

The SENĆOFEN Resultive Construction

by

Claire Kelly Turner  
B.A., University of British Columbia, 2004

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Supervisory Committee

Dr. Suzanne Urbanczyk, (Department of Linguistics)

---

Supervisor

Dr. Thomas E. Hukari, (Department of Linguistics)

---

Department Member

Dr. Ewa Czaykowska-Higgins, (Department of Linguistics)

---

Department Member

Dr. Donna B. Gerds, (Department of Linguistics, Simon Fraser University)

---

External Examiner

Supervisory Committee

Dr. Suzanne Urbanczyk, (Department of Linguistics)

---

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Dr. Thomas E. Hukari, (Department of Linguistics)

---

Department Member

Dr. Ewa Czaykowska-Higgins, (Department of Linguistics)

---

Department Member

Dr. Donna B. Gerdts, (Department of Linguistics, Simon Fraser University)

---

External Examiner

## Abstract

The resultive and actual (imperfective) aspects in SENĆOŦEN, a dialect of North Straits Salish, have been previously considered to contain two separate actual and resultive morphemes (Montler 1986). In contrast, it is argued here that the SENĆOŦEN resultive construction is a complex construction, built on an actual base by prefixation of stative [s-]. Both morphophonological evidence and morphosyntactic evidence for this claim are considered: resultives and actuals exhibit the same non-concatenative allomorphy, and they appear to be in complementary distribution with respect to argument structure. This thesis also considers the semantic aspectual properties of resultives, and suggests that the morphologically complex resultive is semantically compositional: it contains a [durative] feature contributed by the actual morpheme and a [static] feature contributed by the stative prefix.

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## Morphological Abbreviations

1SGSU	1 <sup>st</sup> person singular subject pronoun
1SGPOSS	1 <sup>st</sup> person singular possessive pronoun
1PLSU	1 <sup>st</sup> person plural subject pronoun
2SU	2 <sup>nd</sup> person subject pronoun (used for singular and plural)
2POSS	2 <sup>nd</sup> person possessive pronoun
3ERG	3 <sup>rd</sup> person ergative agreement
3POSS	3 <sup>rd</sup> person possessive pronoun
ACT	actual
AUX	auxiliary
CAUS	causative
CONJ	conjunction
CONTEMP	contemporaneous*
C.TR	control transitive
DET	determiner
DIM	diminutive
DIR	directional*
DUR	durative
FUT	future
GROUP	group (indicates that the utterance is addressed to all present)
INF	informative*
LIM	limiting*
MID	(control) middle
N.C.MID	non-control middle
N.C.TR	non-control transitive
NOM	nominaliser
OBL	oblique
PASS	passive
PERSIS	persistent*
PL	plural
PROG	progressive
PST	past
Q	yes/no question particle
REAL	realised*
RECIP	reciprocal
REFL	reflexive
ST	stative
=	lexical suffix boundary
- (dash)	any other morpheme boundary
(-x-)	x is an infix
_ (underscore)	attaches clitic to host (in Montler's (2003) notation)

\* See Montler (1986) for definition.

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# Chapter One

## Introduction

This thesis provides a description of the SENĆOŦEN *resultive* construction. The main proposal put forth is that the resultive construction is morphologically complex, consisting of a *stative* prefix and a predicate in the *actual* (imperfective) aspect. All previous work on SENĆOŦEN and other North Straits Salish languages has assumed two separate morphemes: *actual* and *resultive*. In contrast, this thesis provides arguments that resultives contain actual morphology and that the only morphological difference between an actual and a resultive is that the resultive additionally contains a stative prefix [s-].

### 1.1 SENĆOŦEN Resultives and Actuals

The SENĆOŦEN resultive expresses the resultant state of the patient participant of an event. To date, three different non-concatenative *actual* allomorphs have been found to form resultives from the morphologically unmarked perfective. Example (1b) exhibits CV-reduplication, (2b) ablaut with suffixation of “durative” [-əɬ], and (3b) metathesis/stress shift<sup>1</sup>. Throughout this thesis, perfective forms are given in (a) and corresponding resultives or actuals are given in (b). When all three are compared, actuals are given in (b) and resultives in (c).

- (1) a. LIĆ                      TŦE    XI,LEM<sup>2</sup>  
         líq<sup>w</sup>                      tθə    ʃ<sup>w</sup>íłəm  
         loosen                      DET    rope  
         ‘The rope loosened; the rope slackened.’<sup>3</sup>
- b. SLI,LEĆ                      TŦE    XI,LEM  
         s-lí-łəq<sup>w</sup>                      tθə    ʃ<sup>w</sup>íłəm  
         ST-ACT-loose                      DET    rope  
         ‘The rope is slack.’

<sup>1</sup> This might be better described as a change from CCəC to CəCC, as neither *metathesis* nor *stress shift* fully covers all examples which are formed by this interesting allomorph. See chapter 3.

<sup>2</sup> SENĆOŦEN examples are given in both Dave Elliott Sr.’s alphabet (line 1) and the American Phonetic Alphabet (line 2). A conversion chart is given in appendix A.

<sup>3</sup> Unless otherwise noted, all examples result from fieldwork with two very generous Saanich elders in May 2006.

- (2) a. LEṬ LE, TFE LEPOT  
 lətʰ ləʔ tθə ləpát  
 fill PST DET cup  
 'The cup was filled.'
- b. SLÁṬEL TFE LEPOT  
 s-lətʰ-əl tθə ləpát  
 ST-fill(ACT)-DUR DET cup  
 'The cup is full.'
- (3) a. ṬPEX  
 ṣpəḥ  
 'scatter'
- b. STEPX  
 s-ṣəpəḥ  
 ST-scatter(ACT)  
 'scattered'

The same three actual allomorphs are used in non-resultive actual constructions. The SENĆOFEN actual is an imperfective morpheme expressing such meanings as events in progress, events with longer duration, repetitive events, and the resultant state of an event. Examples of actuals formed by reduplication, ablaut plus suffixation, and metathesis/stress shift are given in (4b), (5b), and (6b), respectively.

- (4) a. DILEM FE Janet  
 íləm θə Janet  
 sing DET Janet  
 'Janet sang (a song).' (Turner 2005, p. 252)
- b. DEDILEM, FE Janet  
 íə-íləm θə Janet  
 ACT-sing DET Janet  
 'Janet's singing.' (Turner 2005, p. 252)
- (5) a. BEÇ TFE MO,EĆ  
 pəkʷ tθə máʔəqʷ  
 rise.to.surface DET duck  
 'The duck floated to the surface.' (Turner 2005, p. 248)
- b. BÁÇEL  
 pəkʷ-əl  
 rise.to.surface(ACT)-DUR  
 'rising to the surface now and then [as in a buoy]'

- (6) a. FQET            SEN    LE,    TFE    XI,LEM  
 θákw-át        sən    ləʔ    tθə    xʷíləm  
 stretch-C.TR    1SGSU    PST    DET    rope  
 'I stretched out the rope.'
- b. FEQT                            SEN    LE,    TFE    XI,LEM  
 θákw-t                            sən    ləʔ    tθə    xʷíləm  
 stretch(ACT)-C.TR    1SGSU    PST    DET    rope  
 'I was stretching out the rope.'

In addition, post-stress resonants are glottalised in all actual and resultive forms, regardless of the allomorph used, as in (1b), (4b), and (7b).

There is also a fourth allomorph of the actual, which has not yet been found in resultive forms: infixation of a glottal stop following the stressed vowel.

- (7) a. WITEN  
 xʷít-əŋ  
 jump-MID  
 'jump'
- b. I        WI,TEN,  
 ʔi        xʷí-ʔ-t-əŋ'  
 AUX    jump(-ACT-)-MID  
 'He's jumping.'

I believe that the absence of resultives formed by glottal infixation is a gap in the corpus of data, and that there may well be resultives formed in this way.

Although actuals and resultives are formed by at least three of the same non-concatenative morphological processes, the resultive construction has not previously been recognised as built on an actual base, but rather has been assumed to contain a resultive morpheme distinct from the actual morpheme. There are two main reasons for this. First, some actuals seem to express a resultant state, and have been previously classified as resultives (Montler 1986).

- (8) a. NEK'            FE    KAK  
 nəqʷ            θə    qéq  
 fall.asleep    DET    baby  
 'The baby fell asleep; the baby's sleeping.'

- b. NOKÉEL                      TFE      KAK  
 náq<sup>w</sup>-əł                      θə      qéq  
 fall.asleep(ACT)-DUR      DET      baby  
 'The baby is asleep.'

These actuals belong to the class of inchoative states, previously identified in Skwxwú7mesh (Central Salish) by Bar-el (2003a, 2005) and discussed in chapter 4.

The second reason actuals and resultives have been treated as separate morphemes is that only one actual/resultive minimal pair and one near minimal pair have been documented so far. The actual in (9b) differs from the resultive (9c) only in that the resultive has a stative prefix.

- (9) a. KES  
 qés  
 'It fell in the water.'
- b. YOF OL, KÁSEL                      TFE      SYOYLE E      TFE      KO,  
 yáθ ʔal qés-əł                      tθə      s-t<sup>h</sup>áí<sup>h</sup>ə ʔə tθə q<sup>w</sup>á?  
 always LIM fall.in.water(ACT)-DUR DET      NOM-leaf OBL DET water  
 'The leaf is always falling in the water.'
- c. SKÁSEL  
 s-qés-əł  
 ST-fall.in.water(ACT)-DUR  
 'He's/It's in the water.'

In this thesis, I will argue that the scarcity of minimal pairs does not mean that there are contrastive resultive and actual morphemes. Instead, it results from the near complementary distribution of resultives and actuals, in terms of the predicate bases on which they are formed.

## 1.2 The SENĆOFEN Language

SENĆOFEN [sənčáθən] is the language of the Saanich people, and is called *Saanich* in some previous linguistic literature (e.g., Montler 1986). The traditional territory of the Saanich people includes WŚÁNEĆ [x<sup>w</sup>sénəč] (the Saanich Peninsula of Vancouver Island) and many of the surrounding Gulf and San Juan Islands (Elliott 1983, p. 5). SENĆOFEN is linguistically considered to be a dialect of North Straits Salish, a language of the Central branch of the Salish language family. The other North Straits dialects are Sooke, Songish, Lummi, Samish, and Semiahmoo.

SENĆOFEN is a seriously endangered language; there are estimated to be fewer than twenty speakers (Czaykowska-Higgins & Kinkade 1998, p. 65). However, active efforts are being made in the Saanich community to revitalise the language.

### 1.3 Language Data

Most of the examples provided in this thesis result from fieldwork undertaken in 2004-2006. Examples cited as Turner (2005) were elicited in the fall of 2004 and the spring of 2005 and those with no citation were elicited in May 2006. Fieldwork was carried out with fluent SENĆOFEN speaking elders who wish to remain anonymous. Many of the examples collected during fieldwork are based on forms found in Montler (1986, 1989, 1991), checked for current accuracy, and usually put into sentences. Thus, this thesis is greatly indebted to those three sources. Some new examples of resultives and actuals are also provided in this thesis. All forms from Turner (2005) and from fieldwork in 2006 are listed in appendix B.

I have listed forms in both Dave Elliott Sr.'s SENĆOFEN alphabet, which is in use in the Saanich community, and the American Phonetic Alphabet (APA), which is used by most linguists working on Salish languages and by some members of the Saanich community. A key to Dave Elliott Sr.'s alphabet and the APA, with IPA equivalents, is given in appendix A. Examples from sources other than my own fieldwork were only provided in the APA in the original sources. The transliteration into Dave Elliott Sr.'s alphabet, in these cases, represents my attempt to make the language examples more accessible to SENĆOFEN speakers. The spelling of those examples has not been checked with a native speaker, and I, as a learner, am likely to have made some spelling mistakes.

A list of the morphological abbreviations used in the morpheme by morpheme glosses is found on page vii. Please note that Montler (1986, 1989) did not always provide full glosses, so the glosses found with examples from these sources are often mine. I have also made minor changes to abbreviations used in other sources' glosses for consistency.

#### 1.4 Outline of the Thesis

The rest of the thesis is organised as follows. Chapter 2 provides a review of relevant literature on SENĆOFEN and other Salish languages, as well as some theoretical background in the areas of unaccusativity/unergativity, event structure, and aspect. Chapter 3 provides an overview of the form of resultives and actuals, summarises previous analyses of actuals, and provides morphological arguments for the proposal that resultives contain actual and stative morphemes. Chapter 4 has two focuses. First, it provides arguments that actuals and resultives are in complementary distribution in that resultives are found so far only on bases which appear to be unaccusative, while actuals are found on transitive bases and bases which seem to be unergative. These arguments are preliminary, as only a few roots have been tested for the properties of unaccusative and unergative, and for the ability to take resultive and actual. However, the complementary distribution found so far accounts for the scarcity of minimal actual/resultive pairs. Chapter 4 also argues that the meaning of resultives is compositional, containing elements contributed by the actual morpheme, by the stative prefix, and by the predicate base. Chapter 5 summarises the arguments of the thesis, and considers further avenues for research on this topic.

## Chapter Two

### Literature Review

In this chapter, a literature review of relevant work to this thesis is provided. The outline of this chapter mirrors the outline of the thesis in that the first section discusses literature relevant to chapter 3, the Form of Resultives and Actuals, while the second section discusses literature relevant to chapter 4, the Morphosyntax and Semantics of Resultives and Actuals. Both sections review previous work on SENĆOŦEN and relevant work on other Salish languages. Section 2.2 also discusses theoretical background literature.

#### 2.1 Previous Work on the Form of Resultives and Actuals

This section, which focusses on literature relevant to an analysis of the form of resultives, is split into two subsections. Section 2.1.1 focusses on previous work on SENĆOŦEN actuals and resultives, and section 2.1.2 focusses on previous work on North Straits, and its closest neighbouring Salish languages, Klallam and Halkomelem.

##### 2.1.1 Previous Accounts of SENĆOŦEN Actuals and Resultives

The most comprehensive linguistic work on SENĆOŦEN is Montler's (1986) *Morphology and Phonology of Saanich, North Straits Salish*. In this descriptive work, the resultive and actual are analysed as two separate morphemes, outlined in the section called *Radical Morphological Processes* (pp. 111-133). Montler's discussion of resultives is restricted to a few pages, since not many resultives occur in his corpus of data. He states that the resultive is formed by either regressive (prefixing) reduplication or ablaut, and that it often, but not always, co-occurs with stative [s-] and durative [-əŋ]. In contrast, I argue in chapter 3 that all resultives have a stative prefix, and that the "durative" suffix is phonologically predictable. Several of the forms considered resultive in Montler (1986) are argued in chapter 3 to be actuals. Therefore, the corpus of resultives in Montler (1986), and thus in any previous linguistic literature on SENĆOŦEN, is even smaller than originally thought. In this thesis, a few more resultives are provided, based on fieldwork with Saanich elders. These are listed in appendix B and appear as examples throughout the thesis.

Although few resultives appear, there are a number of actual forms documented in Montler (1986), and it is in this work that the first account of the many different processes used to form the actual appears. The actual allomorphs outlined by Montler are progressive (infixing) reduplication, metathesis/stress shift, and glottal infixation, and he describes two accompanying processes of actual formation: alternation between [k<sup>w</sup>] and [w̥] and [č] and [j̥], and resonant glottalisation.

Montler (1986) provides a preliminary analysis of actuals, where he observes that both reduplication and metathesis/stress shift involve a shift leftward in stress. This observation does not hold, however, since many of both reduplicated and supposed “stress-shifted” actuals do not involve a shift in stress. Also, a large number of actuals are formed by glottal stop infixation, which never involves a shift in stress.

Montler (1989) provides a more comprehensive and plausible account of actuals. He argues that the underlying form of the actual consists of “an abstract C\_CC frame for the stressed vowel of the stem” (p. 93). Each allomorph is a strategy to reach this optimal shape for the actual.

The analyses of Stonham (1994) and Kurisu (2002) follow Montler (1989) by attempting a unified analysis of actuals, but use different theoretical frameworks. Stonham (1994) argues that the allomorphs are different strategies to add a mora to the base form. Kurisu (2002) provides an Optimality Theoretic (OT) analysis of the actual, based around a constraint called *Realise Morpheme* (RM).

Caldecott (1999) shows results of a phonetic study of resonant glottalisation in SENĆOŦEN and an Interior Salish language, St’át’imcets (Lillooet), and focusses on the glottalisation of SENĆOŦEN actuals in section 5.4 of her thesis. She does not attempt to analyse the different non-glottal allomorphs, as her focus is the phonetic properties of resonant glottalisation.

In chapter 3, I will describe and compare these analyses of the actual in more detail, and conclude that Montler (1989) provides the most comprehensive, accounting for the greatest number of different actual shapes.

### 2.1.2 Selected Previous Work on Salish Actuals and Resultives

In this section, both the North Straits dialects other than SENĆOFEN, and closely related Central Salish languages Klallam (or Clallam) and Halkomelem will be considered. The traditional Klallam-speaking area borders North Straits to the South, covering the North coast of the Olympic Peninsula in Washington (Thompson & Thompson 1969). Klallam and the North Straits dialects (including SENĆOFEN) form the actual aspect in very similar ways.

Thompson & Thompson's (1969) article on Klallam metathesis provided the first linguistic analysis of the actual aspect and has influenced subsequent work on North Straits. Thompson & Thompson argue that metathesis is used in Klallam as a "grammatical device"; that is, it is used to form actuals from non-actuals (perfectives).

	<i>perfective</i>	<i>actual</i>	
(10)	čšú-t	čúš-t	
	'throw'	'throwing'	

(Thompson & Thompson 1969, p. 217)

It is possible to extend this analysis to account for some of the SENĆOFEN actuals. However, only a subset of actuals in SENĆOFEN differ from their perfectives in such a way as to suggest metathesis, and all subsequent analyses of actuals in North Straits Salish dialects have argued against metathesis and attempted to provide a unified account of all actual processes.

Demers (1974) analyses the actual in Lummi, one of the North Straits Salish dialects, and argues that all actuals are formed by glottal infixation. He provides various phonological rules, at play in the language as a whole, which cause the appearance of metathesised actuals. Montler (1986) argues that Demers's analysis cannot be used for SENĆOFEN, since not all of the phonological rules Demers suggests exist in SENĆOFEN.

Work on the other North Straits dialects has been more descriptive than analytic in nature. Efrat (1969) provides examples of continuatives (actuals) in Sooke formed by glottal stop infixation and a change from CCV to CVC (metathesis/stress shift allomorph). She also gives examples of resultives in Sooke formed by ablaut. Raffo (1971) provides examples of actuals in Songish formed by metathesis, glottal stop infixation, reduplication, and ablaut. Raffo (1972) additionally provides examples of

resultives formed by an -e/-a- infix (ablaut allomorph). Galloway (1990) provides Samish examples of continuatives (actuals) formed by ablaut, reduplication, glottal stop infixation, and metathesis.

None of the previous work identifies the cases of ablaut and suffixation of [-əʔ], as in example (11b), as cases of the actual; they have always been analysed as containing resultive ablaut co-occurring inexplicably with the durative suffix.

- (11) a.  $\underline{K}ES$   
 qəs  
 'It fell in the water.'
- b.  $YO\mathcal{F}$   $OL$ ,  $\underline{K}ÁSEL$   $T\mathcal{F}E$   $S\mathcal{Y}O\mathcal{Y}LE$   $E$   $T\mathcal{F}E$   $ÍO$ ,  
 yáθ ʔaʔ qés-əʔ tθə s-í<sup>θ</sup>áí<sup>θ</sup>ʔə ʔə tθə q<sup>w</sup>áʔ  
 always LIM fall.in.water(ACT)-DUR DET NOM-leaf OBL DET water  
 'The leaf is always falling in the water.'

In chapter 3, I provide more examples of actuals formed by ablaut and durative suffixation, and show that the occurrence of the durative suffix is phonologically predictable.

All of the previous work on North Straits Salish aspect considers the resultive and actual to be different morphemes. Therefore, this thesis is unique in claiming that there is no resultive morpheme in SENĆOFEN, and that resultives are built on actual forms. Galloway, in the (1977) version of his grammar of Upriver Halkomelem (a dialect of Halkomelem), considers the resultive in that language to be built on the actual<sup>4</sup>. However, in Galloway (1993, p. 283), he re-analyses the two as separate actual and resultive morphemes, following the claims of Suttles (1984, published as Suttles (2004)) in work on hənqəm i nən, the Musqueam dialect of Halkomelem.

Although it does not seem possible to claim that the Halkomelem resultive is built directly on the actual, the SENĆOFEN evidence supports a claim that in SENĆOFEN this is the case. There appears to be a fundamental difference between Halkomelem

<sup>4</sup> Several different terms have been used to refer to the Halkomelem cognate to the actual: Jones (1976) and Leslie (1979) use *actual*, Hukari (1978) uses *imperfective*, Suttles (2004) uses *progressive*, and Galloway (1993) uses *continuative*. All terms refer to the same morpheme, which appears to have similar functions and morphology to the North Straits "actual", so I use that term here for consistency. Similarly, *resultive* in some North Straits sources (including this thesis) is equivalent to the more common *resultative*.

and North Straits Salish: in Halkomelem, actuals are productively found on unaccusative (patient oriented intransitive) forms, allowing dozens of actual and resultive pairs formed on the same base. These forms are sometimes identical except for the stative prefix, but more often they are not, as in the actual and resultive in (12).

	<i>perfective</i>	<i>actual</i>	<i>resultive</i>
(12)	mə́q̣	hə́ṃq̣	sə́ṃíq̣
	'get full'	'be getting full'	'full'
			(Suttles 2004, p. 184)

In contrast, North Straits Salish literature contains very few contrastive pairs of actual and resultive formed on the same base, as actuals of unaccusative bases have not been documented (see 4.1). Therefore, the claims of this thesis are not meant to extend to the actual and resultive equivalents in Halkomelem.

## 2.2 Previous Work Relevant to the Semantics and Morphosyntax of Resultives and Actuals

This section outlines literature relevant to a study of the morphosyntactic and semantic properties of resultives and actuals. It is split into two subsections: section 2.2.1 focusses on literature relevant to morphosyntactic restrictions of resultives and actuals based on the verb classes of unergative and unaccusative (see 4.1). Section 2.2.2 focusses on literature relevant to the semantic compositionality of resultives (see 4.2).

### 2.2.1 Literature Relevant to the Morphosyntax of Resultives and Actuals

This section discusses literature relevant to section 4.1, which argues that resultives are formed on unaccusative (patient-oriented intransitive) bases, while actuals are formed on unergative (agent-oriented intransitive) and transitive bases. The correlation of resultive with unaccusativity is also considered, and shown to be consistent with previous analyses of the event structure of Salish languages.

Section 2.2.1.1 defines the unaccusative/unergative distinction, and summarises work on the criteria for distinguishing these classes in Salish languages. Section 2.2.1.2 provides background on Pustejovsky's (1991, 1995) event structure model, and its applications to Salish languages.

### 2.2.1.1 Verb Classes: Unaccusativity and Unergativity

In the first part of this section (2.2.1.1.1), the terms *unaccusative* and *unergative* are introduced, and in the second part (2.2.1.1.2), the unaccusative/unergative distinction in Salish languages is discussed.

#### 2.2.1.1.1 Background Literature on Unaccusativity and Unergativity

Unaccusatives and unergatives are two types of *intransitive* predicate. A basic distinction is made between transitive and intransitive predicates, where transitive predicates have two core arguments, a grammatical subject and a grammatical object, and intransitive predicates have only one, which is usually a grammatical subject.

Within the class of intransitive predicates of a language, a distinction is often made between *unergative* predicates and *unaccusative* predicates (terms first used in relational grammar; see Pullum (1991)). The syntactic argument of an unergative predicate is more agent-like, more subject-like, and more likely to have independent control over the event, while the syntactic argument of an unaccusative predicate is more patient-like, less likely to have control, and more likely to be expressed as an object in some languages.

The unergative/unaccusative distinction was first noticed because of its effect on syntactic behaviour in many languages, which led to the formulation of the Unaccusative Hypothesis (UH) (Perlmutter 1978, Rosen 1984, Burzio 1986, and others), which was first argued for with respect to a Salish language (Halkomelem) by Gerdts (1988a). In general, the UH states that the surface subject of an unaccusative and the object of a transitive originate in the same structural position. There are also languages where more agent-like participants have subject case marking in intransitives, but more patient-like participants of intransitives have object case marking (Mithun, 1991).

Membership in the class of unaccusatives or unergatives, if a language makes such a distinction, cannot be predicted based on semantic criteria alone, and verbs differ among languages with respect to the class to which they belong (Rosen, 1984). For this reason, morphosyntactic criteria used by Gerdts (1988b, 1991) and Gerdts & Hukari (2001) to distinguish between these classes in Halkomelem are discussed in the next subsection. There are also certain semantic properties that are more likely to be

found in unaccusative subjects than in unergative subjects and vice versa, namely, more patient-like and more agent-like properties, respectively.

Dowty (1991) provides important work on the semantic roles of agent and patient, and their mapping to syntactic arguments. His basic proposal is that each predicate entails certain properties of its arguments, and, for transitive constructions, the argument with more prototypically agentive or *proto-agent* properties will be subject, while that with more patient-like or *proto-patient* properties will be object. (Dowty 1991, p. 576).

Dowty (1991) suggests that we can determine whether a predicate is unaccusative or unergative by looking at which semantic properties are required of its subject. The proto-patient properties are the following: the participant undergoes a change of state, is an incremental theme (undergoes change in increments), is causally affected by another participant, and is stationary relative to the movement of another participant (p. 572). The subject of an unaccusative is thus likely to have more of these properties than the subject of an unergative. The subject of an unergative will more likely be required to have proto-agent properties: volition, sentience/perception, causation of an event or change of state in another participant, and movement (p. 572). In chapter 4, I will use these semantic criteria to compare subjects of resultives, which appear to be unaccusative, with subjects of actuals, which are usually transitive or unergative.

#### 2.2.1.1.2 Verb Classes in Salish

Roots are generally syntactically intransitive in Salish languages, transitive predicates being derived by means of suffixation of one of several transitivising suffixes. Davis (1997) and Davis & Demirdache (2000) argue that all roots in St'át'imcets (Lillooet; Interior Salish) are unaccusative, an argument Davis (1997) suggests can be extended to all Salish languages and language universally. In this view, unergative predicates are derived by suffixation of "intransitive" suffixes.

In contrast to the view of pervasive unaccusativity offered in the above sources, Gerds (1988ab, 1991) and Gerds & Hukari (2001) argue for a distinction between unergative and unaccusative roots in Halkomelem. These sources provide several syntactic and semantic tests to distinguish between the two classes. In general,

unaccusatives can take the control transitive suffix /-t/, while unergatives usually cannot. Unergatives can take the causative suffix /-stəxʷ/, while unaccusatives usually cannot. Unergatives have the sense of ‘want’ when taking the desiderative /-əl̩mən/, while unaccusatives, if they allow this suffix at all, express a “natural, unavoidable future” (Gerds 1988b, p. 848).

In this thesis, it is assumed that there is an unaccusative/unergative distinction among roots in SENĆOFEN. This assumption allows the following observation to be made in chapter 4: so far, it appears that resultives are always formed on unaccusative roots, and actuals are formed on unergative roots<sup>5</sup>. Due to the relatively limited linguistic documentation of SENĆOFEN, and time constraints with respect to fieldwork, only the test concerning the control transitive suffix has been considered, and I have only been able to test a few roots. However, all three of the suffixes used in the tests are found in SENĆOFEN, so further testing is possible.

In more recent work, Gerds & Hukari (2006) and Gerds (2006) show that very few roots in Halkomelem behave as canonical unaccusatives or canonical unergatives. These sources also argue that a distinction should be made between semantically transitive and semantically intransitive roots. Perhaps it will be useful to look at the distribution of SENĆOFEN resultives and actuals in terms of this transitive/intransitive distinction. This is left to future research.

#### 2.2.1.2 Event Structure

Important previous literature on statives (resultives) in Salish languages (Burton & Davis 1996; Bar-el 2003b) has worked within the framework of Pustejovsky’s (1991, 1995) model of the event structure of predicates. These analyses constitute the only previous formal semantic analyses of resultives in Salish languages, and, in 4.1.2, they are used to show a formal correlation between resultives and unaccusativity. In section 2.2.1.2.2, I will outline these analyses, but first, in 2.2.1.2.1, Pustejovsky’s (1991, 1995) model is described.

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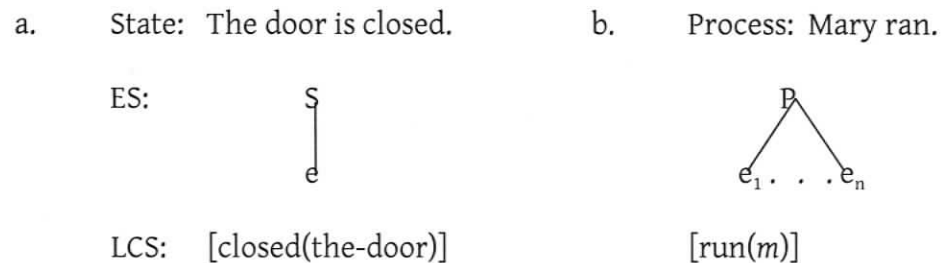
<sup>5</sup> Actuals, and not resultives, are also formed on derived unergative and transitive bases.

### 2.2.1.2.1 Background Literature on Event Structure

The basis of Pustejovsky's (1991, 1995) event structure model is that the events which predicates describe are not primitive; they have an internal structure and can be broken down into smaller subevents. Pustejovsky argues for three different event type structures, *states*, *processes*, and *transitions*.

A state consists of a single event. A process consists of several identical events in succession. A transition consists of an event "evaluated relative to its opposition"; the subevents in a transition can theoretically be of any event type. For example, in figure (1c), the event described is a transition from the state of the door not being closed to the state of the door being closed. In figure (1d), the transition is one from the state of the door not being closed, and John acting to close the door, to the state of the door being closed.<sup>6</sup> The diagrams in figure 1 show the event structures of different event types, along with the lexical conceptual structure (LCS) (Jackendoff 1983) of each event.

**Figure 1 - Pustejovskyan Event Structures**

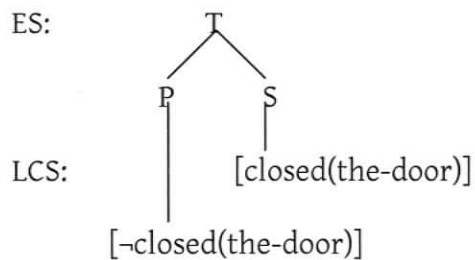


<sup>6</sup> The initial subevent in (c) and (d) is given as a P (process) in Pustejovsky's (1991) diagrams. However, the subevents given in the examples appear to be states, not processes. Note Pustejovsky's words in the paragraph below his diagrams: "These two structures suggest that *close...is a transition from one state to another*" (p. 58).

c. Transition (inchoative):

The door closed.

ES:

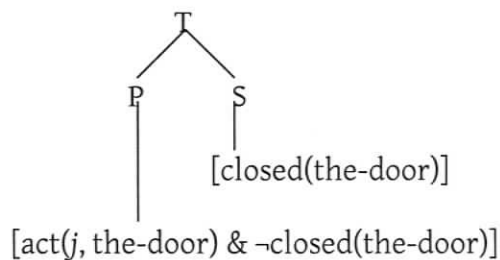


LCS:

[-closed(the-door)]

d. Transition (causative):

John closed the door.



(Pustejovsky 1991, pp. 57-58)

In the next section, the application of this model to Salish languages, and, in particular, to analyses of resultives, will be examined.

#### 2.2.1.2.2 Event Structure in Salish

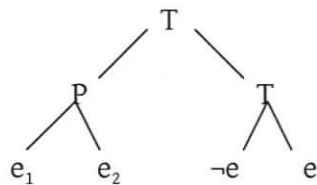
Burton & Davis (1996) and Bar-el (2003b) provide a Pustejovskyan event structure analysis of the stative prefix in St'át'imcets and Skwxwú7mesh (Squamish; Central Salish), respectively. Both papers argue that the stative prefix removes the initial subevent of a transition predicate, leaving the final event (which is a state) to be expressed by a form containing the stative prefix. Figure 2 represents this analysis, which I have adapted to the Pustejovskyan diagrams shown in figure 1.

*Figure 2 - The Effect of the Stative Prefix on Event Structure*



Davis & Demirdache (2000) argue that the event structure of all Salish predicates is underlyingly semantically causative.

*Figure 3 - Salish Event Structure*



(Davis &amp; Demirdache 2000, p. 116)

Recall that Davis & Demirdache (2000) also argue that all predicate roots are syntactically unaccusative. They propose that a verb which is unmarked morphologically highlights the final transition of the event structure given in figure 3. An unergative, which they contend is always derived, highlights the initial process. A transitive, which is always derived by addition of transitive morphology, highlights the whole event.

An event structure analysis of resultives and actuals in SENĆOTEN is not attempted in this thesis. However, these important previous works will be considered further in section 4.1, since they can be used to provide a formal representation of the observation that resultives seem always to be formed on unaccusative bases.

### 2.2.2 Literature Relevant to the Semantics of Resultives: Aspect

The semantic compositionality of resultives is considered in section 4.2, where it is argued that resultives are composed of the *actual* morpheme, which contributes the feature [durative] (which is somehow related to duration in time), and the stative prefix, which contributes the feature [static]. These features are based on Smith's (1991) account of aspectual classes, which, in turn, draws on a large body of literature on aspect. In section 2.2.2.1, relevant background literature on aspect is outlined, with particular focus on Smith's (1991) model. In section 2.2.2.2, literature on Salish aspectual classes is considered.

#### 2.2.2.1 Background Literature on Aspect

The term *aspect* refers to the description of "the internal temporal constituency of a situation" (Comrie, 1976, p. 3). It differs from *tense*, which describes the temporal properties of a situation in relation to the time of the utterance or in relation to some other time of reference (Comrie, 1976, p. 2). For example, the distinction between *Mary walked to school* and *Mary was walking to school* is one of aspect. The distinction between *Mary is walking to school* and *Mary was walking to school* is one of tense.

It is useful to make a distinction between two different levels of the aspect system of a language: temporal properties of predicate classes (sometimes called *Aktionsarten*), and temporal properties added or highlighted by morphosyntactic processes. Smith (1991) provides a model of the interaction of these distinct levels of

aspect, which she calls situation type and viewpoint, respectively. Her model of aspect is adopted in this thesis, and will provide a frame for the discussion of aspect in the following subsections, the first on situation type and the second on viewpoint.

#### 2.2.2.1.1 Situation Type

Four of the classes of situation type described by Smith (1991) were proposed by Vendler (1967), who, building on work in philosophy dating back to Aristotle, introduced *states*, *activities*, *accomplishments*, and *achievements*. Many linguists have assumed or argued for Vendler's classes, or variations thereof (e.g., Dowty 1979; Mourelatos 1981; Carlson 1981; Bach 1986; Pustejovsky 1991, and many others). Some authors also include a fifth class, *semelfactives*. Smith (1991) distinguishes these five situation types by the values a predicate in each bears with respect to three properties: *telicity*, *durativity*, and *stativity*.

*Stativity* is used to distinguish *states* from all other situation types. States are static (unmoving), and all other types of predicates are dynamic (or [-static]) (Smith, 1991, p. 28). English examples of states are *know*, *love*, and *be tired*.

*Telicity* distinguishes *accomplishments* and *achievements* from all other situation types. Accomplishments and achievements are telic, meaning that they have a natural conclusion (Smith, 1991, p. 29). For example, an accomplishment like *mow the lawn* has an endpoint that will be reached eventually if the event continues. Once the lawn is finished being mown, the event has reached its natural conclusion. Similarly, an achievement like *reach the top* reaches a natural conclusion in the instant in which it occurs. It is not possible to keep reaching the top once the top has been reached. *States*, *activities*, and *semelfactives*, on the other hand, are atelic, because they have no natural conclusion (Smith, 1991, p. 29). An activity like *run* can be stopped (and likely will be), but there is no point at which running is finished. Of course there is a natural endpoint to *run a kilometre*, but that predicate is an accomplishment. Thus, situation type is a property of predicates; in some languages (e.g., English) not just the verb is relevant for determining situation type (Smith, 1991, p. 7).

*Durativity* distinguishes accomplishments from achievements, and activities from semelfactives. Accomplishments and activities are durative, they persist for some conceptually recognisable period of time, however short. States are also durative.

Achievements and semelfactives, on the other hand, are instantaneous. Although they may scientifically take up a measurable unit of time, they are generally conceived to be instantaneous (Smith, 1991, p. 29). Classic English examples of achievements include *reach the top* and *win the race*. Semelfactives include *sneeze*, *blink*, and *jump*.

Smith (1991) uses temporal schemata to represent these different situation types and their interaction with viewpoint. In the diagrams, *I* represents the initial point (or start) of the event, and *F* represents the final point.  $F_{Nat}$  is a natural endpoint, characteristic of telic predicates, and  $F_{Arb}$  is an arbitrary endpoint, found with atelic predicates. *R* indicates a resultant state, shown in parentheses because it is only optionally expressed by telic predicates. The solid line used for states shows that states have stable, homogeneous internal structure, representing the property of stativity. Dotted lines are used for dynamic events. The [-durative] events have overlapping initial and final points, since they describe conceptually instantaneous situations. Table 1 shows the schema of each situation type, along with its features.

**Table 1 - Situation Types**

	Stativity	Durativity	Telicity	Schema
States	[+static]	[+durative]	[-telic]	(I) ———(F)
Activities	[-static]	[+durative]	[-telic]	I ..... $F_{Arb}$
Accomplishments	[-static]	[+durative]	[+telic]	I ..... $F_{Nat} (R)$
Achievements	[-static]	[-durative]	[+telic]	..... I (R) .... F
Semelfactives	[-static]	[-durative]	[-telic]	I F

(based on Smith (1991))

#### 2.2.2.1.2 Viewpoint Aspect

The second component of the aspect system of a language consists of morphosyntactic processes which affect the temporal properties of predicates, or the domain of viewpoint aspect. One of the earliest comprehensive works on viewpoint aspect is Comrie (1976), which draws mostly on language-specific analyses of aspect, largely those of various European languages. He makes a basic contrast between perfective and imperfective, which is also used in later works, such as Dahl (1985) and Smith (1991). Comrie (1976) argues that the fundamental difference between these two

viewpoint aspects is that perfective views a situation as a whole, while imperfective views the situation internally (p. 16).

A slightly different characterisation is given by Smith (1991, pp. 93-95): perfectives view an event as a whole, showing both endpoints, while imperfectives show neither endpoint, and focus on a portion of the event that is neither initial nor final. The difference between perfective and imperfective is shown in the following schemata, where the slashes represent how much of the event is “seen”.

**Figure 4 - Viewpoint Schemata**

<i>Perfective schema</i>	I      F	<i>Imperfective schema</i>	I..////////..F
	////////		

For example, the English sentence *Mary walked to school* is perfective, because it is viewed as a whole (p. 95). We know that Mary started to walk, and finished walking to school, but we do not view any part of the walk to school itself. The sentence *Mary was walking to school* focusses on the event of walking, and does not mention the start or finish of her walk (p. 95). In fact, it is possible that Mary never got to school.

Languages often have a distinction between imperfective and perfective, but differ in which is morphologically unmarked. In Salish languages, perfective is the unmarked category (Mattina 1993; Bar-el 2005). The actual aspect of SENĆOŦEN is some kind of imperfective.

In addition to the basic distinction between perfective and imperfective<sup>7</sup>, there are also subcategories and more marked types of viewpoint aspect. Resultatives (including the SENĆOŦEN resultive) view not an internal portion of an event, but the resulting state of an event. Smith (1991) considers these to be a type of marked imperfective, which view a portion after the final point of an event, rather than an internal portion of an event. Comrie (1976, 1981) and Dahl (1985) link them to perfects, which describe a present situation in terms of the events leading up to that situation.

Another type of imperfective is the progressive, which tends typologically to differ from a general imperfective in that it is often used with all tenses, it is often not

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<sup>7</sup> Smith (1991) makes a three-way distinction, adding the category of *neutral* viewpoint, which will not be considered here. She uses this category to account for languages with aspectless surface forms, forms that are neither perfective nor imperfective and contrast with both.

used with states, and it is often not used in a habitual sense (Dahl 1985). Bar-el (2005, p. 246) shows that both progressive and imperfective exist in Skwxwú7mesh, and differ in that the imperfective can have a habitual meaning, while progressive cannot. Imperfective is an auxiliary while progressive is indicated morphologically by reduplication.

SENĆOFEN does not appear to make a distinction between general imperfective and progressive. Further research is required to determine which of these two types of imperfective best describes the actual aspect. For this reason, and also to maintain consistency with all previous work on SENĆOFEN, I have chosen to continue using the term *actual* in this thesis to refer to the SENĆOFEN morpheme, and to restrict the use of *imperfective* to refer to the cross-linguistic category of imperfective.

#### 2.2.2.2 Aspectual Classes in Salish

Smith (1991) argues that the situation types outlined in 2.2.1.1 are universal. However, there have been recent studies challenging this claim to universality, including some which look at situation type in Salish languages (Matthewson 2004; Bar-el et al. in press; Kiyota 2004, 2005; Turner & Urbanczyk 2006).

Matthewson (2004) and Bar-el et al. (in press) consider St'át'imcets and Skwxwú7mesh predicates. Recall that Smith (1991) argued for five universal situation types: states, activities, accomplishments, achievements, and semelfactives. Matthewson (2004) and Bar-el et al. (in press) diagnose three situation types at the verb root level in the two Salish languages which they consider: accomplishments/achievements, activities, and (inchoative) states. Both papers argue that telicity is not entailed by the putatively universally telic class of accomplishments and that accomplishments are derived from underlying telic achievements. Achievements are argued to be unaccusative in the two languages, and accomplishments are derived through addition of a transitive suffix. A St'át'imcets example is below.

- (13) a.   mays           ta       káoh-a  
           get.fixed     DET     car-DET  
           'The car got fixed.'

- b. máys-en-lhkan ta káoh-a  
 get.fixed-TR-1SGSU DET car-DET  
 'I fixed the car.' (Bar-el et al. in press, p. 12)

What follows from such analyses is that the difference between accomplishments and achievements is one of transitivity rather than one of duration, where achievements have a single argument and accomplishments have two arguments. This is similar to Pustejovsky's (1991, p. 59) distinction that accomplishments have agents and patients while achievements have only patients.

In addition to the argument that accomplishments are morphologically derived from achievements, Bar-el et al. find that accomplishments and achievements behave identically with respect to certain tests, tense given for out-of-the-blue translations, readings with *wa7* progressive, and readings with *plan* 'already' and progressive. These three tests distinguish between situation types in St'át'imcets and Skwxwú7mesh, and transitive accomplishments and intransitive achievements are not distinguished. As a consequence, Bar-el et al. (in press) argue for three aspectual classes in the two Salish languages: states, activities, and accomplishments. The two papers do not consider semelfactives to form a separate class.

The class of "states", as argued for by Bar-el et al., consists of predicates previously called *inchoative states* by Bar-el (2003a). It is somewhat misleading to refer to this class as "states" here since its members do not share the properties of Smith's (1991) states outlined above. In its morphologically unmarked form, an inchoative state has the reading of a change of state. When the progressive marker is added, the predicate expresses a state.

*Skwxwú7mesh*:

- (14) a. chen t'ayak' kwi s-es tl'ik ta John  
 1SGSU angry DET NOM-3POSS arrive DET John  
 'I got angry when John arrived.'
- b. chen wa t'ayak' kwi s-es tl'ik ta John  
 1SGSU PROG angry DET NOM-3POSS arrive DET John  
 'I was angry when John arrived.' (Bar-el 2003a, p. 5)

Parallel SENCÓFEN examples to the Skwxwú7mesh example in (14) are shown in chapter 4.

Following this work on Salish aspectual classes, Kiyota (2004, 2005) investigates the existence of the various classes of situation type in SENĆOŦEN. He provides several empirical tests to determine whether or not Smith's (1991) five classes are distinguished in SENĆOŦEN. He argues that accomplishments and achievements form a single class and that activities and semelfactives form a single class, concluding the existence of the same three classes argued for by Matthewson (2004) and Bar-el et al. (in press): accomplishments/achievements, activities, and (inchoative) states.

The first test used by Kiyota (2004, 2005) is the translation of "out-of-the-blue" utterances. He found that inchoative states<sup>8</sup> and activities were consistently translated in the present tense by his consultant, while achievements, accomplishments, and semelfactives were translated in the past tense. However, other SENĆOŦEN speakers translate out-of-the-blue utterances with different tenses from the ones found by Kiyota (2004, 2005) (S. Urbanczyk, p.c.). Therefore, it seems that this test is not completely reliable.

The second test outlined in Kiyota (2004, 2005) is the interpretation with the particle *kʷɪ*. Montler (1986, p. 1990) calls the particle *kʷɪ* "realised" and notices that it is often translated as "already", something also evident in my own fieldwork. However, the interpretation of this morpheme seems to depend on the situation type of the predicate to which it is attached. Kiyota (2004, 2005) shows that it is only with telic predicates, accomplishment and achievement-like predicates, that the particle is translated as "already". With inchoative states, it is translated as "getting" and with activities and semelfactives as "start to". Example (15) shows each of these types of translation: (a) is an inchoative state, (b) is an activity, and (c) is an achievement.

- (15) a. *kʷɪ*    *łćíkʷəs*    *tə*    Jack  
           REAL    be.tired    DET    Jack  
           'Jack is getting tired/Jack began to feel tired.'
- b. *ləʔə*    *tə*    *kʷɪ*    *čéy*    *tiʔə*    *nəsnəxʷəɪ*  
           there    DET    REAL    work    DET    my.car  
           'He started to work on my car.'

<sup>8</sup> Kiyota (2004, 2005) uses the term "states" rather than "inchoative states", but here I will continue using "inchoative states" to avoid confusion.



consistent with the assumptions of Matthewson (2004) and Bar-el et al. (in press), who do not distinguish between activities and semelfactives.

In more recent work on aspect in Salish, Bar-el (2005) distinguishes between accomplishments and achievements. The achievements from which accomplishments are derived are generally unaccusatives, but the achievements listed in Bar-el (2005) are unergative achievements with translations such as *arrive*, *win*, and *find*.

Bar-el (2005) frames her discussion of aspect in Skwxwú7mesh in a theory of initial points and final points, rather than a feature-based theory such as Smith's (1991) or an event structure based theory such as Pustejovsky's (1991, 1995). She finds that the difference between accomplishments and achievements is that accomplishments do not have intrinsic initial points or intrinsic final points, while achievements do.<sup>9</sup> Bar-el thus distinguishes between four situation types in Skwxwú7mesh: — accomplishments, achievements, activities, and inchoative states.

More recently still, Turner & Urbanczyk (2006) challenge the idea, entailed by Smith's universal situation types, that durativity is used to distinguish predicates at the level of situation type in SENĆOŦEN. They argue that Smith's [durative] feature is, instead, added at the level of viewpoint aspect by the actual morpheme. Evidence for this proposal comes from the previous work outlined in this section and from translations and native speaker's descriptions of SENĆOŦEN actuals (see section 4.2). Durativity is the feature which, in Smith's (1991) model, distinguishes activities from semelfactives and accomplishments from achievements. Notice that none of the previous sources of work on Salish situation type have found any evidence to distinguish between activities and semelfactives. Also, none of the sources distinguish between accomplishments and achievements based on durativity. Matthewson (2004) and Bar-el et al. (in press) distinguish them on the basis of transitivity, and Bar-el (2005) on the basis of initial and final points.

Lack of durativity at the situation type level would also account for the lack of stage-level (temporary) states at the root level in SENĆOŦEN, since states are also [durative] in Smith's model. All stage-level states are derived in SENĆOŦEN at the level of viewpoint aspect; they are either actuals of inchoative states, or resultives of

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<sup>9</sup> The absence of intrinsic final points explains why telicity is not entailed by accomplishments.

unaccusative achievements. Following recent proposals of morphosyntactic feature geometries (e.g. Harley & Ritter 2002; Cowper 2005), Turner & Urbanczyk (2006) formalise this proposal in an aspectual feature geometry, which will be considered in 4.2.

Based on the previous work considered here, it seems that there is a relevant distinction between four aspectual classes in Salish languages, which I will assume in this thesis: activity/semelfactives, accomplishments, achievements, and inchoative states.

### 2.3 Conclusion: Assumptions for this Thesis

This chapter has outlined previous literature in the morphology of actuals and resultives in SENĆOŦEN and other Salish languages, in the verb classes of unergative and unaccusative, in the event structure of predicates, and in aspect. The major assumptions made about SENĆOŦEN, based on this literature, are summarised here.

1. There is one actual morpheme with several different allomorphs: reduplication, ablaut plus suffixation, metathesis/stress shift, and glottal stop infixation.
2. There are at least two classes of verb root, unaccusative and unergative. A test that will be used for SENĆOŦEN is that unaccusatives can generally take the control transitive suffix and unergatives generally cannot.
3. Predicates unmarked morphologically for aspect are in the perfective, while the actual and the resultive are imperfectives of some kind.
4. There are four situation types: activity/semelfactives, accomplishments, achievements, and inchoative states.

## Chapter Three

### The Form of Resultives and Actuals

The central argument of this thesis is that a SENĆOŦEN resultive is a combination of an unaccusative predicate base with actual morphology and a stative prefix. In this chapter, I will give evidence to support this proposal by showing that the morphological processes (besides the stative prefix) which distinguish resultives from perfectives (reduplication, metathesis/stress shift, and ablaut plus suffixation of /-əł/) also distinguish actuals from perfectives. I will also consider the actual allomorph which is not found in any resultive forms, namely glottal stop infixation. Since the choice of allomorphs is phonologically conditioned, it is predicted that a resultive could exhibit glottal infixation, if it were formed on the right base shape.

This chapter begins with an outline of the form of resultives in 3.1, focussing on its two component parts, the actual morpheme and the stative prefix. Section 3.2 provides a description of the actual allomorphs in 3.2.1 and a summary of phonological analyses of the allomorphy by Montler (1986, 1989), Stonham (1994), Caldecott (1999), and Kurisu (2002) in 3.2.2. Lastly, in 3.3, Montler's (1986) analysis of resultives will be compared with the analysis put forth in this thesis.

#### 3.1 The Form of SENĆOŦEN Resultives

In this section, I will outline the form of SENĆOŦEN resultives. In subsection 3.1.1, the three actual allomorphs found in resultive constructions are described. Each of these allomorphs is also found in actual constructions (3.2), and is conditioned by the same base shape for both actual and resultive forms. Subsection 3.1.2 considers the role of the stative prefix, arguing that the prefix is always and only found in resultive constructions.

##### 3.1.1 Actual Allomorphy in Resultive Forms

The four actual allomorphs are phonologically conditioned. In this thesis, the perfective form, which is unmarked morphologically for aspect, is considered to be the base from which actuals are formed by the various allomorphs. The perfective base minimally includes a predicate root, but may also contain one or more suffixes. The

entire perfective base provides the conditioning environment determining which allomorph is used. So far, resultives have only been found on monomorphemic bases (roots), although actuals are often found on suffixed bases.

Of the four actual allomorphs, three have been found with resultive forms so far. Reduplication occurs with CVC and CVCəC bases. Ablaut plus suffixation occurs with CC roots with no suffix (CəC monomorphemic bases). Metathesis/stress shift occurs with CCəC bases. Examples of these three types of resultives will be given in 3.1.1.1, 3.1.1.2, and 3.1.1.3, respectively.

### 3.1.1.1 Reduplication

Bases of the shape CVC and CVCəC form their resultives using the actual allomorph of CV- (prefixing) reduplication. There is a regular process of reduction in SENĆOŦEN, whereby unstressed full vowels surface as schwas (Montler 1986, p. 28), so that, for example, the reduplicated /s-lí-liq<sup>w</sup>/ surfaces as [s-lí-ləq<sup>w</sup>]. Examples (17) and (18) are of resultives formed on CVC bases, and example (19) is of a resultive formed on a CVCəC base. I have given a perfective form of each root in the (a) examples for comparison.

(17) a. LIK'                      TFE    XI,LEM  
          líq<sup>w</sup>                      tθə    ʃ<sup>w</sup>íləm  
          loosen                      DET    rope  
          'The rope loosened; the rope slackened.'

b. SLI,LEK'                      TFE    XI,LEM  
          s-lí-ləq<sup>w</sup>                      tθə    ʃ<sup>w</sup>íləm  
          ST-ACT-loose                      DET    rope  
          'The rope is slack.'

(18) a. TOM  
          ʃ<sup>w</sup>am  
          'enough'

(Montler 1991, p. 49)

b. U,                              STOTEM,                              SW  
          ʔəw'                              s-ʃ<sup>w</sup>a-ʃ<sup>w</sup>əm'                              sx<sup>w</sup>  
          CONTEMP                              ST-ACT-enough                              2SU  
          'You're right.'

(Montler 1986, p. 45)

- (19) a. FIMO,T<sup>10</sup>  
 θíma<sup>?</sup>-t  
 freeze-c.TR  
 'Freeze it.' (Turner 2005, p. 249)
- b. SFETI,MO,  
 s-θə-θíma<sup>?</sup>  
 ST-ACT-freeze  
 'It's frozen.' (Turner 2005, p. 249)

### 3.1.1.2 Ablaut plus "Durative" Suffixation

The majority of resultives found in Montler (1986) and Turner (2005) are formed by the actual allomorph of ablaut to [a] or [e] and suffixation of [-əɫ], with the addition of the stative prefix [s-]. Perfective bases consisting of CC vowelless roots with no suffix form their resultives in this way. Roots with a labial consonant usually take [a] as their ablaut vowel, and all other roots take [e] (Montler 1986, p. 140). Perfectives of vowelless roots surface as CəC. Examples (20) through (22) show ablaut to [e], and examples (23) through (25) ablaut to [a].

- (20) a. KES  
 qəs  
 'It fell in the water.'
- b. SKÁSEL  
 s-qés-əɫ  
 ST-fall.in.water(ACT)-DUR  
 'He's/It's in the water.'
- (21) a. LEʃ LE, TFE LEPOT  
 lət<sup>θ</sup> lə<sup>?</sup> tθə ləpát  
 fill PST DET cup  
 'The cup was filled.'

<sup>10</sup> Example (19a) looks like a CVCVC perfective, but the unstressed [a] may be a schwa which has been affected by the following glottal stop. Schwa followed by glottal stop often sounds like [a], and in this case is written with the SENĆOFEN letter "O". However, this example is transcribed with a schwa in Montler (1986, p. 131): [sθəθiɪmə<sup>?</sup>]. See also (ia) in appendix A, where the past tense /lə<sup>?</sup>/ is written with "O" and transcribed phonetically with [a].



The suffix [-əɫ] found in the resultives in this section is called the *durative* suffix in Montler (1986) and in other sources on North Straits. It is found with all actuals and resultives of CəC bases and also in several forms containing the [-i] *persistent* suffix, as in (26).

- (26) PEQINEL                      LTE  
 pək<sup>w</sup>-í-ŋ-əɫ                      ɪtə  
 smoke-PERSIS-MID-DUR 1PLSU  
 'We smoked (hides, fish, etc).'
- (Montler 1986, p. 56)

A suffix which may be the durative suffix is also used to express the concept of belonging to or originating from (Montler 1986, p. 57). Montler glosses the suffix as durative, although he suggests it may be a homophonous suffix. He also notes that native speakers feel the two are the same suffix (p. 58).

- (27) SWENITEMEL                      SDILEM  
 s-x<sup>w</sup>ənítəm-əɫ                      s-íɪləm  
 ST-white.person-DUR? NOM-sing  
 'It's modern music.'
- (Montler 1986, p. 57)

Further research is required to understand properly the function of the durative suffix. However, it is predictably used on all actuals and resultives formed by ablaut; its use is, in part, phonologically conditioned. It may be used, in this case, to cause the resultives/actuals formed by ablaut to conform to the shape of other resultives/actuals: CVCC, or in this case CVCəC. This idea will be examined further in section 3.2.2.

### 3.1.1.3 Metathesis/Stress Shift

Perfective bases of the shape CCəC form their actuals and resultives by a process which has been described both as metathesis and as stress shift. Although neither of these terms fully accounts for this process, I use both terms to refer to the allomorph for the sake of convenience. It appears that the metathesis/stress shift allomorph always results in an actual of the basic shape CəCC, which Montler (1989) suggests fills an actual template of CVCC. The analysis of this allomorph is considered further in section 3.2. One resultive formed by this allomorph has been found so far.

- (28) a.    TPEX  
           ɬpəɬ  
           'scatter'



(actuals) in Halkomelem as reduplicated. In that language, only [h] and glottal stop initial forms surface with an apparent glottal infix.

There are definitely actuals formed by glottal infixation in SENĆOŦEN, so it is possible that (29b) is an example of a glottal infixated resultive. The shape of (29a) is CVCəC, and some bases of that shape take reduplication in the actual while some take glottal stop infixation. This form is an unusual resultive, since the perfective appears to already have a stative meaning. Further fieldwork is required to determine the status of (29) and also to see if the resultives of other roots take the glottal infix allomorph of the actual.

Section 3.1.1 has provided a description of the different actual allomorphs used in resultive formation. Table 2 summarises the possible shapes of resultives and their perfective bases. The total number of resultives of each shape is given in the last column; this number reflects clear examples of resultives found in Montler (1986, 1989), Kiyota (2004, 2005), and those listed in appendix B.

**Table 2 - Actual Allomorphs in Resultive Forms**

	Perfective	Resultive	Total Number of Resultives of this Shape
Reduplication	C <sub>1</sub> VC <sub>2</sub>	s-C <sub>1</sub> V-C <sub>1</sub> əC <sub>2</sub>	3
	C <sub>1</sub> VC <sub>2</sub> əC	s-C <sub>1</sub> ə-C <sub>1</sub> VC <sub>2</sub> əC	1
Ablaut plus Durative Suffixation	CəC	CéC-əł	10
	CəC	CáC-əł	14
Metathesis/Stress Shift	C <sub>1</sub> C <sub>2</sub> əC <sub>3</sub>	C <sub>1</sub> əC <sub>2</sub> C <sub>3</sub>	1
Glottal infixation?	hVCəC	hV-ʔə-CəC	1
Total Number of Documented Resultives			30

### 3.1.2 Resonant Glottalisation

All actual forms are accompanied by glottalisation of post-stress resonants (Montler 1989, Caldecott 1999). As one would expect, based on the proposal that resultives contain actual morphology, resultives also show resonant glottalisation. Not many of the stems for which resultives are documented have the right environment for glottalisation, i.e., post-stress plain resonants in the perfective; however, the following examples of resultives do have the expected glottalised resonants.

- (30) a.  $\text{TOM}$   
 $\dot{\lambda}am$   
 'enough' (Montler 1991, p. 49)
- b.  $U,$   $S\text{TOTEM},$   $SW$   
 $\text{ʔəw}$   $s-\dot{\lambda}a-\dot{\lambda}əm$   $sx^w$   
 CONTEMP ST-ACT-enough 2SGSU  
 'You're right.' (Montler 1986, p. 45)
- (31) a.  $\text{FIMO,T}$   
 $\theta\acute{im}a^{\text{ʔ-t}}$   
 freeze-c.TR  
 'Freeze it.' (Turner 2005, p. 249)
- b.  $S\text{FETI,MO},$   
 $s-\theta\text{ə}-\theta\acute{im}a^{\text{ʔ}}$   
 ST-ACT-freeze  
 'It's frozen.' (Turner 2005, p. 249)
- (32) a.  $LI\acute{K}$   $T\text{FE}$   $\text{X}\acute{I},\text{LEM}$   
 $l\acute{í}q^w$   $t\theta\text{ə}$   $\check{x}^w\acute{í}l\text{əm}$   
 loosen DET rope  
 'The rope loosened; the rope slackened.'
- b.  $SLI,LE\acute{K}$   $T\text{FE}$   $\text{X}\acute{I},\text{LEM}$   
 $s-l\acute{í}-l\acute{ə}q^w$   $t\theta\text{ə}$   $\check{x}^w\acute{í}l\text{əm}$   
 ST-ACT-loose DET rope  
 'The rope is slack.'

### 3.1.3 The Stative Prefix

My proposal in this thesis is that  $\text{SEN}\acute{C}\text{OFEN}$  resultives are formed by the addition of a stative prefix to an actual form. If this proposal is correct, it may no longer make sense to speak about the stative and the resultive as if they were different morphemes. All resultives have a stative prefix. If every instance of the stative prefix is also found in a resultive construction, then we could call the *stative* prefix a *resultive* prefix, which can only be used with actual forms.

It may indeed be true that the stative prefix is only used in resultive constructions. All examples of statives, except one, that are listed in Montler (1986) look as though they contain actual morphology. Most are obvious examples of reduplication or ablaut. The following two forms are not obvious examples of resultives, but (33) may be a metathesised/stress shifted form, based on a CCəC root,

and (34) may be a glottal infix form, based on a CVCəC root. Neither root is given in Montler (1986, 1989, 1991).

(33) SJEPX  
 s-čəpǎ  
 ST-filthy(ACT?)  
 'It's filthy.' (Montler 1986, p. 44)

(34) SMO,YE,  
 s-máýə?  
 ST-cheap(ACT?)  
 'It's cheap.' (Montler 1986, p. 44)

The only form containing a stative prefix which appears to be in the perfective aspect is (35).

(35) a. ILEN  
 ʔilən  
 'eat' (Montler 1991, p. 64)

b. TWES,ILEN SEN SE,  
 tɬ<sup>w</sup>-əs-ʔilən sən sə?  
 MUT-ST-eat 1SGSU FUT  
 'I'm going to eat first (before I go).' (Montler 1986, p. 44)

As the translation of (35b) does not suggest stativity, this form and its uses require further investigation.

It appears that the stative prefix is generally used to form resultives from actuals. I will continue to speak of the stative prefix and the resultive construction, but it is important to note that *stative* appears to be nothing but the prefix used to form a resultive from an actual. Therefore, I suggest that there is no separate *stative construction* in SENĆOŦEN. There is only a resultive construction, which has the "stative" prefix as one of its necessary components.

This section has outlined the form of resultives, which always contain both a stative prefix and one of the non-concatenative allomorphs of reduplication, ablaut plus suffixation, or metathesis/stress shift. In the next section, I show examples of plain actuals (actuals with no stative prefix) formed by the same non-concatenative allomorphs in the same conditioning environments. The fact that resultives and actuals are formed by the same allomorphs in the same environments supports my

proposal that resultives contain actual morphology. This proposal, and its alternative, are discussed in 3.3.

### 3.2 The Form of Actuals

As stated in 3.1, there are four main allomorphs of the actual in SENĆOŦEN: CV-reduplication, metathesis/stress shift, ablaut plus suffixation, and glottal stop infixation. In addition, all allomorphs are accompanied by resonant glottalisation. Two other processes affect actuals but no documented resultives: some actuals exhibit an alternation between glides and obstruents, and a group of glottal infixated actuals show a change from [ə] to [e]. Montler's (1989) templatic approach provides the most comprehensive analysis of actual formation, and his analysis has served as the basis for subsequent analyses of actuals. This will be outlined in detail in 3.2.2. First, I will provide a description of the actual allomorphy and accompanying processes.

#### 3.2.1 Allomorphy of Actuals and Accompanying Processes

This section provides a description of the base shapes on which the four actual allomorphs are formed, along with examples of each. The base shapes of each allomorph are the same as that of resultives, but since there is a greater number of documented actuals, and actuals have a wider distribution, there is a greater variety of base shapes to consider in this section than in 3.1.1. Reduplication occurs with CVC and CVCəC bases, and CVC roots with a consonant initial suffix, which are usually of the form CVC-CəC (Montler 1989, p. 95). Ablaut plus suffixation occurs with CC roots with no suffix (CəC monomorphemic bases). Metathesis/stress shift occurs with CC (or CəC) roots with a -əC suffix, and with CCəC roots (Montler 1989, p. 96), i.e. any CCəC(C) base. A glottal stop infix occurs elsewhere. Reduplication is outlined in 3.2.1.1, ablaut in 3.2.1.2, metathesis/stress shift in 3.2.1.3, and the glottal infix in 3.2.1.4. Resonant glottalisation (3.2.1.5), glide hardening in perfectives, which is made transparent in some actuals (3.2.1.6), and the change from [ə] to [e] before a glottal infix (3.2.1.7), are considered in the last three subsections of 3.2.1.

### 3.2.1.1 Reduplication

In section 3.1.1, we saw that CV- (prefixing) reduplication is used to form resultives on CVC and CVCəC bases. Actuals of these base shapes are also formed by CV-reduplication, although some actuals of CVCəC bases are formed by glottal stop infixation (see section 3.2.1.4). Reduplicated actuals are also found of bases of the shape CVC-CəC. The shapes of actuals formed by reduplication are shown in table 3. The “number of actuals” column reflects all clear examples of reduplicated actuals found in SENĆOFEN linguistic sources.

**Table 3 - Actuals formed by Reduplication**

Perfective	Actual	Examples	Number of Actuals
$C_1VC_2$	$C_1V-C_1əC_2$	36-37	8
$C_1VC_2əC$	$C_1ə-C_1VC_2əC$	38-39	8 —
$C_1VC_2-CəC$	$C_1V-C_1əC_2-CəC$	40-41	4
$C_1C_2VC_3$	$C_1əC_1C_2VʔəC_3$		2

In (36) through (41), examples of reduplication of the different base shapes are given.

In all examples, perfective forms are given in (a) and actuals in (b).

$C_1VC_2 \rightarrow C_1V-C_1əC_2$ :

- (36) a. Qʌ SEN  
 kʷéy sən  
 get.hungry 1SGSU  
 ‘I got hungry.’ (Turner 2005, p. 250)

- b. QÁ,QI, SEN LE,  
 kʷé-kʷəy sən ləʔ  
 ACT-get.hungry 1SGSU PST  
 ‘I was hungry.’ (Turner 2005, p. 250)

- (37) a. ʒL YÁ, ʒE DOQ ʒE Janet  
 kʷl yeʔ kʷə tákʷ θə Janet  
 REAL go INF go.home DET Janet  
 ‘Janet went home; Janet’s gone home.’ (Turner 2005, p. 250)

- b. YÁ, SEN I DODEQ  
 yeʔ sən ʔi tá-təkʷ  
 go 1SGSU AUX ACT-go.home  
 ‘I’m going home; I’m on my way home.’ (already walking)  
 (Turner 2005, p. 250)



- b. ØI,WEN,TEL,<sup>14</sup>  
 k<sup>w</sup>í-wə́n̄-təl̄  
 ACT-fight-RECIP  
 ‘They’re fighting.’ (Montler 1986, p. 117)

### 3.2.1.2 Ablaut plus “Durative” Suffixation

Ablaut plus suffixation of [-əɬ] was shown in 3.1.2 to be a productive actual allomorph used in resultive formation. Actuals formed with this allomorph have been previously analysed as containing ablaut resultive morphemes and an independent “durative” suffix (Montler 1986; Galloway 1990; Efrat 1969). However, I argue that ablaut plus durative suffixation, like all non-concatenative morphology associated with resultives, is an actual allomorph. There are three examples of actual constructions taking this allomorph found in the linguistic documentation of SENĆOŦEN.

- (42) a. NEK̄                      ʔE      K̄AK̄  
 náq<sup>w</sup>                      θə      qéq  
 fall.asleep              DET      baby  
 ‘The baby fell asleep; the baby’s sleeping.’
- b. NOK̄EL                      ʔE      K̄AK̄  
 náq<sup>w</sup>-əɬ                      θə      qéq  
 fall.asleep(ACT)-DUR      DET      baby  
 ‘The baby is asleep.’<sup>15</sup>
- (43) a. K̄ES  
 qəs  
 ‘It fell in the water.’
- b. YOF    OL,      K̄ÁSEL                      ʔFE      SʔOʔLE    E      ʔFE      K̄O,  
 yáθ    ʔal̄      qés-əɬ                      tθə      s-t̄<sup>θ</sup>á<sup>í</sup>θ̄<sup>ə</sup>    ʔə      tθə      q<sup>w</sup>áʔ  
 always LIM      fall.in.water(ACT)-DUR      DET      NOM-leaf    OBL      DET      water  
 ‘The leaf is always falling in the water.’
- (44) a. BEʔ                      ʔFE      MO,EK̄  
 p̄ók<sup>w</sup>                      tθə      máʔəq<sup>w</sup>  
 rise.to.surface              DET      duck  
 ‘The duck floated to the surface.’ (Turner 2005, p. 248)

<sup>14</sup> This form exhibits the glide-obstruent alternation outlined in 3.2.1.6.

<sup>15</sup> Although (42b) expresses a resultant state, I will argue that it is an actual form. The predicate in (42) patterns with a class of predicates called *inchoative states*, whose actuals express resultant states of agent-like participants (see section 4.2).

- b. BÁŹEL  
 p̣ék<sup>w</sup>-əɫ  
 rise.to.surface(ACT)-DUR  
 'surfaces every now and then'

A table of actuals formed by ablaut plus suffixation is included here.

*Table 4 - Actuals Formed by Ablaut plus Suffixation*

Perfective	Actual	Examples	Number of Actuals
CəC	CaCəɫ	42	1
CəC	CeCəɫ	43, 44	2

The form in (44b) is interesting, since it contrasts with the resultive [ṣp̣ák<sup>w</sup>əɫ] (25b), so that the resultive and actual take different ablaut vowels. There is a labial [p̣] in this form, which allows the ablaut vowel [a], but does not seem to require [a] in all cases (c.f. [ṣq̣ẹ́p̣əɫ] 'gathered', appendix B (viii b)). Perhaps the contrast between actual and resultive is being enhanced by the use of a different ablaut vowel. It has been suggested that phonological differences can be used to enhance and maintain contrast between two morphologically distinct forms (Czaykowska-Higgins & Urbanczyk 2001; Urbanczyk 2005; Lee & Urbanczyk 2006; Czaykowska-Higgins 2006). In SENĆOŦEN, the motivation for such an enhancement does not often exist, since there are only two documented bases on which both resultive and actual occur (as discussed in 4.1). The other base is [qə̣s], which takes the resultive and actual found in examples (20b) and (43b), respectively. This does not have the option for enhancement, since it has no labial and cannot take [a] as its ablaut vowel.

### 3.2.1.3 Metathesis/Stress Shift

Actuals of CC-əC and CCəC-C bases are formed by the metathesis/stress shift allomorph, which creates actual forms with the shape CəCC(C).

- (45) a. ƦQET          SEN    LE,    TƦE    ǂI,LEM  
 θḳ<sup>w</sup>-əɫ        sən    ləʔ    tθə    ǂ<sup>w</sup>ɪləm  
 stretch-C.TR   1SGSU PST    DET    rope  
 'I stretched out the rope.'

- b.      TFEQT                      SEN    LE,      TFE    X̩,LEM  
           θáḱ<sup>w</sup>-t                      sən    ləʔ      tθə    ʃ<sup>w</sup>íləm  
           stretch(ACT)-C.TR      1SGSU PST      DET    rope  
           'I was stretching out the rope.'
- (46) a.      SKET                      TFE    PIPE  
           sḱ-át                      tθə    pípə  
           tear-C.TR                  DET    paper  
           'Tear the paper.'
- b.      SEKT                      SW̩    TFE    PIPE  
           sáḱ-t                      sX<sup>w</sup>    tθə    pípə  
           tear(ACT)-C.TR      2SU    DET    paper  
           'You're tearing the paper.'
- (47) a.      T̩PEXT  
           ʃ̩pəḱ-t  
           scatter-C.TR  
           'scatter it'
- b.      T̩EPXT  
           ʃ̩əpḱ-t  
           scatter(ACT)-C.TR  
           'scattering it'

Examples (45)-(47) have shown how metathesis/stress shift affects obstruent-only roots. In (48) and (49), roots with resonants are shown. Notice that an epenthetic schwa occurs in (48a) and in (49b).

- (48) a.      MELEJT                      TFE    K̩L̩  
           máləḱ-t                      tθə    q<sup>w</sup>íéy  
           roll.over-C.TR      DET    log  
           'Roll the log over.'
- b.      MELJT                      TFE    K̩L̩  
           málḱ-t                      tθə    q<sup>w</sup>íéy  
           roll.over(ACT)-C.TR      DET    log  
           'rolling the log over'
- (49) a.      QSEN  
           k<sup>w</sup>s-əŋ  
           count-MID  
           'count'

(Turner 2005, p. 251)

- b. QESEN,  
 kʷəs-əŋ'  
 count(ACT)-MID  
 'counting'

(Turner 2005, p. 251)

There is a phonotactic constraint in SENĆOFEN against tautosyllabic CR clusters (where C is any consonant and R is any resonant) (Montler 1989, p. 102). Montler (1986) analyses the bases taking metathesis/stress shift as underlyingly vowelless. Thus, the underlying form of (48a) is /mlč/ and that of (49a) is /kʷs-ŋ/. A schwa is epenthesised to avoid the CR clusters in (48a) and (49b).

The effect of metathesis/stress shift on base shape is shown in the following table. In this table only, I make a distinction between obstruents (T) and resonants (R), where C represents either an obstruent or a resonant.

**Table 5 - Actuals Formed by Metathesis/Stress Shift**

Perfective	Actual	Examples 45-47	Number of Actuals
TTəT	TəTT	45-47	16
TTəR	TəTəR	48	4
CəRəT	CəRT	49	11
Other			2

#### 3.2.1.4 Glottal Stop Infixation

The fourth actual allomorph in SENĆOFEN is a glottal stop infix, usually inserted immediately after the stressed vowel, but in some forms inserted immediately before the stressed vowel. The glottal stop allomorph of the actual is found with all perfective bases that do not fit into the shapes listed in 3.2.1.1, 3.2.1.2, and 3.2.1.3, and are thus not able to take reduplication, ablaut, or metathesis/stress shift. This includes base shapes CVVC, CəCəC, CV, CV-C, CəCVC, CəCV, and several other longer and rarer base shapes. It is also found with over half of the documented bases of the shape CVCəC, the remainder taking reduplication (see 3.2.1.1).

Table 6 summarises the most common base shapes on which actuals are formed by glottal stop infixation, and the number of actuals formed in this way. Although there are 11 actuals in the “other” row of the table, there are only one or two examples of each of the “other” base shapes.

*Table 6 - Actuals Formed by Glottal Stop Infixation*

Perfective	Actual	Number of Actuals
CVCəC	CV-ʔ-CəC	13
CV-C	CV-ʔə-C	3
CəCəC(C)	CV-ʔ-CəC(C)	3
Other		11

Representative examples of glottal infixed actuals are given in (50) – (53).

- (50) a. WAKES  
wéqəs  
'yawn' (Turner 2005, p. 251)
- b. WA,KES  
wé-ʔ-qəs  
yawn(-ACT-)  
'yawning' (Turner 2005, p. 251)
- (51) a. HÁSEN      SEN  
hés-əŋ      sən  
sneeze-MID      1SGSU  
'I just sneezed.' (Turner 2005, p. 251)
- b. HÁ,SEN,      SEN  
hé-ʔ-s-əŋ'      sən  
sneeze(-ACT-)-MID      1SGSU  
'I'm sneezing.' (Turner 2005, p. 251)
- (52) a. FENÁ  
θəŋé  
'carry on back' (Montler 1989, p. 105)
- b. FENÁ,E  
θəŋé-ʔə  
carry.on.back-ACT  
'carrying on back' (Montler 1989, p. 105)
- (53) a. ČOŲES  
čákʷəs  
'use something' (Montler 1986, p. 130)

- b. ČE,O,WES  
 čə-ʔ-áwəs  
 use(-ACT-)  
 'I'm using it now.' (Montler 1986, p. 130)

There are also a few actuals which appear to have been formed by both reduplication and infixation, as in (54) and (55).

- (54) a. YÁ, E SW̄ ŚQOM  
 yéʔ ʔə sX<sup>w</sup> šk<sup>w</sup>ám  
 go Q 2SU swim  
 'Are you going for a swim?' (Turner 2005, p. 252)
- b. ŚEŚQO,EM E SW̄  
 šəšk<sup>w</sup>á-ʔə-m ʔə sX<sup>w</sup>  
 swim(-ACT-) Q 2SU  
 'Are you swimming?' (Turner 2005, p. 252)
- (55) a. YÁ, SEN XLÁM E TFE TÁTI,  
 yéʔ sən ʃlém ʔə tθə téy-təy̐  
 go 1SGSU watch OBL DET PL-canoe.race  
 'I'm going to watch the canoe race (all the races).' (Turner 2005, p. 252)
- b. XEXLÁ,EM SEN E TFE TÁTI,  
 ʃə-ʃlé-ʔə-m sən ʔə tθə téy-təy̐  
 ACT-watch(-ACT-) 1SGSU OBL DET PL-canoe.race  
 'I'm watching the canoe races.' (Turner 2005, p. 252)

These bases are both of the shape CCVC, an uncommon base shape, and appear to behave similarly to CVC bases, which take reduplication, but also similarly to other rare-shaped bases by taking the glottal infix.

### 3.2.1.5 Resonant Glottalisation in Actuals

Actuals, like resultives, exhibit glottalisation of post-stress resonants (Montler 1989, Caldecott 1999). Examples (56), (57), and (58) show that resonant glottalisation occurs with the reduplication, metathesis/stress shift, and glottal infix allomorphs of the actual. Since there are so few examples of actuals formed by ablaut plus suffixation, and none of them contains a resonant, I cannot show that resonant glottalisation also occurs with this allomorph, although it is predicted to do so.

- (56) a. DILEM FE Janet  
 ʔiləm θə Janet  
 sing DET Janet  
 'Janet sang (a song).' (Turner 2005, p. 252)
- b. DEDI,LEM, FE Janet  
 ʔə-ʔiləm θə Janet  
 RED(ACT)-sing DET Janet  
 'Janet is singing.' (Turner 2005, p. 252)
- (57) a. ŚTEN  
 ʃtəŋ  
 walk-MID  
 'walk' (Turner 2005, p. 256)
- b. ŚTEN,  
 ʃətəŋ'  
 walk(ACT)-MID  
 'walking' (Turner 2005, p. 256)
- (58) a. HÁSEN SEN  
 həs-əŋ sən  
 sneeze-MID 1SGSU  
 'I just sneezed.' (Turner 2005, p. 251)
- b. HÁ,SEN, SEN  
 hɛ-ʔ-s-əŋ' sən  
 sneeze(-ACT-)-MID 1SGSU  
 'I'm sneezing.' (Turner 2005, p. 251)

Although post-stress resonants are usually the only resonants which undergo glottalisation, there are a few forms where a resonant immediately preceding the stressed vowel is glottalised. This usually occurs with longer forms, as in (59).

- (59) a. ŚTENISTES  
 ʃtəŋ-í-st-əs  
 walk-PERSIS-CAUS-3ERG  
 'He walked/ran/operated it.' (Montler 1986, p. 125)
- b. ŚTEN,I,STES  
 ʃtəŋ'-í-ʔ-st-əs  
 walk-PERSIS(-ACT-)-CAUS-3ERG  
 'He's operating it (a machine).' (Montler 1986, p. 125)

Caldecott (1999), in a study examining the timing of glottalisation in SENĆOŦEN, found that intervocalic resonants immediately preceding a stressed vowel are post-glottalised; that is, glottal constriction occurs after oral articulation of the resonant. Intervocalic resonants immediately following a stressed vowel are pre-glottalised; glottal constriction precedes oral articulation of the resonant (p. 9). This confirms the description of SENĆOŦEN resonant glottalisation given in Montler (1986, p. 13). Therefore, there is little or no acoustic difference between a  $\acute{v}R'\acute{a}$  sequence and a  $\acute{v}'R\acute{a}$  sequence, and little difference between a  $\acute{a}R'\acute{v}$  sequence and a  $\acute{a}R\acute{v}$  sequence.

### 3.2.1.6 Glide Hardening

Several forms exhibit an interesting alternation between  $[k^w]$  in the perfective and  $[\acute{w}]$  in the actual and between  $[\acute{c}]$  or  $[\acute{c}']^{16}$  in the perfective and  $[\acute{y}]$  in the actual. Example (60b) shows an actual formed by metathesis/stress shift and example (61b) shows an actual formed by reduplication. Both of these perfective-actual pairs exhibit the alternation between obstruent and glide.

- (60) a.  $\underline{T}E\acute{C}E\acute{K}T$   
 $\acute{x}\acute{a}\acute{c}\acute{a}q-t$   
 press.down-C.TR  
 'Press down on it.' (Montler 1986, p. 129)
- b.  $\underline{T}EY,\acute{K}TES$   
 $\acute{x}\acute{a}\acute{y}q-t-\acute{a}s$   
 press.down(ACT)-C.TR-3ERG  
 'He's pressing down on it.' (Montler 1986, p. 129)
- (61) a.  $\emptyset INTEL$   
 $k^w\acute{í}n-t\acute{a}l$   
 fight-RECIP  
 'They fought.' (Montler 1986, p. 117)
- b.  $\emptyset I,WEN,TEL,$   
 $k^w\acute{í}-\acute{w}\acute{a}n-t\acute{a}l$   
 ACT-fight-RECIP  
 'They're fighting.' (Montler 1986, p. 117)

<sup>16</sup> The only example of an alternation of the ejective  $[\acute{c}']$  with  $[\acute{y}]$  occurs in example (71) below,  $[\acute{í}\acute{e}\acute{c}\acute{a}q]$  "get angry" -->  $[\acute{í}\acute{e}\acute{y}\acute{a}q]$  "be angry". This form may be an unusual example of a recent change from  $[\acute{c}]$  to  $[\acute{c}']$ , since the cognate in other Salish languages has a  $[y]$ , and  $[y]$  normally corresponds to  $[\acute{c}]$  (Galloway 1988, p. 300).

Montler (1989, pp. 103-4) proposes that the underlying consonant in these cases is a glide, which is hardened to an obstruent in the perfective form. Thus, (60a) is underlyingly /ʔəyáq-t/ and (61a) is underlyingly /wín-təl/. In the actual forms, the underlying glides surface as glottalised glides word-medially. However, the word-initial reduplicant consonant in (61b) still shows hardening. Montler (1989) observes that, in suffixes, only glides which would be glottalised surface as glides and that word-initial glides in these forms always surface as obstruents (\*[wíwəń-təl]). Janet Leonard (p.c.) suggests that it is because the glides are glottalised in the actual form that they surface as glottalised glides and do not undergo hardening to obstruents. Only plain [w] and [y] will surface as obstruents, so hardening no longer applies to the glottalised [w̥] and [y̥] of actuals. Word-initial resonants are never glottalised in SENĆOŦEN, so word-initial glides are always hardened in perfective and actual forms.

Not all glides in SENĆOŦEN undergo hardening to obstruents; the hardening is only observed in a small set of words. Hardening is also a historical process. The sounds [č] and [kʷ] in some SENĆOŦEN words correspond with [y] and [w] in the Central Salish languages of Pentlatch, Sechelt, Squamish, and Halkomelem (Galloway 1988, p. 299). For example, the Squamish word for 'get angry' is *t'ayak'* [t'áyaq̓] (Bar-el 2005, p. 94) in contrast with SENĆOŦEN *íéčəq̓*. The historical sound correspondence is not always related to the alternation between glides and obstruents, however, as can be seen when comparing SENĆOŦEN and Halkomelem *kʷíntəl* 'fight' (Leslie 1979, p. 45).

### 3.2.1.7 Vowel Change in Glottal Infix Forms

Montler (1986, p. 116) lists several actual forms which undergo change from [ə] to [e], which might suggest that they are formed by ablaut. However, all of the forms listed in that section contain the glottal infix allomorph of the actual. The vowel change is predictable, and may be used to avoid a sequence of [əʔ] (Bessell & Czaykowska-Higgins 1991, Shaw et al. 1999), although this sequence does occur in SENĆOŦEN (e.g. "past" clitic *ləʔ*). These actuals should not be grouped with the ablaut actuals described in section 3.2.1.2. The actuals described in this section differ from the ablaut actuals in that they contain a glottal stop infix, they do not take the suffix [-əł],



it takes the metathesis/stress shift allomorph ([sɔ́-ə́t] --> [sə́ɔ́-t] “tear it” --> “tearing it”).

So far, those forms which have been checked with current speakers do not actually follow the pattern listed in Montler (1986). Example (65b) is listed as [kʷéɲət] by Montler (1986, p. 116), but the speakers with whom I worked rejected this actual form, preferring the regular metathesis/stress shift actual (which is listed in Montler (1989)). Example (66a) is listed as [táyəl] “go upstream” (Montler 1986, p. 116), which appears to be a schwa-vowel root which takes the glottal stop infix allomorph of the actual as [táyʔəl]. However, the speakers with whom I worked rejected those forms, and instead gave the perfective in (66a). This is a full vowel CVCəC base, which takes the reduplication allomorph of the actual in (66b).

(65) a. QENET            SEN    TFE    JESKEN  
 kʷən-ət            sən    tθə    čásqən  
 see-C.TR            1SGSU DET    golden.eagle  
 ‘I looked at the golden eagle.’

b. QEN,T            SEN    TFE    JESKEN  
 kʷən-t            sən    tθə    čásqən  
 see(ACT)-C.TR 1SGSU DET    golden.eagle  
 ‘I’m looking at the golden eagle now.’

(66) a. YÁ,    LO,    SEN    TÁYEL  
 yéʔ    láʔ    sən    táyəl  
 go    PST    1SGSU    go.upstream  
 ‘I went upstream.’

b. TETÁ,YEL,            SEN  
 tə-táyəl            sən  
 ACT-go.upstream    1SGSU  
 ‘I’m going upstream.’

At this point, further investigation and re-elicitation of the forms in this section is required to determine if there really is a distinction between schwa and vowelless roots.

In summary, this section has outlined four actual allomorphs: reduplication, ablaut plus suffixation, metathesis/stress shift, and glottal infixation. I have also given examples of resonant glottalisation, which occurs on all actual forms, and explained

two phonological processes which strengthen the difference between some perfective and actual forms. The following table summarises the base shapes found with each actual allomorph.

**Table 7 - Allomorphy in Actual Forms**

Allomorph	CV-Reduplication	Metathesis/ Stress Shift	Ablaut plus [-əɪ]	Glottal Stop Infix	Glottal Infix and Reduplication
Base Shapes	CVC, CVC-CəC, CVCəC	CCəC, CC-əC, CəRəC, CəR-əC	CəC (/CC/)	Elsewhere, CVCəC	CCVC, CVC-əC
Number of Actuals	22	33	3	30	3

Since the SENĆOFEN actual is expressed in four considerably different ways, there have been several attempts to provide a unified analysis of the morpheme. In the next section, I will summarise four of these analyses, and one analysis which focusses on the distribution of resonant glottalisation in actuals.

### 3.2.2 Analyses of the SENĆOFEN Actual

In this section I will outline the analyses of Montler (1986, 1989), Stonham (1994), Kurisu (2002), and Caldecott (1999).

#### 3.2.2.1 Montler (1986, 1989)

The first linguistic treatment of the SENĆOFEN actual is found in Montler (1986). This work is predated by analyses of actuals in Klallam, another Central Salish language (Thompson & Thompson 1969) and Lummi, another dialect of North Straits (Demers 1974). Although the actual allomorphs are similar in these three languages, Montler (1986) argues that neither of the previous analyses captures the SENĆOFEN facts. Thompson & Thompson (1969) describe “metathesis” in Klallam, but Klallam, unlike SENĆOFEN, has so-called “metathesis” involving full vowel bases (e.g., [čkʷút] ‘shoot’; [čúkʷt] ‘shooting’ (Thompson & Thompson 1969, p. 216)). SENĆOFEN forms have schwas, and Montler (1986, p. 119) proposes that they can be explained by a process of stress shift, whereby schwa is epenthesised to take the stress in forms which have no vowel underlyingly.

Demers (1974), in discussing Lummi, argues that those forms which appear to have undergone metathesis have not, but instead have a glottal stop infix. According to this analysis, the underlying form of [částɨs] ‘he’s getting hit’ is /čáʔsə + t + ɨ + s/ (Demers 1974, p. 19). The unstressed schwa is deleted, and the glottal stop is deleted, since it is between a schwa and an obstruent. Montler (1986) points out that this analysis does not work for SENĆOFEN, since SENĆOFEN does not delete glottal stop in that position. In Demers’s analysis, the location of the stressed schwa in a perfective form depends on the number of consonants following the root. According to Demers (1974), intransitive [čássən] ‘I got hit’ is underlyingly /čáəsə + sən/, with stress remaining on the initial syllable. He suggests that with transitive [čsátsən], underlying /čáəsə + t + sən/, stress is “protracted” to the second “underlying” schwa, since the root is followed by two consonants (t and s) (p. 16).

Montler (1986) instead suggests that stress shift is the driving process in actual formation. He observes that both “metathesis” and reduplication achieve the same goal; they both move the stress leftward in the word (pp. 124-125). When stress is on the suffix in the perfective, as in [θáᵏʷ-át], it shifts leftward onto the root in the actual: [θáᵏʷ-t]. However, when stress falls on the root of a perfective, as in [táᵏʷ], the only way for it to shift leftward is for a new syllable to be created by reduplication, yielding the actual form [tá-táᵏʷ]. The difference between Montler’s (1986) stress shift and Demers’s (1974) stress protraction rule is as follows. For Montler (1986), this is a morphological rule applying to actuals (where the perfective is always considered more basic. For Demers, stress protraction is a phonological rule applying to perfectives with two consonants following the root (where initial stress is considered basic in all forms).

The stress shift analysis is problematic, since there are both metathesis/stress shift forms and reduplicated forms which do not stress a different syllable from their perfective bases, e.g., [tə-tíᵏʷ] (see (39)) and [máᵏʷ-t] (see (48)). Montler (1989) provides a more plausible account of actuals, using a templatic approach. He argues that the underlying form of the actual consists of “an abstract C\_CC frame for the stressed vowel of the stem” (p. 93); i.e., actuals strive for the shape [. . .CᵏCC. . .] or [. . .CáCC. . .]. Recall that reduplication is used with predicate roots of CVC or CVCəC, or

CVC roots with consonant initial suffixation. Montler (1989) argues that the first consonant of the  $C_1VC_2$  root is reduplicated to create the actual form  $C_1VC_1C_2$ , and a schwa is then epenthesised:  $C_1VC_1əC_2$ .

**Figure 5 - Derivation of Reduplicated Actual**

$$\begin{array}{ccccc} \acute{t}\acute{a}\acute{k}^w & \rightarrow & \acute{t}\acute{a}-\acute{t}\acute{k}^w & \rightarrow & \acute{t}\acute{a}\acute{t}\acute{a}\acute{k}^w \\ \text{CVC} & & \text{CVCC} & & \text{CVC}\acute{a}\text{C} \end{array}$$

Metathesis/stress shift is used to change the predicate's shape to one of  $C\acute{a}CC$  (i.e.  $C\_CC$ ) (Montler 1989, p. 96).

**Figure 6 - Derivation of Metathesised Actual**

$$\begin{array}{ccc} \theta\acute{k}^w-\acute{s}t & \rightarrow & \theta\acute{s}\acute{k}^w-t \\ \text{CC-VC} & & \text{CVC-C} \end{array}$$

For a form like  $[\acute{k}^w\acute{s}-\acute{s}\eta']$  *counting*,  $[\acute{a}]$  epenthesis between a consonant and a following resonant occurs after the formation of the actual, so that the second  $[\acute{a}]$  does not count as part of the template (Montler 1989, p. 102).

The glottal infix is used in most other actual forms. Montler (1989, p. 98) notes that the most common environment for the glottal infix allomorph is a stem consisting of a CVC root and a VC suffix. A glottal stop adds a C to the CVC root, causing the CVCC template to be satisfied.

**Figure 7 - Derivation of Infixed Actual**

$$\begin{array}{ccc} h\acute{e}s-\acute{s}\eta & \rightarrow & h\acute{e}'s-\acute{s}\eta' \\ \text{CVC-VC} & & \text{CVCC-VC} \end{array}$$

Montler (1989, p. 106) posits that the reason that the consonant used to create a CVCC shape for these roots is a glottal stop is that there is a [constricted glottis] feature associated with the actual. This feature is also responsible for resonant glottalisation. The resonant glottalisation in infixed forms, and indeed in most actual forms, occurs to the right of the stress. In this way, resonant glottalisation and infixation are proposed to result from the same feature, fixed following the stressed vowel, and spreading rightwards.

Montler's (1989) templatic approach also partially accounts for the ablaut actuals which take the "durative" suffix. Recall that this allomorph is used with CC

roots, which surface as CəC in the perfective. Although ablaut is not predicted by Montler's analysis, the addition of the suffix [-əɫ] to these forms could be argued to satisfy the CVCC template. The "epenthesis" of schwa in the suffix is also not predicted, but it is interesting that some Samish speakers do not include a schwa in this position (e.g. [ʔəs-kʷasɫ] "it's already counted" (Galloway 1990, p. 41)).

**Figure 8 - Derivation of Ablaut Actual**

nəqʷ	→	nəqʷɫ	→	nəqʷəɫ
CəC		CVCC		CVCəC

The so-called "durative" suffix may have had some original semantic function of its own (not necessarily related to durativity). However, since it is phonologically predictable in present day SENĆOŦEN, it seems likely that in the case of actual formation it is used for phonological reasons, enabling the ablaut actuals to conform to the usual shape of actuals.

Montler's (1989) analysis does not account for those reduplicated forms which have stress on the second syllable, such as [tə-tíləm]. His analysis would predict that such forms should take the glottal infix allomorph. However, any analysis will run into this problem, since the phonological environment for such forms is an environment which more often conditions glottal stop infixation. The templatic approach does account for the majority of actuals.

**3.2.2.2 Stonham (1994)**

Stonham (1994) provides an account of SENĆOŦEN actuals where the actual adds a mora (an extra timing unit) to the root. According to his analysis, since reduplication adds a syllable, it adds a mora. The glottal stop infix usually closes an open syllable, thereby adding a mora (e.g. [wéqəs] "yawn" --> [wéʔqəs] "yawning"). He argues that "metathesis" is also used to add a mora to the root.

However, there is a potentially serious problem with this analysis. As shown by Anderson (2005), the analysis only works if coda consonants are moraic in SENĆOŦEN, and if two coda consonants contribute two moras to a syllable, entailing the existence of trimoraic syllables. There is no evidence to support these assumptions, and there is currently research taking place regarding the role of weight in SENĆOŦEN (Leonard in

prep.). Also, metathesis does not always add a mora to a root. For example, Stonham (1994) states that [tq<sup>w</sup>ə] ‘X tightens something’ is metathesised to [təq<sup>w</sup>] ‘X is tightening something’ (Stonham 1994, p. 172). However, the actual allomorphy is sensitive to the shape of bases, not roots. As was shown in sections 3.1.1.3 and 3.2.1.3, the metathesis/stress shift allomorph is only used with CCəC bases. The change is from control transitive suffixed [tq<sup>w</sup>ət] to [təq<sup>w</sup>t] Montler (1989, p. 97). In this case, the syllable is not closed by metathesis, since the perfective [tq<sup>w</sup>ət] already has a closed syllable.

At best, the moraic approach accounts for a few forms which Montler’s (1989) does not, namely forms such as [tə-ííləm̩]. However, over all, Stonham (1994) accounts for fewer forms than does Montler (1989).

### 3.2.2.3 Kurisu (2002)

In providing an Optimality Theoretic account of non-concatenative allomorphy, Kurisu (2002) proposes the constraint *Realise Morpheme (RM)*, which states that “the output has some phonological property which distinguishes it from the base form” (Kurisu 2002, p. 38). He applies this constraint to SENĆOŦEN, where, for him, the purpose of all three allomorphs is to distinguish actuals from perfectives. He argues that there is a [ʔ] associated with the actual and there is no other underlying shape for the actual morpheme. The cases where the glottal stop infix does not occur are then cases where the infixation of a glottal stop would violate markedness constraints in the language.

For example, the actual [qəp̩t]<sup>18</sup> must differ from the perfective [qəp̩t], and cannot take the glottal infix to yield \*[qəp̩ʔt], since that has an undesirable complex onset (p. 160)<sup>19</sup>. Kurisu’s (2002) analysis appears to account for many actuals, and it provides the argument that actual allomorphy is driven by a need for actuals to differ from their perfective counterparts. However, it does not capture the relationship of actuals to one another, whereas Montler’s (1989) analysis does. It is not clear from

<sup>18</sup> This actual is listed as [x<sup>w</sup>-qəp̩t] ‘patching it’ in Montler (1989, p. 97).

<sup>19</sup> The onset cluster in the perfective form is tolerated; presumably this is because the perfective must remain faithful to its underlying representation.

Kurisu's analysis why, for example, the actual is [q̥əp̥t] and the perfective [q̥p̥ət], rather than the other way around. Montler's (1989) analysis, on the other hand, does explain this, as he proposes that actuals attempt to fit a C\_CC template.

#### 3.2.2.4 Caldecott (1999)

The last analysis of the SENĆOŦEN actual that I will outline here is that of Caldecott (1999). Her account differs from all previously described accounts in that she is interested in the distribution of resonant glottalisation and does not attempt a unified account of reduplication, metathesis/stress shift, and infixation. In addition to results from an acoustic study of SENĆOŦEN glottalised resonants, she provides an Optimality Theoretic account of the distribution of resonant glottalisation. She argues that it results from a feature [creak] which is associated with actuals, and that [creak] affects only resonants in post stress position, because it is aligned with the left edge of the stressed vowel and with the right edge of the word (Caldecott 1999, p. 43). There are cases of pre-stress glottalisation of resonants, as in, for example [kʷɪ iʔ ʔəméʔqtəs] 'He's delivering it' (Montler 1986, p. 115); however, there are very few of these cases. Therefore, Caldecott's (1999) analysis accounts for most actual forms, in terms of their resonant glottalisation.

Since Caldecott's (1999) analysis does not attempt to account for the actual allomorphy, Montler's (1986) suggestions do not cover all of the allomorphs, Stonham's (1994) analysis requires unusual assumptions, and Kurisu's (2002) analysis does not thoroughly predict the shape of actuals, I conclude that Montler's (1989) analysis is the most comprehensive to date.

In this section, I have focussed on the description and analysis of actuals. I will not be providing a new phonological analysis of actuals as these authors have done, but instead have reviewed their work in the hope that the reader will be better able to understand the allomorphy of actuals. The focus of this thesis is instead to provide a new analysis of *resultives*. In the next section, I will compare my analysis, that resultives are formed by a combination of stative and actual morphology, with Montler's (1986) description of resultives.

### 3.3 Comparison with Montler (1986)

The difference between Montler's (1986) categorisation of resultives and mine is that he assumes the existence of a *resultive morpheme*. According to Montler (1986), there are separate stative, resultive, and actual morphemes, and actuals are formed by either *progressive* (infixing) reduplication, metathesis/stress shift, or the glottal infix. Resultives are formed by either *regressive* (prefixing) reduplication or ablaut. In contrast, according to my proposal, there is only a stative morpheme and an actual morpheme, and resultives are formed by a combination of the two.

There are two reasons why Montler (1986) analyses the resultive and actual as separate morphemes. First, he assumes there are two different types of reduplication, one used to form actuals, and the other to form resultives and some exceptional actuals. Second, several forms that he lists as resultive forms have no stative prefix. I will deal with the issue of reduplication in section 3.3.1.1, and the unprefixes "resultives" in section 3.3.1.2.

#### 3.3.1.1 Progressive vs. Regressive Reduplication

Montler (1986) argues that resultives and actuals are formed by different reduplication patterns; actuals are formed by -C progressive (infixing) reduplication and resultives by C- regressive (prefixing) reduplication. These two apparent reduplication patterns are shown in (67) and (68), respectively.<sup>20</sup> In both cases, an epenthetic schwa occurs following the reduplicated consonant, according to Montler's (1986) analysis.

(67)	a.	ʔL	YÁ,	ʔE	DOQ	ʔE	Janet	
		kʷl	yéʔ	kʷə	íákʷ	θə	Janet	
		REAL	go	INF	go.home	DET	Janet	
		'Janet went home; Janet's gone home.'						(Turner 2005, p. 250)

<sup>20</sup> Since I argue in this section that all actual reduplication is regressive (prefixing), all reduplicated forms are represented with regressive reduplication. If we were to accept Montler's (1986) analysis of reduplication, the form in (67b), for example, would be better represented as [íá-íə-kʷ], where [-íə-] is an infixed reduplicant.

- b. YÁ, SEN I DODEQ  
 yéʔ sən ʔi tá-təkʷ  
 go 1SGSU AUX . ACT-go.home  
 'I'm going home; I'm on my way home.' (already walking)  
 (Turner 2005, p. 250)
- (68) a. FIMO,T  
 θímaʔ-t  
 freeze-c.TR  
 'Freeze it.'  
 (Turner 2005, p. 249)
- b. SFEFI,MO,  
 s-θə-θímaʔ  
 ST-ACT-freeze  
 'It's frozen.'  
 (Turner 2005, p. 249)

However, there are several actuals showing the same reduplication pattern as (68b), which Montler (1986) treats as exceptional forms.

- (69) a. DILEM FE Janet  
 íləm θə Janet  
 sing DET Janet  
 'Janet sang (a song).'
- b. DEDI,LEM, FE Janet  
 íə-ííləm θə Janet  
 ACT-sing DET Janet  
 'Janet is singing.'
- (Turner 2005, p. 252)
- (Turner 2005, p. 252)

I argue that these forms are not exceptional, but that there is actually only one type of reduplication exhibited by actuals and resultives: CV- prefixing (regressive) reduplication.

Most of the forms with so-called progressive (infixing) reduplication are two syllables, and most with prefixing are three syllables. I suggest that the two apparent reduplication patterns are the result of two facets of the stress assignment properties of SENĆOFEN. First, unstressed full vowels regularly reduce to schwa, and, second, all other things being equal, stress will fall on the penultimate syllable<sup>21</sup> (Montler 1986, p.

<sup>21</sup> Some reduplicated actuals do not have penultimate stress, e.g., [i<sup>θ</sup>əi<sup>θ</sup>ə=wéč] 'sitting' (Montler 1986, p. 131). These forms have lexical suffixes (traditionally indicated by the morpheme boundary =), suffixes with root-like meaning, which appear to be able to affect the stress assignment of SENĆOFEN by attracting stress (Leonard 2005).

24; Kiyota 2003, p. 7, 9-10). In a form such as [íá-íə́kʷ], stress falls on the first syllable, because it is penultimate. Therefore the vowel in the second syllable is reduced to schwa. In a form such as [íə-íí́ləm̃], stress falls on the second syllable, because it is penultimate. Therefore, the vowel in the first syllable is reduced. Both forms exhibit CV-reduplication. If there were no vowel reduction, the forms would be \*[íá-íá́kʷ] and \*[íi-íí́ləm̃].

If we accept this analysis of actual reduplication, resultives and actuals are both formed by the same type of reduplication, as assumed in sections 3.1.1.1 and 3.2.1.1.

### 3.3.1.2 “Resultives” with No Stative Prefix

Montler (1986) lists several “resultives” with no stative prefix. Two examples are given in (70) and (71). Montler probably lists these forms as resultives because they appear to have the same semantics as other resultives; in other words, they appear to express a resultant state.

- (70) a. FILEN SW HÁLE  
 θíłəŋ sxʷ hélə  
 stand-MID 2SU GROUP  
 ‘Stand up everyone.’ (Turner 2005, p. 246)
- b. FEFILEN SEN  
 θə-θíłəŋ sən  
 ACT-stand 1SGSU  
 ‘I’m standing up.’ [state not process] (Turner 2005, p. 246)
- (71) a. DÁJEK TFU,NIL  
 íečəq̣ tθəw̃nił  
 angry 3SGMASC  
 ‘He got angry.’ (Turner 2005, p. 251)
- b. DEDÁ,YEK TFU,NIL  
 íə-íeyəq̣ tθəw̃nił  
 ACT-angry 3SGMASC  
 ‘He’s (already) angry.’ (Turner 2005, p. 251)

However, as noted by Bar-el (2003a, 2005) for Skwxwú7mesh, actuals (or progressives) in Salish languages also express resultant states when they are formed on certain predicate types, which Bar-el (2003a, 2005) calls *inchoative states*. Actuals formed on inchoative states will be discussed in chapter 4, where I will argue that these predicates

are unergative (they have an agent/experiencer subject), while it appears that resultives are always formed on unaccusatives (with a patient subject). All of Montler's (1986) "resultives" with no stative prefix are formed on inchoative states; therefore, I argue that they are really actuals.

### 3.4 Chapter Conclusion

In this chapter, I have outlined the form of actuals (3.1) and resultives (3.2) in SENĆOFEN, and summarized and evaluated previous linguistic analyses of the two constructions. I have shown that actuals and resultives are formed by at least three of the same non-concatenative allomorphs, reduplication, ablaut (plus suffixation), and metathesis/stress shift, and predicted that resultives formed by glottal stop infixation probably exist but have yet to be documented. In 3.3, I compared my analysis of actuals and resultives with that of Montler (1986), and argued that the evidence supports my proposal that the resultive is not a morpheme, but is a construction formed by the addition of a stative prefix to an actual form.

If this proposal is correct, one would expect to find minimal pairs of actual and resultive, such as (72b) and (72c) or near minimal pairs, such as (73b) and (73c).

However, these are the only two pairs found so far.

- (72) a. KES  
qés  
'It fell in the water.'
- b. YOŦ OL, KÁSEL TŦE SŦOŦLE E TŦE ÍO,  
yáθ ʔaí qés-əł tθə s-tʰáíʰə ʔə tθə q\*áʔ  
always LIM fall.in.water(ACT)-DUR DET NOM-leaf OBL DET water  
'The leaf is always falling in the water.'
- c. SKÁSEL  
s-qés-əł  
ST-fall.in.water(ACT)-DUR  
'He's/It's in the water.'
- (73) a. BEŦ TŦE MO,EÍ  
pák<sup>w</sup> tθə máʔəq<sup>w</sup>  
rise.to.surface DET duck  
'The duck floated to the surface.' (Turner 2005, p. 248)



## Chapter Four

### The Morphosyntax and Semantics of Resultives and Actuals

This chapter explores the morphosyntactic and semantic properties of resultives and actuals, pursuing two goals. The first goal is to explain why there are so few actuals and resultives formed on the same base, and the second is to consider a possible semantic reason why resultives might be formed from actuals.

In this thesis, I argue that resultives are formed by a combination of a stative prefix and a predicate in the actual aspect. In chapter 3, examples were given to show that resultives and actuals are formed by the same morphological processes, and differ only in that resultives have a stative prefix. However, resultives and actuals are almost always formed on different bases, resulting in a scarcity of “minimal pairs” (a particular resultive and actual differing only in terms of the stative prefix). If a resultive is formed by a combination of the stative prefix and an actual, we expect more pairs like the actual in (73b) and the resultive in (73c), given in chapter 3 and repeated here in (74).

- (74) a.  $\underline{\text{K}}$ ES  
qə́s  
'It fell in the water.'
- b. YOF OL,  $\underline{\text{K}}$ ÁSEL TFE SƆOƆLE E TFE KÓ,  
yáθ ʔaí qés-ə́t tθə s-tʰáíʰə ʔə tθə qʷáʔ  
always LIM fall.in.water(ACT)-DUR DET NOM-leaf OBL DET water  
'The leaf is always falling in the water.'
- c.  $\text{SK}$ ÁSEL  
s-qés-ə́t  
ST-fall.in.water(ACT)-DUR  
'He's/It's in the water.'

In section 4.1, I will consider a restriction on resultives which contributes to this scarcity of minimal pairs: the base on which a resultive is formed must express some change in the patient participant of an event. This restriction has consequences for the distribution of resultives and actuals. So far, resultives have not been found with roots



If this restriction holds for all resultives, it should prevent resultives from occurring on a whole class of verbs, those that are unergative. In section 4.1.1, I will outline my assumptions regarding unaccusative and unergative roots. In that section, I will show that preliminary tests and negative evidence suggest that, indeed, resultives do not occur with unergative roots. Resultives have also not been found with middle suffixed forms. All of the SENĆOFEN middle-suffixed actuals documented so far have an agent subject. In this way, the lack of resultives of middle suffixed bases appears to be caused by the inability of resultives to form on unergative bases.

In section 4.1.2, I turn to the unaccusative verb roots, and show that, so far, resultives have been found on the intransitive roots while actuals are found on the transitivised versions of these roots. Section 4.1.3 discusses possible reasons for these restrictions on resultives and actuals, and the consequence they have for the distribution of actuals and resultives: actuals and resultives are largely in complementary distribution.

#### 4.1.1 Actuals and Unergative Bases

This section discusses the preliminary observation that resultives are found with unaccusative intransitive predicates, while actuals are usually found with unergative intransitive predicates. The sentences in (76b) and (77b) are examples of resultives of unaccusative bases.

- (76) a.    LIĆ            TFE    XI,LEM  
           líq<sup>w</sup>            tθə    ʃ<sup>w</sup>íłəm  
           loosen            DET    rope  
           ‘The rope loosened; the rope slackened.’
- b.    SLI,LEĆ        TFE    XI,LEM  
           s-lí-ləq<sup>w</sup>        tθə    ʃ<sup>w</sup>íłəm  
           ST-ACT-loose    DET    rope  
           ‘The rope is slack.’
- (77) a.    LEŶ    LE,    TFE    LEPOT  
           lə́t<sup>θ</sup>    ləʔ    tθə    ləpát  
           fill    PST    DET    cup  
           ‘The cup was filled.’

- b. SLÁʔEL      TFE      LEPOT  
 s-léí<sup>θ</sup>-ə́t      tθə      ləpát  
 ST-fill-DUR      DET      cup  
 'The cup is full.'

The unergative predicates on which actuals are found include unsuffixed unergative roots, bound unergative roots containing middle suffixes, and unergative bases consisting of unaccusative roots with middle suffixes. Unergative roots are considered first. Examples (78b) and (79b) show actuals formed on unergative roots.

- (78) a.      ØL      YÁ,      ØE      DOQ      FE      Janet  
             k<sup>w</sup>ɪ      yeʔ      k<sup>w</sup>ə      íák<sup>w</sup>      θə      Janet  
             REAL      go      INF      go.home      DET      Janet  
             'Janet went home; Janet's gone home.'      (Turner 2005, p. 250)

- b.      YÁ,      SEN      I      DODEQ      —  
             yeʔ      sən      ʔi      íá-tək<sup>w</sup>  
             go      1SGSU      AUX      ACT-go.home  
             'I'm going home; I'm on my way home.' (already walking)  
             (Turner 2005, p. 250)

- (79) a.      WAKES  
             wéqəs  
             'yawn'      (Turner 2005, p. 251)

- b.      WA,ĶES  
             wé-ʔ-qəs  
             yawn(-ACT-)  
             'yawning'      (Turner 2005, p. 251)

As mentioned in chapter 2, membership of a verb in the class of unergatives or that of unaccusatives is not universal, and therefore I must first define the criteria used here to determine if a predicate root is unergative or unaccusative in SENĆOFEN. There are both morphosyntactic and semantic criteria.

In chapter 2, I outlined some morphosyntactic criteria used by Gerdts (1988b, 1991) and Gerdts & Hukari (2001) to distinguish between unergatives and unaccusatives in Halkomelem. At this point, only the first criterion, the ability of a verb to take the control transitive suffix /-t/, can be considered for SENĆOFEN verbs, since there is not enough linguistic documentation to consider the other criteria. Normally, unaccusatives can take the control transitive suffix and unergatives cannot. When an

unaccusative in SENĆOFEN or Halkomelem becomes transitive, its subject becomes the object of the transitive construction.

A number of resultives are formed on roots which test as unaccusative according to this criterion. In (80), resultives are shown with the control transitive forms of the same root. Forms have been taken out of sentences for ease of comparison, and all full sentences can be found in appendix B.

(80) *Resultives and their transitive correspondents*

	<i>Resultive</i>	<i>Transitive</i>	<i>Root</i> <sup>23</sup>	<i>Root meaning</i>
a)	SLÁŦEL sléí <sup>θ</sup> əł	LEŦET lət <sup>θ</sup> ət	lət <sup>θ</sup>	'be filled'
b)	SŦEŦI,MO, sθəθíma <sup>?</sup>	ŦIMO,Ŧ θíma <sup>?</sup> t	θíma <sup>?</sup>	'be frozen'
c)	SXÁL,EL sǰéłəł	XEL,ET ǰəłət	ǰəł	'be written'
d)	SQOSEL sk <sup>w</sup> ásəł	QSET k <sup>w</sup> sət	k <sup>w</sup> əs	'be counted'
e)	STOKÉEL stáq <sup>w</sup> əł	ŦKÉET tq <sup>w</sup> ət	təq <sup>w</sup>	'be tightened'
f)	SŦOQEL sθák <sup>w</sup> əł	ŦQET θk <sup>w</sup> ət	θək <sup>w</sup>	'be stretched'
g)	SŦEPX sǰəpǰ	ŦPEXT ǰpǰxt	ǰpǰ	'be scattered'
h)	SBOŦEL spák <sup>w</sup> əł	BŦET p <sup>w</sup> k <sup>w</sup> ət	pək <sup>w</sup>	'rise to the surface'
i)	SŦÁSEL sqésəł	ŦSET qsət	qəs	'fall in water'

Therefore, the roots on which resultives are formed appear to pattern with unaccusative roots.

<sup>23</sup> Examples of these bare roots occurring on their own (without suffixes) have not yet been documented for all roots, so this column represents the abstract root shape.





- b. YOṬ OL, KÁSEL TFE SṬOṬLE E TFE KÓ,  
 yáθ ʔal qés-əḷ tθə s-tʰáʔtʰə ʔə tθə qʷáʔ  
 always LIM fall.in.water(ACT)-DUR DET NOM-leaf OBL DET water  
 'The leaf is always falling in the water.'
- c. SKÁSEL  
 s-qés-əḷ  
 ST-fall.in.water(ACT)-DUR  
 'He's/It's in the water.'
- (86) a. BEṪ TFE MO,EK  
 pʰəkʷ tθə máʔəqʷ  
 rise.to.surface DET duck  
 'The duck floated to the surface.' (Turner 2005, p. 248)
- b) BÁṪEL  
 pʰékʷ-əḷ  
 rise.to.surface(ACT)-DUR  
 'surfaces every now and then' [as in a buoy]
- c. SBOṪEL TFE KÁLÁ,  
 s-pʰəkʷ-əḷ tθə qʷléy  
 ST-rise.to.surface(ACT)-DUR DET log  
 'The log is floating (in one place).' (Turner 2005, p. 248)

The subjects of (85) and (86)'s predicates are not so easily classified as either proto-agent or proto-patient. Based on the translation, it seems as though there does not have to be control or volition, but then there does not seem to be any direct external causation either. I suggest that these predicates may take either a proto-patient or a proto-agent subject, so that it is possible for the predicates to occur in the actual and in the resultive.

Morphosyntactically, both of these roots can take the control transitive, in which case there is an agent subject and a patient object.

- (87) KSET  
 qs-ət  
 fall.in.water-C.TR  
 'Throw it in the water.'
- (88) BṪET TFE SĆÁNEW  
 pʰkʷ-ət tθə s-čénəxʷ  
 rise.to.surface DET NOM-fish  
 'Bring the fish to the surface'

Gerdt (2006) shows that about half of Halkomelem verbs are “swingers”, verbs which pattern in some ways with unaccusatives and in other ways with unergatives.

Interestingly, the Halkomelem verb *pákw*, which is identical to the SENĆOFEN verb in (86a), is listed as one of those verbs. I suggest that both (85) and (86) belong to a class of verbs in SENĆOFEN which may be unaccusative or unergative and that therein lies the reason for their ability to take both intransitive actual and resultive.

In addition to not occurring with unergative verb roots, resultives are not found with derived unergatives containing either of the two *middle* suffixes. Montler (1986) observes that the SENĆOFEN *control middle* [-əŋ] indicates the “controlled agency of the subject” (p. 177), while the non-control middle [-naŋət] “indicates that the subject is an agent not exerting conscious control over the activity expressed in the predicate” (p. 178). Based on this definition, and on the examples of middles in SENĆOFEN sources, it appears that the SENĆOFEN middle is used as an unergative.<sup>25</sup>

Some verbs are bound, and must always surface with a middle suffix (89), while some can occur without the middle, as in (90), where the root can also occur with the control transitive suffix, suggesting that it is an unaccusative root, but that an unergative can be derived from it by addition of the middle.

- (89) a. HÁSEN      SEN  
           hés-əŋ      sən  
           sneeze-MID 1SGSU  
           ‘I just sneezed.’ (Turner 2005, p. 251)

- (90) a. QSEN  
           kʷs-əŋ  
           count-MID  
           ‘count’ (Turner 2005, p. 251)

- b. YÁ,      SEN      QSET  
       yéʔ      sən      kʷs-ət  
       go      1SGSU      count-C.TR  
       ‘I’m going to count them.’

<sup>25</sup> There are many uses for the Halkomelem middle, including some which may not always be agentive (Gerdt & Hukari 1998). So far, the SENĆOFEN middle has not been documented or studied in great enough detail to see if any non-agentive middle forms occur. At any rate, all actuals of middles in SENĆOFEN have agent subjects.

Because resultives always take a patient, they never seem to occur with middle suffixes. Example (91) shows an actual formed on a base containing a middle suffix (a) and the ungrammaticality of a resultive formed on the same base (b).

(91) a. HI,ELEŃ      TFE      SŲELOŲLE  
 hí-ʔə-l-əŋ      tθə      s-í<sup>θ</sup>-əl-áí<sup>θ</sup>lə  
 fall(-ACT-)-MID DET      NOM-leaf(PL)  
 'The leaves are falling.'

b. \*s-hiʔələŋ

Resultives have not been found with bound roots containing middle suffixes. For verb roots which can take a middle suffix, but are able to occur without it, resultives are unattested with the middle suffixed form (92d). One resultive has been checked so far, and it is ungrammatical. Although the middle is possible with the root in (92a), the resultive occurs on the unsuffixed non-middle root (92c).

(92) a. QSEŃ  
 k<sup>w</sup>śəŋ  
 count-MID  
 'count' (Turner 2005, p. 251)

b. QESEŃ,  
 k<sup>w</sup>śsəŋ'  
 count(ACT)-MID  
 'counting' (Turner 2005, p. 251)

c. QŁ      SQOSEŁ      TFE      XEŲXOLEŚ  
 k<sup>w</sup>ł      s-k<sup>w</sup>śs-əl      tθə      xət<sup>θ</sup>x=ələs  
 REAL      ST-count(ACT)-DUR      DET      egg=eye  
 'The eggs are already counted.'

d. \*sk<sup>w</sup>śsəŋ'

Notice that the resultive (c), formed on the non-middle base, is formed by ablaut plus suffixation, while the actual (b), formed on the middle suffixed base, is formed by metathesis/stress shift. Since the base with the middle and the base without the middle have different shapes, a different allomorph of the actual is used in the resultive construction and in the actual construction.

#### 4.1.2 Resultives and Unaccusative Roots

In the last section, I observed that resultives never seem to occur with unergative roots or in middle constructions. In this section I will consider transitives, and the absence of resultives in transitive constructions.

All syntactic transitives in SENĆOŦEN, as in other Salish languages, are morphologically derived by the addition of a transitivising suffix. In the case of SENĆOŦEN, the productive transitivising suffixes are /-ət/ *control transitive*, /-nax<sup>w</sup>/ *non-control transitive*, and /-stax<sup>w</sup>/ *causative* (Montler 1986, p. 163). The first two suffixes are added to unaccusative roots to derive regular transitive clauses with an agent and a patient (see test for unaccusativity in 4.1.1). The causative suffix is usually added to unergative roots, and “adds the implication that the subject is causing or obliging the activity expressed in the predicate” (Montler 1986, p. 165).

Resultives have not been found to occur with transitive bases. Example (93c) shows the one ungrammatical resultive I have tested; so far no other resultives have been tested, but there is a complete absence of transitive resultives in the linguistic documentation of SENĆOŦEN. Suttles (2004) also notes that the Halkomelem resultive does not occur with control transitive [-t].

- (93) a.     TPEXT  
          ǰpǰǰ-t  
          scatter-C.TR  
          ‘scatter it’
- b.     TEPXT  
          ǰǰpǰǰ-t  
          scatter(ACT)-C.TR  
          ‘scattering it’
- c.     \*sǰǰǰpǰǰt

Resultives of unaccusative verb roots are instead always formed on the unaccusative base, as in (94b).

- (94) a.     TPEX  
          ǰpǰǰ  
          ‘scatter’

- b.     STĒPX  
        s-ŕápĕ  
        ST-scatter(ACT)  
        'scattered'

Actuals of unaccusative roots, in contrast, have only been documented formed on the derived transitive of the root. I have attempted two unaccusative actuals in fieldwork so far, and they have both been rejected by current speakers of SENĆOŦEN. Compare the ungrammatical actual in (95b) with the grammatical resultive in (94b) above and ungrammatical (96b) with (78b).

- (95) a.     TPEX  
           ŕápĕ  
           'scatter'
- b.     \*ŕápĕ
- (96) a.     LEŦ    LE,    TŦE    LEPOT  
           láp<sup>θ</sup>   ləʔ    tθə    ləpát  
           fill    PST    DET    cup  
           'The cup was filled.'
- b.     \*lép<sup>θ</sup>ət

Instead, actuals formed on these roots occur in the transitive, as in (93b), on the previous page, and (97b).

- (97) a.     LEŦET           TŦE    LEPOT  
           láp<sup>θ</sup>-ət       tθə    ləpát  
           fill-C.TR       DET    cup  
           'Fill the cup.'
- b.     LEŦT            TŦE    LEPOT  
           láp<sup>θ</sup>-t        tθə    ləpát  
           fill(ACT)-C.TR   DET    cup  
           'He's filling the cup.'

So far, actuals seem *unable* to occur in unaccusative constructions; however, many more verbs need to be tested in order to make a generalisation in that respect. It may be instead that there is simply a tendency for actuals to be formed on unergatives and transitives, since they generally focus on a portion of an event in which the agent

is directly involved (see 4.1.3). It is interesting to note that the cognate Halkomelem progressive is found in unaccusative constructions (Suttles 2004, pp. 138-165). Either there is only a tendency for actuals to be unergative or transitive in SENĆOŦEN, or this is a difference between these two closely related languages.

The proposed inability of resultives to occur with transitive (and middle) suffixes has a direct effect on the number of minimal pairs of actual and resultive. As mentioned in 4.1.1, and discussed in detail in chapter 3, the base shape of a predicate affects which allomorph of the actual is used. Actuals of bases with control transitive and control middle suffixes are always formed by either metathesis/stress shift or glottal infixation, since they normally have the shape CC-əC which takes metathesis/stress shift (98), or CVC-əC, which usually takes glottal stop infixation (99).

(98) a. SKET            TFE    PIPE  
           sq̣-ət        tθə    pípə  
           tear-C.TR    DET    paper  
           'Tear the paper.'

b. SEKT            SW̄    TFE    PIPE  
           səq̣-t        sx<sup>w</sup>    tθə    pípə  
           tear(ACT)-C.TR 2SU    DET    paper  
           'You're tearing the paper.'

(99) a. HÁSEN̄        SEN  
           hés-əŋ        sən  
           sneeze-MID 1SGSU  
           'I just sneezed.'

(Turner 2005, p. 251)

b. HÁ,SEN̄,            SEN  
           hé-ʔ-s-əŋ'        sən  
           sneeze(-ACT-)-MID 1SGSU  
           'I'm sneezing.'

(Turner 2005, p. 251)

Occasionally, control transitive and control middle bases are polysyllabic, in which case the actual allomorph used is also usually glottal stop infixation.

Resultives, on the other hand, are rarely found with the metathesis/stress shift or glottal infix allomorphs of the actual. The main reason for this is that they are not found with transitive or middle suffixes. Resultives are usually formed on bases with

no suffixes; the bases on which resultives are formed usually have the shape CəC, and take ablaut (100), or the shape CVC, and take reduplication (101).

- (100) a.    LEṽ    LE,    TFE    LEPOT  
           lǎtʰ    lǎʔ    tθə    lǎpát  
           fill    PST    DET    cup  
           ‘The cup was filled.’
- b.    SLÁṽEL                    TFE    LEPOT  
           s-létʰ-əł                tθə    lǎpát  
           ST-fill(ACT)-DUR        DET    cup  
           ‘The cup is full.’
- (101) a.    LIĆ                    TFE    XI,LEM  
           líqʷ                    tθə    ǰʷíłəm  
           loosen                 DET    rope  
           ‘The rope loosened; the rope slackened’
- b.    SLI,LEĆ                TFE    XI,LEM  
           s-lí-łǎqʷ            tθə    ǰʷíłəm  
           ST-ACT-loose        DET    rope  
           ‘The rope is slack.’

Most predicate roots in SENĆOṖEN have one of these two shapes, but there is one example of a resultive formed on one of the rarer CCəC roots, which is formed by metathesis/stress shift (94b) and is repeated as (102b) here.

- (102) a.    ṽPEX  
           ǰpǎǰ  
           ‘scatter’
- b.    SṽPEX  
           s-ǰǎpǰ  
           ST-scatter(ACT)  
           ‘scattered’

I also expect that a resultive of one of the other rare root shapes, such as CV, would be formed by glottal stop infixation, but no examples have yet been found.

In this section, I have shown one possible reason why there are so few documented minimal pairs of actual and resultive, a fact which partially obscures the proposed composition of resultives (stative + actual). Many actuals are formed on bases on which resultives cannot be formed, since resultives are not formed on transitive or

unergative bases. Pairs like the following are far more frequent, where the transitive actual is formed by metathesis/stress shift (103b) and the intransitive resultive is formed by ablaut plus suffixation (103c).

- (103) a. TĶĒT  
 tq<sup>w</sup>-ə́t  
 tighten-C.TR  
 'tighten it' (Turner 2005, p. 258)
- b. ØĻ TEĶ́T SEN  
 k<sup>w</sup>ɪ tə́q<sup>w</sup>-t sən  
 REAL tighten(ACT)-C.TR 1SGSU  
 'I'm tightening it.' (Turner 2005, p. 258)
- c. STOĶ́EL  
 s-tə́q<sup>w</sup>-ə́ɪ  
 ST-tighten(ACT)-DUR  
 'It's tight.' (Turner 2005, p. 258)

The next section attempts to explain why this near complementary distribution might exist.

#### 4.1.3 Correlations between Resultive and Unaccusativity

In this section I will consider why the restrictions outlined in 4.1.1 and 4.1.2 seem to exist, considering both a functional explanation based on Comrie (1981) and formal analyses of resultives in other Salish languages. The correlation found between resultives and unaccusativity and between actuals and transitivity/unergativity is not totally surprising. Comrie (1981) follows Comrie (1976) in observing a correlation between patient-oriented constructions and resultant states. In some languages, aspectual morphemes expressing resultant states (perfects or resultatives), can only be used in constructions in which the subject is a patient, i.e., passives or unaccusatives. For example, in Armenian, the resultative can only be used in intransitive or passive constructions, as in (104) and (105), respectively.

- (104) *Ašotə bezarac e*  
 'Ašot has become tired; Ašot is tired'

- (105) *Kʰaʔakʰ-ə*    *šrʒapat-v-ac*    *e*    (*tʰšnamu*    *koʔmicʰ*).  
 city-the    surround-Pass-Res    is    enemy    by  
 ‘The city has been surrounded (by the enemy).’

(Comrie 1981, p. 73)

Comrie (1981) suggests that this correlation arises because, with most predicates, the patient is most affected by the event, and a resultant state is more likely to tell us about the state of a patient than that of an agent. For example, a sentence like *John has killed Bill* (which is a perfect), tells us more about Bill, the patient, than it does about John. If we want to ascertain the truth of the sentence, it is more useful to examine Bill than to examine John. On the other hand, *John is going to kill Bill* (a “prospective”), tells us more about the agent, John (Comrie 1981, pp. 70-71).

Comrie’s (1981) explanation can be extended to account for the correlation between resultives and unaccusatives found in SENĆOŦEN. Unaccusatives, even more clearly than passives, tell us about a patient rather than an agent. Resultives are very similar to perfects in that they describe the result of an event which still obtains (see Nedjalkov & Jaxontov (1988) and Dahl (1985) for comparisons of resultives and perfects).

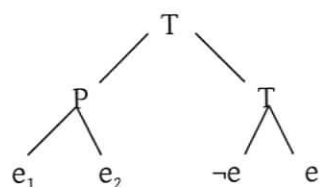
Transitive actuals can be compared to English progressives, in that they usually describe an event in progress. Both agent and patient are equally involved in the event itself, and Comrie suggests that it is likely that progressives would favour transitive constructions. This is what we see with the SENĆOŦEN actual; when applied to two-participant verbs, the actual is formed on a transitive base. There are intransitive actuals, but they are always unergative. They either describe a single participant event, in which case the single participant is involved in the beginning, middle, and end of the event, or they describe an agent-oriented intransitive, where the agent is involved in the beginning and middle of the event.

Comrie’s (1981) functional explanation of the connection between resultives and patients can be formalised in a model of event structure, such as that proposed by Pustejovsky (1991, 1995). Recall from chapter 2 that previous analyses of the stative prefix in Salish languages have used just such a model. A comparison of the analyses of Burton & Davis (1996) and Bar-el (2003b) with claims about Salish event structure made

by Davis & Demirdache (2000) does show a connection between statives (resultives) and patients.

Davis & Demirdache (2000) apply Pustejovsky's (1995) model of event structure to St'át'imcets (Interior Salish) predicates. They argue that all St'át'imcets roots are semantically causative, and have the event structure shown in figure 1. In the diagram, T = transition, P = process, and e = event. The whole causative consists of a process which then causes a transition from one state (-e) to its opposition (e).

*Figure 9 - Salish Event Structure (repeat of Fig. 3)*



(Davis & Demirdache 2000, p. 116)

The bare unaccusative predicate foregrounds the final subevent (the lower transition), while unergatives foreground the initial subevent (the process). Davis & Demirdache note a connection between the subevents and the semantic arguments of the event, which parallels Comrie's (1981) explanation. The final subevent, which is foregrounded in unaccusatives, is associated with the internal argument (patient) of the event, while the initial subevent, foregrounded in unergatives, is associated with the external argument (agent). When both subevents are foregrounded, both arguments are present and the event is expressed as a transitive (Davis & Demirdache 2000, p. 122).

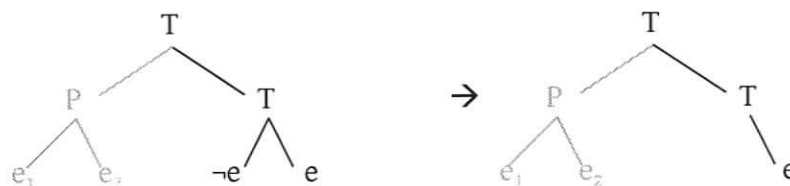
Burton & Davis (1996) and Bar-el (2003b) also use a Pustejovskyan event structure model to argue that the stative prefix (cognate to that used in SENĆOTEN resultives) removes the initial "process" subevent of a predicate in St'át'imcets and Sqwxwú7mesh. These two papers do not look at the whole event as a causative, so they describe the effects of the causative as removing the component -e (called a process subevent in Pustejovsky's (1991) model) from a transition predicate, as in the following diagram.

*Figure 10 - The Effect of the Stative Prefix on Event Structure (repeat of Fig. 2)*



If we apply this analysis to Davis and Demirdache's model, the following derivation ensues, where, in the end, only the final subevent—the resultant state—is foregrounded in the sentence.

**Figure 11 - Event Foregrounding and Stative Formation**



Notice that statives act on the portion of the event which is foregrounded in unaccusative constructions (the final transition). A corollary of this would be that statives cannot be formed on unergatives, since unergatives foreground the causing process subevent, which resultives do not target.

In summary, although resultives are argued to consist of an actual base with a stative prefix, there is only one example of a resultive and an actual which are identical but for the stative prefix, which I have described as a *minimal pair* of actual and resultive. This scarcity of minimal pairs results from the correlation of resultives with unaccusativity, which, in turn, results from the fact that resultives describe the result of an event, which is usually reflected in the event's patient. Actuals, on the other hand, have a correlation with transitives and unergatives. Due to these opposite correlations, actuals and resultives are largely in complementary distribution; they are usually formed on different bases.

Different bases have different phonological shapes, so different allomorphs of the actual are usually used with the transitive actual form and the intransitive resultive. Actuals are most often formed by glottal infixation or metathesis/stress shift, while resultives are most often formed by ablaut plus suffixation or reduplication. The distribution of actuals and resultives with respect to different types of bases and the actual allomorphs used with each type are summarised in the following table.

**Table 8 - Argument Structure of Actual and Resultive Constructions**

	Unaccusative Base CəC, CVC, CCəC	Transitive Base CC-ət, CVC-ət	Unergative Base CəC, CVC, CVCəC	Middle Base CC-əŋ, CVC-əŋ
Resultive	Yes: Ablaut, Reduplication, Metathesis	Unattested	Unattested	Unattested
Actual	Unattested	Yes: Metathesis, Glottal infixation	Yes: Ablaut, Reduplication, Glottal infixation	Yes: Metathesis, Glottal infixation

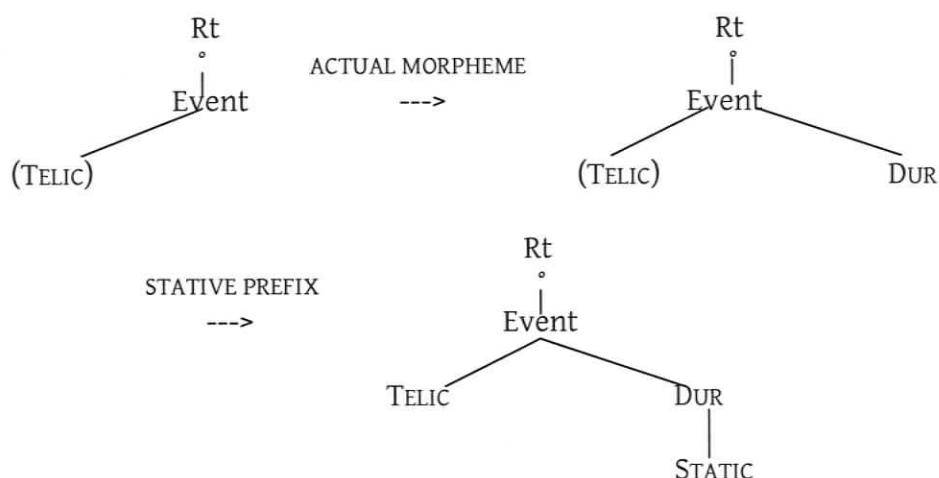
Despite the scarcity of minimal pairs, there is some evidence that resultives are formed by prefixation of stative [s-] to an actual form. As shown in chapter 3, if the base is the right shape, actuals can be formed by reduplication or ablaut plus  $\text{—}$  suffixation. There is one resultive which is formed by metathesis/stress shift. It also seems likely that resultives can be formed by glottal infixation. Certainly, both actuals and resultives exhibit resonant glottalisation. The next section of this chapter leaves the morphological properties of resultives and actuals behind, and considers the question of why resultives would be formed by a combination of stative and actual morphology.

#### 4.2 The Semantic Compositionality of Resultives

According to the claims of this thesis, resultives are formed by concatenation of stative and actual. This section provides a preliminary explanation of why resultives are formed in this way. I argue that the meaning of resultives is compositional; that is, there is a semantic contribution to a resultive from each of its component morphemes: the verbal base, the actual, and the stative. Following Turner & Urbanczyk (2006), it is argued that verbs are underspecified underlyingly for durativity and stativity, and that the actual morpheme adds durativity (the feature [durative]), while the stative prefix adds stativity (the feature [static]).

The proposal can be formalised with the following feature geometry, inspired by Harley & Ritter's (2002) feature geometry of person and number. Since [durative] is added by the actual and [static] is added by the stative, and the stative prefix can only attach to actuals, the feature [static] is dependent on the feature [durative].

**Figure 12 - Feature Geometry Representation of Actual and Resultive Formation**



Further motivations for the hierarchical representation of aspectual features in this feature geometry are discussed in the following subsections. I will consider the semantic contribution of the actual morpheme in 4.2.1 and that of the stative prefix in 4.2.2. Section 4.2.3 concludes the section, and provides possible tests for durativity and stativity.

#### 4.2.1 The Semantic Contribution of the Actual Morpheme: Durativity

In order to determine what semantic meaning the actual contributes to resultives, we must determine what actuals and resultives have in common semantically. In section 4.2.1.1, I will consider the semantics of the actual, suggesting that the actual adds a [durative] feature to a predicate (Turner & Urbanczyk 2006), and in section 4.2.1.2, I will show how resultives also have the feature of durativity.

##### 4.2.1.1 Actuals and Durativity

The actual is a type of imperfective; in Smith's (1991) model, it is a component of the viewpoint aspect system. Recall that Smith (1991), following previous work on aspect, distinguishes between grammatical viewpoint aspects, such as perfective and imperfective, and situation type of predicates (*Aktionsart*), but claims that the two interact. A look at the interaction of actual aspect with different situation types gives us insight into the semantic contribution of the actual morpheme. The chart showing the features of Smith's situation types was given in chapter 2, and is repeated here as Table 9.

Table 9 - Situation Types (repeat of Table 1)

	Stativity	Durativity	Telicity	Schema
States	[+static]	[+durative]	[-telic]	(I) —(F)
Activities	[-static]	[+durative]	[-telic]	I ..... F <sub>Arb</sub>
Accomplishments	[-static]	[+durative]	[+telic]	I ..... F <sub>Nat (R)</sub>
Achievements	[-static]	[-durative]	[+telic]	..... I (R) .... F
Semelfactives	[-static]	[-durative]	[-telic]	I F

In chapter 2, I concluded that, for the purposes of this thesis, I would distinguish between four situation types in SENĆOŦEN: accomplishments, achievements, inchoative states, and activities/semelfactives. The actual can apply to each of these situation types, except some achievements, and there are three possible readings of the actual, depending on the event described. In all cases, the actual expresses a portion of an event with some duration.

With accomplishments (106-107) and activities (108-109), actuals cause the listener to “view [...] a situation from within” (Comrie 1976, p. 24).

- (106) a. SKET            TFE    PIPE  
 sǫ́-ǎt            tθǎ    pípǎ  
 tear-C.TR        DET    paper  
 ‘Tear the paper.’
- b. SEKT            SW̄    TFE    PIPE  
 sǎǫ́-t            sx<sup>w</sup>    tθǎ    pípǎ  
 tear(ACT)-C.TR 2SU    DET    paper  
 ‘You’re tearing the paper.’
- (107) a. MELEJT        TFE    K̄Lǎ  
 mǎlǎǎ-t        tθǎ    q<sup>w</sup>léy  
 roll.over-C.TR DET    log  
 ‘Roll the log over.’
- b. MELJT        TFE    K̄Lǎ  
 mǎlǎ-t        tθǎ    q<sup>w</sup>léy  
 roll.over-C.TR DET    log  
 ‘rolling the log over’

- (108) a. DILEM ꝑE Janet  
 ʔiləm θə Janet  
 sing DET Janet  
 'Janet sang (a song).' (Turner 2005, p. 252)
- b. DEDI,LEM, ꝑE Janet  
 ʔə-ʔiləm θə Janet  
 ACT-sing DET Janet  
 'Janet is singing.' (Turner 2005, p. 252)
- (109) a. ŚTEN  
 ʃtəŋ  
 walk-MID  
 'walk' (Turner 2005, p. 256)
- b. ŚETEN,  
 ʃətəŋ  
 walk(ACT)-MID  
 'walking' (Turner 2005, p. 256)

This is Smith's (1991) "unmarked" reading of imperfectives, represented in the following schema, where I is the initial point (beginning) of the event, F is the final point (end) of the event, and the slashes represent which part of the event is described (or "viewed") by the actual.

**Figure 13 - Unmarked Imperfective Schema**

I../////..F

The actual is only possible with events which are *not* instantaneous conceptually, i.e., those which can be viewed as taking up some amount of time (p. 12).

According to previous work on situation types in Salish languages, including SENĆOFEN (Kiyota 2004, 2005), there is no evidence that activities and semelfactives form a separate class. For this reason, they were grouped with activities in chapter 2. However, semelfactives appear to differ from activities in one sense: they have different readings in the actual. Comrie (1976) notes that semelfactives like *cough*, when used in an imperfective sense, must express a series of coughs, rather than the







The underspecification of underlying durativity is seen in the lack of a distinction between activities and semelfactives (which are both atelic, but differ in terms of durativity). Kiyota (2005) argues that actuals and semelfactives form one lexical verb class in SENĆOŦEN. Accomplishments and achievements, which, in Smith's (1991) model, are distinguished by the presence/absence of durativity, seem to differ instead in terms of transitivity in Salish languages (see 2.2.2.2).

The proposal that durativity is added by the actual is in line with Wilhelm's (2003) claims that durativity is a property which is *grammatised* by the viewpoint aspect system of a language (p. 255). In other words, the durativity of an event is evident in the contrast between perfective and imperfective and in a predicate's ability to take imperfective or perfective morphology.

Turner & Urbanczyk's (2006) proposal, adopted here, is preliminary, and more research is required to determine exactly what grammatical durativity is. Comrie (1976, p. 41) warns that we must not confuse imperfectivity with durativity, where durativity means non-instantaneous in time. Durativity in the sense of Turner & Urbanczyk's model must be somehow distinct from this notion of having any duration in time. It seems possible to have a perfective of an event which necessarily takes up some recognisable amount of time, as in example (117a) in the next section, which means "the cup was filled".

Tests for durativity of perfectives and actuals are required before a full understanding of the semantics of the contribution of actuals is possible. Some possible tests are considered in section 4.2.1.3.

#### 4.2.1.2 Resultives and Durativity

Resultives always express resultant states of achievement predicates. Recall that states are always [durative], so a resultive, like an actual, will view a portion of an event with some conceptual duration.

- (117) a.      LEŦ    LE,    TFE    LEPOT  
                  lətʰ    ləʔ    tθə    ləpát  
                  fill    PST    DET    cup  
                  'The cup was filled.'

b.	SLÁŶEL	TŦE	LEPOT
	s-1éí <sup>θ</sup> -əł	tθə	ləpát
	ST-fill(ACT)-DUR	DET	cup
	'The cup is full.'		

The state described in (117b) must take up some recognisable amount of time, since the speaker was able to observe the state of the object being full.

Perfectives contrast with both resultives and actuals in their view of a situation as a whole, and, according to Turner & Urbanczyk's (2006) proposal, in the lack of a [durative] feature. I propose that the resultive must be formed on an actual base, since it must be formed on a [durative] predicate. This idea will be considered further in 4.2.3, once I have established that the stative prefix contributes stativity to resultive constructions.

#### 4.2.2 Resultives and Stativity

Resultives are proposed to be formed from actuals by the addition of the stative prefix. I propose that the stative adds the feature [static] to an actual form (with [durative]) to create the resultive. Resultives necessarily express a stative portion of an event, which is always the resultant state, after the final point. Actuals view a dynamic portion of most events and a stative portion of inchoative states. So actuals do not have to be [static], but resultives do. In 4.2.1, it was argued that durativity is not lexically specified in SENĆOFEN, and that it is added by the actual aspect. There is some evidence that stativity is also underspecified in SENĆOFEN. As was mentioned at the beginning of section 4.2, there are no stage-level states in SENĆOFEN, and the concepts expressed by stage-level states in English are expressed by the actuals of inchoative states (e.g., (113b) *íə-íeýəq be angry*), or by resultives.

I suggest that stativity is added to predicates by the stative prefix [s-]. Also, Smith (1991) claims that states are necessarily [+durative], and that they are the only predicates which are [+static] (p. 30). Therefore, any predicate which is [+static] is also [+durative] ([static] and [durative] in the monovalent features used here). The stative prefix must attach to predicates with the feature [durative]; that is, predicates in the actual aspect. The semantic difference between actuals and resultives is that resultives require stativity; the morphological difference is that resultives require a stative prefix.

This supports the proposal that resultives are formed by affixation of the stative prefix on actuals.

#### 4.2.3 Summary: Resultives as a Combination of Actual and Stative

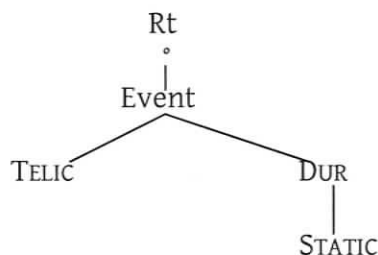
Resultives differ semantically from perfectives in that they have the properties of durativity and stativity, and they differ morphologically in that they have actual morphology and the stative prefix. I have argued that the semantic function of the actual is to add durativity to a predicate (4.2.1) and that the semantic function of the stative prefix is to add stativity to a predicate (4.2.2). Since a stative predicate is necessarily durative, but not vice versa, the stative prefix can only be used with durative actuals and not with non-durative perfectives, but the actual morpheme can occur in constructions which are static (resultive) or non-static (actual). The following chart summarises the featural specifications of the three viewpoint aspects in SENĆOŦEN.

**Table 10 - Durativity and Stativity in SENĆOŦEN Viewpoint Aspect**

	no [durative] feature	[durative]
no [static] feature	Perfective	Actual
[static]	*	Resultive

Since stativity is reliant on durativity; that is, all events with the feature [static] also have the feature [durative], [static] is dependent on [durative] in the feature geometry.

**Figure 17 - Aspectual Feature Geometry**



(Turner & Urbanczyk 2006, p. 5)

Cowper (2005) has proposed a feature geometry of the minimalist syntax projection *Infl.* (inflection), based on English and Spanish. Since it deals with *all* features of *Infl.*, it is far more comprehensive than the feature geometry outlined here. Turner &

Urbanczyk's (2006) Event node corresponds to Cowper's (2005) Event feature, and their [durative] to her Interval feature. However, Turner & Urbanczyk's feature geometry differs in its feature of [static], which depends on [durativity]. This hierarchical relationship between the two features is used to capture the observations made in this section, that resultives can only be derived by addition of [static] to actuals, which contain the feature [durative], and not to perfectives.

In Burton & Davis's (1996) paper on the cognate stative prefix *es-* in St'át'imcets, an interior Salish language, the stative prefix is always used in progressive sentences, containing the progressive morpheme *wa7*.

(118)	<i>wa7</i>	<i>es-pulh</i>	<i>k=John</i>	
	<i>waʔ</i>	<i>əš-puł</i>	<i>k=John</i>	
	PRG	ST-boil	DET=John	
	'John was boiled.' (ready-to-eat)			(Burton & Davis 1996, p. 20)

This progressive morpheme is not cognate with the SENĆOFEN actual, but it appears to have a similar aspectual function. It is interesting that, although the St'át'imcets progressive is an auxiliary, it still appears to be necessary to give a resultant state translation.<sup>27</sup> It is more plausible that resultives are composed of stative + actual in SENĆOFEN if this co-occurrence is found in other languages, expressing a resultant state. This may be the case in St'át'imcets.

#### 4.2.3.1 Testing for Durativity and Stativity

At this point, tests have not been done to determine the empirical validity of the claims that the actual adds durativity and that the stative adds stativity to the representation of an event in SENĆOFEN. Some possible English durativity tests which may be applicable to SENĆOFEN are the compatibility of an event with time adverbials, such as "quickly" and "slowly" (Smith 1991, p. 69), and the possibility of occurring in a "while" clause.

Time adverbials such as "quickly" and "slowly" make reference to the duration of an event, and so should only be possible with an event which is durative. In SENĆOFEN, there is a word for "fast", *XEN* [x̣ẉəŋ] and a word for "slow", *KEKÁNEL*

<sup>27</sup> This pattern is not corroborated by van Eijk (1997), but it is also not contradicted, because stative forms are given in isolation, rather than in sentences.

[qəqénəɪ] (Montler 1991, p. 46). The word for “slow” looks as though it is in the actual aspect, since it has apparent reduplication, and possibly a durative suffix [-əɪ]. An example of Klallam  $\check{x}^w\acute{\eta}$  “fast”, which Montler (2003) states behaves the same as that of North Straits, is given in (119).

- (119)  $\check{x}^w\acute{\eta}_{cn}$        $ʔ\acute{\eta}_{hiyáʔ-n}$   
 quick\_1SGSU    while\_go-1SS  
 ‘I’m quick when I go.’ (Montler 2003, p. 123)

The prediction is that these words would only be able to refer to an event which is expressed in the actual aspect.

Another concept that requires durativity is of one event occurring while another is taking place. In English, only durative events can be used in “while” clauses. There might be a way to apply this test to SENĆOFEN, by testing to see if it is possible to express the idea of two events occurring at once. For example, if I sang while going home, we would expect both the predicate “go home” and the predicate “sing” to be in the actual (*táʔəkʷ* and *tətíləm*). It should also be possible (according to the proposals in this section) to use a resultive in this type of expression. Further fieldwork must be done to first see if these tests or similar ones will work, and then to check if actuals and resultives are durative.

Stativity is harder to test for. The stativity diagnostics described in Smith (1991) seem to be tests for volition rather than for stativity (compatibility with volitional adverbs such as “intentionally”; occurrence in imperatives) or relatively language specific (English “It was \_\_\_\_\_ that she was doing”). In chapter 2, I described some language internal aspectual tests created by Kiyota (2004, 2005). None of these tests will diagnose an event as a state or non-state, however. The particle [k<sup>w</sup>ɪ] is available with resultives (which are argued to be stative) giving the same reading as with accomplishments and achievements. The stative prefix [s-] is not a good test for the stativity of resultives; it presumably cannot be attached to a resultive because resultives already have a stative [s-]. Further research is required to develop a test for stativity in SENĆOFEN.

### 4.3 Chapter Conclusion

It is possible to view resultive constructions as phrasemes (Mel'čuk 1993, p. 393), containing actual and stative morphemes, but with a meaning which is not directly compositional in terms of those two morphemes. In other words, it is possible to say that *resultive* = *stative* + *actual* morphologically, but *resultive* ≠ *stative* + *actual* semantically. However, I think that this is an undesirable way of looking at resultives, given the generalisations put forth in this chapter, and the seemingly productive nature of resultives.

Actuals and resultives both have the feature [durative], and differ in terms of the feature [static]. The feature [static] must be added to [durative] predicates. Actuals and resultives both contain the actual allomorphs of reduplication, ablaut plus suffixation, and metathesis/stress shift and differ in the presence of the stative prefix. The stative prefix is only attached to predicates with actual morphology. It appears that the morphology of resultives parallels the semantics, and that the meaning of a resultive is compositional.

This chapter has shown that there are semantic and morphosyntactic reasons why resultives and actuals are not often found on the same predicate base and that, although this causes a paucity of minimal pairs of actual and resultive, there is both morphological and semantic evidence that resultives are a combination of stative and actual.

## Chapter Five

### Conclusion

This thesis has provided an analysis of the SENĆOFEN resultive construction, in terms of its morphology and semantics, and its morphosyntactic distribution. I have argued that the resultive construction is compositional; it consists of a predicate base, an actual morpheme, and a stative prefix, and each of these three morphemes contributes to the meaning of resultive. The actual morpheme, which is manifested either as reduplication, ablaut plus suffixation, or metathesis/stress shift, contributes the meaning of durativity. The stative prefix [s-] contributes the meaning of stativity.

I have also observed that resultives and actuals are in near complementary distribution, as resultives have so far been formed on bases which seem to be unaccusative, while actuals are formed on transitive bases and bases which seem to be unergative. The two bases which can take both actual and resultive appear to be bases with the properties of both unaccusative and unergative verbs.

This study of SENĆOFEN resultives is preliminary, and further research would be beneficial in all areas covered here. First, the linguistic documentation of SENĆOFEN is still very minimal, and the corpus of resultives is small. There are as yet no documented examples of resultives formed by glottal infixation, and only one documented resultive formed by metathesis/stress shift. Many more verb roots must be tested for the ability to form resultives in order to get a clear picture of the resultive construction. Also, the evidence provided for the unaccusativity of resultive bases and the unergativity of intransitive actual bases is very limited. Due to time limits, I have only tested one or two roots in each category. Further testing of verbs with respect to the criteria used by Gerdts (1988b, 1991) and Gerdts & Hukari (2001) would give more insight, not only into the topic of this thesis, but also into SENĆOFEN verbs in general.

Future research is also required in the area of the semantics of resultives and actuals. In this thesis, I proposed that the actual morpheme adds a [durative] feature (Turner & Urbanczyk 2006) to a predicate and that the stative morpheme adds a [stative] feature. Semantic tests are required to determine whether durativity really is

the distinction between actuals and perfectives, and whether predicates are underspecified for durativity and stativity.

Lastly, it would be very interesting to study the differences between SENĆOŦEN and Halkomelem, with respect to resultives and actuals. On the surface, it appears that the two languages form the resultive and the actual in very similar ways, yet the research I have done for this thesis shows that the two languages may differ in terms of the types of bases on which actuals and resultives may be formed. They also differ in terms of their morphology: Halkomelem resultives and actuals clearly do not always have the same shape when formed on the same type of base, while SENĆOŦEN resultives and actuals do.

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## Appendix A: Key to the SENĆOŦEN Alphabet

Adapted from Dave Elliott Sr.'s *Saltwater People*, 1<sup>st</sup> Ed.

SENĆOŦEN	APA	IPA	SENĆOŦEN	APA	IPA
Á	e	e	M	m	m
A	e	ɛ	N	n	n
Å	ey	ey	Ŋ	ŋ	ŋ
B	p̣	p'	O	a	a
C	k	k	P	p	p
Ć	č	tʃ	Q	k <sup>w</sup>	k <sup>w</sup> '
Ɔ	k <sup>w</sup>	k <sup>w</sup>	S	s	s
D	ṭ	t'	Ś	ʃ	ʃ
E	ə	ə	T	t	t
H	h	h	Ʀ	θ	θ
I	i	i	Ƨ	ṭ <sup>θ</sup> ~ č	ṭ <sup>θ</sup> ' ~ ts'
Í	ay or əy	ay or əy	Ƨ̣	ʎ	ṭ <sup>ʎ</sup> '
J	č̣	tʃ'	U	u or əw	u or əw
K	q̣	q'	W	w	w
Ƙ	q	q	Ʊ	x <sup>w</sup>	x <sup>w</sup>
Ƙ́	q <sup>w</sup>	q <sup>w</sup>	X	χ	χ
Ƙ̣	q̣ <sup>w</sup>	q̣ <sup>w</sup> '	Ʊ̣	χ <sup>w</sup>	χ <sup>w</sup>
L	l	l	Y	y	y
Ł	ł	ł	Z	z	z
,	ʔ or glottalised resonant				

## Appendix B: Resultives and Actuals from Fieldwork

Unless otherwise cited, examples are from fieldwork in May 2006. Examples cited Turner (2005) are from fieldwork in fall 2004 and spring 2005. Examples marked with an asterisk (\*) are of resultives and actuals which do not also appear in Montler's (1986, 1989) sources. Some of the resultives and actuals which do also appear in Montler's sources may differ slightly in form or translation, and most sentences listed here are a result of my fieldwork.

### I. Resultives compared with perfectives

#### *Reduplication*

i. a) LIK'            TFE    XI,LEM  
 líq<sup>w</sup>            tθə    ʃ<sup>w</sup>íləm  
 loosen            DET    rope  
 'The rope loosened; the rope slackened'

\* b) SLI,LEK'        TFE    XI,LEM  
 s-lí-ləq<sup>w</sup>        tθə    ʃ<sup>w</sup>íləm  
 ST-ACT-loosen DET    rope  
 'The rope is slack.'

ii. a) FIMO,T  
 θíma<sup>?</sup>-t  
 freeze-TR  
 'Freeze it.'

(Turner 2005, p. 249)

b) SFETI,MO,  
 s-θə-θíma<sup>?</sup>  
 ST-ACT-freeze  
 'It's frozen.'

(Turner 2005, p. 249)

#### *Ablaut plus "durative" suffixation*

iii. a) FQET            SEN    LE,    TFE    XI,LEM  
 θk<sup>w</sup>-ət            sən    lə<sup>?</sup>    tθə    ʃ<sup>w</sup>íləm  
 stretch-C.TR    1SGSU    PST    DET    rope  
 'I stretched out the rope.'



- b) Q̄L SQOSEL TFE XEṬXOLES  
 kʷɪ s-kʷás-əɪ tθə ʃəɪ<sup>θ</sup>ʃ=áləs  
 REAL ST-count(ACT)-DUR DET egg=eye  
 'The eggs are already counted.'
- viii. a) KEPEN ??  
 q̄əp-əŋ  
 'collect, gather' (Montler 1991, p. 62)
- b) SKÁBEL FE SṬE,LOṬLE  
 s-q̄éṭ-əɪ θə s-<sup>θ</sup>ə-lá-<sup>θ</sup>ɪə  
 NOM-gather(ACT)-DUR DET NOM-leaf(-PL-)  
 'Leaves are piled.'
- ix. a) XEL,ET TFEN, SNÁ  
 ʃəl-ət tθə-n̄ s-né  
 write-c.TR DET-2POSS NOM-name  
 'Write your name.' (Turner 2005, p. 248)
- \* b) Q̄L SXÁL,EL TFE NE SNÁ  
 kʷɪ s-ʃél-əɪ tθə nə s-né  
 REAL ST-write(ACT)-DUR DET 1SGPOSSNOM-name  
 'My name is already written down.' (Turner 2005, p. 248)
- x. a) T̄KET  
 tqʷ-ət  
 tighten-c.TR  
 'tighten it' (Turner 2005, p. 258)
- c) STÓKEL  
 s-táqʷ-əɪ  
 ST-tighten(ACT)-DUR  
 'It's tight.' (Turner 2005, p. 258)

*Metathesis/stress shift*

- xi. a) T̄PEX  
 ʃpáʃ  
 'scatter'
- \* b) SṬEPX  
 s-ʃəpʃ  
 ST-scatter(ACT)  
 'scattered'

## II. Actuals compared with perfectives

### Reduplication

- i. a) YÁ, LO, SEN TÁYEL  
 yéʔ láʔ sən téyəl  
 go PST 1SGSU go.upstream  
 'I went upstream.'
- b) TETÁ,YEL, SEN  
 tə-téyəl sən  
 ACT-go.upstream 1SGSU  
 'I'm going upstream.'
- ii. a) ØL YÁ, ØE DOQ FE Janet  
 kʷl yeʔ kʷə tákʷ θə Janet  
 REAL go INF go.home DET Janet  
 'Janet went home; Janet's gone home.' (Turner 2005, p. 250)
- \* b) YÁ, SEN I DODEQ  
 yeʔ sən ʔi tá-təkʷ  
 go 1SGSU AUX ACT-go.home  
 'I'm going home; I'm on my way home.' (already walking)  
 (Turner 2005, p. 250)
- iii. a) FILEN SW HÁLE  
 θíʔ-əŋ sxʷ hélə  
 stand-MID 2SU GROUP  
 'Stand up everyone.' (Turner 2005, p. 246)
- b) FEFILEN SEN  
 θə-θíʔ-əŋ sən  
 ACT-stand-MID 1SGSU  
 'I'm standing up.' [state not process] (Turner 2005, p. 246)
- iv. a) Qʰ SEN  
 kʷéy sən  
 get.hungry 1SGSU  
 'I got hungry.' (Turner 2005, p. 250)
- \* b) QÁ,QI, SEN LE,  
 kʷé-kʷəy sən ləʔ  
 ACT-get.hungry 1SGSU PST  
 'I was hungry.' (Turner 2005, p. 250)

- v. a) DILEM FE Janet  
 ʔiləm θə Janet  
 sing DET Janet  
 'Janet sang (a song).' (Turner 2005, p. 252)
- b) DEDI,LEM, FE Janet  
 ʔə-ʔiləm θə Janet  
 ACT-sing DET Janet  
 'Janet is singing.' (Turner 2005, p. 252)
- vi. a) DÁJEK TFU,NIL  
 ʔéčəq tθəwnil  
 angry 3SGMASC  
 'He got angry' (Turner 2005, p. 251)
- b) DEDÁ,YEK TFU,NIL  
 ʔə-ʔéyəq tθəwnil  
 ACT-angry 3SGMASC  
 'He's (already) angry' (Turner 2005, p. 251)
- vii. a) QÁĆEN, FE Janet  
 kʷéčəŋ θə Janet  
 yell DET Janet  
 'Janet yelled.' (Turner 2005, p. 252)
- b) QEQÁĆEN, FE Janet  
 kʷə-kʷéčəŋ θə Janet  
 ACT-yell DET Janet  
 'Janet is yelling.' (Turner 2005, p. 252)
- viii. a) LIQSEN  
 ʔíkʷ=sən  
 snag=foot  
 'trip' (Turner 2005, p. 246)
- b) LILEQSEN,  
 ʔí-ʔəkʷ=səŋ  
 ACT-snag=foot  
 'tripping' (Turner 2005, p. 246)
- ix. a) QINTEL  
 kʷín-təl  
 fight-RECIP  
 'They fought.' (Montler 1986, p. 117)

- b) ØI,WEN,TEL,  
k<sup>w</sup>i-wəñ-təl  
ACT-fight-RECIP  
'They're fighting.'

(Montler 1986, p. 117)

*Ablaut plus "durative" suffixation*

- x. a) NEK̄                      FE      K̄AK̄  
nəq<sup>w</sup>                      θə      qéq  
fall.asleep              DET      baby  
'The baby fell asleep; the baby's sleeping.'
- b) NOK̄EL                      FE      K̄AK̄  
nəq<sup>w</sup>-əl                      θə      qéq  
fall.asleep(ACT)-DUR      DET      baby  
'The baby is asleep.'
- c) NOK̄EL                      FE      TANS                      FE      K̄AK̄  
nəq<sup>w</sup>-əl                      θə      tén-s                      θə      qéq  
fall.asleep(ACT)-DUR      DET      mother-3POSS      DET      baby  
'The baby's mother is asleep.'
- d) NENO,K̄EL  
n-ən-á'q<sup>w</sup>-əl  
sleep(DIM.ACT)-DUR  
'The little one's asleep.'
- xi. a) K̄ES  
qás  
'It fell in the water.'
- b) YOʃ OL,      K̄ÁSEL                      TFE      SʃOʃLE E      TFE      K̄O,  
yáθ      ʔaí      qés-əl                      tθə      s-t<sup>θ</sup>áí<sup>θ</sup>íə      ʔə      tθə      q<sup>w</sup>áʔ  
always LIM      fall.in.water(ACT)-DUR      DET      NOM-leaf      OBL      DET      water  
'The leaf is always falling in the water.'
- xii. a) BEʃ                      TFE      MO,EK̄  
p̄ək<sup>w</sup>                      tθə      má'əq<sup>w</sup>  
rise.to.surface              DET      duck  
'The duck floated to the surface.'
- (Turner 2005, p. 248)
- \* b) BÁʃEL  
p̄ék<sup>w</sup>-əl  
rise.to.surface(ACT)-DUR  
'surfaces every now and then' [as in a buoy]

## Metathesis/stress shift

- xiii. a) FQET SEN LE, TFE XI,LEM  
 θḳ<sup>w</sup>-ət sən ləʔ tθə ʃ<sup>w</sup>íləm  
 stretch-C.TR 1SGSU PST DET rope  
 'I stretched out the rope.'
- b) FEQT SEN LE, TFE XI,LEM  
 θṣḳ<sup>w</sup>-t sən ləʔ tθə ʃ<sup>w</sup>íləm  
 stretch(ACT)-C.TR 1SGSU PST DET rope  
 'I was stretching out the rope.'
- xiv. a) SKET TFE PIPE  
 ṣq̣-ət tθə pípə  
 tear-C.TR DET paper  
 'Tear the paper.'
- b) SEKT SW TFE PIPE  
 ṣṣq̣-t sx<sup>w</sup> tθə pípə  
 tear(ACT)-C.TR 2SU DET paper  
 'You're tearing the paper.'
- xv. a) TPEXT  
 ʃ̣p̣áʃ̣-t  
 scatter-C.TR  
 'scatter it'
- b) TEPXT  
 ʃ̣ép̣áʃ̣-t  
 scatter(ACT)-C.TR  
 'scattering it'
- xvi. a) TPEXSET  
 ʃ̣p̣áʃ̣-sət  
 scatter-REFL  
 'scatter all over'
- \* b) TEPXSET  
 ʃ̣ép̣áʃ̣-sət  
 scatter(ACT)-REFL  
 'scattering (slowly)'
- xvii. a) MELEJSET TFE ṢKAXE  
 ṃáləç̣-sət tθə sqéʃ̣ə  
 roll.over-REFL DET dog  
 'The dog rolled over.'

- \* b) MELJSET                      TFE    SĶAXE  
 málǎč-sət                      tθə    sqéxə  
 roll.over(ACT)-REFL    DET    dog  
 'The dog is rolling over.'
- xviii. a) MELEJT                      TFE    KĶLÅ  
 málǎč-t                      tθə    q<sup>w</sup>léy  
 roll.over-C.TR    DET    log  
 'Roll the log over.'
- b) MELJT                              TFE    KĶLÅ  
 málǎč-t                      tθə    q<sup>w</sup>léy  
 roll.over(ACT)-C.TR    DET    log  
 'rolling the log over'
- xix. a) LEŶET                      TFE    LEPOT  
 lət<sup>θ</sup>-ət                      tθə    ləpát  
 fill-C.TR                      DET    cup  
 'Fill the cup.'
- \* b) LEŶT                              TFE    LEPOT  
 lət<sup>θ</sup>-t                      tθə    ləpát  
 fill(ACT)-C.TR    DET    cup  
 'He's filling the cup.'
- xx. a) BÇET                              TFE    SCÁNEW  
 p̣k<sup>w</sup>-ət                      tθə    s-čénəx<sup>w</sup>  
 rise.to.surface                      DET    NOM-fish  
 'Bring the fish to the surface'
- \* b) BEÇT                                      TFE    SCÁNEW  
 p̣ák<sup>w</sup>-t                                      tθə    s-čénəx<sup>w</sup>  
 rise.to.surface(ACT)-C.TR                      DET    NOM-fish  
 '[someone] is bringing the fish to the surface.'
- xxi. a) QENET                      SEN    TFE    JESKEN  
 ḳ<sup>w</sup>ən-ət                      sən    tθə    čásqən  
 see-C.TR                      1SGSU    DET    golden.eagle  
 'I looked at the golden eagle.'
- b) QEN,T                              SEN    TFE    JESKEN  
 ḳ<sup>w</sup>ən-t                              sən    tθə    čásqən  
 see(ACT)-C.TR    1SGSU    DET    golden.eagle  
 'I'm looking at the golden eagle now.'

- xxii. a) YÁ, SEN QSET  
 yéʔ sən kʷs-ət  
 go 1SGSU count-C.TR  
 'I'm going to count it.'
- \* b) QEST SEN TFE XEʔXOLES  
 kʷəs-t sən tθə ʃəʔ<sup>θ</sup>ʃ=áləs  
 count(ACT)-C.TR 1SGSU DET egg=eye  
 'I'm counting the eggs.'
- xxiii. a) QSEN  
 kʷs-əŋ  
 count-MID  
 'count' (Turner 2005, p. 251)
- b) QESEN,  
 kʷəs-əŋ  
 count(ACT)-MID  
 'counting' (Turner 2005, p. 251)
- xxiv. a) TKÉT  
 tqʷ-ət  
 tighten-C.TR  
 'tighten it' (Turner 2005, p. 258)
- b) ØL TEKT SEN  
 kʷl tətqʷ-t sən  
 REAL tighten(ACT)-C.TR 1SGSU  
 'I'm tightening it.' (Turner 2005, p. 258)
- xxv. a) ŠTEN  
 štəŋ  
 walk-MID  
 'walk' (Turner 2005, p. 256)
- b) ŠETEN,  
 šətəŋ  
 walk(ACT)-MID  
 'walking' (Turner 2005, p. 256)

*Glottal stop infixation*

- xxvi. a) ÁLTI TELÁCEL TFE NE NENNENE  
 ʔéʔti t-əl-éčəl tθə nə ŋən-ŋənə  
 AUX arrive(-PL-) DET 1SGPOSSPL-own.child  
 'My children are arriving (more than one).'

- \* b) ÁLTI TELÁ,ĆEL TFE EN SCÁLEĆE  
 ʔéłti t-əl-é-ʔ-čəl tθə ʔən s-čé-lə-čə  
 AUX arrive(-PL-)(-ACT-) DET 2POSS NOM-friend(-PL-)  
 'Your friends are arriving.'
- xxvii. a) WITEN TFE SWÍ,KE,  
 x<sup>w</sup>ít-əŋ tθə s-wóyq=əʔ  
 jump-MID DET NOM-man=person  
 'The man jumped.'
- b) I WI,TEN,  
 ʔi x<sup>w</sup>í-ʔ-t-əŋ'  
 AUX jump(-ACT-)-MID  
 'He's jumping.'
- xxviii. a) HÁSEN SEN  
 hés-əŋ sən  
 sneeze-MID 1SGSU  
 'I just sneezed.' (Turner 2005, p. 251)
- \* b) HÁ,SEN, SEN  
 hé-ʔ-s-əŋ' sən  
 sneeze(-ACT-)-MID 1SGSU  
 'I'm sneezing.' (Turner 2005, p. 251)
- xxix. a) U, EMET SW OL,  
 ʔəw ʔámət sx<sup>w</sup> ʔaí  
 CON sit/at.home 2SU LIM  
 'Please sit down.' (respectful welcome for a visitor) (Turner 2005, p. 248)  
 [also means "get up" (i.e. from lying position)]
- b) O,MET SEN  
 ʔá-ʔ-mət sən  
 sit/at.home(-ACT-) 1SGSU  
 'I'm lazy; I'm sitting; I'm at home.' (Turner 2005, p. 248)
- xxx. a) WAKES  
 wéqəs  
 'yawn' (Turner 2005, p. 251)
- b) WA,ĶES  
 wé-ʔ-qəs  
 yawn(-ACT-)  
 'yawning' (Turner 2005, p. 251)

- xxxii. a) HILEN  
híləŋ  
'fall from a height' (Montler 1991, p. 65)
- b) HI,ELEN TFE SŶELOŶLE  
hí-ʔə-l-əŋ tθə s-tʰ-əl-áíʰə  
fall(-ACT-)-MID DET NOM-leaf(-PL-)  
'The leaves are falling.'

*More than one allomorph*

- xxxiii. a) YÁ, E SW̄ ŚQOM  
yéʔ ʔə sX<sup>w</sup> šk<sup>w</sup>ám  
go Q 2SU swim  
'Are you going for a swim?' (Turner 2005, p. 252)
- b) ŚEŚQO,EM E SW̄  
šə-šk<sup>w</sup>á-ʔə-m ʔə sX<sup>w</sup>  
ACT-swim(-ACT-) Q 2SU  
'Are you swimming?' (Turner 2005, p. 252)
- xxxiii. a) YÁ, SEN XLÁM E TFE TÁTI,  
yéʔ səŋ xléŋ ʔə tθə téy-təy  
go 1SGSU watch OBL DET PL-canoe.race  
'I'm going to watch the canoe race (all the races).'
- b) XEXLÁ,EM SEN E TFE TÁTI,  
xə-xlé-ʔə-m səŋ ʔə tθə téy-təy  
ACT-watch(-ACT-) 1SGSU OBL DET PL-canoe.race  
'I'm watching the canoe races.' (Turner 2005, p. 252)
- xxxiv. a) BEŶ TFE MO,EĆ  
pək<sup>w</sup> tθə máʔəq<sup>w</sup>  
rise.to.surface DET duck  
'The duck floated to the surface.' (Turner 2005, p. 248)
- b) I BEBÁ,ŶEN, TFE KÁLÁ,  
ʔi pə-pé-ʔ-k<sup>w</sup>əŋ tθə q<sup>w</sup>íéy  
AUX ACT-rise.to.surface(-ACT-) DET log  
'That log is floating/drifted away.' (Turner 2005, p. 261)