Argument realization in Halkomelem:
A study in verb classification[*]

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This paper explores evidence for verb classes in Halkomelem based on a study of 467 roots and their combinations with four suffixes—the causative, the transitive, the desiderative, and the limited control reflexive. These tests yield clear results if attention is paid to the nuances of the semantics. Verb roots in Halkomelem sort into transitive and intransitive, intransitive roots sort into unergative and unaccusative, and unaccusative roots sort into processes and states.

1 Introduction

Research on the lexico-semantics of argument realization starts from the viewpoint that the mapping of the roles AGENT and PATIENT to argument structure can be used to classify predicates. More precisely, verbs sort into transitive and intransitive types, and intransitive verbs further sort into unergative and unaccusative types. Language-internal tests can be used to organize verbs with shared morphological, syntactic, and semantic properties into major and minor classes. The research on any language seeks to answer the following questions: What are the major verb classes? How many total verb classes are there? What are the properties that distinguish them? How are the verb classes of a language alike and different from verb classes in other languages of the world?

For the last twenty-five years, my co-researcher Tom Hukari and I have been studying verb classes in the Island dialect of Halkomelem, a Central Salish language spoken on southern Vancouver Island and neighboring islands. Thanks to the expertise of three native-speaker linguists, Ruby Peter, the late Theresa Thorne, and the late Arnold Guerin, around seven hundred verbs have been identified and tested in combination with two dozen affixes (transitive, causative, reflexive, etc.). Forms were judged for acceptability, and illustrative sentences were composed for each allowed form. From this corpus, supplemented by

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additional verb data culled from elicitations, texts, dictionaries, and language teaching materials, we have constructed a database coded for argument realization and semantic nuances.

Testing 486 roots[1] in combination with ten suffixes (and the bare form) yielded 3100 accepted words. Table 1 lists the bare form and the ten suffixes in order of the number of roots out of 486 possible that each could appear with.

FUNCTION	FORM		
TRANSITIVE	*-t*	398	82%
LIMITED CONTROL TRANSITIVE	*-nəx*^{w}	398	82%
INTRANSITIVE	bare root	375	77%
LIMITED CONTROL REFLEXIVE	*-namət*	327	67%
REFLEXIVE	*-θət*	305	72%
ACTIVITY	*-els*	293	60%
DESIDERATIVE	*-əlmən*	287	59%
CAUSATIVE	*-stəx*^{w}	276	57%
RECIPROCAL	*-təl*	271	56%
MIDDLE	*-m*	170	35%
TOTAL		3100	

Table 1. Halkomelem suffixes

Halkomelem has proven true to its reputation of being a polysynthetic language. Words composed of a root plus one or more suffixes are frequently attested, and their meaning is not always transparent. This brings up issues for lexicography: How much is predictable? How much needs to be listed in a dictionary? Our results suggest that there is considerable variety in form and meaning, and thus a thorough dictionary of the language must explicitly list all possible combinations. Nevertheless, we hope to find patterns in form and function that will allow us to organize the verbs into major and minor classes. We are currently working on an analysis of the data, form by form and class by class, and are preparing a monograph giving a thorough picture of the Halkomelem verb system. This paper gives some preliminary remarks on one aspect of this project. Other papers that have arisen from this research include Gerdts and Hukari (1998, 2001, 2006a, 2006b, 2006c).

The question addressed here concerns intransitive verb classes: are unergative and unaccusative verb roots lexically distinguished in Halkomelem? I first began researching this question in the late 1970s when the notion of unaccusativity and its relationship to syntax was a prominent idea in Relational Grammar (Perlmutter 1978, Levin and Rappaport Hovav 1995). In my 1981 dissertation, published as Gerdts (1988a), I proposed a preliminary hypothesis

[1] We use the term 'root' to include both monomorphemic bases and frozen forms which include one inseparable suffix.

that unergatives and unaccusatives are distinguished by what type of transitive suffix they take: unergatives take the causative suffix, while unaccusatives take the transitive suffix. A pilot project on one hundred verbs that I undertook with Arnold Guerin in the summers of 1984 and 1986 revealed another difference between unergatives and unaccusatives: their use with two suffixes of agent-oriented modality, the desiderative and the limited control reflexive. I review these four tests in section 2. They derive profiles for canonical unergative versus canonical unaccusative verbs, as summarized in section 3. However, as subsequent research on a wider range of roots has revealed, relatively few verbs actually fit the canonical profiles. This leads to the conclusion that a closer look at each test is warranted. Section 4 re-examines the use of transitivity as a test for verb class. This leads to a closer look at the roots that take the transitive suffix in Section 5. I conclude that the evidence from the four tests reveals that intransitive and transitive roots must be distinguished in Halkomelem. Furthermore, intransitive roots are divided into two unergative and unaccusative roots, and unaccusative roots are divided into processes and states. In sum, verb classes in Halkomelem parallel those found in other languages of the world, contrary to previous claims about Salish languages.

2 Intransitive verb classes

The starting point for our examination of intransitive verb classes is an examination of roots in terms of the unergative/unaccusative distinction. Unergative verbs, such as *yays* 'work', appear as bare roots in an intransitive construction where the sole argument is the agent of the event (1), while unaccusative verbs, such as *q̓aʔ* 'get added to', appear as bare roots in an intransitive construction where the sole argument is the patient of the event (2):[2]

(1) niʔ yays tᶿə swəy̓qeʔ.
AUX work DT man
'The man worked.'

(2) niʔ q̓aʔ kʷθə nə šeləmcəs ʔə kʷθə nə s-kʷu:kʷ.
AUX add DT 1POS ring OB DT 1POS NM-cook
'My ring got into my cooking.'[3]

[2] The following abbreviations are used in glossing the data: APPL: applicative, AUX: auxiliary, COMP: complementizer, CS: causative, DES: desiderative, DT: determiner, EMPH: emphatic, EVID: evidential, FUT: future, IMPF: imperfective, L.C.REFL: limited control reflexive, LNK: linker, NM: nominalizer, OB: oblique, PL: plural, POS: possessive marker, SER: serial, SUB: subject, TR: transitive.

[3] In all syntactically transitive constructions in Halkomelem, the verb is inflected with a transitive suffix. There are three transitive suffixes in Halkomelem: the transitive suffix *-t*, the limited control suffix *-nəxʷ*, and the causative suffix *-stəxʷ*. All three transitive constructions are identical in terms of their surface syntax. Subject and object noun phrases are direct arguments, and third-person main-clause subjects determine ergative agreement. The transitive suffixes fuse with any object suffixes that follow.

2.1 Two types of transitives

As pointed out in Gerdts (1988a, 1991), unergative and unaccusative verbs differ with respect to how they form transitive clauses. Unergative verbs transitivize with the causative suffix *-stəxʷ*, e.g. *yays-stəxʷ* ('work' + CAUSATIVE) in (3), while this suffix is not usually allowed with unaccusative verbs, for example **q̓aʔ-stəxʷ* ('add' + CAUSATIVE).

(3) niʔ cən yays-stəxʷ tᶿə swəy̓qeʔ.
AUX 1SUB work-CS DT man
'I put the man to work.'

Other examples of unergative verb roots that form causatives are given in Table 2.

BASIC VERB		*-stəxʷ* CAUSATIVE	
ʔənəxʷ	'stop'	ʔənəxʷstəxʷ	'stop it', 'make him/her stop'
ʔitət	'sleep'	ʔitətstəxʷ	'put him/her to sleep'
n̓em	'go'	n̓eməstəxʷ	'take it'
m̓i	'come'	m̓istəxʷ	'bring it'
cam	'go uphill'	cəmstəxʷ	'take it uphill'
t̓ak̓ʷ	'go home'	t̓ək̓ʷstəxʷ	'take it home'
k̓ʷiʔ	'climb'	k̓ʷiʔstəxʷ	'lift/raise it', 'make him/her climb'
łew̓	'run away, flee'	łəw̓stəxʷ	'run away with him/her'
ʔaːł	'get on board'	ʔaːłstəxʷ	'put it on board'

Table 2. Unergative verb roots with the causative suffix

As discussed in Gerdts and Hukari (2006a), causatives formed on activity verbs usually have the meaning of a causer making the agent do the action indicated by the verb root, while causatives of motion verbs often have an associative meaning: the object expresses the person or thing that is taken or brought along during the performance of the motion.

In contrast, unaccusative verbs form transitives with the transitive suffix *-t*, for example *q̓aʔ-t* in (4), while this suffix generally does not appear on unergative verbs, for example **yays-t* ('work' + TRANSITIVE) 'work it'.

(4) nem̓ č q̓aʔ-t tᶿə sqewθ ʔə tᶿən̓ słap̓.
go 2SUB add-TR DT potato OB DT.2POS soup
'Go put the potatoes into your soup.'

Table 3 gives additional examples of verbs with the transitive suffix.

BASIC VERB		*-t* TRANSITIVE	
ʔaƙʷ	'get hooked'	ʔaƙʷət	'hook it'
c̓əxʷ	'increase'	c̓xʷat	'add more to it'
ƙʷəɬ	'spill'	ƙʷɬet	'pour it'
ləkʷ	'break in two'	ləkʷat	'break it in two'
c̓əy̓xʷ	'get dry'	c̓əy̓xʷt	'dry it'
ləc̓	'(container) get full'	ləc̓ət	'fill it'
łəqʷ	'get wet'	łqʷət	'wet it'
c̓əq̓ʷ	'get pierced'	c̓q̓ʷat	'pierce it'
səq̓	'get torn'	sq̓et	'tear it'
x̌əxʷ	'get covered'	x̌xʷat	'cover it'
ƙʷes	'burn', 'get hot'	ƙʷesət	'burn it', 'singe it', 'scorch it'

Table 3. Some verb roots that take *-t*

2.2 Two tests for agentivity

Two suffixes of agent-oriented modality, in the sense of Bybee et al. (1994), give additional evidence for intransitive verb classes. As discussed in Gerdts (1988b, 1991) the desiderative suffix *-əlmən* behaves differently on unergative and unaccusative verbs. On unergative verbs like *yays* 'work', the suffix straightforwardly indicates the desire of the agent to perform the action:

(5) niʔ yays-əlmən tᶿə swəy̓qeʔ.
AUX work-DES DT man
'The man wanted to work.'

Other examples of the desiderative use of this suffix are given in Table 4:

BASIC VERB		*-əlmən*	
ƙʷiʔ	'climb'	ƙʷiʔəlmən	'want to climb'
łaƙʷ	'fly'	łaƙʷəlmən	'want to fly'
səẇq̓	'seek'	səẇq̓əlmən	'want to seek'
neṁ	'go'	neṁəlmən	'want to go'
qʷal	'speak'	qʷaləlmən	'want to speak'
ɬaƙʷ	'go home'	ɬaƙʷəlmən	'want to go home'
həyeʔ	'depart'	həyeʔəlmən	'want to depart'

Table 4. Desiderative use of *-əlmən*

Attaching the desiderative suffix *-əlmən* to an unaccusative verb root gets a much different result. Either the form is not acceptable at all, or it has an

aspectual meaning, indicating that the event is ‘almost’ happening, ‘on the verge of’ happening,‘about to’ happen, ‘ready to’ happen, etc.:

(6) niʔ q̓aʔ-əlmən ʔə kʷθə nə sṯ̓θx̌’əlwətəm.
AUX add-DES OB DT 1POS washing
‘It wanted to get mixed in with my washing.’

BASIC VERB		*-əlmən*	
łəqʷ	‘get wet’	łəqʷəlmən	‘almost damp’
p̓il	‘fill’	p̓iləlmən	‘starting to fill’
yeq̓	‘fall down’	yeq̓əlmən	‘almost falling down’
yaǩʷ	‘melt’	yaǩʷʔəlmən	‘almost melting’
k̓ʷes	‘get hot’	k̓ʷesəlmən	‘starting to sweat’
ʔəẇk̓	‘gone, finished’	ʔəẇk̓ʷəlmən	‘almost gone, finished’
məs	‘get smaller’	məsʔəlmən	‘starting to shrink’
pay	‘bend, get bent’	payəlmən	‘almost bent’
liqʷ	‘(weather) get calm’	liqʷəlmən	‘(storm) almost subsiding’
məq̓ʷ	‘burst’	məq̓ʷəlmən	‘ready to burst’

Table 5. Aspectual use of *-əlmən*

Gerdts and Hukari (2006c) explore this development further, relating it to the path of grammaticization proposed by Bybee et al. (1994). Forms for ‘desire’ are frequent sources for futures cross-linguistically (cf. English *will*). They posit a pathway to account for this: desire > willingness > intention > prediction. Table 6 shows the results for *-əlmən* on 457 roots, some of which are used in more than one way:

	+ *əlmən*	– *əlmən*
DESIDERATIVE	176	—
ASPECTUAL	118	—
TOTAL	287	170

Table 6. Two uses of *-əlmən*

The limited control form *-namət* shows a second case of agent-oriented modality. Gerdts (1998, 2000) claims that the suffix *-namət* originates as a limited control form of the plain reflexive *-θət*, as seen in Table 7. The literal meaning ‘manage to do something to oneself’.

REFLEXIVE		LIMITED CONTROL REFLEXIVE	
q̓ayθət	‘kill self’	q̓aynaməṭ	‘accidentally kill self’
həliθət	‘save self’	həlinaməṭ	‘manage to save self’
q̓ʷaqʷəθət	‘club self’	q̓ʷəqʷnaməṭ	‘accidentally club self’
ʔaḵʷəθət	‘hook self’	ʔəḵʷnaməṭ	‘accidentally hook self’
q̓aʔθət	‘get self in with’, ‘join’	q̓aʔnaməṭ	‘manage to get self in with them’

Table 7. Two types of reflexives

In contrast, unergative verbs do not form transitives with the suffix *-t* (**yays -t* (‘work’ + TRANSITIVE)) and reflexive forms are also impossible (**yays-θət* (‘work’ + REFLEXIVE) ‘work oneself’). Nevertheless, the limited control reflexive *-naməṭ* regularly appears on unergative verbs with the meaning of ‘manage to do’, as in:

(7) niʔ yays-naməṭ tᶿə swəy̓qeʔ.
AUX work-L.C.REFL DT man
‘The man managed to work.’

BASIC VERB		*-naməṭ*	
ṯaḵʷ	‘come home’	ṯaḵʷnaməṭ	‘manage to come home’
təs	‘get there’	təsnaməṭ	‘manage to get there’
qʷal	‘speak’	qʷəlnaməṭ	‘manage to speak’
ṯaxʷ	‘go down’	ṯaxʷnaməṭ	‘manage to go down’

Table 8. ‘manage to’ use of *-naməṭ*

Furthermore, on process and stative verbs, *-naməṭ* has an aspectual meaning; it indicates an anterior (perfect) whose endpoint is in the recent past, and thus is translated ‘finally’, ‘just’, ‘now’, etc.

(8) a. niʔ q̓ʷəl tᶿə sṯᶿu:m.
AUX ripe DT berry
‘The berries got ripe.’

b. niʔ q̓ʷəl-naməṭ tᶿə sṯᶿu:m.
AUX ripe-L.C.REF DT berry
‘The berries are finally ripe (despite the inclement weather).’

BASIC VERB		*-əlmən*	
t̓$^{\theta}$ex^{w}	‘(sun) set’	t̓$^{\theta}$əx^{w}naməṭ	‘(sun) has finally set’
x̌̓əlx̌	‘(fire) spark’	x̌̓əlx̌naməṭ	‘finally start sparking’
ləm̓	‘erode’	ləm̓naməṭ	‘has finally eroded’
p̓il	‘fill (to the brim)’	p̓ilnaməṭ	‘finally filled’
k^{w}əyx̌	‘stir, (car) to start’	k^{w}əyx̌naməṭ	‘(car) finally started’
q̓is	‘get knotted up’	q̓isnaməṭ	‘all knotted up now’
təɬ	‘unravel, spread open’	təɬnaməṭ	‘finally spread open’
θim̓aʔ	‘freeze’	θim̓aʔnaməṭ	‘finally frozen’

Table 9. Aspectual use of *-naməṭ*

Bybee et al. (1994) cite cases of anteriors developing from resultatives, passives, or dynamic verbs (‘finish’, ‘complete’, ‘do before’). But, since *-naməṭ* has its historical source in a limited control reflexive, we suggest the following pathway: limited control > managed to do > managed to finish > finished. Table 10 gives results for 467 roots tested for *-naməṭ*; some roots allow more than one use.

	+ naməṭ	*– naməṭ*
REFLEXIVE	109	—
MANAGE TO	156	—
ASPECTUAL	74	—
TOTAL	339	128

Table 10. Verb roots and uses of *-naməṭ*

We see then that the suffixes *-əlmən* and *-naməṭ* indicate agent-oriented modality only when they appear on unergative verbs. With unaccusative verbs, if the suffixes are allowed at all, *-əlmən* has an aspectual meaning and *-naməṭ* has either a reflexive or aspectual meaning.

3 Canonical unergatives versus canonical unaccusatives

To summarize the previous section, we can develop a profile for canonical unergative or unaccusative verb roots. The unergative root in the bare form takes an agent as the sole argument and transitivizes by means of the causative suffix. The agency of the argument is further established by the use of the desiderative or limited control suffixes with the agentive meaning. Unaccusatives on the other hand, take the patient as the sole argument, transitivize with the suffix *-t*, and do not take agentive meanings for the desiderative and limited control suffixes.

FORM	FUNCTION	UNERGATIVE	UNACCUSATIVE
Ø		agent	patient
-stəx^{w}	causative	yes	no
-t	transitive	no	yes
-əlmən	desiderative	'want to'	no/aspectual
-namət	limited control	'manage to'	no/reflexive/aspectual

Table 11. Unaccusative vs. unergative verb profiles

A search of our database for these five features reveals that only a few verb roots test to be canonical. Searching for canonical unergatives reveals only 28 verb roots:

CANONICAL UNERGATIVES

cam 'go uphill', heḵ^{w} 'recall to mind', həyeʔ 'depart', ḵ^{w}iʔ 'climb', łaḵ^{w} 'fly', neṁ 'go', q̓łan 'be forward', q^{w}al 'speak', ɬax^{w} 'bring down', ɬaḵ^{w} 'go home', θət 'say to', x̌iṅ 'growl', x̌^{w}teʔ 'go/come to', yays 'work', ʔəmət 'sit down/rise out of bed', ʔənəx^{w} 'stop', ʔa:ɬ 'get on vehicle', ʔeli 'away, take away', ʔewə 'come here', ʔitət 'sleep', ta:l 'go to middle of floor', x̌iẇ 'sneak off, run away', he:ẇə 'go away for a long time', ḵ^{w}ayək^{w} 'fish with line, gaff', łəṅe 'go along a way', təy 'pull (race) a canoe', łew 'flee', tel 'be like'

Searching for canonical unaccusatives reveals only 55 verb roots, which Gerdts and Hukari (2006b) further divide into three types: processes that can occur spontaneously (26 verbs), externally caused events (17 verbs), and states (12 verbs):

PROCESS (SPONTANEOUS) VERBS

lək^{w} 'break', meʔ 'come off', yəx̌^{w} 'come undone, set free', q̓^{w}əl 'cook, bake, ripen', ḵ^{w}es 'get burnt, scald, injure by a burn', mq̓ə 'get full of food', x̌əɬ 'get hurt', q̓is 'get knotted', q̓ay 'get sick, die', liq^{w} 'get slack', c̓əq̓ 'get surprised', sq̓e 'tear', c̓q^{w}a 'absorb', ləl̓q 'soak, flood, (river) rise', łq̓^{w}a 'take bark off', ləṁ 'fold, hem', pq^{w}a 'break', səlq̓ 'twirl, swing', x̌ḵ^{w}a 'wedge, get stuck', x̌^{w}ay 'die (plural)', siḵ^{w} 'peel', caʔ 'pull off a layer of clothing', tłə 'spread, open', tx^{w}a 'uncover', cəṅ 'lean against something', x^{w}iq 'cheer up'

EXTERNALLY CAUSED EVENTS

t̓^{θ}as 'get bumped', q̓^{w}aq^{w} 'get clubbed', pas 'get hit', t̓^{θ}əx̌^{w} 'get washed', q̓^{w}ap̓ 'wrinkle, pleat', qəp̓ 'stick something to something', x̌^{w}iq̓^{w} 'loop', qit 'tie in the middle', ʔaq^{w} 'soak up, absorb', ʔaq̓^{w} 'brush', t̓^{θ}eḵ^{w} 'shine a light on', pah 'blow on, blow out, inflate it', qem 'bend', t̓^{θ}is 'nail', leʔ 'put away', pšə 'spit medicine', t̓^{θ}əl 'lose it all gambling'

STATES
həli ‘be alive, living’, ƛ̓əx̌ʷ ‘be hard’, qəx̌ ‘much, lots’, tqʷa ‘be taut’, łəqʷ ‘be wet’, məs ‘decrease in size’, ƛ̓c̓ə ‘close together’, ƛ̓pə ‘deep’, p̓il ‘fill to brim’, łec ‘dark’, łəl̓p̓ ‘flatten, flop’

In sum, only 83 verb roots (17%) test to be canonically unergative or unaccusative.

Half of the verb roots in our sample are “swingers”.[4] That is, the bare root appears in either an unergative or an unaccusative frame, as required by the context. For example, the root *p̓əkʷ* ‘float’ behaves unergatively with a sentient subject, denoting an action under the control of the agent NP (see (9) and (11)), but it behaves unaccusatively with inanimates, denoting an activity that the NP undergoes (see (10) and (11)).

(9) nem̓ cən nəqəm-nəs ʔəẇ p̓əkʷ ceʔ niʔ
go 1SUB dive-APPL LNK surface FUT AUX

ʔə tθə niʔ ʔam̓ət s-qʷəs=šen̓.
OB DT AUX sit NM-submerge=foot

‘I’m going to dive, and then I’ll come out in front of the one that’s got his leg in the water.’

(10) naʔət wəł p̓əkʷ tθə qʷłey̓.
AUX:DT now surface DT log
‘The log has floated up.’

(11) niʔ p̓əkʷ-əlmən tθə təməs.
AUX surface-DES DT sea.otter
‘The sea otter wanted to surface.’

(12) ʔi c̓ə p̓əp̓əkʷ-əl̓mən̓ tθə stəq-s tθə sqəl̓eẇ.
AUX EVID surface(IMPF)-DES DT dam-3POS DT beaver
‘The beaver’s dam is starting to float up.’

Similarly, the root *wil̓* ‘appear’ behaves unergatively with a sentient subject, denoting an action under the control of the agent NP (see (13) and (15)), but it behaves unaccusatively with inanimates, denoting an activity that the NP undergoes (see (14) and (16)).

[4] Howett (1993) finds similar results in her study of verb classes in Thompson, an Interior Salish language.

(13) niʔ cən wiɬ̓.
AUX 1SUB appear
'I appear.'

(14) niʔ wiɬ̓ tʰə səm̓šaθət.
AUX appear DT sun
'The sun appeared (shone through the clouds).'

(15) niʔ č wəł wiɬ̓-naməṯ.
AUX 2SUB now appear-L.C.REFL
'You have succeeded to come out into the open.'

(16) ʔeʔət wəł miʔ wiʔəl-naməṯ θə səm̓šaθət.
AUX:DT now come appear-L.C.REFL DT sun
'The sun is finally out.'

Evidence for unergativity in (11) and (15) comes from the use of the suffix to mean agent-oriented modality; evidence for unaccusativty in (12) and (16) comes from the use of the suffix with an aspectual meaning.

This fact is not unexpected; work on unaccusativity cross-linguistically has shown that verbs in many languages easily switch from one type to another and that some classes have mixed properties (Rosen 1984, Levin and Rappaport Hovav 1995). For example, Halkomelem motion verbs (Gerdts and Hukari 2001) and middles (Gerdts and Hukari 1998) show mixed properties, manifesting some unergative and some unaccusative features.

These results, however, create a dilemma for our research program. Should we abandon intransitive verb classes altogether? Should we start looking for ways to split verbs up into finer classes based on more semantic distinctions? Or should we go back and try to perfect the tests?

4 Reconsidering the transitive versus causative test

First, we should note that 22 roots (5%) do not transitivize at all. That is, they take neither the transitive suffix *-t* nor the causative suffix *-stəxʷ*.

VERBS THAT DO NOT TRANSITIVIZE
kʷan 'be born', wəx̌əc̓ 'stumble', t̓ʰem 'go out (tide)', √cətx̌ʷ 'bewilder', √łət̓q̓ʷ 'snore', √p̓ah 'swell up', √p̓ax̌ 'smoke', √ʔaẇ 'be quick', √t̓ʰexʷ 'purple', √łix̌ʷ 'slippery', √ləmxʷ 'rumble'

Verbs like these could be considered to be spontaneous events in the sense of Haspelmath (1993) and thus are not expected to have an external cause and hence no transitive form. Overall, Halkomelem has a surprisingly low number of such verbs, and most of them (such as those marked √) cannot in fact occur as bare roots. Many take the middle suffix in their basic form (Gerdts and Hukari

1998). The few verbs that do appear as free-standing roots test to be unaccusative or swingers.

Second, many verbs describing states can take the causative suffix. The subject of the intransitive clause is the object of the corresponding causative. The derived meaning is to make, get, have, keep, or find something in that condition or state.

(17) a. ʔəẇ həli ḵʷəṅ šxʷʔaq̓ʷaʔ-ələp.
LNK alive DT:2POS sibling(PL)-2POS.PL
'Your brother is alive.'

b. ʔəẇ yə-həli-stəxʷ cən ceʔ θə słewət̓.
LNK SER-alive-CS 1SUB FUT DT herring
'I will keep the herrings alive.'

(18) a. təqʷ tə sq̓is-s tᶿə x̌ʷiɬəm.
tight DT knot-3POS DT rope
'The knot in the rope is tight.'

b. neṁ č ƛ̓iṁ ʔəẇ təqʷ-stəxʷ tᶿəṅ s-q̓p=əleʔc-t
go 2SUB really LNK tight-CS DT:2POS NM-tie=fibre-TR

tᶿə ləqʷə.
DT suitcase

'Tie the suitcase really tightly when you tie it.'

Further examples are given in Table 12.

STATE		CAUSATIVE	
ləx̌	'spaced apart'	ləx̌stəxʷ	'space it apart'
neċ	'different, strange'	neċstəxʷ	'find it strange'
qəl	'bad'	qəlstəxʷ	'dislike it'
qəx̌	'much, lots'	qəx̌stexʷ	'get lots of it'
təqʷ	'tight'	təqʷstəxʷ	'get it tight'
ʔəsəṗ	'finished'	ʔəsəṗstəxʷ	'get it finished'
ʔəwḵʷ	'finished'	ʔəẇḵʷstəxʷ	'get it finished'
ƛ̓əx̌ʷ	'hard'	ƛ̓əx̌ʷstexʷ	'make it hard'
łəqʷ	'wet'	łəqʷstəxʷ	'wet it'
ƛ̓əċ	'close together'	ƛ̓əċstəxʷ	'get them close together'
ƛ̓əp	'deep'	ƛ̓əpstəxʷ	'get it deep'

Table 12. Causatives based on states

In fact, many more verb roots denoting states form transitives with the causative suffix than with the transitive suffix.[5] When *-əlmən* and *-namət* are suffixed to these roots, they have an aspectual meaning. Therefore, Gerdts (1991, 1996) proposes that unaccusative verbs in Halkomelem should be divided into two classes: processes and states.

A third problem for our typology is roots that can appear with either the transitive or the causative. Our profile leads us to expect complementary distribution between verb roots taking *-t* and those taking *-stəxʷ*. However, what we actually find in the data is that half the verb roots can occur with either suffix, as seen in Table 13.

	-stəxʷ		**-stəxʷ*		TOTAL	
-t	221	(48%)	170	(36%)	391	(84%)
**-t*	50	(11%)	22	(5%)	72	(16%)
TOTAL	271	(59%)	192	(41%)	463	(100%)

Table 13. Occurrence of roots with the transitive suffixes *-t* and *-stəxʷ*

For these verbs, the transitive construction usually indicates a simple event involving an agent and a patient (19a), while the causative construction involves an extra NP associated with the event—usually the causer (19b).

(19) a. niʔ ʔaɬ-ət-əs tθə swiẇləs tθə təx̌ʷaʔc!
AUX stretch-TR DT bow DT young.man
'The young man bent the bow.'

b. neṁ ʔaɬ-stəxʷ tθə swiẇləs ʔə tθə təx̌ʷaʔc!
go stretch-CS DT young.man OB DT bow
'Go show the young man how to pull the bow!'

Gerdts and Hukari (2006a) give an analysis of such causatives. They are ditransitive constructions: the agent of the transitive verb corresponds to the object of the causative and the patient of the transitive verb corresponds to an oblique object in the causative. Additional verbs that show this sort of transitive/causative alternation are given in Table 14.

[5] As Gerdts (1991) notes, stative-resultative forms of verbs are especially common in this construction. For example, the root √*nəẇ* forms the stative-resultative *səṁiẇ* 'inside' and the causative *səṁiẇstəxʷ* 'keep it inside'.

TRANSITIVE		CAUSATIVE	
łeʔx̌t	‘dish it up’	łeʔx̌stəxʷ	‘have him/her dish it up’
łqət	‘baste it on’	łəqstəxʷ	‘show him/her how to baste it on’
łt̓et	‘flip it’	łət̓stəxʷ	‘show him/her how to flip it’
mat̓ət	‘splay/prop it’	mat̓stəxʷ	‘show him/her how to splay/prop it’
məl̓c̓t	‘roll it’	məl̓c̓stəxʷ	‘have him/her roll it’
pk̓ʷət	‘dust/sprinkle it’	pək̓ʷstəxʷ	‘show him/her how to dust/sprinkle it’
pšət	‘spit it’	pəšstəxʷ	‘show him/her how/where to spit it’
q̓x̌ət	‘insult him/her’	q̓əx̌stəxʷ	‘teach him/her how to insult him/her’
q̓iẇət	‘hang it’	q̓iẇstəxʷ	‘have him/her hang it’
t̓aʔt	‘pull it apart’	t̓aʔstəxʷ	‘teach him/her to pull it apart’
t̓əm̓ət	‘pound/beat on it’	t̓əm̓stəxʷ	‘show him/her how to pound/beat on it’
t̓ᶿaʔt	‘pull it off’	t̓ᶿaʔstəxʷ	‘show him/her how to pull it off’
t̓ᶿek̓ʷət	‘shine a light on it’	t̓ᶿek̓ʷstəxʷ	‘have him/her shine a light on it’

Table 14. Some roots that take both transitive and causative suffixes

These verb roots otherwise test straightforwardly to be either unaccusative or transitive, as discussed in the next section. Thus some fine-tuning of the causative suffix as a test is required. Only verb roots that take causatives and also lack transitives are classified as unergatives. Roots that can take either the causative or the transitive suffix must be classified on the basis of other factors.

5 A closer look at transitives

One obvious omission in our earlier work on Halkomelem verb classes is an analysis of transitive verb roots. All syntactically transitive constructions in Salish, i.e. those with two direct nominal or pronominal arguments, take transitive marking. This has led some Salish scholars, for example Kuipers (1968), Hess (1973), Jelinek (1994), and Suttles (2004), to the viewpoint that all verb roots in Salish languages are intransitive and require the addition of transitive morphology in order to serve as transitive stems. However, there is an alternative view taken by some Salish scholars, including Gerdts (1988a), Gerdts and Hukari (1998), Nater (1984), and Thomason and Everett (1993): the transitive

suffix is a verbal inflection that can appear on bases that are already semantically transitive.

One way to explore the status of roots is to make a more complete survey of the Ø/*-t* pairs in the language, classifying them according to the semantic properties of the base. This is undertaken by Gerdts and Hukari (2006b); their results are summarized in this section.

5.1 Transitive roots

Some verbs that occur with the suffix *-t* lack a corresponding bare root alternant that can appear as a free-standing word (93 of our sample of 489 roots (19%)). Some examples are:[6]

ACTIVITIES INVOLVING MANIPULATING, MOVING, ACQUIRING, INGESTING, ETC.
√haʔxʷ 'steam bathe', √hes 'ritual brushing', √k̓ʷey 'bathe in cold water', √yək̓ʷ 'scrub, rub together', √yət̓q̓ʷ 'scrub', √yic̓ 'sand', √x̌ip̓ 'scratch', √x̌əy̓ 'beat', √təyq 'move', √qix̌ 'slide', √yiq 'fell, tip over', √qƛ̓ə 'drop off', √hikʷ 'rock', √cəm̓ 'pack on one's back', √ʔit̓ 'pack by the handle', √šeʔ 'put on lap', √łaq̓ʷ 'tap, pat', √kʷeʔ 'drop it, let go, leave it alone', √tan 'leave behind', √x̌im 'grab', √ƛ̓kʷa 'grab and pull', √mək̓ʷ 'pick up off the ground', √wen 'throw', √ʔim 'step on', √łəl 'bail it out', √maʔ 'start a fire', √ʔiləq 'buy it', √łkʷa 'peck', √k̓ʷełq̓ 'pop, slam, snap', √ləq̓ʷ 'drink in one swallow', √t̓θk̓ʷə 'eat, riddle (as pests do)'

VERBS OF COGNITIVE AND SOCIAL INTERACTION
√łeq 'whisper', √k̓ʷełq̓ 'pop, slam, snap', √lem 'look at', √yən 'laugh at', √t̓qə 'insult, jeer', √x̌t̓ə 'jinx', √ƛ̓xʷə 'beat (in a game, race)', √naʔ 'find s.o. dear, miss', √nan 'take someone's side, defend', √p̓xʷa 'keep quiet, calm down', √neh 'name someone', √t̓ih 'ask him/her, beg', √ʔa: 'call for, invite', √ya: 'order', √cse 'tell (to do)', √k̓ʷəye 'forbid', √ʔexʷeʔ 'give, share with'

These verbs typically appear as transitives cross-linguistically, e.g. activity verbs involving a direct effect on the patient, often with an instrument; verbs involving the agent moving the patient; ditransitive verbs of giving, letting, and telling; etc. The simplest analysis to posit for these verbs is that the roots are transitive.

5.2 Unergative verbs with transitive semantics

Another class of verb roots proves problematic for our intransitive verb classification. These verbs show a Ø/transitive alternation, but not of the expected pattern. The agent rather than the patient is the constant factor across the two

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[6] Eight of these verbs form intransitive forms with the middle suffix: *təyqəm* 'move', *qix̌əm* 'slide', *łətx̌əm* 'shiver, tremble', *qət̓θq̓əm* 'squeak, rasp', *qƛ̓əm* 'drop off', *yiqəm* 'fall, tip over', *łəp̓q̓ʷəm* 'boil', and *ƛ̓əwq̓əm* 'flicker'.

constructions. Furthermore, even the intransitive alternant is semantically transitive: the oblique-marked NP is the semantic patient in the intransitive (a) examples corresponding to the direct object in the transitive (b) examples.[7]

(20) a. nem̓ čə̓kʷx̌ ʔə kʷθə sce:łtən!
go fry OB DT salmon
'Go fry some salmon!'

b. nəwə-s nem̓ čə̓kʷx̌-t tᶿə səplil!
you-NM go fry-TR DT bread
'You go fry the bread!'

(21) a. nem̓ łə təẇ šəyq ʔə tᶿə x̌θəm
go EMPH bit look.through OB DT box
ʔə k̓ʷ laʔθən!
OB DT plate
'Go look through the box for a plate!'

b. nem̓ təẇ šəyq-t tᶿə ləqʷə ʔə kʷθə šxʷʔaʔṯᶿəsəm̓!
go bit look.through-TR DT suitcase OB DT towel
'Go look through the suitcase for a towel!'

A significant class of roots (35 of the 489 verb roots (7%)) exhibit this pattern:

SEMANTICALLY TRANSITIVE WITH OBLIQUE OBJECT
łiš 'bite and tear it apart', qʷəl̓s 'boil', səẇq̓ 'seek', ʔem̓əq 'return, give back', čə̓kʷx̌ 'fry', k̓ʷəl̓č 'gut it', łip 'strip slices off', mai 'aim', qen̓ 'steal from', x̌əmk̓ʷ 'pop in mouth', šəyq 'ransack, go through looking', ṯel 'half-drying fish', xʷikʷ 'brush close by', x̌ik̓ʷ 'gnaw', x̌ṯek̓ʷ 'carve', qeləč 'spin (wool, etc)', calaʔł 'borrow', weq̓ 'dig', łən̓ 'weave', łəp̓ṯᶿ 'slurp it up', mel̓q 'forget', nəwən 'will it to', x̌eʔə 'propose', kʷukʷ 'cook it', x̌ṯek̓ʷ 'carve', łən̓ 'weave', has 'blow on it', łeṯᶿ 'joke with someone', qəmaʔ 'nurse', sem̓ 'sell', ṯem 'guess', x̌łas 'eat, dine', ṯᶿəmx̌ 'peek at, peer at', ṯᶿaqʷ 'suck on', nəpəc 'send, mail, hitch ride'

Like the verb roots in the previous section, these verbs denote semantically purposeful actions, often activities that have some duration, typical of transitive events.

[7] More precisely, this is a particular kind of oblique-marked NP that we refer to as an oblique object (Gerdts 1988a, Gerdts and Hukari 1998).

5.3 Bare root is unaccusative but semantically transitive

A third problem for our unergative/unaccusative classification comes from a class of verbs that might at first seem like classic unaccusatives, since they appear in intransitive clauses where the sole argument is the patient. The following are typical examples:

(22) ʔi ceʔ ʔə təʔi kʷs taǩʷ-s kʷθə sənixʷəɬ
AUX FUT OB here DT.NM beach-3POS DT canoes

ʔəẇ kʷeyələs.
LNK tomorrow

'You will beach the canoes over here tomorrow.'
[Lit: 'The canoes will be beached here tomorrow.']

(23) nem̓ ceʔ ṗələc̓ θən̓ swetə kʷən̓s c̓əy̓xʷ-t.
go FUT turn.inside.out DT.2POS sweater DT.2POS dry-TR
'You will turn your sweater inside out to dry.'
[Lit: 'Your sweater will be turned inside out when you dry it.']

(24) ʔəy̓ kʷs qiq̓-s tθə qeq ʔəwə kʷɬ ʔiʔ x̌aʔ.
good DT-NM bind-3POS DT baby not EMPH and stop.cry
'You'd better bind the baby that hasn't stopped crying.'
[Lit: 'It's good for the baby that hasn't stopped crying to be bound.']

However, this construction is highly marked semantically. While the transitive alternants of these verbs are easily used in a variety of contexts, the intransitive verbs are used only in a construction that we call the pseudo-transitive imperative. It functions as a polite or indirect imperative, with an implied second person agent. The sentence is usually framed in the future (22)–(23), as a question, or with the higher predicate *ʔəy̓* 'good' (24). Furthermore, the construction allows the motion auxiliary *nem̓* 'go', which is otherwise limited to clauses where there is an agent that can move (Gerdts 1988b); in (23) it is the implied agent that is moving.

A fair number of verbs roots (37 out of 489 or 8%) appear in the pseudo-transitive imperative construction. They can be further sub-divided according to whether or not they allow the agentive use of *-əlmən* and *-namət*.

PSEUDO-TRANSITIVE IMPERATIVES (ALLOWING AGENTIVE *-əlmən* AND *-namət*)
ʔiyeʔq 'change', ɬt̓e 'flip', ṗeʔ 'skim cream off milk, flatten', qəyeʔ 'take out', ʔaləǩ 'collect', x̌əpǩ 'scatter it, spread it, broadcast', q̓əy̓tθ 'bring -together', q̓ʷay 'scrape, singe a canoe', sat̓ 'suck', səy̓t̓ 'tickle him/her', šak̓ʷ 'bathe', šem 'dry, smoke', t̓al̓əǩʷ 'send away, chase away', wet̓θ 'knit; pry with a tool', ǩcə 'figure out', c̓xʷa 'more, add more to it', θəyǩ 'stoke, rake', t̓əl̓qiʔ 'soak', t̓θɬek̓ʷ 'pinch', yəx̌q̓ 'paint', məlxʷ 'rub oil on it, grease it'

PSEUDO-TRANSITIVE IMPERATIVES (NO AGENTIVE *-əlmən* AND *-namət*)

kʷcə ‘shout at, use a sharp tone with’, kʷθə ‘lie down (a quadruped), crouch’, k̓ʷše ‘number’, ləx̌ʷ ‘cover’, ṗələc̓ ‘turn inside out, turn over’, tax̌ʷ ‘beach’, t̓aʔ ‘pull apart’, θəyq ‘uneven, staggered’, x̌θe ‘jerk’, yaχ̓ ‘rub’, yeʔ (yaʔ) ‘paddle backward’, q̇əlṗ ‘curl, bend’, θimaʔ ‘freeze’, χ̓q̇ʷə ‘wrap up, tidy up’, t̓θał ‘dampen’, xʷk̓ʷa ‘pull, pull the slack up’

Take for example the verb root *ləmeʔ* ‘kick’. It functions as a pseudo-transitive imperative as a bare root (25), but as an unergative root with agentive meaning with the suffix *-əlmən* (26).

(25) nem̓ ceʔ ləmeʔ tθə sme:nt, naʔət štetəl̓ ʔə tθə šeł.
go FUT kick DT rock AUX middle OB DT road
‘Go kick off the rock that’s in the middle of the road.’
[Lit: ‘The rock that’s in the middle of the road will go kick off.’]

(26) st̓e ʔəẇ ʔi:s wəł ləmeʔ-əlmən tθə stiqiw.
like COMP AUX:NM now kick-DES DT horse
‘It looks like the horse wants to kick.’

Such roots therefore show yet another example of mixed properties, making them difficult to definitively classify. Gerdts and Hukari (2006b) conclude that the best analysis for these roots is that they are should be classified as basically transitive, since the transitive alternants seem semantically more neutral than the intransitive ones.

In sum, we posit transitive roots for the verbs in section 5.1. Moreover, the unergative verbs in section 5.2 and the unaccusative verbs in section 5.3 are derived from transitive roots through zero derivation.[8] The recognition of a class of transitive roots opens up a Pandora’s box of questions about how to distinguish intransitive from transitive roots and how to relate the two types to each other—questions beyond the scope of this paper.

6 Conclusion

To sum up the findings of this exploration into Halkomelem verb classes, fine-tuning our tests results in a view that there are four major verb classes in Halkomelem. It is not only the absence or presence of combinatory morphology, but also the semantic nuances conveyed by the morphology that are crucial. Cases where the construction is possible, but only sporadically and only with special semantics, are placed in parenthesis in the table.

[8] Alternatively, both the transitive and intransitive forms (if they exist) are derived from a neutral base (Piñón 2001) but the derivation of the transitive is set as the default mapping for these verbs.

MEANING	UNERGATIVE	UNACCUSATIVE: PROCESS	UNACCUSATIVE: STATE	TRANSITIVE
BARE ROOT	agent	patient	patient	agent and/or patient
CAUSATIVE	yes	(ditransitive)	'get, keep, have'	(ditransitive)
TRANSITIVE	no	yes/(spontaneous)	(change, make)	yes
LIMITED CONTROL	'manage to'	reflexive/ aspectual	(aspectual)	reflexive
DESIDERATIVE	'want'	(aspectual)	(aspectual)	no
TOTAL	28	100	25	121

Table 15. Four major verb classes

For example, causatives of process unaccusative verb roots are possible, but only if the causative is formed on the transitive meaning of the root, yielding a ditransitive construction. Desideratives are possible on unaccusatives, but only with an aspectual reading. While our original sort into two intransitive verb classes—unergative and unaccusative—accounted for very few verb roots (83 roots or 17%), as discussed in section 3, sorting into four types successfully classifies around half the verb roots of the language (274 roots or 56%). Perhaps other tests can help make sense of the other half, especially those that show mixed properties.

Our results show that it is unnecessary to posit a view of argument realization in Salish languages that is radically different from that proposed for English or other languages of the world. Our analysis provides evidence against claims that all roots in Salish languages are intransitive (as mentioned in section 5 above) or claims that all roots are causative in the event structure and/or unaccusative in the argument structure (Davis 1997, 2000; Davis and Demirdache 2000). Differences between Halkomelem and English should not be handled by positing deep conceptual differences, but rather by accommodating subtle differences in the argument realization of sub-classes of verbs.

In terms of argument structure, Halkomelem probably exhibits a normal tripartite system: there are three major verb classes—unaccusative, unergative, and transitive—and these map to three different syntactic structures.[9] The elements of event structure that were found to be crucial in classifying verb roots were states versus actions and spontaneous versus external-caused events. A preliminary model for argument realization might look like Figure 1.

[9] See Levin and Rappaport Hovav (2005) for a survey of how this is accomplished in various theories.

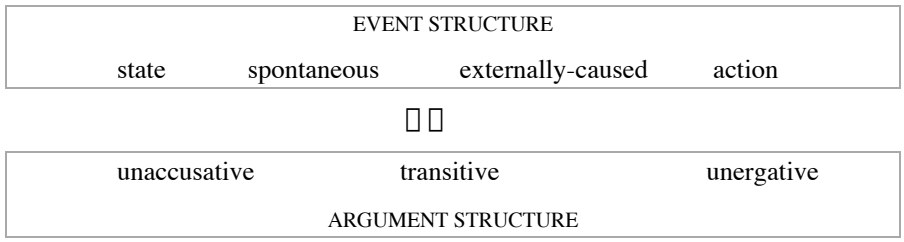

Figure 1. Argument realization

Basically the concept behind this representation is that there is a great deal of flexibility (aka type shifting) in how the different event structures will map to argument structure, language-internally and cross-linguistically. However, event types in one zone of the event structure list will most felicitously map to the parallel zone of the argument structure list. So, for example, states and spontaneous events link to unaccusatives as a default, actions link to unergatives as a default, and externally-caused events link to transitives argument structures as a default. The amount of type-shifting, and its morphological mediation, is a topic for future research.

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