

Combinatorial properties of Salish applicatives¹

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Salish languages each have two to six different applicative suffixes, which signal that the syntactic object plays a semantic role other than the theme, for example recipient, benefactive, possessor, goal, or stimulus. The applicative suffixes are part of a rich system of verbal morphology marking voice and valence. This paper explores how the applicative suffixes are ordered with respect to other suffixes, such as reflexives, reciprocals, causatives, non-control transitives, and lexical suffixes. These suffixes can appear either before or after the applicative suffixes, thus providing evidence for the compositional nature of Salish verb morphology.

1 Introduction

The Salish verb consists of a stem as a base and one or more affixes and clitics, including a rich array of valence and voice suffixes. The applicative is one type of verbal suffix. It appears on the verb when the direct object refers to a participant that is not a theme but rather a semantically oblique nominal that is related to the event, such as a recipient, benefactive, possessor, goal, or stimulus.²

For example, observe the following Okanagan data:³

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² We use the term theme to refer to the patient of a transitive verb and also the object being transferred in a ditransitive.

³ We have standardized hyphenations and glosses in the cited examples and regularized the orthography following Kroeber (1999). The following abbreviations are used in glossing the data: 1: first person, 2: second person, 3: third person, ACT: activity, APPL: applicative, ART: article, AUG: augmentative, AUTO: autonomous, AUX: auxiliary, CLT: clitic, CS: causative, CUST: customary, DET: determiner, ERG: ergative, FUT: future, IDF: indefinite, IMP: imperative, IMPF: imperfect, LNK: linker, LOC: locative, LV: linking vowel, MDL: middle, NC: non-control, NEG: negative, NM: nominalizer, OBJ: object, OBL: oblique, OC: out of control, PASS: passive, PAST: past, PERF: perfect, PL: plural, POSS: possessive, PRFX: (unglossed) prefix, PSTN: positional, PUNCT: punctual, Q: question, RECIP:

- (1) Okanagan
- a. kən n-χíł.
 1SG.SUB LOC-afraid
 ‘I got scared. (A. Mattina 1987:252)
- b. n-χíł-mə-nt-s-ən.
 LOC-afraid-REL-TR-2SG.OBJ-1SG.SUB
 ‘I got scared of you.’ (A. Mattina 1994:219)

Example (1a) is an intransitive construction having only one participant, a first-person singular subject expressed by an intransitive subject clitic. In contrast, (1b) is an applicative construction, as indicated by the applicative suffix *-mi*,⁴ which appears between the verb root and the transitive suffix. The applicative construction is syntactically transitive: the subject in the applicative construction is the first-person singular ergative suffix, the direct object is expressed by pronominal object inflection, and the verb is explicitly marked with the transitive suffix. The semantic role of the applied object is not patient/theme, but rather an oblique related to the event, in this case the stimulus. In sum, the applicative suffix signals the presence of a non-theme direct object, referred to here as the applied object.

Applicative suffixes are thus part of the voice and valence marking of the language. And the question arises, how are they ordered with respect to other suffixes such as reflexive, reciprocal, transitive, and causative? To answer this question thoroughly, we first must delve into the nature of the applicative suffix and applicative constructions in more detail in section 2. Next, we illustrate the interaction of the applicative suffixes with other suffixes, focusing on suffixes that can appear either before or after applicative suffixes in section 3. As discussed in the conclusion in section 4, data of this type are difficult to accommodate within a templatic model of Salish morphology, i.e. where each suffix is assigned to a slot in a verb template. They provide evidence for the compositional nature of the Salish verb.

2 Two types of Salish applicatives

Kiyosawa (1999, 2002, 2006) has shown that Salish languages each have two to six different applicative suffixes, and that Salish applicative suffixes fall into two types—relational and redirective. The applicative in (1b) above is a transitive construction with a direct object, the applied object, which refers to a semantically oblique nominal relating to the event such as stimulus, content, or goal. We refer to such applicatives as “relational applicatives” and to the suffixes that occur in them as “relational (applicative) suffixes”.

reciprocal, RDR: redirective, RED: reduplication, REL: relational, REFL: reflexive, RES: resultative, SER: serial, SG: singular, ST: stative, SUB: subject, TR: general transitive.

⁴ *i* is reduced to *ə* or deleted when unstressed.

Salish languages have a second type of applicative construction, which we refer to as “redirective applicatives”. The redirective suffix is attached to a transitive base and the applied object plays a role such as dative, benefactive, or possessive. Compare the following Shuswap examples:

- (2) Shuswap
- a. m-kúl-n-s ɣ mím̃x.
 PERF-make-TR-3SUB DET basket
 ‘She made the basket.’ (Dwight Gardiner p.c.)
- b. m-kúl-x-t-s ɣ núǰʷənǰʷ tə mím̃x.
 PERF-make-RDR-TR-3SUB DET woman OBL basket
 ‘She made a basket for the woman.’ (Gardiner 1993:31)

Example (2a) is a simple transitive construction. The verb is overtly marked transitive and the subject is indicated by the third-person ergative suffix. The theme ‘basket’ is the direct object and appears as a plain NP, marked only with a determiner. In contrast, (2b) is a redirective applicative construction containing the redirective suffix *-xi* between the verb root and the transitive suffix. The theme ‘basket’ is an oblique-marked NP, preceded by the preposition *tə*. The applied object ‘woman’ has the semantic role of benefactive but the syntactic role of direct object, so it appears as a plain NP.

2.1 Relational applicatives

As discussed in Kiyosawa (2006), a survey of data from 19 of the 23 Salish languages reveals that each language has one to four relational applicative suffixes, as summarized in Table 1:⁵

⁵ Abbreviations used are: Ch: Upper Chehalis, Kl: Klallam, Cm: Columbian, Cr: Coeur d’Alene, CS: Central Salish, Hl: Halkomelem, Ld: Lushootseed, Li: Lillooet, NIS: Northern Interior Salish, Ok: Okanagan, PS: Proto-Salish, Sa: Saanich, Se: Sechelt, Sh: Shuswap, SIS: Southern Interior Salish, Sl: Sliammon, Sp: Spokane, Sq: Squamish, Th: Thompson, Ti: Tillamook, TS: Tsamosan, Tw: Twana.

Table 1. Relational applicative suffixes in Salish languages

BRANCH	LANG	RELATIONAL						
		*-mi	*-ni	*-nəs	*-tas	*-ac	-əs	
CS	Cx	-mi	-ni					
	Se	-mi	-ni					
	Sq	-mi	-ni					
	Hl	-meʔ		-nəs				
	Nk		-ni	-ns				
	NS	-ŋiy		-nəs				
	Kl	-ŋi		-nəs				
	Ld	-bi	-di			-(a)c		
	Tw					-ac		
Ti	Ti	-əwi					-əs	
TS	Ch	-mi(s)	-ni		-t(a)s			
	Cz	-mi(s)	-ni		-t(a)s			
IS	NIS	Li	-min					
		Th	-mi					
		Sh	-mi					
	SIS	Ok	-mi					
		Ka	-mi					
		Cr	-min					
		Cm	-mi					

Most languages have a reflex of the general applicative suffix reconstructed by Kinkade (1998) as **-mi*, though other relational suffixes have developed as well that can be reconstructed for one or more branches of Salish, as discussed in Kiyosawa (2006, Chapter 3). The Interior Salish languages and Twana, a Central Salish language, have only one relational applicative suffix, while the other Salish languages have two or more relational suffixes.

As shown in Kiyosawa (2006), the association of any given relational suffix to applicative semantics is very complicated. Relational applicative suffixes generally attach to intransitive predicates to form transitive verbs. They appear on a wide variety of different predicates, which can be classified into a small list of types, as in (3):

- (3) a. Internal experience
- Psychological event (e.g. ‘be afraid of’, ‘be ashamed of’, ‘be tired of’)
 - Perception (e.g. ‘feel’, ‘hear’, ‘see’)
 - Cognition (e.g. ‘know’, ‘think’, ‘understand’)
 - Liking or desire (e.g. ‘like’, ‘want’, ‘wish’)
- b. Expression
- Speech act (e.g. ‘ask’, ‘sing’, ‘speak’)
 - Facial expression (e.g. ‘cry for’, ‘smile at’, ‘wink at’)
- c. Action
- Social interaction (e.g. ‘meet’, ‘marry’, ‘act tough on’)
 - Activity (e.g. ‘work’, ‘dance’)
- d. Movement
- Motion (e.g. ‘go’, ‘run’, ‘walk’)
 - Body movement/position (e.g. ‘hide’, ‘lean’, ‘sit’)
- e. Transfer (e.g. ‘borrow’, ‘sell’, ‘steal’)
- f. Nature (e.g. ‘hail’, ‘rain’, ‘snow’)

The semantics of the applied object in relational applicatives is linked to the meaning of the predicate. For example, internal experience predicates form relational applicatives in which the applied object is the stimulus (4) or content (5):

- (4) Okanagan (A. Mattina 1994:221)
- ixíʔ ʔáyǰʷ-t-mə-n-t-s-ən.
 there tired-ST-REL-TR-2SG.OBJ-1SG.SUB
 ‘I am tired of you.’

- (5) Nooksack (Galloway 1997:222)
- ʔas-háǰʷə-ni-θí-č kʷəm.
 ST-think-REL-TR:2SG.OBJ-1SG.SUB will
 ‘I’ll think about (remember) you.’

Predicates of expression (speech acts and facial expression) form relational applicatives in which the applied object is the goal or content (6):

- (6) Coeur d’Alene (Doak 1997:209)
- lu čeł tqʷaʔqʷəʔelmístxʷ.
 //lut čeł t-CVC-qʷeʔl-min-stu-Ø-xʷ//
 NEG FUT LOC-RED(AUG)-speak-REL-CS-3SG.OBJ-2SG.SUB
 ‘You don’t talk about it.’

Predicates of social interaction form relational applicatives in which the applied object is the goal (7) or comitative (8):

- (7) Lushootseed (Hess and Bates 2004:184)
 ʔádʔq-bi-d
 meet-REL-TR
 ‘meet someone by appointment or intentionally’
- (8) Lillooet (Van Eijk 1997:114)
 ʔiʔwaʔ-min
 accompany/come.along-REL
 ‘to go along with’

Motion verbs form relational applicatives in which the applied object is the goal (9), source, or purpose:

- (9) Columbian (Kinkade 1982:54)
 kyaʔm n-cút-m-n t-m.
 jump-TR:REFL-REL-TR-1PL.SUB
 ‘We all jumped on him.’

Transfer verbs form relational applicatives in which the applied object is the goal (10) or source (11):

- (10) Sechelt (Beaumont 1985:104)
 xʷúyum-ni-t-cí-čen-élap-skʷa.
 sell-REL-TR-2SG.OBJ-1SG.SUB-2PL-FUT
 ‘I’ll sell it to you (pl).’
- (11) Thompson (L. Thompson and M. Thompson 1992:75)
 ǰʷáǰ-m-me-s.
 borrow-MDL-REL(-TR)-3SUB
 ‘She requests a loan from him.’

What property is shared by the predicates in (2)? For the most part, they have a dyadic semantic structure; that is, there are two participants associated with the event. For example, psychological predicates often involve an experiencer and a stimulus, verbs of cognition involve a cognizer and some content, and motion verbs often involve an object in motion and a goal. However, in many languages of the world, the types of predicates in (3) are intransitive rather than transitive. Even if they are transitive, they have low transitivity, in the sense of Hopper and Thompson (1980), and often do not straightforwardly take direct objects.

Transfer predicates (3e) may be an exception to this generalization, since they take theme objects in many languages in addition to the goal or

source nominal. However, transfer predicates are often syntactically intransitive in Salish languages.⁶

2.2 Redirective applicatives

Salish languages have one to three redirective suffixes. See Table 2.

Table 2. Redirective applicative suffixes in Salish languages

BRANCH	LANG	REDIRECTIVE						
		*-xi	*-ɫ	*-tuɫ	*-Vm	*-tux ^w t	others	
CS	Cx				-ʔə ^m			
	Se				-é ^m			
	Sq	-š ⁱ						
	Hl						-as, -ɫc	
	Nk	-š ⁱ						
	NS	-si						
	Kl	-si						
	Ld	-y ⁱ						
	Tw	-š ⁱ						
Ti	Ti	-š ⁱ						
TS	Ch	-š ⁱ				-tux ^w t		
	Cz	-š ⁱ				-tux ^w t	-s	
IS	NIS	Li	-x ⁱ t					
		Th	-x ⁱ					
		Sh	-x ⁱ					
	SIS	Ok	-x ⁱ	-ɫ	-tuɫ			
		Ka	-š ⁱ	-ɫ				
		Cr	-š ⁱ	-ɫ	-tuɫ			
		Cm	-x ⁱ t	-ɫ	-tuɫ			

Salish languages have at least one redirective suffix, usually the general redirective suffix, which is reconstructed as *-xi by Dale Kinkade for Proto-Salish, though other redirectives can be reconstructed for some branches of Salish, as discussed by Kiyosawa (2006, Chapter 4). The languages without *-xi are Comox and Sechelt, which have the redirective suffix *-Vm, and Halkomelem, which has developed two new redirective suffixes: a dative marked with -as and a benefactive marked with -ɫc.⁷ Upper Chehalis has three redirective forms: *-xi, *-Vm, and *-tux^wt. The semantic differences among them are not entirely clear, but according to Kinkade (1998) *-xi marks datives,

⁶ For example, the stem *q^wáx-m* ('borrow' + middle) 'borrow' in (11) is intransitive (L. Thompson and M. Thompson 1992:75).

⁷ See Gerds and Hinkson (1996, 2004a) for discussion of how the Halkomelem redirective suffixes developed from lexical suffixes.

*-*Vm* marks datives and benefactives, and *-*tux^wt* marks possessors. In the case of the Interior languages, Northern Interior Salish languages have only one redirective applicative, *-*xi*, while Southern Interior Salish languages have innovated a couple of additional applicative suffixes, *-*t* and *-*tuł*. The redirective suffixes specialize in their semantics and also add distributional requirements not present in other branches.

The semantic role of the applied object in redirective applicatives is usually goal (12), benefactive (13), malefactive (14), or possessive (15).

• Goal

(12) Spokane (Carlson 1980: 24)

x^wíć-š-t-ən łu? Agnes łu? t yámǰ^we?
 gave-RDR-TR-1SG.SUB ART Agnes ART OBL basket
 ‘I gave a basket to Agnes.’

• Benefactive

(13) Okanagan (N. Mattina 1993: 265)

Mary ʕac-xít-s i? t snkłčaʔsqáǰa? i? ttwít.
 Mary tie-RDR:TR-3ERG ART OBL horse ART boy
 ‘Mary tied the horse for the boy.’

• Malefactive

(14) Thompson (Thompson & Thompson 1980: 28)

ʔúq^weʔ-x-cm-s tə tíy.
 //ʔúq^weʔ-xi-t-sem-es//
 drink-RDR-TR-1SG.OBJ-3ERG OBL tea
 ‘She drank my tea up on me.’

• Possessive

(15) Okanagan (N. Mattina 1993: 265)

Mary ʕác-ł-t-s i? ttwít i? kəwáp-s.
 Mary tie-RDR-TR-3ERG ART boy ART horse-3POSS
 ‘Mary tied the boy’s horse (for him).’

2.3 Type-shifting

The Salish languages discussed above all have at least one applicative of each type, and many of them have more than one relational and/or more than one redirective applicative suffix, in which case the work of the applicative system is shared among them, often with some degree of overlap. This analysis of applicatives accommodates the majority of applicative suffixes and their

function in Salish languages. However, a residue of several forms and several functions of applicatives do not fit well with this typology.⁸

According to Kiyosawa's typology, each applicative suffix should in theory be assigned to one type, either relational or redirective. However, in practice, the situation is somewhat more complex, as discussed in Kiyosawa (2006:211f). Salish languages are typologically unusual in that they have applicatives of both types—those that attach primarily to intransitive bases and those that attach primarily to transitive bases. But given the cross-linguistic propensity for an applicative to be used on both types of predicates, it is not unexpected that a relational will be used as a redirective or vice versa.

In fact, there are a few cases that show type-shifting of applicative suffixes: some redirective suffixes are also used occasionally as relational suffixes. For example, the redirective in Upper Chehalis can be suffixed to the intransitive verb 'work' to form a benefactive.

- (16) Upper Chehalis (Kinkade 1991:372)
 ?it yús-š-c.
 PERF work-RDR-TR:1SG.OBJ
 'He/she worked for me.'

The reverse situation, relational suffixes used as redirective suffixes, is much rarer. Kiyosawa (2006) found only one language, Tillamook, in which a relational suffix *-as* can be used in a redirective construction in which the applied object is benefactive:

- (17) Tillamook (Egesdal and M. Thompson 1998:256, 252)
 a. (de) s-ʔən-ə́n-i.
 (ART) ST-burn-TR-1SG.SUB
 'I burned it.'
 b. ʔən-ə́n-s-ə́t-i.
 burn-RED(OC)-REL-TR-1SG.SUB
 'I burned it for him.'

Sometimes applicative suffixes are used on transitive bases without increasing the valence. When used in this fashion, the function of the applicative is quite similar to that of transitive suffixes, and the direct object is a theme rather than a semantically oblique NP. See Kiyosawa (2006:221ff.) for discussion.

Nevertheless, the two-way typology developed in Kiyosawa (2006) accounts for the most of the Salish applicative data, and, as we see below, it also

⁸ Kiyosawa (2006) also discusses applicatives in Bella Coola. However, these are different from applicatives in other Salish languages in both form and function and thus are excluded from the discussion here.

helps us to understand the interactions that we find between applicatives and other suffixes.

2.4 Applicative syntax

In sum, Kiyosawa (2006) shows that Salish applicatives are organized into a two-way typology of relationals versus redirectives. A relational applicative is added to an intransitive base, and the resulting clause is a syntactically transitive construction in which a non-theme nominal is the applied object. A redirective applicative is added to a transitive base, and the resulting clause is a semantically ditransitive construction with three participants: a subject, an applied object, and a theme, which appears as a non-argument NP usually marked oblique. In both types of applicative construction, the applied object shows all of the inflectional properties of the theme NP of a simple transitive clause.

Like nominal objects in simple transitives (18), the applied objects in applicative constructions (19) appear as plain NPs if they are overtly expressed, for example ‘boy’ in the following sentences:

- (18) Halkomelem (f.n.)
 ni céw-ət-əs kʷθə swíwłəs.
 AUX help-RDR-TR-3SUB DET boy
 ‘He helped the boy.’
- (19) Halkomelem (Gerds 1988:101)
 ni ʔám-əs-t-əs kʷθə swíwłəs ʔə kʷθə púkʷ.
 AUX give-RDR-TR-3SUB DET boy OBL DET book
 ‘He gave the boy the book.’

As seen in (19), the applicative suffix is usually followed by a transitive suffix and the subject suffix.⁹ In the above data, we see examples with the general transitive suffix *-t* (Gerds 2006). Other transitive suffixes are discussed in section 3.2 below.

If the applied object is pronominal, it is expressed with the same object markers that appear in simple transitive clauses:¹⁰

⁹ Note that some applicative suffixes are not followed by a transitive suffix, as discussed in Kiyosawa (2006:261):

(i) Halkomelem (Gerds 2004:330)
 niʔ nəm-nəs-əs kʷθə swíwłəs kʷθə John.
 AUX go-REL-3SUB DET boy DET John
 ‘The boy went up to John.’

¹⁰ Actually there are some complexities that arise due to the fact that many Salish languages have two sets of object markers. See Kiyosawa (2004, 2006:262ff.).

- (20) Comox (Watanabe 2003:100)
 ?ač-a-θi č.
 chase-LV-TR:2SG.OBJ 1SG.SUB
 ‘I chase you.’
- (21) Comox (Watanabe 2003:336)
 ʃaɫ-it-mi-θi č.
 angry-ST-REL-TR:2SG.OBJ 1SG.SUB
 ‘I’m angry at you.’
- (22) Columbian (Willett 2003:129)
 ?áčč-n-c-n.
 look.at-TR-2SG.OBJ-1SG.SUB
 ‘I’m looking at you.’
- (23) Columbian (Kinkade 1982:53)
 cqána?-m-n-c-n.
 hear-REL-TR-2SG.OBJ-1SG.SUB
 ‘I heard you.’

Another property that applied objects share with direct objects in simple transitive clauses is that they can be passivized:

- (24) Halkomelem (Gerdt and Kiyosawa 2005:336)
 ni? si?si?-me?-θeləm ?ə-ʃ̌ John.
 AUX frighten-REL-TR:1OBJ:PASS OBL-DET John
 ‘John was frightened of me.’ (lit. ‘I was frightened of by John.’)
- (25) Klallam (Montler 1996:262)
 ?əh́á-nəs-əŋ cn ?a? cə sqáχəʔ.
 come-REL-PASS 1SG.SUB OBL DET dog
 ‘The dog came at me.’¹¹
- (26) Sechelt (Beaumont 1985:110)
 ʃél-ém-t-cí-m-skʷa ?e ʃ̌e tán.
 write-RDR-TR-2SG.OBJ-PASS-FUT OBL DET:2SG.POSS mother
 ‘Your mother will write it for you.’ (lit. ‘It will be written for you by your mother.’)

¹¹ Salish passive sentences are often translated as active sentences in English.

- (27) Coeur d'Alene (Doak 1997:145)
- | | | |
|-----------------------------|------------------|--|
| k ^w íłtm | x ^w e | s ^ʔ ímče ^ʔ s. |
| //k ^w in-ł-t-Ø-m | x ^w e | s- ^ʔ ímče ^ʔ -s// |
| take-RDR-TR-3SG.OBJ-PASS | DET | NM-daughter-3SG.POSS |
- ‘His daughter was taken from him.’

The passive suffix appears on the predicate in (24)–(27) and the agent, if it appears, is in an oblique phrase. The NP that would be the applied object in a corresponding active sentence serves as the sole direct argument in these passives of applicatives.¹²

In sum, applied objects in both relational and redirective applicatives show all of the inflectional properties exhibited by themes in simple transitive clauses.

3 Combinations of applicatives and other suffixes

Having briefly summarized some key points about the two types of applicatives in the previous section, we now turn to a discussion of the various combinations of applicative suffixes with other suffixes. Salish languages are known for their polysynthetic structure. They have a large number of suffixes, most of which can co-occur with applicative suffixes. The basic order of verbal suffixes in the predicate complex is shown in Table 3:

Table 3. Verbal suffix template

ROOT	+1	+2	+3	+4	+5
	intransitive, lexical suffix	applicative	transitive, causative, non-control	object, passive, reflexive, reciprocal	subject

We have seen examples in the previous section of applicative morphology followed by the general transitive suffixes (+3), object and passive suffixes (+4), and subject suffixes (+5). These suffixes never appear before applicative suffixes, only after.

However, this template is only an heuristic device for showing the relative order of the suffixes, and it does not constitute an adequate treatment of the morphology. In some cases, outer layer morphology creates the right sort of base for earlier morphology in the template, allowing another cycle of suffixation. In this section, we show that some suffixes can occur both inside and outside of the applicative suffixes. These include reflexive and reciprocal

¹² As Kroeber (1999:25ff.) notes, all Salish languages have a construction that is used to demote the agent, which we refer to here as passive, though it is variously called passive, impersonal passive, impersonal, agent demotion, or inverse by different Salish scholars. Some Salish languages vary as to whether they use object or subject inflection for the sole argument in the passive construction.

suffixes (section 3.1), and causative and non-control transitive suffixes (section 3.2), lexical suffixes (section 3.3), and one type of intransitive suffix, the indefinite (section 3.4).

3.1 Applicatives, reflexives, and reciprocals

Kinkade (1998) reconstructs the Proto-Salish reflexive suffix **-səwt* and the reciprocal suffix **-awalxʷ*.¹³ In their core use (indicating action on oneself or each other), the reflexive and reciprocal suffixes productively appear on verb forms that can otherwise take transitive suffixes, namely process unaccusatives, and always straightforwardly mean ‘self’ or ‘each other’ (Gerds 2000:157), as illustrated in the following Halkomelem examples.

(28) Halkomelem (f.n.)

a.	q̣ʷaqʷət ‘club it’	q̣ʷaqʷəθət ‘club self’	q̣ʷaqʷətəl ‘club each other’
b.	ʔakʷət ‘hook it’	ʔakʷəθət ‘hook self’	ʔakʷətəl ‘get hung up with each other’
c.	xiq̣ət ‘scratch it’	xiq̣əθət ‘scratch self’	xiq̣ətəl ‘scratch each other’

The reflexive and reciprocal suffixes appear in the same slot in the template as the object suffixes; that is, they appear following and, like first- and second-person object suffixes, often fused with the transitive suffix.

(29) Halkomelem (f.n.)

q̣ay-θam̩ʃ	‘kill me’
q̣ay-θamə	‘kill you’
q̣ay-taɬxʷ	‘kill us’
q̣ay-talə	‘kill you (plural)’
q̣ay-t	‘kill him/her/it/them’
q̣ay-θət	‘kill self’
q̣ay-təl	‘kill each other’

Nevertheless, as is usually the case with affixal reflexives and reciprocals in the world’s languages, their surface syntax is intransitive, as evidenced by the verbal inflection: Ø-absolutive rather than ergative agreement is used for third-person subjects:

¹³ Some but not all Salishanists gloss the reflexive and reciprocal suffixes as containing a transitive suffix.

- (30) Halkomelem (Gerdtts and Hukari to appear)
 niʔ kʷələš-θət(*-əs) kʷθə swəy̓qeʔ.
 AUX shoot-REFL-3SUB DET man
 ‘The man shot himself.’
- (31) Halkomelem (Gerdtts and Hukari to appear)
 ʔiʔ ha:qʷə-tə́(*-əs) tə sqʷəm qʷəmeý.
 AUX smell(IMPF)-RECIP-3SUB DET dog(PL)
 ‘The dogs are smelling one another.’

3.1.1 Applicatives followed by reflexives and reciprocals

Parallel to the object suffixes discussed in section 2.4, the reflexive suffix can follow an applicative suffix. For example, reflexes of the relational suffix *-*mi* can be followed by the general transitive suffix and the reflexive suffix:

- (32) Comox (Watanabe 1996:336)
 ləx̄-mi-θut tə čuy̓.
 bad-REL-TR:REFL DET child
 ‘The kid is behaving badly, crying and screaming.’
- (33) Halkomelem (Gerdtts and Kiyosawa 2005:336)
 ʔi cən wə́t łciws-maʔ-θət¹⁴ kʷə-nə-s
 AUX 1SG.SUB already tired-REL-REFL DET-1SG.POSS-NM
 ʔi q̄a q̄iʔ.
 AUX sick
 ‘I’m tired of myself being sick.’
- (34) Lillooet (Van Eijk 1997:124)
 n kʷzanwas-min-an-cút
 worry-REL-TR-REFL
 ‘to worry about oneself’

Similarly, reflexes of the redirecive suffix *-*xi* can be followed by the reflexive suffix:

- (35) Lillooet (Van Eijk 1997:125)
 kʷul-xi-cút
 make-RDR-REFL
 ‘to make something for oneself’

¹⁴ The vowel *e* in the relational suffix *-meʔ* changes to *a* before the reflexive suffix (Gerdtts and Hinkson 2004a).

- (36) Columbian (Kinkade 1982:59)
 sc-ma^y-x-cút-əx^w.
 PREFIX-tell-RDR-TR:REFL-IMPF
 ‘He’s talking to himself.’

The reciprocal suffix can also occur after applicative suffixes. Reflexes of the relational suffix **-mi* can be followed by the reciprocal suffix:

- (37) Comox (Honoré Watanabe p.c.)
 ʃəł-it-mi-t-awł.
 angry-ST-REL-TR-RECIP
 ‘They are angry at each other.’

- (38) Squamish (Kuipers 1967:79)
 səq̣-mí-n-t-way
 split-REL-TR-RECIP
 ‘split and share’

- (39) Halkomelem (Gerdts and Kiyosawa 2005:336)
 ʔeʔət ʃi:ʔʃeʔ-meʔ-təł t^θə sʃəłiqəł k^w-s
 AUX shy(IMPF)-REL-RECIP DET children DET-NM
 q^wəłq^wəł-təł-s.
 speak(IMPF)-TR:RECIP-3POSS
 ‘The children are shy about speaking to each other.’

- (40) Lillooet (Van Eijk 1997:125)
 cuq^w-miⁿ-twáł-ən
 splice-REL-RECIP-TR
 ‘to add several pieces of rope together’

The relational suffixes *-ni* (41), *-nas* (42), and *-t(a)s* (43) can also be followed by the reciprocal suffix:

- (41) Upper Chehalis (Kinkade 1991:172)
 s-yáy-š-n-twal-n-n
 IMPF-tell-AUTO-REL-RECIP-?-3SG.SUB
 ‘they tell each other’

- (42) Nooksack (Galloway 1997:218)
 q̣o-n-s-wáł
 with-REL-RECIP
 ‘come together (just meet, no purpose)’

- (43) Cowlitz (Kinkade 2004:79)
 ?ac-ǵʷó:l-tš-wlɣ-umɣ.
 ST-happy-REL-RECIP-3PL
 ‘They like each other.’

The redirective suffixes *-xit* (44), *-as* (45), *-tɕ* (46), *-tuxʷt* (47) can also be followed by the reciprocal suffix:

- (44) Columbian (Kinkade 1982:60)
 maǵ-xt-ʷáɣʷ.
 tell-RDR-RECIP
 ‘They’re telling each other stories.’
- (45) Halkomelem (Gerdt 2000:146)
 ?a:m-əs-tal
 give-RDR-RECIP
 ‘give it to each other’
- (46) Halkomelem (Gerdt 2000:146)
 niʔ ct ǵʷəl-əɕ-təl.
 AUX 1PL cook-RDR-RECIP
 ‘We cooked for each other.’
- (47) Upper Chehalis (Kinkade 1991:10)
 s-ʔaǰ-áɳ-tɣʷt-wali
 IMPF-see/look.at-?-RDR-RECIP
 ‘looking after each other’

The data with applicatives followed by reflexive and reciprocal suffixes that we were able to find in the various Salish languages are summarized in Table 4.¹⁵

¹⁵ Here and elsewhere we use *X* for combinations that are rejected and blank for combinations for which no data were found.

Table 4. Applicatives followed by reflexive and reciprocal suffixes

LANG	SUFFIX	REL/RDR	REFLEXIVE	RECIPROCAL
CX	*-mi	REL	✓	✓
Sq	*-mi	REL		✓
Hl	*-mi	REL	✓	✓
Li	*-mi	REL	✓	✓
Ch	*-ni	REL		✓
Hl	*-nəs	REL		✓
Nk	*-nəs	REL		✓
Cz	*-tas	REL		✓
Li	*-xi	RDR	✓	
Cm	*-xi	RDR	✓	✓
Hl	-as	RDR	✗	✓
	-ɫc	RDR	✗	✓
Ch	*-tux ^w t	RDR		✓

The reflexive and reciprocal suffixes appear in the same position as object suffixes, and a priori one would expect there to be no restriction on their occurrence after the applicative suffix. However, this needs to be ascertained language by language and applicative by applicative. For example, Halkomelem does not appear to allow the reflexive suffix after the redirective suffixes *-as* and *-ɫc*.

- (48) Halkomelem (Gerdt 1988:113)
 *ni cən ʔám-əs-θət.
 AUX 1SG.SUB give-RDR-REFL
 ‘I gave it to myself.’

- (49) Halkomelem (Gerdt 1988:113)
 *ni q^wəl-əɫc-θət ʔə k^wθə səplɪl.
 AUX bake-RDR-REFL OBL DET bread
 ‘She baked the bread for herself.’

As noted above, Halkomelem does allow the reflexive after the relational applicative and furthermore allows the reciprocal after all applicatives. We have no explanation for this array of facts.¹⁶

¹⁶ Note that many verbs in Halkomelem form a benefactive reflexive meaning by simply adding the reflexive to the verb root and expressing the theme as an oblique NP.

(i) Halkomelem (f.n.)
 neim čə wəl səwq-θət t^θəñ šx^wəñnik^w ʔə k^w steniʔ.
 go hearsay now seek-REFL DET:2POSS uncle OBL DET woman
 ‘Your uncle is going to find himself a woman.’

3.1.2 Reflexive and reciprocals before applicatives

The previous section showed examples of applicatives followed by reflexive and reciprocal suffixes. In addition, it is possible for reflexive and reciprocal suffixes to appear before applicative suffixes in at least some Salish languages. Since reflexives and reciprocals form intransitive bases, it is expected that they can be followed by relational applicative suffixes, and we see that this is the case.

Reflexes of the relational suffixes **-mi* (50)–(53) and **-ni* (54) can follow the reflexive suffix:

- (50) Comox (Watanabe 2003:335)
 təs-θut-mi-t-uł č tə qaymixʷ.
 close-TR:REFL-REL-TR-PAST 1SG.SUB DET native.person
 ‘I was getting closer to the person.’
- (51) Tillamook (Egesdal and M. Thompson 1998:255)
 de s-tə-yət-əcít-wi-n.
 ART ST-to-stand-TR:REFL-REL-TR
 ‘He is standing next to someone.’
- (52) Lillooet (Van Eijk 1997:125)
 ʃʷəst-án-cut-min
 exert-TR-REFL-REL
 ‘to make an effort for something’
- (53) Columbian (Kinkade 1982:54)
 kʰiln-cút-m-n.
 jealous-TR:REFL-REL-TR:1SG.SUB
 ‘I’m jealous of him.’
- (54) Squamish (Kuipers 1967:79)
 ǵán-acut-ni-t
 return-TR:REFL-REL-TR
 ‘return to’

Reflexes of the relational suffixes **-mi* (55), **-nas* (56), and **-ni* (57) can follow the reciprocal suffix:

- (55) Tillamook (Egesdal and M. Thompson 1998:255)
 gʷəʔ də ʃ-ʔəhaʔ-t-əgʷəl-wi-n.
 FUT ART LOC-fight-TR-RECIP-REL-TR
 ‘He is going to fight with him.’

- (56) Halkomelem (f.n.)
 neṁ ct ceʔ peʔ ʔəw̄ šaqʷəl ʔəšəl-təl-nəsamə.
 go 1PL.SUB FUT indeed LNK go.across paddle-RECIP-REL:2OBJ
 ‘We will all paddle across together toward you.’
- (57) Squamish (Kuipers 1967:355)
 na wa q̄əq̄x-át-ayʔ-ní-t-as-wit.
 AUX CONT argue-TR-RECIP-REL-TR-3SUB-PL
 ‘They were arguing about it.’

In contrast, redirective suffixes, since they attach to transitive bases, should not follow reflexives and reciprocals. We found one example in which a redirective suffix follows the reflexive suffix. However, this form seems puzzling, because the meaning is the same with or without the reflexive suffix:

- (58) Thompson (L. Thompson and M. Thompson 1992:72)
- a. qʷin-xí-c
 speak-RDR-TR:3SUB
 ‘speak to someone for someone; [esp. in arranging a marriage] act as intermediary for someone’
- b. qʷin-cút-x-c
 speak-TR:REFL-RDR-TR:3SUB
 ‘speak to someone for someone; [esp. in arranging a marriage] act as intermediary for someone’

Also, the reflexive morphology does not convey any reflexive meaning. Another example of a reflexive used in this way in Thompson is the word *k̄əsciút* (*//k̄əs-t-sút//* bad-TR-REFL), which means ‘say no [to a marriage proposal]’ (L. Thompson and M. Thompson 1980:28). So apparently the domain of marriage gives rise to a special class of verbs that are morphologically reflexive but semantically transitive.

Also we found one example of the redirective suffix *-tɕ* following a reciprocal in Halkomelem:

- (59) Halkomelem (f.n.)
 ɕawə-təl-ətɕ-t ceʔ ʔəw̄ neṁ-əs yeq̄-els
 help-RECIP-RDR-TR FUT LNK go-3SUB fell-ACT
 ʔə k̄ʷ θqet.
 OBL DET tree
 ‘We are going to help each other when he is going to fell some trees.’
 [lit: ‘We are going to help each other in order to fell trees for him.’]

This conveys the sense of working together at a transitive event for someone else’s benefit.

In Table 5, we summarize the data we have found in which an applicative suffix follows a reflexive or reciprocal suffix:

Table 5. Reflexive and reciprocal suffixes preceding applicatives

LANG	REFLEXIVE	RECIPROCAL	REL/RDR	SUFFIX
Cx	✓		REL	*-mi
Ti	✓	✓	REL	*-mi
Li	✓		REL	*-mi
Cm	✓		REL	*-mi
Hl	✗	✓	REL	*-mi
Hl	✗	✓	REL	*-nəs
Sq	✓	✓	REL	*-ni
Th	✓		RDR	*-xi
Hl	✗	✓	RDR	-ɬc

Since the reflexive and reciprocal suffixes form intransitive constructions, relational suffixes can follow those suffixes. In contrast, it appears that redirective suffixes can follow reflexives only in a highly lexicalized context.

3.1.3 Summary

Table 6 summarizes the data that we have found in which a reflexive or reciprocal suffix appears before or after an applicative suffix.

Table 6. Applicatives, reflexives, and reciprocals

LANG	SUFFIX	REL/RDR	REFL-APPL	RECIP-APPL	APPL-REFL	APPL-RECIP
Cx, Li	*-mi	REL	✓		✓	✓
Sq	*-mi	REL				✓
Hl	*-mi	REL	✗	✗	✓	✓
Ti	*-mi	REL	✓	✓		
Cm	*-mi	REL	✓			
Ch	*-ni	REL				✓
Sq	*-ni	REL	✓	✓		
Hl	*-nəs	REL		✓	✗	✓
Nk	*-nəs	REL				✓
Cz	*-tas	REL				✓
Li	*-xi	RDR			✓	
Th	*-xi	RDR	✓			
Cm	*-xi	RDR			✓	✓
Hl	-as	RDR			✗	✓
	-ɬc	RDR	✗	✓	✗	✓
Ch	*-tux ^w t	RDR				✓

Further research is obviously necessary to fill in the blank cells in the table. Nevertheless, when the data from the various languages is taken into consideration, we can see that examples of reflexives and reciprocals appear both before and after both type of applicative suffixes.

3.2 Applicative, causative, and non-control suffixes

Next, we turn to the interaction of applicative suffixes with transitive suffixes. As mentioned above, the general transitive suffix appears only after and not before applicative suffixes. However, we see that applicatives can appear both before and after the other transitive suffixes—the causative suffix **-stw* and the non-control transitive suffix **-nwá-n*.¹⁷

3.2.1 The causative suffix

The causative suffix **-stw* has a variety of functions.¹⁸ Typically, this suffix is added to intransitive verbs to form causatives in which a causer causes a causee to do something:

- (60) Thompson (L. Thompson 1985:394)
kʷís-s-cm-s.
 fall-CS-1SG.OBJ-3SUB
 ‘She caused me to fall (or managed to make me fall).’

The causative derives a transitive base, and thus we predict that causatives can form redirective applicatives. The causative suffix can be followed by the redirective suffix *-aʔam* (61), *-yi* (*<*-xi*) (62), *-x* (*<*-xi*) (63), *-t* (64), and *-tc* (65):

- (61) Comox (Watanabe 2003:250)
ʔiɦtən-st-aʔam-θi tʰəm ʔə tə čuý.
 eat-CS-RDR-TR:2SG.OBJ 1SG.SUB:FUT OBL DET child
 ‘I will feed the child for you.’

- (62) Lushootseed (Bates et al. 1994:23)
ʔúǰʷ-txʷ-yi-c.
 go-CS-RDR-TR:1SG.OBJ
 ‘Take it for me.’

¹⁷ The reconstructed forms are from Kinkade (1998). He also suggests alternate forms for the causative suffix and the non-control transitive suffix: **-staw* and **-nwál-n* respectively. The suffix *-n* at the end of the non-control transitive suffix **-nwál-n* is the general transitive suffix *-n*, which occurs in Interior Salish.

¹⁸ See Gerdt and Hukari (2006) for a discussion of the functions of causatives in Halkomelem.

- (63) Shuswap (Kuipers 1992:49)
 pul-st-x-t-s tə sʔmkel t-s.
 lie-CS-RDR-TR-3SUB OBL daughter-3POSS
 ‘He kills his (other’s) daughter.’
- (64) Columbian (Kinkade 1982:58)
 kʷəñ-stú-ł-n.
 examine-CS-RDR-1SG.SUB
 ‘I showed it to him.’
- (65) Halkomelem (f.n.)
 neṁ ʔənəxʷ-st-əłc-θamš ʔə θə sti:č!
 go stop-CS-RDR-TR:1OBJ OBL DET bus
 ‘Stop the bus for me!’

One example from Kalispel is particularly noteworthy because the relational suffix appears before the causative suffix and the redirective suffix appears after it:

- (66) Kalispel (Carlson and Flett 1989:153)
 tu-mí-st-š-t-n.
 transact.business-REL-CS-RDR-TR-1SG.SUB
 ‘I bought it for somebody.’

Example (66) is exceptional because in this case the causative suffix does not form a causative stem in which a causer causes a causee to do something. The root *tew* ‘transact business’ always appears with two suffixes *tu-mi-st* when it means ‘buy, sell’ (Carlson and Flett 1989:92). Thus, the relational and causative suffixes may be lexicalized in this example. In fact, the Columbian cognate, *tumist*, is analyzed as a verb root meaning ‘sell’, which is in turn followed by a relational suffix in the following example:

- (67) Columbian (Kinkade 1981:85)
 tumíst-mə-n.
 sell-REL(-TR)-1SG.SUB
 ‘I sold it.’

We have found other data where an applicative can be followed by the causative suffix. Reflexes of the relational suffix **-mi* can be followed by the causative suffix:

- (68) Northern Straits (Montler 1986:174)
 a. tčístəs.
 //tč-ŋiy-staxʷ-Ø-əs//
 arrive-REL-CS-3OBJ-3SUB
 ‘He brought it.’

- b. $\check{\text{X}}\check{\text{c}}\text{ə}\text{ŋ}\text{i}\text{stá}\text{ŋ}\text{əs}$ $\text{sə}^?$ sx^{w} .
 // $\check{\text{X}}\check{\text{c}}\text{-il-ŋiy-stax}^{\text{w}}\text{-aŋəs}$ $\text{sə}^?$ $\text{sx}^{\text{w}}//$
 down-AUTO-REL-CS-1SG.OBJ FUT 2SUB
 ‘You’re going to sink me.’
- c. $\text{səsi}^?\text{ŋ}\text{i}\text{stá}\text{łx}^{\text{w}}$ sx^{w} .
 // $\text{C}_1\text{+se}\check{\text{y}}\text{-ŋiy-stax}^{\text{w}}\text{-ałx}^{\text{w}}$ $\text{sx}^{\text{w}}//$
 RED(RES)-scare-REL-CS-1PL.OBJ 2SUB
 ‘You scared us.’

(69) Klallam (Montler 2000: #1399, 1866)

- a. $\text{nu}^?\text{-}\check{\text{X}}\check{\text{c}}\text{i-ŋ}\text{i}\text{-stx}^{\text{w}}$
 PREFIX-deep-REL-CS
 ‘deepen’
- b. $\text{sa}\check{\text{y}}\text{si}^?\text{-ŋ}\text{i}\text{-stx}^{\text{w}}$
 afraid-REL-CS
 ‘scare, frighten’

The causative suffix seems to serve as a simple transitive suffix in (70) and (71); it is not used in the usual sense (i.e. ‘to cause someone to do something’, as exemplified in (60) above):

(70) Tillamook (Egesdal and M. Thompson 1998:243)
 $\text{g}^{\text{w}}\text{ə}$ wał $\check{\text{c}}\text{ag}^{\text{w}}\text{-u-sti-wá-y.}^{19}$
 FUT with dance-REL-CS-2SG.OBJ-1SG.SUB
 ‘I will dance with you.’

(71) Kalispel (Carlson 1972:104)
 $\check{\text{c}}\text{án}\text{ə}\text{m}\text{st}\text{ə}\text{n}$.
 // $\check{\text{c}}\text{an-mi-ste-n}//$
 tie/pinch-REL-CS-1SG.SUB
 ‘I tighten it.’

We have found one example of the relational suffix **-nəs* followed by the causative suffix:

¹⁹ This is the only Tillamook example that we found in which the relational applicative suffix appears as *-u* and is followed by the causative suffix.

- (72) Halkomelem (f.n.)
 nəm-nəs-stəx^w t^θəń silə ʔə t^θə
 go-REL-CS DET:2POSS gr.parent OBL DET
 ʔi sǫǫǫip q^wəli:lq^wəl-təl.
 AUX gathered talk(PL+IMPF)-RECIP
 ‘Have your grandfather go to the people in discussion.’

The causative in this case yields a typical causative reading of having someone do something, and the applied object appears as an oblique nominal.

In some Salish languages, the causative suffix is used like a general transitive marker in certain aspects (with or without the customary prefix). The aspectual use of causative can follow a relational suffix:

- (73) Shuswap (Kuipers 1992:50)
 c-ǰ-ʔyp=ełč-m-st-s
 CUST-in-angry=inside-REL-CS-3SUB
 ‘be angry at’
- (74) Coeur d’Alene (Doak 1997:209)
 lu čeł tq^waʔq^wəʔelmístx^w.
 //lut čeł t-CVC-q^weʔl-min-stu-Ø-x^w//
 NEG FUT LOC-RED(AUG)-speak-REL-CS-3SG.OBJ-2SG.SUB
 ‘You don’t talk about it.’
- (75) Columbian (Willett 2003:282)
 ʔachúymstms ny^ʔáp.
 //ʔac-huy-min-st-m-s//
 IMPF-visit-REL-CS-1SG.OBJ-3SUB all the time
 ‘He visits me every day.’
- (76) Columbian (Kinkade 1982:54)
 yər-mí-st-m-s.
 push-REL-CS-1SG.OBJ-3SUB
 ‘He is pushing me.’

Looking next at data in which a redirective suffix is followed by the causative suffix, only one example is attested:

- (77) Coeur d’Alene (Doak 1997:161)
 ʔečńšístmis.
 //ʔe(c)-čeń-ší-st(u)-mi-s//
 CUST-hold-RDR-CS-2SG.OBJ-3SUB
 ‘He helps you.’

However, in some Interior Salish languages the causative suffix is used instead of the general transitive suffix to mark transitivity in the customary aspect.

We summarize the co-occurrence of applicative and causative suffixes in Table 7:

Table 7. Applicatives and causative suffixes

LANG	SUFFIX	REL/RDR	CS-APPL	APPL-CS
NS, Kl, Ti, Ka, Sh, Cr, Cm	*-mi	REL		✓
Hl	*-nəs	REL		✓
Cr	*-xi	RDR		✓
Ld, Sh, Ka	*-xi	RDR	✓	
Cm	*-ɬ	RDR	✓	
Cx	*-Vm	RDR	✓	
Hl	-ɬc	RDR	✓	

The causative suffix comes before and after redirective suffixes, but it only comes after relational suffixes. Since the causative suffix derives transitive bases, and redirectives but not relationals are suffixed to transitive bases, we correctly predict that only redirectives will follow the causative. When the causative suffix comes after a relational or a redirective suffix, sometimes it is not used in the usual way (i.e. ‘to cause someone to do something’) but rather as a simple transitive suffix (Tillamook, Kalispel). Also, causative suffixes appear in some languages (Shuswap, Coeur d’Alene, Columbian) to mark transitivity in the customary aspect.

3.2.2 The non-control suffix

The non-control transitive suffix *-nwá-n is used for actions that are performed accidentally or accomplished with difficulty (L. Thompson 1979, 1985; Carlson and L. Thompson 1982). Non-control constructions are translated as ‘do accidentally, unintentionally’, ‘manage to do’, ‘(finally) succeed in doing’, etc.:

- (78) Northern Straits (Montler 1986:165)
 ʔəm-náx^w sən.
 hit-NC 1SG.SUB
 ‘I hit it accidentally.’/‘I finally managed to hit it.’

The non-control transitive suffix can occur before reflexes of the redirective suffix *-xi (79)–(80), and before -t (81)–(82):

- (79) Lushootseed (Hess 1967:43)
 ʔál-dx^w-ii-c
 put.on.clothing-NC-RDR-TR:1SG.OBJ
 ‘manage to get it on for me’

- (80) Thompson (L. Thompson and M. Thompson 1980:28)
 ciqnwéxcmx^w.
 //cíq-nwén-xi-t-sem-ex^w//
 dig-NC-RDR-TR-1SG.OBJ-2SG.SUB
 ‘You (accidentally) dug up my [flowers] on me.’
- (81) Okanagan (N. Mattina 1996:92)
 n^oa1-nu-ł-t-x^w.
 sink-NC-RDR-TR-2SG.SUB
 ‘You managed to sink something of his.’
- (82) Columbian (Kinkade 1982:58)
 cək-nú-ł-n.
 throw-NC-RDR(-TR)-1SG.SUB
 ‘I accidentally hit it.’

In contrast to the sequence *-nú-ł* in (82), the sequence of *-nú-xi* or *-nú-tuł* is rejected in Columbian (Kinkade 1982).

In one noteworthy example from Columbian a relational suffix appears before the non-control transitive suffix and a redirective suffix appears after it:

- (83) Columbian (Kinkade 1982:58)
 cək-m-nú-ł-t-n.
 throw-REL-NC-RDR-TR-1SG.SUB
 ‘I accidentally threw it at him.’

We turn now to examples where an applicative suffix appears before the non-control suffix. We have found examples in which the relational suffixes *-mi* (84) and *-nas* (85) can be followed by the non-control suffix:

- (84) Shuswap (Kuipers 1974:197)
 łək^w-m-nweñ-s
 think.of-REL-NC-2SG.SUB
 ‘remember, think of, conceive a thought, get an idea’
- (85) Halkomelem (f.n.)

yeł	nə-s-niʔ	nəm-nəs-nəx ^w
finally	1POSS-NM-AUX	go-REL-NC
k ^w θə x ^w qələwən sʔeləx ^w .		
DET	mean	old.person

 ‘I finally went to that mean old man.’

None of the other applicative suffixes in Halkomelem can be followed by the non-control transitive suffix:

- (86) Halkomelem
- a. *ni ʔám-əs-nəxʷ-əs kʷθə sqʷəméyʔ ʔə kʷθə sθʔámʔ.
 AUX give-RDR-NC-3SUB DET dog OBL DET bone
 ‘He managed to give the dog the bone.’ (Gerds 1988:116)
- b. *ni kʷən-əłc-n-ámš-əs.
 AUX take-RDR-NC-1SG.OBJ-3SUB
 ‘He managed to get it for me.’ (Gerds 1988:118)
- c. *siʔsiʔ-meʔ-nəxʷ
 afraid-REL-NC
 ‘accidentally be frightened by him/her/it’ (Gerds and Kiyosawa 2005:337)

An example of a redirective suffix occurring before the non-control transitive suffix is found in Comox:

- (87) Comox (Watanabe 2003:251)
- kʷəł-ʔəm-nu-mš-as ʔə tə tʰ tihaya.
 pour-RDR-NC-1SG.OBJ-3SUB OBL DET 1SG.POSS tea
 ‘He accidentally spilled my tea.’

The co-occurrence of applicative suffixes with the non-control transitive suffix is summarized in Table 8:

Table 8. Applicatives and non-control suffixes

LANG	SUFFIX	REL/RDR	NC-APPL	APPL-NC
Sh, Cm	*-mi	REL		✓
Hl	*-mi	REL		✗
	*-nəs	REL		✓
Hl	-as	RDR		✗
	-łc	RDR		✗
Cx	*-Vm	RDR		✓
Ld, Th	*-xi	RDR	✓	
Ok, Cm	*-ł	RDR	✓	
Cm	*-xi	RDR	✗	
	*-tuł	RDR	✗	

The non-control suffix comes before and after redirective suffixes, but it only comes after relational suffixes. Since the non-control transitive suffix derives transitive bases, and redirectives but not relationals are suffixed to transitive bases, we correctly predict that only redirectives will follow the non-control suffix. However, the co-occurrence of applicatives and the non-control suffix is restricted suffix by suffix and language by language. In Columbian, the

non-control suffix can precede the redirective suffix *-t*, but not *-xit* or *-tuł*. In Halkomelem, the non-control suffix can follow only one out of the four applicative suffixes.²⁰

3.2.3 Summary

To summarize what we have found about the interaction of applicatives and transitive marking, the general transitive suffix appears to behave differently from other transitive suffixes with respect to applicatives. The general transitive suffix, discussed in section 2.4 above, only appears after and not before applicative markers. Table 9 gives a summary of the data that we have found on the interaction of applicatives with causative and non-control suffixes.

Table 9. Applicatives, causatives, and non-control

LANG	SUFFIX	REL/RDR	CS-APPL	NC-APPL	APPL-CS	APPL-NC
NS, Kl, Ti, Ka, Cr	*-mi	REL			✓	
Sh, Cm	*-mi	REL			✓	✓
Hl	*-mi	REL				✗
	*-nəs	REL			✓	✓
Cx	*-Vm	RDR	✓			✓
Hl	-as	RDR				✗
	-łc	RDR	✓			✗
Ld	*-xi	RDR	✓	✓		
Th	*-xi	RDR		✓		
Sh, Ka	*-xi	RDR	✓			
Cr	*-xi	RDR			✓	
Ok	*-ł	RDR		✓		
Cm	*-xi	RDR		✗		
	*-ł	RDR	✓	✓		
	*-tuł	RDR		✗		

The data are rather sparse but if we take it in total for all the languages we see that both of these transitive suffixes can appear either before or after some applicatives. Some languages apparently block some potential combinations, and we have no explanation for why this is the case.

3.3 Applicatives and lexical suffixes

Lexical suffixes, which derive historically from nouns that have become bound forms, have meanings analogous to free-standing nominals.

²⁰ Honoré Watanabe (p.c.) informs us that he has made a preliminary observation that the relational suffix *-mi* in Comox cannot be followed by the non-control transitive suffix.

Salish languages have more than one hundred lexical suffixes expressing body parts, flora and fauna, people, and cultural artifacts such as houses, garments, and instruments. The syntax and semantics of lexical suffixes have been discussed extensively elsewhere (e.g. Gerdts 2003, Gerdts and Hinkson 1996, Hinkson 1999). For our purpose here, it is sufficient to note the two main functions that lexical suffixes have when they are suffixed to verbs.

One use of lexical suffixes is as an adjunct to specify the instrument, manner, or location of an intransitive verb.

- (88) Halkomelem (Gerdts 2003:346)
 q̣t=aθən
 go.along=mouth
 ‘walk along (a shore, etc.)’

We refer to this function as Type 1.

A second use of lexical suffixes is to refer to the nominal that plays the role of the theme in a transitive event:

- (89) Halkomelem (f.n.)
 nēm č xʷ-kʷaʔ=qə-t
 go 2SUB PFX-open=container-TR
 ‘Go and open the container!’

We refer to this function as Type 2. The construction is semantically transitive, and, if the lexical suffix is followed by a transitive suffix, it is syntactically transitive as well. The lexical suffix serves a classifying function on the theme, which can appear as the overt object NP of the clause.

- (90) Halkomelem (f.n.)
 niʔ t̥əx̣=wil-t-əs θə sleniʔ t̥ə ləpat.
 AUX wash=vessel-TR-3ERG DET woman DET cup
 ‘The woman washed the cups.’

3.3.1 Lexical suffixes followed by applicatives

Examples of lexical suffixes appearing before applicative suffixes are quite common. When a lexical suffix appears before a reflex of the relational suffix **-mi* (91)–(101) or **-ni* (102)–(103), it has a Type 1 function.

- (91) Squamish (Kuipers 1967:79)
 qxʷ=ús-mi-ń
 gathered=face-REL-TR
 ‘gang up on someone’

- (92) Halkomelem (Gerds and Kiyosawa 2005:332)
 š-təʔe:=wəñ-m eʔ-t
 NM:LOC-like.that=inside-REL-TR
 ‘thinking that way about it/him/her’
- (93) Lushootseed (Hess and Bates 2004:186)
 dʔəl=áx̣ad-bi-d
 turn=side-REL-TR
 ‘visit someone’
- (94) Tillamook (Egesdal and M. Thompson 1998:254)
 l̥e s-tḳʷ=aniʔ-wí-c-i.
 ART ST-put=ear-REL-2SG.OBJ-1SG.SUB
 ‘I hear you.’
- (95) Upper Chehalis (Kinkade 1991:95)
 pá-t=yq̣-m-n
 stick.out=foot-REL-3SG.OBJ
 ‘reach with the foot for’
- (96) Cowlitz (Kinkade 2004:233)
 ʔit ḳʷəp=á:x̣n-m-n.
 PERF straight=upper.arm-REL-TR
 ‘He aimed at it.’
- (97) Lillooet (Van Eijk 1997:120)
 n-ql=ánwas-m in
 ART-bad=heart-REL
 ‘to dislike somebody’
- (98) Thompson (L. Thompson and M. Thompson 1992:75)
 a. //ḳəs=ič̣eʔ-m e h-t//
 ugly=skin-REL-TR
 ‘have a (skin) allergy to something’
 b. //wík=eč̣e h-m e h-t//
 see=pretense-REL-TR
 ‘pretend to see someone/something’²¹
- (99) Shuswap (Kuipers 1992:50)
 ke-ḳm=łx-m-n-s
 RED-surface=body-REL-TR-3SUB
 ‘sneak up to’

²¹ This predicate is used primarily in the negative: ‘pretend not to see someone/ something’ (L. Thompson and M. Thompson 1992:75).

- (100) Kalispel (Carlson and Flett 1989:147)
 hec-méʔ=cn-mí-st-n.
 ST-bother=mouth-REL-CS-1SG.SUB
 ‘I bothered him with my talk.’
- (101) Coeur d’Alene (Doak 1997:38)
 //puʔs=cin-min-nt//
 blow=mouth-REL-TR
 ‘tell someone a joke’
- (102) Squamish (Kuipers 1967:381)
 čn yəwʔín=c-ni-t-umi.
 1SG.SUB spiritual.power=mouth-REL-TR-2SG.OBJ
 ‘I understand you.’
- (103) Cowlitz (Kinkade 2004:87)
 tá1=aqa p-ni-n-aʔ!
 call/shout=voice-REL-TR-IMP
 ‘Holler at him!’

In the above cases, the combination of intransitive verb root and lexical suffix constitutes an intransitive verb, that is, the lexical suffix has a Type 1 function. Therefore, it is not unexpected that a relational applicative can suffix to it.

In three examples, we find reflexes of the redirective suffixes *-xi or *-tuł following lexical suffixes with Type 1 functions:

- (104) Tillamook (Egesdal and M. Thompson 1998:252)
 š-tkʷ=agʷə(s)-šit-ə!
 LOC-put=side-RDR-IMP.SG
 ‘Pay him!’
- (105) Lillooet (Van Eijk 1997:120)
 náś=akaʔ-xit
 go=hand-RDR
 ‘to send something to somebody’
- (106) Columbian (Kinkade 1982:58)
 s-n-kʷǰ=àlqʷp-túł-n.
 NM-PSTN-take.out=throat-RDR(-TR)-1SG.SUB
 ‘I took it out of his mouth.’

Nevertheless, in these cases the combination of the verb root and the lexical suffix seems to form a verb with a transitive meaning ‘put it aside’, ‘send it’, and ‘take it’ respectively, and the redirective derives a verb with a typical ditransitive meaning.

More commonly, lexical suffixes followed by redirective applicatives have a Type 2 function, i.e. the lexical suffix refers to the theme. The combination of verb and lexical suffix constitutes a semantically transitive base to which the redirective suffix is added, and the applied object has the semantic role of goal or benefactive:

- (107) Upper Chehalis (Kinkade 1991:5)
 s-ʔám=uł-ši-t-n
 IMPF-take.to/deliver=canoe-RDR-TR-3SG.SUB
 ‘take a canoe across to’
- (108) Lushootseed (Hess and Bates 2004:192)
 ʔu-ǰá1=šəd-yi-d čəd.
 PUNCT-don=foot-RDR-TR 1SG.SUB
 ‘I put shoes on him for (his mother who was too busy with the other children).’
- (109) Cowlitz (Kinkade 2004:272)
 čílm i=k^wp-ši-c-aʔ!
 carry=wood-RDR-TR:1SG.OBJ-IMP
 ‘Bring me some wood!’
- (110) Shuswap (Kuipers 1992: 53)
 wʔ=ełx^w-x-t-s.
 be.finished=house-RDR-TR-3SUB
 ‘He finishes (building) a house for her/her house.’
- (111) Coeur d’Alene (Doak 1997:154.224c)
 ʔešełít k^wəpštulmn.
 //ʔec-šeł-ít=k^wp-š(i)t-ulm-n//
 CUST-chop-for=wood-RDR-TR-2PL.OBJ-1SG.SUB
 ‘I chopped wood for you fellows.’
- (112) Columbian (Willett 2003:136)
 k^włn wílxtn.
 //k^wułn=wil-xit-n//
 borrow=vehicle-RDR-1SG.SUB
 ‘I borrowed a vehicle for her/him.’

We also see lexical suffixes followed by the redirective suffix *-əlc* in Halkomelem, as discussed in Gerdts (2003).

- (113) Halkomelem (Gerdts 2003:348)
 šk^w=əyət-əłc-θámš.
 bathe=baby-RDR-TR:1SG.OBJ
 ‘Bathe the baby for me.’

3.3.2 Applicatives followed by lexical suffixes

There are very few examples with the opposite order—the lexical suffix following the applicative. Applied objects are often human, and lexical suffixes seldom refer to humans. In (114), we see the lexical suffix meaning ‘child’ in an applicative construction formed with the relational suffix *-ŋiy* (<*-*mi*):²²

- (114) Northern Straits (Montler 1986:174)
 q^wəh^ŋy^ŋləŋ sən.
 //q^wəl-ŋiy=ał-əŋ sən//
 talk-REL=offspring-MDL 1SG.SUB
 ‘I’m scolding my kid.’

The lexical suffix plays the role of the possession of the possessive applied object.

We also see the lexical suffix for ‘child’ appearing after a reflex of the relational suffix **-mi* in the following Shuswap example:

- (115) Shuswap (Kuipers 1992:51)
 ?əx^w-m-n=ilt-m
 throw-REL-TR=child-MDL
 ‘there are sundogs (lit. throwing children),’²³

In Shuswap, the root ?əx^w ‘throw’ does not appear without the relational suffix *-mi* and the general transitive suffix *-n*. In another example, the suffix for ‘water’ appears in the same environment:

- (116) Shuswap (Kuipers 1992:51)
 x-?əx^w-m-n=etk^w-n-s
 PREFIX-throw-REL-TR=water-TR-3SUB
 ‘throw object into the water’

We have also found data in Halkomelem in which a lexical suffix appears after the redirective suffix **-łc*:

²² When the possessive applied object is coreferent to the subject, middle voice is used.

²³ “Sundog” refers to a small halo or rainbow appearing on either side of the sun.

- (117) Halkomelem (f.n.)
 neṃ ceʔ θeý-ətɕ-ənəq tʰəṃ šəšiyət ʔə kʷθə
 go FUT fix-RDR=person DET:2POSS o.sibling(PL) OBL DET
 sʔənəm-s kʷθə sʔəliqət.
 spear-3POSS DET children

‘Your older brothers are going to fix spears for the children.’

- (118) Halkomelem (f.n.)
 qəx̄ kʷθə səwələm ʔi nə-s-ʔiləq-ətɕ-eyt.
 much DET toy AUX 1POSS-NOM-buy-RDR=child
 ‘I bought a lot of toys for the children.’

The lexical suffix for ‘person’ appears in (117) and for ‘child’ in (118).

3.3.3 Summary

We summarize the co-occurrence of applicatives and lexical suffixes in Table 10.

Table 10. Applicatives and lexical suffixes

LANG	SUFFIX	RDR/REL	LS-APPL	APPL-LS
Sq, HI, Ld, Ti, TS, NIS, Ka, Cr, Cm	*-mi	REL	✓	
Sh, NS	*-mi	REL		✓
Ld, Ti, TS, NIS, Cr, Cm	*-xi	RDR	✓	
HI	-ɬc	RDR	✓	✓
Cm	*-tuɬ	RDR	✓	

In sum, we find that examples with lexical suffixes preceding applicative suffixes are quite common. The lexical suffixes sometimes serve as modifiers of intransitive verbs (type 1 use) deriving intransitive bases that take relational suffixes. In other examples, lexical suffixes serve as modifiers (type 1) or themes (type 2) of transitive verbs to form semantically transitive bases that take redirective suffixes to form constructions with ditransitive meaning.

Although cases of lexical suffixes following applicatives are not very common, presumably because lexical suffixes rarely refer to human objects, and objects of applicatives are typically human, we did find examples from several languages in which a lexical suffix follows a relational applicative and examples from Halkomelem in which a lexical suffix follows a redirective applicative.

3.4 A brief excursus: The indefinite suffix in Coeur d’Alene

A fourth involving the indefinite suffix, which has a very limited range of occurrence in Salish languages, appearing only in the Southern Interior

branch. The indefinite suffix *-šeš* in Coeur d'Alene indicates an indefinite participant (Doak 1997:65ff):

- (119) Coeur d'Alene (Doak 1997:66)
čít-šeš
 give-IDF
 'he gave something away'

The indefinite suffix is also used when the subject is second-person singular or plural and the object is first-person plural, though the first-person plural object is not morphologically marked:

- (120) Coeur d'Alene (Doak 1997:66)
k^wu g^wičšeš.
 //k^wu g^wič-šeš//
 2SG.SUB see-IDF
 'You see us.'

As noted by Doak (1997:67), examples like (119) and (120) are intransitive in the surface syntax.

The relational suffix can follow the indefinite suffix:²⁴

- (121) Coeur d'Alene (Doak 1997:66)
me^{ew}šešmnc
 //me^{ew}-šeš-m(i)-nt-Ø-s//
 break-IDF-REL-TR-3OBJ-3SUB
 'he broke something for somebody else'

We found just one example in Coeur d'Alene of a relational suffix followed by the indefinite suffix:

²⁴ The suffix *-xáx* in Columbian may be cognate with *-šeš* in Coeur d'Alene (Kinkade 1980:35ff). We found two examples in which the relational suffix follows the indefinite suffix:

- (i) Columbian (Kinkade 1982:54)
k^wəłn-xáx-m-n.
 borrow-IDF-REL(-TR)-1SG.SUB
 'I loaned someone else's property to him.'
- (ii) Columbian (Kinkade 1982:54)
k^wan-xíx-m-n.
 grab/take-IDF-REL(-TR)-1SG.SUB
 'I took it away from them./'pickpocket'

- (122) Coeur d'Alene (Doak 1997:122)
 yilimixum kuč'eʔč'eʔšənəmí · · · nšeš.²⁵
 //ylmix^w-m k^wu CVC-š'eʔč'-n-min-š'eš//
 chief-MDL 2SG.SUB RED-condescend-LOC-REL-IDF
 'Chief you condescend to honor us.'

Obviously, further research is necessary, but we can preliminarily claim that the indefinite suffix, like the other suffixes discussed in this section, also shows the property of being able to appear either before or after an applicative suffix.

3.5 Summary

In the above discussion, we have shown that there are three classes of Salish suffixes—reflexive/reciprocal, causative/non-control, and lexical suffixes—that can occur either before or after applicative suffixes.

For the most part, the occurrence of these suffixes before applicative suffixes, summarized in Table 11, straightforwardly follows the expectations of the two-way typology developed in Kiyosawa (2006): relational applicatives are formed on intransitive bases while redirective applicatives are formed on transitive bases.

Table 11. Suffixes occurring before applicatives

SUFFIX	RELATIONAL	REDIRECTIVE
REFLEXIVE/RECIPROCAL	✓	(2)
CAUSATIVE/NON-CONTROL	✗	✓
LEXICAL SUFFIX (TYPE 1)	✓	
LEXICAL SUFFIX (TYPE 2)		✓

We expect relational applicatives to be suffixed only to intransitive bases, and we see that this is the case. Straightforwardly, relationals cannot be formed on a base that contains a transitivity suffix such as causative or non-control transitive. On the other hand, relationals can be suffixed to a base that contains a reflexive or reciprocal suffix, because these suffixes are detransitivizing in Salish. Furthermore, when lexical suffixes appear inside of relational suffixes, they have Type 1 functions. That is, the lexical suffix plays the role of an adjunct, not a theme.

In contrast, we expect redirective applicatives to be suffixed only to transitive bases, and we see that this is the case, except for one example where the redirective suffix is actually functioning as a relational suffix. As predicted, redirectives can be suffixed to a base that contains a causative or non-control transitive suffix. In the case of lexical suffixes, the ones that occur inside redirective suffixes usually have Type 2 functions. That is, the lexical suffix plays the role of a theme, and the verb and lexical suffix constitute a

²⁵ Doak (1997) uses · · · to indicate rhetorical lengthening.

semantically transitive base. In contrast, the reflexive and reciprocal suffixes derive intransitive verbs, so redirective suffixes should not appear after them. We found just one example of a redirective following a reflexive in Thompson and one example of a redirective following a reciprocal in Halkomelem.

As noted above, these three classes of suffixes can also follow applicative suffixes, as summarized in Table 12.

Table 12. Suffixes following applicatives

SUFFIX	RELATIONAL	REDIRECTIVE
REFLEXIVE/RECIPROCAL	✓	✓
CAUSATIVE/NON-CONTROL	✓	✓
LEXICAL SUFFIX (TYPE 2)	✓	✓

Both relational and redirective applicatives allow the expression of applied objects, and with some language-by-language and suffix-by-suffix exceptions, the applied object can be expressed by a reflexive or reciprocal suffix when it is coreferential with the subject. The derived object can also be a lexical suffix. However, since applied objects tend to be higher animates, and few lexical suffixes express higher animates, examples are rare.

With respect to transitive suffixes, we expect applicative suffixes to be followed by the non-control transitive suffix, just as they are followed by the general transitive suffix, and we do not expect applicative suffixes to be followed by the causative suffix, which usually derive transitive from intransitive verbs. The applicative suffixes themselves derive transitive verbs and thus the base to which the causative suffix would attach is not intransitive. However, we found causative suffixes following relational suffixes in several languages, and one example of a causative suffix following a redirective. In some languages, the causative suffix is used like a general transitive suffix in certain aspects. When used in this function, it can follow applicative suffixes.

4 Conclusion

The results of this survey are necessarily preliminary. We relied heavily on secondary sources: many reference grammars include some basic information about applicatives, as summarized in Kiyosawa (2006: Chapter 1), but they seldom include information about the interactions of applicatives with other constructions. Thus, our research is hindered by lack of data, especially data judged ungrammatical.²⁶

Also, our results show that it may be difficult to make across-the-board generalizations. For example, our research on Halkomelem, where we have studied applicatives and their interactions in some detail, shows that

²⁶ This situation is not unique to Salish languages. In fact, most studies of applicatives suffer from a lacuna of applicative data interacting with other constructions. Kimenyi's (1980) oft-cited study of Kinyarwanda and Baker's (1988) cross-linguistic study are notable exceptions.

generalizations about interactions between applicatives and other suffixes have to be made applicative by applicative, suffix by suffix, even verb by verb. Some combinations that are well-formed in other Salish languages are ruled out in Halkomelem. Overall, the picture is complicated enough to suggest that many combinations will need to be listed in the grammars of individual Salish languages.

Nevertheless, our research has led to some interesting observations concerning the order of suffixes in the verb complex. First, valence is a key concept. That is, each suffix has a primary function that can be described in terms of the transitivity of the base to which it is attached and the transitivity of the form that it creates. For example, reflexives (123) and reciprocals (124), and other intransitive forms such as indefinites (125) and some middles (126) and take transitive forms as the base and create an intransitive output, which can then serve as a base for suffixes that take intransitive bases.

- (123) Columbian (Kinkade 1982:54)
 kʰiln-cút-m-n.
 jealous-TR:REFL-REL-TR:1SG.SUB
 ‘I’m jealous of him.’
- (124) Squamish (Kuipers 1967:355)
 na wa ǰəǰǰ-át-ayʔ-ní-t-as-wít.
 AUX CONT argue-TR-RECIP-REL-TR-3SUB-PL
 ‘They were arguing about it.’
- (125) Coeur d’Alene (Doak 1997:66)
 me^{əw}šešmnc
 //me^{əw}-šeš-m(i)-nt-Ø-s//
 break-IDF-REL-TR-3OBJ-3SUB
 ‘he broke something for somebody else’
- (126) Thompson (L. Thompson and M. Thompson 1992:75)
 ǰ^wáǰ-m-me-s.
 borrow-MDL-REL(-TR)-3SUB
 ‘She requests a loan from him.’

Furthermore, suffixes that create transitive outputs, such as applicatives and causatives, can serve as bases for suffixes that take transitive bases, not only the transitive and object inflectional suffixes discussed in section 3, but also suffixes that make reference to semantic objecthood, such as reflexives (127), reciprocals (128), lexical suffixes (129), and indefinites (130).

- (127) Columbian (Kinkade 1982:59)
 sc-maý-x-cút-əx^w.
 PREFIX-tell-RDR-TR:REFL-IMPF
 ‘He’s talking to himself.’

- (128) Halkomelem (f.n.)
 ?i yə-həñəñ-nəs-təl t^θə sq^wəmq^wəmeý.
 AUX SER-go[IMPF]-REL-REC DET dog(PL)
 ‘The dogs are going up to each other.’
- (129) Northern Straits (Montler 1986:174)
 q^wəh^ɣɣ^ɣləh^ɣ sən.
 //q^wəl-ŋiy=ał-əŋ sən//
 talk-REL=offspring-MDL 1SG.SUB
 ‘I’m scolding my kid.’
- (130) Coeur d’Alene (Doak 1997:122)
 yilimíxum kuč^eʔč^eʔšənəmí · · · nšeš.
 //ylmix^w-m k^wu CVC-šeʔč^e-n-min-šeš//
 chief-MDL 2SG.SUB RED-condescend-LOC-REL-IDF
 ‘Chief, you condescend to honor us.’

Third, these two properties yield examples in which suffixes appear in an A/B versus B/A order. Suffixes referencing the theme of the base predicate appear before applicative suffixes and suffixes referencing the applied object appear after the base predicate.

An additional example of A/B versus B/A order comes from the interaction of applicatives with transitive suffixes. Although the data are sparse, we see that two types of transitive suffixes—causatives and non-control transitive suffixes—can appear inside applicatives. Since these suffixes create transitive bases, redirective and not relational applicatives will follow them.

- (131) Comox (Watanabe 2003:250)
 ?ihtən-st-aʔam-θi t^θəm ʔə tə čuý.
 eat-CS-RDR-TR:2SG.OBJ 1SG.SUB:FUT OBL DET child
 ‘I will feed the child for you.’

However, they will follow both redirective and relational applicatives:

- (132) Columbian (Kinkade 1982:54)
 yər-mí-st-m-s.
 push-REL-CS-1SG.OBJ-3SUB
 ‘He is pushing me.’
- (133) Coeur d’Alene (Doak 1997:161)
 ʔeč^ñšístmis.
 //ʔe(c)-č^eñ-ší-st(u)-mi-s//
 CUST-hold-RDR-CS-2SG.OBJ-3SUB
 ‘He helps you.’

Such data challenge a templatic view of suffix order, which would assign each suffix to a specific slot and thus would predict a single order for combinations of suffixes from different slots. Although we have shown a variety of combinations in the above discussion, the co-occurrence and ordering of suffixes is not a free for all. Rather we find that the ordering of suffixes in applicative constructions proceeds according to a simple principle of compositionality: the suffixes will be ordered to match the levels of structure in the morphosyntax.²⁷ That is, morphological layering will proceed according to the Satellite Principle (Gerds 1988), the Mirror Principle (Baker 1985), or similar generalizations in various frameworks. The differences in morphological order correlate to differences in the ordering of the combination of the constructions.

Our observations regarding applicative suffixes are thus quite parallel to points made by Gerds (2004a) regarding causative suffixes in Halkomelem, which also provide evidence for compositional structure. A form with a lexical suffix (134a), can serve as a base for a causative (134b), which has a causee object that can in turn be represented by a lexical suffix (134c), and this can serve as a base for a causative (134d).

- (134) Halkomelem (f.n.)
- a. niʔ ʔə č sɔ́-əlcəp-tʔ
 AUX Q 2SUB cut=wood-TR
 ‘Did you cut firewood?’
 - b. niʔ ʔə č sɔ́-əlcəp-stəxʔ
 AUX Q 2SUB cut=wood-CS
 ‘Did you have him cut firewood?’
 - c. niʔ ʔə č sɔ́-əlcəp-st=ənəqʔ
 AUX Q 2SUB cut=wood-CS=person
 ‘Did you have people cut firewood?’
 - d. niʔ ʔə č sɔ́-əlcəp-st=ənəq-stəxʔ
 AUX Q 2SUB cut=wood-CS=person-CS
 ‘Did you have him have people cut firewood?’

In such examples we actually see the same suffix recycling within a single derivation—a paradox for a templatic approach to ordering but a straightforward derivation for a compositional approach. It is not accidental that causatives and applicatives provide evidence for compositionality, since both may instantiate a double layer of “objecthood”, namely an internal argument to the verb and a causee or applied object, respectively.

²⁷ See Rice (2000) for a discussion of templatic versus compositional models of morphology.

Thus, the compositionality of the suffixes is totally expected. What is unexpected and remains a puzzle is why some combinations of suffixes that are predicted to be possible, and in fact are accepted in some Salish languages, are ruled out in other languages. We leave this question open for future discussion and analysis.

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