PL.O.-1SG.S*
       'I make you walk.'   'I make you folks walk.'

Crucially, in the context of the transitivizers *-l* and *-st* a 3rd person object is obligatorily marked with the suffix *–exw*. Only the transitivizer *-t* occurs with zero object agreement.

(17) a. *kw'áts-**et-Ø**-tsel*
       see-TRANS-3O-1SG.S
       'I look at him.'
    b. *kw'éts-**l-exw**-tsel*
       see-TRANS-3O-1SG.S
       'I see him.'
    c. *ímex-**st-exw**-tsel*
       walk-CAUS-3O-1SG.S
       'I make him walk.'

If we accept this analysis of *–exw* as an allomorph of 3rd person object marking[3], then Halkomelem no longer fits the description of an ergative language: intransitive subjects do not pattern with transitive objects. Rather, we are dealing with a pattern where all three arguments are distinctly marked, at least in the context of two transitivizers (see table 6).

Table 6: 3rd person agreement is not ergative

	object	intransitive subject	transitive subject
3	*Ø/exw*	*Ø*	*es*

This pattern of 3rd person agreement in Halkomelem casts doubt on the validity of the analysis in terms of a person-hierarchy. Recall the essence of the person-hierarchy based account of (split) ergativity: 3rd person arguments only need to be marked if they are found in an ill-aligned configuration. If however a 3rd person argument is realized as an object it is well-aligned and thus should not require marking (the relevant alignments are repeated below for convenience).

(18) 1/2 > 3   b. 3   < 1/2
      <u>Subj > Obj</u>   <u>Subj > Obj</u>
      well-aligned: ill-aligned:
      3rd unmarked   3rd marked

According to this analysis then, it is quite unexpected that 3rd person objects are marked as well. What remains to be accounted for, however, is why there is a person-based split that is sensitive to the transitivity of the predicate (see section 4). Table 7 shows the revised paradigm of Halkomelem agreement. We observe that only 3rd person (but not 1st or 2nd person) agreement varies with the transitivity of the predicate: transitive subjects are marked with *–es* while intransitive subjects appear unmarked.

Table 7. Predicate-argument agreement is sensitive to transitivity

		object agreement	transitive subject agr.	intransitive subject agr.
1	sg	*ox*		*tsel*
	pl	*oxw*		*tset*
2	sg	*ome*		*chexw*
	pl	*ole*		*chap*
3		∅/*exw*	*es*	∅

3.2.3. Halkomelem transitive gaps are agreement restrictions not person restrictions

We now turn to the second apparent person-hierarchy effect: the *[3<2] constraint. I show that this constraint cannot be properly understood as a person-based constraint either. Instead, I argue that it is a constraint on a particular combination of agreement endings (see Brown, Koch and Wiltschko 2004, 2007; Wiltschko and Burton 2004 for detailed discussion). The central evidence that we are not dealing with a person-based restriction stems from the fact that in context where the 3rd person subject agreement is absent, a [3<2] sentence is well-formed.

In the context of subject A'-movement, 3rd person transitive agreement is lost in Halkomelem (Gerdts 1988a; Kroeber 1999). This is illustrated in (19): both in subject wh-questions and subject relative clauses, 3rd person transitive subject agreement is obligatorily lost.

(19) a. *tewát kw'e   xwmékwàth-et   te   Martina*
          who   COMP   kiss-TRANS   DET   Martina
          'Who kissed Martina?'

b. *John te swíyeqe kw'éts-l-exw te Mali*
John DET man see-TRANS-3O DET Mary
'John is the man who kissed Mary.'

Wiltschko (2003: 41a)

It is precisely in this context that 3/2 sentences are well-formed:

(20) a. *tewát kw'e le lhéts'-l-òmè*
who COMP AUX cut-TRANS-2SG.O
'Who cut you?' Galloway (1993: p. 453)
b. *lí-chexw théthel-met te xwmékwàthe-th-ome*
AUX-2SG.S admire-TRANS DET kiss-TRANS-2SG.O
'Are you admiring the one who is kissing you?'

This provides us with evidence that it is not the person combination that is ruled out, but instead that the combination of 3rd person subject agreement and 2rd person object agreement is ruled out.

A particularly striking miminal pair which further illustrates this effect is given in (21). In the canonical VSO order, a 3<2 sentence is ungrammatical while in the marked SVO order, which is arguably derived through A'-movement of the subject, a 3<2 sentence is well-formed.

(21) a. * *kw'éts-l-óme-s te swíyeqe*
see-TRANS-2SG.O-3S DET man
'The man saw you.'
b. *te swíyeqe kw'éts-l-òmè*
DET man see-TRANS-2SG.O
'The man saw you.'

In all these cases, the difference between the ill-formed sentences and the well-formed sentences does not lie in the person combination but instead in the morpheme combination: [3<2] sentences are only ruled out if each of the arguments is associated with an agreement marker on the predicate.

The second environment where we find well-formed [3<2] sentences is passive. Passive sentences in Halkomelem are impersonal constructions (Kroeber 1999) where the underlying object remains in object position and the subject position is occupied by en empty 3rd person (possibly expletive)

element (Wiltschko 2001). [4] Evidence that they are indeed impersonal constructions stems from the fact that agreement with the underlying object in passives is still object agreement (Galloway 1993, Gerdts 1989). Furthermore, in subjunctive environments we find an overt 3rd person subject agreement co-occurring with a 1st or 2nd person passive object agreement:

(22) *éwe* ***í-s*** *xwemékwath-eth-**àl**-em*
     NEG   AUX-3SS kiss-TRANS-1SG.O-PASS
     'Nobody kissed me.'/'I wasn't' kissed.'

Given this analysis, it follows that in case of passive sentences with a 2nd person underlying object, we are in fact dealing with a 3rd person subject co-occurring with a 2nd person object. Note that in this environment, where we find a 3rd person subject which does not trigger 3rd person transitive agreement, [3<2] sentences are perfectly well-formed:

(23) *éwe* ***lí-s*** *xwemékwath-eth-**òm***
     NEG   AUX-3SS   kiss-TRANS-2SG.O.PASS
     'Nobody kissed you.'/'You weren't kissed.'

<div align="right">Wiltschko (2001: 6)</div>

Finally, there is one more environment where the ban on [3<2] sentences is lifted and again it is a context where the two agreement morphemes do not co-occur. In this case it is the object agreement that is missing rather than the subject agreement (see Wiltschko and Burton 2004). To see this, we need to look at the independent (emphatic) pronouns of Halkomelem, which are given in table 8:

	sg	pl
1	*ta'áltha/ta'á'altha*	*talhlímelh*
2	*taléwe*	*talhwélep/talhléwep*
3	*tútl'ò/thútl'ò*	*tutl'ó:lem/thutl'ó:lem/yutl'ó:lem*

Table 8: Halkomelem independent pronouns (Galloway 1980): 27)

In many respects these independent pronouns behave like full DPs (Wiltschko 2002). One property consistent with their behavior as full DPs, is

the fact that (at least in certain environments) these pronouns do not trigger 1st or 2nd person agreement (cf. Hukari 1980, Kroeber 1999):

(24) a. *ta-á'áltha*   *q'óq'ey*   *(*-tsel)*
          DET-1SG. INDEP   sick   1SG.S
           'I'm sick.'
      b. *ta-léwe*   *mímel (*-chexw)*
          DET-2SG.INDEP   small   2SG.S
          'You are small.'

Wiltschko (2003: 43d)

In (24) we observe that the 1st and 2nd person independent pronoun does not co-occur with a 1st or 2nd person subject agreement, respectively. Now observe that in this context, sentences with 3rd person subjects and 2nd person objects are well-formed:

(25) a. *tl'ó*   *te-léwe*   *kw'éts-l-exw-es*
          3   DET-2SG.INDEP   see-TRANS-3O-3S
          'You are the one he has seen.'
      b. *te-léwe*   *i-lh*   *kw'éts-l-exw-es*
          DET-2SG.INDEP AUX-PAST   see-TRANS-3O-3S
          'It's you that he has seen.'

Thus, I conclude that the apparent person restriction of transitive gap is indeed an agreement restriction, which cannot be straightforwardly accounted for as the result of the person-hierarchy.

3.3. Summary

In this section we have established three main points.

i)   The two person sensitive agreement restrictions of Halkomelem (apparent split ergativity and transitive gaps) should not receive a unified analysis
ii) Halkomelem agreement does not really display ergative properties, and thus the person-hierarchy based account which seeks to derive person-based split ergativity cannot be maintained

iii) The transitive gaps are not due to a specific (ill-aligned) combination of persons, but is instead a restriction on agreement

If however, the observed agreement restrictions are not due to the workings of a person-hierarchy (or however such a hierarchy is derived) the question remains as to how else we can account for these restrictions. In particular, we need to find an answer to two questions:

i) What brings about the person-based sensitivity to transitivity such that only 3rd person agreement varies with the transitivity of the predicate?
ii) What rules out the combination of 3rd person subject and 2nd person object agreement?

In the rest of this paper I argue that both agreement restrictions come about as the result of the syntactic distribution of Halkomelem agreement morphology in combination with the existence of certain (arbitrary) paradigmatic gaps.

4. The person-based transitivity split

4.1. A morpho-syntactic account

Why is 3rd person agreement but not 1st and 2nd person sensitive to the transitivity of the predicate? I propose that this follows from the fact that 3rd person subject agreement occupies a different syntactic position than 1st or 2nd person subject agreement (Davis 2000, Jelinek and Carnie 2003). In particular, I propose that 1st and 2nd person subject agreement is associated with C while 3rd person transitive subject agreement is associated with v:[5]

(26) $[_C$ C-1/2 $[_I$ INFL $[_v$ v-3 [V]]]]

This means that subject agreement must be split into two separate paradigms: C-agreement and v-agreement, where v-agreement is only overt if v is transitive.

		C-agr	v-agr
1	sg	*tsel*	--
	pl	*tset*	--
2	sg	*chexw*	--
	pl	*chap*	--
3		--	*es/$\varnothing$*

Table 9. C-agreement and v-agreement

This analysis allows us to understand why 3rd person and only 3rd person is sensitive to transitivity: information about transitivity is encoded in v. Therefore, only agreement in v, but not agreement in C is expected to be sensitive to transitivity. And further, given that agreement in v is restricted to 3rd person it follows that only 3rd person agreement is sensitive to transitivity.

In the remainder of this section I provide evidence for each of these claims. In section 4.1 I show that 1st and 2nd agreement are associated with C; in section 4.2., I show evidence to the effect that 3rd person agreement is associated with v; and finally in section 4.3. I show cross-Salish evidence that the distribution of agreement across the different positions is indeed associated with (partly) arbitrary gaps.

4.2.   Evidence for C-agreement

Evidence that 1st and 2nd person agreement associates with C stems from the following considerations: i) it appears in a position high up in the clause; ii) it is sensitive to clause-typing, a property typically associated with C (Cheng 1991); and iii) it is in complementary distribution with complementizers. I discuss each of these properties in turn.

The agreement markers I analyze as instantiating C-agreement are called subject clitics in the Salishan tradition. I argue that their "clitic-like" behavior stems from the fact that they are associated with a position high in the clausal structure (Davis 2000). I argue that these forms are attached to whatever element occupies C. Specifically, if there is an auxiliary, C-agreement will appear on the auxiliary (27a) and cannot appear on the verb (27b); in the absence of an auxiliary, C-agreement appears on the verb (27c).

(27) a. *li-**tsel***   *máy-t*
         AUX-1SG.S   help-TRANS
         'I helped him.'
      b. *máy-t-tsel*
         help-TRANS-1SG.S
         'I help him.'
      c. **li*   *máy-t-tsel*
         AUX   help-TRANS-1SG.S
         'I helped him.'

This pattern is readily explained under the assumption that the so called subject clitics occupy C. They attach to auxiliaries as a result of I-to-C movement (28a), and if there is no auxiliary, the verb itself can move up to C via I (28b).

(28) a. [c AUX-1/2   [I ~~AUX~~   [v V]]]
      b. [c V-1/2   [I ~~V~~   [v ~~V~~]]]

Evidence that the distribution of these subject clitics is not governed by phonological considerations, i.e., that we are not dealing with a 2nd position effect stems from the fact that in the absence of an overt auxiliary, the verb may but need not move to C.[6] In this case the so called subject clitic appears in clause-initial position without being clitizized to any preceding host.

(29) a. *tsel*   *máy-t*   b. *tset*   *máy-t*
         1SG.S   help-TRANS   1PL.S   help-TRANS
         'I helped him.'   'We helped him.'
      c. *chexw*   *máy-t*   d. *chap*   *máy-t*
         2SG.S   help-TRANS   2PL.S help-TRANS
         'You helped him.'   'You_pl helped him.'
                                                 Galloway (1980: 126)

The pattern discussed thus far suggests that subject clitics are located in a position higher than V; but this position could in principle be either I or C (see Davis 2000 for the claim that the relevant position is I). I will now show evidence that they are indeed located in C, rather than I.

Subject clitics are sensitive to information encoded in C, namely clause-typing. In particular, subject clitics are restricted to matrix indicative clauses. Other clause-types, such as subjunctive and embedded nominalized clauses, are incompatible with subject clitics. While subjunctive clauses require special subjunctive agreement (30), nominalized clauses require possessive agreement (31):

(30) a. *we-lám-èl*
          COMP-go-1SG.SS
          'If I go…'
      b. *we-lám-exw*
          COMP-go-2SG.SS
          'If you go…'
      c. *we-lám-et*
           COMP-go-1PL.SS
          'If we go…'
      d. *we-lám-elep*
          COMP-go-2PL.SS
          'If you guys go…'

Galloway (1993: 184)

(31) a. *skw'áy   [kw'-el-s   kw'éts-l-exw*
          impossible   [COMP-1SG.POSS-NOM see-TRANS-3O
          'I can't see it.'
      b. *skw'áy   [kw'-a-s   kw'éts-l-exw*
          impossible   [COMP-2SG.POSS-NOM see-TRANS-3O
          'You can't see it.'
      c. *skw'áy   [kw'-es   kw'éts-l-exw-tset*
          impossible   [COMP-NOM   see-TRANS-3O-1PL.POSS
          'We can't see it.'
      d. *skw'áy   [kw'-a-s   kw'éts-l-exw-elep*
          impossible   [COMP-2POSS-NOM see-TRANS-3O-2PL.POSS
          'You_pl can't see it.'

Galloway (1993: 181)

Assuming that subject clitics instantiate C-agreement, sensitivity to clause-typing is precisely what we expect.

Finally, the above data also show that C-agreement is in complementary distribution with complementizers, another piece of evidence that we are indeed dealing with agreement in C.

4.3. Evidence for v-agreement

The distribution of 3rd person transitive subject agreement is significantly different from the distribution of 1st or 2nd person subject agreement. I argue that the difference in distribution reflects a syntactic difference (see Davis 2000): while 1st and 2nd person agreement are associated with C, 3rd person agreement is associated with v. Evidence to this effect stems from the fact that 3rd person transitive agreement always appears attached to the verb, even in the presence of an auxiliary:

(32)　a.　*q'ó:y-t-es*　　*te*　　*Strang*　*te*　　*qwá:l*
　　　　　kill-TRANS-3S　DET　Strang　DET　mosquito
　　　　　'Strang killed the mosquito.'
　　　b.　*li*　　*q'ó:y-t-es*　　*te*　　*Strang*　*te*　　*qwá:l*
　　　　　AUX　kill-TRANS-3S　DET　Strang　DET　mosquito
　　　　　'Strang killed the mosquito.'
　　　c.　**li-s*　　*q'ó:y-t*　　*te*　　*Strang*　*te*　　*qwá:l*
　　　　　AUX-3S　kill-TRANS　DET　Strang　DET　mosquito
　　　　　'Strang killed the mosquito.'

This contrasts with 1st and 2nd person agreement which cannot remain attached to the verb in the presence of an auxiliary. This difference in distribution follows from the assumption that 3rd person agreement is associated with v. Consequently, the verb does not have to move past I to associate with the agreement and thus the presence of an auxiliary has no effect on the position of 3rd person agreement.

(33)　$[_C$ C　　$[_I$ AUX　$[_v$ v-3 [V]]]]

The second property that sets apart 3rd person agreement in v from 1st and 2nd person agreement in C is that the former is not sensitive to clause-typing unlike the latter. In particular, 3rd person transitive agreement appears in all

types of clauses: matrix indicative, subjunctive as well as nominalized complement clauses.

(34) a. *(li)   máy-t-es*
          (AUX) help-TRANS-3S
          'S/he helped him/her.'
      b. *skw'áy   [kw'-s-es   kw'éts-lexw-es*
          impossible   [COMP-NOM-3POSS see-TRANS-3S
          'S/he can't see it.'
      c. *we   li-s   kw'ets-lexw-es*
          COMP AUX-3SS see-TRANS-3SS
          'If s/he goes…'

The data in (34) establish that the appearance of 3rd person agreement is independent of the clause type. And moreover they show that 3rd person transitive agreement can co-occur with other types of 3rd person agreement, both of which are located higher up in the tree (i.e., INFL or C). That is, in embedded nominalized clauses, 3rd person subject agreement is expressed twice if the verb is transitive: once as possessive agreement on the complementizer (*kw'-s-es*) and once on the verb (34b). Similarly, in a subjunctive transitive clause 3rd person agreement occurs twice: once in the form of subjunctive agreement on the auxiliary (*li-s*) and once in the form of transitive agreement on the verb (34c). Furthermore, these examples also establish that 3rd person agreement is not in complementary distribution with complementizers (unlike 1st and 2nd person subject clitics).

This much establishes that transitive agreement has a distribution different from C-agreement (as well as subjunctive and possessive agreement) and that it occurs in a position lower than C-agreement.

We can now understand the fact that 3rd person agreement is sensitive to transitivity: information about transitivity is encoded in v. Agreement is generally sensitive to information encoded in the head it associates with. We have seen that C-agreement is sensitive to clause-typing. Furthermore, subject/verb agreement in English is associated with I (which is instantiated as T(ENSE) in English), and consequently it is sensitive to tense. For example, in (35) we observe that 3rd person singular agreement is restricted to present and

present perfect tense, but does not appear in past and past perfect tense which is always *–(e)d* independent of the person of the subject.

(35) a. *The boy ha**s** played soccer.*
      b. *The boy play**s** soccer*

(36) a. *The boy ha**d** played soccer.*
      b. *The boys play**ed** soccer*

For completeness, note that 3rd person subject agreement in Halkomelem is not sensitive to tense, as expected:[7]

(37) a. *q'ó:y-t-**es***   *te*   *Strang*   *te*   *qwá:l*
          kill-TRANS-3S   DET   Strang   DET   mosquito
          'Strang killed the mosquito.'/'Strang is killing the mosquito.'[8]
      b. *i-lh*   *q'óy:t-**es***   *te*   *Strang*   *te*   *qwá:l*
          AUX-PAST   kill-TRANS-3S   DET   Strang   DET   mosquito
          'Strang killed the mosquito.'
      c. *q'oyt-**es**-cha*   *te*   *Strang*   *te*   *qwá:l*
          kill-TRANS-3S-FUT DET   Strang   DET   mosquito
          'Strang will kill the mosquito.'

Finally, if 3rd person subject agreement is associated with ν we predict that agreement is thematically conditioned. That is, while subject verb agreement in English is associated with T and thus agrees with the grammatical subject in SpecTP, subject verb agreement in ν is predicted to agree with the thematic subject. This prediction is borne out. 3rd person transitive subject agreement is restricted to active sentences, but cannot occur in passive sentences (unlike English subject-verb agreement):

(38) *máy-t-em*   *te*   *Konrad*
      help-TRANS-PASS   DET   Konrad
      'Somebody helped Konrad.'/'Konrad was helped.'

I thus conclude that 3rd person subject agreement is associated with ν which accounts for the sensitivity to transitivity.

4.4. Cross-Salish evidence

According to the proposed analysis, different agreement types are associated with different syntactic positions (see Davis 2000): C and ν, respectively. This is however not the only difference between the two types of agreement: ν agreement is restricted to 3rd person while C agreement is restricted to 1st and 2nd person. This is repeated below for convenience:

(39)   [$_C$ C-1/2 [$_I$ INFL   [$_v$ ν-3 [V]]]]

The present analysis has nothing to say about this pattern: the absence of 3rd person agreement in C and the absence of 1st and 2nd person agreement in ν is purely accidental. In contrast, analyses which take this distribution to reflect the workings of the person-hierarchy would expect precisely this distribution. For example, Jelinek & Carnie 2003 suggest that a distribution of this type is semantically conditioned and follows from a particular mapping principle according to which presuppositional material is mapped to a position higher in the clause than non-presuppositional material (Diesing 1992). Accordingly, 1st and 2nd person as inherently presuppositional nominals are mapped to a position higher in the tree; in contrast 3rd person is not inherently presuppositional and is therefore mapped to a position lower in the tree. This appears to be an advantage of an analysis based on the person-hierarchy.

I will now show evidence that the present analysis is nevertheless on the right track. In particular, we will see evidence that paradigmatic gaps are indeed accidental and not semantically conditioned.

In particular, ν agreement is not restricted to 3rd person across all the Salish languages. For example, in Shuswap ν-agreement is restricted to transitive subjects (like in Halkomelem) but unlike in Halkomelem it has ν-agreement across all persons. As a consequence, the system looks rather different: while intransitive subject agreement is marked with subject clitics ((40); C-agreement in our analysis) while transitive subject agreement is marked with so called subject suffixes ((41); ν-agreement in our analysis).

(40) a. *cút-kt*   b. *cút-k*   c. *cút-∅*
         intend-1PL.S   intend-2SG.S   intend-3.S
         'We intend.'   'You intend.'   'S/he intends.'
                                                       Kuipers (1974: 44)

(41) a. *píc'-n-x*   b. *lx-nt-és*
         squeeze-TRANS-2SG.S   squeal.on-TRANS-3S
         'You squeeze him/her/it.'   'She/he squeals on him/her.'
                                                       Kuipers (1974:48)

Note that this type of system is completely unexpected under a person-hierarchy account: here 1st and 2nd person agreement is not necessarily mapped onto a position high in the clause. The Shuswap system is however consistent with the account developed here according to which the paradigmatic gaps are accidental.

The Halkomelem system has developed out of the Proto-Salish system (as reconstructed by Davis 2000) in the following way. Proto-Salish had two full agreement paradigms (except that 3rd person C-agreement was always zero) as summarized in table 10 (based on Davis 2000).

		indicative clitic [=C-agreement]	subject suffix [=v-agreement]
1	sg	*=k**an**	*-an
	pl	*=k**at**	*-at
2	sg	*=k**axw**	*-axw
	pl	*=k**ap**	*-ap
3		*∅	*-as

Table 10: From Proto-Salish to Halkomelem

The Halkomelem system may have developed on the basis of the transparent morphological relation between v- and C-agreement (indicated by the bold part of C-agreement). Suppose that v-agreement was reanalyzed as being part of C-agreement. The only cell where this reanalysis cannot take place is 3rd person because there is no 3rd person C-agreement. Thus by reanalyzing the v-agreement paradigm as being part of the C-agreement paradigm, we arrive at the highly defective v-agreement system of Halkomelem

and consequently at the apparent ergative system, which is split along $1^{st}/2^{nd}$vs. 3rd person.

For completeness, we also note that 1st and 2nd person object agreement is always mapped in a position low in the tree (as evidenced by the fact that it consistently appears on the verb).

(42) a. *(li)   may-th-**óx**-es*
          (AUX) help-TRANS-1SG.O-3S
          'He helps me.'

    b. *(li)   may-t-**óxw**-es*
          (AUX) help-TRANS-1PL.O-3S
          'He helps us.'

    c. *(li)   may-th-**óme**-tsel*
          (AUX) help-TRANS-2SG.O-1SG.S
          'I help you.'

    d. *(li)   may-t-**óle**-tsel*
          (AUX) help-TRANS-2SG.O-1SG.S
          'I help you$_{pl.}$'

    e. *máy-t-es*
          help-TRANS-3S
          'He helps him.'

<div align="right">Galloway (1980: 126)</div>

If the high position of 1st and 2nd person subject clitics were indeed a consequence of the person-hierarchy and its mapping onto syntactic structure, it would be unclear as to why 1st and 2nd person objects do not have to be mapped to a higher position as well.

I thus conclude that an analysis which is not based on the person-hierarchy is empirically more adequate and that we are indeed dealing with accidental gaps that are associated with each of the paradigms discussed in this section.

5. Person-based transitive gaps

I now turn to the second question we were left with at the end of section 3: What rules out the combination of 3rd person subject and 2nd person object agreement?

5.1. Arbitrary gaps with syntactic restrictions

We have seen that a person-hierarchy account does not adequately account for the facts. In this section, I argue that this gap is best analyzed as being partly

restricted by the morpho-syntax of agreement but partly arbitrary (i.e., unpredictable; see Brown, Koch and Wiltschko 2007 for a detailed discussion). The systematic aspect of the attested gap concerns the type of agreement involved: object agreement and subject suffixes (but not subject clitics). I propose that this restriction on the transitive gap is syntactically conditioned: a gap can only arise when two agreement endings are associated with the same syntactic head, which in this case is ν (see Branigan & Bobaljik 2004 for a similar constraint).

(43)   [$_C$ C   [$_I$ INFL   [$_v$ ν-**obj-subj** [V]]]]

While the configuration illustrated in (43), where object and subject agreement are associate with the same syntactic head (ν), is necessary for a transitive gap to arise, it does not constitute a sufficient condition. That is, in Halkomelem there are two agreement combinations of the type illustrated in (43) that are ill-formed (*2obj.sg-3s; *2obj.pl-3s) while all other possible combinations are well-formed.

    In the remainder of this section I will show evidence for this proposal. In section 5.2, I present evidence for the claim that object agreement (along with subject suffixes) is associated with ν. In section 5.3, I present evidence for the claim that gaps are restricted to combinations of the sorts illustrated in (43). And finally in section 5.4, I present cross-Salish evidence that the gaps are indeed arbitrary and not restricted by the person-hierarchy.

5.2. Evidence for object agreement in ν

Recall that we have seen evidence to the effect that 3rd person subject suffixes are associated with ν (see section 4.3). Given that object agreement linearly precedes subject agreement (44), it follows that object agreement must be attached before subject agreement.

(44)   a. *may-th-óx-es*   b. *may-t-óxw-es*
           help-TRANS-1SG.OBJ-3S   help-TRANS-1PL.OBJ-3S
           'He helps me.'   'He helps us.'

Consequently, object agreement must be associated either with ν or with a position lower than ν. I argue that object agreement is best analyzed as occupying ν on the basis of its interaction with the argument it agrees with. Recall that subject agreement is tied to a particular theta-role: that of a transitive AGENT (AG). This follows from the assumption that subject agreement is associated with the very same head that introduces this thematic role, namely ν:

(45)   [_ν **AG** ν-obj-**subj** [V]]]]

Object agreement in contrast is not tied to one particular thematic role, instead it agrees with a grammatical role, namely that of the direct object. This can be seen by comparing a simple transitive construction with an applicative construction. In the transitive clause in (46a), it is the THEME, which triggers object agreement whereas in the applicative construction in (46b) the BENEFACTIVE argument is realized as the direct object and triggers object agreement (the original direct object must be realized as an oblique; see Gerdts 1988b; Galloway 1993):

(46)   a. *yéqw-th-**òx**-chexw*   b. *yéqw-**elhts**-th-**òx**-chexw*
          burn-TRANS-1SG.O-2SG.S   burn-APPL-TRANS-1SG.O-2SG.S
          'You burn me.'   'You burn it for me.'
                                                       Galloway (1993: 255f.)

I assume that the TH(EME) argument is introduced as a sister to V while the BEN(EFACTIVE) argument is introduced by a semi-lexical head ν (Pylkkänen 2002). Given that object agreement is not tied to a specific thematic role, I conclude that it must be associated with a head that is higher than BEN or TH, which leaves us with ν, the head that introduces AG.

(47)   a. [_ν AG ν-**obj**-subj [_ν **BEN** ν-**elhts**   [V TH]]]]
          b. [_ν AG ν-**obj**-subj   [V **TH**]]]]

Further evidence that object agreement is indeed associated with the ν which introduces the AGENT argument stems from the fact that it regulates allomorphic variation in the realization of this ν-head. In particular, the form of

the transitive suffix *-t*, which I assume to instantiate ν, depends on the following object agreement: it is realized as *–th* if followed by the singular 1st and 2nd object agreement *–ox* ("me") and *-ome* ("you.sg.") while it is realized as *-t* elsewhere (Galloway 1993):

(48)   a. *máy-**th**-óx-tsel*   b. *máy-**t**-óle-tsel*
           help-TRANS-1SG.O-1SG.S   help-TRANS-2SG.O-1SG.S
           'I help myself.'   'I help you.'

If we assume that such morphologically conditioned allomorphy is restricted to morphemes that are associated with the same syntactic head, then it follows that object agreement occupies ν along with subject suffixes and transitive markers.

5.3. Evidence that the gaps are restricted to subject suffixes

I will now show that the transitive gaps of Halkomelem as well as the ones found in the rest of the family are restricted to subject suffixes that are associated with ν. No other subject agreement morphology ever triggers a gap. There are two cases to consider: subjunctive agreement and possessive agreement (which we briefly introduced in section 4.2) but here I will restrict the discussion to subjunctive agreement simply noting that possessive agreement displays a similar behavior.[9]
While we have not analyzed subjunctive agreement in terms of its syntactic position, for the purpose of the argument it suffices to establish that it is not associated with ν. Instead, I show evidence that it is associated with a higher head (see Elouazizi & Wiltschko forthcoming for an analysis). Evidence to this effect stems from three considerations: i) subjunctive agreement attaches to the verb only in the absence of an auxiliary (49); once an auxiliary is added, subjunctive agreement must attach to it (50).

(49)   a. *éwe-tsel   t'ílem-**el**   wáyeles*
           NEG-1SG.S   sing-1SG.SS tomorrow
           'I won't be singing tomorrow.'

b. *éwe-chexw   t'ílem-exw   wáyeles*
   NEG-2SG.S   sing-2SG.SS tomorrow
   'You won't be singing tomorrow'
c. *éwe   t'ílem-es   wáyeles*
   NEG   sing-3SS   tomorrow
   'He/they will not be singing tomorrow.'
d. *éwe-tset   t'ilem-et   wáyeles*
   NEG-1PL.S   sing-1PL.SS tomorrow
   'We won't be singing tomorrow.'
e. *éwe-chap   t'ílem-ap   wáyeles*
   NEG-2PL.S   sing-2PL.SS tomorrow
   'You folks won't be singing tomorrow.'

(50) a. *éwe-tsel   lí-l   tl'íls-th-òmè*
         NEG-1SG.S   AUX-1SG.SS   want-TRANS-2SG.O
         'I don't like you.'
      b. *éwe-chexw   lí-xw   tl'íls-th-òx*
         NEG-2SG.S   AUX-2SG.SS   want-TRANS-1SG.O
         'You don't like me.'
      c. *éwe   lí-s   tl'íls-th-òx-es*
         NEG   AUX-3.SS   want-TRANS-1SG.3S
         'He/They doesn't/don't like me.'
      d. *éwe-tset   lí-t   tl'íls-th-òmè*
         NEG-1PL.S   AUX-1PL.SS   want-TRANS-2SG.O
         'We don't like you.'
      e. *éwe-chap   lí-p   tl'íls-th-òx*
         NEG-2SG.S   AUX-2PL.SS   want-TRANS-1SG.O
         'You guys don't like me.'

                                                  Galloway (1993: 186)

ii) subjunctive agreement is not sensitive to the transitivity of the predicate; it can appear with transitive predicates as in (50) as well as with intransitive predicates as in (51).

(51) a. *éwe-tsel   lí-l   yó:ys*
         NEG-1SG.S   AUX-1SG.SS   work
         'I don't work.'

b. *éwe-chexw*   *lí-**xw***   *yó:ys*
   NEG-2SG.S   AUX-2SG.SS   work
   'You don't work.'

c. *éwe*   *lí-**s***   *yó:ys*
   NEG   AUX-3.SS   work
   'He does not work.'

iii) subjunctive agreement is not restricted to the thematic role AGENT but instead it also appears in the context of a passive predicates.

(52)   a. *éwe*   *í-**s***   *xwemékwathe-th-àlem*
        NEG   AUX-3SS   kiss-TRANS-1SG.PASS
        'Nobody kissed me.'/'I wasn't' kissed.'

       b. *éwe*   *lí-**s***   *xwemékwath-eth-òm*
        NEG   AUX-3S   kiss-TRANS-1SG-2SG.PASS
        'Nobody kissed you.'/'You weren't kissed.'

To establish that subjunctive agreement is not ruled out if it co-occurs with 2nd person object agreement, we need to consider a clause where the subject has undergone A'-movement. We observe that in this case 3rd person subject and 2nd person object agreement can co-occur as shown below.

(53)   *tsel*   *lhq'élexwkw'e*   *swíyeqe…..*
       1SG.S   know   DET   man
       ...éwe   *lí-**s***   *xwemékwathe-th-**óme***
        NEG   AUX-3SS   kiss-TRANS-2O
        'I know the man who kiss you.'

This much provides us with Halkomelem-internal evidence that the gap is indeed restricted to combinations of object agreement and subject suffixes (i.e. subject agreement in v).

Moreover, Brown, Koch and Wiltschko (2004, 2007) show that all transitive gaps found across the Salish family are restricted in the same way: only subject suffixes, but not subject clitics can trigger a gap.

5.4. Evidence that the gaps are partly arbitrary

We have seen in the last subsection that transitive gaps are systematically restricted to a particular agreement configuration, namely one in which subject and object agreement are associated with the same syntactic head (v). This much constitutes a necessary condition for a gap to arise. In this subsection, I show that the particular gaps that do arise are indeed not predictable but instead arbitrary. In particular, they are not constraint by the person-hierarchy. Up until this point, we have only seen that the person-hierarchy does not help us to define a necessary condition for a gap to arise. Most strikingly, [3<2] sentences are only ruled out if the 3rd person subject agreement instantiates v-agreement. Otherwise a [3<2] sentence is well-formed. It could however still be the case that the person-hierarchy is used to rule out particular instances of the relevant agreement configuration. We have already seen one piece of evidence that this cannot be on the right track: in Halkomelem [3<1] sentences are well-formed despite the fact that they i) instantiate the relevant agreement configuration and ii) they violate the person-hierarchy since a lower ranked person (3rd) is realized as a higher ranked argument (subject).

In this subsection, I show that a person-hierarchy violation is not even a necessary condition for a gap to arise. The evidence stems from gaps that arise in other Salish languages (see Brown, Koch and Wiltschko 2007 for detailed discussion). For example, Thompson River Salish has two gaps in its transitive paradigm: sentences with 1st person plural subjects and 3rd person objects *[1pl >3] are ill-formed and so are sentence with 2nd singular subjects and 1st person plural objects *[2pl:1sg]. All other logically possible combinations are well-formed in Thompson.

(54)   a.   *$k\partial n$-t-***Ø-ét***
             help-TRANS-3O-1PL.S
              'We helped him/her/it.'
         b.   *$k\partial n$-t-$éy$-x^w*
             help-TRANS-1PL.O-2SG.S
             'You helped us.'

These data illustrate that a gap can arise despite the fact that the sentences are well-aligned according to a person-hierarchy. For example, the 1st person

argument in (54a) is higher ranked on the person-hierarchy and is realized as the higher ranked argument, namely the subject. This suggests that the gaps are not constraint by the person-hierarchy. Instead, I submit that they are partly arbitrary and therefore different languages have different gaps, some of which appear to be constraint by the person-hierarchy but others are not. Consequently, I conclude that the person-hierarchy plays no role at all in the grammar of Salish languages.

6. Conclusion

The main goal of this article was to investigate the determining factors of particular agreement restrictions found in Halkomelem Salish:

i) Person-sensitive split ergativity: 3rd person agreement does not occur with intransitive subjects.
ii) Person-sensitive transitive gaps: 3rd person subject agreement cannot co-occur with 2nd person object agreement.

Previous analyses have treated these restrictions as the result of the person-hierarchy (in the sense of Silverstein 1976).

i) 3rd person must be especially marked if it is realized as a transitive AGENT (because higher ranked persons are more likely to be AGENTS)
ii) A higher ranked person must be mapped onto the higher ranked grammatical role, therefore sentences with 3rd person subjects and 2nd person objects are ruled out

Here I have shown that such accounts do not achieve empirical adequacy because the relevant generalizations are not to be defined in terms of person-specifications but instead in terms of their morpho-syntactic distribution:

i) Only transitive AGENTS are marked with ν-agreement, and ν-agreement *can* be associated with all person specifications (Shuswap) but it *need not be* (Halkomelem).

ii) Transitive gaps can only arise if two agreement markers that are associated with the same head (v) co-occur

    While at first glance the person-hierarchy might appear to be at work, on closer inspection we cannot really build an empirically adequate generalization on it. Instead, adequate generalizations are all syntactically defined. Accidental paradigmatic gaps involve person-specifications, but they do not necessarily appeal to a person-hierarchy. And if arbitrary, they simply have to be learned.

    I conclude that we should not import the person-hierarchy into formal grammar, at least not into the formal grammar of Halkomelem Salish. Consequently, I call into question whether the person-hierarchy is part of universal grammar at all. If apparently systematic person-hierarchy effects are always re-analyzable as generalizations over morpho-syntactic properties in interaction with partly arbitrary person feature specifications then no such person-hierarchy is needed. I take this to be a welcome result, in light of the inherent problems of a person-hierarchy for a formal framework.

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[1] There are three major dialects: Upriver (Stó:lo Halq'eméylem), Downriver (Musqueam), and Island (Cowichan). The data reported in this paper are from the Upriver dialect.

[2] While Halkomelem has a special reflexive marker, its use is optional in reflexive environments (see Wiltschko 2004 for detailed discussion)

[3] Other analyses of *–exw* treat it as part of the transitivizers and accordingly these analyses posit two allomorphors of the transitivizers: {–*l/lexw*}and {–*st/stexw*}, respectively. According to this analysis the allomorphy is morphologically conditioned such that *-lexw* and *-stexw* only occur in the context of 3rd person objects (see for example Hukari 1980). For arguments that *–exw* is best analyzed as a 3rd person object marker see Galloway 1993 and Wiltschko 2003.

[4] Kroeber (1999) argues that passives are only morphologically impersonal but syntactically they behave more like passives (see also Gerdts 1989). See, however, Wiltschko (2001) for evidence that at least in Halkomelem, passives are impersonals both morphologically and syntactically.

[5] See Davis (2000) for detailed arguments that there are various positions for agreement going back to Proto-Salish.

[6] The absence of V to I to C movement can be taken as an indication that there is in fact an empty auxiliary (see Wiltschko 2006 for discussion).

[7] This is however not surprising for independent grounds: there are reasons to believe that T is not a syntactic head in Halkomelem (Wiltschko 2003).

[8] In Halkomelem, the marking of tense is optional and consequently the absence of a past tense marker can still result in a past tense interpretation in addition to a present interpretation.

[9] Since subject clitics (i.e., C-agreement) do not have an overt 3rd person marker, it is impossible to test whether or not 2nd person objects co-occur with C-agreement. While [3<2] sentences are well-formed (if the subject suffix is missing) it is not clear whether there is a 3rd person agreement marker present or not.

References

Aissen, Judith.
1999 Agent focus and inverse in Tzotzil. *Language* 75: 451-485.
1999 Markedness and subject choice in optimality theory. *Natural Language and Linguistic Theory* 17: 673-711.

Alexiadou, Artemis and Elena Anagnostopoulou
2002 Person and Animacy Splits: from hierarchies to features. GLOW Newsletter.

Brown, Jason, Karsten Koch and Martina Wiltschko
2004 The person-hierarchy - primitive or epiphenomenal. Evidence from Halkomelem Salish. *Proceedings of NELS 34*, Stony Brook, NY.
2007 Person based gaps are morpheme based." ms.

Cheng, L.
1991 *On the typology of wh-questions.* PhD thesis, MIT, Cambridge, Mass..

Chomsky, Noam
1981 *Lectures on Government and Binding.* Dordrecht, Foris.
1995 *The minimalist program.* Cambridge, Mass., The MIT Press.

Davis, Henry
2000 Remarks on Proto-Salish Subject Inflection. *International Journal of American Linguistics* 66: 499-520.

Diesing, Molly
1992 *Indefinites.* Cambridge: MIT Press.

Dixon, R. M. W.
1994 *Ergativity.* Cambridge, New York, Cambridge University Press.

Elouazizi, Noureddine; Martina Wiltschko
(forthcoming) The categorial status of (anti-) (anti-) agreement. In *Proceedings of the 25th West Coast Conference on Formal Linguistics* 2006,: Donald Baumer, David Montero, and Michael Scanlon (eds.) (150- 158) Cascadilla Press.

Galloway, Brent

1980 *The Structure of Upriver Halkomelem, A Grammatical Sketch and Classified Word List for Upriver Halkomelem.* Sardis, B.C., Coqualeetza Education Training Center, Sardis, B.C.

1993 *A Grammar of Upriver Halkomelem.* Berkeley, Los Angeles, London, University of California Press.

Gerdts, Donna. B.

1988a A Nominal Hierarchy in Halkomelem Clausal Organization. *Anthropological Linguistics* 30: 20-36.

1988b *Object and absolutive in Halkomelem Salish*. New York, Garland

1989 Object agreement in the Halkomelem Salish passive: a morphological explanation. In *General and Amerindian Ethnolinguistics.* R. Key and H. Hoenigswald (eds.) 185-199. Berlin, New York, Mouton de Gruyter:

Hukari, Tom

1980 Subjects and objects in Cowichan. International Conference on Salish and Neighbouring Languages, Vancouver, BC.

Jelinek, Eloise

1993 Ergative "splits" and argument type. In *Papers on Case and Agreement.* J. Bobaljik and C. Philips (eds.) 15-42. MIT Working Papers in Linguistics Cambridge, Mass.,

Jelinek, Eloise and Andrew Carnie

2003 Argument hierarchies and the mapping principle. In *Formal approaches to Function in Grammar. In honor of Eloise Jelinek.* A. Carnie, H. Harley, M. Willie (eds.) 265-296. ohn Benjamis.

Jelinek, Eloise and Richard Demers

1983 An Agent Hierarchy and Voice in Some Coast Salish Languages. *International Journal of American Linguistics* 49: 167-185.

Kroeber, Paul D.

1999 *The Salish language family: reconstructing syntax.* Lincoln, University of Nebraska Press

Kuipers, Aert

1974 *The Shuswap language.* The Hague, Mouton.

Newmeyer, Frederick. J.

1998. *Language form and language function.* Cambridge, Mass., MIT Press.

Pylkännen, Lina

2002. *Introducing arguments.* Phd dissertation, MIT, Cambridge, Massachusetts.

Silverstein, Martin

1976   Hierarchy of features and ergativity. In *Grammatical categories in Australian languages.* R. M. W. Dixon (ed). 112-171. Canberra, Australian Institute of Aboriginal Studies and New Jersey Humanities Press.

Suttles, Wayne
2004   *Musqueam Reference Grammar.* Vancouver, UBC Press.

Wiltschko, Martina
2001   Passive in Halkomelem and Squamish. International Conference on Salish and Neighbouring Languages, Chilliwack, BC, UBC Working Papers in Linguistics.
2002   The syntax of pronouns. Evidence from Halkomelem Salish. *Natural Language and Linguistic Theory* 20: 157-195.
2003   -exw as 3rd person object agreement in Halkomelem. *International Journal of American Linguistics* 96(1): 76-91.
2003   On the interpretability of Tense on D and its consequences for Case Theory. *Lingua* 113(7): 659-696.
2006   Inlocatives in Halkomelem Salish. In *Papers for the 41st Conference on Salish and Neighbouring Languages.* Masaru Kiyota, James J. Thompson & Noriko Yamane-Tanaka (eds.) UBC Working Papers in Linguistics Vol. 18.

Wiltschko, Martina and Strang Burton
2004   On the sources of Person-hierarchy effects in Halkomelem Salish. *Canadian Journal of Linguistics* 49: 51-71.