TOPIC TIME:

THE SYNTAX AND SEMANTICS OF
SQWXWU7MISH TEMPORAL ADVERBIALS

by

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Abstract

The goal of this thesis is to explain the syntax and semantics of phrasal temporal adverbials in SqwXwu7mish, a Coast Salish language.

This thesis proposes that SqwXwu7mish temporal adverbials function either as a main predicate or as a temporal argument corresponding to Reichenbach's (1947) reference point. When these adverbials are the main predicate, they get an event time reading; when they are at the right edge of the sentence, they get a reference time reading. Thus, SqwXwu7mish adverbials support the claim by de Swart (to appear) that adverbials in focus structure get an event time reading, while adverbials in topic structure get a reference time reading.

Furthermore, this thesis argues that adverbs in SqwXwu7mish are not adjuncts but arguments, based on their restricted distribution. Therefore, SqwXwu7mish adverbs do not simply modify the reference time, they denote it as a temporal argument, Topic Time (Klein 1994). This argument is located in the specifier of the spatiotemporal predicate Aspect within the framework proposed by Demirdache and Uribe-Etxebarria (to appear, a,b).
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1. Introduction

All languages use temporal adverbials to express time, but many lack grammaticalized tense. Indeed, tenses "are primarily parasitic on time adverbials (...) and cannot be properly understood without an understanding of their interaction with time adverbials" (Dowty 1979:323). The status of these adverbials and their interaction with tense is therefore central to the understanding of temporal interpretation in human language.

1.1 The Proposal

The goal of this thesis is to explain the syntax and semantics of phrasal temporal adverbials in SqwXwu7mish.

Based on their interpretation and distribution, this thesis proposes that SqwXwu7mish temporal adverbials function either as a main predicate or as a temporal argument corresponding to Reichenbach's (1947) reference point. SqwXwu7mish temporal adverbs which are focused, that is, the main predicate, get an event time reading, whereas SqwXwu7mish adverbs that appear at the right edge of the sentence get a reference time reading. Furthermore, temporal adverbials in SqwXwu7mish provide evidence for the claim by de Swart (to appear) that reference time is specified by adverbs in the topic structure of the sentence, while the event time is specified by adverbs in the focus structure. This thesis further claims that adverbs in SqwXwu7mish do not modify the reference time, they denote it as an argument...
called Topic Time (following Klein 1994). This argument is located in the specifier position of the spatiotemporal predicate Aspect within the framework proposed by Demirdache and Uribe-Etxebarria (to appear).

This introductory chapter sets out necessary background on tense, temporal interpretation, and temporal adverbs. Section 1.2 examines definitions of tense; underlying these definitions are the three times formalized in Reichenbach’s model, which is outlined in Section 1.3. The status of Reichenbach's "third" point, the reference time, has been widely debated, and this controversy is examined more closely in Section 1.4. Section 1.5 outlines Demirdache and Uribe-Etxebarria’s proposal that both Tense and Aspect are predicates which take temporal arguments corresponding to speech time, event time, and reference time. The syntax of temporal adverbials is discussed in Section 1.6, then the semantic classification of adverbs is presented in Section 1.7. The final section of this chapter outlines the thesis as a whole.

1.2 Definitions of Tense

Traditional definitions of tense combine tense and aspect, thereby classifying the English past perfect progressive, Kitty had been eating, as a tense rather than as past tense and perfect and progressive aspect. Typological treatments define tense as a grammatical category which expresses "location in time " (Comrie 1985:1) or, more
specifically, which "characterizes the location of an event with respect to a point in time" (Chung and Timberlake 1985:256). Such approaches seek to provide a descriptive framework to account for the range of tense, aspect and mood systems cross-linguistically. In truth conditional semantics, tense has been analyzed as a sentential operator which specifies the time at which the truth of the utterance is evaluated.\(^1\)

Generative grammarians seek to define tense in terms of the interaction of its semantics and syntax; tense is either a referential expression (Enc 1987) or a predicate (Zagona 1990, Stowell 1993, 1997). Both conceptions of tense are important for the claim of this thesis that temporal adverbs, which are referential expressions, are the arguments of a temporal predicate.

Enc (1987:638) argues that "all temporal expressions should be treated on a par with NPs" (1987:639), that is, as referential expressions; for example, temporal adverbs can appear in argument position as in (1):

(1)a. Tell me why I don't like Monday.

b. Bob was worried about yesterday.

Specifically, she proposes that tenses are "referential expressions denoting intervals". The interval denoted by tense is a temporal argument selected by the verb, therefore tense is a "referential argument of the verb" (Stowell, to appear:13) along with the NP subject and object. The

---

\(^1\)Arguments against the analysis of tense as a sentential operator can be found in Enc (1986, 1987) and Hornstein (1990).
proposal that tense refers in the same way as a nominal\(^2\) allows Eng to assume that tense carries a referential index.

Assuming that tense is in INFL and has the meaning "past" or "present", a past tense is a relation which "must denote an interval that is prior to some other interval" (Engç 1987:641), while present denotes an interval that is the same as some other interval. This other interval, which in the matrix clause is the speech time, is "denoted" by COMP. When COMP is this "specifier of tense", it also has a temporal index and it governs tense in INFL. The index on a matrix COMP is always 0: in the present tense, the tense denotes an interval that is the same as the speech time denoted by COMP, and COMP and INFL are co-indexed; in the past tense, the tense denotes an interval which is before the interval denoted by COMP:

(2)a.John died.

b.[COMP\(_0\) [NP [PAST\(_i\) VP ]]], i\neq 0

COMP and INFL cannot be co-indexed and co-referential in this case. The relation between COMP and tense is determined by "Anchoring Conditions", which state that tense is anchored "if it is bound in its governing category, or if its local Comp is anchored"; COMP is anchored "if it is bound within its governing category" or else "if it denotes the speech time" (Engç 1987:643). These principles are similar to those of the binding theory, yet are still distinct in order to

\(^2\)Partee (1973) compares tenses to pronouns, arguing that both require antecedents either in the sentence or the discourse.
characterize the difference between temporal and nominal reference.

For Zagona (1990) and Stowell (1993, to appear a,b), tense is not itself a referential expression but a predicate which relates referential expressions, the two temporal arguments of the clause. The external argument, called "reference" time, denotes the speech time in the matrix clause; the internal argument is "the time of the event or state denoted by the verb phrase" (Stowell, to appear b:9). In Stowell's theory, the temporal predicate locates the internal event time argument in relation to the external "reference" time argument by its meaning: past means "after", present means "within", and future means "before".

Syntactically, the Tense predicate is the head of the maximal projection TP; the external "reference" time argument is projected in the specifier of TP, while the internal event time argument is the complement of T, as proposed by Zagona (1990). Stowell proposes that the category of these two time denoting arguments is a functional category ZP, "Zeit Phrase": the internal argument of tense, denoting the event time, is therefore a ZP which contains the VP; either Z or an operator in the specifier of ZP binds a variable, itself a ZP, in the specifier of VP. The external argument of tense is a non-overt ZP-PRO, which in main clauses denotes the time of utterance and in subordinate clauses is controlled by the

\[\text{The binding of the variable in the specifier of VP by Z is analogous to the binding of the variable in the specifier of NP by D under the DP hypothesis.}\]
event time of the main clause. This yields the structure in (3), from Stowell (to appear b):

(3)

```
TP
  PRO-ZP T'
    T . ZPi
      Opi Z'
        Zi VP
          ZP ei VP
```

The mechanics of this system will be further explored in terms of the extension proposed by Demirdache and Uribe-Etxebarria, presented in Section 1.5.

To summarize, tense has been defined as a grammatical category which locates events in time, a sentential operator, a referential expression, and a predicate. Each of these treatments assumes at least the existence of the time of the event and the time of the utterance itself, which in matrix clauses is now; in addition, some assume the existence of a third time which mediates between the event time and the utterance time. This idea of temporal interpretation as a relation of three points has its origins in grammars of the seventeenth and eighteenth centuries and descriptive work of the nineteenth century (Klein 1994) and is formalized in Reichenbach's 1947 proposal.
1.3 Reichenbach (1947)

From an example of the past perfect, Peter had gone, Reichenbach argues that tense is composed of three time points, the "point of speech" S, the "point of the event" E and the "point of reference" R, and that the third point, R, is instantiated in all tenses, even where its effects are not manifest. He claims that these three points can be ordered before, after or simultaneous to each other in order to calculate thirteen logically possible tenses; by considering the relation of the speech time to the reference time as "past," "present," and "future" and the relation of the event time to the reference time as "anterior," "simple," and "posterior," these possibilities are reduced to nine "fundamental forms". For example, the forms of the past are shown in (4); the comma indicates that the points are contemporaneous, while the underline indicates they are not:

(4)

<table>
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<tr>
<th></th>
<th>Reichenbach's Name</th>
<th>Traditional Name</th>
<th>Example</th>
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<tr>
<td>E__R__S</td>
<td>anterior past</td>
<td>past perfect</td>
<td>She had done.</td>
</tr>
<tr>
<td>E,R__S</td>
<td>simple past</td>
<td>simple past</td>
<td>She did.</td>
</tr>
<tr>
<td>R_E__S</td>
<td>posterior past</td>
<td>-</td>
<td>She would do.</td>
</tr>
<tr>
<td>R__S,E</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R_S,E</td>
<td></td>
<td></td>
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</table>

The addition of a temporal adverb or "time determination" to this system is "referred, not to the event, but to the reference point of the sentence" (Reichenbach 1947:294). In the example I had met him yesterday,
Reichenbach argues that *yesterday* is the reference point which is "the carrier of the time position":

(5)a. \[ \begin{array}{c}
E=\text{meet} \quad S \\
\text{R=yesterday}
\end{array} \]

If the meeting occurred *yesterday*, the event point and the reference point coincide, as in (5a.); if the meeting occurred prior to *yesterday*, these two points are distinct, as in (5b.).

Kamp and Reyle (1993:523) describe this work as being "the first to recognize what we have been calling the 'anaphoric dimension' of the tenses of natural language," where the second tense in a pair of sentences or a subordinate clause is interpreted "as 'anaphoric' to the time that the previous tense introduced" (Kamp and Reyle 1993:495). They credit Reichenbach's model with accounting for this temporal anaphora through the idea of the reference point.

1.4 The Notion of Reference Time

The status of this third time is controversial, however. In this section, different conceptions of Reichenbach's reference time are outlined.

Hornstein (1990) draws on Reichenbach's ideas to develop the principles of a theory of tense that account for a wider range of data; to do so, he argues explicitly for the equal
status of the three points, speech time, S, event time, E, and reference time, R. Thompson (1994a,b) assumes the existence of these three times and argues for their association with syntactic heads, based on the interpretation of adverbs. These two analyses are discussed in Section 1.4.1.

In Section 1.4.2, the status of Reichenbach's reference point according to Dowty (1979), Stowell (to appear a), and Kamp and Reyle (1993) is discussed. Dowty and Stowell both consider this notion to be a tool for narrative tense sequencing; Stowell then adopts the term "reference time" for the external argument of the predicate tense, which is the speech time in a matrix clause, and suggests that narrative ordering is effected by "a null Topic time-denoting phrase" (Stowell to appear a:13). Kamp and Reyle (1993:594-595) point out that Reichenbach's concept of reference time tried "to do too many things at once," encompassing both narrative sequencing and the interpretation of the perfect; they therefore distinguish a "reference point" for the narrative progression of time reference and "a temporal perspective point" as "the point from which the described event is viewed".

Finally, Klein proposes that a possible interpretation of Reichenbach's reference time is the notion of "topic time", which he defines as the "time span to which the speaker's claim on this occasion is confined" (Klein 1994:4; original italicized). The boundaries of topic time may be
specified by an adverbial. This is presented in Section 1.4.3.

This thesis adopts Klein's conception of Reichenbach's reference time, and in particular his use of the name "topic time". The justification for naming reference time adverbs as topics will be presented in Chapter 3, Sections 3.1 and 3.2.

1.4.1 Hornstein and Thompson

Hornstein's (1990) syntactic revision of Reichenbach's proposal seeks to define and constrain what is a possible tense in order to account for the interaction of tense and adverbs, which will be briefly discussed here, and to explain Sequence of Tense effects in English.

To argue for the inclusion of the reference point, R, Hornstein points out that if tense is a relation between only two points, the speech time, S, and the event time, E, then there are four possible tenses. While this would be an advantage for learnability, it would fail to account for a six tense system like English^4, with its perfect tenses. The past perfect and the future perfect both interpret the event time's relation to the speech time in terms of a third point:

(6)a. John had left the office.
    b. John will have left the office.
    c. John had left the office at six o'clock.

The past perfect in (6a.) has the temporal interpretation that John's leaving the office, E, is before both the speech

---

^4 The six tenses of English are considered to be the past, present, future, past perfect, present perfect, and future perfect.
time, S, and before another moment, R, which is itself before S but after E, as in (7a.):

(7a.)

\[ \langle E \quad R \quad S \rangle \]

b. \[ \langle S \quad E \quad R \rangle \]

The future perfect in (6b.) is represented by (7b.), whereby John's leaving, E, is after the speech time, S, and before another point in time, R, which is itself after both S and E. The sentence in (6c.) is ambiguous between the reading that John left at six, where the adverb identifies E, and that John left before six, where the adverb specifies R; this is schematized in (8):

(8a.)

\[ \langle E \quad R \quad S \rangle \]

\[ \text{6 p.m.} \]

b. \[ \langle E \quad R \quad S \rangle \]

\[ \text{6 p.m.} \]

Hornstein argues that R gives the same effect as the semantic analysis which embeds operators, and the combination of S, E, and R correctly predicts what is a possible tense in English, which the operator analysis does not.

Hornstein states that the existence of both an event point, E, and a reference point, R, explains why the number of temporal adverbs in English is restricted to two per clause:

(9a. A week from tomorrow, John will leave in a month.

b.*From tomorrow, John, in a week, will leave in a month.

c.*In a week, John, from tomorrow, will leave in a month.

Sentence (9a.) is grammatical because the adverbial cluster a week from tomorrow is analyzed as a single constituent, which
occupies one adverbial position, while \textit{in a month} occupies the other; the sentences in (9b.) and (9c.) are ungrammatical because there is no place in the syntax for a third adverb. Thus, the presence of R along with E and S correctly predicts the judgments in (9) since only E and R can be modified by adverbs, leaving the third adverb uninterpretable.\footnote{This argument extends to sentences with adverbial clauses, but these are not presented here.}

Hornstein claims that adverbs may associate to R or E depending on their position in the sentence: sentence initial adverbs associate to the reference point, R, and sentence final adverbs associate either to the reference point, R, or to the event point, E. He goes on to present several arguments for the analysis that R must mediate between S and E, in order to constrain the total possible number of tenses available in human language.

Thompson (1994:3) proposes that these two time points are associated with syntactic heads, subject to the "Tense Structure Mapping Condition" that constrains the mapping to a one-to-one relation. A simplified version of her structure is shown in (10):

\begin{equation}
\begin{array}{c}
\text{TP} \\
\text{\hspace{1cm} T} \\
\text{\hspace{2cm} S} \\
\text{\hspace{3cm} Asp} \\
\text{\hspace{4cm} R} \\
\text{\hspace{5cm} V} \\
\text{\hspace{6cm} E}
\end{array}
\end{equation}
She takes Hornstein's claim that speech time, S, and reference time, R, are ordered by tense morphemes, and locates the speech point, S, in the head of TP. Furthermore, she argues that the English perfect auxiliary have "orders the Event point with respect to the Reference point" and that the reference point, R, is therefore located in Asp, the head of AspP. Finally, the event time, E, is located in V, the head of VP. Adverbs that modify the R point are therefore adjoined to AspP, and those that modify E are adjoined to the VP.

Therefore, for both Hornstein and Thompson, the existence of the reference point with status equal to the speech time and event time explains the tenses of English and their interaction with temporal adverbials.

1.4.2 Stowell, Dowty, and Kamp and Reyle

Stowell (to appear,a) claims that Reichenbach's reference time "provides a formalization, for the purposes of tense interpretation, of the traditional notion of 'point of view'. This has considerable intuitive appeal, but mainly in the case of the perfect tense constructions." In other words, he argues that reference time exists but that it does not have the same status as the event time and speech time arguments of the predicate Tense. He proposes to account for the English perfect as a "complex tense predicate" composed of the verb have and its complement Perfect Phrase, PrtP, which is headed by the past morphology of the participle. He then adopts the term "reference time" as a label for the
external argument of the tense predicate, which is "speech time" in matrix clauses and which in subordinate clauses is controlled by the event time of the matrix clause.

Stowell also acknowledges the possible presence of Reichenbach's reference time in narrative contexts, but offers an alternative analysis. In a footnote, he suggests that temporal ordering of events in a narrative can be achieved if the event time of one sentence acts as the antecedent of a "topic time" phrase, which in turn binds the event time (or rather, its variable) of the following sentence.

Dowty's criticism of Reichenbach's approach is that the simple past and the present perfect have the same truth conditions under his analysis. He suggests that reference time may capture a pragmatic difference between the two, and concludes that the idea of a reference time "has its proper place in a theory of narration, i.e. of the way indefinitely identified times in a sequence of sentences in a narrative are understood to be ordered, perhaps with the aid of common information not included in the sentences themselves" (Dowty 1979:332).

Kamp and Reyle (1993) point out that in fact Reichenbach's proposal treats the time responsible for ordering sentences in narrative and the time that characterizes the perfect, located between the utterance time and the "described eventuality", as if they were the same.
They provide an example\(^6\) of "extended flashbacks" to show the necessity for distinguishing them:

(11) Fred **arrived at 10**. He had got up at 5; he had taken a long shower \((\text{at } x)\), had got dressed \((\text{at } y)\), and had eaten a leisurely breakfast \((\text{at } z)\). He had left the house at 6:30. (p. 594)

In this discourse, all the perfect constructions require both a "point of view" time which is set at the beginning, Fred's arrival at ten, and a time that moves with the narrative, to ensure for example that the event of Fred's getting dressed follows the event of his shower and precedes the event of his eating breakfast:

(12) \[<-----|------|-----|-----|------|------|------|------|----->
   \[|\quad x \quad y \quad z \quad 6:30 \quad 10 \quad \text{now}\]

Kamp and Reyle call the time needed for the narrative sequencing the "reference time" and the time necessary for interpreting the perfect the "temporal perspective point". They argue further for this latter notion with an example of the future in the past:

(13) Mary got to the station at 9:45. Her train would arrive at 10:05.

In this example, the temporal perspective point, \(R\), is Mary's arrival at the station, which is prior to the speech time, \(S\), and to the time of the event, \(E\), which is also before the speech time:

(14) \[<-----R------E------S----->
     \|\quad \|\quad \|
     9:45 \quad 10:05 \quad \text{now}\]

\(^6\)The bolding, italics and parenthetical times are added here to clarify the issues of the example's temporal interpretation.
Thus, this analysis refines the central notion of Reichenbach's reference time, R, as the time from which the event is viewed, and accounts for an implicit notion in Reichenbach's reference point, the time in narrative that shifts from event to event.

1.4.3 Klein's Topic Time

Reichenbach's reference time is interpreted by Klein (1994:4) as "topic time", TT, the time for which the claim or assertion of the utterance is made. Topic time is related by tense to the time of utterance and by aspect to the time of the situation or event described. It is specified by a phrasal or clausal temporal adverbial, as in (15), from Klein (1994:40):

(15)a. What did you notice when you entered the room?
   b. A man was lying on the floor.
   c. A woman was bending over him.
   d. She was taking a purse from his pocket.
   e. She turned to me.

The topic time set by the adverbial clause in the first speaker's question, when you entered the room, is the same for each of the second speaker's answers in (15b.), (c.) and (d.). However, the time for which the claim she turned to me is made in (15e.) follows the time the second speaker entered the room; in other words, the topic time of sentences (15a.-d.) is TT1, while that in (15e.) is TT2. Note that if the question had asked when you were in the room, all the responses in (15) would fall within the same topic time.

The topic time is therefore fixed in one of two ways: by "anaphoric maintenance," whereby the topic time of a previous
utterance remains the topic time of the present utterance but is not explicitly restated; or by "explicit specification," when the topic time of the present utterance specifies a time span which is not the topic time previously specified. The topic time, TT, may contain or be contained in the time described by the event or state, but its boundaries are undefined unless specified by an adverbial. In English, the adverb which fixes the topic time is sentence initial or post subject, or, more generally, part of the topic structure of the sentence.

1.4.4 Summary

The comparative interpretations of Reichenbach's notion of reference time presented in this section are summarized in the table in (16), which specifies the terminology used by each analysis and the times which each propose as equal in status:

(16)

<table>
<thead>
<tr>
<th></th>
<th>Speech Time</th>
<th>Reference Time</th>
<th>Event Time</th>
<th>Narrative Sequencing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reichenbach</td>
<td>speech time</td>
<td>reference time</td>
<td>event time</td>
<td>reference time</td>
</tr>
<tr>
<td>Hornstein</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thompson</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dowty</td>
<td>speech time</td>
<td>-</td>
<td>event time</td>
<td>reference time</td>
</tr>
<tr>
<td>Stowell</td>
<td>reference time</td>
<td>-</td>
<td>event time</td>
<td>topic time</td>
</tr>
<tr>
<td>(=matrix speech time)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kamp and Reyle</td>
<td>utterance time</td>
<td>temporal perspective point</td>
<td>described eventuality</td>
<td>reference time</td>
</tr>
<tr>
<td>Klein</td>
<td>time of utterance</td>
<td>topic time</td>
<td>time of situation</td>
<td></td>
</tr>
</tbody>
</table>

This thesis does not address the problem of the formalism needed to sequence times in narrative.

17
Hornstein and Thompson argued that the existence of Reichenbach's reference time explained the tenses attested in English and the interpretation of temporal adverbials. Klein's interpretation of this notion as topic time, the time for which the claim is made or "to which the assertion is confined" (Klein 1995:687), included the claim that this time is a topic of the sentence. These claims will be extended to temporal interpretation and adverbials in SqwXwu7mish in Chapter 3 of this thesis, which now adopts Klein's term, topic time, TT, for the third time interval.

1.5 The Syntax of Tense and Aspect

The equal status of the speech time, event time, and reference or topic time is important to the syntax of tense and aspect proposed by Demirdache and Uribe-Etxebarria (to appear a,b). Building on the proposals by Zagona (1990) and Stowell (1993, to appear a,b) that Tense is a predicate with two time denoting phrases as its arguments, Demirdache and Uribe-Etxebarria argue that grammatical Aspect is also such a predicate. They base their proposal on the claim (Klein 1994, 1995) that tense and aspect are semantically parallel because they both order two times. Under this proposal, the external argument of the predicate Tense is a speech time argument UT-T and the internal argument is a topic time.

---

8Lexical aspect is not considered in Demirdache and Uribe-Etxebarria (to appear a,b); a short sketch of the interaction of lexical aspect and temporal interpretation in SqwXwu7mish is provided in the concluding chapter of this thesis.
argument, TOP-T\textsuperscript{9}. This TOP-T is the external argument of the predicate Aspect and the internal argument is an event time argument, EV-T. Each of these arguments is a ZP or Zeit Phrase, adapting Stowell's (1993, to appear a,b) proposal. The arguments are ordered by the prepositional heads of the temporal predicates: Past Tense and Perfect Aspect, which mean "after"; Future Tense and Prospective Aspect, which mean "before"; and Present Tense and Progressive Aspect, which mean "within". The representation of this approach is shown in (17):

\[(17)\]

\[
\begin{array}{c}
\text{TP} \\
\text{UT-T} \\
T' \\
T \\
\text{ASP-P} \\
\text{TOP-T} \\
\text{ASP'} \\
\text{ASP} \\
\text{VP} \\
\text{EV-T} \\
V' \\
V
\end{array}
\]

The external temporal argument of the predicate Tense, the speech time, is generated in the specifier of T; the external argument of Aspect, the topic time, is generated in the specifier of Asp; and the event time argument, the temporal argument of the verb, is generated in the specifier of the VP.

\footnote{\textsuperscript{9}While Demirdache and Uribe-Etxebarría label this argument AST-T or assertion time, following Klein (1995), this thesis follows Klein (1994) and adopts the label topic time, TOP-T, as discussed in the previous section. Both labels refer to the same thing, that is, the time for which the claim or assertion is made.}
In order to accommodate the thematic subject of the verb, which is generated in the specifier of VP and raised to the specifier of TP for Case assignment or feature checking, Demirdache and Uribe-Etxebarria (to appear b:9) assume that T and Asp play "dual roles". Thus, both are lexical heads that "have argument structure that they project into the syntax", and functional heads that "enter (...) into feature checking relations with arguments that have been displaced to their checking domain" (to appear b:9-10). This dual function of syntactic heads is achieved with two specifier positions, one for each function (Chomsky 1995 and references therein). Although for Demirdache and Uribe-Etxebarria, the V does not have a functional role, the event time argument and the thematic subject of the verb are both accommodated through this use of multiple specifiers.

1.6 The Syntax of Temporal Adverbs

Temporal expressions in language can be adverbs and adverbial phrases, nouns and noun phrases, prepositional phrases, and subordinate clauses (Binnick 1991). English adverbs include always, eventually, henceforth, now, soon, and then; they can appear in phrases such as just now and not too soon. Temporal nouns such as Sunday, today, tomorrow and yesterday can also be used in noun phrases such as the day before yesterday and last Sunday, along with next year, tomorrow morning, and every day. Temporal prepositional phrases may be formed with temporal nouns, such as before
tomorrow, until Sunday and during 1994, or with nouns denoting an event, such as after the party and before the deadline. Finally, temporal clauses include after the party is over, before the library closes, and when Catherine arrives. These time adverbials can also form complex "clusters" in English, such as for a few minutes before dinner this evening.

English temporal adverbials are attached to either the sentence or the verb phrase (Thompson 1994a,b, Hitzeman 1995). When they are attached to the sentence, they may be sentence-initial as in (18) or sentence final as in (20). When they are contained within the verb phrase, adverbs may appear before the verb, as in (19a.), after the verb or auxiliary, as in (19b.), or after the verb and its complements, as in (20):

(18) Last night, the moon was full.
(19)a. Anna sometimes takes tea.
   b. She was recently criticized for her behaviour.
(20) Alexander had written a poem about it yesterday.

The sentence final adverb in (20) is therefore ambiguous between attachment to the sentence or to the verb phrase. The relatively unrestricted attachment site of the adverb in English has been assumed to be an argument for its status as an adjunct10. This will be pursued in terms of SqwXwú7mish adverbs in Chapter 4.

10Cinque (in progress) argues against the analysis of adverbs as adjuncts. He proposes that adverbial phrases are "the overt manifestation of (the specifiers of) functional projections."
1.7 The Semantics of Temporal Adverbs

To this point, adverbs have been identified simply as a class; there is a great deal of variety within this class, however. For the purposes of this thesis, a distinction of three semantic types of temporal adverbs (Kamp and Reyle 1993, Binnick 1991 and others) is assumed: i) locating adverbs, which include deictics, such as yesterday, tomorrow, now, anaphoric adverbs such as a week ago, context-dependent calendar names such as on Sunday, last Sunday and on the preceding Sunday, and purely referential adverbs such as on September 16, 1997; ii) aspectual or temporal measure adverbials, which include in an hour and for an hour; and iii) quantificational adverbs or temporal quantifiers, such as always, twice, and never.

1.7.1 Locating Adverbs

A purely referential adverb such as September 16, 1997 acts "as a proper name, which rigidly designates one particular date" (Kamp and Reyle 1993:614) across all possible worlds; it is not bound by the speech time. Deictics like yesterday are defined as expressions which refer to individual times or intervals of time (Dowty 1979) and which appear to involve "an existential quantifier over times" (Enc 1986:76). These "discourse-oriented" adverbs are temporally interpreted "relative to the moment of speech".

---

11H. Davis (p.c.) points out that this range of temporal reference parallels the range of nominal referring expressions. Kamp and Reyle (1993) argue that context sensitivity in temporal reference is much more varied than in nominal reference. Partee (1973) describes the degree of parallelism as language specific. See Section 6.1.
(Hornstein 1990:30), in contrast to referential adverbs and to anaphoric adverbs, such as a week ago. These may be interpreted in relation either to the speech time or to a reference time such as yesterday. Calendar names like Sunday refer to more than one interval of time, the particular interval being determined by the context (Kamp and Reyle 1993); they cannot refer to the utterance time, and the day referred to will be the closest to the utterance time in the direction indicated by the tense. Locating adverbs, which are the most varied and interact most closely with the tense-aspect system (Klein 1994), are the main concern of this research.

1.7.2 Aspectual Adverbs

Kamp and Reyle (1993) state that aspectual or measure adverbs, such as in an hour and for an hour, appear to behave in the same way as locating adverbs but in fact function differently semantically. They argue that these adverbs refer to the duration of the event but do not locate it in terms of the speech time; they interact with both the grammatical aspect of the sentence and the aspectual class of the predicate. The latter is illustrated in (21):

(21)a. Peter wrote a letter in an hour/*for an hour.
   b. Vanessa worked for an hour/*in an hour.
   c. Francisco arrived in an hour/*for an hour.

Telic durative verbs are compatible with both in an hour and for an hour as in (21a.); atelic durative verbs can occur with for an hour only, as in (21b.); while punctual verbs can occur with in an hour only, as in (21c.).
1.7.3 Quantificational Adverbs

Quantificational or frequency adverbs locate events and states in time, but differ from locating adverbs "in that their discourse referents do not act as representatives of particular times, but as bound variables." (Kamp and Reyle 1993:612); in other words, they choose from a set of possible times rather than one particular time. For example, in (22), *always* does not refer to a single time but ranges over the set of *springs* in Eva's lifetime and picks every member in the set:

(22) Eva always gathers cedar in spring.

Klein (1994) further categorizes this type of adverb into definites, such as *twice* and *ten times*, and indefinites, such as *always, often, and occasionally*. NP's with *every or most* and PP's with *after every or during most* are also possible quantificational adverbs.

1.8 Outline of the Thesis

The proposal to be defended in this thesis, that reference or topic time has equal status with event time and speech time (Reichenbach 1947, Hornstein 1990, Thompson 1994) and that SqwXwu7mish adverbs are the overt expression of a topic time argument of the predicate Aspect, is supported by their semantics and syntax.

In Chapter 2, the grammar of SqwXwu7mish is surveyed, with an emphasis on temporal interpretation. Word order in main clauses is established with both nominal and pronominal
arguments, and subject and object pronominal paradigms are provided. The system of aspectual, temporal, and modal clitics is described; the function of each clitic is defined, and its interaction with other clitics in the system is outlined. The interaction of the determiner system with temporal adverbs is examined. Finally, complex sentences with the types of subordinate clauses found in the data in this thesis are presented.

Chapter 3 examines the semantic evidence for the existence of reference or topic time. Adverbs are shown to specify the topic time when they are part of the topic structure of the sentence; in order for them to denote the event time, adverbs must be focused, that is, syntactically the main predicate. Furthermore, the interaction of adverbs with quantifiers shows that the topic time adverb must take semantic scope over the quantification. The existence of topic time is also supported by evidence from narrative; the topic time adverbial overlaps with part but not all of the interval denoted by a stative verb. Finally, the existence of the perfect in SqwXwu7mish is established, then the interaction of the perfect and the future with the aspectual adverb in two weeks is shown to support the claim that there are three time points.

Given that adverbs denote the topic time, their representation in the syntax is examined in Chapter 4. Only one position is available to adverbs in SqwXwu7mish: more than one temporal adverb cannot occur in a clause; the topic
time adverb's preferred position is the right edge of the clause; and an adverb on the right of a subordinate clause cannot be construed with the main clause. These distribution facts argue against the traditional analysis of adverbs as adjuncts and follow from the claim that these adverbs are the reference or topic time, assuming a unique reference time (Partee 1985). This claim is further supported by cleft constructions that contrast left adjoined "functional" adverbs such as maybe and always, which are never main predicates, with locating adverbs and thematic arguments, which are frequently main predicates.

The explanation proposed in this thesis for the topic time interpretation of SqwXwu7mish adverbs and for their argument-like syntactic behaviour is that they are the topic time external argument of the predicate Aspect. This analysis is presented in Chapter 5; in order to carry out the analysis, modifications to the syntax of Tense and Aspect developed by Demirdache and Uribe-Etxebarria (to appear a,b) are proposed. The argument status of the adverbs allows an explanation of how SqwXwu7mish pronoun-verb constructions, apparently uninflected for tense, are interpreted temporally. Word order is derived by leftward movement of the verb and its arguments, in accordance with Kayne (1994); the adverbial temporal argument does not move because it has no features to be checked (Thompson 1994). The construal of adverbs in complex sentences is shown to distinguish between clausal and phrasal nominalized clauses in SqwXwu7mish. Finally, the
interaction of topic time adverbs with quantification argues for a non-structural analysis of scope in Salish (Demirdache and Matthewson 1997).

This analysis has implications for the information structure of the Salish sentence and for the status of adverbs. Furthermore, this analysis of SqwXwu7mish adverbs requires many assumptions about the nature of tense and the structure of the clause in Salish. More work needs to be done on the tense-aspect system in SqwXwu7mish, on the interaction of lexical aspect with temporal interpretation, and on the temporal effects of different determiners on the interpretation of adverbs in particular and nouns in general. These implications and issues are the focus of the concluding chapter.
2. SqwXwu7mish Morphology and Syntax

SqwXwu7mish is a Salish language spoken in the Burrard Inlet and Howe Sound area around Vancouver, British Columbia. Using comparative vocabularies, Swadesh (1950) classified this language as a member of the South Georgia Branch of Coast Salish, along with Halq'eméylem, Straits, and Nooksack. The sketch of the grammar of SqwXwu7mish in this section presents word order facts, the temporal and aspectual clitic system, the determiner system, phrasal temporal adverbials, and complex sentences. These topics are presented in terms of temporal interpretation in the language.

2.1 Word Order in the Main Clause

Salish languages are predominantly predicate initial. In SqwXwu7mish main clauses, the predicate, be it a verb, noun or adjective, is normally the first element in the sentence when the subject and object are nominals and the time of the utterance is the past or present:\n
(1)a. swí7 qa ta sméq'wa7
    man DET crane
    Crane was a man
    Kuipers 1967:169

Abbreviations used in to gloss the data in SqwXwu7mish: lsg.subj=first person singular subject agreement; lpl.subj=first person plural subject agreement; lposs=first person possessive; 3subj=third person subject; 3poss=third person possessive agreement; 3pl=third person plural; caus=causative; DET=determiner; DEM=demonstrative; dir=direction marker; DR=durative; FOC=focus marker; FUT=future; INT=interrogative; intrans=intransitivizer; IRR=irrealis; LOC=locative; NEG=negation; nom=nominalizer; obl=oblique; PT=past; PR=present; REC=reciprocal; red=reduplicated morpheme; RL=realis; REL=relative; TD=temporal deictic; trans=transitivizer; WH=wh-word.

28
(1) b.há7lh ta lám7
   good DET house
   The house is good
Kuipers 1967:169

c. (na) k’wach-nexw-as kwelhi slhanay’ ta miXalh
   (RL) see-trans-3subj DET lady DET bear
   the lady saw the bear
EL 27-3-97 23

As the subject may precede or follow the object in transitive
sentences, word order is VSO or VOS. Furthermore, the
speaker may emphasize the third person subject by moving it
in front of the verb for the order SVO:

(2) kwelhi slhanay’ k’wach-nexw-as ta miXalh
    DET lady see-trans-3subj DET bear
    the lady saw the bear
EL 27-3-97 24

When there is a single overt nominal with a transitive verb,
it is interpreted as the object; this is the “One Nominal
Interpretation” (Gerdts 1988):

(3) na ch’ém7t-as ta sqwmáy7
    RL bite-3subj DET dog
    He bit the dog.
    *The dog bit him.
Kuipers 1967:172

For a past or present interpretation, pronominal
elements for the first and second person precede the
predicate:

(4)a. chen swí7qa
    lsg.subj man
    I am a man
Kuipers 1967:171

b. chen q’way
    lsg.subj hungry
    I’m hungry
YJ 12-12-96

c. chen ɨlhen kwi chel’aqlh
    lsg.subj eat DET yesterday
    I ate yesterday   YJ 13-3-96
When these elements follow the predicate, they are interpreted as future with eventive verbs and adjectives, and as present with stative verbs and nouns:

(5) a. tayeq' chen
    mad lsg.subj
    I'm gonna get mad EL 8-5-96

b. slhanay' chen
    woman lsg.subj
    I'm a woman EL 8-5-96

c. lhq'i7-s chen
    know-caus lsg.subj
    I know it (already) EL 8-5-96

d. ts'îts'ap' chen
    work lsg.subj
    I'm going to work EL 7-6-96

When the second person pronominal occurs after the predicate, it gets an imperative interpretation:

(6) ch'áw-at-s chexw
    help-TR-lsg 2sg.subj
    Help me!
    Jacobs 1992:17

The indicative subject, object, and possessive agreement paradigms are summarized in the table in (7):

<table>
<thead>
<tr>
<th></th>
<th>POSSESSIVE</th>
<th>SUBJECT</th>
<th>OBJECT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>sg.</td>
<td>pl.</td>
<td>sg.</td>
</tr>
<tr>
<td>1st</td>
<td>n-</td>
<td>-chet</td>
<td>chen</td>
</tr>
<tr>
<td>2nd</td>
<td>7a-</td>
<td>7a--yap</td>
<td>chexw</td>
</tr>
<tr>
<td>3rd</td>
<td>-s</td>
<td>-s-wit</td>
<td>-0, -as</td>
</tr>
</tbody>
</table>

\textsuperscript{13} Note that zero agreement has not been marked on the data in this thesis.
Along with the pronominal elements, certain "functional" adverbs may precede the predicate: chiyalh 'soon', way'ti 'maybe' and lhiq' 'always'. These do not constitute a semantic class, but may be classified as auxiliaries:

(8)a. chiyalh chen ts'íts'ap'
soon 1sg.subj work
I'm gonna work soon
EL 1-5-97 18

b. way'ti chen ts'íts'ap'
maybe 1sg.subj work
I'm not sure/I think I will work
EL 1-5-97 19

c. lhiq' chen wa ts'íts'ap'
always 1sg.subj DR work
I'm always working
(volunteered form)
EL 1-5-97 23

The distribution of these adverbs will be examined in Section 4.4.

2.2 Tense and Aspect Marking

The system of clitics in SqwXwu7mish which serve temporal or aspectual functions usually attach to the left of the main predicate, especially in the first and second person. These are summarized in (9), approximately following Jacobs (1992); each is given a gloss and an approximate meaning:\n
---

14 The distribution and interpretation of these clitics is only superficially understood and needs further research.
2.2.1 Realis and Irrealis

The clitic na performs a similar function for the third person, but it is optional; it can combine with ch-pronominals for an emphatic sense, like that of English do:

(10) a. chen lhchíws
    lsg.subj tired
    I am tired
    Kuipers 1967:157

    b. na lhchíws
       RL tired
       He is tired
       Kuipers 1967:157

    c. na chen tsút
       RL lsg.subj say
       I did say it
       Kuipers 1967:157

The clitic q "marks a predicate as irreal in the widest sense of the word" (Kuipers 1967:160); it can have the meaning "when" or "if", as in (11a.) and (b.), and is always used with negation, as in (11c.):

(11) a. kwayl q-ts'íts'ap'-as
    tomorrow IRR-work-3subj
    He will work tomorrow,
    lit. Tomorrow is when he will work
    Kuipers 1967:189

    b. ha7lh n-sqwalwen q-lhémxw-as
       good lposs-heart IRR-rain-3subj
       I would be glad if it rained
       Kuipers 1967:190
(11) c.haw-q tiná7-an  
    NEG-IRR from.there-1sg.subj  
    I'm not from there  
    Kuipers 1967:190

As q is always in second position in main clauses, in the  
past conditional sentences in (12), the q follows na in the  
main clause and precedes it in the "if" clause:

(12) 7u-q-na ch'áwat-way'-wit, na-q-húy-nexw-ás-wit  
    INT-IRR-RL help-REC-3pl RL-IRR-finish-trans-3sg-3pl  
    If they had helped each other, they would have finished  
    it.  
    Kuipers 1967:191

2.2.2 The Durative and the Deictic

The durative marker wa¹⁵ can indicate an action that is  
habitual, ongoing or iterated; it is normally translated by  
the English progressive:

(13) chen wa shúk'w-um  
    1sg.subj DR bathe-intrans  
    I am taking a bath/ I am in the habit of bathing  
    Kuipers 1967:159

It appears between the pronominal and the verb; Kuipers lists  
a limited number of examples, usually imperatives, where the  
durative precedes the pronominal. Otherwise, speakers judge  
wa before the pronoun to be ungrammatical. The realis clitic  
na may be followed by the pronominal chen and the durative  
wa:

(14) a. na chen wa ilhen  
    RL 1sg.subj DR eat  
    I am eating  
    YJ 13-3-96

    b. na wa ilhen  
    RL DR eat  
    he is eating (right now)  
    EL 6-3-96

¹⁵There is no full verb form of wa in SqwXwu7mish, unlike languages in  
Northern Interior Salish (P. Jacobs, p.c.).
The "temporal deictic" kw is often translated as "already" or "now", and is used for the SqwXwu7mish equivalent of the perfect, which will be demonstrated in Section 3.4:

(15)a.chen kw 1hexwlhsa7-áwanexw 1sg.subj TD thirty-years
I was thirty years old/ I had reached the age of thirty
Kuipers 1967:159

b.na-kw tl'iq ta Peter RL-TD arrive DET Peter
Peter's here now, Peter has arrived
EL 13-8-97

This clitic follows either the first or second person pronominal element or, in the third person, the realis clitic na. It precedes the main verb, the local-directional clitics nam' and mi7 and, in a single example, the durative wa.

2.2.3 Past, Present and Future

The three clitics 7i, t, eq' are glossed as tense markers, for lack of a better understanding of their distribution and interpretation. The meaning of 7i is "proximity to the situation of speech" (Kuipers 1967:158): it can mean "at this moment" as in (16a.); it can refer to "anticipated events", as in (16b.) and (c.), in which case it is often used with "chiyalh, soon" (Kuipers 1967:158); or it may have an immediate past sense with men 'just', as in (16d.):

(16)a.7i chen ílhen
PR 1sg.subj eat
I'm gonna eat right now DW 20-3-96

b.chiýalh 7i chen ílhen
soon PR 1sg.subj eat
soon I'm gonna eat DW 20-3-96
The data in (16) show that 7i can precede or follow ch-pronominals; if wa is added, 7i must precede the durative. In negative sentences, it can be preceded by g.

One of the problems with translating 7i as the present is that it can also cooccur with t\textsuperscript{16}; t usually receives a simple past or habitual past interpretation, attaching to the first person agreement or, in the third person, to the realis clitic na:

(17)a.chen-t mi-s
   lsg.subj-PT come-caus
   I brought it
   YJ 13-3-96

b.chen-t ts'íts'ap'
   lsg.subj-PT work
   I used to work
   YJ 3-4-96

c.na7-t ílhen
   RL-PT eat
   She/he's finished eating
   DW 20-3-96

The "past" clitic precedes wa and follows na and chen:

(18)a.chen-t wa ilhen
   lsg.subj-PT DR eat
   I was eating
   YJ 13-3-96

\textsuperscript{16}P. Jacobs (p.c.) has elicited grammatical sentences such as:
7i chen-t wa esqwuy
PR lsg-PT DR sick
I was sick (and I still am.)
from examples found in Hill-Tout (1900).
Neither 7i nor t cooccurs with eq', which gets a distant future interpretation. It follows the pronominal element, the clitic mi7 'come', or the main verb itself:

(19)a. chen-eq' ilhen
   lsg.subj-FUT eat
   I'm going to eat
   YJ 6-6-96

b. ilhen chen-eq'
   eat lsg.subj-FUT
   I'm gonna eat
   EL 7-6-96

c. mi-chen-eq' t'uk'w
   come-lsg.subj-FUT home
   I'll come home
   Kuipers 1967:207

d. mi7-eq' t'uk'w
   come-FUT home
   He'll come home
   Kuipers 1967:207

e. ilhen-eq'
   eat-FUT
   (She, he's) gonna eat
   DW 20-3-96

This contrasts with the near future/intention meaning of the verb-pronoun examples in (5).

2.2.4 Local Directional

The "local-directional" clitics are nam', which is used for a near future with motion away from the place the utterance is made, and mi(7), which means "become" or describes a motion towards the speaker. These clitics are in
complementary distribution with the durative clitic wa, but they do occur with na in the third person:

(20)a. nam' chen wí7xw-em
go lsg.subj drop-intrans
I'm gonna fall
YJ 3-4-96

b. chen nam' wí7xw-em
lsg.subj go drop-intrans
I'm falling
YJ 13-3-96

c. na nam' ilhen
RL go eat
He went to eat
EL 6-3-96

(21)a. chen mi nách'-i
lsg.subj come change-intrans
My expression changed
Kuipers 1967:162

b. mi nách'-i
come change-intrans
His expression changed
Kuipers 1967:313

c. mi shám
come low tide
(He) emerge(s) from the water, come(s) to the surface
Kuipers 1967:162

It must be noted that the full verb forms of these clitics do cooccur with the durative.

2.2.5 Summary

The ordering and cooccurrence restrictions outlined above are summarized in the table in (22); it reads from left to right, with a check indicating that the clitic in that column can follow the clitic in that row, and an asterisk indicating that the clitic in that column must precede the clitic in that row. An asterisk and a check indicate conflicting data. The symbol "ch" shows the interaction of
the indicative subject pronoun with these clitics. An empty section indicates that the evidence exists but has not been worked out.

(22)

<table>
<thead>
<tr>
<th></th>
<th>CH</th>
<th>NA</th>
<th>Q</th>
<th>WA</th>
<th>KW</th>
<th>7I</th>
<th>T</th>
<th>EQ'</th>
<th>NAM</th>
<th>MI</th>
</tr>
</thead>
<tbody>
<tr>
<td>ch</td>
<td>XXX</td>
<td>*</td>
<td>√</td>
<td>√</td>
<td>√</td>
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</tr>
<tr>
<td>na</td>
<td>√</td>
<td>XXX</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>∗/√</td>
<td>√</td>
<td>√</td>
<td>√</td>
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<tr>
<td>q</td>
<td>*</td>
<td>√</td>
<td>XXX</td>
<td>√</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>wa</td>
<td>*/√</td>
<td>*</td>
<td>XXX</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>√</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>kw</td>
<td>*</td>
<td>√</td>
<td>XXX</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
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<tr>
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<td>√</td>
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</tr>
<tr>
<td>eq'</td>
<td>*</td>
<td>*</td>
<td>√</td>
<td>*</td>
<td>*</td>
<td>XXX</td>
<td>*</td>
<td>*</td>
<td>XXX</td>
<td>*</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The large number of empty cells in this summary show the need for explicit elicitation of these orders and combinations.

2.3 Determiners and Temporal Adverbs

Determiners in SqwXwu7mish encode spatial and temporal information; they introduce temporal adverbs and in part fix the interval referred to by the adverb.

---

17 Coast Salish languages prefer DP adverbs, while Interior Salish languages prefer CP adverbs (H. Davis, p.c.).
2.3.1 The SqwXwu7mish Determiner System

Kuipers (1967) analyses SqwXwu7mish determiners as encoding distinctions between gender, proximity or distance, presence or absence; they may also be strong (demonstrative) or weak (non-demonstrative), definite or indefinite:

(23)

\[
\text{DEFINITE} \quad \text{INDEFINITE} \\
\text{PRESENT} \quad \text{NON-PRESENT} \\
\text{WEAK} \quad \text{STRONG} \quad \text{WEAK} \quad \text{STRONG} \\
\text{PROXIMAL} \quad \text{DISTAL}
\]

<table>
<thead>
<tr>
<th>masc</th>
<th>ta</th>
<th>ti</th>
<th>tav'</th>
<th>kwa</th>
<th>kwetsi</th>
<th>kwi</th>
</tr>
</thead>
<tbody>
<tr>
<td>fem</td>
<td>lha</td>
<td>tsi</td>
<td>alhi</td>
<td>kwelha</td>
<td>kwelhi</td>
<td>kwes</td>
</tr>
</tbody>
</table>

This classification requires revision, however; Matthewson (1996) showed that determiners in Salish do not encode definiteness or specificity. P. Jacobs (p.c.) proposes an alternative system of classification, which contrasts visible and non-visible with invisible, and determiners (DET) with demonstratives (DEM):

(24)

\[
\text{POTENTIALLY VISIBLE} \quad \text{INVISIBLE} \\
\text{VISIBLE} \quad \text{NON-VISIBLE} \\
\text{Proximal} \quad \text{Distal}
\]

<table>
<thead>
<tr>
<th>DET</th>
<th>masc</th>
<th>ti</th>
<th>ta</th>
<th>kwa</th>
<th>kwi</th>
</tr>
</thead>
<tbody>
<tr>
<td>fem</td>
<td>tsi</td>
<td>lha</td>
<td>kwelha</td>
<td>kwes</td>
<td></td>
</tr>
<tr>
<td>DEM</td>
<td>masc</td>
<td>tiwa</td>
<td>tav'</td>
<td>kwetsi</td>
<td>kwiya(wa)</td>
</tr>
<tr>
<td>fem</td>
<td>tsiwa</td>
<td>alhi</td>
<td>kwelhi</td>
<td>kwesawa</td>
<td></td>
</tr>
</tbody>
</table>

The distinctions of visible, non-visible and invisible, and of proximal and distal, refer not only to space but also to time: the invisible determiner has a modal meaning, non-visible and distal visible determiners appear to be
inherently past, while proximal visible means close to the present. The details of such an analysis are currently under investigation. It is known, however, that changing the determiner on an NP can change the temporal interpretation of the utterance (Demirdache 1997 for St'at'imcets); as most temporal adverbs in SqwXwu7mish take determiners, its deictic contribution interacts with that of the adverbial in establishing the temporal interpretation of the sentence.

2.3.2 Today, Yesterday and Tomorrow

Part of the meaning of deictic locating adverbs such as today, yesterday and tomorrow, is their relation to the time of utterance; thus, they always take the same determiners in SqwXwu7mish. The "invisible" determiner kwi occurs with the day that is just past, while the visible proximal ti appears with the day that contains now, the utterance time.

(25)a. kwi chelaqlh "yesterday"  
DET yesterday
b. ti stsi7s "today"  
DET today

The day that is coming, tomorrow, is either the DP kwayl used on its own as a predicate with a subordinate clause, or is a conjunctive clause introduced by q:

(26) q-kwayl-es  
IRR-day-3sg  
tomorrow, when it is the next day

2.3.3 Morning, Year

Adverbials like natlh 'morning' and siylánem 'year' have no inherent relation to the utterance time so the determiner identifies which interval of time is being referred to.
Thus, ti identifies the morning closest to now, ta identifies a morning past, and kwa identifies specifically yesterday morning:

(27) ti natlh this morning
da natlh that morning
kwa natlh yesterday morning

The effect of the determiner with siyelánem 'year' is somewhat different: while ti identifies the year that contains now, kwi identifies the year prior to this one, and ta, along with hem'i 'coming', identifies the year to come:

(28) ti siyelanem this year
kwi siyelanem last year
ta hemi siyelanem next year

The visible proximal ti clearly identifies the interval closest to the utterance time, and kwi appears to locate the interval in the past.

2.3.4 Calendar Names

Calendar names also take determiners. Again the proximal visible ti identifies the Sunday closest to now, but in this case it is an interval in the future. The distal and the non-visible determiners identify a Sunday past, while the invisible determiner kwi appears only with way'ti 'might, maybe', in contrast to the past effect in the examples above.

(29) ti sXalhnat this Sunday
ta sXalhnat that Sunday
kwetsi sXalhnat any, a certain Sunday
kwi sXalhnat a possible Sunday
The effects of determiners on temporal interpretation in SqwXwu7mish remain a topic for further research.

2.3.5 Quantificational Adverbs

Quantificational adverbs or cardinal quantifiers do not, however, take a determiner since they never appear in argument position. The examples in (30) are composed of the number form for objects (which are separate from those for animals and persons) and a suffix meaning "times":

(30) a. 7an7us-álh "twice"
    two -times
b. 7upen-álh "ten times"
    ten -times

These adverbs appear only as main predicates.

2.4 Complex Sentences

Complex sentences in SqwXwu7mish may be coordination structures, or they may consist of a predicate and a subordinate structure. Subordination in SqwXwu7mish includes conjunctive clauses and nominalized clauses, which contrast future and non-future, as well as zero relative clauses.

2.4.1 Coordination

Two main clauses are "coordinated" with the clitic complex 7i-kw-na, which makes a "simple reference to time" with the meaning "and, then, now, when" (Kuipers 1967:212); P. Jacobs (p.c.) states that this would be better analyzed as 7i-kw 'and already' followed by the realis clitic na, and this analysis is adopted here. These constructions are
analyzed as coordination structures because of the main clause agreement chen following 7i-kw-na.

(31)a.0 kwi chel'aqlh 7i-kw-na-chen tl'íq-s ti sîten FOC DET yesterday and-TD-RL-1sg.subj arrive-caus DET basket.
Yesterday I brought the basket
EL 1-5-97; EL 8-5-97 44

b. nilh kwi chel'aqlh 7i-kwe-na k'wach-nexw-as kwetsi miXalh FOC DET yesterday and-TD-RL see-trans-3subj DET bear
She saw the bear yesterday
EL 2-4-97 32

In (31a.), the adverb is an argument with a zero focus marker, whereas it occurs with the overt focus marker nilh in (31b.). These sentences function as cleft constructions, and are labelled by Kroeber (1991) as “and-fronting”.

2.4.2 Conjunctive Clauses

These clauses include those introduced by the "irrealis" complementizer q, which are future or non-future, and those introduced by lh, a sort of wh-complementizer.

In future conjunctive clauses, the subject agreement is attached to the predicate, as in (32a.), while in non-future conjunctive clauses the agreement precedes the predicate and is attached to the irrealis marker, as in (32b.). The functions of these clauses include conditional and temporal adverbial uses, as well as complement of the negation predicate haw ‘not’, as in (32c.) and (d):

(32)a. chen ts'its'ap' [q-kwayl-es] 1sg.subj work [IRR-tomorrow-3sg]
I will work tomorrow (lit. when tomorrow it)
YJ 13-3-96

18 The classification of lh-clauses as conjunctive clauses is the suggestion of P. Jacobs (p.c.).
Clauses with \textit{l}\textit{h} and conjunctive agreement are "subordinate subject clauses, (occurring) almost exclusively with predicates referring to a quantity of time(s)" (Kuipers 1967:196). As stated above, the \textit{l}\textit{h} is a sort of \textit{wh}-complementizer, similar to \textit{when}, \textit{where} and \textit{about} which in English, but it never corresponds to the subject or object of the clause it introduces. In the example in (33), the lateral fricative \textit{l}\textit{h} has combined with the glottal stop of the agreement to produce the glottalized lateral affricate \textit{tl}' :

(33) nilh kwi sXalhnat tl'-as nam' huya7  
FOC DET Sunday WH-3subj go leave  
He went away on Sunday lit. it was Sunday when he went away  
EL 1-5-97 43

In addition, \textit{l}\textit{h} clauses with possessive agreement refer principally to clauses meaning "the reason why", "the place where", although these are not relevant for this thesis.

2.4.3 Nominalized Clauses

Nominalized clauses are normally introduced by the determiner \textit{kwi}, followed by the nominalizer procliticized to either the predicate or the first aspectual clitic (Jacobs
1992). The subject of these clauses is marked by possessive agreement. Past time is indicated by the "realis" clitic na for the first person singular and second person singular and plural, and by the attachment of the third person possessive agreement to the nominalizer, as in (34); future time is indicated by the absence of the clitic na in the first person singular and second person singular and plural, and by the attachment of the third person possessive agreement to the predicate of the nominalized clause, as in (35):

(34)a. ha71h [kwi-n-s-na télnexw-an ti]  
good [DET-1poss-nom-RL find out-1sg.subj DET]  
I'm glad to have found this out, lit. It is good, my having found this out  
Kuipers 1967:186

b. chen lhq'i7-s [kwi-s-es-kw huya7-0]  
1sg.subj know-caus [DET-nom-3poss-TD leave-3sg]  
I knew that he had already left  
Jacobs 1992:41

c. kwi chelaqlh [s-es ts'íts'ap' ta Peter]  
yesterday [nom-3poss work DET Peter]  
Yesterday Peter worked.  
EL 19-6-97

(35)a. en-stl'í7 [kwi-n-s nam' t'uk'w]  
1poss-desire [DET-1poss-nom go go-home]  
I want to go home, lit. My desire is that I go home  
P. Jacobs 1992:47

b. kwayl [kwi-s ts'íts'ap'-s ta Peter]  
tomorrow [DET-nom work-3poss DET Peter]  
Peter will be working tomorrow  
EL 19-6-97

These clauses function as either subjects of nominal predicates, object complements of verbal predicates, clausal temporal adverbials, or purpose clauses.

---

19The gloss of this example does not follow Jacobs, who analyses the determiner, first person possession, and nominalizer as an inflected complementizer.
2.4.4 Zero Relative Clauses

A direct object focused with a zero marker in the main predicate takes a zero relative clause as its complement:

(36) $\emptyset$ kwetsi siten [na tl'iq-s-t-an]
    FOC DET basket [RL arrive-caus-trans-1sg.subj]
    It was the basket I brought
    EL 8-5-97 05

This structure will be discussed again in Section 4.4.

2.5 Summary

Temporal interpretation in SqwXwu7mish is effected by word order, temporal and aspectual clitics, determiners and temporal adverbials. This thesis concentrates on the role that temporal adverbs play in main clauses in determining the topic time of the utterance.
3. The Interpretation of Adverbs

The interpretation of adverbs in both English and SqwXwu7mish argues for the existence of a reference or topic time, in addition to the event and speech times, as will be shown in this chapter. Furthermore, the time denoted by the reference or topic time is specified by locating adverbs in the topic structure of the sentence, while adverbs in the focus structure denote the event time (de Swart, to appear).

Section 3.1 shows that English preverbal adverbs are interpreted as the topic time, but postverbal adverbs are ambiguous between a topic time and an event time reading (Hornstein 1990, Hitzeman 1995, Thompson 1994a,b). In contrast, SqwXwu7mish postverbal adverbs have unambiguous topic time readings; for SqwXwu7mish adverbs to get an event time reading, they must be part of the focus structure, that is, the main predicate of the sentence.

In Section 3.2, the interaction of adverbs with quantifiers is examined. When adverbs in both SqwXwu7mish and English get the topic time reading, they must take semantic scope over other quantificational elements in the sentence. Narrative evidence in Section 3.3 shows that the topic time reading of the adverb overlaps with part of the time specified by the stative predicate.

The English perfect and its approximate equivalent in SqwXwu7mish are shown to exemplify Reichenbach's claim that tense is composed of three times in Section 3.4. Finally, in Section 3.5 the interpretation of the perfect and the simple
future with the aspectual adverb for two weeks (Hitzeman 1995, Thompson 1994) further supports the argument for the equal status of speech time, event time, and topic time.

3.1 Adverbs and Topic/Focus Structure

In her examination of the relation between position and meaning, de Swart (to appear) points out that the examples in (1) "describe the same facts" but differ in terms of the topic/focus structure:

(1) a. At six o'clock, Jane left.
   b. Jane left at six o'clock.

Sentence (1a.) is the preferred answer to the question in (2), although (1b.) is a possible answer:

(2) What happened at six o'clock?

Sentence (1b.) is the only possible answer to (3):

(3) When did Jane leave?

Thus, when the sentence initial adverb gets a topic time reading as in (1a.), it is the topic introduced in the question in (2); the sentence final adverb may also be the topic with special intonation. When the sentence in (1b.) answers the question in (3), the topic is the information introduced in the question, Jane leave. The sentence final adverb is the focus of this sentence, and specifies the event time of the verb.

In SqwXwu7mish, the sentence corresponding to the order in (1)b. above answers the question in (2), What happened yesterday?; deictic adverbs cannot simply be preposed in SqwXwu7mish, as will be shown in the next chapter.
Therefore, the postverbal adverb in SqwXwu7mish gets the topic time reading unambiguously.

The answer to the "when" question is a sentence with nilh, a focus marker "used to refer to a thing, time, place or fact on which the addressee has already focused his attention, or which he can readily identify as a result of situational or contextual factors" (Kuipers 1967:144). This cleft or focus construction is shown in (5)b:

(5)a. na 7encha 7i-kw-na k'wach-nexw-as kwetsi miXalh tsi slhanay'
   RL where and-TD-RL see-trans-3subj DET bear DET lady
   When did this lady right next to me see the bear?
   EL 2-4-97 31

b. nilh kwi chel'aqlh 7i-kw-na k'wach-nexw-as kwetsi miXalh
   FOC DET yesterday and-TD-RL see-trans-3subj DET bear
   She saw the bear yesterday
   lit., It was yesterday that she saw the bear
   EL 2-4-97 32

The event time reading of this adverb is due to its focused position.

The SqwXwu7mish data therefore parallels the English data semantically but not structurally: the adverb on the
right periphery can only be the topic time, whereas the sentence initial adverb must be focused syntactically as the main predicate to specify the event time.

3.2 Adverb-Quantifier Interaction

In order to examine the semantics of scope relations, de Swart (to appear) presents English data in which existentially quantified time adverbs interact with other quantifiers. She argues that when the adverb gets the topic time reading, it must take wide scope over other quantifiers, and when the adverb identifies the event time, it must be within the scope of other quantifiers. This generalization holds for SgwXwu7mish, where the absence of ambiguity between topic time and event time readings of temporal adverbs clarifies these semantic scope relations.

3.2.1 Adverbs and Quantified Subjects

The examples in (6) show the interaction of a universally quantified subject (V) with an existentially quantified (E) temporal adverb in English. The sentence in (6a.) can only mean, "on the same Sunday, all the students went hiking either as a group or individually, and there was either one or many events of hiking"; the adverb gets the topic time reading and must take scope over the quantifier (E∀).

(6)a. On a beautiful Sunday in spring, every student went walking in the hills.
   b. Every student went walking in the hills on a beautiful Sunday in spring.
In (6)b, however, the reading of the adverb is ambiguous: the adverb can take scope over the universal quantifier to give the topic time reading (\(\exists V\)) obtained for (6a.); or the universal quantifier can take scope over the adverb to get an event time reading (\(V\exists\)). The event time reading is either "distributive", where "each student goes hiking individually on a Sunday but not necessarily the same Sunday," or "collective", in which case there is "one group event of going hiking on one certain Sunday." The collective event time reading and the topic time reading are therefore indistinguishable on the surface, but the existential quantifier of the adverb and the universal quantifier of the subject have different scope relations.

As seen in Section 3.1, syntactically focused adverbs in SqwXwu7mish receive an event time reading; the adverb in (7) has an event reading which may be distributive or collective, and is therefore in the scope of the universal quantifier:

(7) na-malh-eq'sxalhnat 7i nam' 7i-7imash 7i7Xw ta sta7exwlh RL-well-FUT Sunday PR go redup-walk all DET children (volunteered form)
It will be Sunday when they (all the children) go for a walk.
EL 13-8-97

Sentence final SqwXwu7mish adverbs are not ambiguous. The only meaning available in (8) is that "all the children go on the same Sunday," which is the topic time reading of the adverb where it takes wide scope over the universal quantifier:
(8) a.7i7Xw ta sta7exwlh nam' 7i-7ímash na7 ta sXalhnat
   all DET children go red-walk RL DET Sunday
   All the children/every child went walking on Sunday
   ie they all go on the same Sunday  EL 2-4-97 16

b.7i7Xw ta sta7exwlh nam' 7i-7imash na7 t kwetsi
   sXalhnat
   all DET children go red-walk RL obl DET Sunday
   All the children went for a walk on a Sunday
   (they all go on the same Sunday)  EL 10-4-97 31

A sentence final topic time adverb cannot get a distributive
reading. In the examples in (9), the speaker uses again and
different to differentiate Sundays and children, but in (9a.)
"the same group of children go on a (single) different
Sunday" and in (9b.) "a different group of children go on a
(single) different Sunday":

(9) a. s-es-men qíy'at na nam' 7i-7imash ta sta7exwlh na7 t
   kwetsi sXalhnat
   nom-3poss-just again RL go red-walk DET children RL obl
   DET Sunday
   And then they went again on a (different) Sunday
   EL 10-4-97  32

b. s-es-men qíy'at na nam' ta nach' sta7exwlh t kwetsi
   nach'sXalhnat
   nom-3poss-just again RL go DET different children obl
   DET different Sunday
   So different children went for a walk on a different
   Sunday
   EL 10-4-97  33

Thus, the interaction of universally quantified subjects with
existentially quantified temporal adverbials shows that the
topic time reading is obtained with the sentence final
adverb; the event time reading, either collective or
distributive, is obtained only when the adverb is
syntactically the main predicate.
3.2.2 Adverbs and Only

De Swart (to appear: 9) adopts the definition of *only* as a quantifier which has as its domain "the set of contextually relevant alternatives":

(10) a. On Sunday morning, Julia only [goes to church].
   b. Julia only [goes to church] [on Sunday morning].

In (10a.), *only* does not take scope or quantify over *on Sunday morning*. In this sentence, *only* quantifies over the set of properties of individuals, one of which is "going to church"; this gives the reading that "the only thing Julia does on Sunday is go to church," which is the topic time reading of the adverb. In (10b.), the quantifier takes scope and quantifies over *goes to church* and *on Sunday morning*. Therefore, this sentence can have either the same interpretation as (10a.) or the interpretation where *only* quantifies over the set of properties of times, one of which is the focused adverbial *Sunday morning*. The latter gives the reading that "the only day she goes to church is Sunday," which is the event time reading of the adverb.

The closest equivalent to *only* in SqwXwu7mish is *men 'just',* which Kuipers (1967:163) labels "determinative" or "limitative". This clitic appears just before the first stressed element in the sentence or separated from it by the clitic *wa*. In the example in (11), the adverb *ta sxalhnat 'on Sunday' gets the topic time reading, as in (10a.) above:

---

20 de Swart attributes this definition to Rooth (1992).
Therefore, the quantifier men 'only' is taking scope over "go to church" but cannot be taking scope over the topic time adverb.

The event time reading occurs when the adverb is syntactically focused as a main predicate with men huy:

To get this event time reading, the quantifier must take scope over both the adverb and "go to church," as in (10b.).

These examples show that in SqwXwu7mish the adverb at the right edge is unambiguously the topic time, and is not in the scope of the quantifier; furthermore, the adverb must be syntactically focused to obtain the event time reading.

3.2.3 Cardinality Quantifiers

The generalizations observed with quantified subjects and only parallel the interaction of locating adverbs such as on Sunday with cardinal quantifiers like twice and ten times.
In SqwXwu7mish, when the cardinal adverb is the main predicate and the temporal adverb is at the right edge of the clause, the temporal adverb gets a topic time reading as expected, as in (13c):

(13) a. na ts'íts'ap ta Peter na7 t kwetsi sxalhnat
    RL work DET Peter RL obl DET Sunday
    Peter did work on a Sunday
    EL 2-4-97 11

b. na 7upen-álh s-es (wa) ts'íts'ap' ta Peter
    RL ten-times nom-3poss (DR) work DET Peter
    Peter worked/was working ten times lit. It was ten times that Peter worked/was working
    EL 10-4-97 18

c. na 7upen-álh s-es ts'íts'ap' ta Peter (t) kwetsi sxalhnat
    RL ten-times nom-3poss work DET Peter (obl) DET Sunday
    Peter worked ten times/for ten hours on a Sunday
    EL 10-4-97 19

As with quantified subjects and only, the cardinal quantifier is not quantifying or taking scope over the right edge topic time adverb. This gives the topic time adverb a collective meaning. For the event time reading of the temporal adverb, it must be the main predicate ten Sundays, as in (14):

(14) na 7upen sxalhnat kwi-s-es ts'íts'ap' ta Peter
    RL ten Sunday DET-nom-3poss work DET Peter
    Peter worked on ten Sundays/Ten Sundays Peter worked
    EL 10-4-97 22

The quantifier in this case must take wide scope over the adverb, which gets only the distributive event time reading.

Furthermore, unlike locating temporal adverbs, cardinal quantifiers can only be the focus of the sentence as the main predicate, and can only identify the event time; they cannot occupy the right edge of the sentence as topic time, as shown in the examples in (15):
Conversely, the cardinal quantifier, like other temporal adverbs, cannot cooccur in a clause with another temporal adverb.

If another temporal adverb such as kwi siyelánem 'last year' is added, however, it occurs in the subordinate clause and t kwetsi sxalhnat 'on Sunday' appears in the main clause with the cardinal quantifier predicate. As expected, the locating adverb in this position gets the topic time reading, as indicated by the speaker's emphasis on "just that one Sunday":

(16)a. na qex-áh s-es wa ts'íts'ap' ta Peter kwi siyel'ánem
   RL many-times nom-3poss DR work DET Peter DET year
   Peter was working a lot last year
   context for next record
   EL 10-4-97 26

b. na 7an7us-alh t kwetsi sxalhnat s-es ts'íts'ap' kwa Peter kwi siy'elánem
   RL two-times obl DET Sunday nom-3poss work DET Peter DET year
   Peter worked twice on a Sunday last year
   EL 24-4-97 11
The topic time reading of the adverb in (16) shows once more that the existentially quantified topic time adverb takes scope over other quantifiers in the sentence.

3.2.4 Summary

The interaction of temporal adverbs with quantified subjects such as all the children, quantificational adverbs such as only, and cardinal quantifiers such as ten times, shows that the right edge adverb with the topic time reading has wide scope over these other quantifiers. In order for other quantifiers to take scope over the existentially quantified adverb, the adverb must be focused, that is, the main predicate, where it has an event time reading. Furthermore, the topic time adverb gets a collective reading with universal and cardinal quantification, while the event time adverb gets a distributive reading in these cases.

3.3 Topic Time in Narrative

As noted in the introductory chapter, narrative provides examples of the topic time as it is maintained from sentence to sentence.

A stative sentence "describes a condition prevalent at the time indicated by the reference time given in the preceding context, but it need not do so when the sentence contains its own adverb of temporal location." (de Swart to appear:2). This is illustrated in the following example from de Swart, where the event of the wife's dying occurs after
the time of her going to bed and before the topic time
specified by the next morning:

(17) The doctor came home and found his wife waiting for him.
      They had a drink and went to bed.
      The next morning, she was dead.

In fact, the adverbial overlaps with part but not all of the
state of being dead, in keeping with its interpretation as
the reference or topic time.

A similar narrative in SqwXwu7mish is illustrated in

(18):

(18)a. wa nexwti7 kwiya míXalh na7 t kwa 7ats'q
DR come.by. DET bear RL obl DET outside
The bear was hanging around outside
EL 24-4-97 03

b. chet nam' 7eXíts kwi txw-ná7nat
pl-subj go lie down DET dir-night
We went to bed that night
EL 24-4-97 04

In (19a.), the main predicate is stative and the sentence
final adverb gets a topic time reading consistent with its
position in the topic structure; in (19b.) the verb gets an
eventive interpretation and the main predicate adverb gets an
event time reading consistent with its location in the focus
of the sentence:

(19)a. haw-q ta míXalh (7i) ti natlh
   NEG-IRR DET bear (PR) DET morning
   The bear was gone this morning
   EL 13-8-97

b. Ø ti natlh 7i-kw-na haw-q ta míXalh
   FOC DET morning and-TD-RL NEG-IRR DET bear
   The bear died this morning       EL 24-4-97 09
   This morning the bear died/*was dead       EL 19-6-97

---

21 The translations of these examples are those provided by the speaker.
The predicate haw-q is unusual, and further testing with other stative
predicates is required.
In (19c.), the adverb in main predicate position gets an event time reading with the eventive verb q'wuy 'die'. Thus, the syntax determines the interpretation of both the adverbial and the verb.

The sentence in (20), which appears to have the same structure as (19b.) and (c.), presents an apparent problem for the generalization that adverbs in main predicate position get an event time reading. In this sentence, the adverbial natlh 'morning', without the determiner but preceded by the realis clitic, is the main predicate but it gets a topic time interpretation as in (19a.), and the predicate haw-q gets a stative interpretation. The speaker explains that the bear "went in the night or the morning, but when you looked he wasn't there."

The difference between (20) and (19b.) is the determiner on the adverb, while the difference between (20) and (19c.) is the aspectual class of the verb. Assuming that, in (19b.), there is a zero focus marker and the adverb with its determiner is an argument, while in (20), the adverb with the realis clitic na is a predicate, the topic time reading of the adverb in (20) appears to be a result of the equation of the adverb with a stative predicate. Clearly, the
interaction of stative predicates and topic time adverbs requires further investigation.

The explanation of the examples in (19) and (20) relies on the analysis that the determiner on the adverb identifies an argument and the absence of the determiner on the adverb identifies a predicate (Jelinek 1993, Matthewson 1996). Furthermore, the adverb without the determiner is ungrammatical at the right edge of the main clause, as shown in (21):

(21) *haw-q ta míXalh na natlh
    NEG-IRR DET bear RL morning
    EL 13-8-97

This example therefore argues for the argument status of the right edge adverb\(^2\).

The narrative data in this section supports the argument that the topic/focus structure determines the interpretation of the adverb. In addition, the aspectual class of the verb interacts with the interpretation of the adverb in ways that remain unclear. Furthermore, the presence or absence of a determiner on the adverb identifies it as an argument or as a predicate.

\(^2\)The sentence in (i) is very common in narrative, but presents a problem for the present analysis. The adverb at the right edge of this nominalized clause gets the event time reading and the verbal predicate gets the eventive interpretation:

(i) s-es-men haw-q ta míXalh ti natlh
    nom-3poss-just NEG-IRR DET bear DET morning
    The bear died this morning.
    EL 13-8-97
3.4 The Perfect in English and SqwXwu7mish

The basis for the proposal of a reference or topic time is the English perfect (Reichenbach 1947, Hornstein 1990, Thompson 1994). If the perfect exists in SqwXwu7mish, it must also argue for the existence of topic time. Analyses that deny the existence of the topic or reference time do not dispute this interpretation of the perfect; they simply dispute the theoretical status of a third time.

To distinguish the present perfect from the simple past, the former is analyzed as having an event time, E, prior to a topic time, T, which coincides with the time of utterance, S, as in (22a.); the past perfect describes an event, E, which is before a topic time, T, prior to the speech time S, as in (22b.); while the future perfect identifies an event, E, before a topic time, T, which is after the speech time, S, as in (22c.):

(22)a. Peter has arrived (just now).
<----E-----------T,S---->  T = now

b. Peter had arrived at 2 p.m. (it is now 6 p.m.)
<----E------T------S---->  T = 2 p.m.

c. Peter will have arrived at 2 p.m. (it is now 10 a.m.)
<----S------E------T---->  T = 2 p.m.

The following data establishes that in SqwXwu7mish, a past perfect meaning can be obtained in sentences with na 'realis', kw 'temporal deictic' and an overtly specified topic time; in (23) the topic time is given by the clausal temporal adverbial introduced by when:

61
The existence of the perfect in SqwXwu7mish argues for the existence of topic time. The present perfect, which is also marked by na-kw, is shown in (24a.); it contrasts with the simple past, which is marked by the morpheme t, as in (24b.):

(24)a. na-kw tl'iq ta Peter
   RL-TD arrive DET Peter
   Peter's here, now
   EL 13-8-97

b. na7-t tl'iq ta Peter
   RL-PT arrive DET Peter
   Peter got here
   EL 13-8-97

The future perfect could not be elicited in parallel to the sentences in (23) and (24), and therefore does not appear to exist in SqwXwu7mish. The expression of an equivalent remains an area for further research.

The English present perfect has at least two readings: the "pure perfect" reading, where the action of the verb coincides with now; and the simple past reading, where the action of the verb occurred some time in the past. The temporal deictic kw is incompatible with the adverb today, as shown in (25), which suggests that it is a pure perfect:

(25)a. *na-kw tl'iq ta Peter ti stsi7ts
    RL-TD arrive DET Peter DET today
    EL 13-8-97

b. na tl'iq ta Peter ti stsi7ts
   RL arrive DET Peter DET today
   Peter got here today
   EL 13-8-97
The expression of the perfect in English and SqwXwu7mish is summarized in the table in (26):

(26)

<table>
<thead>
<tr>
<th></th>
<th>S,T,E</th>
<th>English</th>
<th>SqwXwu7mish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present Perfect</td>
<td>E_T_S</td>
<td>she has v-ed (now)</td>
<td>na-kw v</td>
</tr>
<tr>
<td>Past Perfect</td>
<td>E_T_S</td>
<td>she had v-ed (at X, when..)</td>
<td>na-kw v + when clause</td>
</tr>
<tr>
<td>Future Perfect</td>
<td>S_E_T</td>
<td>she will have v-ed (at X)</td>
<td>*</td>
</tr>
</tbody>
</table>

Note that the when-clause is obligatory to distinguish the past perfect from the present perfect.

3.5 Aspectual Adverbs

Turning to the interaction of durative adverbs with the perfect and with the future provides further evidence of a topic time. For both perfect and future, the topic time and the speech time are the same interval, now; the durative adverb always specifies the duration of the event. Section 3.5.1 illustrates how the sentence can have either a "topic time (dependent)" reading for which the event time of the adverb coincides with the speech and topic time, or an "event time (dependent)" reading for which the event time does not coincide with the speech and topic time. Section 3.5.2 shows that the equivalent data in SqwXwu7mish is unambiguous.

3.5.1 English Aspectual Adverbs

Thompson (1994) and Hitzeman (1995) present the example of a durative adverb and present perfect stative verb that has both "topic time" and "event time" readings (from Dowty 1979, Kamp and Reyle 1993):
(27) John has been in Boston for two weeks.

1. John has been in Boston for two weeks, and he is still in Boston. (topic time reading)

2. John has been in Boston for two weeks, some time in the past. (event time reading)

In contrast, the fronted durative adverb with a present perfect stative verb can have only the "topic time" reading that coincides with the topic and speech time:

(28) For two weeks, John has been in Boston.

1. For two weeks, John has been in Boston and he is still there. (topic time reading)

2. *For two weeks, John has been in Boston a long time ago. (*event time reading)

In fact, in both the present perfect and the future, the topic time coincides with the speech time. Therefore, Hitzeman (1995) argues, the topic time/event time reading ambiguity of the perfect exists in the future, as in (29):

(29) Martha will be in her office for an hour.

1. She will be in her office for an hour from the time of utterance (topic time reading)

2. She will be in her office for some unspecified hour in the future (event time reading)

The reading that coincides with the topic time is the only one available when the adverb is sentence initial. Further evidence for the two readings in the future results from the addition of the adverb one day next week:

(30)a. Martha will be in her office for an hour one day next week.

b.*For an hour, Martha will be in her office one day next week.
Because an hour one day next week cannot be from the time of utterance, it forces the event time reading in these cases.

3.5.2 SqwXwu7mish Aspectual Adverbs

In SqwXwu7mish, the equivalents of the English data do not exhibit the same ambiguity. The durative adverb is always the main predicate, specifying the duration of the event. This section will show that the presence of the perfect or the absence of future morphology with the adverbial predicate results in the "topic time" reading by relating the time specified by the durative adverb to now; the presence of future morphology with the adverbial predicate gives the "event time" reading by locating the time of the adverb away from now.

The sentence in (31) shows that the adverb with the perfect morphology kw gets only the "topic time" reading, "two weeks before now":

(31)a.na-kw 7an7ús sxalhnat s-es wa na7 ta Peter
  RL-TD two week(Sunday) nom-3poss DR there DET Peter
  Peter's been there already two weeks
  Peter was at SqwXwu7mish for two weeks, just until today
  EL 24-4-97, EL 13-8-97

b.na-kw 7an7ús sxalhnat kwi-s-es wa na7 ta Peter
  RL-TD two week DET-nom-3poss DR there DET Peter
  Peter's been there already two weeks
  EL 24-4-97

In contrast, in both examples in (32), Peter is going but is not yet in Squamish. The adverb is modified by eq', the "future" morpheme, to specify two weeks in the future which

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23 See Section 1.5 for Kamp and Reyle's (1993) characterization of these adverbs.
do not coincide with the contemporaneous speech and topic times, giving the "event time" reading:

(32) a. na-eq' 7an7ús sxalhnat kwi-s-es-eq' na7 kwa Peter na7 t kwa SqwXwu7mish
    RL-FUT two week DET-nom-3poss-FUT there DET Peter there obi DET Squamish
    Peter will be up at Squamish for two weeks
    EL 24-4-97, EL 13-8-97 13

    b. na-eq' 7an7ús sxalhnat kwi-s na7-s kwa Peter na7 t kwa SqwXwu7mish
    RL-FUT two week(Sunday) DET-nom there-3poss DET Peter there obi DET Squamish
    Peter will be up at Squamish for two weeks (he’s not there yet)
    EL 24-4-97 14

When the aspectual adverb is not modified by eq' but the nominalized clause agreement marks the future, as in (33), "two weeks" do coincide with the topic and speech time now for the "topic time" reading:

(33) 7an7ús sxalhnat kwi-s na7-s ta Peter na7 t kwa SqwXwu7mish
    two week(Sunday) DET-nom there-3poss DET Peter there obi DET Squamish
    For two weeks, Peter will be there in Squamish
    EL 24-4-97, EL 13-8-97 18

Thus, aspectual adverbs in both SqwXwu7mish and English can specify an interval that coincides with the speech time and the topic time, which are contemporaneous in both the perfect and the future. This is summarized in (34):

(34)

<table>
<thead>
<tr>
<th></th>
<th>kw-adverb+[PAST]</th>
<th>adverb+[FUT]</th>
<th>eq'-adverb+[FUT]</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;topic time dependent&quot;</td>
<td>√</td>
<td>√</td>
<td>*</td>
</tr>
<tr>
<td>&quot;event time dependent&quot;</td>
<td>*</td>
<td>*</td>
<td>√</td>
</tr>
</tbody>
</table>

This argues further for the existence of topic time.
3.6 Conclusions

This chapter presented evidence to argue for the presence of topic time in all utterances. The right edge adverb in SqwXwu7mish gets a topic time reading and is part of the topic structure of the sentence, whereas the main predicate adverb gets an event time reading and is in the focus structure.

The interaction of adverbs with quantificational elements confirms these conclusions; quantifiers can take scope and quantify only over the event time adverb, not over the topic time adverb. With universal and cardinal quantification, topic time adverbs get a collective reading while event time adverbs get a collective or a distributive reading. Narrative evidence provides evidence of a topic time adverb with a stative predicate and shows that this adverb must occur with a determiner at the right edge of the sentence. Finally, the perfect has been shown to exist in SqwXwu7mish, which, along with contrasts between readings of aspectual adverbs with the perfect and the future, argues for the equal status of speech time, event time, and topic time.

If the sentence final adverb is unambiguously the topic time and its determiner marks it as an argument, what is its syntactic position? The following chapter examines the distribution of the adverb to support the claim that it is not an adjunct but the argument of a temporal predicate.
4. The Distribution of SqwXwu7mish Adverbs

SqwXwu7mish phrasal adverbs do not move freely in the sentence. This chapter demonstrates that their syntactic position is restricted in the following ways: two temporal adverbs may not co-occur in the same clause; the preferred position of the adverb is on the right periphery of the clause; and the adverb on the right edge of a subordinate clause cannot be interpreted as specifying the event time of the main clause. Furthermore, locating adverbs are shown to behave differently than "functional" adverbs such as always and maybe. These restrictions argue against the analysis of SqwXwu7mish adverbs as adjuncts.

4.1 Two Temporal Adverbs

The sentence in (1) is ungrammatical because the number of temporal adverbs in a clause is restricted to one:

(1)a. *chen sátshit ta Peter ti sîten ta sXalhnat kwi siy’elânem
  1sg.subj give DET Peter DET basket DET Sunday DET year
  I gave Peter the basket on a Sunday last year
  EL 17-4-97 17

b. *kwi siy’elânem chen sátshit ta Peter ti sîten ta sXalhnat
  DET year 1sg.subj give DET Peter DET basket DET Sunday
  Last year I gave Peter the basket on a Sunday
  EL 17-4-97 18

This restriction extends to cardinal quantifiers, as shown in (2):

(2) *na ts'its'ap' ta Peter na7 t 7an7us-alh t kwetsi sXalhnat:
  RL work DET Peter there obl two-times obl DET Sunday
  Peter worked twice on a Sunday
  EL 2-4-97 12
Although the two adverbs denote only one time, overlapping in reference, this is a strong restriction.\textsuperscript{24}

In order for the two adverbs to express a single time, as in the English cluster \textit{on a Sunday last year}, \textit{Sunday} occurs in the main clause with the predicate \textit{there}\textsuperscript{25}, and \textit{last year} appears in a nominalized clause, as shown in (3), or in a conjoined clause as in (4)\textsuperscript{26}:

(3) \begin{quote}
na na7 t kwetsi sxalhnat s-en sátshit ta Peter kwi siy'elánem
RL there obl DET Sunday nom-1poss give DET Peter DET
Twas a Sunday last year that I gave Peter (the basket)
EL 17-4-97 19
\end{quote}

(4) \begin{quote}
na na7 t kwetsi sxalhnat 7i-kw-na chen sátshit ta Peter ti sîten kwi siy'elánem
RL there obl DET Sunday and-TD-RL-lsg.subj give DET
Peter DET basket DET year
I gave Peter the basket on a Sunday last year
EL 17-4-97 21
\end{quote}

These facts argue for the existence of a single position for the adverb in the clause. This makes the analysis of adverbs as adjuncts improbable; if they were adjuncts, temporal adverbs should be able to appear in strings, albeit ordered strings, in a single clause.

\textsuperscript{24}This observation is by Hamida Demirdache (p.c.).
\textsuperscript{25}The existence of the oblique on the adverb is not a problem for the analysis of adverbs as arguments. Enç (1987) observes that, in English, prepositional adverbs such as \textit{on Monday} have the same distribution as NP adverbs such as \textit{yesterday}. She analyses these prepositions as "semantically vacuous" and suggests that temporal PPs are syntactically NPs.
\textsuperscript{26}See Section 2.4. This is a case of coordination, rather than subordination, because of the main clause agreement \textit{chen} in the second clause.
4.2 SqwXwu7mish Adverbs Prefer the Right Periphery

The three positions of the English adverb are exemplified in (5):

(5)a. Yesterday, the lady saw the bear.
   b. ?The lady, yesterday, saw the bear.
   c. *The lady saw yesterday the bear.
   d. The lady saw the bear yesterday.

Sentences (5a.) and (5d.) are equal in acceptability; sentence (5b.) requires a particular intonation to be understood; and sentence (5c.) is ungrammatical because the adverb intervenes between the verb and its complement. Thus, in English the position of the adverb is marginally restricted.

In contrast, the position of SqwXwu7mish adverbs is confined to the right periphery.\(^{27}\) The examples in (6) show that the adverb cannot be positioned before the subject and verbal predicate in a main clause:

(6)a. *kwi chelaqlh chen (-t) ts'íts'ap'
   DET yesterday lsg.subj(PT) work
   EL 19-12-96

   b. *ti sti7ts chen ts'íts'ap'
   DET today lsg.subj work
   EL 19-12-96

   c. *q-kwayeles chen ts'ítsap'
   IRR-tomorrow lsg.subj work
   EL 19-12-96, EL 6-2-97

   d. *kwayeles chen ts'íts'ap'
   tomorrow lsg.subj work
   I'll be working tomorrow
   EL 20-2-97

\(^{27}\)Henry Davis (p.c.) states that to his knowledge, this restriction has not been observed in any other Salish language.
The preferred position of adverbs in single clause constructions is at the end of the sentence, as shown in (7) and (8).

(7) a. chen ilhen kwi chel'aqlh
    1sg.subj eat DET yesterday
    I ate yesterday YJ 13-3-96

   b. chen ilhen 7i7Xw sqwayl
    1sg.subj eat every day
    I eat every day DW 20-3-96

   c. chen ilhen kwayeles
    1sg.subj eat tomorrow
    I'll be eating tomorrow DW 20-3-96

   d. chen ilhen kwetsi sXalhnat
    1sg.subj eat DET Sunday
    It was a Sunday that I ate EL 19-6-97

(8) a. chen tl'iq-s ti siten kwi chel'aqlh
    1sg.subj arrive-caus DET basket DET yesterday
    I brought this basket (from close by) yesterday
    EL 27-3-97; EL 17-4-97 03

   b. *chen tl'iq-s ti siten ta sXalhnat
    1sg.subj arrive-caus DET basket DET Sunday
    I brought the basket on (any) Sunday
    EL 17-4-97; EL 19-6-97 01

   c. chen tl'iq-s ti siten t kwetsi sXalhnat
    1sg.subj arrive-caus DET basket obl DET Sunday
    I brought the basket (here) on Sunday
    EL 17-4-97; EL 8-5-97 03

The adverb is dispreferred in the position between the verb and its object, as shown in (9):

(9) a. */\chen tl'iq-s kwi chel'aqlh ti siten
    1sg.subj arrive-caus DET yesterday DET basket
    I brought this basket (from close by) yesterday
    EL 27-3-97; EL 17-4-97 04

   b. *chen tl'iq-s ta sXalhnat ti siten
    1sg.subj arrive-caus DET Sunday DET basket
    EL 17-4-97; EL 8-5-97; EL 19-6-97 06

The speaker often rejects such sentences on the basis that "you're bringing yesterday" or "you're bringing the Sunday!".
Sentences with a full DP subject before or after the verb show a similar pattern: the adverb is grammatical at the right periphery, as in (10b.) and (11b.); the adverb intervening between the subject and object is ungrammatical, as in (10c.) and (11c.); and the adverb appearing between the verb and either a postverbal or preverbal subject is ungrammatical, as in (10d.) and (11d.):

(10)a. (na) k'wach-nexw-as kwelhi slhanay' ta miXalh
   (RL) see-trans-3subj DET lady DET bear
   The lady saw the bear
   EL 27-3-97 23

b. k'wach-nexw-as kwelhi slhanay' ta miXalh kwi chel'aqlh
   see-trans-3subj DET lady DET bear DET yesterday
   Yesterday the lady saw the bear
   EL: " start from the end"
   EL 27-3-97 28

c. *k'wach-nexw-as kwelhi slhanay' kwi chel'aqlh ta miXalh
   see-trans-3subj DET lady DET yesterday DET bear
   Yesterday the lady saw the bear
   EL 27-3-97 29

d. *k'wach-nexw-as kwi chel'aqlh kwelhi slhanay' ta miXalh
   see-trans-3subj DET yesterday DET lady DET bear
   The lady saw the bear yesterday
   EL 27-3-97 32

(11)a. kwelhi slhanay' k'wach-nexw-as ta miXalh
   DET lady see-trans-3subj DET bear
   The lady saw the bear
   EL 27-3-97 24

b. kwelhi slhanay' k'wach-nexw-as ta miXalh kwi chel'aqlh
   DET lady see-trans-3subj DET bear DET yesterday
   The lady saw the bear yesterday
   EL 27-3-97 25

c. *kwelhi slhanay' k'wach-nexw-as kwi chel'aqlh ta miXalh
   DET lady see-trans-3subj DET yesterday DET bear
   The lady saw the bear yesterday
   EL 27-3-97 26
(11)\(d\). *kelh\(i\) slhanay' kwi chel'\(aq\)lh k'wach-nexw-as ta miXalh
DET lady DET yesterday see-trans-3subj DET bear
The lady saw the bear yesterday
EL 27-3-97  27

In ditransitive constructions, again the adverb is grammatical at the right edge, as in (12):

(12)a. chen s\(\acute{a}\)tshit ta Peter ti s\(\acute{a}\)tten kwi chel'\(aq\)lh
lsg.subj give DET Peter DET basket DET yesterday
I gave this basket to Peter yesterday
EL 8-5-97 EL 27-3-97; EL 8-5-97  07

b. chen s\(\acute{a}\)tshit ta Peter ti s\(\acute{a}\)tten ta sXalhnat
lsg.subj give DET Peter DET basket DET Sunday
I gave it to Peter on Sunday
WOR; *kwi sXalhnat
EL 17-4-97  09

When the adverb intervenes between the direct and indirect object, as in (13), the sentence is marginal:

(13)a. */\(\ddot{\text{u}}\)chen s\(\acute{a}\)tshit ta Peter kwi chel'\(aq\)lh ti s\(\acute{a}\)tten
lsg.subj give DET Peter DET yesterday DET basket
I gave this basket to Peter yesterday
EL 27-3-97; EL 17-4-97; EL 8-5-97  08

b. chen s\(\acute{a}\)tshit ta Peter ta sXalhnat ti s\(\acute{a}\)tten
lsg.subj give DET Peter DET Sunday DET basket
I gave it to Peter on a Sunday
EL 17-4-97  15,23

When the adverb appears between the verb and its objects, as in (14), the sentence is again marginal or ungrammatical:

(14)a. */\(\ddot{\text{u}}\)chen s\(\acute{a}\)tshit kwi chel'\(aq\)lh ta Peter ti s\(\acute{a}\)tten
lsg.subj give DET yesterday DET Peter DET basket
I gave this basket to Peter yesterday
EL 27-3-97; EL 17-4-97; EL 8-5-97  09

b. *chen s\(\acute{a}\)tshit ta sXalhnat ta Peter ti s\(\acute{a}\)tten
lsg.subj give DET Sunday DET Peter DET basket
I gave this basket to Peter on Sunday
EL 17-4-97; EL 8-5-97  22

Finally, as seen in Chapter 3, the adverb may be syntactically focused as a main predicate, on its own or as an argument with nilh or the zero focus marker. This is
shown in the coordination structures in (15). In (15a.), the adverb on its own is a predicate (Jelinek 1993, Matthewson 1996) which is coordinated with another clause by the clitics 7i-kw; in (15b.), the adverb, with the oblique and the determiner, is an argument with a zero focus marker; and in (15c.), the adverb with the oblique and the determiner is an argument with the overt focus marker nilh:

(15)a. *sXalhnat* 7i-kw-na chen tl'íq-s ti sítën
    Sunday and-TD-RL 1sg.subj arrive-caus DET basket
    I brought the (your) basket on Sunday
    (volunteered form)
    EL 17-4-97; EL 1-5-97; EL 8-5-97 04

b. 0 t kwetsi sXalhnat 7i-kwe-na chen mi-tl'íq-s ti sítën
    FOC obl DET Sunday and-TD-RL 1sg.subj come-arrive-caus DET basket
    I brought the basket on a Sunday,
    lit. It was any Sunday that I brought the basket
    EL 17-4-97; EL 8-5-97 05

c. nilh t kwetsi sXalhnat 7i-kwe-na chen sátshit ta Peter kwetsi sítën
    FOC obl DET Sunday and-TD-RL 1sg.subj give DET Peter DET basket
    It was a Sunday I gave Peter the basket
    EL 8-5-97 26

d. nilh sXalhnat 7i-kwe-na chen mi-tl'íq-s ta sítën
    FOC Sunday and-TD-RL 1sg.subj come-arrive-caus DET basket
    I already brought the basket on a Sunday
    EL 8-5-97 24

The absence of the determiner on the adverb with the overt copula in (15d.) is predicted to be ungrammatical, but is assumed to be a case where the determiner is dropped.

To summarize, the position of the adverb in SgwXwu7mish is preferred at the right edge of the main clause. Adverbs before the verb are disallowed, while adverbs between the verb and its complement are dispreferred. Such restrictions
4.3 Adverbs and Subordinate Clauses

Thompson (1995) and Hitzeman (1995) argue for English that adverbs which specify the event time are adjoined to VP, whereas adverbs which specify the topic time are adjoined at sentence level. This explains why English adverbs which appear at the right periphery of the sentence are ambiguous between event time and topic time, while adverbs at the left edge are unambiguously the topic time.

A parallel analysis can be extended to adverbs at the right edge of subordinate clauses in comparison with adverbs at the right edge of main clauses, as shown in (16). Addressing only adjunction to S for simplicity\textsuperscript{28}, in (16a.), the adverb at the right edge of the subordinate clause is ambiguous between construal with the subordinate clause and construal with the main clause; in (16b.), the adverb at the right edge of the main clause is unambiguously construed with the main clause:

(16)a. I said that Peter would be going away yesterday.

1. I said at a time in the past that the event of Peter's leaving was yesterday.

2. I said yesterday that the event of Peter's leaving would occur.

\textsuperscript{28}In the simple past, where the topic time and the event time coincide, the distinction of readings resulting from adjunction to V and readings resulting from adjunction to S is impossible with a deictic adverb like yesterday (see Hitzeman 1995).
(16)b. I said yesterday that Peter would be going away.

1. *I said that the event of Peter's leaving was yesterday.

2. I said yesterday that the event of Peter's leaving would occur.

Again, the asymmetry between these sentences can be explained by the adjunction site of the adverb. When the adverb appears at the right edge of the subordinate clause, it may be adjoined either to the higher S, for reading (2.), or to the lower S for reading (1.); when the adverb appears at the right of the main clause, it can only be adjoined to the higher S.

The equivalent sentences in SqwXwu7mish argue against the analysis of adverbs as adjuncts, however. The adverb on the right of a subordinate clause cannot be construed with the main clause because there is only one position available for the adverb in each clause.

(17) *chen tsut kwi-s nam' huya7 ta Peter kwi chel'aqlh
1sg.subj say DET-nom go leave DET Peter DET DET yesterday
I said yesterday that Peter would be going away\(^{29}\)
EL 27-3-97 33

The adverb yesterday cannot be attached to the lower CP because it is incompatible with the future construction nam' huya7 'going to leave'; the ungrammaticality of this sentence shows that the adverb cannot be attached to the upper CP or its interpretation with the main clause would be possible.

The volunteered correction of the sentence moves the adverb to the right of the main verb as shown in (18):

\(^{29}\)Note that the translations of the examples in this section are those provided by the speaker; they show sequence of tense effects (see Stowell 1993 for a detailed explanation of these in English).
In order for the adverb to be interpreted with the main clause from the right edge of the sentence, the agreement for the third person possessive, -es, is added to the nominalizer of the subordinate nominalized clause:

(19) a. \text{chen tsut [kwi-s-es nam' huya7 ta Peter] kwi chel'aqlh} \\
\text{1sg.subj say [DET-nom-3poss go leave DET Peter]} DET yesterday \\
I said yesterday that Peter's going away \\
EL 27-3-97 35

b. \text{chen tsut [kwi-s-es huya7 ta Peter] kwi chel'aqlh} \\
\text{1sg.subj say DET-nom-3poss leave DET Peter DET yesterday} \\
I said yesterday that Peter went away \\
I said that Peter went away yesterday \\
EL 27-3-97 36

The sentences in (18) and (19) appear to be like the English examples in (16); the adverb at the right periphery in (17) should also be interpretable in the main clause, but the sentence is ungrammatical. Thus, there can be only one position per clause for the adverb in SqwXwu7mish, in contrast with the three in English. An account for the contrast in these four examples is proposed in Section 5.6.

4.4 Functional Adverbs

Unlike the locating adverbs discussed in the previous sections, certain "functional" adverbs in SqwXwu7mish must occupy the position before the subject clitic and verb as in

\text{30}P. Jacobs (p.c.) says that there is possessive marking on nam' in (17) and (18) which has been dropped in rapid speech.

\text{31}This section was the suggestion of Rose-Marie Déchaine.
(20); (21) shows that they cannot occupy the position at the right periphery preferred by adverbs such as yesterday and on Sunday.

(20a. *chen ts’íts’ap’
   chiyalh lsg.subj work soon
   I'm gonna work soon
   EL 1-5-97 18

b. *chen ts’íts’ap’
   way’ti lsg.subj work maybe
   I'm not sure/I think I will work
   EL 1-5-97 19

c. *chen ts’íts’ap’
   lhiq’ lsg.subj DR work always
   I'm always working (volunteered form)
   EL 1-5-97 23

d. *chen ts’íts’ap’
   way’ti lhiq’ lsg.subj work PR-maybe always
   Maybe I will work (volunteered form)
   EL 1-5-97 21

(21a. *chen ts’íts’ap’ chiyalh
   lsg.subj work soon
   EL 1-5-97 24

b. *chen ts’íts’ap’ way’ti
   lsg.subj work maybe
   EL 1-5-97 26

c. *chen ts’íts’ap’ lhiq’
   lsg.subj DR work always
   I'm working always
   EL 1-5-97 27

Therefore, functional adverbs are operators, modifiers, or quantifiers; Kuipers (1967) calls them "sentence-adjuncts."

---

The adverb lhiq’ ‘always’ has a less restricted distribution and can appear after the subject clitic, as shown in (i):

i. *chen ts’íts’ap’
   lhiq’ lsg.subj DR work always
   I'm always working (I never stop)
   answers the question: "Why don't I ever see you?"
   EL 1-5-97 28

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Conversely, functional adverbs cannot be main predicates, either on their own as in (22) or with nilh as in (23):

(22) a. *chiyalh 7i-kwe-na chen tl'íq-s ti síten
    soon and-TD-RL lsg.subj arrive-caus DET basket
    EL 1-5-97 53

    b. *way'iti 7i-kwe-na chen tl'íq-s ti síten
      maybe and-TD-RL lsg.subj arrive-caus DET basket
      EL 1-5-97 51

    c. *lhiq' 7i-kwe-na chen tl'íq-s ti síten
      always and-TD-RL lsg.subj arrive-caus DET basket
      EL 1-5-97 48

(23) a. *nilh chiyalh tl'-as nam' huya7
    FOC soon WH-3subj go leave
    EL 1-5-97 37

    b. *nilh way'iti tl'-as nam' huya7
    FOC maybe WH-3subj go leave
    EL 1-5-97 39

    c. *nilh lhiq' tl'-as nam' huya7
    FOC always WH-3subj go leave
    EL 1-5-97 41

This is in direct contrast to locating adverbs such as yesterday, tomorrow and Sunday, which have been shown to be main predicates when they determine the event time of the utterance; in (24), the adverbs are main predicates with nominalized clause complements (see Section 2.4):

(24) a. (na) sXalhnat kwi-s-es ts'íts'ap' ta Peter
    (RL) Sunday DET-nom-3poss work DET Peter
    Peter worked on Sunday
    EL 19-6-97

    b. kwi chelaqlh s-es ts'íts'ap' ta Peter
    yesterday nom-3poss work DET Peter
    Yesterday Peter worked.
    EL 19-6-97

    c. kwayl kwi-s ts'íts'ap'-s ta Peter
    tomorrow DET-nom work-3poss DET Peter
    Peter will be working tomorrow
    EL 19-6-97
(24)d. kwayl(-eq') 7i nam' huya7 kwa Peter
tomorrow(-FUT) and go leave DET Peter
Tomorrow Peter will be going away
EL 1-5-97 34

The focus marker nilh is often used with these adverbs as
predicates, here with conjunctive clause complements:

(25)a. nilh kwi sxalhnat tl'-as nam' huya7
FOC DET Sunday WH-3subj go leave
He went away on Sunday lit. it was Sunday when he went
away
EL 1-5-97 43

b. nilh kwi chel'aqlh tl'-as nam' huya7
FOC DET yesterday WH-3subj go leave
It was yesterday (when) somebody went away
EL 1-5-97 30

In this way, locating adverbs behave in the same way as
arguments such as the direct object, which can be the main
predicate without a determiner, with the zero focus marker
and with nilh, as shown in (26):

(26)a. sitios [ti na tl'iq-s-t-an]
basket [DET RL arrive-caus-trans-lsg]
It's a basket that I brought
volunteered form
EL 8-5-97 03

b. Ø kwetsi sitios [Ø na tl'iq-s-t-an]
FOC DET basket [rel RL arrive-caus-trans-lsg]
It was the basket I brought
EL 8-5-97 05

c. nilh ti sitios [Ø na tl'iq-s-t-an]
FOC DET basket [rel RL arrive-caus-trans-lsg]
This basket I brought
EL 8-5-97 07

The complement of these predicates is a zero relative clause.

This comparison of temporal adverbs with functional
adverbs shows a strong distinction: functional adverbs are
preferred at the left edge of main clauses and cannot be main
predicates, whereas locating adverbs occur at the left edge
of a sentence only as main predicates. Their ability to be main predicates aligns temporal adverbs with other arguments, such as direct objects. In fact, it is a property of Salish (Davis 1996:1-2) that "open-class" categories can be predicates on their own and arguments when preceded by a determiner (Jelinek 1993, Davis 1996).

4.5 Summary

The restrictions on the position of the adverb support the claim that they are not adjuncts. If they were adjuncts, multiple temporal adverbs should be able to occur in the clause, adjoined to different positions. Therefore, the distribution of SqwXwu7mish adverbs forces their analysis as arguments; more precisely, the distribution and interpretation of SqwXwu7mish temporal adverbs argues for their analysis as time-denoting arguments, selected by a temporal predicate.
5. The Syntax of the Topic Time Argument

SqwXwu7mish adverbials identify the topic time, or, if they are focused syntactically as main predicates, they identify the event time, as shown in Chapter 3. Chapter 4 presented data that argued for a restriction of one adverb per clause, with a preferred position at the right edge of the sentence. This supported the claim that the adverb in SqwXwu7mish is an argument, not an adjunct. This chapter will argue that SqwXwu7mish adverbs are the topic time argument in the specifier of the spatiotemporal predicate Aspect (Demirdache and Uribe-Etxebarria, to appear).

This analysis is motivated on conceptual grounds in Section 5.1. Section 5.2 reviews the syntax of Tense and Aspect proposed by Demirdache and Uribe-Etxebarria, then Section 5.3 lays out the modifications necessary for the application of this framework to SqwXwu7mish. Section 5.4 proposes an analysis of how the temporal interpretation of pronoun-verb constructions is derived; the derivation of word order is examined in 5.5. In Section 5.6, the construal of adverbials in complex sentences is addressed. Finally, in Section 5.7, the interaction of topic time adverbs and quantification supports a non-structural theory of scope (Demirdache and Matthewson 1997).

5.1. Topic Time, Temporal Adverbials and Aspect

The proposal that it is Aspect which determines the relation between the reference or topic time and the event
time is explored in analyses such as Giorgi and Pianesi (1991), Thompson (1994), and Klein (1994, 1995).

Giorgi and Pianesi (1991) propose two Tense heads: the higher T1 establishes a relation between speech time, S, and reference (or topic) time, R, and the lower T2 establishes a relation between R and event time, E. These relations are governed by the "Biunique Mapping Principle", whereby there is a "biunique correspondence" between overt "temporal morphemes and T-relations" (Giorgi and Pianesi 1991:191). Thus, under this analysis "the syntactic primitives of tense are the relations between temporal points (...) and not the points themselves" (Thompson 1994a:fn.1).

Thompson argues that such a proposal fails to account for the interpretation of adverbs, as adverbs never modify more than one time point. As discussed in Section 1.4, she claims that each of the three time points associates to a head: speech time, S, to Tense, reference (or topic) time, R, to Aspect, and event time, E, to V. Tense morphemes thereby determine the S,R relation while the presence or absence of have determines the relation of R to E. The ambiguity in adverbial interpretation between a reference or topic time reading and an event time reading can be accounted for if the topic time reading is a result of adjunction of the adverb to Aspect and the event time reading due to adjunction to V.

Klein (1994:99) also argues that tense relates the time of utterance, TU, and the reference or topic time, TT, while aspect is a way "to relate the time of situation (TSit) to
the topic time: TT can precede TSit, TT can follow TSit, TT can contain TSit, or TT can be partly or fully contained in TSit". Crucially, the topic time, TT, may be specified by adverbs that denote either a single point in time or an interval\(^3\). Thus, the topic time denoted by the adverb is related to the event time by aspect.

This thesis proposes that if SqwXwu7mish adverbs are arguments which denote topic time, and if aspect is a relation between event time and topic time, then temporal adverbs are a topic time argument of the temporal predicate Aspect. The syntax of Tense and Aspect proposed by Demirdache and Uribe-Etxebarria (to appear a,b), with adaptations for SqwXwu7mish, provides the framework for such an analysis.

5.2 The Syntax of Tense and Aspect\(^3\)\(^4\)

This section briefly outlines the syntax of Tense and Aspect presented in Section 1.5, then examines Demirdache and Uribe-Etxebarria's analysis of the English Past Progressive.

To capture the semantic parallelism that both tense and aspect order two times, Demirdache and Uribe-Etxebarria argue that syntactically Tense and Aspect are prepositional-type predicates which order two time-denoting arguments with the meaning "before," "after," or "within". Each argument is a

\(^3\)As discussed in Chapter 1, Klein's topic time differs from Kamp and Reyle's (1993) Temporal Perspective Point in that it can denote an interval, and it serves as the temporal frame for the assertion of the sentence.

\(^4\)See Chapter 1, Section 1.5 for a more detailed explanation of Demirdache and Uribe's framework.
time denoting phrase: the speech time argument, UT-T, is the external argument of Tense, generated in the specifier of Tense; the reference or topic time argument, TOP-T, is the internal argument of Tense and the external argument of Aspect, generated in the specifier of Aspect; and the event time argument EV-T is the internal argument of Aspect and the outer external argument of the VP, generated in the specifier of the VP.

Tense and Aspect make use of multiple specifier positions (Chomsky 1995) to fulfill their "functional roles". The functional specifier of TP takes over the function of the AgrS specifier, while the specifier of AspP is the equivalent of the specifier of AgrO. These multiple specifier positions accommodate both the temporal arguments of Tense and Aspect and the arguments of the verb, which are base-generated in the VP and moved up for Case assignment or feature checking.

The authors' analysis of the Past Progressive in the utterance in (1) illustrates how their framework functions:

(1) Henry was building a house.

(2)

```
TP
    UT-T  T'
    T  ASP-P
    after
    TOP-T  ASP'
    ASP
    within
    EV-T  V'
    V
```
Progressive Aspect is a predicate meaning "within", which orders the topic time within the event time, the time of building; Past Tense is a predicate meaning "after", which orders the speech time after the topic time. Therefore, the analysis in (2) "focuses a subinterval within the interval defined by the event of building. This subinterval is itself located in the past" (Demirdache and Uribe-Etxebarria to appear b). This is illustrated by the time line in (3):

\[
\begin{align*}
&\text{TOP-T} & \text{UT-T} \\
&\leftarrow\leftarrow\leftarrow\leftarrow\leftarrow\leftarrow\leftarrow\leftarrow\leftarrow\leftarrow\leftarrow\leftarrow
\end{align*}
\]

\[\text{EV-T}\]

5.3 Adapting the Framework to SqwXwu7mish

Four issues must be addressed in order for the SqwXwu7mish data presented in the previous chapters to be analyzed within this framework: the analysis of simple tenses; the syntax and semantics of the Zeit Phrase, ZP; the status of recursive aspect; and the content of the Tense predicate in SqwXwu7mish.

5.3.1 Simple Tenses

This thesis proposes to account for the simple tenses, Past and Future\(^{35}\), that are not addressed in Demirdache and Uribe-Etxebarria (to appear a,b), by proposing an Aspect predicate with the meaning "around". This is motivated with an example of the Simple Past.

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\(^{35}\)The present is set aside, although the present reading of an eventive verb in SqwXwu7mish gets either a durative or a generic reading in translation to English.
For a sentence in the Simple Past, the speech time, UT-T, is after the topic time, TOP-T, as above; however, the event time, EV-T, is viewed as a whole, therefore it is contained in the topic time, TOP-T, as shown in (4):

(4) \[ \begin{array}{c}
\text{EVT-T} \\
\text{UT-T} \\
\hline
\text{TOP-T}
\end{array} \]

The Progressive relationship between EV-T and TOP-T schematized in (3) is the inverse of that of the Simple Tense shown in (4); therefore, the meaning of Aspect in the simple tenses is the inverse of the meaning of Progressive Aspect. As the topic time, TOP-T, in the Progressive is ordered "within" the event time, EV-T, by the meaning of Aspect, the topic time in a Simple tense is ordered "around" the event time. This is illustrated by the example in (5) and the analysis in (6):

(5) Henry built a house.

(6)

\[ \begin{array}{c}
\text{TP} \\
\text{UT-T} \\
\text{T'} \\
\text{T} \\
\text{ASP-P} \\
\text{after} \\
\text{TOP-T} \\
\text{ASP'} \\
\text{ASP} \\
\text{around} \\
\text{EV-T} \\
\text{V'} \\
\text{V}
\end{array} \]

In the Simple Future, the utterance time, UT-T, is ordered before the topic time, TOP-T, by the predicate Tense; the predicate Aspec orders the topic time around the event time.
time, EV-T. The diagram of these relations shown in (7) is the mirror image of that in (4):

(7) UT-T EVT-T
    <-----|------|--[------]-]------>
    TOP-T

The addition of "around" to the other possible meanings of Aspect, "within," "before," and "after," appears to violate the "strict parallel" between Tense and Aspect used by Demirdache and Uribe-Etxebarria to motivate their analysis. Conversely, it completes the system following Klein's observation, stated in Section 5.1 above, that the topic time can be before the event time (Prospective Aspect), after the event time (Perfect Aspect), that all or part of the topic time can be within the event time (Progressive Aspect), and that the topic time can "contain" or be around the event time (Completed Aspect) as described in this section. Furthermore, it is consistent with the analysis of temporal adverbials such as yesterday and the next day as the topic time argument, which will be taken up in Section 5.4.

5.3.2 The Category of Temporal Arguments

The syntactic category of the temporal argument is the functional category ZP (Zeit Phrase), a "time-denoting phrase" which is a "referential category analogous to DP".

For Stowell (to appear a:4), the head, Z, binds a variable, itself a ZP, in the specifier of the VP it contains. The present proposal analyzes the temporal topic

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36H. Demirdache (p.c.) suggests that the "Reportative Present", which is used for telic events contained in the utterance time, is the Tense parallel to the Aspect in simple tenses.
time argument adverb as a ZP which contains an NP; the head Z is the determiner of the adverb which binds a variable in the specifier of the NP. The structure of the topic time ZP ta sXalhnat 'that Sunday' is shown in (8a.), with the structure of the DP ta miXalh 'the bear' next to it in (8b.) for comparison:

(8)a. ZP

Z' D'
/\
Zi NP Dj NP
ta

b. DP

D' N'
/\
Dj NP ej N'
ta

miXalh

sXalhnat

Stowell (1993:9) claims that as N is a "predicative category analogous to V (...) and that D is a referential category, a property that enables the category DP to refer" to individuals, Z is also a referential category which allows ZP to refer to times. The structure proposed in (8a.) simply extends this analogy to NP temporal adverbs, where the Z gives the adverb its temporal reference.

This proposal has several advantages for the analysis of SqwXwu7mish temporal adverbials. First, it encodes the difference between phrasal adverbials, which are ZP's, and clausal adverbials, which are CP's, to account for differences in their distribution and syntactic behaviour.37

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37H. Davis (p.c.) states that in a neighbouring Interior Salish language, St'at'imcets, temporal adverbials are CP's which attach freely in the manner of adjuncts.
Second, it explains how changing the determiner on the adverb, as seen in Section 2.3, can change the temporal reference of the adverb to past, present or future:

(9)  
| ti sXalhnat | this Sunday |
| ta sXalhnat | that Sunday  |
| kwetsi sXalhnat | any, a certain Sunday |
| kwi sXalhnat | a possible Sunday |

When the determiner ti, for example, is under D, it refers to individuals which are near and visible, and when ti is under Z, it refers to times which are near. Third, this proposal captures the parallel between nominal and temporal reference, while formalizing the way in which they differ. In SqwuXwu7mish, these determiners refer to individuals and to times differently: for example, kwi indicates things that cannot be seen, people who are dead, Sundays that may happen, and days and years that are past. In addition, the category ZP explains why adverbs, unlike DP nominals, do not get case.

This section has focused on the analysis of topic time adverbs. The external argument of Tense is assumed to be a ZP which is PRO, following Stowell (1993, to appear a,b). Event time arguments are assumed to be ZP variables, which are interpreted in terms of their relation to the topic time argument as determined by the predicate Aspect.

5.3.3 Aspect Recursion in SqwuXwu7mish

Demirdache and Uribe-Etxebarria (to appear b) show how their proposal can derive Aspect recursion in English without additional mechanisms. Conversely, there cannot be Aspect recursion in SqwuXwu7mish if there is only one topic time argument position. The data presented in Chapter 4 argued
for a single topic time position in order to account for the restriction of one temporal adverb in a clause and for the construal of adverbs in subordinate clauses.

Indeed, the fact that most aspectual clitics in SqwXwu7mish (wa the durative, nam' the near future, and mi7 "become, come toward") are in complementary distribution argues against the recursion of Aspect\(^3\). Although the temporal deitic clitic kw, which was shown to give the equivalent of the perfect, may cooccur with wa as in (10), the translations show that kw and wa are not both aspectual in this case; if they both were aspectual, the meaning would be the perfect of a progressive:

(10) na-kw wa tsits'áp'
RL-TD DR work
He has started to work,
ie., he is working now,
he is already working
(Kuipers 1967:158)

As this requires a more thorough examination, this thesis will adopt the conclusion that there is no recursive Aspect in SqwXwu7mish. Therefore, a clause can have at most one Aspect projection, one AspP specifier, and one topic time argument, TOP-T.

5.3.4 The Predicate Tense in SqwXwu7mish

Tense in SqwXwu7mish is analyzed in this thesis as lacking morphological content or feature specification, given the pronoun verb constructions in (11):

\(^3\)The main verb forms of nam' and mi7 may cooccur with wa, however.
These sentences get their temporal interpretation either from an adverb or from the discourse, although the pronoun and verb on their own are at times uninterpretable. Furthermore, the interpretation of the bare pronoun and verb is sensitive to the aspectual class of the predicate: activity verbs get a past or present reading, statives a present reading, and achievement and accomplishment verbs a past reading\(^{39}\).

In order to account for similar constructions in Haitian, Déchaine (1993) proposes that Tense is a Functional head, a syntactic position without morphological or semantic content. Since the predicate Tense must have semantic content to project its arguments, its meaning is assumed to be unspecified and derived via the relation of its arguments: the internal argument of Tense, the topic time, is either a

\(^{39}\)See Chapter 6 for examples.
temporal adverbial or a non-overt pro, which is bound by the
topic time of the previous utterance; the external argument
of Tense is either now in main clauses or controlled by the
main event time in subordinate clauses. Thus, the temporal
interpretation of these sentences is determined by the
relation of the utterance time, UT-T, to the inherent
temporal features of the topic time, TOP-T, and by the topic
time itself, which is related by Aspect to the event time.

5.4 Analyzing the Pronoun-Verb Construction

This section proposes an analysis of the sentences in
(11) to show how the topic time determines the temporal
interpretation of the sentence.

5.4.1 Topic Time "Yesterday"

The surface form of (11b.), represented in (12), is
derived as follows: the first person subject pronoun is
assumed to be generated in the specifier of the TP (Davis to
appear); the verb raises through Asp to Tense. The adverb
does not move because it does not need to move, having no
features to be checked (Thompson 1994a).

The temporal interpretation of (11b.) is derived without
morphological Tense in the following manner. The main
clauses utterance time means "now"; the topic time denotes a
time, "yesterday", that is before now. The topic time
determines the time of the event by being in an ordering
relation with it via Aspect: the topic time contains the
event time, which therefore must also be before now.
This derivation gives the interpretation: "there is a time yesterday, and now is after that time, and that time includes the time of my eating." This is represented on a time line in (13):

(13) \[ \text{TOP-T} \]
\[ \text{yesterday} \]
\[ \text{<--------[----------[-----]----------]-------|-------->} \]
\[ \text{eat} \]
\[ \text{now} \]
\[ \text{EVT-T} \]
\[ \text{UTT-T} \]

The same meaning is derived in a different formalism by the "semantic representation" constructed in Discourse Representation Theory (Kamp and Reyle 1993), shown in (14):
This is interpreted informally as "there is a time yesterday and there is an event contained in that time and that time is before now; x is 'I' and the event is 'I eat'." The symbol "C" gives the meaning "e is temporally included within t"; as above, the event is contained in the time specified by the temporal adverbial.

This proposal explains how the adverbial can be the sole determinant of the sentence's temporal reference. Furthermore, this proposal allows the topic time to determine the time of the event by being in an ordering relation with it via Aspect, without recourse to morphological Tense.

5.4.2 Zero Topic Time

The temporal interpretation of (11a.), which has a null pro topic time, has a similar interpretation as shown in (15):
The topic time argument pro in this case is bound by the topic time of the previous sentence or question; this analysis captures the fact that the topic time is often not overtly specified but is maintained from sentence to sentence. This utterance is therefore uninterpretable if no topic time is available from the discourse.

5.4.3 Topic Time "Sunday"

When the topic time argument is a calendar name such as Sunday, it contains the time of the event of eating, in the same way as yesterday. Calendar names, however, are "context-dependent" (Kamp and Reyle 1993); they can pick out more than one time interval, and the relevant interval is
then determined by the context. In English, a demonstrative such as this or an adjective such as last may identify the referent of Sunday. In SqwXwu7mish, the determiner in Z must identify the referent of Sunday as "present," "past," or "possible" (see Sections 2.3.1 and 2.3.4). In the example in (11d.), the determiner kwetsi identifies the Sunday as "past," thereby locating the topic time before the utterance time without recourse to morphological Tense.

(11)d.chen-ilhen kwetsi sxalhnat
  1sg.subj eat DET Sunday
  It was a Sunday that I ate EL 19-6-97

(16) CP
    C'
    C TP
    DP TP
    chen
    UT-T = ZP T'
    PROnow
    T ASP-P
    ilhenj
    TOP-T = ZP
    kwetsi sxalhnat
    ASP
    ej-around
    EVT-T = ZP
    VP
    pro V'
    ej

The temporal interpretation of this sentence is: "there is a time, a certain Sunday in the past, and now is after that Sunday, and the event of eating is included in that time interval." This is derived by Aspect ordering of a certain
(past) Sunday, the topic time TOP-T, around the event time of the verb, EV-T, and by the past meaning of the topic time locating it before the matrix utterance time, which is now.

This analysis shows that Tense may be morphologically null and semantically unspecified precisely because of the temporal information supplied by the topic time argument and the temporal reference of the determiner.

5.4.4 Habitual Topic Time

In English, the habitual reading of an eventive verb is obtained with the generic reading of the present tense. Eng (1991:7) argues that these result from the presence of a generic operator, a "phonologically null operator capable of binding variables unselectively," which binds the time argument of the verb.

In SqwXwu7mish, the habitual reading can be obtained with the pronoun, verb, and a universally quantified adverb, as in (11e). Again, it is not Tense but the habitual reading of the quantified adverb itself which locates the utterance time within the topic time. Thus, the utterance time now is a moment in a day which is part of the set picked out by all days. Similarly, the topic time surrounds the event of eating via the Aspect predicate "around" to locate that event on a day which is part of "all days".

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Thus, the difference between present moment readings and habitual readings can be ascribed to the specification of the overt universal topic time argument, without recourse to an null generic operator as in Enç (1991).

5.4.5 Conclusions

In conclusion, this proposal successfully explains the paradigm in (11): the pronoun and verb are uninflected for tense but their temporal interpretation is determined by the topic time argument. This argument is specified by temporal adverbials, either in the discourse or in the sentence. Assuming the utterance time is always now in main clauses, it is the semantics of the ZP topic time adverb, its determiner,
and the presence of quantifiers which determine the relation of the topic time to the utterance time and thereby account for the absence of morphological tense or semantic specification in the Tense predicate. Finally, the content of the Aspect predicate orders the event time of the verb in relation to the time determined by this topic time argument.

5.5 Word Order

This section proposes an analysis to account for the preferred right peripheral position of the topic time adverb. The derivations of SVO-Adverb and VSO-Adverb orders\(^{40}\) are presented. Assuming the Universal Order hypothesis (Kayne 1994:35), the VSO order is analyzed as "deriving from SVO order by leftward V-movement"; rightward movement and right adjunction are prohibited.

The SVO-Adverb order of the preverbal nominal subject and nominal direct object in (18) is unproblematic. The nominal subject is base generated in the specifier of VP and moved to the specifier of the TP, while the object, generated in the complement position of VP, is raised to the thematic specifier of AspP\(^{41}\). These movements are assumed to be for Case assignment or feature checking. The verb raises via head to head movement through Aspect to Tense, as marked by the index "k", with the effect that the adverb in its base

\(^{40}\)The derivation of the VOS order is not addressed here because it did not arise in the data elicited. P. Jacobs (p.c.) states that, with the exception of one speaker, VOS is generally dispreferred.

\(^{41}\)As noted previously, the functional specifier of TP is comparable to that of AgrS, and the specifier of AspP to that of AgrO.
generated position, the inner specifier of AspP, surfaces on the right periphery:

(18) kwelhi slhanay' k'wach-nexw-as ta miXalh kwi chel'aqlh
DET lady see-trans-3subj DET bear DET yesterday
The lady saw the bear yesterday
EL 27-3-97 25

(19)

\[
\begin{array}{c}
\text{CP} \\
\text{C'} \\
\text{C TP} \\
\text{DP TP} \\
\text{kwelhi slhanay'i} \\
\text{UT-T = ZP T'} \\
\text{PRO T ASP-P} \\
\text{k'wach-nexw-as} \\
\text{DP ASP-P} \\
\text{ta miXalhj} \\
\text{TOP-T = ZP ASP'} \\
\text{kwi chelaqlh} \\
\text{ASP VP} \\
\text{ek-around} \\
\text{EVT-T = ZP VP} \\
\text{0} \\
\text{ej} \\
\text{ek ej}
\end{array}
\]

The sentence in (20) exemplifies the verb intial order with two overt nominal arguments:

(20) k'wach-nexw-as kwelhi slhanay' ta miXalh kwi chel'aqlh
see-trans-3subj DET lady DET bear DET yesterday
Yesterday the lady saw the bear
EL 27-3-97 28

This order may be derived in one of three ways (see Davis 1997b): by subject adjunction to the right of the VP; by the movement of the verb to T, with the subject staying in its base generated position for the VSO order; or by the movement
of the verb to T then to C and the subject to the specifier of TP, as has been analyzed for Celtic languages. This thesis argues for the traditional analysis of movement to C.

The VSO order cannot be derived by subject adjunction to the right, if Kayne's (1994) Universal Order hypothesis is assumed. If the verb moves to T and the subject and object remain in their base-generated positions, the adverb would appear between the verb and its subject, which is its most unacceptable position.

Therefore, if one assumes Universal Order (Kayne 1994) and predicative Tense and Aspect (Demirdache and Uribe-Etxebarria, to appear), the only account for these facts is to move the verb through Asp and T to C to derive the verb initial order\(^{42}\). The C may have content: in a main clause there is an optional na which cliticizes to the left of the verb; in subordinate clauses, such as nominalized clauses introduced by kwi-s, the verb and the complementizing elements are also cliticized (Kuipers 1967). This movement is indicated in (21) by the index "k"; the subject is raised to the specifier of TP, as marked by "i", and the object to the specifier of AspP, as marked by the index "j":

\[
(20) \text{k'wach-nexw-as kwelhi slhanay' ta miXalh kwi chel'aqlh}
\text{see-trans-3subj DET lady DET bear DET yesterday}
\text{Yesterday the lady saw the bear}
\text{EL:" start from the end"}
\text{EL 27-3-97 28}
\]

\(^{42}\)Adding a Voice projection (Davis to appear) to Demirdache and Uribe-Etxebarria's framework would provide an alternative landing site for the subject, above the topic time adverb, which would allow the verb to raise only to T. This option is outside the scope of the present work.
The temporal interpretation of both sentences in this section is identical to that of (11b.), as shown in the time line in (22):

(22)

The utterance time *now* is after *yesterday*, the inherently past topic time adverb, while the event time of seeing is contained in the topic time.

Word order provides another argument for the claim that there is a single position available for the temporal adverbial, high in the tree in the topic structure. Moving
the verb and its arguments up accounts for the fact that the surface position of the topic time adverb is the right edge.

5.6 Subordinate Nominalized Clauses

This proposal has argued that the adverb at the right edge of a single clause can occupy only one position in the syntax, the specifier of the predicate Aspect. The adverb at the right edge of a bi-clausal sentence exhibits asymmetries in grammaticality, as illustrated in (23) and (24)\(^{43}\):

(23)a. *chen tsut \[kwi-s nam' huya7 ta Peter kwi chel'aqlh\]
  lsg.subj say [DET-nom go leave DET Peter DET yesterday]
  *I said yesterday that Peter would be going away
  EL 27-3-97 33

  b. chen tsut kwi chel'aqlh \[kwi-s nam' huya7 ta Peter\]
  lsg.subj say DET yesterday [DET-nom go leave DET Peter]
  I said yesterday that Peter would be going away
  EL 27-3-97 34

(24)a. chen tsut \[kwi-s-es nam' huya7 ta Peter\] kwi chel'aqlh
  lsg.subj say [DET-nom-3poss go leave DET Peter] DET
  I said yesterday that Peter's going away
  EL 27-3-97 35

  b. chen tsut [[kwi-s-es huya7 ta Peter] kwi chel'aqlh]
  lsg.subj say DET-nom-3poss leave DET Peter DET yesterday
  I said yesterday that Peter went away
  I said that Peter went away yesterday
  EL 27-3-97 36

The sentence in (23a.) is bad because the adverb at the right edge of the sentence can only specify the topic time of the embedded clause, and the past adverb kwi chel'aqlh is incompatible with the future auxiliary and verb nam' huya7. In order for the adverb to specify the topic time of the

\(^{43}\text{See also Section 4.3 for discussion of this data.}\)
matrix verb, it must be moved into the main clause, as in (23b.). In contrast, the adverb at the right edge of the sentence in (24a.) can be interpreted with the matrix verb; in addition, the adverb in (24b.) can be construed either with the matrix verb, or with the past tense nominalized clause.

This thesis proposes to account for this intriguing contrast by analyzing the nominalized clause in (23) as a CP whose position is fixed, and the nominalized clause in (24) as a DP, which moves. Section 5.6.1 examines the construal of temporal interpretation in embedded clauses, following Stowell (1993, to appear); Section 5.6.2 introduces nominalized clause and the debate over their syntactic category in Salish. In Section 5.6.3, the word order of the CP nominalized clauses in (23) is analyzed and its effect on temporal interpretation assessed. Finally, in Section 5.6.4, the word order and temporal interpretation of the DP nominalized clauses in (24) is addressed.

5.6.1 The Syntax of Subordinate Clauses

Stowell (1993, to appear) proposes that the external argument of the Tense predicate is a temporal ZP-PRO which is determined by Control Theory. In the matrix clause, where it denotes the utterance time, this temporal argument is not c-commanded by another ZP and is therefore not controlled; it has the default meaning "now", the moment of speech. In the subordinate clause, this ZP-PRO is controlled by the closest c-commanding ZP, the event time argument of the main clause.
This orders the event time of the embedded clause with respect to the event time of the matrix clause, allowing an account of the "past shifted" reading in the sentence in (25):

(25)a. Peter said [that Vanessa left.]

\[
\begin{array}{ll}
\text{EV-T1} & \text{UT-T1} \\
\text{say} & \text{now} \\
\hline
\text{EV-T2} & \text{EV-T1=} \\
\text{leave} & \text{UT-T2} \\
\hline
\end{array}
\]

The event of Peter's saying is ordered after the event of Vanessa's leaving: the matrix event time, EV-T1, is the same as the "speech" time of the embedded clause, UT-T2, which is ordered after the embedded event time, EV-T2, by the embedded past tense.

5.6.2 The Syntax of Nominalized Clauses

As described in Section 2.4, nominalized clauses are introduced by the determiner kwi, and the predicate or leftmost aspectual clitic of these clauses carries the nominalizer s-, along with the possessive agreement that marks the subject (Jacobs 1992). Jacobs describes their function as sentential complements (either the subject of a nominal predicate or the object of a transitive predicate) or adverbial complements.

Davis and Mattewson (1996) propose that the nominalizer, s-, in St'at'imcets is the head, F, of its own functional projection, FP, or Finite Phrase. This head is situated
below the determiner and above the verb of the nominalized clause, as shown in (26):

(26)

This structure is adopted here for nominalized clauses in SqwXwu7mish. Davis and Matthewson argue that the categories T and D are collapsed in Salish, and furthermore that the determiner on nominalized clauses is a D, not a complementizer, C. This thesis has glossed the kwí which introduces nominalized clauses in SqwXwu7mish as a determiner for descriptive purposes; however, the next section will show that the only way to explain the difference in the construal of the adverb in the data above is to analyse the kwí as functionally determined: C in (23a.) and as D in (24a.).

5.6.3 Topic Time Adverbs and CP Nominalized Clauses

Returning to the facts in (23), repeated here, in sentence (a.) the past tense adverb clashes with the future tense of the nominalized clause, therefore the adverb must be the topic time of the embedded clause. The adverb cannot be the topic time of the main verb because the sentence is ungrammatical. Furthermore, if the adverb at the right edge of the sentence were the topic time of the main clause, the embedded clause would have to move leftward to derive the
surface word order. The ungrammaticality of (23a.) shows that moving the clause is not possible; if it were, the sentence would be grammatical. The embedded clause is therefore assumed to be a CP, and its inability to move is schematized in (27):


The order in (27) cannot be generated because CP does not need case under the Case Resistance Principle. In order for the adverb to be interpreted with the main verb, it must appear in the main clause as in (b.):

(23)a. *chen tsut [kwi-s nam' huya7 ta Peter kwi chel'aqlh]
  lsg.subj say [DET-nom go leave DET Peter DET yesterday]
  *I said yesterday that Peter would be going away
  EL 27-3-97  33

b. chen tsut kwi chel'aqlh [kwi-s nam' huya7 ta Peter]
  lsg.subj say DET yesterday [DET-nom go leave DET Peter]
  I said yesterday that Peter would be going away

This data argues for a single position in each clause for the topic time temporal adverb: the adverb in (23a.) must be the topic time of the embedded clause, while the adverb in (23b.) is the topic time of the matrix clause, as illustrated by the structure in (28):
The pronominal subject of the main clause is generated the specifier of TP; the main verb tsut 'say' moves through Asp
to T, marked by the index "j". The subject of the embedded clause, *ta Peter*, raises to the specifier of the embedded TP, marked by the index "m". As discussed in the previous section, the embedded verb must raise high in the clause to precede the subject; here it is analyzed as moving through Asp, where *nam'* attaches to it, then through T to F, the head projected by the nominalizer which attaches to the auxiliary and verb. The complex under F could feasibly raise to C to attach to *kwi*, in parallel to the V to C raising analysis for VSO main clauses.

The temporal interpretation of this complex sentence is effected via the relations of the temporal arguments, as represented on the time line in (29):

(29)  
| TOP-T1  |
|--------[--------[--]--------]--------|--------|
| yesterday |
| say 'now' say |
| EV-T1 UT-T |
| EV-T1 = TOP-T2 say say |
| EV-T1 = TOP-T2 say say |
| EV-T1 = TOP-T2 say say |
| EV-T1 = TOP-T2 say say |

The empty external argument of Tense in the subordinate clause is controlled by the event time of the matrix predicate, EV-T1. The embedded topic time, TOP-T2, is itself controlled by EV-T1, therefore both refer to the time of the action *say*; in this way, the embedded event time, EV-T2, is directly ordered with respect to the matrix event time, EV-T1. Thus, Peter's going away may be located in three possible relations to *now*, as indicated by the speaker's
translation "would": his going away may be "yesterday, after the event of saying," or else "today, before the utterance time," or else "today, after the utterance time".

5.6.4 Topic Time Adverbs and DP Nominalized Clauses

The adverbial at the right edge of the sentence can be interpreted with the main verb only if third person possessive agreement is attached to the nominalizer, as in (24):

(24)a.chen tsut [kwi-s-es nam' huya7 ta Peter] kwi chel'aqlh
1sg.subj say [DET-nom-3poss go leave DET Peter] DET yesterday
I said yesterday that Peter's going away
EL 27-3-97 35

b.chen tsut [[kwi-s-es huya7 ta Peter] kwi chel'aqlh] 1sg.subj say DET-nom-3poss leave DET Peter DET yesterday
I said yesterday [that Peter went away]
I said [that Peter went away] yesterday
EL 27-3-97 36

The topic time adverb in (24a.) is still incompatible with the future auxiliary of the nominalized clause, but in this case the adverb can be interpreted with the matrix verb from the right edge of the sentence. The descriptive difference between (23a.), which is bad, and (24a.), which is good, is the possessive agreement on kwi.

This analysis proposes that possessive agreement on kwi makes the nominalized clause a DP, which can move, while the absence of possessive agreement on kwi makes it a CP, which cannot move. The category of the nominalized clause in the

\[44\] P. Jacobs (p.c.) says that the third person agreement in the clauses in (23) is an -s on the auxiliary nam' which is elided; the presence of possessive agreement on the kwi itself is then what determines its category as D.
sentence in (24a.) is therefore analyzed as a DP between the matrix verb and the adverb, as schematized in (30):


Furthermore, with a past nominalized clause in (24b.), the adverb at the right edge can be construed either with the embedded verb or with the main verb. This ambiguity is explained by the analysis of the adverbial as the topic time argument: its interpretation with the matrix verb, the preferred reading, is a result of the adverb's status as the matrix topic time argument and the movement of the DP nominalized clause; its interpretation with the embedded verb is the result of the adverb's position as topic time of the nominalized clause, which also moves string vacuously. The position of the adverb in the four sentences is summarized in (31):

(31) 23a. * V CP[ FUT Adv]
23b. V Adv CP[ FUT ]

The structure of (24a.) is given in (32). In this case, the adverb is the topic time of the main clause, while the DP nominalized clause is the object, complement of the main verb. It moves to the specifier of Aspect in the same way as any object DP. Within the DP clause, the subject ta Peter moves to the specifier of the embedded TP, as indicated by the index "m"; the verb huya7 moves to Asp, then the verb and the auxiliary nam' move through T to F, as they did in (28).
I said yesterday that Peter's going away.
The English translation of the sentence analyzed in (32) has an unambiguous future meaning. This falls out from the movement of the clause; the external argument of the embedded Tense predicate and the embedded topic time are controlled by the utterance time of the matrix clause to give the reading that now is "towards" the event of Peter's going away. The matrix event time yesterday orders the event time of the matrix verb say in the past. This is represented on the time line in (33):

(33) \[
\text{TOP-T1} \\
\text{yesterday} \\
\text{say now} \\
\text{EV-T1 UT-T1} \\
\text{UT-T1 = TOP-T2} \\
\text{now now} \\
\text{<--|--|-->} \\
\text{go away} \\
\text{EV-T2}
\]

5.6.5 Conclusions

The analysis of SqwXwu7mish adverbs as the topic time argument predicts that they can occupy a single position in the clause. This accounts for the existence of constraints on the interpretation of adverbs in subordinate clauses as seen in (23) and (24). The distinction of CP nominalized clauses, which have possessive agreement on the auxiliary and which do not move, and DP nominalized clauses, which have their agreement on the determiner kwi and which do move, explains the constraints on the interpretation of the adverbs. This distinction also accounts for a difference in the temporal interpretation of the two types of clause.
5.7 Temporal Adverbs and Quantification

In Section 3.2, it was claimed that adverbs which denote the topic time must take scope over other quantifiers. Under the analyses proposed in this chapter, however, the adverb would always be c-commanded by and structurally in the scope of the other quantifiers. In order to account for the topic time reading of the adverb, a non-structural analysis of scope is adopted (Demirdache and Matthewson 1997).

The data from Section 3.2 is repeated in (34) and (35):

(34)a. na 7upen sXalhnat kwi-s-es ts'íts'ap' ta Peter RL ten Sunday DET-nom-3poss work DET Peter Peter worked on ten Sundays/Ten Sundays Peter worked EL 10-4-97 22

b. na 7upen-álh s-es ts'íts'ap' ta Peter (t) kwetsi sXalhnat RL ten-times nom-3poss work DET Peter (obl) DET Sunday Peter worked ten times on a Sunday EL 10-4-97 19

(35)a. na-malh-eq' sXalhnat 7i nam' 7i-7imash 7i7Xw ta sta7exwlh RL-well-FUT Sunday PR go red-walk all DET children It will be Sunday when they go for a walk. EL 13-8-97

b. 7i7Xw ta sta7exwlh nam' 7i-7imash na7 ta sXalhnat all DET children go red-walk RL DET Sunday All the children/every child went walking on Sunday ie they all go on the same Sunday EL 2-4-97 16

The (a.) sentences, in which the adverb is focused syntactically as a main predicate for the event time reading, get the distributive reading of the quantifier, whereas the (b.) sentences, in which the adverb at the right edge gets a topic time reading, get the collective reading. In addition, the event time reading of the adverb in (35a.) may have a
collective event reading which is identical to the topic time reading in (35b.).

In this way, temporal adverbs in SqwXwu7mish pattern like thematic arguments in St'at'ímcets\(^\text{45}\). Demirdache and Matthewson (1997) show that a transitive sentence with a plural subject in St'at'ímcets never gets a distributive reading, as in (36):

\[\text{[qus-en-ít-as] } \text{dp}[s-Rosa múta7 s-Tanya] \text{ dp[i kálhélhs-a mixalh]}
\]
\[\text{quš-en-ít-as } \{s-Rosa múta? s-Tanya\} \{?i kəIəš-a mi}x[a4]\]
\[\text{shoot-tr-pl-erg } [\text{nom-Rosa and nom-Tanya}] \{\text{DET three-DET bear}\}
\]
\[\text{Rosa and Tanya shot three bears. (RW)}\]

This sentence can get a collective reading, that is, Rosa and Tanya used one gun together to shoot three bears, or a "cumulative" reading, that is, Rosa and Tanya each had a gun and shot three bears between them, but it cannot have the distributive reading whereby each girl shot three bears for a total of six. In (36), therefore, three bears is referentially independent. In order to get a distributive reading, along with a collective and a cumulative reading, the object must be the main predicate of the sentence. The authors use these facts to argue for a non-structural analysis of scope in St'át'imcets.

The ZP topic time argument is referentially independent, like its nominal counterpart the DP, and must take wide scope due to the deictic properties of the determiner kwetsi. This

\(^{45}\) H. Demirdache (p.c.) is entirely responsible for this observation.
explains the scope relations between the cardinal quantifier and the topic time adverb in (34). The topic time adverb should take scope over the quantifier to give the collective reading in (34b), but as the analysis in (37) shows, the cardinal adverb is the main predicate and the topic time adverb is in the nominalized clause that is structurally its complement. The adverb *on a Sunday* does not therefore take structural scope over the cardinal; in fact, the cardinal quantifier appears to take scope over the adverb.

(34)b.na 7upen-álh s-es ts'its'ap ta Peter kwetsi sxálhnat
    RL ten-times nom-3poss work DET Peter DET Sunday
Peter worked ten times/for ten hours on a Sunday

(37)

```
NP
   N'
      N
    7upen-alh
       F'
          F
             TP
                s-esm-ts'its'ap'n
                   DP
                      TP
                         ta Peterm
                            UT-T = ZP T'
                               PROnow
                                  T
                                     ASP-P
                                        en
                                        ASP-P
                                           TOP-T = ZP ASP'
                                              kwetsi sxálhnat
                                                ASP
                                                   en-around
                                                      EVT-T = ZP VP
                                                                point
                                                                          em
                                                                             V'
                                                                                            en
```
The reading of the sentence can be paraphrased as: "the set of times that Peter worked on Sunday has a cardinality of ten" (H. Demirdache, p.c.). The nominalized clause, a bare FP with no determiner kwi, is analyzed as the unaccusative subject of the cardinal predicate 7upenalh. Within the FP, the subject ta Peter is generated in the specifier of the embedded clause then raised to the specifier of the TP; this DP is coreferential with the possessive agreement generated with the nominalizer in F, marked accordingly by the index "m". The verb, indexed "n", raises via head movement to attach to this "inflected nominalizer" in F.

The temporal interpretation of this sentence is as follows: because the utterance time of the nominalized clause has no event time to bind it, it gets the default interpretation "now"; now is before the past time specified by the topic time adverb kwetsi sXalhnat; this topic time is ordered "around" the event time of working by the predicate Aspect. Therefore, this sentence gets the interpretation: "Peter's working is in the past on a Sunday, and it has a cardinality of ten".

5.8 Conclusions

This chapter has argued for the proposal that SqwXwu7mish adverbials are the topic time argument of the predicate Aspect within the syntax of Tense and Aspect developed by Demirdache and Uribe-Etxebarria (to appear).

46H. Davis (p.c.) says that in general there are no sentential subjects in Salish, and that this is a "defective propositional complement." P. Jacobs (p.c.) counters that sentential subjects certainly do exist in Coast Salish.
This proposal provides a straightforward account of the distribution and interpretation of a range of data discussed in Chapters 3 and 4. In constructions with a pronoun and verb uninflected for tense, the adverb locates the event in time (section 5.4). The restricted position of the adverbial at the right periphery and its status as topic time argument argues for the derivation of verb initial word order in SqwXwu7mish as movement to C (Section 5.5). The inability of right edge adverbs to be construed as the topic time of the main clause from the right edge of a complement subordinate clause is explained by the single position per clause available to the adverb (Section 5.6). Finally, the interaction of topic time adverbs with quantified subjects and cardinals supports a non-structural analysis of scope (Section 5.7). The implications of these conclusions for the analysis of the syntax of adverbs are taken up in the concluding chapter.
6. Implications, Further Issues and Conclusions

6.1 Implications of the Analysis

This analysis has implications for the analysis of adverbs cross-linguistically, for the study of Salish in terms of the Common Ground Parameter (Matthewson 1996), and for the parallelism of nominal and temporal reference.

The analysis of Sqwxwumish adverbs as the topic time argument of Tense and Aspect predicates has implications for the analysis of adverbs cross-linguistically. It contravenes the assumption that adverbs in English are simply adjoined to the event time (Stowell to appear a), modifying either the ZP variable in the outer specifier position of VP, as in (1a.), or the ZP directly dominating the VP as in (1b.):

Indeed, Cinque (in progress) argues from Romance data that adverbs are not adjuncts but the heads of adverb phrases which "fill the unique Spec position of a distinct maximal projection."

Demirdache and Matthewson (1995) argue that overt nominals cannot be topics. For Matthewson (1996), this follows from the semantic property of Salish determiners that
they are non-presuppositional. Presupposition requires access to the common ground of the discourse, that is, the beliefs and assumptions of both the speaker and the hearer. From this, Matthewson (1996:124) proposes the Common Ground Parameter, shown in (2):

(2) Determiners may access the common ground:
   
   Yes: {English,...}
   No: {Salish, ...}

Therefore, a nominal which has no access to the common ground cannot be a topic. Matthewson claims that the only examples of presupposition in Salish are syntactic structures which induce it, such as cleft constructions and syntactic nominalizations. However, this thesis has argued that phrasal temporal adverbs in SqwXwu7mish, which have determiners, are canonically topics. Indeed, the "key to the interpretation of time adverbials resides in recognizing their presuppositional character" (de Swart to appear:1). The key to reconciling the analysis in this thesis with the Common Ground Parameter lies in the relationship of nominal and temporal reference.

Partee (1973) claims that temporal adverbs can serve as discourse or sentential antecedents of tense in a manner analogous to nominals and pronouns. She points out that in English, this analogy is not strict since temporal adverbials are always accompanied by tense morphology, whereas noun phrases normally do not appear with coreferential pronouns. She notes that language X, which marks subject and object on the verb with pronominal agreement, "whether or not the
subject (or object) is overtly expressed," and also marks
tense in every sentence, has "more parallel (...) tense and
pronoun systems." Language Y, which like English does not
use pronoun agreement and overt nominals together, "could
also have more parallel tense and pronoun systems if it
omitted the tense morpheme in clauses containing an explicit
time adverbial" (Partee 1973:604). These possibilities are
summarized in (3):

<table>
<thead>
<tr>
<th>tense + adverb</th>
<th>pronoun + nominal</th>
<th>pronoun + *nominal</th>
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<tbody>
<tr>
<td>*tense + adverb</td>
<td>SqwXwu7mish</td>
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Under the present proposal, SqwXwu7mish is the fourth
possibility, a mirror image of English; it is a language
which obligatorily marks pronominal agreement on the verb
with or without an overt nominal, yet which does not
grammatically mark tense with a temporal adverbial.47

6.2 Further Issues

Temporal interpretation in SqwXwu7mish is the focus of
topics requiring further investigation.

The analyses proposed in this thesis assumed that Tense
is a predicate which lacks morphological content and which is
semantically unspecified. The inherent temporal meaning of
the topic time argument or its determiner and the default
meaning of the utterance time enable SqwXwu7mmish sentences

47Furthermore, if SqwXwu7mish temporal adverbs are arguments as
proposed, they should have a pro counterpart which would be subject to
the Binding Theory (H. Davis, p.c.).
to be temporally interpreted without recourse to Tense. This assumption remains to be evaluated in terms of the SqwXwu7mish temporal system of clitics outlined in Chapter 2. It is clear that the meanings of the morphemes 7i, t and eq' are not "present", "past" and "future" respectively, as previously described (Kuipers 1967, Jacobs 1992). Furthermore, the position classes within the temporal/aspectual clitic system require elucidation. This research will help to define what is a possible "tense" is in SqwXwu7mish.

Inner aspect or "aktionsart" needs closer examination. The temporal interpretation of statives differs from that of eventives: states usually contain the reference time, while events precede, follow or are contained in it (Kamp and Reyle 1993). Stative verbs in SqwXwu7mish pronoun-verb constructions are never interpreted in the past, only in the present, while achievement and accomplishment verbs get only a past reading:

(4) a. chen, lhq'i7-s
   lsg.subj know-caus
   I know it EL 8-5-96
   I know it at this very moment YJ 13-3-96
   I know DW 20-3-96

b. chen wi7xw-em
   lsg.subj drop-intrans
   I fell YJ 13-3-96; YJ 3-4-96

c. chen mi-s
   lsg.subj come-caus
   I brought (it) YJ 13-3-96
However, the addition of future time adverbs, as illustrated in (5), causes all the sentences to receive future interpretations:

(5)a. chen es-lhq’í7-s ti taXw sqwayl
   lsg.subj stat-know-caus DET noon
   I'll know at noon (spoken in the morning)
   EL 8-5-96

b. chen hiy’ám kwayl-es
   lsg.subj arrive tomorrow
   I will arrive tomorrow
   YJ 6-6-96

c. chen mi-s kwayl-es
   lsg.subj come-caus tomorrow
   I'm going to bring it tomorrow
   YJ 6-6-96

Thus, the ability of the temporal adverbial to determine the topic time is not sensitive to the aspectual class of the verb, whereas the “zero” topic time provided in the discourse clearly is.

The role of the determiner system in temporal interpretation in SqwXwú7mish requires further investigation in terms of the effect of the determiner on the interpretation of nouns and of adverbials. The determiner has been shown to provide the time of sentences with bare verbal stems in Bella Coola (Davis and Saunders 1974) and to fix the “predication time” of a noun and/or of the whole sentence in St'at'imcets (Demirdache 1997). As seen in SqwXwu7mish, the determiner can determine the temporal interpretation of a locating adverb\(^{48}\), as in (6):

\(^{48}\)In Section 5.3.2, the analysis of temporal adverbs as ZP's offered a possible explanation for these data, but it remains to be tested.
The determiner *ti* is interpreted as "present" with the adverb; with nominals, it is interpreted as "this X right here." The determiner *kwi* is often used to locate the time specified by an adverb as being in the past, but is also used in conjunction with the modal operator *way′ti* 'maybe'. The determiner *ta*, translated as "that" with nominals, can have a past interpretation with some adverbs yet is used with the adjective *hem′i* 'next' for the future in (6). This use of the determiner with the adverb is not attested in all Salish languages.

Finally, this analysis has examined only phrasal temporal adverbials. In Interior languages such as St'at'imcets, temporal adverbials are clausal and have a freer distribution (H. Davis p.c.). Adverbial subordinate clauses constitute a large number of interesting constructions in SqwXwú7mísh and their analysis will have important implications for the proposal developed here.

### 6.3 Conclusions

This thesis has argued for the status of Reichenbach's third time, reference time, as a third temporal argument of the temporal predicate Aspect. Furthermore, the claim that adverbs in Squamish are the overt realization of this "topic time" argument has been supported by the semantic and syntactic properties of these adverbs. Squamish adverbs are
part of the topic structure of the sentence unless syntactically focused as main predicates; they do not act like adjuncts with respect to word order or cooccurrence, nor like "functional" adverbs in terms of cleft constructions. Their analysis as temporal arguments helps to explain how temporal interpretation is achieved in a language without grammaticalized tense.
Abbreviations

AUX=auxiliary;
1sg.subj=first person singular subject agreement;
1pl.subj=first person plural subject agreement;
1poss=first person possessive agreement;
2sg.subj=second person singular subject agreement;
3subj=third person subject;
3sg=third person singular;
3poss=third person possessive agreement;
3pl.=third person plural;
caus=causative;
DET=determiner;
DEM=demonstrative;
dir=direction marker;
DR=durative;
FOC=focus marker;
FUT=future;
INT=interrogative;
intrans=intransitivizer;
IRR=irrealis;
LOC=locative;
NEG=negation;
nom=nominalizer;
obl=oblique;
PT=past;
PR=present;
REC=reciprocal
RL=realis;
REL=relative;
red=reduplicated morpheme;
TD=temporal deictic;
trans=transitivizer;
WH=wh-complementizer.
Key to SqwXwu7mish Orthography

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