# DETERMINER SYSTEMS AND QUANTIFICATIONAL STRATEGIES: EVIDENCE FROM SALISH 

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#### Abstract

This dissertation has three main goals: 1. To provide an analysis of the syntax and semantics of Salish determiners and quantifiers. 2. To provide an account of differences in the determiner and quantification systems of Salish and English which reduces cross-linguistic variation to a minimum, in line with a restrictive theory of Universal Grammar. 3. To assess the theoretical consequences of the analysis of Salish, including implications for the range of possible cross-linguistic variation in determiner and quantification systems, and the nature of the relationship between syntactic structure and interpretation.

I give evidence that one common method of expressing quantificational notions in English is absent in Salish. While English readily allows quantifiers to occupy the syntactic position of the determiner (as in every woman, most women), Salish languages do not allow such constructions (see also Jelinek 1995). I propose that Salish and English exemplify opposite settings of a Common Ground Parameter, which states that Salish determiners may not access the common ground of the discourse. This parameter accounts not only for the absence of quantificational determiners in Salish (since quantifiers presuppose existence, and therefore access the common ground), it also derives several other differences between Salish and English determiners, such as the absence of a definiteness distinction in Salish.


I further demonstrate that Salish possesses a robust system of DP-internal quantification, and that quantificational DPs in Salish function as generalized quantifiers at logical form. This means that the strong hypothesis that languages do not differ with respect to the presence or absence of generalized quantifiers is upheld (cf. Barwise and Cooper 1981). Simple DPs in Salish, unlike in English, do not function as generalized quantifiers. This result follows from the Common Ground Parameter.

I give further evidence from St'átimcets (Lillooet Salish) on the strong/weak quantifier distinction; I argue that the interpretation of weak quantifiers is derivable directly from the overt syntactic position of the quantifier.

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This thesis is dedicated to Dobie.

## INTRODUCTION

[I]n order to provide a grammatical analysis of the morphosyntactic marking of (in)definiteness in English, it is necessary to investigate not only English but also Japanese and other languages, thereby constructing a Universal Grammar within which the marking of (in)definiteness in English will emerge as one of several consequences of a particular assignment of values to a certain parameter.
(Gil 1987:269)

## 1. Goals of the investigation

This dissertation has three main goals, summarized in (1)-(3).

1. To provide an analysis of the syntax and semantics of Salish determiners and quantifiers.
2. To provide an account of differences in the determiner and quantification systems of Salish and English which reduces cross-linguistic variation to a minimum, in line with a restrictive theory of Universal Grammar.
3. To assess the theoretical consequences of the analysis of Salish, including implications for the range of possible cross-linguistic variation in determiner and quantification systems, and the nature of the relationship between syntactic structure and interpretation.

The impetus for this investigation arose out of the observation that one common method of expressing quantificational notions in English is absent in Salish. As illustrated in (4), English readily allows quantifiers to appear preceding a common noun phrase. These quantifiers are in complementary distribution with definite or indefinite determiners, and plausibly occupy the syntactic position of the determiner (cf. Jackendoff 1977).
4. a. [Every woman] picked berries.
b. [No woman] picked berries.
c. [Most women] picked berries.

Salish languages do not permit quantificational elements to occupy determiner position (see also Jelinek 1995, Demirdache et al. 1994). Constructions of the form [Quantifier NP] are systematically impossible:

|  | qu$^{W}$ วláw-əm | [tákəm | Stormútact |
| :---: | :---: | :---: | :---: |
|  | q'weláw'-em | [tákem | smelhmúlhats] |
|  | pick.berries-intr | [all | woman(redup)] |
|  | 'Every woman picked berries.' |  |  |
| b. * | $\mathrm{q}^{W}$ 2láw-əm | [ ${ }^{W}$ ? ${ }^{\text {a }}$ z | Sməさmúqac] |
|  | q'weláw'-em | [cw7aoz | smelhmúlhats] |
|  | pick.berries-intr | [neg | woman(redup)] |
|  | 'No woman picke | d berries |  |

(St'át'imcets)

Although quantifiers which replace the determiner within the noun phrase are ruled out in Salish, quantifiers which occupy other positions within the noun phrase are possible. Noun phraseinternal quantifiers always co-occur with a determiner, as shown in (6).
6.

|  | [tákəm | $? 1$ | Smətmútač-a] |
| :---: | :---: | :---: | :---: |
| q'weláw'-em | [tákem | i | smelhmúlhats-a] |
| pick.berries-intr | [all | pl.det | woman(redup)-det |
| All the women | ked berries |  |  |

(St'át'imcets)

The semantic literature on quantification provides no obvious way of deriving the contrast between (5) and (6), since syntactic distinctions inside noun phrases are not usually taken to be relevant. ${ }^{1}$ It is not clear how to rule out quantifiers which occupy the position of the determiner, as in (5), while allowing quantifiers which appear in other positions within the noun phrase, as in (6).

In this dissertation I will argue that the ungrammaticality of (5) has its explanation in the nature of Salish determiners themselves, which differ in several respects from English determiners. The absence of quantificational determiners in Salish is just one reflex of a more general difference between Salish and English determiner systems.

Before outlining the main proposals of the dissertation, I provide some necessary background information. §2 contains an introduction to the typological split between Salish languages and English. It is this typological split which makes comparison between Salish and English useful

[^0]for the study of cross-linguistic variation, and which can ultimately shed light on the properties of Universal Grammar.

In §3, I briefly outline the theoretical assumptions which are made about determiners and quantifiers. $\S 4$ contains an overview of the structure of the dissertation and the main claims which will be made, and $\S 5$ concludes with familial information about Salish and the subset of Salish languages investigated here.

## 2. Why study Salish?

Salish languages differ from English in many respects. ${ }^{2}$ For example, Salish languages are morphologically rich, with obligatory pronominal agreement markers appearing on main predicates. Null arguments are common. Overt DP arguments display relatively free word order. Morphological tense marking is usually absent. Any open-class lexical item may function as a main predicate, and it has been claimed that Salish lacks a distinction between nouns and verbs (see e.g. Kinkade 1983, Jelinek 1993c, 1995).

The deep typological split between Salish and English provides fertile ground for the study of Universal Grammar. We must first ascertain the exact ways in which Salish differs from English, and then attempt to reduce the differences to a small number of learnable parameter settings. English is used as a comparison language for the simple reason that a large amount of theoretical work has concentrated on English. Ultimately, of course, analyses proposed should account for all natural languages.

Theoretical work on Salish has already provided some intriguing proposals about the source of cross-linguistic variation. One general approach, represented recently by the work of Jelinek (1984, 1993c, 1995), views Salish as differing at a fundamental level from English-type

[^1]languages. ${ }^{3}$ According to Jelinek's Pronominal Argument Hypothesis, the Salish lexicon does not differentiate nouns from verbs, but rather contains one open-class category of inflected predicates, with pronominal agreement affixes already attached. These pronominal agreement morphemes occupy argument positions. As a consequence, overt DPs are optional, and when they do appear are necessarily adjoined to the clause (cf. also Baker 1991, 1996).

The theory of Salish developed in this dissertation differs in many respects from Jelinek's analysis. Nevertheless, the aim is to follow Jelinek's example in at least two respects. Jelinek's work serves firstly to bring a group of under-studied and interesting languages to the attention of the theoretical literature. Secondly, and more importantly, it consistently forces re-examination of theoretical assumptions based on English or Indo-European. Research of this nature highlights the importance of the questions raised by Salish for our understanding of Universal Grammar. ${ }^{4}$

In the rest of this section, morphological and syntactic characteristics which illustrate the typological split between Salish and English are outlined. Familiarity with these basic features of Salish will facilitate understanding of the proposals made in later chapters.

### 2.1. Morphology

Salish languages are highly polysynthetic, and can be classified as radical head-marking languages. Head-marking languages are those in which syntactic relationships are indicated primarily by agreement morphology on the head of a construction (such as the verb, rather than its arguments; see Nichols 1986, Baker 1996). ${ }^{5}$ Pronominal agreement (in the form of affixes or clitics) appears on predicates in Salish, and possessive marking appears on the head noun. ${ }^{6}$

[^2]
## 7. a. yáwat-tsí-chen skwa wake-2sg.obj-1sg.subj future 'I'll wake you.'

b. te snéxwílh-s te stúmish det canoe-his det man 'the man's canoe'
(Sechelt; Beaumont 1985:28)

Salish languages display split-ergativity in their pronominal morphology, with splits along person lines (1st and 2nd vs. 3rd person), main clause/subjunctive clause lines and/or aspectual lines. (8) illustrates the person split in Squamish. First person arguments distinguish nominative (8a,d) from accusative (8c). Third person arguments distinguish ergative (8c) from absolutive (8b,d). ${ }^{7}$
8. a. $\begin{array}{lll}\text { t-n } \\ \text { lsg.nomin } & \text { swi?qa } \\ & \text { man }\end{array}$ 'I am a man.'
(Squamish; Kuipers 1967:89) ${ }^{8}$
b. swi?qa- $\varnothing$
man-3abs
'He is a man. / They are men.'
(Squamish; Kuipers 1967:89)
c. na Ėaw-at-umut-as
rl help-tr-1sg.acc-3erg
'S/he helped me.'
(Squamish; Kuipers 1967:90)
d. c-n čaw-at-

1sg.nomin help-tr-3abs
'I helped him/her.'
(Squamish; Kuipers 1967:90)

Third person absolutive is marked zero in every Salish language except for Bella Coola (Nater 1984), and Upper Chehalis and Cowlitz in the imperfective aspect (Kinkade 1991, p.c.). The absence of overt absolutive marking contributes to the debate about whether nouns and intransitive verbs belong to different categories in Salish. Any lexical item, including one with

[^3]nominal semantics, can be hypothesized to contain a null 3rd person absolutive agreement morpheme, and thus to constitute a complete clause. See $\S 2.1 .1$ for further discussion.

The Salish word is internally very complex. In addition to (in)transitivizing morphemes and pronominal agreement morphology, the word contains aspectual affixes, derivational affixes, and lexical suffixes. ${ }^{9}$ The structure of the word in one Salish language, St'át'imcets, is given in (9) (Davis to appear, see also van Eijk 1985).

Four word-internal domains can be distinguished, based on evidence from both prosodic and morphological criteria. The innermost, (1), contains the root, the only element which is obligatory in all predicates. The stem-level domain, (2), contains a variety of aspectual and other affixes, including transivitizers and intransitivizers, but excluding pronominal affixes. The latter occupy (3), the outermost affixal domain, which is equivalent to the level of the morphological word. Domain (4), which contains various pro- and en-clitics, is the maximal domain of word-level stress assignment and corresponds to the prosodic word (Davis to appear).

The details of this analysis of the St'at'imcets word do not extend to all Salish languages, although all the languages display similar complexity at this level of structure. ${ }^{10}$

### 2.1.1. Lexical categories

Superficial syntactic evidence does not distinguish between lexical categories in Salish, but only between main predicates on the one hand, and closed class items (such as deictics) on the other.

[^4]```
i. ?u-bák}\mp@subsup{}{}{W}+\mathrm{ -axil? cod
    perf-hurt-hand, 1sg.subj
    I hurt my hand.'
```

(Lushootseed; Bates et al 1994:32)
10 The structure in (9) cannot be extended to Upper Chehalis, if Kinkade (1967) is correct in claiming that the forms in (i) lack roots altogether, being composed of prefix-suffix combinations.
i. a. ? ac-áw $\downarrow$
stat-canoe
'be in a canoe'
b. 7ać-nowt
stat-mind
'thought, mind, something in the mind'
(Upper Chehalis; Kinkade 1967:1)
See Mattina (1996) for an analysis of word structure in Okanagan (Southern Interior) which differs from that given in (9).

All open-class elements (those which correspond to nouns, verbs and adjectives in English) can function as the main predicate of a sentence, as shown in (10).
10. a. $q^{W}$ aćax $^{\text {c }}-k a x^{W}$ qwatsáts-kacw leave-2sg.subj
'You left/you leave.'
(St'át'imcets)
b. $x z u ́ m-4 k a x^{w}$
xzúm-lhkacw
big-2sg.subj
'You are big.'
(St'át'imcets)
c. Smúłač-kaxw
smúlhats-kacw
woman-2sg.subj
'You are a woman.'
(St'át'imcets)

Projections of any open-class lexical item can combine with a determiner to form a Determiner Phrase, as iluustrated in (11).
11.

| a. | čáa ${ }^{W}$-añ-4kan [n1 ts'áqw-an'-lhkan [ni eat-tr-1sg.subj [det 'I ate the one I caught.' | $k^{w}$ án-an-a] kwán-an-a] catch(tr)-1sg.conj-det] |
| :---: | :---: | :---: |
| b. | čáa ${ }^{W}$-añ-tkan [ni ts'áqw-an'-lhkan [ni eat-dir-1sg.subj [det 'I ate the big one.' | $\begin{aligned} & \text { xzúm-a] } \\ & \text { xzúm-a] } \\ & \text { big-det] } \end{aligned}$ |
| c. | čáa ${ }^{W}$-añ-tkan [nt ts'áqw-an'-lhkan [ni eat-dir-1sg.subj [det 'I ate the fish.' | čúq" ${ }^{\text {Waz'-a] }}$ <br> ts'úqwaz'-a] <br> fish-det] |

b. čáq${ }^{W}-a n ̃-7 k a n$ [ni xzúm-a]
ts'áqw-an'-lhkan [ni xzúm-a]
eat-dir-1sg.subj [det big-det]
'I ate the big one.'
(St'át'imcets)
c. čáa ${ }^{W}$-añ-4kan [n1 čúq$\left.{ }^{W} a z^{\prime}-a\right]$
eat-dir-1sg.subj [det fish-det]
'I ate the fish.'
(St'át'imcets)

The DP in (11c) contains no overt inflectional morphology. However, the null status of 3rd person absolutive marking makes it possible to argue that (11c) contains a null-headed relative clause ('the one who is a fish'). Precisely this claim is made by those who deny the existence of a noun/verb distinction in Salish (e.g. Kinkade 1983, Jelinek 1993c, 1995). ${ }^{11}$
${ }^{11}$ See Demirdache and Matthewson (1995a), Matthewson and Davis (1995) for arguments that (11a,b) contain null-headed relative clauses, while (11c) contains a [D NP] constituent.

The literature generated by the Salish categorial debate is very large. Kinkade (1983), Jelinek and Demers (1982) and Jelinek (1993b,c, 1995) propose that there are no distinctions between lexical categories in Salish; see also Kuipers (1968), Bloomfield (1933), and Thompson and Thompson (1980). On the other hand, categorial distinctions have been argued for by Davis and Saunders (1974), van Eijk and Hess (1986), Mattina (1994), Beck (1995a,b), Davis and Matthewson (1995), Demirdache and Matthewson (1995a), Kroeber (1991), Davis et al. (in prep), among others (see also Birch 1993). ${ }^{12}$ Many grammars of Salish languages assume categorial distinctions; see for example Nater (1984). The analysis of Salish determiner and quantification systems to be presented in this dissertation will not rely crucially on any assumptions about lexical categories, and I leave the interested reader to pursue the references cited if desired.

### 2.2. Syntax

A Salish clause obligatorily contains a predicate; overt DP arguments are optional.
12. a. $5-x$ fop-w-n
contin-dry-contin.intr-contin.3rd.subj 'He's drying it.'
(Upper Chehalis; Kinkade 1983:27)
b. Cey-ø
work-3abs
'He/she/they worked.'

Clauses are typically predicate-initial; languages differ in the extent to which they allow arguments of the main predicate to occur before the predicate. Various clefting strategies are available which give argument-predicate order, as shown for example in (13c).
13. a. na huyá7 [ta slhanay']
rl leave [det woman]
'The woman left.'
(Squamish; Demirdache et al. 1994)

[^5]b. [ta slhanay'] na huyá7
[det woman] rl leave
'The woman, she left.'
(Squamish; Demirdache et al. 1994)

$\begin{array}{llll}\text { c. } & \left.\begin{array}{ll}\text { nilh } & {[\mathrm{ta}} \\ \text { foc } & \text { swi7ka] } \\ & \text { [det } \\ & \text { man] }\end{array}\right]\end{array}$ 'It's the man that is sleeping.'
sleeping
(Squamish; Demirdache et al. 1994)

Post-predicate word order is relatively free, with some languages favouring VSO as a basic order (e.g. Halkomelem; Hukari 1996) and some favouring VOS (e.g. St'át'imcets; Gardiner et al. 1993, van Eijk 1995). Clauses containing two overt DP arguments are rare in discourse or narration, since subjects are usually represented by null pronouns. Some Salish languages even disallow two overt arguments:

The type of English transitive sentence in which both agent and patient are indicated by noun phrases (e.g. Bill killed the bear) seems atypical of at least many Salish languages, and is actually impossible in Lushootseed, where only the patient can be so specified (Thompson 1979:740).

Wh-questions in Salish contain a clause-initial wh-word, followed by a subordinate clause. Whquestions have been analyzed as cleft-like constructions by Kroeber (1991), Davis et al. (1993), and Gerdts (1988).
14. a. sté? e [s-čəx-x[t-x"]
what det [nom-clean-ditr-2sg.subj] 'What did you clean for him?'
(Nte 7 kepmxc 1 n; Kroeber 1991:229)
b. $\begin{array}{llll}\text { wét } & \dot{k}^{W} ә & {[n 1} & \text { 2íməš] } \\ \text { who } & \operatorname{det} & {[\text { aux }} & \text { walk] }\end{array}$
'Who walked?'
(Halkomelem; Gerdts 1988:67)

Wh-words may appear in non-sentence-initial position, in which case they function as polarity items, which must fall within the scope of either a strong quantifier or negation (cf. Cheng 1991, Nishigauchi 1986, 1990).
 'and much is their kill of all kinds/of everything.'
(Upper Chehalis; M.D. Kinkade, p.c.)
 act+hungry limit not-exist s-what s-eat-3poss 'They were hungry but they didn't have any food.' (Saanich; Montler 1986:242)

Syntactic extraction is often marked by special morphology; see Kroeber (1991), Hukari (1993, 1995), Gerdts (1988), Davis et al. (1993), among others. Special extraction morphology is often useful for ascertaining that a certain string has undergone movement, and thus is acting as a syntactic constituent (see Chapter 5).

Extraction morphology is illustrated in (16). In St'at'imcets, conjunctive morphology replaces ordinary transitive subject morphology in relative clauses, focus constructions and wh-questions. Compare the subject morphology in (16a), where no movement has taken place, with that in (16b-d), where movement (of either an overt DP or a null operator) has taken place.
16.

[t1 $\left.k^{W} u^{W}{ }^{W} p 17-a\right]$
áts'x-en-lhkacw see-tr-2sg.subj [ti kúkwpi7-a] 'You saw the chief.'
[det chief-det]
(in situ)
(St'át'imcets)
b. wa? láti? [ti $\left.a^{2} x-2 n-a x^{W}-a \quad k^{W} u^{W}{ }^{W} p 1 ?\right]$
wa7 láti7 [ti ats'x-en-ácw-a kúkwpi7]
prog deic [det see-tr-2sg.conj-det chief]
'There's the chief you saw.' (relative clause)
(St'át'imcets)
c. nit [t1 $\mathrm{k}^{W} \mathrm{u}^{\mathrm{W}}{ }^{W}$ p17-a]

วáčx-ən-ax*
nilh [ti kúkwpi7-a]
foc [det chief-det]
'It was the chief you saw.'
see-tr-2sg.conj
(focus)
(St'át'imcets)
d. Swat $k^{w} u$ クáč $x-ə n-a x^{w}$
swat ku áts'x-en-acw who det see-tr-2sg.conj 'Who did you see?'
(wh-question)
(St'át'imcets)

## 2．2．1．Phrasal categories

## 2．2．1．1．Lexical phrasal categories：NP and VP

The category－neutral view of Salish，introduced briefly above and instantiated by Jelinek（1995）， holds that there is no distinction between NP and VP，and hence that it will be impossible for syntactic combinations to show restrictions according to category．However，headed relative clauses in St＇at＇imcets provide evidence that a syntactic category of NP must be distinguished in that language，as argued by Demirdache and Matthewson（1995a），Matthewson and Davis （1995），and Matthewson and Demirdache（1995）．NP is the only syntactic category which can project to the head of a relative clause．

The headed relative clause in（17）contains two identical determiners（i．e．two instances of the discontinuous determiner $t i \ldots a)$ ．

| 17. | wa？ | láti？ | ［t1 | smútact－a | t1 | フąメーブ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | wa7 | látī | ［ti | smúlhats－a | ti | ats＇x－en－án－a］ |
|  | aux | deic | ［det | woman－det | det | see－tr－1sg．conj－det］ |

＇There＇s the woman I saw．＇
（St＇át＇imcets）

The only possible configuration for a two－determiner relative contains an NP，followed by a clause（designated as＇ S ＇in（18））．A clause followed by an NP is impossible（18b），as is either two NPs（18c）or two clauses（18d）．Matthewson and Davis（1995）identify this construction as a head－initial relative clause．

18．a．det NP det S
b．＊det S det NP
c．＊det NP det NP
d．＊ $\operatorname{det} \mathrm{S} \operatorname{det} \mathrm{S}$

Examples of the possible and impossible combinations are given in（19）．
19. a. det NP det $S$ :
pún-tkan [ti cqáár?-a ti $x^{W}$ úlol-a]
pún-lhkan [ti ts'qáx7-a ti cúlel-a]
find(tr)-1sg.subj [det horse-det det run.away-det]
(St'át'imcets)
c. * det NP det NP:

* zwát-ən-+kan [ti $\quad 7 x^{W}$ almix $x^{W}-a \quad t 1$ naplit-a]
* zwát-en-lhkan [ti ucwalmícw-a ti naplít-a] know-tr-1sg.subj [det Indian-det det priest-det] 'I know an Indian who is a priest.'
d. * det S det S :
* pún-tkan [ti $\left.x^{W} u ́ l ə 1-a ~ t 1 ~ x^{w} 11-\partial n-a ́ n-a\right]$
* pún-lhkan [ti cúlel-a ti cwil'-en-án-a] find(tr)-1sg.subj [det run.away-det det look.for-tr-1sg.conj-det] 'I found the one who ran away who I was looking for.'
(St'át'imcets)

A category-neutral analysis is unable to account for the facts in (19), incorrectly overgenerating the ungrammatical combinations in (19b-d).

### 2.2.1.2. Functional phrasal categories

It is not clear at this stage of research which functional categories are distinguished in Salish languages. For example, it is not clear whether one should posit a Tense Phrase, as is often assumed for English and other languages:
20.

(Déchaine 1993:42)

Tense is not an obligatory morphological category in Salish (M. Dale Kinkade, p.c., Thompson and Kinkade 1990:33; see also Demirdache 1996a,b). ${ }^{13}$ Clauses which lack morphological tense marking are shown in (21).
21.

| a. | 2 Tlal | [ t 1 | Šqáy ${ }^{\text {w }}$-al |
| :---: | :---: | :---: | :---: |
|  | ilal | [ti | sqáycw-a] |
|  | cry | [det | man-det] | 'The man cried.' / 'The man is crying.'

(St'át'imcets; Demirdache 1996b)
b. nwəl-p-cín [ta $n-t \wedge q-x \not n-t n]$ open-inch-door [det loc-cover-door-instr] 'The door opened.' / ' The door is opening.'

Temporal notions are often encoded on deictic elements or on determiners in Salish, and there is some neutralization of the distinction between space and time (Davis and Saunders 1975, Demirdache 1996a,b). It is not clear whether the structure in (20), which contains a clausal-level Tense Phrase, accurately represents Salish. On the other hand, Déchaine (1993:17) claims that a Tense Phrase is universally present in the syntax, even if it is not morphologically filled. Further research is required into these issues.

One functional category which I crucially assume to exist in Salish is the Determiner Phrase. See §3.1 below.

[^6]
### 2.2.2. Overt DPs appear in argument position

One Salish language, namely Straits, has been analyzed as a 'pronominal argument' language, in which all overt DPs are adjoined to the clause (as in Jelinek 1984, 1995, Jelinek and Demers 1994; see also Baker 1991, 1996). However, detailed syntactic investigation reveals that overt DPs occupy argument positions in at least some Salish languages (Matthewson 1993, Matthewson et al. 1993, Davis 1993, 1994b).

One type of evidence for configurational structure comes from subject-object asymmetries in determiner distribution. I will argue in Chapter 4 that the determiner $k u$ in St'át'imcets requires a c-commanding licenser, usually an intensional operator. (22) shows that $k u$ is licensed on objects, but not subjects, of intensional verbs.
22.

$$
\begin{array}{ll}
\text { a. } \quad \text { xák-min'-4kan } \\
\text { xat'-mín'-lhkan } \\
\text { hard-appl-1sg.subj } \\
\text { 'I want some fish.' }
\end{array}
$$

$$
\begin{array}{ll}
{\left[k^{W} u\right.} & \text { čúq} \left.{ }^{W} a z^{\prime}\right] \\
{[k u} & \text { ts'úqwaz'] } \\
{[\text { det }} & \text { fish }]
\end{array}
$$

(transitive object) (St'át'imcets; RW,GN)


Under a pronominal argument analysis of the language, no such subject-object asymmetries are predicted to exist. The asymmetries accord with a configurational structure as in (23), where the subject occupies a higher position than the object. ${ }^{14}$
23.


[^7]Further evidence for configurational structure in at least some Salish languages will be given in Chapters 4 and 5.

### 2.3. The status of the typological split

Many of the properties of Salish languages are reminiscent of so-called 'non-configurational' languages (see Hale 1983, Speas 1990, Baker 1996 and references cited therein for discussion). Richness of agreement morphology, the presence of null arguments, and relative freedom of word order have all been linked with a non-configurational clause structure. On the other hand, I have suggested above that at least some Salish languages have a hierarchical clause structure, very similar to that of English.

My view on the Salish-English split, as will become clear in the chapters which follow, is that the manifold differences between the languages cannot all be reduced to a single 'macroparameter' (such as that proposed by Baker 1996). The term 'typological split', therefore, is used as a descriptive term, and indicates only that Salish and English differ from each other in a number of respects. The correct analysis of the differences is the topic not only of this dissertation, but of much other current and future research.

## 3. Theoretical Assumptions

### 3.1. Determiners and Determiner Phrases

The major focus of this dissertation is the Determiner Phrase (DP). I assume the basic X-bar structure for DP in (24), following Abney (1987).
24.


According to the DP analysis in (24), the determiner is the head of the DP and takes NP as its complement. This contrasts with earlier versions of the internal structure of noun phrases (see e.g. Jackendoff 1977, Chomsky 1981), where the noun is the head of the phrase, and the determiner occupies the Specifier position:
25.


According to the DP analysis, D is a head ( $\mathrm{X}^{0}$ category), rather than a phrase (XP category). D is moreover a functional head, which selects a lexical projection as its complement. The lexical/functional split is summarized in (26):
26. If $X^{0} \in\{V, N, P, A\}$, then $X^{0}$ is a Lexical head (open-class element).

If $\mathrm{X}^{0} \in\left\{\right.$ Tense, Det, Comp, Kase \}, then $\mathrm{X}^{0}$ is a Functional head (closed-class element).
(Déchaine 1993:2)

The complement of $D$ is usually assumed to be NP. Another way to say this is that the extended projection of N (i.e. the potential set of functional heads which dominate N ) includes D (Déchaine 1993; see Grimshaw 1991, Davis 1987).

A major motivation for the DP-analysis of noun phrases comes from the many parallels between clauses and noun phrases. For example, Abney (1987) notes that many languages contain agreement within noun phrases which parallels agreement at the clausal level. In Yup'ik, subjects of noun phrases take ergative case, just like subjects of transitive verbs:
27. a. angute-m kiputa-a-Ø
man-erg buy-obj-subj
'The man bought it.'
(Yup'ik; Abney 1987:39)
b. angute-m kuga-Ø
man-erg river-subj
'The man's river.'

The presence of noun phrase-internal agreement morphology suggests the presence of an inflectional functional element within the noun phrase, which parallels inflectional functional elements within clauses. Abney proposes that the noun phrase-internal functional element is the determiner itself.

Nominal gerunds in English also display many clause-like properties. Gerunds contain VPs, and a gerundive verb can assign Case, unlike a deverbal noun:
28. a. John's [destroying the spaceship]vp
b. * John's [destruction the spaceship]
(Abney 1987:16)

The presence of a VP inside the noun phrase does not accord with the structure in (25), according to which N is the head of the phrase. It can be accomodated within the DP-analysis, however, as shown in (29).
29.

(cf. Abney 1987:223)

Since Abney (1987), many authors have adopted the DP-analysis and/or argued for extensions of it; see for example Tellier (1991), Szabolsci (1983, 1987), Ritter (1991, 1993), Valois (1991), Longobardi (1994).

Some of the literature cited in this dissertation uses the terms 'NP' or 'noun phrase' to refer to phrases which according to the DP analysis are Determiner Phrases. In many cases, this is because the works involved were written before the DP analysis was proposed. I will consistently use the term 'DP' throughout the discussion, where it is clear that this does not
change the intent of the original work. I will reserve the designation 'NP' for the lexical phrasal category which appears as the complement to a determiner.

### 3.2. Quantifiers

Chierchia and McConnell-Ginet (1990:91) give the following definition of quantification (emphasis original).
quantificational expressions ... introduce the power to express generalizations into language, that is, the power to move beyond talk about properties of named individuals to saying what quantity of the individuals in a given domain have a given property.

Natural language quantifiers include the familiar English examples in (30).
30. English quantifiers:
all, every, each, some, most, many, few, a few, both, half, three, no, neither, ...

The quantifiers in (30) all range over (sets of) individuals, and may all appear DP-internally. In (31), the range of each quantifier is provided by an NP.
31. a. [Every girl] forgot her pencil.
b. [Most men] shave their legs.
c. [Three hockey players] crashed my party.

With regard to the interpretation of quantifiers, Barwise and Cooper (1981:163-164) claim that 'Quantifiers are used to assert that a set has some property ... quantifiers are taken to denote the family of sets for which they yield the value "true".' According to May (1985), a quantifier Q is interpreted as a function from subsets of the domain onto $\{1,0\}$ (truth and falsity). Examples of the functions represented by quantifiers are given in (32), with prose translations in (33).
32. a. No (X,Y) $=1$ iff $X \cap Y=\emptyset$

$$
=0 \text { otherwise }
$$

b. Every $(X, Y)=1$ iff $X=X \cap Y$
$=0$ otherwise
(May 1985:8)
33. a. No (X,Y) is true if and only if the intersection of sets X and Y is empty.
b. Every $(\mathrm{X}, \mathrm{Y})$ is true if and only if the set X is equivalent to the intersection of sets X and $Y$.

Applying the definitions in (32), the sentences in (34a,b) have the informal truth conditions given.
34. a. No girl forgot her pencil.
$=$ true iff the set of individuals who are girls and who forgot their pencil is empty.
b. Every girl forgot her pencil.
$=$ true iff the set of individuals who are girls is identical to the set of individuals who are girls and who forgot their pencils.

For reasons which will become clear in Chapters 5 and 6, I adopt the assumption that quantified DPs appear adjoined to the clause at the level of Logical Form (LF) (see Huang 1982, May 1985 and many others). (35) represents the LF of the sentence Sophie broke every pencil.
35.


The structure in (35) does not take into account a large amount of recent work on the internal structure of the clause (see for example Pollock 1989, Chomsky 1991, among others). For the most part, the analysis to be presented below is independent of particular instantiations of clause structure, such as the number of functional projections required. Where a particular theoretical assumption is necessary to the analysis, it is explicitly pointed out at the relevant moment.

Quantifiers may also range over events (or cases, times, or situations), as shown in (36) and (37).
36. English quantifiers: always, sometimes, often, usually, seldom, three times, never, ...
37. a. Sophie seldom forgets her pencil.
b. My husband usually bikes to work.

Since the focus of this dissertation is the Salish Determiner Phrase, I will be most interested in the ways in which quantificational notions are expressed DP-internally. I will not be concentrating on the adverbial quantifiers in (36-37).

## 4. Outline of the dissertation

As indicated above, the absence of quantificational determiners in Salish will be analyzed as one reflex of a more general difference between determiners in Salish and in English. To show that this is so, I present a detailed examination of the syntax and semantics of Salish determiners in Chapter 1. I propose that Salish determiners display the properties in (38) (cf. also Matthewson to appear).
38. a. Salish determiners do not encode definiteness.
b. Salish determiners do not encode specificity.
c. There are no quantificational determiners in Salish (see also Jelinek 1995).
d. Salish determiners encode 'assertion of existence'.

The claims in (38) are more than superficial statements about morphological encoding. For example, with regard to definiteness, I show not only that determiners do not overtly encode a definiteness distinction in Salish, but also that determiners cannot be analyzed as homophonous between definites and indefinites. ${ }^{15}$

Chapter 2 aims to account for the properties in (38a-c). I propose a parametric account of the Salish-English split, whereby the ability to encode distinctions which rely on presuppositional

15 The suggestion that definite and indefinite determiners in Salish could be simply homophonous with each other was made by Robert May (p.c.). See Chapters 1 and 2 and Demirdache (1996a,b) for arguments that such a proposal cannot account for the Salish facts.
notions is absent in Salish determiners. I argue that all the distinctions which Salish determiners lack involve presuppositions of existence. Since presupposition crucially relies on information contained in the common ground of the discourse (see Stalnaker 1974, Heim 1982, among many others), we can rule out all the impossible determiner types by means of a single Common Ground Parameter, given in (39).

## 39. Common Ground Parameter

Determiners may access the common ground of the discourse
Yes: $\{$ English, ... \}
No: \{Salish, ... \}

The parameter in (39) derives the absence of a definiteness distinction in Salish, the absence of a specificity distinction, and the absence of quantificational determiners. The derivation of the last result relies on the claim that all quantificational determiners, both strong and weak, induce presuppositions of existence (pace Diesing 1992).

The parametric approach has several desirable features, as outlined in (40).
40. a. A wide range of characteristics are explained by means of a single locus of variation.
b. Aparently major differences in quantificational systems are accounted for without having to postulate differences at the level of the semantics.
c. The parameter is stateable at the level of the lexicon, and its setting relies on learnable cues.

With regard to (40b), notice that we do not have to postulate that certain semantic operations are missing from Salish languages. Presupposition is not absent from the entire grammar of Salish, but is merely unavailable for a well-defined class of lexical items: determiners. Similarly, quantification which ranges over individuals exists in Salish, just as in English, and no semantic variation is required. Salish languages differ from English only in the particular subset of (universally available) determiner distinctions which is selected.

Chapter 3 investigates the assertion of existence distinction (38d). I show that the assertion of existence distinction cannot be accounted for by currently available theories. I then propose a modification of Discourse Representation Theory (Kamp 1981, Heim 1982) which enables us to account for Salish. I also argue that the presence of an assertion of existence distinction in Salish determiner systems is compatible with the parameter in (39).

Chapter 4 contains a detailed examination of the determiner system of one language, St'at'imcets. The analysis of the assertion of existence distinction is fine-tuned, and evidence is provided which suggests that a hierarchical clausal structure is necessary in St'át'imcets, with an overt subject generated higher than an overt object (pace what has been claimed for Straits Salish by Jelinek 1993c, 1995).

The last three chapters investigate Salish quantification. In Chapter 5, I provide syntactic and semantic evidence that Salish possesses a robust system of DP-internal quantification. I argue that quantifiers which syntactically appear inside DP do not behave like adverbial quantifiers, and that we thus have true D-quantification in Salish (pace Partee 1990, Jelinek 1995). The analysis suggests redefinition of the distinction between D -quantification and A -quantification, in favour of a three-way split between A-quantifiers, DP-quantifiers and D ${ }^{0}$-quantifiers. Salish possesses DP-quantifiers (quantifiers which appear inside DP), but lacks $\mathrm{D}^{0}$-quantifiers (quantifiers which occupy the position of the $\mathrm{D}^{0}$ head), for reasons already discussed above.

Chapter 6 argues that Salish possesses DPs which correspond to generalized quantifiers (Barwise and Cooper 1981; cf. opposing claims made in Jelinek 1995). The evidence provided is both syntactic and semantic. Semantically, DPs containing quantifiers in Salish demonstrate the same properties as English generalized quantifiers. As expected, they obey Barwise and Cooper's universal claims on the nature of generalized quantifiers. For example, generalized quantifiers in Salish obey conservativity and monotonicity.

Chapter 6 also addresses the nature of the strong-weak quantifier distinction (Milsark 1974). I show that weak quantifiers in St'at'imcets do not display the ambiguity commonly assumed for English weak quantifiers. Rather, the interpretation of St'at'imcets weak quantifiers is straightforwardly correlated with syntactic position. Inside DP, weak quantifiers have only a proportional reading, while predicative weak quantifiers allow a cardinal reading. This can be accounted for by means of an isomorphism constraint on the relationship between the overt syntax and the logical representation.

Chapter 7 discusses outstanding differences between quantification in Salish and English. Although the differences can largely be derived from the independently-required parameter on determiners (see (39)), certain auxiliary assumptions are required regarding the mapping between syntax and semantics. In particular, I speculate that there is a necessary relationship between the syntactic position of the determiner $\left(\mathrm{D}^{0}\right)$ and the introduction of a resource domain variable (i.e. the implicit limitation of the range of a quantifier; von Fintel 1994). I suggest that only quantifiers which occupy the $\mathrm{D}^{0}$ position may introduce a resource domain variable. Since $\mathrm{D}^{0}$-quantifiers do not exist in Salish, the range of a quantifier must always be explicitly rather than implicitly limited. In turn, this correctly predicts the absence of a generic universal quantifier in Salish languages.

## 5. The Salish family

### 5.1. Subgrouping

A complete list of Salish languages is given in (41) (cf. van Eijk 1987:ix-x, Thompson and Kinkade 1990:34-35, M. Dale Kinkade, p.c.). Some of the finer dialect divisions have been omitted, where the distinctions are not relevant for the material presented in this dissertation. Languages marked with * are extinct.
41. The Salish language family

| Branch |  | Language | Dialects |
| :---: | :---: | :---: | :---: |
| Bella Coola |  |  |  |
| Central Salish |  | Comox | Sliammon, Klahoose, Homalko, Island Comox |
|  |  | Pentlatch * |  |
|  |  | Sechelt |  |
|  |  | Squamish |  |
|  |  | Halkomelem | Chilliwack/Upriver Halkomelem, Musqueam, Nanaimo/Cowichan |
|  |  | Nooksack * |  |
|  |  | Northern Straits | Semiahmoo, Saanich, Lummi, Songish, Samish, Sooke |
|  |  | Klallam |  |
|  |  | Lushootseed | Northern, Southern |
|  |  | Twana * |  |
| Tillamook* ${ }^{*}$ |  |  |  |
| Tsamosan |  | Upper Chehalis | Satsop, Oakville, Tenino |
|  |  | Cowlitz * |  |
|  |  | Lower Chehalis |  |
|  |  | Quinault * |  |
| Interior | Northern | Lillooet (St'át'imcets) | Mount Currie/Lower Lillooet, Fountain/Upper Lillooet |
|  |  | $\begin{aligned} & \hline \text { Thompson } \\ & \text { (N+e?kepmxcin) } \end{aligned}$ |  |
|  |  | Shuswap (Secwepemctsín) | Eastern, Western |
|  | Southern | Okanagan | Northern, Southern/Colville |
|  |  | Columbian |  |
|  |  | Kalispel | Spokane, Kalispel, Flathead (Selis) |
|  |  | Cour d'Alene |  |

### 5.2. A subset of Salish languages

The language from which the largest body of data is drawn for this study is St'át'imcets (Northern Interior). Most of the St'át'imcets data comes from my original fieldwork; initials following an utterance identify the speaker concerned. For much of the discussion, particularly those parts where semantic judgements are required, St'át'imcets is the only language from which data can be drawn. Native speakers can give judgements on semantic ambiguities, as well as negative data; such information is unobtainable from textual study and largely unavailable in current published works.

There are two main dialects of St'átimcets, and data are drawn from both dialects. Readers may notice lexical differences between examples provided by different speakers; however, any syntactic or semantic differences between speakers are explicitly noted in the text.

All St'át'imcets examples are given both in a phonemic script, and in the practical orthography of the language (devised by Jan van Eijk; see van Eijk and Williams 1981). This is to faciliate access by speakers of the language, who are often familiar only with the practical orthography.

Wherever possible, claims made on the basis of St'at'imcets have been checked in other languages. Fieldwork data is cited for Secwepemctsín (provided by Dwight Gardiner), Nłe $7 k$ epmxcín (collected by the author), Upper Chehalis (provided by M. Dale Kinkade), and Squamish (provided by Peter Jacobs). The complete list of languages discussed in this dissertation is given in (42).
42. Languages investigated

| Language | Branch |
| :--- | :--- |
| Bella Coola | --- |
| Sechelt | Central |
| Squamish | Central |
| Halkomelem | Central |
| Northern Straits | Central |
| Lushootseed | Central |
| Upper Chehalis | Tsamosan |
| St'át'imcets | Northern Interior |
| N+e ?kepmxcin | Northern Interior |
| Secwepemctsín | Northern Interior |

The choice of the languages in (42) is motivated exclusively by availability of materials. Languages omitted from (42) do not to my knowledge reflect systematic counter-examples to the claims made below. On the basis of the subset of ten languages in (42), I generalize to the entire family, often making claims about Salish as a whole. Obviously, such claims are falsifiable by evidence which might turn up from other languages. It should also be noted that there is variation within the family on a number of points; I shall discuss these as they arise.

## CHAPTER 1

## THE SYNTAX AND SEMANTICS OF SALISH DETERMINERS

## 0. Introduction

A satisfying theory of the semantics of determiners should account for the range of distinctions encoded by natural language determiners. Some examples of attested distinctions are given in (1).

1. a. definiteness

English, ...
b. specificity
c. visibility

Turkish (Enç 1991), Polynesian (Chung 1978), ...
d. proximity Bella Coola (Davis and Saunders 1975), ...
St'át'imcets (van Eijk 1985), ...
e. gender

German, ...
f. number

German, ...
g. Case

German, ...

Our theory should also account for cross-linguistic variation in the distinctions which determiners encode. For example, English determiners encode definiteness, but not specificity; Polynesian languages encode specificity, but not definiteness, according to Chung (1978).

Although determiners vary cross-linguistically, it would not be an appealing hypothesis to say that the semantics of determiners varies randomly from language to language. In order to obtain a restricted theory of Universal Grammar, our null hypothesis should be that the semantics of determiners is universally provided and universally invariant. ${ }^{1}$

In this chapter, I will argue based on Salish languages that the null hypothesis is untenable. Cross-linguistic variation in determiner systems is more than superficial; the range of semantic distinctions available for determiners must be parameterized.

[^8]The first goal of the chapter is to establish which distinctions are encoded by Salish determiners. In §1, I argue for four major proposals about Salish, summarized in (2).
2. a. Salish determiners do not encode definiteness.
b. Salish determiners do not encode specificity.
c. There are no quantificational determiners in Salish (see also Jelinek 1995).
d. Salish determiners encode 'assertion of existence'.

To my knowledge, all the claims in (2) except (2c) are novel to this dissertation. There has been no previous discussion of either specificity or assertion of existence in Salish. The absence of quantificational determiners is proposed by Jelinek (1995), as well as by Demirdache and Matthewson (1995b). ${ }^{2}$ The absence of a definiteness distinction which exactly parallels the English definiteness distinction is noted by Jelinek (1995) for Straits. However, my claims about the status of definiteness in Salish differ from Jelinek's (see §1.2.2).

After arguing for the proposals in (2), I will demonstrate that the differences between Salish languages and English-type languages cannot be reduced to superficial matters of morphological encoding. The argument proceeds as follows, taking the definiteness distinction as an example. In languages with no overt distinction between definite and indefinite determiners, there are a priori two logical possibilities, given in (3). The first possibility entails a relatively trivial difference between languages; the second possibility suggests a more fundamental difference. ${ }^{3}$
3. a. A definiteness distinction is not encoded on the determiners, but is still present in the grammar of the language (i.e. definite and indefinite determiners are homophonous).
b. No definiteness distinction is present in the grammar of the language.
(3a) accords with the null hypothesis that the range of distinctions accessed by determiner systems is universally provided, and therefore that all languages possess the definite/indefinite distinction, even though it may not be overtly encoded on the determiners.

[^9]I will show in this chapter that (3a) is an impossible analysis of Salish languages. Salish determiners not only do not encode definiteness, but also cannot be analyzed as homophonous between definites and indefinites. This is because the distinctions which are encoded in Salish cross-cut the definite/indefinite distinction. The semantic 'pie' is cut up differently in Salish from in English, in ways to be made precise below. Furthermore, DPs in Salish do not display several properties associated with definite DPs, a result which is unexpected if they are ambiguous between definite and indefinite descriptions (see Demirdache 1996a,b,c, §1.2.3 below).

The second part of this chapter (§2) discusses the syntactic distribution of determiners in Salish. It is shown that determiners in Salish are generally obligatory on arguments, as predicted by a theory such as that of Higginbotham (1985). Determiners are absent on main predicates, and optional on quantified temporal adjuncts (such as every day). I conclude that determiners in Salish languages function to saturate NPs, enabling them to function as arguments.

## 1. Distinctions encoded in Salishan determiner systems 1.1. Visibility, proximity, gender and number

This subsection will serve as a general introduction to determiner systems in Salish. I will show that Salish determiners encode (various subsets of) the distinctions in (4).
4. a. visibility
b. proximity (to the speaker)
c. gender
d. number

While all Salish languages encode deictic features (visibility and/or proximity), only a subset of Salish languages encode pronominal features (gender and/or number). The deictic nature of Salish determiners will become relevant in later chapters, as will the fact that the visibility and
proximity distinctions are always speaker-oriented (i.e. distance from the speaker is what is relevant). See Chapters 2 and 3 for discussion. ${ }^{4}$

The languages examined in this section are Bella Coola, Upper Chehalis (Tsamosan), Straits (Lummi dialect, Central), Sechelt (Central) and Secwepemctsín (Northern Interior). The systems presented in this subsection will be partially reanalyzed in $\S 1.5$, where I introduce the notion of 'assertion of existence'. For a detailed case study of one language (St'at'imcets, Northern Interior), see Chapter 4.

Bella Coola. The Bella Coola determiner system is represented in (5). An over-arching distinction between 'proximal' and 'non-proximal' further divides into six proximity distinctions (labelled I - VI). The proximity dimension encodes both spatial and temporal proximity; see Davis and Saunders (1975) for detailed discussion. ${ }^{5}$ Gender and number are also encoded.
5. Bella Coola determiners (Davis and Saunders 1975:14):

|  |  | $\begin{gathered} \text { pro } \\ \text { proxin } \\ \text { prese } \end{gathered}$ | al <br> space, ime II | middle near past/ | n-pr <br> t <br> IV |  | $\mathrm{VII}^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| -plural | +female | ci...cx | ci ...ċayx | +a-717a?14 | ta...t | +a... 217 | +a... 714 |
|  | -female | ti...tx | t1...tayx | ta-tax | ta...t | ta...tx | ta...tax |
| +plural |  | wa...c | wa... 7 ac | ta-tax ${ }^{\text {w }}$ | ta... ${ }^{\text {+ }}$ | ta...tx ${ }^{\text {w }}$ | ta...tux |

[^10]Upper Chehalis. Kinkade's (1964) classification of Upper Chehalis, given in (6), emphasizes that the proximity distinctions are speaker-oriented. Speaker-orientation in the determiner system is a reflex of a more general Salish tendency; see Chapter 3.
6. Upper Chehalis determiners (adapted from Kinkade 1964):


Lummi. Like Upper Chehalis, the Lummi dialect of Straits does not encode number distinctions. Four levels of proximity/visibility are encoded, as well as a gender distinction. ${ }^{6}$
7. Lummi determiners (adapted from Jelinek and Demers 1994:717):

|  | proximate, visible | neutral | distal/out of sight | remote |
| :---: | :---: | :---: | :---: | :---: |
| +female | Sf'ə | sə | $\mathrm{k}^{\text {w }}$ 。 | $\mathrm{k}^{\mathrm{W}}$ sə |
| general | ti'a | сə | $\mathrm{k}^{\text {w }}$ 。 | $\mathrm{k}^{\text {w }} \mathrm{c}$ ¢ |

Sechelt. In Sechelt, visibility, number and gender are encoded, but there is a certain amount of neutralization, as shown in (8). The determiner $t e$ is ambiguous with respect to visibility, as is lhe. The determiners tse and che are unambiguously visible and invisible respectively.
8. Sechelt determiners (adapted from Beaumont 1985):


[^11]The 'unspecified or abstract' category will be reanalyzed in §1.5.

Secwepemctsín. Secwepemctsín determiners encode a case distinction between 'absolutive' (on objects and subjects of both transitive and intransitive predicates) and 'relative' (on oblique arguments or adjuncts). ${ }^{7}$ A deictic distinction is encoded between 'present' and 'absent'. For a reanalysis of the division into 'actual-determinate' vs. 'hypothetical-indeterminate', see $\S 1.5$ below.
9. Secwepemctsín determiners (adapted from Kuipers 1974:57):


The examples presented in this section show that Salish determiner systems encode a range of deictic and pronominal features. Proximity distinctions are robust in all the languages. A subset of Salish determiner systems encode gender and/or number, and Case distinctions are rare. A summary of the discussion so far is provided in (10). ${ }^{9}$

| 10. | proximity | gender | number | Case |
| :---: | :---: | :---: | :---: | :---: |
| Bella Coola | $\checkmark$ | $\checkmark$ | $\checkmark$ | - |
| Upper Chehalis, Lummi | $\checkmark$ | $\checkmark$ | - | - |
| Sechelt | $\checkmark$ | $\checkmark$ | $V$ | - |
| Secwepemctsín | $\checkmark$ | - | - | $\sqrt{\text { (subj/obj vs. oblique) }}$ |

[^12]
### 1.2. Definiteness

Definiteness is marked on the determiners of many languages, English being a famous example. The purpose of this section is to establish that Salish determiners do not encode definiteness. I will also argue that Salish determiners are not amenable to an 'ambiguity' hypothesis, whereby determiners are simply ambiguous or homophonous between definite and indefinite.

### 1.2.1. Defining definiteness

Following Heim (1982) and others, I take the major distinction between definite and indefinite determiners to be a familiar - novel distinction. Definites are familiar to the common ground of the discourse, while indefinites are novel to the common ground of the discourse. This is illustrated in (11-13) for English. When a DP has no discourse antecedent and is unfamiliar to the common ground of the discourse participants, an indefinite is the only possible choice:
11. Novel context:
a. I met [a man] today.
b. * I met [the man] today.

If, on the other hand, the individual corresponding to a DP is already familiar to the common ground of the discourse (for example by being previously mentioned), a definite is the only possible choice. Identity of indices marks coreference:
12. A. I met [a man]i today.
B. What did $[\text { the man }]_{i}$ look like?
13. A. I met [a man] today.
B. * What did [a man] look like?
(novel)
(familiar)
(novel)
(familiar)

The notion of 'common ground' includes, but is not restricted to, information introduced overtly into prior discourse; see Heim (1982), Chierchia and McConnell-Ginet (1990), among others. For example, if a dog runs up to the participants during a conversation and is noticed by all participants, the dog enters the common ground and may be referred to by a definite DP.

While familiarity is the main difference between definite and indefinite DPs, there are exceptions to the claim that definite descriptions must always be familiar to the common ground of the discourse, as shown in (14). In (14a), the definite DP introduces an individual who does not exist yet, and may not previously have been under discussion. Similarly, (14b) can be uttered felicitously even in a situation where there was no previous mention of a dog and there is no dog in sight (Heim 1982:371; see also Hawkins 1978).
14. a. I will meet the first baby to be born in the year 2010.
b. Watch out, the dog will bite you.

Heim (1982) claims that novel definites are rendered felicitous by ACCOMMODATION (see Lewis 1979), a process which adjusts the common ground in the face of a violation of a felicity condition. Lewis's (1979:172) definition of accommodation is as follows:
if at time $t$ something is said that requires presupposition $p$ to be acceptable, and if $p$ is not presupposed just before $t$ then - ceteris paribus - presupposition $p$ comes into existence.

See Heim (1982) and references cited therein for discussion of the conditions under which accommodation is possible.

### 1.2.2. Salish determiners do not encode definiteness

The familiar-novel distinction, so pervasive for determiner choice in English, does not affect determiner choice in Salish. The evidence presented in this section consists of pairs of coreferential DPs, one of which is used in a novel context, and one of which is used in a familiar context. The same determiner is used in both novel and familiar instances, showing that familiarity is not encoded in these languages.

Data for this section comes from Sechelt (Central), Lushootseed (Central), St'át'imcets (Northern Interior), Secwepemctsín (Northern Interior), Straits (Central), Bella Coola and Upper Chehalis (Tsamosan). Choice of languages is based on availability of relevant data.

Sechelt. The following example from Sechelt illustrates the absence of a familiar-novel distinction. (15a) is the first mention of a snake woman in the text; (15b) contains a subsequent mention of the same creature. In both cases, the same determiner (lhe) is used. ${ }^{10}$

| 15. a. | t'i | súxwt-as | [lhe | 7 l lhka7 |
| :---: | :---: | :---: | :---: | :---: |
|  | fact | saw-he | [det | snake |
|  | 'He saw [a snake-woman] |  |  |  |



In accordance with the lack of a definiteness distinction, all the Sechelt determiners are glossed as 'the, a' by Beaumont (1985).

Lushootseed. Lushootseed determiners do not encode definiteness; according to Hess (1995:9) 'The distinction in English between the and $a$ does not exist in Lushootseed.' (16) shows that the same determiner may be used, regardless of whether the individual concerned is novel or familiar to the discourse situation. (16a) is the first mention of a whale in the text; (16b) occurs two lines later and refers to the same whale. ${ }^{11}$
16.



[det
(familiar) (Lushootseed; Hess

[^13]St'át'imcets. The absence of a familiar-novel distinction on St'át'imcets determiners is illustrated in (17). The same determiner is used when the individual is novel and when she is familiar. (The relevant determiner is discontinuous, containing both a proclitic and an enclitic portion. See Chapter 4 for detailed discussion of St'át'imcets).
17.

| húỳ-4kan | ptak ${ }^{\text {W }}$ \%, | ptá ${ }^{\text {w }}$ +-min | 1c?a | [ t 1 | Stm |
| :---: | :---: | :---: | :---: | :---: | :---: |
| húy'-lhkan | ptakwlh, | ptákwlh-min | lts7a | [ti | smém'lhats-a] |
| going.to-1sg.subj | tell.story | tell.story-appl | here | [det | woman(redup)-det] |
| I am going to tell | legend, a | gend about [a (novel) | $\mathrm{irll}_{\mathrm{i}}$ |  |  |

b. wa? $k^{W} u$ ? ? Tlal láti? [ti Smóṁłač-a]
wa7 ku7 ílal láti7 [ti smém'lhats-a]
prog quot cry deic [det woman(redup)-det]
'[The girl] $]_{i}$ was crying there.' (familiar)
(St'át'imcets; van Eijk and Williams 1981:19)

Secwepemctsín. The lack of a definiteness distinction in Secwepemctsín is illustrated in (18), where (18a) is the first sentence in the narrative, and (18b) appears a few lines later. The distinction between novel and familiar entities is not marked on the determiner.
 be-3 [det boy] deic prep-shore-3poss [det Fraser River] 'There was [a boy], who lived over on the bank of the Fraser River ... $\qquad$ (novel)
b. w?êx [y twwiwt] wléx-mn-s ?s-tiqwon-s
be [det boy] think.pity-tr-3erg to-kill-tr-3erg
yरfi-y?ếne [ $\gamma \quad$ sqəxqxe?éye]
deic [det puppy]
'[The boy $]_{i}$ thought it a pity to kill those puppies.'
(familiar)
(Secwepemctsín; Kuipers 1974:103)

Straits (Lummi, Saanich dialects). Lummi determiners also do not encode definiteness, according to Jelinek (1995:512) (see also Jelinek 1993a). Jelinek claims that absolutive patients 'may be freely interpreted as definite or indefinite' (1995:528):
19. leŋ-t-ø-s [cə sməyәs]
see-tr-3abs-3erg [det deer]
'He saw the / a deer.'

The claim that Straits lacks a definiteness distinction is supported by data from the Saanich dialect. In (20), novel and familiar entities receive the same determiner:

(novel) (Saanich; Montler 1986:245)

'Go aboard [the $\log ]_{\mathrm{i}} . .$. ' (familiar) (Saanich; Montler 1986:246)

Jelinek's (1995) claims about the status of definiteness in Straits differ from my proposal that the distinction between familiar and novel usages is simply irrelevant in Salish. According to Jelinek, certain contexts force only definite readings. Most subject DPs are either definite or generic; 'intransitive subjects are presuppositional' (i.e. familiar). ${ }^{12}$ The expression of an indefinite generally requires a syntactic paraphrase, such as using the nominal concerned as a predicate rather than an argument, as in (21).
21.

$$
\begin{align*}
& \text { x-steniy-sxw } \\
& \text { rel-female-2sg.nom } \\
& \text { 'You have a wife/woman.' } \tag{Lummi;Jelinek1995:529}
\end{align*}
$$

Throughout the discussion of definiteness so far, I have not made reference to grammatical functions, assuming that the absence of a familiar/novel distinction extends to any argument DP. There may be a tendency for subjects to refer to familiar individuals; this follows independently, however, from the mapping of subject to discourse topic in Salish (see Kinkade 1989, 1990, Davis 1994c, Roberts 1994, Demirdache and Matthewson 1995b). Topics of the discourse are by definition familiar to the discourse participants and present in the common ground; as such they will be interpreted as definite. However, just as the mapping from subject to topic is not absolute, the correlation of subject with a definite interpretation is not absolute, in at least some languages. The St'átimcets examples in (22) show that an intransitive subject can easily be used

[^14]to refer to a novel individual (i.e. in an indefinite context). The DPs in both (22a) and (22b) introduce previously unknown individuals.
22.

| a. | nit | $k^{W}{ }^{\text {u }}$ ? | ?ayt | S-čut-s | [ti | qヘ̂l-a | ? ${ }^{\text {c }}{ }^{\text {w }}$ almix ${ }^{\text {w }}$ ] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | nilh | ku7 | aylh | s-tsut-s | [ti | qvi-a | úcwalmicw] |
|  | foc | quot | then | nom-say | [det | bad-det | person] |
|  | 'And then a bad person said ...' (novel) |  |  |  |  |  |  |

(St'at'imcets; van Eijk and Williams 1981:32)
b. 夫ak $k^{\text {wh}} u$ ? kát1? [?1 nk̀yáp-a], ?á?əǹwas t'ak ku7 káti7 [i nk'yáp-a], á7en'was go quot deic [pl.det coyote-det] two(animal) 'Two coyotes were going along.'
(St'át'imcets; van Eijk and Williams 1981:32)

Bella Coola. Bella Coola's complex determiner system is discussed in detail in $\S 1.5$ below, but a few remarks can be made here. Nater (1984:41) (who does not propose a definiteness distinction) notes that when a prefixal determiner is used without an accompanying deictic suffix, the usual translation is English $a(n)$ (or $\emptyset$ for plurals). Hence, the most likely candidate for an indefinite determiner would be these lone prefixal determiners. However, (23) shows that a novel individual may also be represented by a prefix-suffix combination. This suggests that determiner choice in Bella Coola cross-cuts the familiar-novel distinction.


Upper Chehalis. At first glance, Upper Chehalis presents a problem for the generalization that Salish lacks definiteness marking. As seen in (6) above, Kinkade classifies the articles $t$ and $c$ as indefinite. ${ }^{13}$ However, the Upper Chehalis 'indefinite' articles $t$ and $c$ do not correspond to the English indefinite article $a(n)$. For example, when a speaker refers to an individual who is known to the speaker, but who has not been previously mentioned in the discourse, we would tend to expect an indefinite in English. However, in such contexts, the article tit, rather than $t$ or $c$, is likely to be used (M. Dale Kinkade, p.c.). ${ }^{14}$

[^15]In Upper Chehalis texts, there are also puzzling instances of $t$, the supposedly indefinite determiner, in familiar contexts. For example, the women mentioned in (24) (the daughters of fire) are the topic of the story and have been mentioned several times already, yet $t$ is used:

(Upper Chehalis: MDK, p.c.)

Such examples suggest that the Upper Chehalis distinction does not correspond to the familiarnovel (definite-indefinite) distinction; nor, however, does the distinction appear to fit in with patterns found in the rest of the Salish family. Determiners in Upper Chehalis are frankly puzzling, and the lack of native speakers means that fieldwork cannot help us sort out the puzzle.

### 1.2.3. Evidence against a homophony analysis

In the previous section, it was shown that Salish determiners do not overtly distinguish between entities which are novel (not present in the common ground) and familiar (present in the common ground). It is still possible, on the basis of the data presented thus far, to claim that Salish determiners simply display homophony between definite and indefinite determiners. That is, the distinction might still be present in the grammar, although it is not overtly encoded.

If DPs in Salish were ambiguous between definites and indefinites, then they should be able to display the properties of either definites or indefinites. However, Demirdache (1996a,b,c) shows that DPs in St'át'imcets fail to display the properties of definite descriptions. This provides evidence against the homophony analysis.

[^16]One way in which DPs in St'át'imcets do not act like definite DPs is that they do not have an Individual Concept Reading. The Individual Concept Reading is illustrated in (25).
25. The president of the United States is powerful. for any time $t$, whoever is president at $t$ is powerful at $t$
(Demirdache 1996c:8)

The definite DP the president of the United States has a reading where it does not describe a particular individual, but indicates any past, present or future president. The corresponding DP in St'át'imcets (shown in (26)) can be used either to refer to a particular individual that the speaker has in mind, or it can be used attributively, to refer to whoever is the current president. It cannot be used to describe any past, present or future president. ${ }^{15}$

| 26. | ? | [t | kəlొáq̧̌tən-ş-a | ti | United.States- |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | á7xa7 | [ti | kel7áqsten-s-a |  | United.States-a] |
|  | powerful | [det | chief-3sg.poss-det | et | United.States-det] |
|  | 'The president of the United States is powerful.' |  |  |  |  |

This shows that DPs containing the determiner $t i . . . a$ in St'át'imcets do not display a property associated with definite DPs, namely allowing an Individual Concept Reading. This in turn indicates that the determiner $t i \ldots a$ is not homophonous between a definite and an indefinite determiner. If the definite and indefinite uses of $t i \ldots a$ were merely homophonous, then $t i \ldots a$ should be able to be interpreted as a definite description. In that case, we would expect the Individual Concept Reading (one of the possible readings of definite DPs) to be possible. ${ }^{16}$

[^17]$\S 1.5$ below provides further evidence against the homophony analysis of Salish determiners, based on the fact that overt determiner distinctions in Salish cross-cut the definite-indefinite distinction. ${ }^{17,18}$

### 1.3. Specificity

This section will demonstrate that specificity is not encoded in the St'at'imcets determiner system. From that basis, I will generalize to make the strong prediction that specificity is not encoded in Salishan determiner systems.

### 1.3.1. Defining specificity

An intuitive definition of specificity says that a DP is specific when the speaker has a specific individual in mind (cf. for example Kamp and Reyle 1993:289, Ioup 1977; see also discussion in Hellan 1981). A more rigorous definition of specificity is required when we are testing languages like Salish, for which most linguists do not have native speaker intuitions. I will utilize two definitions of specificity, namely those of Ludlow and Neale (1991) and Enç (1991).

[^18]Ludlow and Neale's (1991) definition of specificity utilizes the following three concepts:
27. a. Speaker's Grounds: the proposition that is the object of the most relevant
b. Propositions Meant:
c. Proposition Expressed: belief furnishing the grounds for an utterance the proposition(s) a speaker intends to communicate the proposition expressed by the utterance
(Ludlow and Neale 1991:176)

The Speaker's Grounds, Proposition Meant and Proposition Expressed need not be identical for any one utterance, as will be seen immediately below.

Specificity relies on a mismatch between the Speaker's Grounds and the Proposition Meant, according to Ludlow and Neale. In particular, these must differ in whether they are SINGULAR PROPOSITIONS or GENERAL PROPOSITIONS. Singular propositions are those which contain only directly referring expressions (such as proper names), and which are therefore 'about' particular individuals. An example is given in (28).
28. Moana quit her job. (singular proposition)

General propositions, on the other hand, contain only definite or indefinite descriptions, as in (29). It is possible to understand a general proposition without being acquainted with any particular individual who satisfies the description (Ludlow and Neale (1991:173). See also Loar (1976).
29. The woman who won a million dollars yesterday quit her job.
(general proposition)

Specificity arises when there is a mismatch between the Speaker's Grounds and the Proposition Meant, such that the Speaker's Grounds is a singular proposition, while the Proposition Meant is a general proposition: ${ }^{19}$

[^19]
#### Abstract

When the speaker has singular grounds for an assertion of the form 'An $F$ is $G$ ' but no intention of communicating a singular proposition, let us say that the indefinite description 'an F ' is used specifically (Ludlow and Neale 1991:181; emphasis original).


An example will make things clearer (adapted from Ludlow and Neale 1991). Suppose that Mary is looking gloomy because a tax auditor she knows, Mr Beastly, is coming to audit her today. If asked why she is looking gloomy, she could respond with (30).
30. An auditor is coming to see me today.

Suppose also that Mary has no reason to expect that the hearer of (30) knows Mr Beastly, or knows that he is the particular auditor who is coming to see her. In that case, she intended to communicate only a general proposition. However, the grounds for her utterance were a singular proposition, as shown in (31). Hence, the DP an auditor has been used specifically. ${ }^{20}$


The second test for specificity I will use when investigating Salish comes from Enç (1991). Enç argues that if the object DP in the second sentence in (32) is specific, it will pick out two of the children already under discussion. A non-specific object DP will pick out two separate girls, not already under discussion.
32. A lot of children came in. I knew two girls.

There are languages which overtly encode the distinction between these two readings of the object DP (e.g. Turkish). Salish languages do not, as will be shown in the next subsection.

[^20]
### 1.3.2. Salish determiners do not encode specificity

Evidence about specificity cannot easily be extracted from descriptive grammars, since we need to know which interpretations particular utterances may and may not have. Such matters are not usually overtly addressed in the available materials. Hence, the evidence in this section comes mainly from St'át'imcets, with some indirect evidence drawn from Beaumont's (1985) description of Sechelt.

St'át'imcets. In St'át'imcets, mismatches between Speaker's Grounds and Proposition Meant are not relevant for determiner choice. In (33), there is a mismatch between the Speaker's Grounds and the Proposition Meant. The speaker has as her grounds for the utterance a singular proposition, but all that is meant to be expressed to the hearer is a general proposition. The determiner $t i . . . a$ is used. ${ }^{21}$
33. Context:
(specific)
The speaker has just heard on the telephone that a teacher she knows named Leo is coming. She reports this information to a colleague.

Speaker's Grounds: Leo is coming.
Proposition Meant: A teacher is coming.
Proposition Expressed: A teacher is coming.

| $x^{W}$ wz ${ }^{\prime}$ | $\mathrm{k}^{\mathrm{W}} \mathrm{u}$ ? | čas | [ t 1 | wa? | と̌unám-xal] |
| :---: | :---: | :---: | :---: | :---: | :---: |
| cuz' | ku7 | ts7as | [ti | wa7 | tsunám'-cal] |
| going.to | quot | come | [det | prog | teach-intr] |
| A teache | ming.' |  |  |  |  |

(St'át'imcets; LT)

In (34), we have a non-specific DP. Both the Speaker's Grounds and the Proposition Meant are general propositions. An individual who is described only as 'a teacher' is coming to see the speaker. It is possible that the speaker herself does not know who the teacher will be. Again, the determiner $t i . . . a$ is used.

[^21]34. Context:
(non-specific)
The speaker has just heard on the telephone that a teacher is coming. She reports this information to a colleague.

Speaker's Grounds: A teacher is coming.
Proposition Meant: A teacher is coming.
Proposition Expressed: A teacher is coming.

| $x^{W} u z^{\prime}$ | $\mathrm{k}^{\mathrm{W}} \mathrm{u}$ ? | とてas | [ti | wa? | Cunám-xal] |
| :---: | :---: | :---: | :---: | :---: | :---: |
| cuz' | ku7 | ts7as | [ti | wa7 | tsunám'-cal] |
| going.to | quot | come | [det | prog | teach-intr] |
| A teach | ing. |  |  |  |  |

(St'át'imcets; LT)

A third and final possibility is illustrated in (35). Here, all propositions are general, just as they were in (34). This time, however, the speaker uses the determiner $k u$, rather than $t i \ldots a$. For the distinction in meaning between $k u$ and $t i \ldots a$, see $\S 1.5$. For now, all that is relevant is that nonspecific DPs may contain either determiner.

Context: (non-specific)
The speaker has just heard on the telephone that a teacher is coming. She reports this information to a colleague.

Speaker's Grounds: A teacher is coming.
Proposition Meant: A teacher is coming.
Proposition Expressed: A teacher is coming.

| $\mathrm{x}^{\mathrm{W}} \mathrm{uz}$ | $\mathrm{k}^{\mathrm{W}} \mathrm{u} ?$ | čaš | $\left[\mathrm{k}^{\mathrm{W}} \mathrm{u}\right.$ | wa? | cunám'-xal] |
| :--- | :--- | :--- | :--- | :--- | :--- |
| cuz' | $\mathrm{ku7}$ | ts7as | $[\mathrm{ku}$ | wa7 | tsunám'-cal $]$ |
| going.to | quot | come | $[$ det | prog | teach-intr] |

(St'át'imcets; LT)

The data in (33-35) show that St'at'imcets does not encode the difference between specific and non-specific. The reasoning follows the same logic as in the preceding section on definiteness. When we compare a context in which there is a mismatch between the Speaker's Grounds and the Proposition Meant (33) with the two contexts where there is no mismatch (34-35), we see that the difference between a mismatch and no mismatch is not reflected in determiner choice.

The distinctions which are encoded in St'át'imcets 'slice up' the available semantic space differently than a specific/non-specific distinction would. On the one hand, the same determiner can be used in both specific and non-specific contexts ((33) vs. (34)), and on the other hand, the
whole set of non-specifics is not uniformly marked (as seen in the contrast between (34) and (35)). The determiner $k u$ can only be non-specific, but the determiner $t i \ldots a$ may be either specific or non-specific. It is therefore impossible to analyze St'át'imcets determiners as simply homophonous between specific and non-specific readings. ${ }^{22}$

Applying Enç's test for specificity similarly shows that specificity is not encoded in St'at'imcets. Recall that according to Enç, if the object DP in the second sentence in (36) is specific, it picks out two of the children already under discussion. A non-specific object DP picks out two separate girls, not already under discussion.
36. A lot of children came in. I knew two girls.

The St'at'imcets version of (36) is given in (37).
37.

| [ $x^{W}$ 2 1 t | 21 |  | $34+x^{\text {w }}$ |
| :---: | :---: | :---: | :---: |
| [cw7it | i | sk'wemk'úk'wmi7t-a] | ulhew |
| [many | pl.det | child(redup)-det] | go.in | 'A lot of children came in.'


| zwát-ən-4kan | [71 | n7áṅwasta |  |
| :---: | :---: | :---: | :---: |
| zwát-en-lhkan | [i | n7án'was-a | smelhmém'lhats] |
| know-tr-1sg.subj | [pl.det | two(human)-det | girl(redup)] | 'I knew two girls.' (St'át'imcets; BF)

In (37), both the 'under discussion' and the 'not under discussion' readings are possible for $i$ n7án'wasa smelhmém'lhats 'two girls'. This DP can be either specific or non-specific.

Sechelt. Beaumont (1985) divides determiners in Sechelt into two groups: one 'unspecified or abstract' determiner, she, vs. all the rest. If Sechelt determiners encoded specificity, then all the non-she determiners would constitute the specific set. However, Beaumont claims that the nonshe determiners are used whenever the speaker either can or could point out the individual concerned. In other words, it is not necessary that the speaker actually be able to identify the

[^22]individual, but only that it is potentially possible for the individual to be identified. This could be interpreted as meaning that the distinction between a singular and a general proposition in the Speaker's Grounds is not relevant for determiner choice in Sechelt.

Further evidence is given in $\S 1.5$ for the claim that specificity is not encoded in Salish. In that section, I argue that the only distinction encoded in Salish other than the deictic and pronominal distinctions is one of assertion of existence, a notion which differs from specificity in ways to be made precise.

There has been much debate about whether specificity is related to or reducible to wide scope. There is also debate about whether specific indefinites are REFERRING TERMS, i.e. terms that are used to refer directly to individuals. Fodor and Sag (1982), Kamp and Reyle (1993:290) among others claim that specifics are referring terms; Enç (1991), Ludlow and Neale (1991) make the opposite claim. See Heim (1989) for an overview of the issues involved.

While I suspect that the specific - non-specific distinction is independent of scopal behaviour, and that specific indefinites are not directly referring terms, these issues are not crucial here. It suffices to show that Salish languages do not encode specificity on their determiners.

### 1.4. Quantificational determiners

This section will show that quantificational determiners are absent from Salish languages.

### 1.4.1. Defining quantificational determiners

Quantificational determiners in English are illustrated in (38).
38. a. [Every man] loves hockey.
b. [No man] loves hockey.
c. [Most men] love hockey.

The lexical items every, no, and most are in complementary distribution with definite or indefinite determiners.
39. a. [(*the) every (*the) man] loves hockey.
b. [(*the) no (*the) man] loves hockey.
c. [(*the) most (*the) men] love hockey.

This follows under the common analysis whereby the quantifiers occupy the $\mathrm{D}^{0}$ position (since there may only be one D head in each Determiner Phrase). ${ }^{23}$

The constructions in (38) will be shown to be systematically absent in Salish. I will first show that elements with quantificational force do not occupy the D position, and then argue that elements which are clearly determiners do not have quantificational force.

The discussion of quantifiers is organized according to the strong/weak quantifier division. ${ }^{24}$ Weak quantifiers, following Milsark $(1974,1977)$ and others, are those that are legitimate in the environment in (40) (a there-insertion context).
40. There are [ _ _ New Zealanders] in the garden.

The determiners in (41) are strong, while those in (42) are weak (for the analysis of the as a strong quantifier, see Milsark 1974).
41. Strong quantifiers:
a. * There is every New Zealander in the garden.
b. * There are all New Zealanders in the garden.
c. * There are most New Zealanders in the garden.
d. * There are the New Zealanders in the garden.

[^23]42. Weak quantifiers:
a. There are some New Zealanders in the garden.
b. There are many New Zealanders in the garden.
c. There are three New Zealanders in the garden.
d. There are no New Zealanders in the garden.

### 1.4.2. There are no quantificational determiners in Salish

### 1.4.2.1. The absence of strongly quantificational determiners

Based on the there-insertion diagnostic, quantifiers such as every, all, most and the are classified as strong quantifiers in English. I have already established that Salish does not have the equivalent of definite the. In this section I will show that Salish lacks determiners corresponding to universal quantifiers or most. The languages discussed are St'át'imcets (Northern Interior), Secwepemctsín (Northern Interior), Squamish (Central), Upper Chehalis (Tsamosan), Halkomelem (Cowichan dialect; Central), and Lushootseed (Central).

DP arguments may contain universal quantifiers in Salish languages; see Demirdache et al. (1994), Matthewson (1994a,b), Chapter 5 below. However, the quantifiers are not in complementary distribution with determiners, but on the contrary must co-occur with them, as in
43.

| a. | $\dot{q}^{W}$ 2láw-əm | [tákəm | 21 | క̌áq¢て?-a] |
| :---: | :---: | :---: | :---: | :---: |
|  | q'weláw'-em | [tákem | i | syáqts7 |
|  | pick.berries-intr | [all | pl.det | woman-det] |
|  | ${ }^{\text {'All }}$ the women | ked ber |  |  |

(St'át'imcets; LT)
b. qwetséts [xwexwéyt re sqélemc] leave [all det man] 'All the men left.'
(Secwepemctsín; Demirdache et al. 1994)

[^24]c. na ch'aw-at-as [i7xw ta siw'i7ka] [ta slhenlhanay'] rel help-tr-3erg [all det men] [det women] 'All the men helped the women.' (Squamish; Demirdache et al. 1994)
d. Taxáá-w-n [ $\left[x^{w}\right.$ áq ${ }^{w} u$ $t$ Tális-ums] run-intr-3subj [all de 'All the upper-class people run.'
chief-people]
(Upper Chehalis; M.D. Kinakade, p.c.)
 aux run(pl) [all det children] 'All the children ran.' (Cowichan; Gerdts 1988:79)
 neg if-my-nom-stat-understand - [all det your-language] 'I don't understand all your language.'
(Lushootseed; Hess 1976:26; Bates et al 1995)

In the languages for which I have negative evidence (St'at'imcets, Squamish and Secwepemctsín), deletion of the determiner in constructions such as (43) is not possible. For example, (44a) corresponds to (43a) with the determiner omitted, and (44b) likewise shows the impossibility of deleting the determiner.
44.
a. * $\mathfrak{q}^{W} \partial l a ́ w$ w $-\partial m$
[tákəm
Sməłmútac]

* q'weláw'-em [tákem smelhmúlhats] pick.berries-intr [all woman(redup)] 'All the women picked berries.'
(St'át'imcets)
b. wa? ?ama-mîn-itas k-wa píx-əm [tákəm *(?i) twów w $\mathfrak{w} \neq t-*(a)]$ wa7 ama-mín-itas k-wa píx-em' [takém *(i) twéw'w'et-*(a)] prog good-appl-3pl.erg det-prog hunt-intr [all *(pl.det) boy(redup)-(*det)] 'All boys love hunting.'

The constructions exemplified in (43) are not the only ones in which the universal quantifiers appear; see Demirdache et al. (1994), Kroeber (1994c), Jelinek (1995), §2.2.3 below. The generalization holds that when universal quantifiers appear inside an argument DP , they must always co-occur with a determiner. ${ }^{27}$

[^25]Turning to the strong quantifier most, I have not found an element corresponding to most in the materials available for any Salish language. The languages which appear to lack such a determiner include Sechelt (Central; Beaumont 1985), Lushootseed (Central; Bates et al. 1994), Straits (Central; Jelinek 1995), Columbian (Southern Interior; M.D. Kinkade, p.c.) and Upper Chehalis (Tsamosan; Kinkade 1991).

St'át'imcets definitely lacks most; for a detailed demonstration of this, see Chapter 7. In this language, the meaning of most is paraphrased either by 'almost all', as in (45a), or by an overt partitive 'many of', as in (43b).
45.

| à. | [tqit | ku? | tákəm | 21 | Smətmútač-a] | - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | [tqilh | t'u7 | tákem |  | smelhmúlhats-a] | t'iq |
|  | [almost | just | all | pl.det | woman(redup)-det] | arrive |
|  | 'Most of | je wo | en | prost | ll of the women arrived | .')(St' |

 [cw7it lhél-ki n-snek'wnúk'w7-a] áts'x-en-an i nátcw-as [many from-pl.det 1sg.poss-friends-det] see-tr-1sg.conj when. day-3sg.conj 'I saw many of/most of my friends yesterday.' (St'át'imcets; RW)

We have seen in this section that strong quantifiers in Salish either do not exist as single lexical items (as is the case with most), or must co-occur with an overt determiner (as with the universals). In no instance does a strongly quantificational element occupy the $\mathrm{D}^{0}$ position, heading the DP.

### 1.4.2.2. The absence of weakly quantificational determiners

Based on the there-insertion diagnostic, quantifiers such as some, many, the numerals and no are classified as weak quantifiers in English (see (42) above). This section will show that the corresponding elements in Salish do not have the status of determiners.

Weak quantifiers in Salish languages do not occupy the determiner position, as shown in (46) for St'át'imcets. ${ }^{28}$
46. * フáċx-ən-4kan
[n-7án̉was క̌múqač]

* áts'x-en-lhkan [n-7án'was smúlhats] see-tr-1sg.subj
[two(human) woman]
(St'at'imcets; GN, RW)

Instead, weak quantifiers in Salish must co-occur with a determiner when they appear inside DP. Examples are given in (47) containing numerals and many; see Chapter 6 for further discussion.
47.


The strong/weak classification in English groups the negative no with the weak quantifiers (see (42) above). In Salish, there is syntactic dissimilarity between negation on the one hand, and quantifiers such as many, (a) few and the cardinal numbers on the other. It is not clear that the English strong/weak grouping carries over to Salish when it comes to negation. However, for completeness I will show here that negation also does not occupy determiner position in Salish (see Chapter 7 for further discussion).
${ }^{28}$ Numerals in Upper Chehalis have been recorded in a construction parallel to (46) (M.D. Kinkade, p.c.). The analysis of such DPs in Upper Chehalis is a topic for future research.

Salish languages do not possess negative determiners. The negative element in Salish typically functions as a main predicate, as shown in (48a-g). In each case the negation appears clauseinitially and is followed by a nominal or a subordinate clause.
48. a. tətá?a [k-s sik-t-ána]
neg [det-nom hit-tr-1sg.subj]
'I never hit him. / I didn't hit him.'
(Nłe?kepmxcin; DU)
b. mítta [t n-q̇at s-?彳亍ləh̉]
neg [det my-modal impf-sing]
'I won't sing.'
(Upper Chehalis; Kinkade 1976:19)
c. $x^{w} a-k w ə t$ syáqcu-s
neg-thing wife-his
'He had no wife.' ('His wife didn't exist.')
(Sechelt; Beaumont 1985:187)

act+hungry limit not-exist s-what s-eat-3poss
'They were hungry but they didn't have any food.' (Saanich; Montler 1986:242)
e. $x^{w} \neq g^{w}$-əd-yíqus
neg might-my-basket
'I don't have a basket.'
(Lushootseed; Hess 1976:567, Bates et al. 1994)

neg-thing det subj? medicine
'Isn't there any medicine?'
(Chilliwack: Galloway 1977:285)
g. 7axw ti ka lhalas 7ala 7ats
neg det hyp boat prep here
'There is no boat here.'
(Bella Coola; Nater 1984:123)

Bella Coola allows negation inside an argument DP, but the negative element is not a determiner. Nater notes that when the negative occurs attributively, it results in a meaning such as 'the one(s) who do(es) not $\mathrm{X}^{\prime}$, as shown in (49). This corresponds to predicate negation.
49. $\quad \begin{array}{llll}\text { ti } & \text { 7axw } & \text { t'ayc } & \text { ksnmak } \\ \text { det } & \text { neg } & \text { det } & \text { work }\end{array}$
det neg det work
'this one who is not working'
(Bella Coola, Nater 1984:122)
$\exists \mathrm{x}, \neg$ do it (x)

Compare this with an English DP like no woman, which does not mean 'the one who is not a woman', as shown in (50).
50. [No woman] loves hockey.
a. $\quad \neg \exists x$ (woman (x) and loves hockey (x))
b. * ヨx, $\neg$ woman ( $x$ ), loves hockey ( x )

### 1.4.2.3. Deteminers do not have quantificational force

So far we have seen that quantifiers corresponding to all, most, many, the cardinal numbers, and negation never occupy the determiner $\left(\mathrm{D}^{0}\right)$ position inside an argument DP in Salish. To prove that Salish lacks quantificational determiners, I must also demonstrate that the determiners which do exist do not have quantificational force. One way of doing this is to show that DPs of the form [D NP] do not have quantificational force, unlike DPs which contain overt quantifiers.

Demirdache and Matthewson (1995b) provide support for this claim by showing that DPs do not undergo Quantifier Raising in Salish languages, unless an overt quantifier (such as the DPadjoined universal quantifiers in (43)) is present. Evidence that determiners do not induce Quantifier Raising in St'at'imcets comes firstly from word order.

Recall that the underlying word order in Salish languages is predicate initial. While DPs containing adjoined quantifiers may raise to the front of the sentence by S-Structure, DPs without adjoined quantifiers may not. Demirdache et al. (1994) analyze the movement in (51a) as Quantifier Raising. (51b) shows that DPs may not undergo this movement unless an overt universal quantifier is present. ${ }^{29}$


[^26]

Further evidence that determiners in St'át'imcets do not induce Quantifier Raising comes from discourse properties. Demirdache and Matthewson (1995b) argue that overt DPs in St'at'imcets (and in Salish more generally) never refer to the topic of the discourse, or to 'old' information, unless they are accompanied by an adjoined quantifier (see also Davis 1994c). Assuming (with Diesing 1992) that it is presuppositional (topical) elements which escape the VP by Logical Form, it follows that overt DPs do not escape the VP at Logical Form in St'at'imcets, unless they are accompanied by an adjoined quantifier.

Independent evidence that ordinary DPs in St'át'imcets do not have quantificational force is provided by Demirdache (1996a,b). Demirdache argues that 'DPs in St'at'imcets do not have the range of temporal interpretations that are characteristic of presuppositional (quantificational) DPs' (1996b:9). In particular, quantificational DPs allow temporally free readings, as shown in (52) (see also Musan 1995). In (52), the time at which the individuals were/are homeless is independent of the time at which the rally took place:
52. The homeless people were at the rally.
(cf. Musan 1995)
a. true if the individuals who were homeless at the time of the rally were at the rally
b. true if the individuals who are homeless now were at the rally (i.e. they were not necessarily homeless at the time of the rally)

Demirdache (1996a,b,c) demonstrates that DPs in St'at'imcets are temporally bound. In (53), the DP cannot have a temporal interpretation which is independent of the temporal interpretation of the predicate (which is this case is 'past', due to the presence of the completive marker $t u 7$ ).
53. クáxa? tu? [ti kəlフáqŠtən-š-a ti United.States-a] á7xa7 tu7 [ti kel7áqsten-s-a ti United.States-a] powerful compl [det chief-3sg.poss-exis det United.States-exis] 'The president of the United States was powerful.' (St'át'imcets; Demirdache 1996c)
a. true if the individual who was the president at some past time was powerful at that past time
b. true if the individual who is the president now was powerful at some past time (while he was president) which overlaps with the present time
c. false if the individual who is the president now was powerful at some distinct past time (before he was president)

Notice that the definite DP in the English gloss for (53) can have a temporally free reading, being true in the context in (53c). The English version of (53) can thus be used to assert that the current president (i.e. Clinton) was powerful at some time before he was president (e.g. when he was governor of Arkansas).

Simple DPs in St'át'imcets lack the characteristics of quantificational DPs, in at least three respects: they do not undergo overt Quantifier Raising to adjoin to the clause, they do not refer to 'old' (presuppositional) information, and they do not allow temporally free readings. I therefore conclude that determiners in this language do not carry quantificational force.

### 1.4.3. Summary

This section has argued that quantifiers do not appear in the determiner position of argument DPs in Salish. A summary of the behaviour of quantificational elements inside argument DPs is given in (54). For evidence that the universal quantifiers adjoin to DP, see Chapters 4 and 5.
54.

| Quantifier | Syntactic realization |
| :--- | :--- |
| 'all' | adjoined to DP |
| 'most' | $*$ |
| weak quantifiers | $[$ D $\quad$ NP $]$ DP |
| negative | main predicate |

It will be necessary throughout this dissertation to bear in mind that quantifiers may exist within DP in positions other than the syntactic position of the determiner. The term 'quantificational determiner' refers to quantificational elements which occupy the determiner position; this set
does not include quantifiers which appear elsewhere within DP. The relevance of the syntactic position of the determiner will become more obvious as the discussion proceeds.

### 1.5. Salish determiners encode assertion of existence

We have so far examined three potential determiner contrasts, and seen that all three are missing in Salish. The results obtained are summarized in (55).
55. a. Salish determiners do not encode definiteness.
b. Salish determiners do not encode specificity.
c. There are no quantificational determiners in Salish.

This section addresses the question of what distinctions are made by Salishan determiner systems (other than the deictic and pronominal features discussed in §1.1). The major proposal is given in (56).
56. Salish determiners encode 'assertion of existence'.

It will be argued in Chapters 2 and 3 that the assertion of existence distinction which is encoded on Salish determiners is not capturable by currently available theories of the semantics of DPs.

Before we define and defend (56), let us look at some data from St'át'imcets. (57) contains the discontinuous determiner $t i \ldots a$. The DP ti púkwa can be used to describe either a novel or a familiar entity. What both interpretations have in common is the presence of existential force, as indicated semi-formally in (57c).
57. tə $x^{W} p-m i ́ n-q k a n \quad$ [ti púkw $\left.{ }^{W}-a\right]$ łkúnsa tecwp-mín-lhkan [ti púkw-a] lhkúnsa buy-appl-1sg.subj [det book-det] today
a. 'I bought [a book] today.'
(novel)
b. 'I bought [the book] today.'
(familiar)
c. $\exists \mathrm{x}$, book (x), I bought x today.
(St'át'imcets)

The same determiner appears in (58), this time under the scope of the intensional operator kelh 'might'. As before, the DP ti púkwa may represent either a novel or a familiar entity, but in each case, existential force is involved.
58. $\begin{aligned} & \text { t } 2 x^{W} p-m i ́ n-\nmid k a n \\ & \text { tecwp-mín-lhkan }\end{aligned}$ tecwp-min-1hkan

| kə | $[t 1$ | púk $\left.{ }^{W}-a\right]$ | natx ${ }^{W}$ |
| :--- | :--- | :--- | :--- |
| kelh | $[$ ti | púkw-a $]$ | natcw |
| might | $[$ det | book-det $]$ | tomorrow |

a. 'I might buy [a book] tomorrow.' (novel)
b. 'I might buy [the book] tomorrow.' (familiar)
c. $\exists \mathrm{x}$, book (x), I might buy x tomorrow.
(St'át'imcets)

There are clearly environments where one does not wish to assert the existence of an individual or entity. In these environments, a different determiner (ku) is used, as in (59). This time, the existence of a book is not asserted. The sentence is translatable into English only with an indefinite determiner, since definites in English usually entail existence (see Chapter 3, Heim 1982 , among others). ${ }^{30}$

| 59. | təx ${ }^{\text {W }} \mathrm{p}$-mfn-tkan | kət | $\left[\mathrm{k}^{\mathrm{W}} \mathrm{u}\right.$ | púk ${ }^{\text {W }}$ ] | natx ${ }^{\text {w }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | tecwp-mín-lhkan | kelh | [ku | pukw] | natcw |
|  | buy-appl-1sg.subj | might | [det | book] | tomorrow |
|  | 'I might buy [a book | rrow. |  |  |  |

The determiner $k u$ is restricted in its syntactic distribution. When it appears on argument DPs, it must fall within the scope of a non-factual operator, such as negation, a yes-no question marker or the modal kelh 'might'. ${ }^{31}$ Thus, (60) is ungrammatical (cf. (57)), since the determiner $k u$ cannot be used in a context which induces existential force, such as an ordinary declarative sentence.
60. * tax ${ }^{W} p-m i n-+t k a n$

* tecwp-mín-lhkan buy-appl-1sg.subj 'I bought [a book] today.'
I oougnt [a oook] toaay.
$\left[k^{W} u\right.$
[ku pukw] lhkúnsa
[det book] today

[^27]The reading represented by (60) is also impossible in English; its interpretation can be paraphrased as 'I bought a book today, but I do not assert that a book exists that I bought.'

An informal definition of the distinction being encoded here is given in (61). For a formal definition in terms of Discourse Representation Theory (Kamp 1981, Kamp and Reyle 1993), see Chapter 3.

## 61. Assertion of existence (informal definition): ${ }^{32}$

'the speaker's intent to 'refer to' or 'mean' a nominal expression to have non-empty references - i.e. to 'exist' - within a particular universe of discourse (i.e not necessarily within the real world)' (Givón 1978:293-4).

For further illustration, see (62). In the sentences in the left-hand column, the DPs $t i$ sts'úqwaz'a and a fish have existential force; the sentences assert the existence of a fish which Sofie bought: In the sentences in the right-hand column, there is no assertion of existence; the sentences could be true in a world in which fish did not even exist. The difference between the left and righthand columns is precisely what is encoded by determiner choice in St'át'imcets.
62.

Existential force
No existential force
Az'-en-as [ti sts'úqwaz'-a] kw-s Sophie. buy-tr-3erg [det fish-det] det-nom Sophie Sofie bought [a fish].
$\exists \mathrm{x}, \mathrm{x}$ a fish, Sofie bought x .
Cw7aoz kw-s áz'-en-as [ti sts'úqwaz'-a] kw-s Sophie neg det-nom buy-tr-3erg [det fish-det] det-nom S. Sofie didn't buy [a fish].
$\exists \mathrm{x}, \mathrm{x}$ a fish, $\neg$ Sofie bought x .

Cw7aoz kw-s áz'-en-as [ku sts'úqwaz'] kw-s Sophie neg det-nom buy-tr-3erg [det fish-det] det-nom S. Sofie didn't buy [a fish]. $\neg \exists \mathrm{x}, \mathrm{x}$ a fish, Sofie bought x .

A DP with an assertion of existence determiner is a description; it does not directly pick out a referent in the real world. I will argue in Chapter 3 that the assertion of existence distinction is not capturable by any currently available theories of the representation of DPs. For example, assertion of existence DPs can be analyzed neither as introducing an existential quantifier into

32 (61) is Givón's (1978) definition of 'referentiality'. Givón's definition is based on Bemba (Bantu), whose determiner system shows similarity with Salish systems. I do not adopt the term 'referential', in order to avoid confusion with contradictory uses of this term in the semantics literature (see for example Loar 1976, Ludlow and Neale 1991).
The phrase 'within a particular universe of discourse' in (61) is somewhat vague; see Chapter 3 for refinement of the definition.
logical form (cf. Russell 1905, 1919), nor as introducing a variable which is bound by existential closure (cf. Heim 1982).

The different ways in which determiner distinctions divide up the possible semantic space in English and in St'at'imcets are summarized in (63-64). English uses the same determiner for all indefinites, whether they receive an existential interpretation or not. St'at'imcets, on the other hand, uses the same set of determiners (those containing an enclitic ...a) ${ }^{33}$ for all nominals which induce an assertion of existence, whether novel or familiar.

| 63. |
| :--- |
| English: |
| existential interpretation a familiar <br> non-exis. interpretation a the |


| 64. |
| :--- |
|  |
|  |
| St'át'imcets: |
| assertion of existence |
| non-assertion of existence |

Some comments are in order regarding (63-64). The shaded areas represent an impossible combination; I assume that an individual which is familiar must be agreed to exist. This is shown for St'at'imcets in (65); the non-assertion of existence determiner cannot be used when describing a familiar individual.
65. tə $\mathrm{x}^{\mathrm{W}} \mathrm{p} \quad \mathrm{k}^{\mathrm{w}}$ Mary [ti púk $\left.{ }^{W}-\mathrm{a}\right]_{i}$ tecwp kw Mary [ti púkw-a] buy det . Mary [det book-exis] 'Mary bought [a book]i.'

| ?ay | ku? | $\mathrm{k}^{\mathrm{w}}$ | ?áma-s-as | $\left[\mathrm{k}^{\mathrm{w}} \mathrm{u}\right.$ | puk $\left.^{\mathrm{w}}\right]$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| ay | t'u7 | kw | áma-s-as | $[\mathrm{ku}$ | pukw] |
| neg | just | det | good-caus-3erg | [non.exis.det | book] |

'She doesn't like books.'

* 'She doesn't like [the book]i.'
(St'át'imcets; LT)

33 The enclitic ...a is present on all and only the assertion of existence determiners in St'at'imcets, and is henceforth glossed as 'exis'.

For a coreferential reading in the second sentence of (65), an assertion of existence determiner (ti...a) must be used. ${ }^{34}$

Although familiar individuals must be assumed to exist, recall that in English it is possible (in a restricted set of circumstances) to use a definite DP with a non-existential interpretationis uncommon. An example is given in (66). The individual described by the definite DP does not exist yet.
66. I will meet [the first baby to be born in the year 2010]. *

Examples similar to (66) must be rendered with a non-assertion of existence DP in St'át'imcets, in accordance with the non-existence of the individual in present time.


We see that although definites in English usually have an existential interpretation, the requirement for assertion of existence DPs in St'át'imcets is stronger. Assertion of existence DPs assert existence, while definite DPs presuppose existence (and are subject to accommodation). Hence, definites in English can be used in some contexts in which an assertion of existence DP is inappropriate. See Chapters 2 and 3 for further discussion.

While Salishanists have not previously used the term 'assertion of existence' in their descriptions of determiner systems, similar facts appear to hold in a number of other languages, including Sechelt (Central; Beaumont 1985), Bella Coola (Davis and Saunders 1975), Secwepemctsín (Northern Interior; Kuipers 1974) and Halkomelem (Central; Galloway 1993). The restriction of non-assertion of existence determiners to the environment of a non-factual operator also holds in these languages. In the remainder of this section I will provide evidence that assertion of

[^28]existence is relevant for determiner choice in these languages, and also discuss a language where assertion of existence does not appear to be present, namely Straits.

### 1.5.1. Assertion of existence in Sechelt

The determiner she in Sechelt is glossed as 'unspecified, abstract' by Beaumont (1985) (and as 'non-actual' by Beaumont 1980). The distinction between she and the rest of the determiners is characterized as follows (Beaumont 1985:53, emphasis original).

When the speaker of Sechelt talks about something he first determines whether or not it is something 'real' (or 'actual'). If it is an actual thing, being (or even an action) that he can or could identify and point out, he will use [determiners other than she]. ... If the speaker is referring to something that is not 'real' ('non-actual'), that is, something that he can or could not (or doesn't want to) identify specifically in a physical sense, he uses she.

An analysis of the split between all other determiners and she as an assertion of existence distinction accords with the facts. The example in (68a) is taken from a story where the snakewoman has not previously been mentioned, and thus is novel (indefinite). However, she is known to the speaker, and is asserted by the speaker to exist. Consequently, the assertion of existence feminine determiner lhe is used. (68b) and (68c) are contiguous utterances from the same story; here, the first mention of a cloud uses the non-assertion of existence determiner, since no cloud has materialized yet. The second reference to the cloud (68c) uses the assertion of existence determiner.
68. a. t'i súxwt-as [lhe 7úlhka7 slhánay]
fact saw-he [exis.det snake woman]
'He saw a snake-woman.'
(Sechelt; Beaumont 1985:188)
$\begin{array}{lllll}\text { b. } & \text { t'í } & \text { tl'um } & \text { s-7út-s } & \text { [she }\end{array} \quad$ ts'ámkwelh]
(Sechelt; Beaumont 1985:191)
$\begin{array}{llllll}\text { c. } & \begin{array}{lll}\text { kem } & \text { t'í } & \text { tl'um }\end{array} & \text { s-kwétl'-s } & \text { [te } & \begin{array}{c}\text { ts'ámkwelh] } \\ \text { and } \\ \text { fact }\end{array} & \text { then } \\ \text { 'and then the cloud came' }\end{array}$
(Sechelt; Beaumont 1985:191)

The presence of she in (68b) highlights an important feature of the non-assertion of existence determiners. Such determiners fail to assert that an individual exists, but they do not assert that an individual does not exist. For example, (68b) does not entail that no cloud exists. Rather, the non-assertion of existence determiner is used because no cloud has yet been witnessed, and therefore the existence of a cloud cannot definitively be asserted. The fact that a cloud appears in the next sentence, and therefore clearly exists, does not at all contradict the use of she in (68b).

Non-assertion of existence she is further illustrated in (69), along with Beaumont's explanation of the determiner choice.
69.

(Sechelt; Beaumont 1985:147)

| b. | 7e | Sxátl'-á | [she | s7úlhku] |
| :--- | :--- | :--- | :--- | :--- |
|  | your | wish-int | [non.exis.det | clams] |
|  | 'Do you want some clams?' |  |  |  |

(Sechelt; Beaumont 1985:147)
$\begin{array}{llll}\text { c. } & \text { stám } \quad \text { [she } & \text { skwálish-ít] } \\ \text { what } & \text { [non.exis.det } & \text { names-their] }\end{array}$
'What are their names?'
(Sechelt; Beaumont 1985:147)

Note the use of she 'a, some' in [69a,b]. This 'non-actual' form ... is used because the crabmeat and clams have not yet materialized. That is, they are not yet 'real' for the speaker. Similarly, she is used in [69c] because the names are not known to the speaker (Beaumont 1985:147).

Again, the speaker is not asserting that crab meat, clams, or the people's names do not exist, but only that the speaker does not have personal knowledge that they exist. In other words, for a speaker to be able to assert the existence of an entity in a Salish language, the speaker must have personal knowledge of that entity. The speaker-oriented nature of assertion of existence will become relevant in Chapter 3, where I argue that Salish determiners, unlike English determiners, can access only speaker-oriented distinctions. See also the discussion of Bella Coola determiners immediately below.

Notice that the environments in which she appears in Sechelt include under the intensional predicate 'want' (69a), in a yes-no question (69b), and in a wh-question (69c). These environments correspond to the restricted range of environments permitted by non-assertion of existence DPs in St'át'imcets. ${ }^{35}$

If she is a non-assertion of existence determiner corresponding to St'at'imcets $k u$, this yields the following reanalysis of the Sechelt system.
70. Sechelt determiners (cf. Beaumont 1985):


### 1.5.2. Assertion of existence in Bella Coola

Bella Coola has a complex system of prefix-suffix combinations, repeated in (71) (see also Nater 1984:41-8). ${ }^{36}$

[^29]71. Bella Coola determiners (Davis and Saunders 1975:14):


The prefix-suffix pairs may be used in combination (bracketing a noun), or either the prefixes or the suffixes may appear alone. An example of a suffix standing alone as demonstrative pronoun is given in (72). ${ }^{37}$

'This one is going.'
(Bella Coola, Davis and Saunders 1975:23)

The proximity distinctions are as follows (Davis and Saunders 1975:15).
73. I visible, near conversation

II visible, closest to conversation
III as far as vision extends
IV invisible (but may be quite near)
V, VI invisible, beyond III and IV

The prefixes and suffixes 'place the referents in relative space with respect to the space of the speech act' (Davis and Saunders 1975:15). Temporal as well as spatial proximity may be entailed. For example, if a speaker has witnessed an event in invisible space (i.e. a space which is invisible to the current speech act), he or she may use an affix of proximity V or VI. Since the event took place at a location distant from the speech act, the speaker must have travelled before making the utterance. Therefore, the event must have taken place a while ago. Hence, the deictic features of the determiners encode 'distant past' as well as 'distal space'.
${ }^{37}$ All the suffixes can also attach directly to predicates, with deictic spatio-temporal meanings. I do not discuss this phenomenon here; see Davis and Saunders (1975:18ff).

An example with two argument DPs is given in (74).

| 74. | $\dot{k} \times$-is | [ti-? imik-tx] | as- 317 |
| :---: | :---: | :---: | :---: |
|  | see-3sg | [I-man-I] | [V-woman-V] |
|  | 'The ma | [visible] saw th | [invisible] |

(Bella Coola; Davis and Saunders 1975:17)
(74) can be used when the man is presently visible (i.e. in the space of I), and the woman is in the space of V (i.e. invisible). Since the man and the woman must have been in the same area at the time the event of seeing took place, time must have elapsed between the event of seeing and the speech act (time during which the man and the woman moved apart from each other). Hence, the sentence is interpreted as 'past'. ${ }^{38}$

An important feature of Bella Coola is summarized in (75).
75. Any declarative sentence implies that the SPEAKER WITNESSED THE EVENT.

This requirement ensures that (74) cannot be interpreted as 'distant future'. The sentence is declarative, therefore the speaker witnessed the event, therefore the event must have already taken place.

If a declarative sentence implies that the speaker witnessed the event described, it follows that the participants in a declarative sentence must all have existential force (since for the speaker to have seen them, they must exist). We can therefore predict that any determiners in Bella Coola which are only possible in non-declarative sentences will be good candidates for non-assertion of existence determiners.

[^30]It turns out that there is such a determiner in Bella Coola. Notice in (71) that the prefixes (unlike the suffixes) encode only a two-way proximity distinction (I-II vs. III-VI). When the prefixes appear in combination with a suffix, this two-way distinction can be called 'proximal' vs. 'nonproximal'. However, when the prefixes appear alone without the suffixes, the distinction looks more like non-assertion of existence vs. assertion of existence. Davis and Saunders' description is as follows.

The function of Proximal deictic prefixation is to mark a referent the speaker has not witnessed. Recalling that deictic suffixation specifies the relative spatio-temporal cirucmstance of that witnessing, the absence of deictic suffixation coincides with the absence of witnessing. Hence

```
[76]. * ksnmak ti-7imlk
    [work I-man]
```

is unacceptable because declarative utterances presuppose ... speaker witness; but this contradicts ti 7 im 1 k , that expresses the claim the speaker has never seen the man (Davis and Saunders 1975:31).

The 'proximal' prefixes when used alone are ungrammatical in any ordinary declarative sentence, only being acceptable in questions, negatives and in the presence of certain clitics (denoting that the speaker obtained the information from a third person, is making a conjecture, or expressing an inference). In contrast, a 'non-proximal' (III-VI) prefix when used without a suffix does not imply that the speaker has never seen the referent, but only indicates the absence of the referent (Davis and Saunders 1975:32). Predictably, declarative sentences containing these prefixes alone are possible.

This situation is consistent with the following hypothesis. The 'non-proximal' prefixes (along with all the deictic suffixes) encode assertion of existence. The 'proximal' prefixes, when used alone, mark non-assertion of existence (and are subject to parallel restrictions to those on nonassertion of existence determiners in St'at'imcets and Sechelt). This exactly corresponds with Davis and Saunders' description of them as marking lack of speaker witness.

Further evidence for this analysis comes from the minimal pair in (77). The question environment licenses both the assertion of existence prefix-suffix combination in (77) and the non-assertion of existence prefix used alone in (77b).
77.
a.
waks ti-kap-tx
who I-go-I
'Who is the one going?'
literally: 'Who is the one (male) observed now in Proximal space [who is] going?'
(Bella Coola, Davis and Saunders 1975:30)
b. waks ti-kap
who I-go
'Who is going?'
literally: 'Who is it (male), whom I have not seen [who is] going?'
(Bella Coola, Davis and Saunders 1975:30)

The use of a proximal prefix without an accompanying suffix, as in (77b), indicates that the speaker does not know the identity of the individual, and has never seen that individual.

### 1.5.3. Assertion of existence in Secwepemctsín

The Secwepemctsín system contains a contrast between 'actual-determinate' vs. 'hypotheticalindeterminate', according to Kuipers (1974) (see (9) above). Kuipers' description of the facts is as follows (1974:57):

The distinction actual-determinate versus hypothetical-indeterminate hinges on whether the thing meant is uniquely determined for the speaker - in the case of a physical object: whether he could conceivably point it out. ... Hypothetical articles are found especially in interrogative, imperative and conditional sentences, in negative sentences, and in sentences referring to the future.

Examples of typical usages are given in (78).

```
78.
```



```
    neg [hyp.det mosquito]
```

```
    neg [hyp.det mosquito]
```

(Secwepemctsín; Kuipers 1967:98)
'There are no mosquitos.'

These facts parallel those of St'at'imcets, Sechelt and Bella Coola, and I therefore reinterpret the actual-deteterminate / hypothetical-indeterminate distinction as encoding assertion of existence / non-assertion of existence.
79. Secwepemctsín determiners (adapted from Kuipers 1974:57):


### 1.5.4. Assertion of existence in Halkomelem (Chilliwack dialect)

Chilliwack encodes gender, number and proximity distinctions (Galloway (1993:386). The determiner which interests us in this section is $\dot{k}^{W} \partial$, which is glossed as 'remote, distant (and not visible), abstract (or hypothetical), indefinite, generic, or past'. What is interesting is that $\dot{k}^{W} ə$ appears in the exact contexts which support non-assertion of existence determiners in the other languages looked at above. Galloway's examples of $\dot{\mathrm{k}}^{\mathrm{W}} \partial$ involve the following sentence-types. ${ }^{39}$
80. Sentence-types which contain $\dot{k}^{W} \partial$ :
a. yes-no questions:

| 11 | $(y \partial)$ | $q \delta x$ | $\left[\dot{k}^{W}{ }_{\partial}\right.$ | slyáq] | 11 | $\dot{k}^{W} \varepsilon$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| prep | (pl) | many | [det | wood] | prep | $\operatorname{det}$ |

'Is there a lot of wood at your house?
(Chilliwack; Galloway 1993:388)
b. wh-questions:

| stém | $\left[\dot{k}^{W}\right.$ \% | sk |
| :---: | :---: | :---: |
| what | [det | want] |
| 'What | want?' |  |

(Chilliwack; Galloway 1993:389)

39 Strang Burton informs me (p.c.) that the determiner $\dot{k}^{W} ə$ is not used by his Chilliwack consultant. Further research is necessary into the Chilliwack determiner system.
c. intensional verbs:

| 1 | ski | $\left[\mathrm{k}^{W}{ }^{\text {c }}\right.$ | qáa:] |
| :---: | :---: | :---: | :---: |
| 1sg.poss | want | [det | water] |
| 'I want (some) | water. |  |  |

(Chilliwack; Galloway 1993:389)

Galloway's description of the semantics of $\dot{k}^{W}$, and the sentence-types where it appears, appear to identify it as the non-assertion of existence determiner (although see footnote 37).

### 1.5.5. The absence of assertion of existence in Straits

Determiners in Straits do not seem to encode assertion of existence. The Lummi dialect has the determiner system in (81), according to Jelinek and Demers (1994) (repeated from (7) above).
81. Lummi determiners (Jelinek and Demers 1994:717):

|  | proximate, visible | neutral | distal/out of sight |  |
| :--- | :---: | :---: | :---: | :---: |
| remote |  |  |  |  |
| + female | $\left.s\right\|^{\prime} \partial$ | $s \partial$ | $k^{W} \partial$ | $k^{W} s \partial$ |
| general | $t l^{\prime} \partial$ | $c \partial$ | $k^{W} \partial$ | $k^{W} c \partial$ |

It is not clear which column in (81) would correspond to non-assertion of existence, and Jelinek and Demers give no indication that determiners in any one column have a restricted distribution. Eloise Jelinek (p.c.) confirms that all the determiners have unrestricted distribution, and Timothy Montler (p.c.) also confirms that there are no determiners in Straits which behave like nonassertion of existence determiners in the other Salish languages.

Montler observes that throughout the Northern Straits dialects, invisible determiners contrast with determiners which are unspecified for visibility. The invisible determiners contain $\mathrm{k}^{\mathrm{w}}$. The invisible determiners can replace any visible determiners, as shown by pairs such as in (82).
$\begin{array}{lllll}\text { 82. a. } \dot{k}^{W} \partial n n \partial \mathrm{x}^{W} & \text { sən } & \text { [tsə } & \text { swəýqə?] } \\ & \text { see } & \text { I } & \text { [visible.det } & \text { man] }\end{array}$
'I see a / the man.


If $k^{W} s \partial$ were a non-assertion of existence determiner, its use in a declarative sentence like (82b) would be impossible. Since (82b) asserts that an event of seeing took place, the discourse referent corresponding to the man who was seen must be asserted to exist.

The absence of an assertion of existence distinction in Straits could be related to an independent difference between Straits determiners and determiners in other languages of the family. Straits determiners may stand alone as demonstratives, without an accompanying nominal, as shown in (83).
83.

(Lummi; Jelinek and Demers 1994:717)

This is impossible in languages like St'át'imcets, where the determiners are clitics, and must cooccur with their complements, as shown in (84). 40
84. * ?áćx-ən-7kan
ti(...a)

* áts'x-en-lhkan see-tr-1sg.subj
ti(...a)
$\operatorname{det}(. .$. exis) 'I saw him/her.'
(St'át'imcets; LT)

The ability of Straits determiners to stand alone leads Jelinek and Demers to call them 'determiner/demonstratives'. The Straits determiners are clearly all strongly deictic in nature. This is related to the absence of an assertion of existence distinction in the following way.

In the other Salish languages discussed above, it is the assertion of existence determiners which distinguish deictic notions such as proximity. Within the non-assertion of existence set, deictic features are not distinguished. For example, St'át'imcets possesses just one non-assertion of

[^31]existence determiner, $k u$, and Sechelt also possesses just one, namely she. Since all determiners in Straits are deictic, it makes sense to assume that in Straits, all the determiners assert existence.

This claim accords with Demirdache's (1996a,b) analysis of assertion of existence determiners as introducing 'stages' of an individual (in the sense of Carlson 1977). According to Demirdache, the deictic features on the determiners locate an entity in time and space, thus supplying it with SPATIO-TEMPORAL BOUNDARIES. Once there is a space/time location, the individual must exist. This follows directly from Carlson's (1977) equivalence between 'existence' and 'having a stage', where a 'stage' means a spatio-temporal realization of an individual. For Carlson, to exist means to be located in space and/or time; hence the correlation between deixis and assertion of existence in Salish.

Conversely, a non-assertion of existence determiner does not provide an entity with spatiotemporal boundaries (Demirdache 1996a,b). Demirdache's analysis predicts that a non-assertion of existence determiner cannot contain deictic features. If Straits determiners are really deictic demonstratives, the absence of an assertion of existence distinction in this language will follow straightforwardly.

### 1.6. Conclusions

Having discussed definiteness, specificity and assertion of existence in some detail, we can now elucidate how the three notions interact with each other. A rough guide to the combinatorial possibilities is given in (85).
85.


- Assertion of existence


One of the important details glossed over in (85) is the relation between definites and assertion of existence DPs. Although (85) suggests that the class of definites is a subset of the class of assertion of existence DPs, this is not strictly correct, as discussed above with reference to individuals which do not yet exist, but can be described by definite DPs in English (see (66) above).
(85) predicts that assertion of existence DPs can be either specific or non-specific. Assertion of existence DPs which are non-specific occur when the speaker believes in the existence of a unique individual, but may not be able to actually identify that individual, i.e. 'he may not know who the person actually is' (Givón 1978:313). Example (34) in §1.3 above showed that nonspecific assertion of existence DPs do exist in St'át'imcets. Another example is given in (86).
86. a. Context: Beverley sees John swearing at two white men in the street. He hits one of them, but Beverley doesn't see which one. She tells someone:
b. túp-un̉-aš క-John [ti కám?-a]
túp-un'-as s-John [ti sám7-a]
punch-tr-3erg nom-John [det white.person-exis]
'John hit a white man.'
(St'át'imcets; BF)

Beverley knows that the white man exists, because she saw him. She uses an assertion of existence determiner to indicate this. However, she does not know which particular white man John hit, and therefore means to express only a general proposition (i.e. a proposition which does not involve a directly referring expression). This is schematized according to Ludlow and Neale's terminology in (87).

## 87. Speaker's Grounds: John hit a white man. <br> Proposition Meant: John hit a white man. <br> Proposition Expressed: John hit a white man.

There is no mismatch between the Speaker's Grounds and the Proposition Meant (which is the diagnostic for a specific use). An assertion of existence non-specific can appear in contexts (such as (86)) which lack a non-factual operator, as is predicted, since it is only non-assertion of existence DPs which are disallowed in such contexts. The patterning of all assertion of existence

DPs together in the absence of a licensing requirement is further evidence that the relevant distinction in Salish is one of assertion of existence rather than specificity.

So far we have seen that none of the languages looked at marks a definiteness contrast in their determiner system. All except Straits and possibly Upper Chehalis mark an assertion of existence contrast. The results are summarized in (88).

| 88. | deixis | definiteness | specificity | assertion of existence |
| :--- | :---: | :---: | :---: | :---: |
| Sechelt | $\sqrt{2}$ | $*$ | $*$ | $\sqrt{ }$ |
| St'át'imcets | $\sqrt{2}$ | $*$ | $*$ | $\sqrt{ }$ |
| Secwepemctsín | $\sqrt{ }$ | $*$ | $*$ | $\sqrt{ }$ |
| Bella Coola | $\sqrt{ }$ | $*$ | $*$ | $\checkmark$ |
| Straits | $\sqrt{ }$ | $*$ | $*$ | $*$ |
| Upper Chehalis | $\sqrt{ }$ | $*$ | $?$ | $?$ |

Non-assertion of existence determiners are differentiated from assertion of existence determiners syntactically, in being subject to a licensing restriction such that they can only appear in the environment of a non-factual operator. In addition, we have seen that non-assertion of existence determiners may not encode deictic features.

The syntactic restriction on the distribution of non-assertion of existence DPs is not limited to Salish. Givón makes the cross-linguistic claim that nominals falling under the scope of a possible modality or negative modality may receive either a referential (i.e. assertion of existence) or nonreferential interpretation; otherwise all nominals are interpreted referentially (1978:294). This is the case in Bemba as well as in Salish.

## 2. The syntactic distribution of determiners

This section turns from the semantics to the syntax of determiners in Salish. Before investigating the Salish data, I briefly outline a theoretical proposal about the function of determiners which makes predictions about their syntactic distribution.

### 2.1. Determiners are operators which bind a variable

Higginbotham $(1983,1985,1987)$ claims that determiners function to bind the external thetarole of NPs, saturating the NPs so that theta-assignment can take place. Stowell $(1989,1993)$ also claims that determiners bind the external arguments of NPs, closing off the nominal predicates. He states that 'Whenever a [common noun phrase] functions referentially, it must have a determiner, since NP cannot iself refer' (1989:259).

Longobardi (1994) argues in a similar vein that determiners are Operators which bind a variable inside NP. According to Longobardi, the range of the variable is the extension of the kind referred to by the head noun (1994:633). The semantic analysis of nominals runs as follows (Longobardi 1994:648):
the N position is interpreted as referring to universal concepts, that is, to kinds; the D position, instead, determines the particular designation of the whole DP, either directly, by being assigned reference to a single individual object [in the case of proper nouns or pronouns (LM)], or indirectly, by hosting the operator of a denotational (operator-variable) structure. The specific readings of common nouns are all obtained by letting the variable bound by the operator (whether lexically present or understood) in the D position range over the extension of the kind referred to by the N position.

Determiners are crucial for argumenthood:
89. a. A 'nominal expression' is an argument only if it is introduced by a category D (Longobardi 1994:620)
b. NP can only be licensed through a predicative interpretation (Longobardi 1994:628)

Evidence for the argument-creating function of determiners comes from Romance and Germanic (including English). In these languages, articles are not obligatory on non-arguments (predicates, vocatives, and exclamations), but are obligatory on arguments except in a restricted set of cases, which Longobardi analyzes as containing a null determiner (hence, the D can be either lexically present or simply 'understood'). The saturation effect of a determiner is illustrated in (90) for

English. The NP predicate woman cannot function as an argument by itself; it requires a determiner before theta-assignment can take place.
90. a. * [Woman] laughed.
b. [The woman] laughed.

The empty D in Western Romance is illustrated in (91); it instantiates an existential Operator (Longobardi 1994:617).

(Italian; Longobardi 1994:613)

This analysis of Western Romance is extended to the universal claim in (92).
92. [D e] = default existential interpretation
(Longobardi 1994:641)

Longobardi's analysis means that the DP structure summarized in (93) is obligatory for arguments. He notes that 'Once we adopt [93], the natural way of reformulating the content of principle [89a] becomes the following ... DP can be an argument, NP cannot' (1994:628).
93. [DP [D' D NP ]]
(Longobardi 1994:610)

Longobardi explicitly argues for the correctness of (93) only for Romance and Germanic. We will see evidence in the remainder of this section that determiners in many Salish languages are consistent with a Longobardi-style analysis, whereby determiners are operators which bind a variable, creating an argument DP .

### 2.2. The syntactic distribution of determiners in Salish

Consistent with approaches in which the presence of a determiner correlates with argumenthood (Higginbotham 1985, Stowell 1989, Longobardi 1994), the distribution of Salish determiners is sensitive to syntactic position. Salish determiners show different behaviour according to whether
they are associated with nominal projections in argument position, in main predicate position, or in adjunct position. These three syntactic environments will now be discussed in turn.

### 2.2.1. The distribution of determiners in argument positions

This section examines DPs which function as arguments of the main predicate (e.g. subjects and objects, including both nominal and clausal arguments), arguments which appear inside noun phrases (i.e. possessor DPs), and argument DPs contained within adjunct phrases. St'át'imcets is examined in the most detail, followed by brief remarks about Sechelt, Straits, Halkomelem, Bella Coola and Upper Chehalis. We will find evidence to support Kroeber's (1991:27) claims about the distribution of determiners on argument phrases:

Noun phrases (NPs) throughout the family are normally introduced by a determiner (article or demonstrative). In some but not all languages proper nouns do not need to be preceded by a determiner, and certain other exceptions to the generalization occur in Southern Interior languages ... but in general NPs are overtly delimited constituents.

St'át'imcets. Determiners are always obligatory on arguments in St'át'imcets, as shown in (94) and (95) for subjects and objects respectively. I have used examples which contain bare nouns in English, to bring out the contrast between the languages. The requirement for a determiner holds for all noun-types (proper, common, count, mass) in argument position in St'át'imcets.

wa7 ts'aqw-an'-ítas [i t'éc-a] [i míxalh-a]
be eat-tr-3pl.erg [pl.det sweet-exis] [pl.det bear-exis]
'Bears eat honey.'

(St'át'imcets; LT)
$\begin{array}{llll}\text { 95. a. } & q^{w} \text { n-án-tkan } & {\left[k^{w} u\right.} & \text { Šqlaw̄] } \\ & \text { qwen-án-lhkan } & {[k u} & \text { sqlaw'] } \\ & \text { need-tr-1sg.subj } & \text { [non.exis.det } & \text { money] }\end{array}$
'I need money.' (object)
(St'át'imcets)
(object)

Consistent with this, a determiner is obligatory with proper names when they appear in argument position. In (96a-b), the name forms a subject and object respectively.
96.
a. フáčx-ən-と-as
áts'x-en-ts-as see-tr-1sg.obj-3erg 'Rose saw me.'
$\left[k^{w}-5\right.$
Rose]
[kw-s Rose]
[det-nom
Rose]
(subject)
b. Táċ $x-ə n-7 k a n$
áts'x-en-lhkan see-tr-1sg.subj 'I saw Rose.'

| $\left[{ }^{\mathrm{W}}-\mathrm{s}\right.$ | Rose] |
| :--- | ---: |
| [kw-s | Rose] |
| [det-nom | Rose] |
|  | (object) |

(St'át'imcets)
(St'át'imcets)

Clausal arguments also obligatorily require a determiner, as shown in (97).
97.
a. áma $[*(t)$
క-kiq-కu-*(a)]
s-t'iq-su-*(a)]
áma [*(t)
good [*(det) nom-arrive-2sg.poss-*(det)]
'It's good that you came.' ('That you came is good.')
(St'át'imcets; LT)

Determiners are obligatory on a possessed nominal in argument position, as shown in (98):
98.
a. हiq $\quad\left[t 1 \quad k^{W} u^{W}{ }^{W} p i ?-a\right.$
t'iq [ti kúkwpi7-a
arrive [det chief-exis
'The chief's mother arrived.'
ti కkíxza?-š-a]
ti skícza7-s-a]
det mother-3sg.poss-exis]
(St'át'imcets)
b. * kiq
[ti $k^{W}{ }^{W} k^{W}{ }^{W} p i 7-a$
SKíxza?-s]

* t'iq [ti kúkwpi7-a arrive [det chief-exis skícza7-s]
'The chief's mother arrived.' mother-3sg.poss]
(St'át'imcets)
c. * ㅊiq $\left[k^{W} \mathrm{u}^{W} \mathrm{p} p 17\right.$ t1 Skíxza?-s-a]
* t'iq [kúkwpi7 ti skícza7-s-a] arrive [chief det mother-3sg.poss-exis] 'The chief's mother arrived.'

St'át'imcets contrasts with English in this respect; in English, a possessed nominal may not have its own determiner. ${ }^{41}$
99. a. * [The chief's the mother] arrived.
b. [The chief's mother] arrived.

Aguments inside manner or location adjuncts also require a determiner, as shown in (100).
100.

| , ${ }^{\text {w }}$ \%z-11x | [ti Šmə́mtač-a] | látio | [cíla | * (kw ${ }^{\text {W }}$ ) | Šáma? |
| :---: | :---: | :---: | :---: | :---: | :---: |
| wa7 q'wez-ílc | [ti smém'lhats-a] | láti7 | [ts'íla | *(ku) | sáma7] |
| prog dance-body | [det woman(redup)-exis] | deic | [like | *(det) | white] |
| That girl is dancin | ike a white person.' | (St' | cets |  |  |

'That girl is dancing like a white person.' (St'át'imcets; RW)


| [ $x^{\text {¢ }}$--2m | * (k ${ }^{W}$ u) | Škalúla?] |
| :---: | :---: | :---: |
| [xíl-em | *(ku) | skalúla7] |
| [do-intr | *(det) | owl] |

'I would like to be able to see in the dark/at night, like an owl.' (St'át'imcets; RW)
101.

| číx ${ }^{\text {W }}$-kan | Páčx-ən | $[? 1$ wa? | Cunámi-xal] |
| :---: | :---: | :---: | :---: |
| tsícw-kan | áts'x-en | [i wa7 | tsunám'-cal] |
| go-1sg.subj | see-tr | [pl.det prog | teach-intr] |
| [ ${ }^{-*}(\mathrm{ki})$ | tákəm-*(a) | Skul] |  |
| [1-*(ki) | tákem-*(a) | skul] |  |
| [in-*(pl.det) | all-*(exis) | school] |  |
| 'I visited teac | in every scho |  |  |

Sechelt. Beaumont (1985) does not state a generalization about the obligatoriness or otherwise of determiners on arguments in Sechelt. However, perusal of the texts and sentences he provides reveals no instance of a missing determiner. As shown in (102), a determiner is necessary in Sechelt where English allows a bare plural:


[^32]Straits. Determiners are obligatory on arguments in Straits; the language 'has no nominals that are not under the scope of one of the demonstratives. Demonstratives are not optional constituents of nominals in Straits Salish' (Jelinek and Demers 1994:718). 42
$\begin{array}{lll}\text { 103. Cey } \quad \text { [cə } & \text { swəウ̀qə'] } \\ \text { work }[\text { det } & \text { man }] \\ & \text { 'The man works.' }\end{array}$
(Straits; Jelinek and Demers 1994:718)

Halkomelem. Galloway (1993:386) states that in Chilliwack, determiners are 'obligatory before nominals'. Some examples are given in (104).

help-me-3erg [det Bill] 'Bill helped me.'
(Chilliwack; Galloway 1993:390)

(Chilliwack; Galloway 1993:389)

Bella Coola. In Bella Coola, overt determiners can be missing in certain restricted environments. There is a zero variant of the plural proximate article wa (see (5) above). This zero variant appears before the hypothetical proclitic $k a .{ }^{43}$

| 105. | 7alhi-a $\quad$ 7ala-7awcwa |
| :--- | :--- | :--- |
| is.there here |  |
| 'Is there a church here?' |  |

(Bella Coola, Nater 1984:47)

The 'zero variant' of the plural proximate determiner in Bella Coola is the one systematic exception to the obligatoriness of determiners inside argument DPs. Since the zero form paradigmatically contrasts with overt determiners, I analyze it as Nater (1984) does, namely as a null variant, rather than as the absence of a determiner.

[^33]Upper Chehalis. Determiners are occasionally missing from arguments in Upper Chehalis, but are otherwise so pervasive that in the instances in which they are missing, it may be due either to transcription error by Boas, or to a phonological deletion process during fast speech (M.D. Kinkade, p.c.). ${ }^{44}$

In summary, in all the Salish languages discussed here, determiners are obligatory on arguments. Overt determiners appear on all arguments in St'at'imcets, Sechelt, Straits, and Halkomelem. In Bella Coola, there is a paradigmatically contrasting zero determiner, and in Upper Chehalis, phonological deletion processes obscure the grammatical requirement for determiners on argument DPs. ${ }^{45}$

### 2.2.2. The lack of determiners in (main) predicate position

Determiners are not required on main predicates in most Salish languages. (106) shows that no determiner is present on nominal predicates in St'at'imcets or Secwepemctsín.

> 106. a. Šmúqač-kan
> smúlhats-kan woman-1sg.subj
> 'I am a woman.
(St'at'imcets)
b. qlmúx ${ }^{W}-k n$

Indian-1sg.subj
'I am an Indian.'
(Secwepemctsín, Kuipers 1974:79)

In (107a), a common noun is the main predicate, while in (107b,c), a proper name forms the main predicate.

[^34]| a. |  | [t] | Šáy ${ }^{\text {w }}$ - ${ }^{\text {a }}$ |
| :---: | :---: | :---: | :---: |
|  | kúkwpi7 | [ti | sqáycw-a] |
|  | chief | [det | man-exis] |

'The man is a chief.'
(St'át'imcets; AA, LT)

(St'át'imcets; LT)
c. Jimmy [che-n skwísh]

Jimmy [det-my name]
'Jimmy is my name.' ('My name is Jimmy.')
(Sechelt; Beaumont 1985:15)
(108) shows that complex noun phrases can also function as predicates, again without determiners present. (108a) contains a possessed noun as the main predicate, and (108b) a modified noun. ${ }^{46}$
108.

| a. | [7álesh-s te <br> [sister-his det | $\left.\begin{array}{l}\text { skw'étú7] } \\ \text { raven] }\end{array} \quad \begin{array}{ll}{[\text { [he }} & \text { 7ásxw] } \\ \text { [det } & \text { seal] }\end{array}\right]$ |
| :--- | :--- | :--- |

[sister-his det raven] [det seal]
'Raven's sister was Seal.' (The seal was Raven's sister.')
(Sechelt; Beaumont 1985:181)

(Sechelt; Beaumont 1985:185)

Equative constructions, which involve determiners on predicates in English, are not possible in St'át'imcets. Nominals are always determinerless when used as predicates.
109.

| a. * $t i$ |  | [ti] | ti | Sqáyx ${ }^{\text {w }}$-al |
| :---: | :---: | :---: | :---: | :---: |
| ti | kúkwpi7-a | [ti] | ti | sqáycw-a] |
| det | chief-exis | [deic | det | man-exis] |

'That man is the chief.'
(St'át'imcets; LT)

Jelinek (1993a) also argues that equative constructions are impossible in Lummi (Straits, Central). This is shown in (110).

```
110. a. sl'em-sxw
    chief-2sg.subj
    'You are a chief.'
```

(Lummi; Jelinek 1993a:5)
${ }^{46}$ Compare (108a) with (98a) above, which contains a possessed nominal in argument position.

Upper Chehalis and Cowlitz provide exceptions to the claim that main predicates do not take determiners. In the perfective aspect, determiners appear on predicates in these languages. The perfective marker in (111) is homophonous with the determiner tit.


I do not have an explanation for the use of determiners to mark perfective aspect in these languages. However, there is independent evidence that determiners in Salish take over part of the function which is performed by verbal functional projections in other languages. Demirdache (1996a,b) argues that in St'át'imcets, determiners perform part of the function which belongs to Tense in English; see also Davis and Matthewson (1996a,b), §2.2.3 below. The Upper Chehalis/Cowlitz perfectives may represent a similar phenomenon.

Apart from in the perfective aspect, the Upper Chehalis/Cowlitz system follows the general Salish pattern. In particular, nominals which function as main predicates do not require determiners, as shown in (112). The nouns spatáln 'rock' and słánay 'woman' are the predicates of their respective clauses.


### 2.2.3. Determiners with temporal nouns in adjunct positions

There is one environment (apart from main predicates) where determiners are systematically absent on nominal phrases in Salish. This case involves quantified temporal adjuncts, of the form 'every day' (or 'all days'). Examples are given in (113) from several different languages. ${ }^{47}$

| 113. a. | [zף?zə¢' | sadt] | $\mathrm{k}^{\mathrm{W}}-\mathrm{s}$ | フáčx-ən-an |
| :---: | :---: | :---: | :---: | :---: |
|  |  | sq'it] | kw-s | áts'x-en-an |
|  | [each | day] | det-nom | see-tr-1sg.con |

(St'át'imcets; RW)
b.

| [tákəm | s-¢ap] | $\mathrm{k}^{\mathrm{w}}$-n-s-wa |
| :---: | :---: | :---: |
| [tákem | s-gap] | kw-en-s-wá |
| [all | nom-eve | det-1g.poss-nom-prog |
| 'I go for | walk ev | ing.' |

mám̉təq<br>mám'teq<br>walk(redup)<br>(St'át'imcets; RW)

c. [i7xw $\begin{array}{llllll}\text { skwayel }] & \begin{array}{l}\text { kwis } \\ \text { det-nom }\end{array} & \begin{array}{l}\text { ne-s } \\ \text { rl-3poss }\end{array} & \begin{array}{l}\text { wá7ew } \\ \text { continue }\end{array} & \text { wa míkw'entsut }\end{array}$ [all day] det-nom rl-3poss continue prog bathe 'He bathed every day ...' (Squamish; Demirdache et al. 1994)

[all day] accom contem fishing[act] dem s-Raven
'Every morning he'd go out fishing, the Raven.'
(Saanich; Montler 1986:242)

These [Quantifier NP] constituents are analyzable as in (114). The universal quantifier is adjoined to a phonetically empty DP range, and the temporal noun phrase functions as an adjunct (i.e. 'every one of them, for days').
114.


[^35]The ability of a universal quantifier to adjoin to a null DP is attested elsewhere in the languages, as discussed in Chapter 5 and as shown briefly in (115).
115. a. [tákəm pro] ?ačx-ən-táli
[tákem pro] ats'x-en-táli
[all pro] ${ }_{i}$ see-tr-erg.extr 'Everyone saw the people.'

(St'át'imcets; LT)
 'I give you all of it.'
(Upper Chehalis; M.D. Kinkade, p.c.)

(Chilliwack; Galloway 1977:453)

The structure in (114) avoids having to postulate two different DP-internal positions for universal quantifiers; whether inside argument DPs or inside adjuncts, they occupy the adjoined position (see Chapter 5).

The structure in (114) also enables us to capture the fact that the quantified temporal adjuncts optionally allow a determiner to be present as well as the quantifier, at least in St'at'imcets. The determiner $k u$ may appear between the quantifier and the temporal noun, as shown in (116).
116.


The determiner $k u$ was analyzed above as encoding non-assertion of existence. However, the quantifier tákem must quantify over a range which is non-empty, and therefore the quantifier is semantically incompatible with the non-assertion of existence determiner $k u$, since $k u$ fails to assert the existence of a range. This accounts for the fact that inside an argument DP, tákem and $k u$ are incompatible, as in (117).

| 7. a. | čáqº-añ-7kan | tu? | [tákəm | $k^{W} u$ | 保 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| + | áqw-an'-lhkan | tu7 | [tákem | ku | 'úqwaz'] |
|  | eat-tr-1sg subj | compl | [all | det | fish] |

(St'át'imcets; RW)

How are we to explain the fact that in the temporal adjuncts, tákem and $k u$ co-occur? Suppose that $k u$ receives a different interpretation (or performs a different function) according to syntactic position. In an adjoined environment (as in (114)), $k u$ does not encode the non-existence of its NP. This is supported by several other instances of adjoined $k u$, to be discussed in Chapter 4. We will also see there that the structure in (114) is not unprecedented in the language; see Demirdache and Matthewson (1995a), Matthewson and Davis (1995), where a similar structure is proposed for head-final relative clauses and for demonstrative constructions. ${ }^{48}$

### 2.2.4. Accounting for the distribution of determiners

The distribution of determiners in Salish is regulated as follows. Arguments always require a determiner, following Higginbotham (1985), Longobardi (1994); a determiner is necessary to bind a variable inside the NP and enable it to function as an argument. Hence, any phrase from which a determiner is syntactically missing must either be in predicate position or in adjunct position. 49

The absence of determiners on predicates in Salish falls out straightforwardly from this analysis, as does the overwhelming tendency for arguments to contain determiners. Similarly, the ability for determiners to be missing in adjuncts follows from their non-argumental status.

[^36]There is one potentially interesting question raised by the adjuncts discussed in this section. Why should it be that the only instances of adjuncts which allow missing determiners are temporal adjuncts (at least in St'át'imcets)? An answer to this question is beyond the scope of the current study; however, I can sketch the direction an answer might take.

The deictic component present on all determiners in Salish serves to locate the referent, not only in space, but also in time. The proximity distinctions encoded on determiners have a temporal as well as a spatial component. This is clearly true in Bella Coola (Davis and Saunders 1975), and also in St'át'imcets, where the 'absent' determiner ni...a carries a past interpretation (see van Eijk 1985:225, Demirdache 1996a,b). The temporal component of the deictic determiners may even be linked to the lack of systematic tense marking on the predicate in Salish languages (see the Introduction). Intuitively speaking, the determiners take over part of the function which would otherwise be performed by Tense. Demirdache (1996b) states it thus (emphasis original):

The locus of parametric variation [between English and St'át'imcets] is ultimately the presence vs. absence of tense as a grammatical category: whereas in English morphological tense partly locates the temporal reference of a clause, in [St'át'imcets] determiners partly locate the temporal reference of a clause.

If determiners in Salish have as one of their functions that of situating an event in time, there is an intuitive reason why it is the temporal adjuncts which allow determiners to be missing. If temporal nouns such as day have an intrinsic temporal component, then the temporal adjuncts may already be licensed (or 'situated') without the need for a determiner to perform this function.

Of course, this freedom to do without a determiner for semantic reasons is only possible in adjuncts. When a determiner is needed for syntactic reasons to create an argument, even temporal phrases will require a D . This analysis predicts that a determiner will become
obligatory when a temporal phrase functions as an argument of a predicate. The examples in (118) show that this prediction is correct. ${ }^{50}$

In (118a), the presence of a temporal phrase without a determiner in subject position results in ungrammaticality. In (118b,c), the temporal phrase, which again lacks a determiner, cannot be interpreted as the object of the predicate; rather, the sentences are construed with null objects and temporal adjuncts. The marginality of (118b) results from the pragmatic oddness of the only possible reading; it is unusual to claim that one 'likes something every day'.

## 118.



If determiners are inserted into the temporal phrases in (119), they can function as arguments. ${ }^{51}$


[^37]
(St'át'imcets; RW)

Temporal adjuncts may only omit their determiner when a quantifier is present:


#### Abstract

 (St'át'imcets; LT)  (St'át'imcets; LT)

Under the assumption that the temporal phrase in the quantified temporal adjuncts adjoins to DP as in (114) above, the question of why (120b) is impossible reduces to the question of why pro is not licensed in this environment. We can say that in (120a) the pro is a variable which is ranged over by the quantifier. In (120b), there is no quantifier to range over the variable, and an unbound variable results.


To summarize, in argument positions (which require a determiner according to Longobardi's 1994 analysis), determiners are obligatory in most Salish languages. In non-argument positions, determiners are either absent (e.g. main predicate position) or optional (temporal adjuncts). Furthermore, a determiner in adjunct position is dropped only if there is sufficient information provided by the inherent lexical content of the temporal noun to situate the phrase in space and/or time. This recoverability condition is satisfied with nouns such as St'át'imcets sq'it 'day'.

### 2.2.5. Salish determiners accord with the variable-binder analysis

We saw in the previous subsections that Salish determiners are compatible with a Higginbotham/Longobardi-style analysis. Determiners are required before theta-assignment can take place. Given the independent evidence that Salish lacks quantificational determiners (§1.4),

Salish therefore provides evidence that the variable-binding function of determiners is separate from any quantificational force that determiners might have.

This separation of the two functions of determiners is not immediately obvious when one looks at English, since the class of elements which bind variables is commonly assumed to include the class of quantificational elements. Hence, one possible (but incorrect) interpretation of the Higginbotham theory would be that determiners will always be able to have quantificational force, as they do in English and Italian.

Another interesting consequence of the facts outlined in this section is that if Salish determiners do function as operators which bind variables, then they behave the same as English determiners in this respect. In both language-types, determiners are a necessary prerequisite for argumenthood. Hence, the Operator-variable approach does not allow for parameterization which will capture the differences between Salish and English. The lack of quantificational determiners in Salish is a separate phenomenon from the argument-creating function of determiners.

## 3. Conclusions

This chapter has made the following four proposals about determiner systems in Salish languages.
121. a. Salish determiners do not encode definiteness.
b. Salish determiners do not encode specificity.
c. There are no quantificational determiners in Salish.
d. Salish determiners encode 'assertion of existence'.

I have shown not only that definiteness and specificity are not morphologically encoded, but that Salish determiners cannot be analyzed as ambiguous between definite and indefinite, or specific and non-specific. This is because the distinctions which are marked in Salish cross-cut the definiteness and specificity distinctions, and also because the ambiguity hypothesis makes
incorrect predictions about the properties of Salish DPs (falsely predicting, for example, that DPs in Salish should allow Individual Concept Readings).

The proposals in (121) form the basis for the theoretical discussions in Chapters 2 and 3. In those chapters, I will derive (121a-d) from a single underlying parameter which differentiates Englishtype languages from Salish-type languages. I will also show that while the assertion of existence distinction is not capturable by current semantic theories as they stand, it can be accounted for by a modification of Discourse Representation Theory (Kamp 1981; see also Heim 1982).

With regard to the syntax of Salish determiners, evidence was provided that determiners are necessary for argumenthood in Salish languages. This accords with an analysis whereby determiners bind variables within NP, saturating the phrase and enabling it to receive a thetarole.

## CHAPTER 2

## PRESUPPOSITIONAL DETERMINERS

## AND THE COMMON GROUND PARAMETER

## 0. Introduction

In Chapter 1, four proposals were made about the semantics of Salish determiners. The aim of this chapter is to provide a unified account of the first three of these proposals, repeated in (1).

## 1. a. Salish determiners do not encode definiteness. <br> b. Salish determiners do not encode specificity. <br> c. There are no quantificational determiners in Salish.

The chapter is organized as follows. Sections 1 and 2 introduce theoretical assumptions which will be necessary for the discussion. In §1, the notion of presupposition is discussed, and in §2, the dynamic semantic theories of Discourse Representation Theory (Kamp 1981) and File Change Semantics (Heim 1982) are briefly introduced.

In §3, I argue that the determiner types which are missing in Salish are precisely those which induce a presupposition of existence on the set ranged over by their common noun. Definite determiners are presuppositional (§3.1), specific determiners are presuppositional (§3.2), and quantificational determiners are presuppositional (§3.3). With respect to the last point I argue (contra Diesing 1992) that all quantificational determiners (both weak and strong) always presuppose the existence of their range, both in English and in Salish.

In $\S 4, \mathrm{I}$ argue that the deeper generalization which underlies (1a-c) is the single claim in (2).
2. There are no presuppositional determiners in Salish.

If (2) is the common feature which connects (1a-c), then the semantics of determiners must be cross-linguistically parameterized. In §5, I argue that the lack of presuppositional determiners in

Salish is derived from a negative setting of a Common Ground Parameter, which states that determiners in Salish may not access the common ground of the discourse. Since presupposition crucially relies on the common ground, presuppositional determiners are automatically ruled out. I show that the parameter is stateable at the level of the lexicon, is learnable, and sets up a subset-superset relation between Salish and English.

In §6, I demonstrate that Discourse Representation Theory (Kamp 1981) and File Change Semantics (Heim 1982) can be adapted, using the Common Ground Parameter, to provide an insightful analysis of the differences between English and Salish.

## 1. Presupposition

Soames (1989) examines three different definitions of 'presupposition' which are available in the literature: logical presupposition, expressive presupposition, and pragmatic presupposition. Pragmatic presupposition is the one I will adopt here; however, it is useful briefly to examine the other two definitions.

LOGICAL PRESUPPOSITION can be regarded as a necessary semantic relation between propositions. The definition is given in (3) (which derives from Frege, and is taken from Soames 1989:556).
3. A proposition P logically presupposes a proposition Q iff the truth of Q is a necessary condition for P to be true or false.

In (4), the proposition $Q$ must be true in order for $P$ to be either true or false. If $Q$ is false, $P$ cannot be assigned a truth value.

$$
\begin{array}{ll}
\text { 4. } & \text { P: The queen of England is popular. } \\
\text { Q: } & \text { England has a (unique) queen. }
\end{array}
$$

(Soames 1989:557)

EXPRESSIVE PRESUPPOSITION is a relation beween a sentence $S$ and a proposition $Q$, defined as follows (deriving from Strawson, again taken from Soames 1989:562).
5. A sentence $S$ expressively presupposes a proposition $[\mathrm{Q}]$ relative to a context C iff
the truth of $[\mathrm{Q}]$ is necessary for $S$ to semantically express a proposition in $C$.

If $Q$ in (6) is false, $S$ not only fails to have a truth value, but fails even more fundamentally: it fails to express a proposition.
6. $\mathrm{S}:$ She is popular.

Q: There is a contextually salient female under discussion. (cf. Soames 1989:560-562)

Soames characterizes the difference between logical and expressive presupposition as corresponding to 'two different stages in the semantic evaluation of a sentence' (1989:562). The first stage is association of the sentence with the proposition which it expresses in the given context. It is at this stage that expressive presuppositions arise. The second stage is evaluation of the truth or falsity of the proposition; this is where logical presuppositions arise. In both cases, there is some proposition Q which must be true in order for the relevant sentence to be semantically felicitous.

A more widespread view in recent literature is that presupposition is a relation between a proposition expressed and the COMMON GROUND of the participants in the conversation (cf. Stalnaker 1974:473). This is called PRAGMATIC PRESUPPOSITION (Stalnaker 1974). 'Common ground' is defined in (7).

## 7. The common ground: <br> The set of propositions that both the speaker and the addressee believe

 (Chierchia and McConnell-Ginet 1990:290)According to the theory of pragmatic presupposition, a sentence imposes certain requirements on common background assumptions (i.e. the things that are taken for granted in a conversation); these background assumptions are the presuppositions.

Logical and expressive presuppositions, as well as other pragmatic factors such as conversational implicatures, can all give rise to pragmatic presuppositions. For example, participants in a conversation usually agree that a sentence will be pragmatically infelicitous if it does not have a truth value. Hence, any logical presupposition of a particular sentence (i.e. any proposition which is required for the sentence to have a truth value) will be presumed to be in the common ground (i.e. will be pragmatically presupposed; see Stalnaker 1973:452).

This last view of presupposition, that it is a pragmatic effect, is explicitly or implicitly (usually the latter) adhered to by most recent literature, and it is the one I also adopt. The definition in (8) highlights the discourse-related nature of presuppositions (see also Heim 1982, Soames 1989). ${ }^{1}$
8. the hallmark of a presupposition is that it is taken for granted in the sense that its assumed truth is a precondition for felicitous utterance of the sentence and places a kind of constraint on discourse contexts that admit the sentence for interpretation (Chierchia and McConnell-Ginet 1990:283).

To give a simple example, the utterance in (9S) pragmatically presupposes the information in (9Q), and will usually only be considered felicitous if Q is part of the common ground at the time of utterance. ${ }^{2}$
9. S: It was Joan who emigrated to New Zealand.

Q: Someone emigrated to New Zealand.

[^38]
## 2. Discourse representation theory and File change semantics

This section gives a brief introduction to two dynamic semantic theories which will be utilized throughout the remainder of the chapter: Kamp's (1981) Discourse Representation Theory and Heim's (1982) File Change Semantics. ${ }^{3}$

According to both Kamp and Heim, the meaning of a sentence is not determined in isolation, but rather with respect to the preceding discourse. Informally, each proposition which is added to a discourse narrows down the range of possible worlds with which the discourse is compatible. The meaning of a sentence thus consists of the change it makes to the set of possible worlds defined by the discourse. Rules for the construction of representations of meaning must make reference to the discourse representation already present (see e.g. Kamp and Reyle 1993:23-4).

One motivation for such an approach comes from cross-sentential anaphora. ${ }^{4}$ In (10), the felicity of and interpretation of the anaphoric noun phrase it can only be determined with respect to preceding discourse.
10. Maggie owns a piano ${ }_{i}$. $\mathrm{It}_{\mathrm{i}}$ is blue.

Similarly, felicity conditions for definite and indefinite noun phrases crucially relate to preceding discourse, as was shown in Chapter 1. If the individual corresponding to a DP argument is novel to the common ground, an indefinite must be used, as in (11); if the individual is familiar, a definite must be used, as shown in $(12,13)$ (cf. Heim 1982 and references cited therein).
11. Novel context:
a. I met [a man] today.
b. * I met [the man] today.

[^39]

A second claim which is common to both Kamp and Heim is that indefinite noun phrases are not existentially quantified (contra Russell 1919). Kamp claims that indefinite descriptions are
not existential quantifiers. When an indefinite has existential force it has that force in virtue of the particular role played by the clause containing it within the sentence or discourse of which it is part (Kamp 1981:5).

For Heim, indefinite noun phrases are variables, which may come to receive existential force in certain syntactic contexts, but are not inherently existentially quantified. ${ }^{5}$

The formalisms used by the respective theories are as follows, briefly summarized. According to Heim, individuals indicated by DPs are each represented by a FILE CARD. ${ }^{6}$ Each file card contains all the information about a particular individual which is in the common ground of the discourse participants. As the conversation progresses, information is added to previouslyexisting file cards and/or new file cards are created.

Within Discourse Representation Theory, the meaning of a discourse is represented by a Discourse Representation Structure (DRS). Each DRS consists of a set of DISCOURSE REFERENTS, which make up the universe of the discourse, and a set of conditions on those discourse referents. Discourse referents are formal representatives for the individuals indicated by noun phrases (cf. Karttunen 1976). A simple DRS is given in (14); the discourse referents are

[^40]$x$ and $y$. The conditions on the discourse referents are given in the lower half of the structure (cf. Kamp and Reyle 1993:63).
14. Maggie owns a piano.


In (15), the use of the NP it introduces a new discourse referent z into the universe. Since $i t$ is a pronoun, it must be coreferential with a previous discourse referent (in this case, y ).
15. Maggie owns a piano. It is blue.

| xyz |
| :---: |
| Maggie (x) <br> piano $(\mathrm{y})$ <br> x owns y <br> $\mathrm{z}=\mathrm{y}$ <br> blue (z) m |

DPs may introduce discourse referents even when they have no referent in the real world. An example is given in (16), involving an indefinite under the scope of negation. ${ }^{7}$
16. Maggie doesn't own [a clarinet].

Even though the DP [a clarinet] has no real-world referent, it still introduces a discourse referent into the DRS. The negation in (16) introduces a subordinate DRS, as shown in (17) (cf. Kamp and Reyle 1993:102).

[^41]17. Maggie doesn't own [a clarinet].


The positioning of a discourse referent within a DRS has consequences for coreference possibilities: a discourse referent which is inside a subordinate DRS may not corefer with a subsequent DP, as shown in (18).
18. $\quad \begin{aligned} & \text { Maggie doesn't own }[\text { a clarinet }]_{i} . \\ & \text { I saw }[i t]_{i} \text { yesterday. }\end{aligned}$

In the remainder of this and the following chapter, the theories of File Change Semantics and Discourse Representation Theory will be used and adapted to account for the Salish determiner system.

## 3. Presuppositions induced by determiners

In this section, I will show that the determiner types which are missing from Salish are precisely those which induce presuppositions of existence on the set ranged over by their common nouns.

### 3.1. Definite determiners presuppose existence

The individual corresponding to a definite DP such as the man in English must be familiar to the discourse participants. If an individual is familiar to the discourse participants, then it must be part of the common ground of those participants that the individual exists. Karttunen (1976:365) states it thus: 'definite descriptions ... carry an existential presupposition: to call something "the..." presupposes that there be some such thing.'

This result is derived formally by Heim (1982). Recall that Heim's system involves file cards which contain all the information about a particular individual which is in the common ground of the discourse participants. This approach provides a simple way of distinguishing definite from indefinite DPs, as shown in (19).
19. a. For every indefinite, start a new file card (indefinites are novel with respect to the file)
b. For every definite, update a suitable old file card (definites are familiar with respect to the file)

The use of a definite DP indicates that the speaker presupposes the content of the DP; the descriptive content of the DP has necessarily been entered into the common ground of speaker and hearer (the file) prior to that utterance. ${ }^{8,9}$

The formal conditions on definites and indefinites are stated in (20), where $\phi$ is a logical form, $F$ $=$ the file for the entire discourse, and condition (ii) represents the presupposition of existence induced by definites. ${ }^{10}$
20. Extended Novelty-Familiarity Condition (Heim 1982:369-70):

For $\phi$ to be felicitous w.r.t. $F$ it is required for every $\mathrm{NP}_{\mathrm{i}}$ in $\phi$ that:
(i) if $\mathrm{NP}_{\mathrm{i}}$ is [-definite], then $\mathrm{i} \notin \operatorname{Dom}(\mathrm{F})$;
(ii) if $\mathrm{NP}_{\mathrm{i}}$ is [ + definite], then
(a) i $\varepsilon \operatorname{Dom}(\mathrm{F})$, and
(b) if $N P_{i}$ is a formula, $F$ entails $N P_{i}$

[^42]This condition states that in order for a logical form to be felicitous with respect to a file, no indefinite DP must correspond to a pre-existing file card in the domain of the file at the time of utterance (i). Conversely, every definite DP must correspond to a file card in the domain of the file at the time of utterance (iia), and the descriptive content of the definite must be already established within the file (iib). ${ }^{11}$

This section has shown that a satisfactory account of definiteness entails that definites presuppose the existence of their discourse referents/file cards. ${ }^{12}$

### 3.2. Specific determiners presuppose existence ${ }^{13}$

Like definiteness, specificity has been linked to presuppositionality. Diesing (1992:80), for example, claims that 'the essential semantic contribution of 'specificity' [is] in fact presuppositionality.'

As in Chapter 1, we must deal separately with the different definitions of specificity which are available. The exact type of presupposition which is induced by specific DPs must also be made

[^43]more precise. Given a sentence of the form in (21) (where 'an $F$ ' is used specifically), there are three possible existence presuppositions:

## 21. An $F$ is $G$.

a. there is a non-empty set of Fs
b. there is a non-empty and contextually salient set of Fs
c. there is a non-empty set of Fs that are G

Under Enç's (1991) definition of specificity, the presupposition induced by a specific is as in (21b), i.e. that there is a non-empty and contextually salient set of Fs. Enç claims (1991:9) that 'specifics require that their discourse referents be linked to previously established discourse referents.' This is clearly more than just a requirement that a particular set be non-empty, as in (21a). Similarly, Diesing (1992:87) characterizes the presupposition induced by Turkish specific objects as follows (emphasis added):
the "specific" reading once again involves the notion of presupposition in that the "specificity" signaled by the accusative case marking corresponds directly to the formation of a restrictive clause that represents the set introduced in the preceding discourse.

Under Ludlow and Neale's (1991) definition of specificity, it is not a requirement that a particular set be contextually salient or introduced in preceding discourse. Recall our example from Chapter 1, where Mary is explaining her glum demeanour to a friend. She utters the sentence in (22), and the mismatch between the Speaker's Grounds and the Proposition Meant result in a specific reading for the indefinite DP.
22. An auditor is coming to see me today.

Speaker's Grounds: Mr Beastly is coming to see me today.
Proposition Meant: An auditor is coming to see me today. Proposition Expressed: An auditor is coming to see me today.

Although the indefinite DP an auditor in (22) is specific according to Ludlow and Neale, the individual it corresponds to is not part of the common ground prior to the utterance in (22). The presupposition which is induced in (22) is crucially not that a discourse referent or a file card for the specific auditor Mr Beastly exists in the common ground or is contextually salient. (If it did,
then an indefinite DP could not be used to corefer with that previous discourse referent; a definite would be required). However, I claim that the specific DP an auditor induces a presupposition that the set of auditors is non-empty.

One way in which we can tell that specific indefinites induce such presuppositions of existence is that specific indefinites preserve their existential force under negation, a phenomenon common to presuppositional items, but differing from ordinary indefinites. Consider (23).

## 23. Sophie didn't buy [a book I recommended].

The most salient (or perhaps the only possible) reading of (23) is the reading where the indefinite object DP is specific. ${ }^{14}$ The presupposition of existence induced by the specific DP is given in (24).
24. $\exists \mathrm{x}$ [book (x) and I recommended (x)]

The existential force of the specific indefinite a book I recommended (i.e. the requirement that the set of books I recommended be non-empty) is preserved even under negation, as shown in the paraphrase of (23) given in (25):
25. There are books I recommended, and Sophie didn't buy any of them.
(specific)

This follows if the specific indefinite presupposes existence, since presuppositions are upheld under negation, as shown in (26) (see Morgan 1969, Langendoen and Savin 1971, Gazdar 1979, Karttunen and Peters 1979, Soames 1982, Heim 1988, among others). The presupposition P induced by the clefted structure is retained, even though the entire clause containing the cleft is placed under negation:

[^44]
## 26. S: It is not true that it was Joan who emigrated to New Zealand. P: Someone emigrated to New Zealand.

Contrast the ability of specific indefinites to retain their existential force under negation with non-specific indefinites, which receive an existential interpretation if and only if they are not under the scope of an operator such as negation.
27. Sophie didn't buy [a unicorn].

The non-specific indefinite in (27) does not preserve its existential interpretation under negation. (27) can be felicitous, and receive the truth value 'true', in a world in which unicorns do not even exist. This is not true of the specific indefinite in (23); (23) is pragmatically infelicitous if there does not exist a book which the speaker recommended to Sophie.

The claim that specific indefinites presuppose existence is particularly easy to demonstrate for the subset of specifics which Ludlow and Neale (1991) call 'strong' specifics. Consider (28), uttered in the context of driving past a smashed store window and wondering who smashed it.
28. A colleague I had coffee with last night did it. (Ludlow and Neale 1991:181)

The speaker of (28) has singular grounds for the assertion (i.e. the speaker knows precisely who he or she had coffee with last night). The speaker does not expect the hearer to know which particular colleague is involved (i.e. intends to express only a general proposition). This much confirms that the indefinite is being used specifically. Furthermore, the speaker of (28) also knows that the hearer will realize that a singular proposition forms the Speaker's Grounds (Ludlow and Neale 1991:181). It is this last feature which makes the DP in (28) a 'strong' specific.

So-called 'strong' specifics like those in (28) involve presuposition. There are two possible scenarios, depending on the extent of the hearer's prior knowledge.
29. a. The hearer already knows that the speaker had coffee with someone last night.
b. The hearer does not already know that the speaker had coffee with someone last night.

In the case of (29a), the hearer already knows that a coffee-partner exists, and the presupposition of existence of the coffee-partner is satisfied.

In the case of (29b), the hearer does not already know that a coffee-partner exists, and there is presupposition failure. However, when the hearer hears (28), he or she will realize that the speaker had singular grounds for the assertion, and hence that a particular coffee-partner must exist. He or she will therefore accommodate the proposition that a coffee-partner exists.

We have seen in this section that under Enç's definition of specificity, specifics induce a presupposition that there is a non-empty and contextually salient set (as in (30a)). Under Ludlow and Neale's definition, specifics induce the weaker presupposition that there is a non-empty set (as in (30b)).
30. An F is G.
a. there is a non-empty set of Fs
b. there is a non-empty and contextually salient set of Fs

The type of 'existence presupposition' which I will argue throughout this chapter is never induced by Salish determiners is type (30a). Salish determiners may not induce a presupposition that a particular set is non-empty. However, notice that (30b) entails (30a). As was argued in §3.1, a previously established discourse referent is necessarily understood by conversational participants to exist. Hence, under either Enç's or Ludlow and Neale's approach, specific indefinites induce the weaker presupposition in (30a), namely that a particular set is non-empty.

So far I have argued that specific indefinites induce presuppositions of existence. In the remainder of this section, let us briefly examine how specifics are dealt with by the theories of File Change Semantics and Discourse Representation Theory.

Heim (1982) suggests two possibilities for dealing with the fact that specific indefinites escape being bound by higher operators such as negation, while non-specific indefinites do not. The first possibility is to say that specific indefinites are actually [+ definite]. This would explain why they escape being bound by an operator, since definites are not subject to the construal rule which coindexes them with a higher operator. However, specific indefinites act like indefinites in other ways (such as being used when the discourse referent is novel to the discourse) (Heim 1982:224). Heim therefore rejects this option.

The second possibility is to add a construal rule that raises an indefinite into a position dominated immediately by the T (text) node. This raises the specific out of the range of other operators, and at the same time captures the fact that a specific indefinite can violate ordinary scope constraints only in having widest scope, not intermediate scope (see Fodor and Sag 1982). ${ }^{15}$ Heim notes that though the approach would work, it is ad hoc (Heim 1982:225). She leaves the issue unresolved. ${ }^{16}$

Heim's second option, which moves specific indefinites to a position of widest scope, correctly ensures that they receive an existential interpretation, even when they are c-commanded by negation at S-Structure (as in (23)). Again, we see the necessity for an existential interpretation, which I have claimed above derives from the presupposition of existence induced by specific indefinites.

Within Discourse Representation Theory, the specific/non-specific distinction correlates with a difference in the relative positions of discourse referents within the Discourse Representation Structure (DRS). Discourse referents of specific DPs are placed in the universe of the main DRS, while non-specifics are placed inside a subordinate DRS (Kamp and Reyle 1993; this is a

[^45]revision of their earlier suggestion that the main/subordinate DRS distinction correlates with definiteness; see footnote 12).

The example in (31) illustrates the procedure. (31) has two readings, depending on whether the indefinite DP is specific or non-specific.
31. Every boy in Mary's class fancies [a girl who Mary doesn't know].
a. non-specific reading:
$\forall \mathrm{x}$, a boy in Mary's class ( x ), $\exists \mathrm{y}$, a girl who Mary doesn't know ( y ), x fancies y .
b. specific reading:
$\exists y$, a girl who Mary doesn't know (y), $\forall \mathrm{x}$, a boy in Mary's class ( x ), x fancies y .

Only under the specific reading is coreference possible with a pronoun in a subsequent sentence (cf. Kamp and Reyle 1993:288-289).
32. a. non-specific reading:

Every boy in Mary's class fancies [a girl who Mary doesn't know]i. * [She] $]_{i}$ is tall.
b. specific reading:

Every boy in Mary's class fancies [a girl who Mary doesn't know] $]_{i} \quad\left[\right.$ She $_{\mathrm{i}}$ is tall.

The DRSs for each reading are given in $(33,34)$ respectively. In $(33)$, the discourse referent for the DP a girl who Mary doesn't know is introduced inside a subordinate DRS (the one corresponding to the consequent of the conditional set up by universal quantification; see Kamp and Reyle 1993). As such, it cannot license a coreferential pronoun in a subsequent sentence.

## 33. non-specific reading:



In (34), the discourse referent for a girl who Mary doesn't know is introduced into the main DRS. It is therefore accessible to a coreferential pronoun in a subsequent sentence.

## 34. specific reading:



I will argue in Chapter 3 for a re-interpretation of the main/subordinate DRS distinction. Based on data from Salish and English, I will propose that the main/subordinate DRS distinction actually captures assertion of existence, rather than specificity. See also $\S 6.2$ below.

So far we have seen that definites presuppose existence, and that specifics presuppose existence. The final determiner-type which Salish obligatorily lacks is discussed in the following section.

### 3.3. Quantificational determiners presuppose existence

It is often claimed that quantifiers induce a presupposition of existence on the set ranged over by their common noun (see Strawson 1952, Milsark 1974, Soames 1989, Enç 1991, among others). For example, the quantifier every in (35) induces a presupposition that unicorns exist.
35. Every unicorn likes bananas.

It is extremely difficult to assign a truth value to (35), if it is not assumed that unicorns exist. Since sentences without truth values are pragmatically infelicitous, (35) ends up sounding odd in a context where the discourse participants do not agree that unicorns exist. This pragmatic
'oddness' results precisely from the failure of the presupposition of existence induced by the quantifier. ${ }^{17}$

Strawson (1952:172f) describes the presuppositions induced by quantifiers as follows.

There are many ordinary sentences beginning with such phrases as 'All ...', 'All the ...', 'No ...', 'None of the ...', 'Some ...', 'Some of the ...', 'At least one ...', 'At least one of the ...' which exhibit, in their standard employment, parallel characteristics to those I have just described in the case of a representative 'All ...' sentence. That is to say, the existence of members of the subject-class is to be regarded as presupposed (in the special sense described) by statements made by the use of these sentences; to be regarded as a necessary condition, not of the truth simply, but of the truth or falsity, of such statements.

A point which must be clarified, as far as possible, is the relevant notion of 'existence' which is presupposed by quantifiers. This is a complex issue. At a trivial level which we can disregard, the use of any common noun already entails that the concept of its potential referents exists in some universe. At the other extreme, we do not want to say that quantifiers presuppose existence 'in the real world', since then abstract entities (including mythical creatures) could never be quantified over without presupposition failure.

The presupposition induced by quantifiers is also not equivalent to a requirement for 'familiarity within the current discourse'. As noted in the definitions of presupposition given above, there are more ways to be in the common ground than to have been previously mentioned in discourse. Hence, the presupposition in (35) (that unicorns exist) does not require that unicorns have been explicitly mentioned in prior discourse. On the contrary, the speaker presupposes that it is part of the hearer's general knowledge or belief system that unicorns exist. Thus, the only universes under discussion in a context in which (35) is uttered will be assumed to be those in which unicorns exist.

[^46]The relevant type of existence that we need seems to approximate to 'existence in one of the universes under consideration in the discourse'. This usage is intended to be compatible with the notion of 'existence' used by Heim (1982) in her analysis of indefinite DPs in English as receiving existential force.

Let us examine some examples. In (36), the indefinite receives existential force. ${ }^{18}$ An assertion is made that a ghost exists in a certain universe, and that I saw that ghost. There is no presupposition that ghosts exist.
36. a. I saw a ghost.
b. $\quad \exists \mathrm{x}$, ghost $(\mathrm{x})$, I saw x .

Once (36) is uttered, the only universes under consideration are those in which the set of ghosts is not empty.
(37) differs from (36) in containing a weak quantifier (the numeral three). Unlike (36), (37) cannot be used to assert that ghosts exist in a certain universe.
37. a. I saw three ghosts.
b. * $\exists \mathrm{x}$, ghost (x), I saw three x .

Rather, (37) presupposes that ghosts exist, and asserts that I saw three of them.

The claim that weak quantifiers presuppose existence is not uncontroversial. In the next subsection I will examine this issue in more detail. If it is true that quantifiers (both weak and strong) always presuppose the existence of their range, then we will be able to claim that all the determiner types which are ruled out in Salish have one feature in common: they all involve presuppositions of existence.

[^47]
### 3.3.1. Do weak quantifiers presuppose existence?

Diesing (1992) claims that only strong quantifiers (such as every, most) always 'presuppose the existence of the entities they are applied to.' Weak quantifiers (such as many, some) 'are ambiguous between a presuppositional and a non-presuppositional reading in which they merely assert the existence of whatever entities they are applied to.' (Diesing 1992:59). The distinction is shown in (38), where (38b) is non-presuppositional, according to Diesing. ${ }^{19}$
38. a. THREE ghosts are in the pantry; the others are in the attic. (stressed three, PRESUPPOSES the existence of ghosts)
b. There are three ghosts in my house. (unstressed three, ASSERTS existence of ghosts)

It is certainly true that weak quantifiers are ambiguous. The so-called 'strong', or 'quantificational' reading in (38a) is usually paraphrasable as a partitive (i.e. is felicitous only when a set of ghosts is already under discussion; Milsark 1974:240). The 'weak' or 'cardinal' reading in (38b) is non-partitive. ${ }^{20}$ Only the cardinal reading is available in there-insertion contexts, as shown in (39).

> 39. a. * There are THREE ghosts in my house.
> b. * There are three of the ghosts in my house.
> c. There are three GHOSTS in my house.
(partitive reading)
(partitive reading)
(cardinal reading)

However, although weak quantifiers are ambiguous, the difference is not reducible to presupposition. On the contrary, I argue that both readings of weak quantifiers induce a presupposition of existence on the set ranged over by their common noun, for the following reasons.

[^48]In arguing that examples like (38b) do not induce a presupposition of existence, Diesing fails to distinguish between a presupposition of existence of the entire $D P$, and a presupposition of existence of the set ranged over by the common noun. Thus, (38b) asserts the existence of three ghosts in my house, and the entire DP three ghosts is therefore non-presuppositional. However, it is not true that (38b) asserts the existence of a set of ghosts. Rather, (38b) presupposes the existence of ghosts; the set of ghosts is presupposed to be non-empty within the universe of discourse. ${ }^{21}$

The necessarily presuppositional nature of weak quantifiers becomes clearer if we avoid the existential there-insertion context of (38b). The sentence in (40) should also have a nonpresuppositional reading, according to Diesing.
40. Three ghosts are sitting in my kitchen.
(40) is ambiguous between a partitive reading (where ghosts are already under discussion, and where focal stress will appear on three) and a non-partitive reading (with neutral stress, or with stress on ghosts). However, even the non-partitive reading (with unstressed three) sounds pragmatically odd in a context where ghosts are assumed not to exist. If the hearer of (40) is unwilling to accommodate the presupposition that ghosts exist, s/he could deny the presupposition, as in the discourse in (41).
41. A: Three ghosts are sitting in my kitchen.

B: Are you crazy? Ghosts don't even exist!

Carden (1973:38-9) provides support for the claim that weak quantifiers presuppose existence. His test involves the verb deny, which allows presuppositions to project from a subordinate clause, as shown in (42). ${ }^{22}$ (42a) and (42b) both presuppose (42P).

[^49]42. a. It was Joan who emigrated to New Zealand.
b. Sophie denies that it was Joan who emigrated to New Zealand.
P. Someone emigrated to New Zealand.

Bearing this property of deny in mind, consider the following judgements provided by Carden (1973):
43. a. John denies the Whig candidates won.

Assumes there were Whig candidates. Denies that they won.
b. John denies that the many candidates won. Assumes that there were many candidates. Denies that they won.
c. John denies that many candidates won.

Assumes there were candidates who won. Denies that they were many.
(Carden 1973:38-39)

In (43a), the definite determiner in the Whig candidates predictably creates a presupposition of existence for Whig candidates. The same is true in (43b), where the definite determiner induces a presupposition that many candidates exist. In (43c), the weak quantifier many creates a presupposition that the set of candidates is non-empty. In this respect, it is behaving exactly like the definite determiner the; both induce presuppositions of existence on their range.

Another example of the same contrast is given in (44), using an interrogative environment, which also allows presuppositions to project.
44. a. Did the cholera patients survive?

Assumes that there were cholera patients, and questions 'survive'.
b. Did the many patients survive?

Assumes that there were many patients, and questions 'survive'.
c. Did many patients survive?

Assumes that patients survived, and asks whether they were many. (Carden 1973:43)

I am claiming, then, that all weak quantifiers in English, on both their readings, presuppose existence of the set ranged over by their common noun. ${ }^{23}$ Results from quantifiers other than numerals and many seem to confirm the hypothesis. For example, Michael Rochemont observes (p.c.) that even the weak quantifier some presupposes existence, as in the sentence in (45), which presupposes that ghosts exist.
45. There are some ghosts under the stairs.

The weak quantifier no also induces a presupposition of existence. Thus, (46), which clearly involves the cardinal reading of no since it is a there-insertion context, presupposes that the set of ghosts is not empty.
46. There are no ghosts in my house.

Examples with no highlight the necessity for separating the presupposition of existence of the set represented by the common noun from the existence of that represented by the whole DP. (46) obviously does not presuppose the existence of any ghosts that are in my house, but it does presuppose that the set of ghosts is non-empty. It therefore ends up being a tautology, and hence pragmatically odd, if it is assumed that ghosts do not exist.

One apparent exception to the claim that the weak quantifier no presupposes existence was pointed out to me by Strang Burton, Martina Wiltschko and Michael Rochemont (p.c.). In (47), the sentence as a whole explicitly denies that unicorns exist, which seems to be incompatible with a presupposition of the existence of unicorns.
${ }^{23}$ Eloise Jelinek asks (p.c.) whether the sentence in (i) provides a counter-example to the claim that weak quantifiers always induce presuppositions of existence.

| i. | kan | $\mathrm{x}^{\mathrm{W}}$ ¢1-əm | $\left[\mathrm{k}^{W} \mathrm{u}\right.$ |  | mixat] |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | kan | cwil'-em | [ku | kalhélhs | míxalh] |
|  | 1sg.subj | look.for-intr | [non.exis.det | three(animal) | bear] |
|  | 'I'm looki | for three bea |  |  |  |

(St'át'imcets; LT) Jelinek suggests that the co-occurence of $k u$, which does not assert existence, and kalhélhs 'three', which according to my analysis presupposes existence, is problematic. However, the weak quantifier kalhélhs merely presupposes the existence of a set of bears. The determiner $k u$ fits with the fact that there is no identifiable set of three bears which the speaker knows to exist and which the speaker is looking for. As long as the presupposition of existence of the common noun is separated from the presupposition of existence of the entire DP, there is no clash.

The problem posed by (47) is broader than the issue being discussed here. Chierchia (1995:236238) discusses similar examples, and notes that sentences which deny existence pose problems for any familiarity-based theory of definites. If definites presuppose existence, as argued by Heim (1982) and many others, then (48) is anomalous in the same way as (47):
48. The king of France doesn't exist.

Chierchia does not offer a solution to the problem raised by (48), but notes that (48) requires a very special discourse context; it is used only to deny somebody else's presupposition that the king of France exists. A possible mini-discourse is given in (49):
49. A: I just saw the king of France in the bakery.

B: You can't have; the king of France doesn't exist.

Presuppositions induced by lexical items or constructions can be explicitly denied or supressed; this is the case in (49B), and, by extension, in (47). Under normal circumstances, the phrase no unicorns results in a presupposition of existence of unicorns. If the context involves a specific denial that unicorns exist, the presupposition is over-ridden. ${ }^{24}$

If, as I have claimed, the partitive and cardinal readings of weak quantifiers do not differ in terms of the presupposition of existence they induce on their common noun, then the question of the true difference between the two readings arises. This has been the topic of much debate; see the discussion in Chapter 6.

24 A related but opposite potential problem is raised by verbs of creation, which assert the existence of their objects (thanks to Strang Burton and Martina Wiltschko for pointing this out). In (i), the verb invent itself asserts the existence of the cures; this implies that the existence of the cures is not presupposed.
i. Some cures for that disease have been invented.

However, (ii) shows that definites or strong quantifiers, which uncontroversially presuppose existence, are also possible in such sentences.
ii. a. The cure for that disease was invented last year.
b. Every possible cure for that disease has been invented, and people still die from it.

As a final note regarding the presuppositional status of quantifiers, Lappin and Reinhart (1988) argue that presupposition is not semantically a part of either strong or weak quantifiers. They argue that it is impossible for presupposition to be part of the meaning of weak quantifiers, since if one builds the existential requirement into these quantifiers, they are provably no longer intersective or symmetric (1988:1027). ${ }^{25}$ Their solution is to allow the pragmatics to take care of presupposition, following Strawson (1974). This account is compatible with the pragmatic approach to presupposition taken in this thesis (see $\S 1$ above).

Based on these considerations, I assume that all quantificational determiners, both weak and strong, necessarily induce a presupposition of existence on the set ranged over by their common noun.

The claim that weak quantifiers always presuppose existence becomes crucial in §4, where I derive the missing determiner-types in Salish from a single underlying generalization against presuppositional $\mathrm{D}^{0}$ s. However, as pointed out by Irene Heim (p.c.), it is possible that weak quantifiers do not occupy $\mathrm{D}^{0}$-position even in English. It could be the case that weak quantifiers do have a non-presuppositional reading (as argued by Diesing), but that for some independent reason, no language allows weak quantifiers to occupy the head of DP. There would then be no need to derive the absence of weakly quantificational $\mathrm{D}^{0}{ }_{\mathrm{s}}$ in Salish from the parameter to be proposed below, and a Diesing-type analysis of weak quantifiers would cease to conflict with my explanation of Salish.

Another way in which the conclusions drawn in this section may be independent of my main thesis is as follows. I shall argue in Chapter 6 that Salish weak quantifiers always have a proportional reading when they appear inside DP . The constraint against presuppositional $\mathrm{D}^{0}$ in Salish would then rule out the weak quantifiers from $\mathrm{D}^{0}$ position, even under Diesing's approach

[^50]whereby only the strong readings are presuppositional (thanks to Kai von Fintel for discussion of this point). I leave the issues raised by these suggestions for future research.

## 4. Salish lacks presuppositional determiners

The preceding subsections have argued that definite determiners, specific determiners, and quantificational determiners all induce presuppositions of existence. All these determiner types can therefore be ruled out in Salish by means of the single claim in (50).
50. There are no presuppositional determiners in Salish.

However, there are two respects in which the evidence provided so far falls short of demonstrating (50). First, I have yet to show that the distinctions which do show up in Salish determiner systems do not involve presuppositionality. This task forms part of Chapter 3, where I argue that the assertion of existence distinction encoded in Salish does not involve presupposition.

Second, I argued in Chapter 1 only for the lack of a definiteness or specificity distinction in Salish, rather than for the lack of definite or specific determiners themselves. Hence, it is necessary to clarify exactly how the Salish facts fall out from (50). I take definiteness as an example; the same reasoning applies to specificity.

The claim that a language lacks presuppositional determiners entails that the language lacks definite determiners, since definite determiners necessarily presuppose existence (see §3.1). Therefore, (50) must rule out both possible scenarios for a language which possesses definite determiners, given in (51).
51. Possible determiner systems for a language with definite determiners:
a. Determiners encode a definite/indefinite contrast.
b. All determiners are definite.

It was demonstrated in Chapter 1 that Salish languages do not encode a definite/indefinite contrast. However, I have not yet explicitly argued that (51b) does not hold in Salish. It could be the case that all determiners are definite in Salish, in which case (50) would not derive the Salish facts.

There are good reasons why (51b) cannot be true of Salish languages. First, DPs may appear in clearly indefinite contexts (where the individual concerned is novel to the common ground of the discourse; see §1.2.2 in Chapter 1). Hence, the distinctive feature of definite determiners, their restriction to familiar contexts, is missing. This claim is supported by Jelinek (1995:526-7), who claims that 'Determiner Phrases in Straits permit both definite and indefinite readings.' ${ }^{26}$

Second, there is independent evidence that DPs in St'at'imcets pattern with English indefinites rather than definites when it comes to such phenomena as freedom of temporal reference (see Demirdache 1996a,b). This was already demonstrated in Chapter $1 ;{ }^{27}$ I briefly review the evidence here.

DPs in St'át'imcets lack the Individual Concept Reading, which is allowed for English definites. Compare (52a) with (52b).
52. a. The president of the United States is powerful. for any time $t$, whoever is president at $t$ is powerful at $t$
(Demirdache 1996c:8)
 'The president of the United States is powerful.'
$\neq$ for any time t , whoever is president at t is powerful at t . (Demirdache 1996c:8-9)

Secondly, DPs in St'át'imcets do not have the range of temporal interpretations that definites have in English. DPs in St'át'imcets are temporally bound, as argued by Demirdache (1996a,b)

[^51]and shown in (53). The DP in (53) cannot have a temporal interpretation which is independent of the temporal interpretation of the predicate.
53. ?aๆxa? tu? [ti kəl?áqstən-ร-a ti United.States-a] á7xa7 tu7 [ti kel7áqsten-s-a ti United.States-a] powerful compl [det chief-3sg.poss-exis det United.States-exis] 'The president of the United States was powerful.' (St'át'imcets; Demirdache 1996c)
a. true if the individual who was the president at some past time was powerful at that past time
b. true if the individual who is the president now was powerful at some past time (while he was president) which overlaps with the present time
c. false if the individual who is the president now was powerful at some distinct past time (before he was president)

In contrast, the definite DP in the English gloss for (53) can have a temporally free reading, being true in the context in (53c).

### 4.1. Independent evidence for the lack of presuppositional Ds

The lack of presuppositional determiners in Salish has been independently proposed, for theoryinternal reasons, by Demirdache and Matthewson (1995b), (Demirdache 1996c). I briefly review their argumentation here.

Demirdache and Matthewson (1995b) discuss a well-known restriction which holds across the Salish family, known as One-Nominal Interpretation. Gerdts' (1998:59) formulation for Halkomelem is given in (54), and an illustration from St'át'imcets is given in (55) (see also Gardiner in press, to appear for Secwepemctsín).
54. One-Nominal Interpretation:

In the absence of marking for other persons, a single 3rd person nominal is interpreted as the absolutive.
55. Táċx-ən-aš [ti Šqáy $x^{W}$-a]
áts'x-en-as [ti sqáycw-a]
see-tr-3erg [det man-exis]
a. 'S/he saw the man.' (= pro saw the man)
b. * 'The man saw him/her.' (= the man saw pro)

Demirdache and Matthewson claim that the restriction on the interpretation of (55) has to do with topic-focus structure (following also Roberts 1994, Davis 1994c). The null argument pro, which is anaphoric, is coindexed with the topic of the discourse and represents the topic of the sentence (i.e. a mapping between discourse topic and sentence topic is assumed). The wellknown cross-linguistic correlation between topichood and subject position (for which there is independent evidence in Salish) helps to rule in (55a), where the null pronominal is the subject, and rule out (55b), where the null pronominal is the object.

Notice, however, that (56) is grammatical. The contrast between (56) and (55b) shows that the ungrammaticality of (55b) does not simply have to do with the fact that pro occupies object position. Rather, the overt nominal in subject position in (55b) contributes to its ungrammaticality.

```
56. Táċx-ən-aక
    áts'x-en-as
    see-tr-3erg
    S/he saw him/her.' (= pro saw pro)
```

Demirdache and Matthewson claim that overt nominals are never topics in Salish (unless they contain an overt quantifier). ${ }^{28,29}$ The inability of an overt DP to be the topic accounts for the
${ }^{28}$ The claim requires further refinement, since the patient in a passive sentence may be overt, as in (i). The patient of a passive sentence is the topic in Salish (see e.g. Kinkade 1989, 1990, Matthewson 1993, Thomason and Everett 1993 and many others).
 átsx-en-em [ta sqáycw-a] [ta smúlhats-a]
see-tr-pass [det man-exis] [det woman-exis]
'The man was seen by the woman.'
(St'át'imcets; RW, GN)
Note that the passive is morpohologically intransitive; subjects of intransitives may freely be overt in Salish, and stand outside the normal topic-tracking processes, according to Davis (1994c). Further research is required on the relation between sentence topic and discourse topic; see Demirdache (1996c) on this issue.
29 This leads to the claim that in sentences with two overt nominals, there is no topic. Demirdache and Matthewson suggest that this might account for the rarity of such sentences in Salish languages (see the Introduction).
mapping of the overt DP in (55) to the object position (within the canonical domain of focus, VP), rather than the subject position (canonically the topic position).

The inability of overt DPs to be topical in Salish correlates with the inability of overt DPs to be presuppositional, in the following manner (see Demirdache 1996c). Syntactic topics have been argued to carry existential presuppositions (Reinhart 1982, Valduví 1995). If overt DPs cannot induce presuppositions, then it will follow that they cannot be topics. Demirdache (1996c) notes that the ability of overt DPs in Salish to describe either novel or familiar discourse referents is non-problematic, since there is not a strict correlation between 'focus' and 'new information'. Focussed DPs can be either novel or familiar.

For further independent arguments against presuppositional DPs in Salish, see Demirdache (1995, 1996c).

A final piece of evidence against presuppositional determiners in Salish concerns presupposition cancelling. Assertion of existence DPs are impossible in cases where in English, the presupposition of existence of definites can be cancelled. Consider (57).

## 57. A: I heard you guys have a good-looking chief. <br> B: We don't HAVE a chief, so the chief can't be good-looking!

The definite noun phrase the chief normally presupposes existence of a (unique) chief. However, if the presupposition is explicitly denied, as in (57B), the chief becomes felicitous even though no chief exists. We expect similar examples to be impossible in Salish if the function of an assertion of existence determiner is not to presuppose existence, but outright to assert it. Assertion of existence should always be incompatible with denial of existence. This is upheld, as shown in (58).

| 58. A: | qañím-7kan | $k^{w}-5$ | ? $2 m \mathrm{mh}$-álq ${ }^{\text {W }}$ əm | [ti | $k^{W}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | qan'ím-lhkan | kw-s | emh-ál'qwem' | [ti | kukwpi7-láp-a] |
|  | hear-1g.subj | det-nom | good-appear | [det | chief-2pl.poss-exis] |
|  | 'I heard you g | have a go | oking chief.' |  |  |


wá7-lhkalh ícwa7 s-kúkwpi7 prog-1pl.subj without nom-chief 'We don't have a chief.'


* nilh s-cw7aoz kw-s emh-ál'qwem' . [ti kúkwpi7-a]
foc nom-neg det-nom good-appear • [det chief-exis] 'So the chief can't be good-looking.'
(St'át'imcets; BF)

The assertion of existence determiner in B's second sentence was corrected by the consultant to a non-assertion of existence determiner (because the chief doesn't exist).

A similar type of example is given in (59), repeated from Chapter 1. The next chief of Fountain does not exist at the time of utterance (cf. the baby example in footnote 11 of this chapter). In English, a definite determiner is possible, presumably inducing presupposition accommodation (i.e. altering of the common ground to include a file card for the next chief). In St'át'imcets, a non-assertion of existence determiner is required.
59.

| an | moly | Wu | $x^{\text {w }} u z^{\prime}$ |  | lák |
| :---: | :---: | :---: | :---: | :---: | :---: |
| cúz'-lhkan | mely'í-s | [ku | cuz' | kúkwpi7] | láku7 cácl |
| oing.to-1sg.s | marry-ca | non.exis.det | goin | chief] | deic Fount'n |
| ill marry the | xt chief | ountain (who | ever |  | (St'at'imcets; LT) |

This accords with the fact that while presuppositions can be accommodated, the assertion of existence determiners in St'át'imcets do not presuppose existence, but actually assert it. Hence, unlike a definite determiner in English, they are incompatible with any individual or entity which has not yet come into existence.

## 5. The Common Ground Parameter

Determiners in Salish do not induce existential presuppositions on the set ranged over by their common nouns. Salish determiners crucially cannot be analyzed as homophonous between nonpresuppositional and presuppositional uses, but must strictly be analyzed as non-
presuppositional. They differ fundamentally in this from English determiners, which access presuppositional distinctions in a number of ways.

In this section, I will propose a parametric account of the difference between English and Salish. A Common Ground Parameter will be proposed, which rules out all of the required determinertypes from Salish. The parameter enables the difference between Salish and English to be stated in one simple, learnable statement. It sets up a subset-superset relation between Salish and English, correctly predicting that while English may access every distinction which Salish accesses, the reverse does not hold.
§5.1 introduces the parameter and shows how it derives the absence of presuppositional determiners. §5.2 discusses a possible strengthening of the parameter. In §5.3, I address theoretical issues related to language typology and parameter setting, and in §5.4 I discuss the cross-linguistic predictions entailed by the parameter. In §6 I will show how the parametric variation is formally instantiated within Discourse Representation Theory and File Change Semantics.

### 5.1. Presupposition relies on the common ground

Presupposition crucially relies on the notion of COMMON GROUND. The common ground encompasses the beliefs of both the speaker and the hearer of any utterance. The relevance of the hearer's beliefs is highlighted by Stalnaker (1974:473; see also Soames 1982), who claims that


#### Abstract

A proposition $P$ is a pragmatic presupposition of a speaker in a given context just in case the speaker assumes or believes that $P$, assumes or believes that his addressee assumes or believes that $P$, and assumes or believes that his addressee recognizes that he is making these assumptions, or has these beliefs. ${ }^{30}$


[^52]According to this definition, presupposition relies on three separate sorts of assumptions or beliefs, as shown in (60). Two of the three required components involve the speaker believing something about the hearer's state of knowledge.
60. Assumptions or beliefs involved in a pragmatic presupposition $\mathbf{P}$ (adapted from Stalnaker 1974):
a. The speaker's assumption or belief that $P$
b. The speaker's assumption or belief that the hearer assumes or believes $\mathbf{P}$
c. The speaker's assumption or belief that the hearer recognizes that the speaker assumes or believes P

The ability to access or refer to hearer assumptions or beliefs is missing in the determiner systems of Salish languages. Only (60a), and never (60b) or (60c), can be explicitly encoded in the determiner system. For example, the presupposition of existence induced by a definite determiner is missing in Salish. In (61), determiner choice indicates only that the speaker assumes or believes that the policeman exists. The determiner $t i \ldots a$ crucially does not indicate anything about the hearer's assumptions or beliefs. Thus, (61) is felicitous in instances where the hearer has no knowledge of a policeman, as well as in contexts where the hearer is already familiar with the policeman.
61.

| túp-uñ-as | [ti | plíšmən-a] | $\left[\mathrm{k}^{\mathrm{W}}-\mathrm{s}\right.$ | John] |
| :--- | :--- | :--- | :--- | :--- |
| túp-un'-as | $[t i$ | plísmen-a] | $[\mathrm{kw}-\mathrm{s}$ | John] |
| hit-tr-3erg | [det | policeman-exis] | [det-nom | John] |

(St'át'imcets)
$\sqrt{ }$ Speaker assumes or believes that the policeman exists.
x Speaker assumes or believes that the hearer assumes or believes that the policeman exists.
x Speaker assumes or believes that the hearer recognizes that the speaker assumes or believes that the policeman exists.

The claim that Salish determiners ignore hearer knowledge is supported by Kuipers' (1967:137) description of the choice between so-called 'definite' and 'indefinite' determiners in Squamish:

The definite forms are used for objects which are individually identified for the speaker in an independent way. The Squamish definite catgory therefore differs from the English one in two ways. In the first place, in English the object must be definite for the hearer also: one begins a report with 'I met $a$ man ...' (the man is identified for me but not yet for the hearer); in this case Squamish will use a definite form. On
the other hand, in English one uses the definite article in cases where the object is defined for the speaker in a way which depends on the description exclusively: 'who is the man you met?' (the man is identified for me merely by the description '(which) you met', but not independently - I could not point him out); in such cases Squamish uses an indefinite form.

The fact that Salish determiners access only speaker's beliefs, not hearer's beliefs, means that Salish determiners are unable to access the common ground. The common ground comprises the beliefs of both the speaker and the hearer; Salish determiners do not refer to this construct, merely taking notice of what the speaker knows. This state of affairs leads me to propose the following parameter.

## 62. Common Ground Parameter

Determiners may access the common ground:
Yes: \{ English, ... \}
No: \{ Salish, ... \}

According to the Common Ground Parameter, English determiners can access hearer knowledge, while Salish determiners cannot. However, both Salish and English access and encode speaker knowledge. The locus of the difference between the two language types is in the lexicon (i.e. the languages differ in the properties of individual lexical items, namely determiners). This is consistent with proposals that parametric differences may be situated only in the lexicon (see e.g. Borer 1983, Manzini and Wexler 1987, Chomsky 1993).

Access to speaker knowledge must be a language universal, since speech without the expression of speaker beliefs would result in a marked lack of declarative sentences. We can therefore predict the following typology of language types. A language which accesses both speaker and hearer knowledge is English; by definition it accesses the common ground (the combination of speaker and hearer beliefs). A language which accesses only speaker knowledge lacks access to the common ground (Salish). Languages which do not access speaker knowledge are predicted not to exist.
63.

Speaker knowledge is accessible: Hearer knowledge is accessible:
The common ground is accessible:

| English | Salish |  | $*$ |
| :---: | :---: | :---: | :---: |
| + | + | - | - |
| + | - | + | - |
| + | - | - | - |

Since Salish does not allow access to hearer knowedge, but (by universal necessity) allows access to speaker knowledge, another way of stating the difference between Salish and English is to say that Salish determiners follow a SPEAKER-ORIENTED system, while English determiners follow a SPEAKER-HEARER-ORIENTED system.

### 5.2. Can Salish access hearer knowledge at all?

It would not be true to say that Salish languages can never access hearer knowledge. Presupposition is induced in Salish by syntactic constructions such as clefting. For example, (64a) induces the presupposition in (64b).
 $\begin{array}{llllll}\text { nilh } & \text { s-Henry } & \text { ti } & \text { qacwecw-s-táli-ha } & \text { ti } & \text { q'íl'q-a } \\ \text { foc } & \text { nom-Henry } & \text { det } & \text { break(redup)-caus-erg.extr-exis } & \text { det } & \text { chair-exis }\end{array}$ 'It was Henry who broke the chair.' (St'át'imcets; LT)
b. Someone broke the chair.

The presupposition in (64) is induced by a specific syntactic structure, namely clefting.

Another syntactic structure which induces a presupposition is syntactic nominalization, illustrated in (65), with the presupposition in (65b). ${ }^{31}$
65.

| a. | 7 âma | [t1 | s-k¢q-s5-a | S-Gertie] |
| :---: | :---: | :---: | :---: | :---: |
|  | áma | [ti | s-t'íq-s-a | s-Gertie] |
|  | good | [det | nom-arrive | nom-Gertie] |
|  | 'It is good that Gertie came.' |  |  |  |

b. Gertie came.

[^53]The only examples we have seen so far of presuppositions in Salish contain special syntactic constructions. If presuppositions were only induced by syntactic structures in Salish, we could restate the Common Ground Parameter as in (66).

## 66. Common Ground Parameter (strong version)

The common ground may be accessed:
a. By lexical items: Yes: \{ English, ... \}
No: $\{$ Salish, ... \}
b. By syntactic structures: Yes: \{English, Salish, ... \}
No: Ø?

The formulation in (66) is a stronger formulation than the version given in (62), which rules out access to the common ground only by a subset of lexical items, namely determiners.

Since, by hypothesis, parameters may only refer to lexical items, not to syntactic structures, we could propose that the ability of particular syntactic structures to induce presuppositions will be universal. What may vary is only whether particular lexical items (such as determiners) may induce presuppositions.

In order to show that the strong formulation of the Common Ground Parameter holds, we would have to show that there are absolutely no lexical items in Salish languages that induce presuppositions. While a full investigation of the implications of the strong formulation goes beyond the scope of this dissertation, there is some evidence that the strong formulation as it stands is too strong.

Soames (1982) lists (among others) the following constructions and lexical items which give rise to presuppositions:
67. a. BILLY is guilty, too.

P: Someone other than Billy is guilty. (too)
b. Ivan has stopped beating his wife. P: Ivan has beaten his wife.
(aspectual)
c. Bill regrets lying to his parents.

P: Bill has lied to his parents.
(factive)

St'átimcets possesses at least the types in $(67 a, b)$. (68) shows that the lexical item corresponding to English too induces presuppositions. ${ }^{32}$
68.

| $\mathrm{x}^{\text {W/13-2m }}$ | kit | [k | Mary] | $\left[\mathrm{k}^{\mathrm{W}} \mathrm{u}\right.$ | కxúsum] |
| :---: | :---: | :---: | :---: | :---: | :---: |
| cwî'-em | t'it | [ | Mary] | [ku | sxúsum] |
| look.for-intr | also | [det | Mary] | [non.exis.det | soapberry] |
| 'Mary also loo | for s | pberr |  |  |  |

P: Someone other than Mary looked for soapberries.
(St'at'imcets; LT)

The aspectual type of presupposition in (67b) is rendered as in (69) in St'at'imcets. It is the entire subordinate clause which is presupposed.


P: Mary has looked for soapberries.
(St'át'imcets; LT)

Factive verbs as in (67c) are rare in St'át'imcets; items corresponding to regret, discover and so on are generally conspicuously absent. A verb know does exist, however, and induces presuppositions, as shown in (70):
 zwát-en-as [kw-s qácwecw-s-as ti qíl'qa kw-s Henry] know-tr-3erg [det-nom break-caus-3erg det chair-exis det-nom Henry] 'She knows that Henry broke the chair.'

P: Henry broke the chair.

The presupposition induced by zwat 'know' in (70) consists of the entire subordinate clause.

[^54]The verb zwat 'know' does not by itself induce a presupposition of existence of an entity. The complement of zwat can contain the non-assertion of existence determiner, as shown in (71a,b). If $z w a t$ induced a presupposition of existence, this would clash with the failure of $k u$ to assert that any entity exists. ${ }^{33}$
71. a. $z w$ át-ən- $+k a x^{W}$ ha $\left[k^{W} u \quad k^{W} u^{W} p i 2\right]$
zwát-en-lhkacw ha [ku kúkwpi7] know-tr-2sg.subj ynq [non.exis.det chief]
(St'át'imcets)


A yes-no question and a negation environment are used in (71) because the licensing requirements on the determiner $k u$ require that it fall within the scope of a non-factual operator (see Chapter 1, Chapter 4). The question and negation environments are permeable to presupposition, as pointed out in $\S 3.2, \S 3.3 .1$ above; therefore, they do not affect the conclusion drawn: the verb zwat cannot be inducing a presupposition of existence, since it co-occurs with the non-assertion of existence determiner. ${ }^{34}$

There are (at least) two possible ways to interpret the data in (70-71). It could be the syntactic structure in (70), in which zwat has scope over a subordinate clause, which gives rise to the presupposition. The presupposition induced would then not result from inherent properties of the verb itself. Alternatively, we could revise the definition of the 'hearer knowledge' which may not be accessed in Salish. It could be the case that it is only presuppositions of existence of individuals which are ruled out. We have seen no examples from Salish of presuppositions of

33 cf. the discussion in Chapter 1 of universal quantifiers and $k u$.
${ }^{34}$ In a factual context, the sentences are bad, as shown in (i). This is predicted, since any argument DP containing $k u$ must be licensed by a non-factual operator.

| i. | * | zwát-ən-tkan | $\left[\mathrm{k}^{\mathrm{W}} \mathrm{u}\right.$ | naplít] |
| :---: | :---: | :---: | :---: | :---: |
|  | * | zwát-en-lhkan | [ku | naplít] |
|  |  | know-tr-1sg.subj | [non.exis.det | priest] |
|  |  | 'I know a priest.' |  |  |

existence of an individual or set of individuals, only examples of presuppositions corresponding to propositions describing events.

Distinguishing between these two possibilities would involve the extension of the field of study beyond the scope of this dissertation. Since the formulation of the parameter in (62) above has been shown to make correct predictions, I shall stick to that weaker version. A full answer to the questions raised in this section must wait for further research.

In summary, then, determiner choice in Salish is based on the speaker's knowledge, and only on the speaker's knowledge. We have successfully accounted for the first three of the four differences between Salish and English determiner systems, summarized here.
72. a. Salish determiners do not encode definiteness.
b. Salish determiners do not encode specificity.
c. There are no quantificational determiners in Salish.
d. Salish determiners encode 'assertion of existence'.

### 5.3. The Common Ground Parameter: Subset and superset languages

While all languages access speaker knowledge, only some access hearer knowledge in their determiner systems. This means that a language which does not access hearer knowledge is a subset of a language which does, and hence that the Common Ground Parameter divides possible languages into a subset - superset relation. In particular, the Salish system should access a subset of the distinctions available in the English system.

This claim makes correct predictions for the respective determiner systems of Salish and English. While Salish can never utilize definiteness, specificity or quantification in its determiner system, English can and does access assertion of existence. While English does not overtly encode assertion of existence on its determiners, the distinction is still present in the grammar of English. In particular, the distinction shows up with differing coreference
possibilities of indefinites under the scope of a non-factual operator (see Chapter 3 for full discussion).

On the other hand, not only should definiteness, specificity and quantificational notions be unencoded by Salish determiners, but such notions should not even be accessible (i.e. they should have no observable effects at all in Salish). This prediction accords with the data; see $\S 4$ above for discussion of definiteness, and $\S 6.2$ below for some discussion of specificity in this respect.

If the Salish system is a subset of the English system, we would expect that language learners will start out with a Salish-type system (i.e. speaker-oriented), and require a positive trigger to develop an English-type system (see Berwick 1985, Manzini and Wexler 1987). I hypothesize that the presence of a quantificational determiner would be enough to trigger a positive setting of the Common Ground Parameter. This will automatically follow if quantificational determiners necessarily induce a presupposition of existence (as argued in §3.3). It is also intuitively plausible that the presence of a quantificational determiner is a salient enough piece of data for a child to use in setting a parameter. As the child acquires the quantificational lexical item, he or she will realize that quantification is involved and will set the parameter to a positive setting.

### 5.4. Predictions of the Common Ground Parameter

The Common Ground Parameter is binary, and as such divides the world's languages into two groups, those whose determiners may access the common ground, and those whose determiners may not. However, there are finer issues which need to be addressed regarding the precise predictions made by the parameter. This section will outline a few of these issues, without attempting to provide complete answers (since complete answers will necessarily involve a broader range of cross-linguistic evidence from other language families).

Notice that the Common Ground Parameter states that determiners in English-type languages may access the common ground. It does not predict that determiners in a language with a positive (English-type) setting must access every single possible distinction which involves access to the common ground. The latter interpretation of the parameter would possibly be falsified by English with regard to specificity. English certainly does not encode specificity, and it is still a matter of debate whether specificity is even relevant in the semantics of English DPs (see e.g. Heim 1989 and references cited therein).

On the face of it, we have the following situation with regard to possible language types. Any language which allows any distinctions which involve presupposition has a positive setting for the Common Ground Parameter. Only languages which lack all of them, like Salish, exemplify the negative setting.

| 7 | $?$ | $?$ | English | $?$ | $?$ | $?$ | $?$ | Salish |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| definiteness | + | + | + | + | - | - | - | - |
| specificity | + | + | - | - | + | + | - | - |
| quantificational Ds | + | - | + | - | + | - | + | - |
| Com. Gr'd. Param | + | + | + | + | + | + | + | - |

If all the columns in (73) corresponded to attested languages, then the Common Ground Parameter would not make any substantial predictions with respect to possible determiner systems. Any combination of the attested distinctions would be possible. However, I suspect that not all the columns in (73) represent possible languages, but rather that there are implicational statements to be made about the types of determiner systems which can exist. For example, if my hypothesis is correct that it is the presence of a quantificational determiner which sets the parameter to a positive setting, then there will be no languages which possess a definiteness distinction but do not possess quantificational determiners (ruling out the second and fourth columns in (73)). This is an easily testable claim, and may well be false. Obviously, further cross-linguistic research is necessary to fill in the question marks in (73). See Chapter 3 for some discussion.

There is another possibility with regard to the over-generation in (73). Ken Hale observes (p.c.) that if specificity is eliminated from the possible determiner distinctions, then English and Salish provide no evidence for anything other than a two-way division, as in (74). If specificity is eliminated, we can make the very strong prediction that there are only two types of languages: those whose determiners access the common ground, and those whose determiners do not.

| 74. | English | Salish |
| :--- | :---: | :---: |
| definiteness | + | - |
| quantificational Ds | + | - |
| Com. Gr'd. Param | + | - |

In this respect, it is useful to consider the rarity of systems which have been claimed to encode specificity, and in particular the rarity or absence of systems which encode a Ludlow and Nealetype specificity (cf. Chapter 1,fn. 22). However, further research is necessary before these issues can be fully resolved.

A final issue to do with the predictions of the Common Ground Parameter is whether the distinctions discussed in this chapter exhaust the possible range of speaker-hearer oriented determiner distinctions in natural language, or whether there are some other distinctions which are available within Universal Grammar. In the absence of counter-evidence, I will adopt the strongest hypothesis, namely that there are no other distinctions available which access the common ground of the discourse. See Chapter 3, §6 for some cross-linguistic evidence on available determiner distinctions.

## 6. The Salish system within Discourse Representation Theory and File Change Semantics

I have argued that Salish languages differ from English in that determiners in the former language family cannot access the common ground of the discourse. However, we still need a formal analysis of Salish determiners. That is the purpose of this section.

Discourse Representation Theory and File Change Semantics are clearly the right theories within which to embed an explanation for Salish, since both these theories address the discourse-related effects of determiners, and the effects of the Common Ground Parameter are discourse-related. In this section I will show how the mechanisms of these theories can be parameterized to account for Salish languages.

### 6.1. The lack of definites

Recall that the definite-indefinite distinction, characterized by Heim as a familiar-novel distinction, is missing in Salish. A Sechelt example is repeated here; both novel and familiar uses of the DP lhe 7úlhka7 slhánay contain the same determiner.

$\begin{array}{llll}\text { b. t'i } & \text { tl'um } & \text { s-ukwal-s } & {[\text { lhe }} \\ \text { flhánay }] i: . . . \\ & \text { fact } & \text { then } & \text { nom-speak-her } \\ \text { [det woman]:... }\end{array}$ 'Then [the woman] $]_{i}$ said: ...' (familiar) (Sechelt; Beaumont 1985:188)

The notions of novelty and familiarity are irrelevant to Salish determiners. The lack of a definiteindefinite distinction in Salish can be achieved by the following simple statement: ${ }^{35}$
76. The Extended Novelty-Familiarity Condition is not present in Salish languages.

While (76) is a language-specific statement, it is no more so than the Extended NoveltyFamiliarity Condition itself. Heim herself notes that many languages do not distinguish definiteness.

However, we would still like an explanation for (76); does the lack of a novelty-familiarity distinction in Salish follow from anything? We have already seen that the answer is yes; (76) follows immediately from the Common Ground Parameter. Once the parameter is set negatively,
${ }^{35}$ See (20) above for the Extended Novelty-Familiarity Condition.
no extra stipulations are necessary. (76) is not an extra stipulation, but simply the direct consequence of a negative setting of the Common Ground Parameter, namely that definiteness will not be encoded in Salish.

The absence of a novelty-familiarity distinction in Salish does not necessarily mean that Heim's file card system is not applicable when Salish speakers are involved in discourse. It simply means that the speaker never instructs the hearer whether he or she should pull out an old file card, or create a new one. The distinction between old and new file cards is not relevant in the grammar.

Unlike Heim's theory, Kamp's theory cannot be easily parameterized to account for Salish, for obvious reasons: no complete account of definiteness is available within Discourse Representation Theory (see $\S 3.1$ above). Hence, the difference between English and Salish is not statable in terms of Discourse Representation Theory as it stands.

### 6.2. The lack of specifics

Specificity is supposed to correlate in Discourse Representation Theory with the main/subordinate Discourse Representation Structure distinction (see $\S 3.2$ above). Specifics send their discourse referents to the main DRS, while non-specifics send their discourse referents to a subordinate DRS.

It might seem as if the lack of a specificity distinction in Salish can be achieved simply by claiming that the main/subordinate DRS distinction is not encoded on determiners in Salish (just as it is not in English). However, I do not want to argue this, for two reasons.

Note that while English does not encode specificity, specificity is often claimed to be relevant for English (i.e. it is claimed to have observable effects, even though determiner choice is not
one of them). One of the most important consequences of specificity is supposed to be its effect on coreference, as shown in (77) (repeated from (31) above). Only under the specific reading is coreference possible with a pronoun in a subsequent sentence (cf. Kamp and Reyle 1993:288289).
77. a. non-specific reading:

Every boy in Mary's class fancies [a girl who Mary doesn't know] $]_{\mathrm{i}}$ * [She] $]_{\mathrm{i}}$ is tall. $\forall x$, a boy in Mary's class ( x ), $\exists \mathrm{y}$, a girl who Mary doesn't know ( y ), x fancies y .
b. specific reading:

Every boy in Mary's class fancies [a girl who Mary doesn't know] $]_{i}$. [She] ${ }_{i}$ is tall. $\exists y$, a girl who Mary doesn't know (y), $\forall \mathrm{x}$, a boy in Mary's class (x), x fancies y.

We have seen that Salish does not encode specificity, but we have not yet seen whether specificity is relevant for Salish as it is claimed to be for English. ${ }^{36}$ If we follow the logic of the Common Ground Parameter, we predict that specificity cannot ever have an effect in Salish, since specificity has been shown to rely on aspects in the common ground.

This prediction accords with the facts. We will see in Chapter 3 that effects on coreference across discourse rely only on assertion of existence in Salish, not on specificity. We do not find evidence that a specificity distinction is ever used in Salish (and no Salishanist, to my knowledge, has ever claimed that specificity is relevant in a Salish language).

This means that if we believe Kamp and Reyle that specificity in English relates to the main/subordinate DRS distinction, we will have to say that the main/subordinate DRS distinction is missing in Salish.

However, I do not want to say this. On the contrary, I will argue in Chapter 3 that the main/subordinate DRS distinction correlates not with specificity, but with the assertion of

[^55]existence distinction. If this is correct, then Salish does make crucial use of the main/subordinate DRS distinction. I argue also that the correlation of the main DRS with assertion of existence holds not just for Salish, but also for English. Being in the universe of the main DRS is a necessary, but not a sufficient, condition for specificity.

### 6.3. The lack of quantificational determiners

In this section the Discourse Representation Theory and File Change Semantics approaches to quantifiers are discussed. I argue that an explanatory account of the Salish facts is not available in these two theories as they stand.

Within Discourse Representation Theory, quantifiers are represented as in (78), taken from Kamp and Reyle (1993:311). The left subordinate DRS is a RESTRICTOR, the right DRS is a NUCLEAR SCOPE, the middle portion is the quantifier, and the entire complex condition is called a DUPLEX CONDITION. It is interpreted as follows: 'For most $y$ which satisfy the conditions on the left it is true that they satisfy the condition on the right.'
78. Maggie adores most linguists.


For most y, linguists (y), Maggie adores y.

All quantifiers create duplex conditions of this type, according to Kamp and Reyle, although the universal quantifier is equally well expressed with a conditional as with a duplex condition (see (33-34) above).

The effect we must derive for Salish is that determiners are never quantificational. We could achieve this within Discourse Representation Theory by stipulating that no determiner in Salish has the ability to set up a duplex condition. However, recall that quantifiers are not completely missing from Salish languages. This is seen in (79).
79.

| a. |  | 71 | plismon-a] | 70 |
| :---: | :---: | :---: | :---: | :---: |
|  | [cw7it | i | plísmen-a] | úxwa |
|  | [many | pl.det | policeman-exis] | go.home |
|  | 'Many | the) po | licemen went ho |  |

(St'át'imcets; LT)
$\begin{array}{lllll}\text { b. } & \text { na } & \text { ilhen } \\ \text { rl } & \text { eat }\end{array} \begin{array}{lll}{[i 7 \mathrm{xw}} & \text { ta } & \text { sta7uxwlh] } \\ \text { [all } & \text { det } & \text { children] }\end{array}$
'All the children are eating.'
(Squamish; Demirdache et al. 1994)

I will argue in detail in Chapters 5 and 6 that the constructions involving quantifiers in (79a,b) set up tripartite structures at logical form, and that DPs containing quantifiers in Salish function as generalized quantifiers. Given this, we have no reason to doubt that the sentences in (79) would set up duplex conditions in their DRSs.

Our ban on duplex conditions for Salish would therefore have to be restricted to determiners $\left(\mathrm{D}^{0} \mathbf{s}\right)$, since it is only determiners which may not be quantificational. Quantifiers can readily appear in other syntactic positions. However, within DRT as it stands (as within most semantic theories), there is no separate status given to the syntactic position of determiner ( $\mathrm{D}^{0}$ ), as opposed to other DP-internal positions. It would therefore be mysterious that in Salish, some DP-internal elements (such as $i 7 \underline{x} w$ in (79b)) can set up duplex conditions, while others (any element in $\mathrm{D}^{0}$ position) cannot. One of the major claims of this dissertation is precisely that adequate semantic theories must take account of the syntactic category of the determiner.

A specific ban on duplex conditions for determiners in Salish would also suffer from the failing that it would be simply a restatement of the stipulation that Salish languages lack quantificational determiners. This means that if one approached the Salish problem within Discourse Representation Theory without investigating the entire determiner system, the most
one could do would be stipulate the absence of quantificational determiners. However, I have argued above that the absence of quantificational determiners is just one reflex of a more general parametric difference between English and Salish. After adopting the Common Ground Parameter, the absence of determiners which set up duplex conditions does not require extra stipulation, but is merely the direct formal consequence of a negative parameter setting. ${ }^{37}$ The stipulation is eliminated, since a deeper explanation has been found in the differing discourse properties of Salish and English determiners.

Turning briefly to File Change Semantics, Heim distinguishes quantifying determiners (such as every, no) from non-quantifying determiners (such as the, a). She notes that indefinite and definite DPs $^{38}$ show some similarities with quantified DPs; for example, their relative scope is semantically significant. On the other hand, these two types of DP also show dissimilarities; for example, indefinites 'can be anaphorically related with things outside of their scope', unlike quantifying DPs (Heim 1982:213). She achieves this dual behaviour by differentiating their behaviour at Logical Form.

At LF, all DPs are first adjoined to the $S$ node. Next, quantifiers extract from their DP to adjoin to $S$ ('Quantifier Construal', p. 133). There is thus a distinction between quantifiers, which undergo extraction from their DP, and definite and indefinite determiners, which do not.

The difference between English and Salish can easily be stipulated within this approach: no determiners in Salish undergo Quantifier Construal. However, since Heim investigates only languages in which Quantifier Raising is well-attested and which allow quantificational determiners, her theory does not address the issue of how languages may differ with respect to Quantifier Construal. This again highlights the need for a semantic theory which gives special

[^56]status to the syntactic position of the determiner. Unless this is done, the statement of which syntactic elements in Salish may undergo Quantifier Construal will be a mere stipulation. See Chapter 5 for details of such a theory.

## 7. Conclusions

This chapter has examined the first three proposals about Salish determiners made in the previous chapter, repeated in (80).
80. a. Salish determiners do not encode definiteness.
b. Salish determiners do not encode specificity.
c. There are no quantificational determiners in Salish.

The lack of a definiteness distinction, the lack of a specificity distinction, and the lack of quantificational determiners were all argued to follow from the single generalization that determiners in Salish are never presuppositional. Since presupposition crucially involves access to the common ground (the shared beliefs of speaker and hearer), I proposed that Salish determiners may not rely on information in the common ground of the discourse. Only speaker knowledge is accessible.

## CHAPTER 3

## ASSERTION OF EXISTENCE

## 0. Introduction

The major focus of this chapter is the last of the four proposals about Salish determiners, repeated in (1).

1. Salish determiners encode assertion of existence.

In §1, I demonstrate that assertion of existence is a strictly speaker-oriented distinction, and as such does not access the common ground. Assertion of existence is therefore compatible with the Common Ground Parameter introduced in the previous chapter.

A formal account for the assertion of existence distinction is provided in §2-4. In §2, Discourse Representation Theory is used to account for the Salish system. I propose that an assertion of existence determiner causes a discourse referent to be placed in the universe of the main Discourse Representation Structure. This accords with the truth conditions as defined by Kamp (1981). I next discuss Kamp and Reyle's (1993) additional claim that the main/subordinate DRS distinction correlates with specificity, arguing instead that specificity requires an extra mechanism over and above the main/subordinate distinction.

Heim's (1982) File Change Semantics is addressed in §3; we see that it can easily be parameterized to account for Salish determiners.

In §4, logical forms involving Salish DPs are discussed. Available theories of the semantics of indefinites such as Kamp (1981), Heim (1982), Chierchia (1995) can account for Salish, once we assume that a non-assertion of existence DP obligatorily occurs in the c-command domain of a non-factual operator.
$\S 5$ turns to further extensions of the Common Ground Parameter. These include the speakeroriented nature of deictic elements in Salish, and the existence of a set of clitics which mark speaker knowledge of an event. These clitics parallel at a sentential level the determiners, since determiners encode speaker knowledge of an individual.

The chapter concludes in $\S 6$ with a brief look at languages outside the Salish or Indo-European families. It is found that Salish languages are not typologically unusual in lacking determiners which access the common ground of the discourse.

## 1. Assertion of existence is a speaker-oriented notion

The assertion of existence distinction is illustrated in (2) (repeated from Chapter 1). Determiner choice is regulated by whether the speaker intends an existential interpretation for a particular DP or not.
2.

Existential force
No existential force
Az'-en-as [ti sts'úqwaz'-a] kw-s Sophie. buy-tr-3erg [det fish-det] det-nom Sophie Sofie bought [a fish].
$\exists \mathrm{x}, \mathrm{x}$ a fish, Sofie bought x .
Cw7aoz kw-s áz'-en-as [ti sts'úqwaz'-a] kw-s Sophie Cw7aoz kw-s áz'-en-as [ku sts'úqwaz'] kw-s Sophie neg det-nom buy-tr-3erg [det fish-det] det-nom S. Sofie didn't buy [a fish].
$\exists \mathrm{x}, \mathrm{x}$ a fish, $\neg$ Sofie bought x .
neg det-nom buy-tr-3erg [det fish-det] det-nom S. Sofie didn't buy [a fish]. $\neg \exists \mathrm{x}, \mathrm{x}$ a fish, Sofie bought x .

In this section I will show that the Common Ground Parameter, given in (3), accounts for the assertion of existence distinction in Salishan determiner systems in a simple way.

## 3. Common Ground Parameter:

Determiners may access the common ground:


The presence of an assertion of existence distinction is compatible with a negative setting of the parameter, for the following reason: whether the speaker asserts existence or not is independent of hearer knowledge, and hence independent of the common ground. This view is supported for St'át'imcets by van Eijk's (1985) analysis of the determiner system. For van Eijk, the assertion of existence distinction is characterized as a 'known' vs. 'unknown' distinction, and he describes the distinction as follows (1985:223-4; glosses have been standardized).
the division 'known' - 'unknown' hinges on whether or not the thing-meant is known to the speaker. The speaker is the sole arbiter here, hence the use of $t i$ in:
[4]. クáčx-ən-7kan

| $[t 1$ | sqáyx $\left.{ }^{w}-a\right]$ |
| :--- | :--- |
| $\left[\begin{array}{ll}\text { ti } & \text { sqáycw-a] } \\ {[\operatorname{det}} & \text { man-exis }]\end{array}\right]$ |  | see-tr-1sg.subj

[det man-exis] 'I saw a man.'
note that English uses the indefinite article here, since the man is not yet identified to the addressee. Compare [4] with [5]:
[5]. nká? tu? [ku sqáczap-šu]
nka7 tu7 [ku sqátsza7-su]
where compl [non.exis.det father-2sg.poss]
'Where did your father go?'
here 'unknown' $k u$ is used to indicate that the addessee's father is unknown to the speaker (although known to the addressee).

Van Eijk's description emphasizes that the hearer's state of knowledge (crucially involved in presupposition), is irrelevant to determiner choice in St'at'imcets.

The speaker-oriented nature of determiner choice holds for all the Salish languages looked at in previous chapters; see in particular Kuiper's (1967) explicit description of speaker-orientation in Squamish (Chapter 2, §5.1). Furthermore, if we return to our original informal definition of assertion of existence, we see that it refers specifically to SPEAKER INTENT, rather than to existence in the real world.
6. Assertion of existence (informal definition):
the speaker's intent to 'refer to' or 'mean' a nominal expression to have non-empty references - i.e. to 'exist' - within a particular universe of discourse (i.e not necessarily within the real world) (Givón 1978:293-4).

This correctly predicts that in a description of a dream or a vision, where the participants in the event do not exist in the real world, but only in the mind of the speaker, an assertion of existence determiner is used (at least in St'át'imcets).
7.

$$
\begin{aligned}
& k^{W} ク\left\lceil k^{W} l a x^{W}-k a n \quad k^{W}-a-s \quad \text { túp-uñ-as } \quad s\right. \text {-John [ti plísmən-a] } \\
& \text { kw7íkwlacw-kan kw-a-s túp-un'-as s-John [ti plísmen-a] } \\
& \text { dream-1sg.subj det-prog-nom punch-tr-3erg nom-John [det policeman-exis] } \\
& \text { 'I dreamed that John hit a policeman.' } \\
& \text { (St'át'imcets; LT) }
\end{aligned}
$$

The assertion of existence distinction does not rely on presupposition (which involves an interaction between the speaker's and the hearer's beliefs, and therefore relies on the common ground). As such, the assertion of existence distinction is compatible with the Salish (negative) setting of the Common Ground Parameter.

## 2. Assertion of existence within Discourse Representation Theory

This section shows that the assertion of existence distinction found in Salish determiner systems can be captured insightfully within Discourse Representation Theory, by exploiting and reanalyzing a structural distinction already present in the theory. The focus here is on Discourse Representation Structures, not on the final logical representations of the Salish determiners. The translation into predicate logic is a further step which I will address in §4.

### 2.1. Main vs. subordinate DRSs

The preliminary definition of assertion of existence we have been using relates to 'existential force'. ${ }^{1}$ The determiners in (8) give existential force to their discourse referents; (8a) asserts the existence of a dog that came in, while (8b) asserts the existence of a dog that Mary wants.
8. a. ?utx ${ }^{w}$ [t1 Šáxy?-a]
ulhcw [ti sqáx7-a]
go.in [det dog-exis]
'A dog/the dog came in.'

[^57]
xát'-min'-as [ti sqáx7-a] [kw-s Mary]
hard-appl-3erg [det dog-exis] [det-nom Mary] 'Mary wants a dog / Mary wants the dog.'

First, let us examine how existential force is derived within the theory as it stands (dealing only with indefinites, since definites always induce a presupposition of existence; see Chapter 2). In English, indefinites that are not under the scope of an operator must receive existential force. The sentence in (9) asserts the existence of a Porsche which John owns.
9. John owns a Porsche.

For Kamp (1981), no existential quantifier is introduced by the indefinite determiner in (9). Instead, the existential force of $a d o g$ derives from the manner in which truth is defined. The truth conditions have an existential character:
10. A DRS is true if (and only if) there are individuals in its universe corresponding to the discourse referents which satisfy the conditions
(Kamp and Reyle 1993:74, emphasis original)

The DRS in (11) is therefore defined as true iff individuals corresponding to $x, y$ exist.
11. Jones owns a Porsche.

| $\mathrm{x} y$ |
| :---: |
| Jones (x) |
| Porsche (y) |
| x owns y |

Indefinites lack existential force when they are bound by an operator. Hence, in (12), the indefinite DP has no existential force.
12. Jones doesn't own a Porsche.

|  |  |
| :---: | :---: |
| $\neg$ | Jones (x) <br> y <br> Porsche (y) <br> x owns y |

It is the presence of the negation operator in (12), which introduces a subordinate DRS, which deprives the indefinite a Porsche from receiving existential force. The definitions of truth provide an existential interpretation only for discourse referents which are in the universe of the main DRS (i.e. at the top level of the box).

I therefore propose the following revised definition for assertion of existence, which exploits the structural difference between (11) and (12).
13. Assertion of existence (revised definition):

Any discourse referent which is in the universe of the main discourse representation structure is asserted to exist within the universe of discourse.

An assertion of existence determiner in a Salish language gives the instruction to place a discourse referent in the universe of the main DRS (i.e. not within a subordinate DRS).
14.

$x$ is asserted to exist

Conversely, non-assertion of existence discourse referents can only appear in a subordinate DRS (i.e. under the scope of an operator).
15.

$y$ is not asserted to exist

This analysis explains the discourse and anaphoric behaviour of assertion of existence vs. nonassertion of existence DPs in Salish, as we shall see shortly. First, however, we must address the status of (13) with respect to the theory as it stands in Kamp and Reyle (1993).

Recall from Chapter 2 that the positioning of a discourse referent within the DRS has consequences for coreference possibilities. Coreference is not possible with a discourse referent that is inside a subordinate DRS, as shown by the contrast in (16).
16. a. Jones owns [a Porsche] $]_{i} \quad[\mathrm{It}]_{i}$ is old.
b. Jones doesn't own [a Porsche $]_{i}$. ${ }^{*}[\mathrm{It}]_{\mathrm{i}}$ is old.
(16a) has the DRS in (17a). The discourse referent $y$ appears within the main DRS, and therefore is accessible for coreference with a subsequent discourse referent z .

17a.

```
x yz
    Jones (x)
Porsche (y)
    x owns y
    \(z=y\)
    old (z)
```

Conversely, the sentence in (16b) has the DRS in (17b). The discourse referent $y$ is inaccessible for coreference with a subsequent discourse referent z :

17b.


In English, the position of a discourse referent within the DRS is not completely determined by the S-Structure position of the corresponding DP. For example, the indefinite object in both (18a) and (18b) falls under the syntactic scope of an intensional operator, the modal might.

Cross-sentential coreference is possible in (18a), but impossible under the normal reading of (18b). ${ }^{2}$
18. a. Sophie might buy [a car I recommended]i. $\mathrm{It}_{\mathrm{i}}$ is old.
b. Sophie might buy [a car] $]_{i} \quad * \mathrm{It}_{\mathrm{i}}$ is old.

The modal might introduces a subordinate DRS, just as negation does in (17b). It must be the case that in (18a), the discourse referent for the indefinite DP appears inside the main DRS, while in (18b), it appears within the subordinate DRS.

Summarizing so far, it is an intrinsic part of the way truth is defined that a discourse referent which appears inside the main DRS will receive existential force. ${ }^{3}$ We can directly adapt Discourse Representation Theory to account for Salish, by hypothesizing that the main/subordinate DRS distinction is overtly encoded on Salish determiners.

Interesting issues arise when we consider specificity. Kamp and Reyle claim that the main/subordinate universe distinction correlates with specificity. ${ }^{4}$ They claim that 'interpreting an indefinite NP as used specifically means that the discourse referent it introduces must be seen as representing some particular object, and thus that it must belong to the universe of the main DRS' (1993:290). This means that indefinite DPs introduced under the syntactic scope of an operator (such as the modal might in (18)) may end up either in the main DRS, or in a subordinate DRS, according to whether they are used specifically or not. Kamp and Reyle's example is given in (19), with the two possible DRSs given in (20) (cf. Chapter 2, §3.2).

## 19. a. non-specific reading: <br> Every boy in Mary's class fancies [a girl who Mary doesn't know $]_{\mathrm{i}}{ }^{*}[\text { She }]_{\mathrm{i}}$ is tall.

[^58]b. specific reading:

Every boy in Mary's class fancies [a girl who Mary doesn't know] $]_{\mathbf{i}} \quad$ [She] $]_{i}$ is tall.

20a. non-specific reading:

b. specific reading:


Kamp and Reyle's claim that placement within the main DRS correlates with specificity goes beyond the truth-conditional necessity that the main DRS imparts existential force. Kamp and Reyle's definition of specific DPs is that 'the speaker employs them to refer to some particular object he has in mind and which he could, if he wanted to, describe in uniquely identifying terms' (1993:289). As outlined in Chapter 1, it is possible for a St'at'imcets speaker to use an assertion of existence determiner even if she is not able uniquely to identify the relevant individual (see (86), Chapter 1).

In the rest of this subsection, I will argue that the main/subordinate DRS distinction cannot, for reasons intrinsic to the theory of DRT, correlate with specificity, but must correlate with assertion of existence.

A literal interpretation of Kamp and Reyle's proposal about specificity would be that only specific DPs send their discourse referents to the main DRS, while non-specific DPs send their discourse referents to a subordinate DRS. The predictions of this hypothesis with respect to whether a discourse referent can 'escape' the scope of a c-commanding operator to corefer with a subsequent pronoun are summarized in (21). (I assume that a specific, non-assertion of existence DP is ruled out by definition; see Chapter $1, \S 1.6$ ).

| 21. | + specific | - specific |
| :---: | :---: | :---: |
| - assertion of existence |  | cannot escape |
| + assertion of existence | can escape | cannot escape |

The alternative in (22) represents the coreference predictions which come 'for free' from the mechanisms of DRT itself:

| 22. | + specific | - specific |
| :---: | :---: | :---: |
| - assertion of existence |  | cannot escape |
| + assertion of existence | can escape | can escape |

(21) and (22) coincide in correctly predicting that a NON-SPECIFIC, NON-ASSERTION OF EXISTENCE DP may not escape the scope of an operator to corefer with a subsequent discourse referent, as shown in (23).
23.

| ?ay | ku? | $k^{W}-{ }^{\text {c }}$ | 7áz'-ən-an | $\left[\mathrm{k}^{W} \mathrm{u}\right.$ | kah] ${ }_{\text {i }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| ay | t'u7 | kw-s | áz'-en-an | [ku | kaoh]i |
| neg | just | det-nom | buy-tr-1sg.conj | [non.exis.det | $\mathrm{car}]$ |
| 'I didn't buy [a car]i.' |  |  |  |  |  |

$$
\begin{aligned}
& \text { * q^1-つú } k u ? ~ p r o i \\
& \text { * qvi-7úl t'u7 proi } \\
& \text { bad-too just proi } \\
& \text { * '[It }]_{\mathrm{i}} \text { was too bad.' }
\end{aligned}
$$

(21) and (22) also coincide in predicting that a SPECIFIC, ASSERTION OF EXISTENCE DP will be able to escape a subordinate DRS to corefer with subsequent discourse referents. This is correct for St'át'imcets, as shown in (24). (24) was elicited in a context which made it clear that a specific car was intended, and an assertion of existence determiner was used. Coreference is possible into a subsequent sentence, as predicted by both (21) and (22).
24.

| ay | ? | $k^{W}-5$ | tex ${ }^{\text {W/ }} \mathrm{p}$-min-an | [t1 | káh-a |  | máys-ən-as |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ay | 7 | kw-s | ecwp-mín-an | [ti | káoh-a | wa7 | máys-en-as | k John] ${ }_{\text {i }}$ |
|  |  | det-nom | buy-appl-1sg.cj | [det | car | prog | fix-tr-3erg | det John] | 'I didn't buy [a car John was fixing]i.'


| qVl-حú | ku? | pro $_{i}$ |
| :--- | :--- | :--- |
| qvl-7úl | t'u7 | pro $_{i}$ |
| bad-too | just | pro $_{i}$ |
| '[It $]_{i}$ was too bad.' |  |  |

Where the two approaches differ is in their predictions about whether NON-SPECIFIC, ASSERTION OF EXISTENCE DPs will appear in the universe of the main DRS. According to a specificitybased theory, these DPs will not be able to corefer with subsequent discourse referents if there is a non-factual operator present. According to the assertion-of-existence theory, all assertion of existence DPs, whether specific or not, should allow coreference in the relevant environments. The latter prediction is correct, as shown in (25). The context which was provided is given in (25a).
25. a. Beverley was in town and saw John talking with a few white men. He started swearing at them. Beverley had to leave and didn't see the end of the argument. Then she hears that John ended up hitting one of the white men (she doesn't know which one). She wants to know if it's true. She asks:
b. tup-uñ-a์
$\begin{array}{llll}\text { tup-un'-ás } & \text { ha } & {[t i} & \text { sám7-a] } \\ \text { hit-tr-3erg } & \text { ynq } & {[\text { det }} & \text { white person-exis }\end{array}$
'Did John hit [a white man]? ${ }^{\text {? }}$
zwát-ən-łkan $\mathrm{k}^{\mathrm{w}-\varsigma}$
zwát-en-lhkan kw-s
know-tr-1sg.subj det-nom
'I know he swore at $[\text { him }]_{\mathrm{i}}$.'
$\begin{array}{ll}\text { q^lqal-と-mín'-as } & \text { pro } \\ \text { qvl-qvl-ts-mín'-as } & \text { pro } \\ \text { bad-redup-mouth-appl-3erg } & \end{array}$
(St'át'imcets; BF)

Although Ludlow and Neale (1991) do not discuss questions in their examination of specificity, their basic approach can be used to demonstrate that the relevant DP in (25) is non-specific. ${ }^{5}$ As (26) shows, the Speaker's Grounds are not a singular proposition. That is, the speaker does not know exactly who she is asking about, but rather can introduce the individual only by means of a description. Since there is no mismatch between the Speaker's Grounds and the Proposition Meant, the DP is used non-specifically.
26. Speaker's Grounds: Did John hit a white man?

Proposition Meant: Did John hit a white man?
Proposition Expressed: Did John hit a white man?

The non-specific, assertion of existence DP $t i$ sám $7 a$ 'the white man' is under the scope of a yesno question operator in the first sentence. Yet it can still corefer with a (null) pronoun in the second sentence. Hence, the non-specific assertion of existence DP must introduce its discourse referent into the universe of the main DRS, as shown in (27) (I leave portions of the second sentence unanalyzed, but it is easy to see how the point holds).
27. Tupun'ás ha [ti sám7a $]_{i}$ sJohn?
'Did John hit [a white man]?

Zwátenlhkan kws qulqvitsmín'as [pro]i.
I know he swore at [him] ${ }_{\mathrm{i}}$.'


[^59](25) shows that it is not specificity which correlates with location in the universe of the main DRS, but assertion of existence. This follows directly from the mechanisms provided by DRT (as in Kamp 1981, Kamp and Reyle 1993). ${ }^{6}$

Let us return for a moment to the impossibility of a SPECIFIC, NON-ASSERTION OF EXISTENCE DP (schematized in (22) above). Since all specific DPs receive existential force, specific discourse referents will always end up in the universe of the main DRS. However, non-specific discourse referents can end up in the main DRS as well. Location in the universe of the main DRS is therefore a necessary, but not sufficient, condition for specificity.

In order to distinguish specifics from non-specifics within Discourse Representation Theory, some addition to the theory would have to be made. I will not speculate as to the form such an addition might take, since I will suggest below that specificity might not have an effect on coreference, even in English.

So far, we have used examples where at most two layers of structure are present in the DRS: the main DRS, and a single subordinate DRS. Strang Burton observes (p.c.) that in order to show conclusively that the discourse referent of an assertion of existence DP goes into the main DRS, sentences involving triple layers of subordination must be tested. In particular, we need to find out whether an assertion of existence DP introduced at the lowest layer of syntactic structure places its discourse referent at an intermediate level in the DRS (i.e. one level higher than the level at which it is introduced), or necessarily at the highest level.

The two options make different predictions for coreference, as follows. In (28), the DP a white man is embedded under two operators: negation, and a subordinate yes-no question.

[^60]28. I didn't know whether [a white man] $]_{\mathrm{i}}$ was allowed to fish.
$[\mathrm{He}]_{\mathrm{i}}$ saw me and he ran away.

If the discourse referent for $a$ white man is introduced into the universe of the main DRS, as in (29), coreference into a subsequent sentence is predicted. In (30), the relevant discourse referent is introduced at an intermediate level, and coreference is not predicted.
29.

30.


The St'át'imcets data support the claim that an assertion of existence discourse referent appears in the universe of the main DRS, as in (29). This is shown in (31), where the assertion of existence

DP ti sám7a 'a white man' is embedded inside both negation and a yes-no question, yet can still corefer with a pronoun in a subsequent sentence.
31. Context: Laura was walking along by the river, and saw a white man fishing. She tells Lisa:

| 7ay | ku? | $k^{W}-2 n-5$ |  |  | zwát-ən | +-wá?-as | ha |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ay | t'u7 | kw-en-s |  |  | át-en | lh-wá7-as |  |
| neg | just | det-1sg.p | ss-nom |  | ow-tr | if-prog-3sg.conj | ynq |
| ka | čuq"az'-ám-a |  | [t] |  | Sám?-a] |  |  |
| ka | ts'uqwaz'-ám-a |  | [ti |  | sám7-a] |  |  |
| ooc |  |  | [de |  | white.person-exis] |  |  |
| 'I didn't know whether [a white man] ${ }_{\mathrm{i}}$ was allowed to fish.' |  |  |  |  |  |  |  |
| フáčx-ən-と-as |  | proi | n 4 | ku? | ? ay ${ }^{\text {+ }}$ | ¢-xwúləl-s | $\mathrm{prO}_{\mathbf{i}}$ |
| áts'x-en-ts-as |  | proi | nilh | t'u7 | aylh | s-cúlel-s | proi |
| see-tr-1sg.obj-3er |  | $\mathrm{g} \mathrm{pro}_{\mathrm{i}}$ | foc |  |  | nom-run.away-3sg.p | $\mathrm{pro}_{\mathbf{i}}$ |
| ${ }^{[ }[\mathrm{He}]_{i}$ saw me and $[\mathrm{he}]_{i}$ |  |  | way.' |  |  | (St'át'imcets; LT) |  |

In (31), it is not necessary that the speaker know the white man involved; in other words; the assertion of existence DP $t i$ sám7a can be non-specific, and coreference is still possible.

In this section, I have argued that the main/subordinate DRS distinction can be used to capture the assertion of existence/non-assertion of existence distinction in Salish languages.

### 2.2. Main vs. subordinate DRSs in English

Although the judgements are subtle, I believe that in English, as well as in St'át'imcets, it is assertion of existence which regulates the main/subordinate DRS distinction. For example, the translation of (25) into English also allows coreference, as shown in (32). ${ }^{7}$

[^61]32. Beverley was in town and saw John talking with a few white men. He started swearing at them. Beverley had to leave and didn't see the end of the argument. Then she hears that John ended up hitting one of the white men (she doesn't know which one). She wants to know if it's true. She asks:

Did John hit [a white man]i?
I know he swore at $[\mathrm{him}]_{i}$.

Thus, an indefinite DP need not be specific to enable coreference to be possible across a nonfactual operator. The DRS in (27) above is applicable also to the English version of the discourse.

If the main/subordinate DRS distinction correlates with assertion of existence rather than specificity in English, it means that the assertion of existence distinction has visible effects in English, in spite of not being overtly encoded. It is only in Salish that the distinction is marked on the determiners themselves. To make this clear, I give a comparison of assertion of existence and non-assertion of existence indefinites in both determiner systems in (33-34). ${ }^{8}$

## 33.a. Non-assertion of existence, English:

b. Non-assertion of existence, St'át'imcets:

Mary might buy [a car] ${ }_{i}$.

* $\mathrm{It}_{\mathrm{i}}$ is beautiful.

Tecwpmín'ás kelh [ku kaoh]i [kws Mary]

* Emhálquem' pro ${ }_{i}$ ti7.


[^62]34.a. Assertion of existence, English:

Mary might buy [a car I painted] ${ }_{\text {i }}$. $\mathrm{It}_{\mathrm{i}}$ is beautiful.

b. Assertion of existence, St'át'imcets:

Sxek kelh tecwpmínas kws M [ti pintána kaoh]i Emhálqwem' proi ti7.

In summary, English and Salish both distinguish assertion of existence from non-assertion of existence readings of DPs, with corresponding differences in coreference possibilities and in structural representations within the DRS. Only in Salish, however, is this distinction encoded on the determiner system. Salish overtly encodes a distinction which is provided by Universal Grammar.

We saw in Chapter 2 that the Common Ground Parameter divides possible determiner systems into a subset - superset relation. Since all languages access speaker knowledge, but only some access hearer knowledge (i.e. only some access the common ground), a language which does not access hearer knowledge should be a subset of a language which does. This claim was just confirmed for the respective determiner systems of Salish and English. While Salish can never utilize definiteness or quantification in its determiner system, English can and does access assertion of existence.

### 2.3. Modal subordination

In English, the ability of indefinites to corefer across sentence boundaries is determined partly by modal force; this phenomenon is known as modal subordination (see Heim 1982:261, Roberts 1986, 1989). I include a brief discussion of this here merely to demonstrate that similar effects are found in St'át'imcets.

An example of a modal subordination effect is given in (35). In (35a), cross-sentential coreference is ruled out. In the minimally different (35b), cross-sentential coreference becomes possible.
35. a. If John bought [a book $]_{i}$, he'll be home reading $[i t]_{i}$ by now. \# [It]j's a murder mystery.
b. If John bought [a book] $]_{i}$, he'll be home reading [it] $]_{i}$ by now. [It]i'll be a murder mystery.
(Roberts 1989:683)

The problem with (35a) is illustrated.in (36); 'the discourse referent for a book, y, is in a box which is subordinate to r [the discourse referent for a murder mystery (LM)], and so y is not an accessible antecedent for $r^{\prime}$ (Roberts 1989:696). Hence, r cannot be coreferential with $y$. The only possible interpretation is one where there is a prior antecedent for $r$, or $r$ is deictic. This is represented in (36) by the placement of $r$ in the main DRS. ${ }^{9}$
36.


Roberts' treatment of the modal subordination case in (35b) is given in (37). The first antecedent (If John bought a book) is accommodated as the antecedent of the second, modally subordinate, sentence It'll be a murder mystery. Since discourse referents within antecedents are accessible to their consequents, y can serve as an antecedent for r and coreference results.

[^63]37.

(Roberts 1989:701)

Accommodation of the sort in (37) is possible only when there is non-factual mood in the second sentence. If a clause is in a factual mood, it is mapped onto the top level of the DRS, and no accommodation can take place (Roberts 1989:692).

St'át'imcets displays modal subordination also, as shown in (38). The non-assertion of existence DP $k u$ kaoh 'a car' may corefer with a pronoun in a subsequent sentence, so long as the second sentence is in a non-factual mood, as in (38a). In (38b), where the second sentence does not contain a non-factual mood indicator, coreference becomes impossible.
38.

| kán-as | $k^{W}$ - $2 \mathrm{n}-\mathrm{s}$ | 7az' | $\left[k^{W} \mathrm{u}\right.$ | $\mathrm{kah}_{1}{ }_{1}$ |
| :---: | :---: | :---: | :---: | :---: |
| kán-as | kw-en-s | az' | [ku | kaoh]i |
| wh-3sg.conj | det-1sg.poss-nom | buy | [non.exis.det | car] |
| 'I might buy |  |  |  |  |

a. $q^{W} \times 1 q^{W}$ kət proi Sxək
qwtsiqw kelh proi sxek
red might $\mathrm{pro}_{\mathrm{i}}$ maybe
' $[\mathrm{It}]_{\mathrm{i}}$ might be red.'
b. $q^{w x i q}{ }^{w}$ ku? $\mathrm{prO}_{\mathrm{i}}$
qwtsiqw t'u7 proi
red just proi
'[It $]_{j, *}$, is red.'
(St'at'imcets; LT) ${ }^{10}$
${ }^{10}$ The particle $t^{\prime} u 7$ 'just' in (38b) is present because clauses containing a bare intransitive predicate are dispreferred (a matter which requires further research). The sentence could alternatively contain a deictic element, as in (i); coreference is still impossible.

| 1. | $\mathrm{q}^{\text {W }}$ C19 ${ }^{\text {W }}$ | proi | t1? |
| :---: | :---: | :---: | :---: |
|  | qwtsiqw | proi | ti7 |
|  | red | $\mathrm{prO}_{i}$ | dei |
|  | ${ }^{\prime}[\mathrm{It}]_{\mathrm{j}, *_{\mathrm{i}}}$ is |  |  |

In summary, in preceding subsections I have argued that the main vs. subordinate DRS distinction, which correlates with the presence vs. absence of existential force, can be straightforwardly used to capture assertion of existence. Assertion of existence determiners cause a discourse referent to be placed within the universe of the main DRS, and consequently to receive existential force (see $\S 4$ for more details). This leaves the specificity distinction without a simple account; I argue below that this is the correct result, since specifics involve something more than just existential force.

## 3. Assertion of existence within File Change Semantics

File Change Semantics (Heim 1982) deals with the existential properties of English indefinites in some detail; let us consider how the theory might handle assertion of existence in Salish. We will see that redefinition of a mechanism already available within the theory is required.

The main generalization which needs to be accounted for is that an assertion of existence DP may 'escape' the scope of a c-commanding operator to corefer with a subsequent discourse referent, while a non-assertion of existence DP may not. The issue is the 'lifespan of discourse referents', according to Heim (1982).

Heim assumes (unlike Karttunen 1976:366) that every indefinite establishes a discourse referent; however, only some of these discourse referents have long lifespans (1982:249). ${ }^{11}$ An indefinite which is under the scope of another operator fails to 'live on' throughout the discourse:
39. 'If $N P_{i}$ is bound by an operator $\mathrm{O} . . \mathrm{i} . .$, then the discourse referent $i$ that $N P_{i}$ introduces ceases to exist outside the scope of $\mathrm{O} . \mathrm{i} .$. If $\mathrm{NP}_{\mathrm{i}}$ is free, then the discourse referent i lives on throughout the entire text' (Heim 1982:251).

[^64]The question is what will happen to assertion of existence DPs in Heim's theory. Even though these DPs may appear in indefinite contexts, their discourse referents will need to escape from the scope of their operator, to corefer with subsequent discourse referents.

Heim claims that the lifespan of an indefinite can outlive an operator or a quantifier if the indefinite has wider scope than that operator; it is when an indefinite has a wide-scope reading that cross-sentential anaphora is possible (1982:254, 257). Whether or not it is true that the contrast between (40a) and (40b) (repeated from (16)) reduces to scope is an issue of debate; Fodor and Sag (1982) argue that it does not.
40. a. Jones owns [a Porsche] $]_{i} \quad[\mathrm{It}]_{\mathrm{i}}$ is old.
b. Jones doesn't own [a Porsche $]_{i} . \quad{ }^{*}[\mathrm{It}]_{\mathrm{i}}$ is old.

Fodor and Sag claim that the relevant distinction is a specific - non-specific distinction, where 'specific' does not simply equate with 'wide scope', because specific indefinites can only take maximally wide scope. In other words, specific DPs are independently differentiated from nonspecific DPs, and have the effect of widest scope due to their 'referential' interpretation. ${ }^{12}$

The question for our purposes is whether assertion of existence is reducible to wide scope, i.e. whether the differing coreference possibilities between assertion of existence DPs and nonassertion of existence DPs reduce to a difference in scope properties.

Unlike what is claimed by Fodor and Sag for specific DPs in English, assertion of existence DPs in St'át'imcets do not necessarily take maximally wide scope. DPs containing an assertion of existence determiner may take either wide or narrow scope with respect to quantificational DPs, as shown in (41). The sentence is ambiguous between the two readings in (41a) and (b).

[^65]41.

|  | $?$ | Sm | 7 | [ta |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| kalhás | i | smelhmúlhats-a] | ats'x-en-táli | [ta | a] |
| three(human) | pl.det | woman(redup)-exi | see-tr-erg.ex | [det | bear-exis] | 'Three women saw a bear.'

a. There is one bear that three women saw.
b. Three women each saw a different bear.
(St'át'imcets; RW)

An assertion of existence DP which takes narrow scope with respect to a quantificational phrase can corefer with a discourse referent in a subsequent sentence, as shown in (42). (42) has as its preferred reading one in which the assertion of existence DP i kalhása ú7sa7 'three eggs' has narrow scope. On this reading, coreference into a subsequent sentence is still possible.


In order to account for the fact that assertion of existence DPs can take narrow scope with respect to quantificational DPs, yet still derive the fact that assertion of existence DPs always escape the scope of a non-factual operator, we have to differentiate two types of scope-bearing elements: quantificational phrases (such as tákem t'u7 swat 'everyone' in (42a)), and operators such as negation. This differentation between quantificational DPs and non-factual operators is independently necessary, as will be shown in Chapter $4 .{ }^{13}$

Once this step is taken, we can then say that assertion of existence DPs obligatorily move out of the scope of any non-factual operator which could bind them. Assertion of existence DPs may take narrow scope with respect to quantificational DPs, and are unlike Fodor and Sag's widestscope specifics in this respect (not surprisingly, since I have argued that assertion of existence DPs may be either specific or non-specific).

[^66]Returning to Discourse Representation Theory for a moment, it must also be true that the main/subordinate DRS distinction does not equate with wide/narrow scope with respect to quantificational DPs. In particular, an assertion of existence DP will have its discourse referent in the main DRS, regardless of its scope relative to other DPs in the main DRS. In (43) (the DRS for (42)), the discourse referent for the eggs appears in the main DRS (even though it has lower scope than tákem t'u7 swat 'everyone'). ${ }^{14}$
43. Tákem t'u7 swat púpen' [i kalhása ú7sa7] ${ }_{i}$
'Everyone found [three eggs $]_{i}$.' (They each found three).
Texw t'u7 t'ec [pro] ${ }_{i}$
'[They]i were sweet.'
(St'át'imcets; LT)


The presence of the discourse referent for the eggs in the main DRS correctly predicts the possibility of coreference with a subsequent pronoun. ${ }^{15}$ Unlike in Kamp and Reyle's DRSs for

14 Kamp and Reyle (1993) offer two ways of representing universal quantification; for simplicity, I have chosen the implicational format, rather than the duplex condition format (see Chapter 2 for discussion of duplex conditions). I also idealize away from Kamp and Reyle's (1993) treatment of plurals; the DP 'three eggs' will eventually involve its own duplex condition, and a process of 'Abstraction' will take place to allow the use of a subsequent coreferential pronoun. This does not affect the main point, namely that the discourse referent for the eggs must be contained within the universe of the main DRS.
15 There is some speaker variation in whether coreference is possible with the DP i kalhasa $u 7$ s7a 'three eggs' in (42-43). Some speakers reject coreference:
 'Everyone found [three eggs $]_{i}$.' (They each found three).
b. stax ku? 大ax pro*i stexw t'u7 t'ec pro* very still sweet pro* ${ }_{i}$ '[They]i were sweet.'
sentences involving universal quantifiers, I include a discourse referent for the range of the universal quantifier in the universe of the main DRS. This captures the fact that coreference is possible with the discourse referent associated with the universally quantified DP.

| 44. | [tákəm | ku? | swat | púpən่ | [71 | katás-a |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | [tákem | t'u7 | swat] | púpen' | [i | kalhás-a | ú7sa7] |
|  | [all | still | who] | find(redup)(tr) | [pl.de | three-exis | egg] |
|  | '[Every | $]_{i}$ fo | d three | ggs.' (They each | dhre |  |  |

```
Táma [?{ sx wak w
áma [i scwákwekw-í-ha]
good [pl.det heart-3pl.poss-exis]
[[They]i were happy.'

Striking support for the claim that the range of the quantifier appears in the main DRS comes from sentences such as (45), where the distributive universal quantifier \(z i 7 \mathrm{zeg}\) ' 'each' appears inside a singular DP. The assertion of existence determiner \(t a . . . a\) places a discourse referent into the main DRS, and coreference (as opposed to variable binding) is possible into a subsequent sentence, unlike in the English gloss: \({ }^{16}\)

* '[Each man \(]_{i}\) came in and then he \(\mathrm{i}_{\mathrm{i}}\) sat down.'

In this subsection I have proposed that the assertion of existence distinction can be accommodated within Heim's theory by interpreting an assertion of existence determiner as an instruction for obligatory movement of the DP out of the scope of any non-factual operator. I

Whatever the reason for some speakers' rejection of coreference in (i), it is not due to the narrow scope of \(i\) kalhása ú7s7a 'three eggs' with respect to the universally quantified DP. If the 'eggs' DP is given unambiguously wide scope, coreference is still out for these speakers:

kalhás t'u7 i ú7s7-a s-púpen'-s [i tsítselkst-a three just pl.det egg-exis nom-find(red)-3sg.po [pl.det five(human)-exis \(\left.\varsigma \grave{k}^{W} \partial m \hat{k}^{W}{ }^{W} \hat{k}^{W} m 1 \geqslant t\right]\)
sk'wemk'uk'mi7t]
child(redup)]
'Five children found three eggs.' (altogether three were found)
b. stax \({ }^{\text {w }}\) ku? kəx pro*i
stexw t'u7 t'ec pro*
very still sweet pro* \({ }_{i}\)
'[They] \({ }_{i}\) were sweet.'
\({ }^{16}\) See further discussion of this phenomenon in Chapter 4, §3.1.1.1.
also raised various issues of interest with respect to Discourse Representation Theory, such as the apparent difference between English and Salish with respect to the placement of a universally quantified discourse referent (as in (44) above).

\subsection*{3.1. The problem of specifics}

The solution to the assertion of existence distinction proposed above leaves Heim's theory without any way to account for specific DPs, since we have in effect 'stolen' (or redefined) the mechanism that is supposed to derive the specific/non-specific contrast. The same was true for the analysis within Discourse Representation Theory given in \(\S 2\) above. While I do not have a solution to the correct analysis of specificity in English, I can make a few remarks supporting the redefinitions proposed.

Kamp and Reyle (1993:290) claim that

Specifically used indefinites act as REFERRING TERMS, terms that are used to refer to particular things, whose identity is fixed independently of the context in which the term occurs. Referring terms always establish their discourse referents in the universe of the main DRS and thus are not properly within the scope of any other [DP].

While it is a matter of debate whether specific indefinites act as referring terms (see e.g. Ludlow and Neale 1991 for counter-arguments), there is clearly something 'extra' to say about specifics beyond the fact that they can escape the scope of a non-factual operator. Contrary to Kamp and Reyle's claims, location in the main DRS will not suffice to ensure that a discourse referent is not 'properly' within the scope of any other DP, since two DPs could put their discourse referents in the main DRS, while one of the DPs has scope over the other DP (as in (44), (45) above).

There are two options for Discourse Representation Theory. The first option is to retain the claim that presence in the universe of the main DRS equates with specificity. Notice that as outlined above, the definition of truth gives existential force to all and only those discourse referents which are in the universe of the main DRS (see §2.1 above, Kamp and Reyle 1993:74, Roberts
1989). Therefore, it is problematic under this approach to differentiate specific indefinites (whose discourse referents would appear in the main DRS) from non-specific, assertion of existence indefinites (whose discourse referents should appear in a subordinate DRS, but yet which still should receive existential force).

Alternatively, we could say that presence in the universe of the main DRS derives only existential force, and does not derive maximally wide scope. In that case, some extra formalism will be necessary to derive the behaviour of specifics. This latter option seems preferable, since the DRS format is inherently ill-adapted to matters of inter-DP scope. If two DPs are at the same level within the DRS, nothing further can be said about their relative scope properties, a result which suggests that the 'DRS-level' analysis of specifics is bound to fail. Maximally wide scope cannot be guaranteed for specifics, since any discourse referent inside the main DRS is just as likely to have maximally wide scope as any other.

With regard to what the extra mechanism might be which can account for specifics, I do not have a conclusive answer. Since Salish neither encodes nor accesses specificity, the solution to that problem is beyond the scope of this dissertation. Since I have argued above that specificity may not even be relevant for coreference facts in English, it is unclear whether we should search for a solution, even for English.

\section*{4. The logical representation of Salish DPs}

So far I have argued that assertion of existence determiners cause a discourse referent to be placed inside the universe of the main DRS, or, equivalently, cause a DP to move to a position ccommanding any non-factual operator which is present. This section examines the translations of the representations thus obtained into logical forms. The main question to be addressed is the presence or otherwise of an existential quantifier \(\exists\).

Indefinites in English have variously been claimed either to introduce existential quantifiers (Russell 1919, Chierchia 1992, 1995, Groenendijk and Stokhof 1991, among others), or to introduce variables which receive existential quantification by some rule(s) of \(\exists\)-insertion (Heim 1982, Kamp 1981, among others). Under either type of approach, indefinites end up receiving existential force in the majority of cases. This raises interesting questions about Salish nonassertion of existence DPs, which never end up with existential force.

The non-assertion of existence determiner cannot be analyzed as introducing \(\neg \exists\), since the use of this determiner crucially does not involve an assertion of non-existence, but rather merely a failure to assert existence. If we represent the non-assertion of existence determiner with \(\neg \exists\), we get incorrect results, as shown in (46).
46.

(St'át'imcets; LT)

The logical form given for (46a) contains a double negation, and incorrectly ends up meaning 'It is not the case that there is no car that I bought.' The logical form given for (46b) incorrectly asserts that there will be no car that I will buy. Insertion of a negated existential quantifier gives the wrong results for non-assertion of existence determiners.

If we assume instead that the non-assertion of existence determiner is just like an English narrow-scope indefinite, we can get the right truth conditions. According to Chierchia (1992, 1995), an indefinite introduces an existential quantifier; according to Heim or Kamp, an
existential quantifier is not part of the formal representation, but is inserted for the translation into predicate logic. Under either type of approach, the final logical representation in (47) results.
\begin{tabular}{|c|c|c|c|c|c|}
\hline \multirow[t]{4}{*}{47.} & \(x^{W}\) ? \({ }^{\text {anz }}\) & \(k^{W}-5\) & tax \({ }^{W} p-m i n-a n\) & [ku & kah] \\
\hline & cw7aoz & kw-s & tecwp-mín-an & [ku & kaoh] \\
\hline & & det-nom & buy-appl-1sg.conj & [non.exis.det & car] \\
\hline & \multicolumn{5}{|l|}{'I didn't buy [a car].'} \\
\hline & \multicolumn{5}{|l|}{\(\neg(\exists \mathrm{x}, \mathrm{car}(\mathrm{x}), \mathrm{I}\) buy x\()\)} \\
\hline
\end{tabular}
(St'át'imcets; LT)

Under this approach, we will have to state separately that non-assertion of existence determiners must always take narrow scope with respect to an operator. Otherwise, we would incorrectly predict that non-assertion of existence DPs could occur in factual sentences, ending up with existential force. Recall that this is not the case:
48.
\begin{tabular}{llll} 
* tox \({ }^{W} p-m i n-4 k a n\) & {\(\left[k^{W} u\right.\)} & puk \(\left.^{W}\right]\) & +kúnša \\
* tecwp-mín-lhkan & {\([k u\)} & pukw] & lhkúnsa \\
buy-appl-1sg.subj & {\([\) [non.exis.det } & book] & today \\
'I bought [a book] today.' & & \\
& &
\end{tabular}
(St'át'imcets)

The claim that non-assertion of existence Ds force their discourse referent to have narrow scope is not a stipulation. Rather, narrow scope with respect to an operator is the unreducible semantic contribution of a non-assertion of existence determiner. We could easily redefine the assertion of existence distinction as a distinction of scope with respect to non-factual operators. Then, the presence or absence of existential force is derived as a necessary result of the scopal facts.

Although it may appear counter-intuitive to assign an existential quantifier to discourse referents which under no circumstances ever receive existential force, it fits in with the intuitive operations which take place in non-assertion of existence contexts. It has often been remarked that the common ground can be temporarily altered. Discourse referents are often introduced which do not 'live on' past the scope of an operator (see e.g. Roberts 1989, Heim 1982). In (49), for example, the speaker asserts that it is not the case that there is a cat that Mary owns. The DP a cat sets up a temporary discourse referent, inside the subordinate DRS.
49. Mary owns a dog. She doesn't own a cat.


Kamp and Reyle's (1993:131) translation of (49) into predicate logic is given in (50).
50. \(\quad \exists \mathrm{xy}(\operatorname{Mary}(\mathrm{x}) \& \operatorname{dog}(\mathrm{y}) \& \mathrm{x}\) owns \(\mathrm{y} \& \neg \exists \mathrm{uz}(\mathrm{u}=\mathrm{x}\) \& cat \((\mathrm{z}) \& \mathrm{u}\) owns z\()\) )

In summary, the translation into predicate logic can proceed as proposed by either Heim (1982) or Kamp (1981). The assertion of existence distinction correlates in the first instance with a scopal difference or a main/subordinate DRS difference, and derivatively with a difference in the presence or absence of existential force.

\section*{5. Further empirical support for the Common Ground Parameter}

Having discussed the four major generalizations which the Common Ground Parameter is intended to derive (see (2), Chapter 1), I turn in this section to further support for the parameter from other areas of Salish grammar.

As was noted in Chapter 2, it is not yet clear how far the Common Ground Parameter extends beyond the determiner system. An extension of the parameter to all lexical items may well be too strong. On the other hand, there is evidence that the restriction just to determiners may be too weak. This section introduces two areas apart from the determiner system in which we see speaker-oriented effects. \({ }^{17}\)
\({ }^{17}\) See also Chapter 4 for further extensions of the assertion of existence distinction.

\subsection*{5.1. Deictics in Salish are speaker-oriented}

In their cross-linguistic survey of deictic systems, Anderson and Keenan (1985:277) observe that

All languages identify locations by reference to that of the Spleaker]. It is also possible to determine locations by reference to that of the Adr[essee], and many (but not all) languages utilize this possibility as well (emphasis original).

As with the determiner systems discussed in the previous chapter, there is a subset - superset relation between languages which allow only speaker-oriented distinctions, and languages which allow both speaker-oriented and hearer-oriented distinctions.

Deictics throughout Salish encode proximity to, and visibility to, the speaker. Salish deictic systems are therefore speaker-oriented, a fact which is not only consistent with the Common Ground Parameter, but which even suggests a possible strengthening of it. Not only is hearer knowledge not accessed or encoded, but hearer location is also ignored in favour of speaker location.

St'at'imcets is a good example of such a system; the adverbial deictics in this language encode visibility, proximity and a 'pivoting/non-pivoting' distinction (which relates to whether the place described is considered to be the centre or orientation point of an area; van Eijk 1985:201).
51.
\begin{tabular}{|l|l|c|c|}
\cline { 2 - 4 } \multicolumn{2}{c|}{} & pivoting & non-pivoting \\
\hline \multirow{2}{*}{ visible } & proximal & 1-ts7a & lá-ti7 \\
\cline { 2 - 4 } & distal & 1-t7u & lá-ta7 \\
\hline \multirow{2}{*}{ invisible } & proximal & 1-kw7a & lá-ku7 \\
\cline { 2 - 4 } & distal & 1-kw7u & lá-kw7a \\
\hline
\end{tabular}
(van Eijk 1985:201)

Examples of the deictics in use are given in (52).
52.
a. \(n-p \partial \varsigma^{\prime}-\) - - ám
lá-k \({ }^{W}\) ? \({ }^{2}\)
n-peg'-ts-ám'
lá-kw7a
loc-knock-mouth-intr la-deic 'Somebody [invisible] is knocking on the door.' (St'át'imcets; van Eijk 1985:202)

'It is here that it is hurting.' (when speaker points at own body)
(St'át'imcets; van Eijk 1985:202)

Both the visibility and the proximity categories are speaker-oriented:

\begin{abstract}
The division 'visible' vs. 'invisible' hinges on whether the thing or place meant is visible or invisible to the speaker. The categories 'proximal' vs. 'distal' express that the thing or place meant is (relatively) close to vs. (relatively) far from the speaker (van Eijk 1985:201).
\end{abstract}

The deictic component of determiner systems is also speaker-oriented. For example, the Upper Chehalis determiner system marks three degrees of proximity, glossed as 'by speaker', 'near speaker' and 'not near speaker' (Kinkade 1964; see Chapter 1, §1.1).

\subsection*{5.2. Morphological encoding of speaker knowledge}

In this section we will see that at least some Salish languages obligatorily encode speaker knowledge of an event. As we might expect, hearer knowledge of an event is irrelevant and not encoded.

In English, a clause or sentence with factual mood is intended to be interpreted as true in the actual world (Roberts 1989:686). If a clause expresses a hypothetical assumption, or if there is some doubt about its truth, it will be uttered in a non-factual mood (Roberts 1989:686-687). In Salish, a similar phenomenon encodes the extent to which the speaker has personal knowledge of an event. If the speaker witnessed the event, the clause is in factual mood. If the speaker did not personally witness the event, extra morphological marking is required. This is true in at least Bella Coola and St'át'imcets; further research may well turn up similar situations in other languages.

Bella Coola and St'at'imcets both contain a set of particles (suffixes and clitics respectively) which indicate how strongly committed the speaker is to the truth of the utterance, and how the
speaker received the knowledge he or she is reporting on. Examples are given in (53). In (53a,b), quotative particles indicate that the speaker heard the information from a third person, while in (53c), the speaker is surmising on the basis of available evidence. \({ }^{18}\)
53. a. záx-alǎəm்
\begin{tabular}{lll}
\(k^{W} u^{2}\) & {\([k\)} & John] \\
ku7 & {\([k\)} & John \(]\) \\
quot & [det & John]
\end{tabular}
\begin{tabular}{llll} 
zac-al'qwem' & ku7 & {\([\mathrm{k}\)} & John] \\
long-appear & quot & [det & John]
\end{tabular} 'John is tall.'
(Speaker has heard it from somebody else)
(St'át'imcets; LT)
b. ksnmak-kw [ti 21 mlk ]
work-quot [non.exis.det man]
'I am told the man, whom I have not seen, is working.'
(Bella Coola; Davis and Saunders 1975:31)
 'It must have been a white man who told her.' (St'át'imcets; van Eijk 1985:234)

A sentence which lacks any of these speaker-knowledge particles and does not contain a nonfactual operator unambiguously entails speaker witness. Thus, 'any declarative utterance in Bella Coola implies that the speaker has witnessed what he reports' (Davis and Saunders 1975:15). \({ }^{19}\) The same is true in St'át'imcets: a declarative sentence without any speaker-knowledge particles unambiguously implies that the speaker has personal knowledge of the events or states reported on. Compare (53a) with (54a):
54.
\begin{tabular}{llll} 
a. & záx-alqwom & [k & John] \\
& zac-al'qwem' & {\([k\)} & John] \\
& long-appear & [det & John] \\
& 'John is tall.' & &
\end{tabular} 'John is tall.'
(Speaker has seen John, and knows first-hand that John is tall.) (St'át'imcets; LT)
b. túp-un̉-as s-John [ti plismən-a]
túp-un'-as \(\quad s\)-John [ti plísmen-a]
punch-tr-3erg nom-John [det policeman-exis]
'John hit a policeman.'
(Speaker witnessed the event.)
(St'át'imcets; LT)

\footnotetext{
18 Other suffixes in Bella Coola include -ma 'conjectural' and -ck 'inferential' (Davis and Saunders 1975:34). The St'at'imcets clitics are discussed in more detail below (see also van Eijk 1985:231-251).
\({ }^{19}\) A 'declarative utterance' does not contain one of the speaker-knowledge particles.
}

The non-ambiguity of a sentence which contains no particles suggests that in such sentences there is a null particle with a default interpretation of 'speaker witness'. 20

The full list of clitics in St'at'imcets is given in (55) (cf. van Eijk 1985).
55. tu7 full knowledge (completive)
kelh possibility, remote future
an' \(^{\prime} \quad\) evidential (speaker concludes something from circumstantial evidence)
ka 'would', 'should'
k'a possibility, surmise
ku7 quotative
cwilh 'after all, it turned out to be' (speaker just remembered the information)
qa7 speaker-presupposed knowledge \({ }^{21}\)
ha interrogative
hem' antithesis

These clitics (like the Bella Coola particles) grammatically encode the extent of the speaker's commitment to the truth of an utterance in the actual world. The Salish system contrasts with English, where factual mood correlates with an assertion that the utterance is true, but no mention is made of the way in which the speaker came across the relevant knowledge. The Salish system fits in with the spirit of the Common Ground Parameter, which suggests that if any morphological marking of knowledge of an event is present in Salish languages, it will only encode speaker knowledge.

The necessary speaker witness of declarative sentences is clearly related to the ungrammaticality of non-assertion of existence determiners in declarative sentences. Speaker witness clashes with the absence of existential force:

\footnotetext{
\({ }^{20}\) Compare with argumentation in Déchaine (1993) for the presence of a null tense operator in languages where the absence of overt tense marking leads to unambiguous temporal interpretations.
\({ }^{21}\) Van Eijk glosses \(q a 7\) as 'presupposed knowledge', which appears to contradict my claim that all the particles are speaker-oriented. Van Eijk (p.c.) observes, however, that prior knowledge on the part of the hearer is not required. The clitic can sometimes be translated as 'as you (should) know, as you can see' (van Eijk 1985:236). In these cases, the speaker already considers the information well-known, but is not at all sure that the hearer actually knows it. Thus, the clitic does not encode presupposition as it was defined in Chapter 2.
}
56.

'The man is working.'
(Bella Coola; Davis and Saunders 1975:31) (= I witnessed a man, whom I have never seen, working.)
\begin{tabular}{|c|c|c|c|c|}
\hline \multirow[t]{4}{*}{b. *} & túp-uñ-as & S-John & \(\left[\mathrm{k}^{\mathrm{W}} \mathrm{u}\right.\) & pľ̌mən] \\
\hline & túp-un'-as & s-John & [ku & plísmen] \\
\hline & punch-tr-3erg & nom-John & [non.exis.det & policeman] \\
\hline & 'John hit a poli (= I saw John hit & \begin{tabular}{l}
man.' \\
a policem
\end{tabular} & I I have & seen.) \\
\hline
\end{tabular}
(St'at'imcets; LT) (= I saw John hit a policeman whom I have never seen.)

Further interactions between the speaker knowledge particles and the determiners are shown in (57). A non-assertion of existence determiner is ungrammatical if a speaker-oriented clitic is present which overtly encodes speaker witness. The clitic \(t u 7\) in (57) is glossed 'completive', and is sometimes equated with 'past'. However, as Jan van Eijk observes (p.c.), it has nothing to do with tense, but rather indicates something like 'I have complete knowledge of this event, since it is over and done with'. Since the event took place and was witnessed by the speaker, the nonassertion of existence determiner \(k u\) is ungrammatical.

\begin{tabular}{|c|c|c|c|c|c|}
\hline 31 & çáq-min-as & [ta & k̇̇kh-a] & [ta & twowかっt-a] \\
\hline & ts'áq'-min-as & [ta & k'ét'h-a] & [ta & twéw'w'et-a] \\
\hline when & throw-appl-3erg & [det & rock-exis] & [det & boy-exis] \\
\hline
\end{tabular}
'... when the boy threw a rock.' (St'át'imcets; RW)

Compare (57) with its minimal pair in (58), which contains a clitic expressing that the speaker does not have full knowledge of the event. In this case, a non-assertion of existence determiner is grammatical.
58.
\begin{tabular}{|c|c|c|c|}
\hline qáment-s-as & ka & \(\left[k^{W}\right.\) &  \\
\hline qám't-s-as & k'a & [ ku & úcwalmicw] \\
\hline hit-caus-3erg & surmise & & person] \\
\hline 'The/a person & hht have & & \\
\hline
\end{tabular}
\({ }^{22}\) See Davis (to appear) for detailed discussion of patient-oriented roots such as qam't 'be hit' in (57).
\begin{tabular}{|c|c|c|c|c|c|}
\hline 21 & čád-min-as & [ta & kj \({ }^{\text {k }}\) h-a] & [ta & twow wot-a] \\
\hline 1 & ts'aq'-min-as & [ta & k'ét'h-a] & [ta & twéw'w'et-a] \\
\hline when & throw-appl-3erg & [det & rock-exis] & [det & boy-exis] \\
\hline .. wh & the boy threw a rock.' & & & & (St'át'imcets; RW \\
\hline
\end{tabular}

Finally, note that while the speaker cannot have witnessed an event without knowing that the participants in the event exist, it is possible for the speaker to know that certain participants exist without having witnessed the event. This correctly predicts that assertion of existence determiners are fine when a speaker knowledge clitic such as \(k u 7\) 'quotative' is used: \({ }^{23}\)
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \multirow[t]{3}{*}{59.} & wa? & \(\mathrm{k}^{\mathrm{W}} \mathrm{u}^{\text {? }}\) & ? 1 lal & láti? & [ t 1 & Sməm゙tač-a] \\
\hline & wa7 & ku7 & ílal & láti7 & [ti & smém'lhats-a] \\
\hline & prog & quot & cry & deic & [det & woman(redup)-exis] \\
\hline & \multicolumn{6}{|l|}{'The girl was crying there.' (someone told me)} \\
\hline
\end{tabular}
(St'át'imcets; van Eijk and Williams 1981:19)

It is tempting to try to use the speaker-witness facts to derive the ungrammaticality of (56) and (57). The overt encoding of speaker witness clashes with a non-assertion of existence determiner (which entails that the individual concerned is not known by the speaker to exist). Since it is inherently contradictory for the speaker to have witnessed an event without holding the belief that the participants in the event exist, ungrammaticality results.

Two objections can be raised to this explanation, one of which is valid. The first possible objection is that contradiction does not necessarily induce ungrammaticality. (60), while contradictory, is not ungrammatical:
60. No unicorns are unicorns.

However, the sentences in (56-57) do not involve semantic contradiction, but rather grammatical contradiction. The grammatical encoding of existence (by the lack of a speaker-knowledge

\footnotetext{
\({ }^{23}\) Combinations of two or more enclitics within a single sentence are possible; see van Eijk (1985) for details. In (i), both the quotative marker and the completive marker are present, and a non-assertion of existence determiner is possible. This shows that the intensional force of the quotative takes scope over the completive force of \(t u 7\).
}

particle) conflicts with the absence of grammatical encoding of existence (by the determiner). Hence, (56) and (57) are parallel to examples containing contradictory gender agreement, as in (61).
61. * Ich hab-e [ein-en schön-e Stuhl] gekauft I have-1sg.subj [indef-masc beautiful-fem chair] bought 'I bought a beautiful chair.'
(German)

The valid objection to the attempt to derive the ungrammaticality of (56) and (57) from the 'speaker witness' phenomenon relates to the discussion in §4. There, it was seen that there is no independent way to define 'non-assertion of existence' except by reference to the requirement for a c-commanding non-factual operator. Thus, the impossibility of (56-57) is derived from the basic statement of what a non-assertion of existence determiner is. The particles which encode non-witness by the speaker are just one subset of the non-factual operators which license nonassertion of existence determiners in Salish.

Within Discourse Representation Theory, we can easily capture the interaction of the speakerknowledge particles with determiner choice. Speaker-knowledge particles which encode nonwitness by the speaker are analyzed as introducing a subordinate DRS. This accounts for both their intensional nature and their ability to license a non-assertion of existence determiner. An example is given in (62).
62.
\begin{tabular}{|c|c|c|c|}
\hline záx-alaº \({ }^{\text {a }}\) m & \(\mathrm{k}^{W}{ }^{\text {u }}\) ? & [ku &  \\
\hline zác-al'qwem' & ku7 & [ku & kúkwpi7] \\
\hline long-appear & quot & [non.exis.det & chief] \\
\hline 'Someone told & the ch & ief is tall / 'Som & meone told \\
\hline
\end{tabular}
(St'át'imcets; LT)


The null particle does not introduce a subordinate DRS, and therefore non-assertion of existence \(k u\) is not licensed. The only option is a assertion-of-existence DP, as in (63).
63. \(z a ́ x-a a^{W}\) ə \(ә \dot{m} \quad\left[t 1 \quad k^{W} u k^{W} p 17-a\right]\)
zác-al'qwem' [ti kúkwpi7-a] long-appear [det chief-exis] 'The/a chief is tall.'
\[
\begin{gathered}
\frac{X}{\operatorname{chief}(x)} \\
\operatorname{tall}(x)
\end{gathered}
\]

\subsection*{5.2.1. Are the speaker-knowledge particles really determiners?}

We have seen that the presence of the speaker-oriented particles is consistent with the spirit of the Common Ground Parameter. There is one way in which the particles could be directly derived from the parameter, namely if we reanalyzed the speaker-oriented particles as (sentencelevel) determiners. \({ }^{24}\)

The speaker-oriented particles are in one sense the sentence-level equivalent of determiners. With nominal arguments, the determiner encodes the existence or otherwise of an individual. The particles encode the existence or otherwise of an event, i.e. whether the speaker knows from first-hand experience that the event took place. If the speaker knows that the event existed (i.e. took place), the null particle is used.

There are precedents for the claim that determiners can introduce clauses as well as nominal phrases. For example, Lefebvre (1982), Lefebvre and Massam (1987) argue that the determiner \(l a\) in Haitian Creole 'determines both nouns and clauses' (Lefebvre and Massam 1987:23). \(L a\) is

\footnotetext{
\({ }^{24}\) Michael Rochemont (p.c.) asks whether the deictics discussed in §5.1, as well as the speakerknowledge particles, could be assimilated to the class of determiners. This seems unlikely for the deictics, since their syntax is very different from that of determiners. They have the syntactic distribution of adverbials.
}
designated as [+def]; it occurs 'with a noun that has already been referred to in discourse, a noun the reference of which is made explicit by the situational context or by shared knowledge' (Lefebvre and Massam 1987:21). La may also appear on all types of tensed clauses, main or subordinate. When it appears on clauses, it 'states a presupposition on the event of the clause it modifies, a semantic property which can easily be linked to definitneness' (Lefebvre and Massam 1987:23). An example is given in (64) (where the determiner la appears as one of its phonological variants \(\tilde{a}\) ):
 'I tell you that he came (as he was supposed to do).'
(Haitian; Lefebvre and Massam 1987:21)

Lefebvre and Massam argue for the structures in \((65 \mathrm{a}, \mathrm{b})\) for the nominal and sentential determiner respectively:
65. a.

b.


Baker and Travis (1995) also make parallels between the definite/indefinite distinction often encoded in determiner systems and some clause-level elements which encode mood in Mohawk. Baker and Travis claim that the Mohawk mood morphemes encode 'verbal definiteness'. The
mood markers are analyzed as adjoining to the E (vent) node, where the E node takes VP as its complement.

There are two facets to the question of whether the speaker-knowledge particles can be assimilated to the class of determiners in Salish. First, there is the syntactic question of whether we want to generate the speaker-knowledge particles under a \(\mathrm{D}^{0}\) node; second, there is the question of whether the particles perform the clausal equivalent of assertion of existence. The answer to the first question is no, and the answer to the second question is probably also no.

The Lefebvre and Massam analysis of Haitian, whereby the element la occupies a \(\mathrm{D}^{0}\) position even when it introduces a clause, will not extend to the Salish particles. Unlike in Haitian, where there is just one clausal determiner, in Salish, multiple particles may co-occur within a single clause (see also footnote 23):
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline 12 & \(\mathrm{k}^{\mathrm{W}} \mathrm{u}\) ? & ka & ?ay \({ }^{\text {a }}\) & n & ? \(2-\mathrm{kl}\) &  \\
\hline lans & ku7 & k'a & aylh & n-ts'aqw-q-án-em & & scúcwz'-a \\
\hline already & quot & surmise & & bum-eat-bum-tr-pass & by-pl.det & ant \\
\hline er bu & had & ady b & eate & y the ants.' & & \\
\hline
\end{tabular}
(St'át'imcets; van Eijk and Williams 1981:18)

Also unlike in Haitian, the speaker-knowledge particles in Salish do not occupy the same relative position within a clause as determiners do within a DP. Determiners are DP-initial and phonologically proclitic; the speaker-knowledge particles are enclitics which take second position within a clause.

Another reason why the Salish particles are unlikely to be syntactically clausal determiners is that they co-occur with true determiners which are often used to introduce subordinate clauses in Salish (see Chapter 4, Jelinek 1995, Davis and Matthewson 1996a,b). In (67), the subordinate clauses are introduced by the determiner \(k w\) (a phonologically predictable variant of the nonassertion of existence determiner \(k u\); see Davis and Matthewson 1996a,b). The determiner appears clause-initially, and co-occurs with speaker-knowledge particles within the clause (tu7 'completive' and kelh 'might' respectively):
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline a. & \(\mathrm{x}^{\text {w }}\) ? \({ }^{\text {a }}\) & \(\left[k^{W}-5\right.\) & ka &  & tu? & [t1 & \(n-\) nnúk \({ }^{\text {w }}\) ?-al] \\
\hline & cw7aoz & [ kw -s & ka & xwís-a & tu7 & [ti & n-snúk'w7-a]] \\
\hline & neg & [det-nom & Ooc & smile-exis & compl & & 1sg.poss-friend-exis]] \\
\hline & 'My frie & never use & smil & & & & (St'at'imcets; RW) \\
\hline
\end{tabular}
 tsut tu7 [ti sqaycw-a] [kw-s cwil'-en-as kelh kw-s Mary] say compl [det man-exis] [det-nom look.for-tr-3erg might det-nom Mary] 'The man \({ }_{i}\) said that he \(i_{i}\) will look for Mary.'
(St'át'imcets; RW)

Although syntactically, the speaker-knowledge particles do not occupy a \(\mathrm{D}^{0}\) position, it could still be true that they encode the clausal equivalent of assertion of existence. Again, this is unlikely, since Davis and Matthewson (1996a,b) argue that the true determiners which introduce subordinates clauses (as in (67)) encode assertion of existence of an event. Unlike the true determiners, the speaker-oriented particles do not encode merely the assertion or otherwise of existence. Rather, they encode a whole range of finer distinctions, as listed in (55) above.

In the light of these considerations, I can only say at this stage that the speaker-oriented deictics and the speaker-oriented particles are consistent with the spirit of the Common Ground Parameter, in that hearer knowledge or location is not encoded. However, the existence of several apparently disparate speaker-oriented features of the grammar in Salish suggests there may be a deeper generalization lurking somewhere, which further research may bring to light.

\section*{6. Ds across the world}

To conclude the chapter, and the discussion of Salish determiner systems, I offer a brief look at determiner behaviour outside Salish and Indo-European. This section is included because the theoretical literature on determiner semantics concentrates on Indo-European, and usually on English alone. While it may be true that the properties of Universal Grammar can be revealed through in-depth study of any one language, it is also true that proposed universals made on the basis of English should be tested against a broader cross-linguistic survey. Otherwise, possibly unjustified assumptions arise that an Indo-European-type determiner system is the norm. For
example, Baker (1996) claims that 'Mohawk has no semantically meaningful determiners such as the and \(a\), which mark an NP as definite or indefinite', and that the 'lack of semantically significant determiners seems to be a property of the polysynthetic languages as a class'. However, it may turn out that many languages of the world, including polysynthetic languages, have semantically meaningful determiner systems which do not happen to mark definiteness. \({ }^{25}\)

The literature on the typology of determiners is unfortunately not large. The brief survey given in this section suggests that Salish is not cross-linguistically unusual with respect to any of the four core proposals, repeated in (68).
68. a. Salish determiners do not encode definiteness.
b. Salish determiners do not encode specificity.
c. There are no quantificational determiners in Salish.
d. Salish determiners encode 'assertion of existence'.

As mentioned in Chapter 2, we ideally must find out to what extent the four characteristics in (68) correlate with each other. If a language lacks definiteness, does it necessarily lack quantificational determiners? Does the reverse implication hold? The answers to these interesting questions must come from future research.

\subsection*{6.1. Definiteness, specificity, assertion of existence}

Languages frequently develop determiners over time, particularly definite determiners (Dezsö 1982, Croft 1991, Greenberg 1978, 1981, Ultan 1978). Definite determiners most commonly evolve from demonstrative pronouns (Dezsö 1982:30, Ultan 1978:254, Greenberg 1981:106). Ultan (1978:261-2) proposes the following five diachronic stages, and claims that 'particularly when stages 4 and 5 have been reached we can speak of a fully developed definite article. \({ }^{26}\)

\footnotetext{
25 See also Matthewson and Reinholtz (1996) on the semantics of determiners in Cree, which differ from those of English, and Gil (1987), who argues that study of the semantics of determiners requires investigation of languages other than 'Type A' languages (languages which encode definiteness).
\({ }^{26}\) Ultan's definition of 'definite' is that prior knowledge on the part of the speech participants can be assumed by the speaker.
}
69. 1. A demonstrative or anaphoric pronoun is used to reinforce or clarify the weakened definiteness contrast \({ }^{27}\)
2. In the process, the pronoun comes to be used attributively
3. It becomes unstressed and is often as a result reduced in form, further differentiating it from the original pronoun
4. In the case of the demonstrative pronoun, it gradually loses its deictic function and becomes anaphoric, later becoming capable of specifying nominal referents and marking exophora as well
5. It becomes an obligatory definiteness marker

According to this proposal, most Salish determiners would be at stage 3, with Straits determiners at stage 2. In St'át'imcets, for example, determiners are either homophonous with demonstrative pronouns, or phonologically reduced versions of them. Straits determiners are completely homophonous with demonstrative pronouns, not having undergone phonological reduction. In no Salish language has the deictic component been lost. If Straits is one step 'behind' on the progression, it may account for why Straits determiners do not appear to distinguish assertion of existence, being purely deictic (see Chapter 1).

There is no evidence in Salish for the development from stage 3 to 4 or 5 . Stage 5 appears questionable, since it assumes that the logical result of the development of non-demonstrative determiners is a definite determiner. However, a definite determiner is not the norm crosslinguistically; definiteness marking on determiners is apparently not even very pervasive.

Polynesian languages do not mark definiteness, but instead mark specificity on their determiners, according to Chung (1981):

Common nouns are preceded by an article indicating specificity and number ... The specific articles indicate that the speaker can pick out the referent of the NP, while the nonspecific articles do not indicate this. The distinction resembles the specific versus nonspecific distinction discussed in the general linguistic literature, except that in Polynesian nonspecific NPs are not restricted to occurring under the scope of what Jackendoff (1972) calls 'modal operators' (Chung 1981:23).

\footnotetext{
\({ }^{27}\) For a theory about how a definiteness contrast is lost, see Greenberg (1978, 1981).
}

The fact that non-specifics are not limited in their distribution, according to Chung, differentiates the Polynesian system from the Salish one, and reinforces the distinction between specificity encoding and assertion of existence encoding.

Looking more closely at one Polynesian language, Maaori, we find the following facts (see discussion in Bauer 1994:356-7):
70. i. Determiners are obligatory in common noun phrases except for on a small class of 'local nouns' (which are similar to prepositions). (Bauer 1994:109)
ii. Definiteness is not marked on determiners.
(Bauer 1994:355)
iii. Specificity is possibly marked on determiners.
iii. Quantificational determiners are restricted or missing. \({ }^{28}\)

Clark (1976:47) claims that the set of determiners which have been described as 'definite' in Maaori are 'used whenever the speaker has a particular individual in mind, whether or not the addressee is expected to be able to identify the individual'. He suggests that the distinction is better described as 'an opposition between specific and non-specific'. Bauer (1994) remains uncommitted about the specificity analysis, while clearly rejecting a definite-indefinite distinction. The distribution of the 'non-specific' determiner is syntactically very restricted in Maaori, appearing only on intransitive subjects (Bauer 1994:356-7; see also Chung 1981:73-4).

A language that does not mark definiteness and also does not allow quantificational determiners is Newari (Tibeto-Burman; Kölver 1978). The facts are summarized in (71).
71. i. There is no definite article.
ii. Whether a noun phrase is definite or indefinite is determined purely by previous contextual information, not by the presence or absence of the indefinite article (Kölver 1978:278).
iii. Quantifiers are distinguished positionally from other noun-phrase internal elements; determiners, possessive phrases, adjectives, and relative clauses all precede the head noun, quantifiers follow the noun. (Kölver 1978:278).

An example of a language which distinguishes assertion of existence is Bemba (Bantu, Givón 1978). Givón's definition of referentiality is given in (72).
\({ }^{28}\) The only possible quantificational determiner is ia 'each'. According to Bauer (1994:261), the only uncontroversial quantifier in the language, apart from the numerals, is katoa 'all', and this follows the head noun, giving the order [D N Q].
72. Referentiality: 'the speaker's intent to 'refer to or 'mean' a nominal expression to have nonempty references - i.e. to 'exist' - within a particular universe of discourse (i..e not necessarily within the real world)' (Givón 1978:293-4).

The conclusions from this brief look at determiners across the world are that determiner systems may encode definiteness, specificity, assertion of existence, or none of the above. It also does not appear uncommon for languages to lack quantificational determiners. I have not found discussions of any other types of distinction. In other words, the range of possible distinctions for determiner systems appears to be extremely restricted.

There are obviously further questions to be raised, such as how the various determiner distinctions correlate with each other, or with other aspects of the grammar. Gil (1987) is an example of work in this vein. Gil discusses cross-linguistic differences in definiteness marking, and proposes that the absence of definiteness marking correlates with non-configurationality inside the noun phrase, and with the absence of a count-mass distinction. Conversely, languages which mark definiteness tend to have configurational structure inside the noun phrase, and to encode a count-mass distinction.

There are some problems with the attempt to apply Gil's classification to Salish languages, since the only determiner distinction he investigates is definiteness. As such, Gil does not allow for languages which have a fully configurational structure inside the noun phrase, and which have a robust system of determiner distinctions, but which encode distinctions other than definiteness. See Chapter 4 for arguments that the DP in St'át'imcets is highly configurational.

\section*{7. Conclusions}

In this chapter, the assertion of existence distinction was shown to be compatible with the Salish setting of the Common Ground Parameter, namely that determiners may not access the common ground. The Salish facts were captured within Discourse Representation Theory, by appealing to a structural distinction already present within the theory. Assertion of existence determiners
cause a discourse referent to be placed within the universe of the main Discourse Representation Structure, while non-assertion of existence determiners require that their discourse referent be contained within a subordinate Discourse Representation Structure. This gives the correct logical representations; according to the way the truth conditions are defined, a non-assertion of existence DP will never receive existential force, but an assertion of existence DP will always receive existential force.

Within File Change Semantics, the assertion of existence distinction corresponds to a distinction between DPs which move to a position outside the scope of a non-factual operator, and those which obligatorily appear inside the scope of a non-factual operator.

The assertion of existence distinction was argued to have visible effects even in English. This accords with the subset - superset relation of Salish to English with respect to possible determiner distinctions. English utilizes definiteness and assertion of existence, but only encodes definiteness. Salish only utilizes assertion of existence; in Salish, any notion which refers to hearer knowledge is unavailable.

Further extensions of the parameter were also discussed; both the deictic system and a set of speaker-knowledge clitics display speaker-orientation in Salish. Finally, it was argued that Salish should not be regarded as 'odd' for lacking a definiteness contrast. The semantics and discourse functions of determiners are cross-linguistically parameterizable, within a small universally provided set of available distinctions.

\section*{CHAPTER 4}

\section*{THE ST'AT'IMCETS DETERMINER SYSTEM \({ }^{1}\)}

\section*{0. Introduction}

This chapter contains a detailed study of the determiner system of a single Salish language, St'at'imcets. Consistent with the analysis developed in previous chapters, St'at'imcets encodes a difference between assertion of existence determiners (those which contain an enclitic ...a) and a non-assertion of existence determiner ( \(k u\) ).

The licensing environments for the non-assertion of existence determiner \(k u\) are examined in detail. \(K u\) is shown to be licensed in two distinct but related cases: either by a c-commanding non-factual operator, or by syntactic adjunction. I argue that \(k u\) is the only determiner which allows its DP to be of type \(<\langle e, t\rangle,\langle e, t\rangle>\) (a predicate modifier); assertion of existence determiners always function to assert the existence of an individual, and as such are not compatible with secondary predication environments.

The environments in which \(k u\) is licensed in St'át'imcets shed light on clausal structure. Subjectobject asymmetries in \(k u\)-licensing clearly show that the clause is neither flat, nor amenable to a 'pronominal argument' analysis (cf. Jelinek 1984, 1995, Baker 1996).

St'át'imcets provides evidence that the assertion of existence analysis should be extended to determiners which introduce clausal complements (Davis and Matthewson 1996; see also Jelinek 1995 on the ability of determiners to introduce subordinate clauses). Both assertion of existence and non-assertion of existence determiners may introduce clausal complements, with predictable semantic effects and licensing requirements. The non-assertion of existence determiner \(k u\)

\footnotetext{
\({ }^{1}\) Much of the work on the St'at'imcets determiner system reported on in this chapter was originally done in collaboration with Henry Davis. Errors in the specific analysis presented here are the author's responsibility.
}
introduces clausal complements which do not assert the existence of an event (including infinitives).

The chapter concludes with a proposal about the internal syntax of DP in St'át'imcets.

\section*{1. Overview of the system}

Van Eijk's (1985) analysis of St'át'imcets determiners is represented in (1).
1. St'át'imcets determiners (adapted from van Eijk 1985):


I have argued in previous chapters that St'át'imcets encodes an assertion of existence distinction, and that the enclitic ...a corresponds to the assertion of existence morpheme. I propose the following revised analysis of the determiner system:
2. St'át'imcets determiners (revised):


My reanalysis preserves the singular/plural contrast proposed by van Eijk and a three-way proximity distinction. The proximity distinctions encode distance of an entity from the speaker.

Within the singular domain, the present/absent/remote distinction is illustrated in (3). \({ }^{2}\)
3. a. pún-tkan [ti \(\left.n-+\dot{k}^{w}-a ́ \mathfrak{j} 1-u s-a\right]\)
pún-lhkan [ti n-lhk'w-ál'us-a]
find \((\mathrm{tr})=1\) sg.subj [det 1 sg.poss-poke-matter-exis]
'I found my basket.' (singular, present)
(when just mentioning the fact, or when showing the basket to the addressee)
(St'át'imcets; van Eijk 1985:224)
b. pún-łkan [ni \(n\) - \(+\mathrm{k}^{\mathrm{W}}\)-áli-us-a]
pún-lhkan [ni n-lhk'w-ál'us-a]
find \((\mathrm{tr})=1\) sg.subj [det 1 sg.poss-poke-matter-exis]
'I found my basket.' (singular, absent)
(when the basket is absent from the situation of speech, and the addressee wonders whether it has been found yet)
(St'át'imcets; van Eijk 1985:224)
\(\begin{array}{lllll}\text { c. } & \text { wa? } & \text { lák }^{W} 7 a & {\left[k^{W} u\right.} & \text { cª́s } \\ & \text { wa7 } & \text { lákw7a } \\ & \text { prog } & \text { deic } & {[k u} & \text { ts7ás-a] } \\ & \text { [det } & \text { come-exis] }\end{array}\)
'Someone's coming.' (singular, remote)
(speaker can hear but not see them)
(St'at'imcets; LT)

With plural determiners, the same three-way proximity distinction is illustrated in (4).
4.
\begin{tabular}{lll} 
a. & pún-4kan \(\quad[i\) \\
& pún-lhkan \\
& find(tr)=1sg.subj & [pl.det \\
& II found my baskets.' \\
& (they are right here)
\end{tabular}
\[
\begin{aligned}
& \text { n-čláح-a] } \\
& \text { n-ts'lá7-a] } \\
& \text { 1sg.poss-basket-exis] } \\
& \quad \text { (plural, present) }
\end{aligned}
\]
(St'át'imcets; LT)
b.
\begin{tabular}{lll} 
pún-łkan & [nəq & n-člá2-a] \\
pún-lhkan & [nelh & n-ts'lá7-a] \\
find(tr) \(=1\) sg.subj & [pl.det & basket-exis
\end{tabular}
(plural, absent)
(St'át'imcets; LT)

\footnotetext{
2 The examples in (3) illustrate spatial distinctions. The proximity dimension also encodes temporal distinctions, as pointed out by van Eijk (1985:225): 'The article nil...al is also used in expressions which refer to a past time.'
\begin{tabular}{llll} 
i. & \(n i\) & pál?-a & kánam̀tən, \\
& ni & pál7-a & t'ánam'ten \\
det & one-exis & month
\end{tabular}
'one month ago, last month'
(St'át'imcets; van Eijk 1985:225)
See Demirdache (1996a,b) on the temporal dimension of St'át'imcets determiners.
}
 wa7 lákw7a sáy'sez' [kwelh sk'wemk'úk'wm'it-a] láku7 lep'-cál-ten-a prog deic play [pl.det child(redup)-exis] deic dig-intr-inst-exis 'There are children playing in the garden.' (plural, remote) (when the children are heard, but not seen)
(St'át'imcets; van Eijk 1985:227)

The distinction between 'collective' and 'individual' 'hinges on whether the thing-meant is seen as an unspecified quantity of mass (collective), or as one or more individual objects' (van Eijk 1985:225). In (2), I have re-analyzed the 'collective' category as a number distinction, and in particular as a subset of 'plural'. Evidence for this is given in (5); the collective determiner ki...a is ungrammatical with singular entities.
\[
\begin{array}{ll}
\text { 5. } & \begin{array}{ll}
\text { pún-2kan } & {[k i} \\
\text { pún-lhkan } & \text { púk } \left.{ }^{W}-a\right] \\
& \text { fki } \\
\text { find(tr)-1sg.subj } & \text { [pl.det book-exis }]
\end{array} \\
& \text { II found the books.' } /{ }^{2} \text { 'I found the book.' }
\end{array}
\]

The second change I have made to van Eijk's system is that the collective determiner ki...a is generalized to cover all proximities, rather than being restricted to [+known, +present] entities as in (1) (a restriction which would be odd, if 'collective' is viewed as a number distinction).

The generalization of the 'collective' category to all proximities is supported by the data in (6). \(k i \ldots a\) can be used of unambiguously 'present' entities, as in (6a) where the beads are obviously in the immediate environment of the speech act. It can also be used of absent or remote entities, as in (6b) where the speaker is inside a building and is talking about berries which are outside. \({ }^{3}\) In ( 6 c ) the presence of the invisible distal deictic lákw \(7 a\) unambiguously places the children in remote space, and \(k i . . . a\) is still possible.

(St'át'imcets; van Eijk 1985:226)

\footnotetext{
\({ }^{3}\) (6b) in itself would not be evidence that \(k i . . . a\) is not a 'present' determiner, since all the present determiners can be extended to apply to absent or remote entities, as long as it is not perceived as relevant by the speaker that the entities are absent or remote. (6c) provides more convincing evidence, since the speaker is overtly indicating that the entity is remote, and ki...a is still possible.
}
q. \(^{\mathrm{W}}\) əláw-əm-łkan
q'weláw'-em-lhkan
pick.berries-intr-1sg.subj
'I will pick some berries.'
\begin{tabular}{|c|c|c|}
\hline kət & [ki & ?úš?-a] \\
\hline kelh & [ki & ús7-a] \\
\hline might & [pl.det & berry-exis] \\
\hline & & absent / remo \\
\hline
\end{tabular}
(St'át'imcets; RW)

wá7-lhkan lákw7-a qan'ím-ens [ki sk'wemk'úk'm'it-a] prog-1sg.subj deic-exis hear-tr [pl.det child(redup)-exis] 'It seems like I can hear the kids.' (collective, remote) (St'at'imcets; LT)

The third change I have made to van Eijk's analysis of the determiners is that \(k u\) (without an enclitic ...a), glossed by van Eijk as 'singular, unknown, absent', is given a different status from all other determiners. Van Eijk describes the category 'unknown' as follows (repeated from Chapter 3; glosses have been standardized).
the division 'known' - 'unknown' hinges on whether or not the thing-meant is known to the speaker. The speaker is the sole arbiter here, hence the use of \(t i\) in:
\begin{tabular}{lll} 
[7]. Táċx-ən-łkan & {\([t 1\)} & sqáy \(\left.x^{W}-a\right]\) \\
áts'x-en-lhkan & {\([t i\)} & sqáycw-a] \\
see-tr-1sg.subj & [det & man-exis]
\end{tabular}
note that English uses the indefinite article here, since the man is not yet identified to the addressee. Compare [7] with [8]:
\begin{tabular}{llll} 
[8]. & nká? tu? [ku & sqácza?-su] \\
nka7 tu7 [ku & sqátsza7-su] \\
where compl [non.exis.det & father-2sg.poss] \\
& 'Where did your father go?'
\end{tabular}
here 'unknown' \(k u\) is used to indicate that the addessee's father is unknown to the speaker (although known to the addressee) (van Eijk 1985:223-4).

Within the category 'unknown', van Eijk's division between 'present' and 'absent' (i.e. between \(k u . . a\) and \(k w e l h . . a\) on the one hand, and \(k u\) and \(k w e l h\) on the other) is as follows:

Within 'unknown', the categories 'present' vs. 'absent' coincide with the notions 'evidential' vs 'potential': the 'unknown-present' articles are typically used for something that is smelled, heard or sensed, but not seen, while the 'unknown-absent' articles are used for an unknown object or person that might materialize (van Eijk 1985:226).

Van Eijk thus groups individuals whom the speaker can hear or sense, but not see, together with entities which have not materialized. I claim, on the contrary, that the 'unknown present' articles encode assertion of existence, while the 'unknown absent' encode non-assertion of existence. This is intuitively plausible, since if the speaker can hear an individual, the speaker knows that individual exists. In the examples in (9), there is an existential assertion when the determiner \(k u . . a\) is used.

'Someone's coming.' (speaker can hear them)


The distinction between \(k u\) and \(k u \ldots a\) is illustrated in (10). In (10a), the speaker was only told by someone that a chief came to visit her (e.g. she was sick in bed at the time, and never saw the chief). The non-assertion of existence determiner \(k u\) is used. In (10b), on the other hand, the speaker has directly witnessed the chief who came to see her. However, the chief is remote from the time and place of the speech act, and hence \(k u . . a\) is possible. \({ }^{4}\)
10.
\[
\begin{aligned}
& \text { t'ak ku7 áts'x-en-ts-as [ku kúkwpi7] i nátcw-as } \\
& \text { go quot see-tr-1sg.obj-3erg [non.exis.det chief] when.past day-3sg.cnj } \\
& \text { 'A chief came to see me yesterday.' } \\
& \text { 'A chief came to see me yesterday.' (I saw him) }
\end{aligned}
\]

\footnotetext{
\({ }^{4}\) The phonological identity between the proclitic portions of \(k u\) and \(k u . . . a\) is probably not accidental, since remote entities are more likely not to have been witnessed by the speaker. David Beck notes (p.c.) that in Lushootseed, determiner(s) which are used for hypothetical entities are also used for remote entities.
}

I propose that \(k u\) does not parallel van Eijk's other 'unknown' determiners ( \(k u \ldots . . a\) and \(k w e l h . . . a\) ), but rather stands opposed to them in representing the notion 'non-assertion of existence'.

Recall from the discussion in earlier chapters that the non-assertion of existence determiner does not entail non-existence of an entity. Rather, the determiner merely fails positively to assert the existence of an entity. For example, compare (8) above, where the speaker does not know the addressee's father, with (11), where the speaker does.
```

11. nká? tu? [ni sqácza?-šw-a]
nka7 tu7 [ni sqátsza7-sw-a]
where compl [det father-2sg.poss-exis]
'Where did your father go?' (speaker knows the addressee's father)
```
(van Eijk 1985:227)

In (11), the assertion of existence determiner \(n i \ldots a\) is used, since the speaker can positively assert that the addressee's father exists. The use of the non-assertion of existence determiner in (8) does not imply that the addressee's father does not exist, but merely entails that the speaker has no proof of his existence, having never seen him. This relates to the speaker-oriented nature of 'assertion of existence' discussed in Chapter 3.

The analysis of the determiner system in (2) above predicts that all the determiners containing the enclitic ...a will pattern together, as opposed to \(k u\). This is shown to be upheld in later sections.

A note is in order regarding the determiner kwelh (without ...a), which van Eijk glosses as 'unkown, present'. This determiner is marginal or disallowed for speakers I have worked with. I predict that insofar as \(k w e l h\) is possible, \({ }^{5}\) it should represent non-assertion of existence, since it lacks the enclitic portion. The data on kwelh given by van Eijk fit with this hypothesis (1985:227-228). For example, both (12a) and (12b) involve discussion of absent entities. Kwelh is used when the speaker does not have evidence of the existence of the entities concerned.

\footnotetext{
\({ }^{5}\) There may be a change whereby younger speakers do not use kwelh, since van Eijk's fieldwork was done between 10 and 20 years earlier than mine.
}
\begin{tabular}{|c|c|c|c|c|}
\hline \multirow[t]{5}{*}{12. a.} & nka? & tu? & \(\left[\mathrm{k}^{\mathrm{W}}+\right.\) &  \\
\hline & nka7 & tu7 & [kwelh & stem'tétem'-su] \\
\hline & where & comp & & belongings-2sg.pos \\
\hline & \multicolumn{4}{|l|}{here are your belongings?'} \\
\hline & \multicolumn{4}{|l|}{(the speaker does not know the addressee's belo} \\
\hline
\end{tabular}
(St'át'imcets; van Eijk 1985:227)
b. nka? tu? [nəみ. n-Stəm̀tるtəm̀-a]
nka7 tu7 [nelh n-stem'tétem'-a]
where compl [det 1sg.poss-belongings-exis]
'Where are my belongings?'
(the belongings are known to the speaker) (St'át'imcets; van Eijk 1985:227)

If \(k w e l h\) is eliminated due to its marginality in my consultants' idiolects, then \(k u\) is the only nonassertion of existence determiner, and hence is ambiguous with respect to number. This is supported by the data in (13). In (13a), \(k u\) is ambiguous between singular and plural. In (13b), \(k u\) is used where pragmatically, plural is required (one does not dry just one berry), \({ }^{6}\) and in (13c), \(k u\) is used with a mass noun. No number distinctions are encoded.
13.


\footnotetext{
\({ }^{6} \mathrm{Ku}\) is licensed in (13b) by appearing on the 'object' of a middle (intransitive) verb; see §3.2.6 for discussion. If the predicate in (13b) is replaced with a transitive, \(k u\) is ungrammatical, since no licenser is available:
```

i. * ḱáx-an-4kan [kNu [k w
* k'ác-an-lhkan [ku sq'wel]
dry-tr-1sg.subj [non.exis.det berry]
'I dried some berries.'

```
}

This situation parallels other Salish languages, which tend to possess number and gender distinctions only on assertion of existence determiners (see Chapter 1). \({ }^{7}\) If something is not asserted to exist, it is intuitively plausible that the speaker will either not possess knowledge about its number or gender, or will not consider it important to impart such knowledge.

While it is uncommon but possible for Salish languages to encode number or gender on nonassertion of existence determiners, I know of no Salish language which encodes deictic information on its non-assertion of existence determiners. This is certainly true of St'át'imcets; \(k u\) does not encode any information about location. Thus, there is no way to distinguish an entity which is not asserted to exist which would be close to the place of the speech act, from an entity which is not asserted to exist and which would be absent from the place of the speech act.

The restriction of deixis marking to assertion of existence determiners is derived explicitly by Demirdache (1996a,b), as was summarized in Chapter 1 . Demirdache follows Carlson (1977) in assuming that the specification of spatio-temporal boundaries correlates with existence. Therefore, the assertion of existence determiners are all and only those which supply entities with spatio-temporal boundaries (i.e. the ones which mark spatio-temporal deixis).

The following sections examine each set of determiners in more detail.

\section*{2. Assertion of existence determiners}

The assertion of existence determiners in St'át'imcets are those that contain the enclitic portion ...a. These determiners are used both in definite (familiar) contexts, and in indefinite (novel) contexts, whenever an assertion of existence is involved. For example, (14a) is the first sentence in a story; the shoemaker has not previously been introduced, and thus is novel. However, he is known to the speaker, and hence an assertion of existence is involved. (14b) contains the first

\footnotetext{
\({ }^{7}\) Lushootseed encodes gender distinctions on the determiners which I would probably analyze as non-assertion of existence (thanks to David Beck (p.c.) for discussion of this point).
}
reference in the same story to an (assertion of existence, novel) policeman; (14c) contains the second reference to the (now familiar) policeman. In all cases, the same determiner is used.
14.
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline a. & wa? & \(t i ?\) & láti? & [t1 & Sumikh-a] & 1と7a & táwna \\
\hline & wa7 & ti7 & láti7 & [ti & sumíkh-a] & lts7a & táwn-a \\
\hline & prog & deic & deic & [det & shoemaker-exis] & here & town-exis \\
\hline & 'Once & liv & his s & ema & here in town.' & & \\
\hline
\end{tabular}
(St'át'imcets; van Eijk and Williams 1981:76)
 nilh ku7 t'u7 s-tsícw-min-as [ti wa7 zús-cal] foc quot just nom-go-appl-3erg [det be(-exis) tie.up-intr] 'He went to a policeman.' (St'át'imcets; van Eijk and Williams 1981:76)
c. Cut \(k^{w} u ?\) [ti wa? zúš-xal]...
tsut ku7 [ti wa7 zús-cal]...
say quot [det be(-exis) tie.up-intr]
'The policeman said ... '
(St'át'imcets; van Eijk and Williams 1981:76)

The assertion of existence determiners may appear on any argument, as long as the correct discourse situation and semantics obtain. They contrast in this respect with the non-assertion of existence determiner, as shown in the following section.

As shown in Chapter 1, the assertion of existence determiners are ambiguous with respect to specificity. (15), which contains the assertion of existence determiner \(t i . . a\), can be uttered if the speaker knows that a policeman exists who was hit by John, but does not know the identity of that policeman. (Definite (familiar) and specific readings are also possible).
15.

(St'át'imcets; LT)

\footnotetext{
\({ }^{8}\) The enclitic ...a, which should cliticize to the auxiliary \(w a 7\) in (14b,c), undergoes phonological deletion, resulting in the surface forms shown.
}

\section*{3. The non-assertion of existence determiner}

The non-assertion of existence determiner \(k u\) is restricted in its distribution when it appears inside argument DPs. In particular, \(k u\) may not appear in an ordinary declarative sentence. (16) is ungrammatical in any discourse context. \({ }^{9}\)
\begin{tabular}{|c|c|c|c|c|c|}
\hline 16. & \multirow[t]{4}{*}{} & túp-uñ-as & S-John & \(\left[\mathrm{k}^{\mathrm{W}} \mathrm{u}\right.\) & plîSmən] \\
\hline & & túp-un'as & s-John & & plísmen] \\
\hline & & punch-tr-3erg & nom-John & [non.exis.det & policeman] \\
\hline & & 'John hit a po & & & \\
\hline
\end{tabular}
(St'át'imcets; LT)

To express 'John hit a policeman', one must use an assertion of existence determiner:
17.
\begin{tabular}{llll} 
túp-uñ-as & s-John & {\([t 1\)} & plíšmən-a] \\
túp-un'-as & s-John & {\([t i\)} & plísmen-a \(]\) \\
punch-tr-3erg & nom-John & {\([\) det } & policeman-exis] \\
'John hit a policeman.'
\end{tabular}
(St'át'imcets; LT)

According to the consultant for these examples, (17) does not have to refer to a specific policeman. However, (17) does mean that the speaker saw the event being reported (and hence knows first-hand that there exists a policeman who John hit).

\footnotetext{
\({ }^{9}\) The one case in which \(k u\) appears in declarative sentences in St'at'imcets is with proper names, as in (i) and in many other examples throughout this dissertation. ( \(K w\) is a phonologically predictable variant of \(k u\) in St'át'imcets; see Davis and Matthewson 1996a,b).
\begin{tabular}{lllll} 
i. & wa? & kál-əm & {\(\left[\mathrm{k}^{\mathrm{W}}-\mathrm{s}\right.\)} & John] \\
& wa7 & k'ál'-em & {\([\mathrm{kw}-\mathrm{s}\)} & John] \\
& prog & wait-intr & [det-nom & John]
\end{tabular} 'John is waiting.'
(St'át'imcets; RW, GN)
Eloise Jelinek (p.c.) asks whether the use of \(k u\) with proper names constitutes an exception to the claim that there are no presuppositional determiners in Salish, since proper names are a prototypical example of items which belong to the common ground. However, it does not follow from the use of \(k u\) with proper names that \(k u\) is a presuppositional determiner. Even if proper names are rigid designators and part of the common ground of the discourse, it does not automatically follow that the determiner they appear with is itself providing the presuppositional force. On the contrary, I would argue that \(k u\) in (i) and other similar examples is performing a default function, filling the determiner slot since for syntactic reasons, a determiner is required. Clearly, further research on proper names is necessary. The issue is complicated by the fact that Salish languages differ in the determiners which appear with proper names (cf. Kuipers 1967 on Squamish, Gerdts 1988, Hukari 1996 on Halkomelem, among many others).
}

\subsection*{3.1. Licensing environments for the non-assertion of existence determiner}

In this section, the environments where \(k u\) is licensed are examined in detail. I will begin with the licensing environments for \(k u\) when it appears inside argument DPs, and show that a nonfactual operator must c-command the DP containing \(k u\). Asymmetries in licensing by certain operators indicate that clause structure in St'at'imcets is hierarchical, rather than 'nonconfigurational'. In §3.1.3 I provide evidence that \(k u\) is not restricted to nominal DPs, but also may introduce clausal arguments, with the same semantic effects and licensing requirements.

Following this, I will show in \(\S 3.2\) that \(k u\) is the only determiner allowed in secondary predication environments. Intuitively, this follows since \(k u\) is the only determiner which does not function to assert the existence of an individual.

\subsection*{3.1.1. DP Operators do not license \(\boldsymbol{k u}\)}

St'at'imcets \(k u\) is licensed by a range of overt Operators: negation, yes-no questions, intensional verbs, and 'potential' modalities (see Chapter 1, §1.5). The question is how precisely to define the set of elements which license \(k u\). One definition of 'Operator' available in the literature is the syntactic notion of an element which binds a variable. A typical syntactic definition of 'Operator' is given in (18).
18. Operator \(=_{\text {def }}\) bare quantifiers, \(w h\)-phrases, and null [DPs] in Spec CP
(Cinque 1990:73, following Chomsky 1981:102)
'Bare quantifiers' in Cinque's definition are single lexical items such as Italian qualcosa 'something', qualcuno 'someone'; they are opposed to quantified NPs (for our purposes, DPs) such as qualche \(N\) 'some \(\mathrm{N}^{\prime}\) (Cinque 1990:14-15).

Each of Cinque's three types of Operator is exemplified for English in (19). At Logical Form, the highlighted elements in (19a) and (19b) will have raised to an \(\mathrm{A}^{\prime}\)-position, binding a variable; this movement has already taken place by S-Structure in (19c).
19. a. Somebody found my keys.
(bare quantifier)
b. Who found my keys?
(wh-phrase)
c. [The man \(\left[\mathbf{O} \mathbf{p}_{\mathbf{i}}\right.\) that found my keys \(\left.\left.\mathrm{t}_{\mathrm{i}}\right]\right]\) was Socrates. (null DP in Spec CP)

Elements which fit Cinque's definition of Operator crucially do not license \(k u .{ }^{10}\) A relative clause Operator does not license \(k u\), as shown in (20b-d).
20.
a. クáčx-ən-+kan
áts'x-en-lhkan see-tr-1sg.subj
\(\begin{array}{ll}\text { [t1 } & \text { Sqáyx }{ }^{\text {W }}-\mathrm{a} \\ {[\mathrm{ti}} & \text { sqáycw-a }\end{array}\) 'I saw the man who kicked me.'

(St'át'imcets; LT)
b. * حáč \(x-2 n-4 k a n\)
* áts'x-en-lhkan see-tr-1sg.subj 'I saw the man who kicked me.'
\(k^{W} u \quad\) Čừ-ən-č-áš]
ku non.exis.det
tsuw'-en-ts-ás] kick-tr-1sg.obj-3erg] (St'át'imcets; LT)
c. * حáč \(x-ə n-t k a n\)
* áts'x-en-lhkan see-tr-1sg.subj
[ku sqáyx \({ }^{\text {w }}\)
[ku sqáycw-a [det man-exis 'I saw the man who kicked me.'
ti čuw̌-ən-č-ás-a]
ti tsuw'en-ts-ás-a]
det kick-tr-1sg.obj-3erg-exis]
(St'át'imcets; LT)
\begin{tabular}{ll}
\(\mathrm{k}^{\mathrm{W}} u\) & Cuw -ən-č-áš] \\
ku & tsuw'-en-ts-ás] \\
non.exis.det & kick-tr-1sg.obj-3erg]
\end{tabular} (St'at'imcets; LT)

The remainder of this section will investigate the interaction of quantifiers with the non-assertion of existence determiners. We will see that quantifiers obligatorily require an assertion of existence determiner in St'át'imcets. This results in differences between St'át'imcets and English with respect to coreference across sentence boundaries of quantified phrases.

\footnotetext{
\({ }^{10}\) See the following section for discussion of \(w h\)-phrases.
}

\subsection*{3.1.1.1. The restriction of a quantifier appears inside the main DRS}

There are no 'bare quantifiers' in Cinque's sense in St'at'imcets. Quantifiers do not license \(k u\) when the quantifiers form part of a DP (21a), occur in sentence-initial position (21b), or appear attached to a \(w h\)-polarity item (21c).
21.
a. * \(q^{w}\) ačác [tákəm
* qwatsáts [tákem leave
[all
\begin{tabular}{ll}
\(k^{W} u\) & Sqay \(\left.{ }^{W}\right]\) \\
\(\mathbf{k u}\) & sqaycw] \\
non.exis.det & man]
\end{tabular}
(St'át'imcets; RW, GN)
b. * tákəm \(q^{W}\) ačác
* tákem qwatsáts
all leave
'All the men left.'
\(k^{\text {"u }}\)
ku
non.exis.det man(redup)
Sqáyqəyxw \({ }^{w}\)
\(\begin{array}{lll}\text { c.ákəm } & \left(* k^{W} u\right) & \text { Swat } q^{W} \text { acáx } \\ \text { tákem } & \left({ }^{*} \mathbf{k u}\right) & \text { swat qwatsáts } \\ \text { all } & \text { (*non.exis.det) } & \text { who leave }\end{array}\)
'Everybody left.'
\[
\begin{aligned}
& \text { Swat quačác } \\
& \text { swat qwatsáts } \\
& \text { who leave }
\end{aligned}
\]

Not only do quantifiers not license \(k u\), they are completely incompatible with \(k u\) inside argument DPs, as shown in (22). The legitimate instance of \(k u\) in (22a) is rendered ungrammatical by the insertion of a quantifier in (22b). Intuitively, this follows from the fact that quantifiers require a range over which to quantify, contrasted with the non-assertion of existence status of \(k u\).


> sk'wemk'úk'wmi7t]
> child(redup)]
> (St'át'imcets; RW, GN)

The inability of quantifiers in St'at'imcets to license \(k u\) has implications for the possibility of cross-sentential coreference in St'át'imcets as opposed to in English. To see why, let us consider the effect of quantification on coreference in File Change Semantics and Discourse Representation Theory.

Heim's (1982) definition of the Operators which induce Existential Closure (or its equivalent, in her Chapter 3), is given in (23).
23. We take operators to include quantifiers, negation, and temporal and modal operators (which are in some sense quantifers, i.e., quantifiers over times and possible worlds) (Heim 1982:143)

This definition groups quantifiers together with non-factual operators such as negation and modals. Elements in the nuclear scope of such operators receive an existential interpretation. For example, the indefinite \(a\) goldfish in (24) receives existential force.
24. Every man saw [a goldfish].
\(\forall x\), man ( x ), \(\exists \mathrm{y}\), goldfish ( y ), x saw y


Indefinites which are inside the restrictive clause of the Operator (e.g. man in (24)) do not undergo Existential Closure, according to Heim.

Since the quantifier has scope over the restriction in (24), no permanent discourse referent or file card can be established for the restriction (i.e. the restriction will not have existential force which 'lasts' beyond the scope of the quantifier; see Chapter 3, §3). \({ }^{11}\) This accounts for the failure of coreference between every professor and he in (25).

\footnotetext{
11 Although the restriction of a quantifier in English, such as man in every man, does not undergo Existential Closure, the restriction does receive an existential interpretation in the sense that all quantifiers induce a presupposition of existence on their range. If the range of a quantifier is empty, there is a failure of pragmatic presupposition, and the sentence will sound odd (see Chapter 2, §3.3).
}

Within Discourse Representation Theory（Kamp 1981），similar results obtain．Discourse referents arising from the restriction of a quantifier are introduced inside a subordinate DRS，as shown in（26）．

26．Maggie adores most linguists．


For most y，linguists（y），Maggie adores y．

The accessibility conditions are defined in such a way that the discourse referent \(y\) in（26） （which is inside the restriction）is accessible to elements within the nuclear scope，but not to elements within subsequent sentences（see Kamp and Reyle 1993：169，317－318）．The latter constraint accounts again for the failure of coreference in discourses such as（25）．The DRT mechanism thus parallels Heim＇s（1982）system in not assigning permanent existential force to discourse referents contained within the restriction of a quantifier．

Unlike in English，the restriction of a quantifier in Salish languages is overtly asserted to exist by the presence of an assertion of existence determiner．This predicts that quantificational DPs in St＇át＇imcets，unlike in English，will be able to corefer with subsequent discourse referents．This is correct，as shown in（27）．
27.
\begin{tabular}{|c|c|c|c|c|c|}
\hline ？\(u+x^{\text {w }}\) & ［ta & zイつzə§＇－a & Sqayx \({ }^{\text {w }}\) ］， & n14 & Šmイ̌aq－క \\
\hline ulhew & ［ta & zîzeg＇－a & sqaycw］， & nilh & s－mítsaq－s \\
\hline come．in & ［det & each & man－det］ & foc & nom－sit－3sg．poss \\
\hline
\end{tabular}
＊＇［Each man \(]_{i}\) came in and then he \(e_{i}\) sat down．＇
However，the presupposition of existence induced by the quantifier is merely that the set ranged over by the common noun is not empty．This is a separate issue from the establishment of a discourse referent（or file card）with which a subsequent discourse referent can corefer．

The grammaticality of coreference in (27) suggests that the discourse referent for the restriction of the quantifier \(z i 7 \mathrm{zeg}\) ' 'each' appears inside the universe of the main DRS. This fits with the effect of an assertion of existence determiner as defined in Chapter 3.

In summary, then, the nature of the assertion of existence distinction directly predicts the differing quantifier behaviour between English and St'át'imcets. In St'át'imcets, quantifiers must always co-occur with a determiner (due to the Common Ground Parameter, which rules out quantifiers from occupying \(\mathrm{D}^{0}\) position). The only possible determiners are assertion of existence determiners or a non-assertion of existence determiner. In the former case, the DP containing the determiner receives existential force, placing its discourse referent inside the universe of the main DRS. In that case, coreference into subsequent sentences is always possible. The other possibility, namely that a quantifier co-occurs with a non-assertion of existence determiner, is ruled out on pragmatic grounds, since the failure to assert existence clashes with the requirement that a quantifier have a range which is non-empty.

\subsection*{3.1.2. Non-factual contexts license \(\boldsymbol{k u}\)}

The elements which license \(k u\) inside argument DPs are those which set up non-factual contexts. These elements include the set of INTENSIONAL OPERATORS. I adopt the definition given by Gamut (1991:16):

An expression \(O\) is added to the vocabulary of propositional logic which when placed in front of a formula \(\Phi\) results in a new formula \(O \Phi\). Expressions like \(O\) are called operators. ... The intuitive idea is that \(O\) stands for an intensional construction like it ought to be the case that, I know that, it will always be the case that, it was once the case that, it is necessary that, or it is possible that.

Intensional Operators require that possible worlds be taken into account in interpreting the utterances containing them, because they are CONTEXT-DEPENDENT. This means that the truth values of propositions containing an intensional operator are relative to the context in which they
are uttered, rather than absolute (cf. Gamut 1991:13,17). Intensional contexts 'call for a consideration of the extension that expressions have in circumstances other than the one in which we are evaluating them' (Chierchia and McConnell-Ginet 1990:206).
(28a) and (28b) contain the intensional Operator know (that). The propositions subordinated under this Operator have the same truth value. However, it could be the case in a certain world that (28a) is true and (28b) is false (for example if the speaker does not know that the morning star and the evening star are the same object).
28. a. I know that [the morning star is visible with the naked eye].
b. I know that [the evening star is visible with the naked eye].

We shall see in the following subsections that \(k u\) is licensed by modals and by intensional verbs, both of which belong to the set of intensional Operators. \(K u\) is also licensed by yes-no question Operators, wh-phrases, and negation. An over-arching term for the elements which license \(k u\) inside argument DPs is NON-FACTUAL OPERATORS. All the environments in which \(k u\) is allowed are environments in which the truth of a proposition is not asserted.

Although the class of elements which license \(k u\) is defined semantically, the licensing conditions are stated syntactically. This is shown for example by the fact that negation, which semantically has propositional scope, licenses \(k u\) only on object DPs (§3.1.2.5). I argue that \(k u\) must be \(c-\) commanded by its licensing non-factual Operator.

\subsection*{3.1.2.1. Modals}
\(K u\) is licensed on all direct arguments by a 'possible' clitic, as in (29), as well as by an auxiliary indicating future, as in (30).
29.
\begin{tabular}{|c|c|c|c|c|}
\hline \multirow[t]{3}{*}{a.} & c?as & kə\% & \(\left[{ }^{\text {W }} \mathrm{u}\right.\) & zús-xal] \\
\hline & ts7as & kelh & [ku & zús-cal] \\
\hline & come & migh & [non. & tie.up-intr] \\
\hline & 'A pol & nan mi & ht com & (intra \\
\hline
\end{tabular}
(intransitive subject) (St'át'imcets; RW,GN)

c. Táz'-ən-tkan kət \(\left[k^{W} u\right.\) kah \(]\)
áz'-en-lhkan kelh [ku kaoh]
buy-tr-1sg.subj might [non.exis.det car]
'I'm going to buy a car.' (transitive object)
(St'át'imcets; GN)
30.


'Some man is going to buy that fish.' (transitive subject) (St'át'imcets; LT)
 (St'át'imcets; AA, LT)

A minimal pair showing the licensing effect of the 'possible' modal kelh is given in (31). \({ }^{12}\)
31.

'There is a policeman / are policemen walking around here.'
(St'at'imcets; LT)
\(\begin{array}{llllll}\text { b. } & \text { wa7 } & \text { kət } & \text { mam'teq } & \text { kən-̌२á } & {\left[\mathrm{k}^{\mathrm{W}} \mathrm{u}\right.}\end{array} \quad\) plísmən]

Kelh is a member of the class of speaker-knowledge clitics given in Chapter 3. Other speakerknowledge clitics include \(k u 7\) 'quotative' and \(k\) ' \(a\) 'surmise'.

12 (31a) can also be corrected by inserting a quotative clitic \(k u 7\), or by changing the determiner to (assertion of existence) \(t i \ldots a\). See immediately below on the effect of the quotative marker on determiner choice.

Like kelh 'might', both \(k u 7\) 'quotative' and \(k^{\prime} a\) 'surmise' are intensional Operators. When the speaker uses \(k u 7\) or \(k^{\prime} a\), he or she explicitly introduces doubt about the validity of the statement made, and as such introduces possible worlds. Adapting the morning star/evening star example from above, we see that the (a) sentences and the (b) sentences in (32) and (33) may have different truth values, just in case the speaker does not know that the morning star and the evening star are the same object.
32. a. Someone told me that [the morning star is visible with the naked eye].
b. Someone told me that [the evening star is visible with the naked eye].
33. a. I guess that [the morning star is visible with the naked eye].
b. I guess that [the evening star is visible with the naked eye].

The prediction of the analysis being developed is that the relevant speaker knowledge clitics will license \(k u\), and this prediction is held up, as shown in (34) (see also footnote 11, and Chapter 3,
34.
\begin{tabular}{|c|c|c|c|c|}
\hline \multirow[t]{4}{*}{a.} & záx-alq \({ }^{\text {w }}\) əm & \(k^{W}{ }^{\text {u }}\) ? & \(\left[k^{W} u\right.\) &  \\
\hline & zác-al'qwem' & ku7 & [ku & kúkwpi7] \\
\hline & long-appear & quot & [non.e & chief] \\
\hline & 'A chief is ta & omeon & told & \\
\hline
\end{tabular}
(St'at'imcets; LT)
b. \(k^{W}\) anən-š-túm ka tu? [kwu plíšmən]
kwanen-s-túm k'a tu7 [ku plísmen] catch-tr-pass surmise compl [non.exis.det policeman]
'He must have got caught by a policeman.'
(St'át'imcets; RW)

As was noted in Chapter 3, only a subset of the speaker-knowledge clitics license \(k u\); for example, the 'completive' clitic \(t u 7\) does not. This is predicted, since 'completive' does not have a modal meaning, but merely an aspectual effect.
\({ }^{13} K^{\prime} a\) does not license \(k u\) in (i).
 'A child must be crying.'can't, but 'surmising' does not come into it).

\subsection*{3.1.2.2. Intensional verbs}

Verbs like want and seek introduce intensional contexts. Gamut (1991:165ff) argues that the verb seek, unlike extensional transitive verbs, cannot be regarded as a relation between two individuals. If it were, then (35a) would mean that 'John stands in the seek relation to a certain individual that is a unicorn', which would in turn entail (35b).
35. a. John seeks a unicorn.
b. Unicorns exist.
(Gamut 1991:165)
(Gamut 1991:168)

However, (35a) can be true even in situations in which there are no such things as unicorns. Gamut proposes that the verb seek be regarded as a relation between an individual (in this case, John) and a function from possible worlds to sets of first-order properties; in other words, seek operates on an intension (Gamut 1991:169).

In St'át'imcets, the non-assertion of existence determiner \(k u\) is licensed on objects, but not subjects, of intensional verbs like \(x a ́ t t^{\prime} \min ^{\prime}\) 'want', as shown in (36).
36.


The subject-object asymmetry illustrated in (36) provides strong evidence for a hierarchical, configurational clause structure in St'at'imcets. The intensional verb xat'min' 'want' licenses \(k u\) only on the DPs which it c-commands, as shown in (37).
37.


The behaviour of \(k u\) with intensional verbs provides good evidence against a 'Pronominal Argument' analysis of the language along the lines of Jelinek (1984, 1993c, 1995), Baker (1991, 1996). According to Jelinek, all overt DPs in Straits Salish are adjoined to the clause. Under such an analysis, no subject-object asymmetries are predicted to exist, meaning that (36) could not be accounted for.

The c-command analysis predicts that inside a subordinate clause introduced by an intensional verb, the subject-object asymmetry should disappear, since the entire subordinate clause is ccommanded by the intensional verb. \({ }^{14}\) This is correct, as shown in (38).


\subsection*{3.1.2.3. Yes-no questions}

In (39), \(k u\) appears in the scope of a yes-no question Operator (which encliticizes to the first phonological word in the sentence). The sentences in (39) would be ungrammatical without the yes-no question marker ha.

\footnotetext{
14 Thanks to Michael Rochemont (p.c.) for pointing out this prediction of my analysis. (38) provides evidence for a syntactic, rather than a purely semantic, explanation of the subject-object asymmetry found with intensional verbs.
}
\begin{tabular}{lllll} 
wa? & ha & káti? & {\(\left[\mathrm{k}^{\mathrm{w}} \mathrm{u}\right.\)} & máqa?] \\
wa7 & ha & káti7 & {\([\mathrm{ku}\)} & máqa7]? \\
be & ynq & deic & {\([\) non.exis.det } & snow \(]\)
\end{tabular}
'Is there any snow around?' (intransitive subject)
b. ? \(a^{2} x-\partial n-x^{1} 1-m\)
ha \(\left[\mathrm{k}^{W} \mathrm{u}\right.\) szús-xal]
ats'x-en-tsí-m
ha [ku szús-cal]
see-tr-2sg.obj-pass ynq [non.exis.det tie.up-intr]
'Did you get seen by a policeman?' (passive agent)
(St'át'imcets; BF)
c. วačx-ən-とí-has
ha \(\left[\mathrm{k}^{\mathrm{W}} \mathrm{u}\right.\) szús-xal]
ats'x-en-tsí-has ha [ku szús-cal]
see-tr-2sg.obj-3erg ynq [non.exis.det tie.up-intr]
'Did a policeman see you?' . (transitive subject)
(St'át'imcets; BF)

(39c) shows that the yes-no marker ha licenses non-assertion of existence \(k u\) on a transitive subject. I propose that the yes-no question Operator occupies C, following Cheng (1991) (see also Baker 1970).
40.


According to the structure in (40), ha c-commands any DP argument in the clause, including transitive subjects. We can therefore say that \(k u\) is licensed by a c-commanding yes-no Operator.

\footnotetext{
15 (39d) may involve a generic use of the non-assertion of existence determiner ku. See Davis (1994a, to appear) and Demirdache (1996d) for some discussion of this phenomenon, and see the discussion §3.2.6 in below.
}

\subsection*{3.1.2.4. Wh-questions}

Wh-questions, just like yes-no questions, license \(k u\). According to a common analysis of Salish languages (see e.g. Kroeber 1991, Davis et al. 1993), the \(w h\)-word in (41) is the main predicate of the sentence. \(K u\) functions as a complementizer which introduces the residue of a cleft.
\begin{tabular}{|c|c|c|c|c|}
\hline 41. & Swat & \(\left[\mathrm{k}^{W} \mathrm{u}\right.\) & (wap) & 2fıən] \\
\hline & swat & [ku & (wa7) & ilhen] \\
\hline & who & [non.exis.det & (prog) & eat] \\
\hline & 'Who is & ting?' & & \\
\hline
\end{tabular}

Wh-words do not license \(k u\) on any DP arguments contained within the subordinate clause. The sentences in (42) are bad even if it is explicitly pointed out in the context that the speaker does not know which chief or bear she is asking about.
42.
a. * Swat \(\begin{array}{lll}\text { * } & k^{W} u & \text { १ááx-ən-as } \\ \text { swat } & \text { ku áts'x-en-as }\end{array}\)
\(\left[k^{W} u\right.\)
\(k_{\text {ú }}{ }^{W}{ }^{W}\) p12]
who det see-tr-3erg
[ku kúkwpi7]
'Who saw a chief? / Who did a chief see?'

(St'át'imcets; LT)
(St'át'imcets; LT)

The ungrammatical sentences in (42) become fine if an assertion of existence determiner is substituted for \(k u\) inside the subordinate clause: \({ }^{16}\)
43. a. కwat
\(k^{W} u\) つáć \(x-2 n-a s\)
[ti \(\left.k_{\dot{u}} k^{W}{ }^{\mathrm{p}} 12-\mathrm{a}\right]\)
swat ku áts'x-en-as [ti kúkwpi7-a]
who det see-tr-3erg [det chief-exis]
'Who saw a chief? / Who did a chief see?'
(St'át'imcets; LT)

(St'at'imcets; LT)

\footnotetext{
\({ }^{16}\) The contrast in the glosses of (43a) and (43b) reflects a general tendency for individuals higher on an animacy scale to be interpreted as the subject. Thus, if the two participants are of equal animacy, as in (43), the sentence is ambiguous. On the other hand, (43b) receives the interpretation where a human saw a bear, rather than the other way around.
}

The reason for the ungrammaticality of \((42 \mathrm{a}, \mathrm{b})\) is that a \(w h\)-question presupposes the content of the non-questioned portion (see Erteshik-Shir 1993, among many others). Thus, a logical representation of (42b) will contain the information in (44).

\section*{44. \(\quad \exists \mathrm{xy}\), person ( x ), bear ( y ), x saw y}

The existential force of the relevant discourse referents in (44) is incompatible with the nonassertion of existence determiner \(k u .{ }^{17}\)

This explanation of the ungrammaticality of (42) raises the question of why \(k u\) is licensed at the beginning of the subordinate clause in wh-questions (i.e. why (41) and (43) are grammatical even though they contain \(k u\)..\(^{18}\) The existence presuppositions which rule out \(k u\) on the arguments in (42) should also rule out \(k u\) in (41) and (43).

One possible explanation is that the \(k u\) which immediately follows the \(w h\)-word is not an instance of argument \(k u\) (which entails non-assertion of existence), but of adjunct \(k u\) (comparable to the cases of \(k u\) discussed in \(\S 3.2\) below). When \(k u\) is used on adjoined phrases, it does not carry the implication of non-assertion of existence. Henry Davis suggests (p.c.) that the entire subordinate clause in wh-questions could be a relative clause which adjoins to a null pro head.

\footnotetext{
\({ }^{17}\) Michael Rochemont asks (p.c.) if it is possible to use \(k u\) inside a wh-question in a context where the speaker casts doubt on the existence of an entity, for example in the discourse in (i).
i. A: Someone said there was a bear in downtown Vancouver yesterday.

B: Who claims to have seen a bear? (incredulous voice)
If (i) is translated into St'at'imcets, there are two options. Either A uses an assertion of existence determiner in the DP 'a bear', or the non-assertion of existence determiner. If A uses an assertion of existence determiner, B must also (since \(k u\)-DPs cannot corefer with assertion of existence DPs). If A uses the non-assertion of existence determiner \(k u\), then \(k u\) must be licensed by a nonfactual Operator, such as the quotative marker. B could then also use \(k u\) inside the wh-question but only if the non-factual operator were also present in B's sentence. See Chapter 3, \(\S 2.3\) on such modal subordination effects in St'át'imcets.
\({ }^{18}\) Thanks to Michael Rochemont, Irene Heim and Henry Davis for discussion of this issue.
}

\subsection*{3.1.2.5. Negation}

Negation licenses \(k u\) on subjects of intransitive verbs, as shown in (45). \({ }^{19}\)
45.


Negation also licenses \(k u\) on objects of transitive verbs, as shown by the connected sequence in (46). In the second sentence, the non-assertion of existence determiner is used; the sentence means that Mary did not see any men, and cannot mean that Mary did not see the specific man who is already under discussion.
46.
\begin{tabular}{|c|c|c|c|}
\hline \(\chi^{\mathbf{w} / 19-ə n-a \leq}\) & s-Mary & [ti &  \\
\hline cwil'en-as & s-Mary & [ti & kwtámts-s-a] \\
\hline look.for-tr-3erg & nom-Mary & [det & husband-3sg.poss-exis] \\
\hline 'Mary was looki & for her hus & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|}
\hline \(\mathrm{x}^{\mathrm{W}}\) ? \(\mathrm{caz}^{\text {a }}\) & \(\mathrm{k}^{\mathrm{w}}\)-צ &  & [ \(\mathrm{k}^{\mathrm{W}} \mathrm{u}\) & sqayx \({ }^{\text {w }}\) ] \\
\hline cw7aoz & kw-s & ats'x-en-as & & sqaycw \\
\hline neg & det-nom & see-tr-3erg & [non.exis.det & man] \\
\hline
\end{tabular}
'She didn't see any men.' ( \(\neq\) 'She didn't see the man') (St'át'imcets; RW)

In contrast, the second sentence in (47) means that a man is asserted to exist who Mary did not see; given the context, the man is interpreted as coreferential with Mary's husband (indicated by identity of indices).
47.
\begin{tabular}{|c|c|c|c|}
\hline \(\chi^{w} \mathbf{1} 11-ə n-a s\) & s-Mary & [tı & \(\mathrm{k}^{\text {w }}\) támmè-s-a] \\
\hline cwil'-en-as & s-Mary & [ti & kwtámts-s-a] \\
\hline look.for-tr-3erg & nom-Mary & [de & husband-3sg.poss-exis] \\
\hline 'Mary was looki & g for [her hus & nd & \\
\hline
\end{tabular}

\footnotetext{
\({ }^{19}\) Although (45b) contains two overt arguments, it is morphologically intransitive, and only the subject ku smulhats 'a woman' is a direct argument of the predicate. For discussion of these constructions, see §3.2.6 below.
}
\begin{tabular}{|c|c|c|c|c|}
\hline \(x^{W} 7 \mathrm{az}\) & \(\mathrm{k}^{\mathrm{W}}-\mathrm{s}\) & ? \({ }^{\text {cocx }}\)-ən-as & [t1 & sqáy \({ }^{\text {w }}\)-a] \\
\hline cw7aoz & kw-s & áts'x-en-as & [ti & sqáycw-a] \\
\hline neg & det-nom & see-tr-3erg & [det & man-exis] \\
\hline \multicolumn{3}{|l|}{'She did not see [the man]i.'} & \multicolumn{2}{|c|}{(St'át'imcets; GN)} \\
\hline
\end{tabular}

However, negation does not license \(k u\) on the subject of a transitive clause. (48) and (49) show that a negated transitive subject must contain an assertion of existence determiner.
48.
\(\begin{array}{lll}\text { a. * ?ay } & \text { ku? } & \mathrm{k}^{\mathrm{W}}-\mathrm{s} \\ \text { * ay } & \text { t'u7 } & \mathrm{kw}-\mathrm{s}\end{array}\)
フáčx-ən-と-as
\(\left[k^{W} u\right.\)
Sqay \({ }^{W}\) ]
* ay t'u7 kw-s áts'x-en-ts-as [ku sqaycw] neg part det-nom see-tr-1sg.obj-3erg [non.exis.det man] 'No man saw me.' ('with ku, you don't even know if there's such a man').
(St'at'imcets; LT)
\(\begin{array}{llll}\text { b. } & \text { ?ay } & \text { ku? } & \mathrm{k}^{\mathrm{w}}-\mathrm{s} \\ & \text { ay } & \text { t'u7 } & \mathrm{kw}-\mathrm{s} \\ & \text { neg } & \text { part } & \text { det-nom }\end{array}\)
'No man saw me.'
Táćx-ən-č-as [ti క̌qáyx \({ }^{W}\)-a] áts'x-en-ts-as [ti sqáycw-a] see-tr-1sg.obj-3erg [det man-exis]
(St'átimcets; LT)
49.


St'át'imcets therefore shows an ergative-absolutive asymmetry with respect to negative polarity; transitive subjects do not allow \(k u\), while transitive objects and intransitive subjects do.

The asymmetry in the arguments which allow \(k u\) resembles negative polarity effects in English. In English, a polarity item is licensed in the c-command domain of negation; cf. Ladusaw (1979), Linebarger (1981, 1987), among many others. In (50a) and (50b), negation c-commands the polarity item any. In (50c) and (50d), it does not. \({ }^{20}\)

\footnotetext{
\({ }^{20}\) The issue of the licensing of negative polarity items is still controversial. Just as with \(k u\) licensing, it is not obvious whether licensing requirements are syntactic or semantic in nature, and if syntactic, at which level of the syntax the requirements have effect (see Uribe-Extebarria 1995, among others, for discussion).
}
50. a. No man caught any deer.
b. I don't know if anyone caught any deer.
c. * Any man didn't come.
d. * Any man caught no deer.

In St'at'imcets, the morphological and word-order evidence implies that at S-Structure, negation is a predicate which takes scope over a subordinate clause at S-Structure, as in (51). Negation is followed by the determiner \(k u\), which takes a syntactically nominalized subordinate clause. (The subject is represented as occupying Spec, VP, on the right of \(\mathrm{V}^{\prime}\), in order to capture the unmarked VOS word order. For arguments that subjects are VP-internal in St'at'imcets, see Davis 1995a,b).
51. S-Structure:


If (51) is correct, then in order to account for the fact that negation does not license \(k u\) inside a transitive subject, we must say that transitive subjects raise at Logical Form to a position outside the c-command domain of negation. There is independent evidence within the language that overt transitive subjects behave differently from other overt DPs, and more precisely that transitive subjects end up in a position different from that occupied by other arguments.

As discussed in detail by Davis (1994c; see also Roberts 1994, Matthewson et al. 1993), only transitive subjects induce the extraction marker -tali when they undergo wh-movement,
focussing, or form the head of a relative clause. \({ }^{21}\) Intransitive subjects, as in (52b,c), and transitive objects, as in (52d), do not allow tali:
52.


Roberts (1994) and Davis (1994c) both discuss the suffix -tali and its restriction to the transitive subject. \({ }^{22}\) While the two analyses differ in many respects, both argue for the presence of a structural asymmetry between transitive subjects and other arguments. Under both accounts, there is an \(\mathrm{A}^{\prime}\)-position occupied by transitive subjects at Logical Form. Henry Davis (p.c.) suggests the generalization that \(\mathrm{A}^{\prime}\)-movement in St'át'imcets shows an ergative/absolutive asymmetry, while A-movement shows a subject/object asymmetry (see also Campana 1992, and see Davis in prep on the A-movement effects).

If this generalization is correct, then the LF-movement which raises the transitive subject to a position higher than negation is movement to an \(\mathrm{A}^{\prime}\)-position of some sort. Notice that the transitive subject raises not just to the top of its clause, but to the top of the matrix clause (whose

\footnotetext{
\({ }^{21}\) The ergative extraction marker -tali also has discourse-related effects, and has been called the 'topical object marker'. See Matthewson (1993), Davis (1994c), Roberts (1994), and see Kinkade (1989, 1990) on topical object markers elsewhere in Salish.
\({ }^{22}\) Roberts (1994) also discusses other instantiations of syntactic ergativity in St'át'imcets.
}
predicate is negation). I will leave the issue of the exact landing site open, since much more work needs to be done on clausal structure in St'át'imcets and Salish in general (see Davis in prep).

Although I have not proposed a conclusive solution to the landing site of transitive subjects, the asymmetry between different types of overt DPs with respect to negation and \(k u\)-licensing nevertheless provides evidence against a 'Pronominal Argument' analysis of St'át'imcets, whereby all overt DPs are adjoined to the clause. The pronominal argument account cannot derive any asymmetries between overt DPs.

\subsection*{3.1.2.6. Summary}

In the preceding subsections we have seen that \(k u\) is licensed in the following environments. Environments where the question of \(k u\)-licensing is not applicable for independent reasons are notated with '---'.
53. Environments where \(k u\) is licensed inside DP:
\begin{tabular}{|c|c|c|c|c|}
\hline & trans. subject & trans. object & intrans. subject & subord. clause \\
\hline modal & \(\sqrt{ }\) & \(\checkmark\) & \(\sqrt{ }\) & -- \\
\hline intensional V & * & \(\checkmark\) & * & \(\sqrt{ }\) \\
\hline yes-no question & \(\sqrt{ }\) & \(\checkmark\) & \(V\) & -- \\
\hline wh-question & -- & -- & -- & \(\checkmark\) \\
\hline negation & * & \(V\) & \(\sqrt{ }\) & \(\checkmark\) \\
\hline
\end{tabular}

The elements which license \(k u\) include all non-factual Operators. Modals and yes-no questions license \(k u\) on all arguments in the clause, suggesting that syntactically these items have clausal scope. Wh-questions license \(k u\) on the subordinate (adjoined relative) clause which they introduce, but not on argument DPs contained within that clause, due to the presupposition induced on the residue of the question. Finally, syntactic asymmetries show up with intensional verbs (which only license \(k u\) on their objects) and negation (which licenses \(k u\) on absolutive arguments, but not on ergative arguments).

\subsection*{3.1.3. Extension of assertion of existence to clausal complements \({ }^{\mathbf{2 3}}\)}

So far we have seen many examples where \(k u\) does not assert the existence of an individual. In this section we will see that the assertion of existence distinction extends to cover events as well as individuals. \(K u\) can introduce clausal complements, in which case it does not assert the existence of an event. The assertion of existence determiner ti...a introduces clausal complements which do assert the existence of an event.

The ability of determiners to assert the existence of either an individual or an event is compatible with Partee's (1990) claim that in Salish, individuals and events are treated in a similar fashion (see also Burton and Davis 1996a,b, to appear). The evidence provided in this section also bears on Jelinek's (1995) claim that Straits does not distinguish determiners from complementizers, since if D and C were not distinguished in Salish, the extension of the assertion of existence distinction to clausal complements would be straightforwardly predicted. \({ }^{24}\)

The non-assertion of existence determiner \(k u\) introduces subordinate clauses following negation, a \(w h\)-word, or 'verba sentiendi et declarandi' (van Eijk 1985:270). It often co-occurs with syntactic nominalization of the subordinate clause. 25
54.
a. \(\quad x^{\mathrm{w}} 7 \mathrm{az} \quad\left[\mathrm{k}^{\mathrm{w}}-ร\right.\)
[kw-s
[non.exis.det-nom
neg \(\mathrm{S} / \mathrm{he}\) didn't help me.'
\[
\begin{aligned}
& \text { núk'w } 2-a n-\Varangle-a s ̌] \\
& \text { núk'w7-an-ts-as] } \\
& \text { help-tr-1sg.obj-3erg] }
\end{aligned}
\]

St'át'imcets; van Eijk 1985:217)

\[
\begin{aligned}
& \text { ?彳́łə2n] } \\
& \text { ilhen] } \\
& \text { eat] }
\end{aligned}
\]
(St'at'imcets; AA)
\({ }^{23}\) The material in this section is based on work presented in Davis and Matthewson (1996a); see also Davis and Matthewson (1996b) for a later discussion.
\({ }^{24}\) The existence or otherwise of a D/C distinction in Salish is a matter of debate; there is often phonological similarity or identity between Ds and Cs (see e.g. Kroeber 1994a,b, Davis and Matthewson 1996a,b).
25 The reduction of \(k u\) to \(k w\) when it precedes syntactic nominalization is shown by Davis and Matthewson (1996a,b) to be phonologically conditioned. The phonological reduction of \(t i \ldots a\) to \(t . . a\) in (55) below is an optional phonetic effect.
 xát'-min-lhkan [kw-s xan' [ti sm'ém'lhats-a]] hard-appl-1sg.subj [non.exis.det-nom get-hurt [det girl-exis]] 'I want the girl to fall.'
d. Cut-ánwaš-kan \(\left[k^{W}-\right.\)-s
tsut-ánwas-kan
say-inside-1sg.subj
[ta కmúzact-a]]
[ta smúlhats-a]]
[det woman-exis]]
'I thought the woman kicked the cat.'
\begin{tabular}{llll}
{\(\left[\mathrm{k}^{\mathrm{W}}-\mathrm{s}\right.\)} & Cừ-n-ás & [ta & máw-a] \\
{\([\mathrm{kw}-\mathrm{s}\)} & tsuw'-n-ás & [ta & máw-a] \\
{\([\) non.exis.det-nom } & kick-tr-3erg & [det & cat-exis]
\end{tabular}

The assertion of existence determiner ti...a may also introduce clausal complements. Ti...a introduces factive clauses, which can appear in either argument or adjunct position (55a,b respectively). Syntactic nominalization is induced:
55. a. Táma [t \(\leq\)-kíq-šw-a]
áma [t s-t'íq-sw-a]
good [t nom-arrive-2sg.poss-exis]
'It is good that you came.' (Your coming is good)
(van Eijk 1985:271)
b. plan \(x^{w} \geqslant a z \quad k^{w}-a-s \quad k^{w} z u ́ s ̌-ə m \quad k w-s \quad\) B111,
plan cw7aoz kw-a-s k'wzús-em kw-s Bill,
already neg kw-prog-nom work-intr kw-nom Bill, 'Bill does not work any more, ...'
(St'at'imcets; BF, GN, RW)
\begin{tabular}{llll} 
nit & [t-s-plán-̌-a & wa? & qətməməñ-?úl] \\
nilh & [t-s-plán-s-a & wa7 & qelhmemen'-7úl] \\
foc & [t-nom-already-3sg.poss-exis & prog & old-too] \\
'... because he is too old already.' & &
\end{tabular}
(van Eijk 1985:218)

Davis and Matthewson (1996a,b) make the following claims:
56. a. The syntactic distribution of Ds which introduce clausal constituents parallels the syntactic distribution of Ds when they introduce nominal constituents.
b. The function of Ds with respect to clausal constituents parallels the function of Ds with respect to nominal constituents.

With regard to the syntactic facts, we have seen many proofs that nominal DPs containing \(k u\) are restricted in their distribution. The same situation obtains with clausal complements. While
clauses introduced by \(t i \ldots a\) can appear either in adjunct position or as the argument of any predicate, clauses introduced by \(k u\) can only appear following negation, a \(w h\)-word, or as objects of an intensional verb or intransitive verb (see §3.2.6 below for discussion of why intransitive verbs license \(k u\)-objects). All these licensing environments were illustrated in (54) above.

The licensing requirements for clauses introduced by \(k u\) are further illustrated in (57). The factive clause in (57a) appears as the argument of the main predicate áma 'good'. This is not a \(k u\)-environment, and as predicted, (57b) is bad.
57.


Clauses introduced by determiners parallel nominal DPs not only in their licensing environments, but also in their semantics. The factive clause introduced by ti... \(a\) in (57a) commits the speaker to the truth of the proposition that the addressee came. This is not the case with the \(k u\)-clauses in (54); in none of these cases does the subordinate clause assert the existence of an event.

Even more strikingly, \(k u\) can introduce non-finite clausal complements, as shown in (58). There is clearly no assertion that an event of writing took place in (58). \({ }^{26}\)


\footnotetext{
\({ }^{26}\) Infinitives in Salish are often assumed not to exist; see for example Kroeber (1991:36-37).
}

As predicted, assertion of existence determiners cannot introduce non-finite clauses, since nonfinite clauses do not assert the existence of an event. (59) unambiguously contains a null-headed relative introduced by \(t i . . a\) :

(St'át'imcets; LT)

Since \(k u\) is licensed in the same environments whether it introduces a nominal or a clause, we predict that \(k u\) will induce ambiguities between a non-finite clause and a null-headed relative clause. This prediction is held up, as shown in (60).


The syntactic and semantic parallels between clausal constituents and nominal constituents, and in particular the existence of non-finite clauses, supports the claim that the assertion of existence distinction generalizes from arguments representing individuals to event arguments. This in turn is part of a more general parallel between individuals and events in Salish, independently argued for by Partee (1990) and Burton and Davis (1996a,b). In the remainder of this section I will briefly address the extent to which the evidence in this section accords with Jelinek's (1995) view of Salish syntax.

As noted above, Jelinek (1995) claims that D and C are non-distinct in Straits. While the evidence provided in this section supports the conceptual basis for this idea, I have argued elsewhere that D and C are distinct in St'át'imcets (Davis and Matthewson 1996a,b). Davis and Matthewson argue that although determiners may introduce clausal complements as well as nominal complements, there is a separate class of complementizers which may only introduce clauses, not nominals. There are easily observable descriptive differences between the clauses
introduced by complementizers and the clauses introduced by determiners, which seem to suggest that there are extra levels of functional projections in the clauses introduced by complementizers. However, the issues raised about functional projections go beyond the scope of this dissertation.

The parallel between individuals and events can be easily derived within a theory such as Jelinek's, where the lexical categories of noun and verb are non-distinct. It is certainly true that in some domains, Salish merges the semantic categories of 'individual' and 'event'. However, it does not necessarily follow that the morphology or the syntax of Salish languages is completely category-neutral. As mentioned in the Introduction, the categorial debate is a separate issue which would take us too far afield in the present context.

\section*{3.2. \(K u\) inside non-arguments}

In previous sections we have seen that all the environments in which \(k u\) is licensed on an argument DP (whether this contains a nominal or a clausal complement) involve a ccommanding non-factual Operator. This section turns to a second set of cases of \(k u\), which lack this licensing requirement, and which are all argued to involve adjunction.

Non-argumental \(k u\) appears in the environments listed in (61).
61. a. inside complex predicates (§3.2.1)
b. on the semantic head of relative clauses ( \(\S 3.2 .2\) )
c. inside temporal adjuncts (§3.2.3)
d. following a demonstrative pronoun inside DP (§3.2.4)
e. inside adverbial phrases (§3.2.5)
f. on the object of intransitive 'middle' verbs ( \(\S 3.2 .6\) )

In these adjoined environments, \(k u\) does not mark non-assertion of existence, and does not require the presence of a non-factual Operator. I will argue that the reason \(k u\) is possible in adjoined environments is that since it does not locate an individual in space and time, it allows
the DP it creates to be of type \(\langle\langle e, t\rangle,\langle e, t\rangle\rangle\) (a predicate modifier). \({ }^{27}\) It is therefore able to appear in non-argumental positions, unlike the assertion of existence determiners. \({ }^{28}\)

\subsection*{3.2.1. Complex Predicates}

The main predicates in \((62 \mathrm{a}, \mathrm{b})\) are complex.
\begin{tabular}{|c|c|c|c|c|c|}
\hline \multirow[t]{3}{*}{62. a.} & \multirow[t]{3}{*}{\begin{tabular}{l}
\[
\left[k^{W_{1 k}}{ }^{W} \underline{s}\right.
\] \\
[kwikws \\
[small
\end{tabular}} & \multirow[t]{3}{*}{Spzúza?] spzúza7] bird] PRED} & & \multicolumn{2}{|l|}{\multirow[t]{3}{*}{\begin{tabular}{l}
7ačx-ən-án-a] \\
ats'x-en-án-a] \\
see-tr-1sg.conj-exis
\end{tabular}}} \\
\hline & & & \multirow[t]{2}{*}{\[
\begin{aligned}
& {[\mathrm{i}} \\
& \text { [pl.det }
\end{aligned}
\]} & & \\
\hline & & & & & \\
\hline
\end{tabular}
'The ones I saw were small birds.'
(St'át'imcets; RW, GN)
\begin{tabular}{|c|c|c|c|c|}
\hline \multirow[t]{3}{*}{b.} & [?áṅwas & Smúzac] & [21 & \(q^{\text {w }}\) acáct-al \\
\hline & [án'was & smúlhats] & [i & qwatsáts-a] \\
\hline & [two & woman] \({ }_{\text {PR }}\) & [pl. & leave-exis] \\
\hline
\end{tabular}
'The ones who left were two women.'
(St'át'imcets; RW)

As argued by Demirdache and Matthewson (1995a), Matthewson and Demirdache (1995), complex predicates are subject to categorial restrictions such that the first element must be an adjective phrase and the second element must be a noun phrase. The requirement that the second element be an NP is demonstrated in (63).
63.
a. * [?ǎñwas
qwatáč] [21 Smútact-a]
* [án'was qwatsáts] [i smúlhats-a] [two leave] PRED [pl.det woman-exis'DP
* 'The women were two who left.'
b. * [حáņas \(\left.\mathrm{k}^{W} 1 \mathrm{k}^{W} క\right]\) [71 కmúzač-a]
* [án'was kwikws] [i smúlhats-a] [two small] \({ }_{\text {PRED }}\) [pl.det woman-exis] \({ }_{\text {DP }}\)
* 'The women are two who are small.'
(St'át'imcets; RW)
(St'át'imcets)
\(27 e\) stands for an individual and \(t\) stands for a truth value. Type \(<e, t>\) is a function from an individual to a truth value (i.e. a one-place predicate), and type \(\langle\langle e, t\rangle,\langle e, t\rangle\) is a function from a predicate to a predicate (i.e. a predicate modifier).
\({ }^{28}\) As will be discussed in Chapter 6, the semantic type of DPs containing assertion of existence determiners is not yet fully resolved. At least some DPs containing assertion of existence determiners are of type \(\langle e, t\rangle, t\rangle\) (generalized quantifiers); whether all assertion of existence DPs are of this type is a matter for future research.

Demirdache and Matthewson (1995a) analyze the complex predicate as a predicate nominal with the structure in (64).
64.


The determiner \(k u\) is possible (although dispreferred) inside complex predicates, as shown in (65). Notice that there is no requirement for a c-commanding non-factual Operator.
65.


The presence of a determiner in (65) raises questions about the structure in (64), since if the phrase containing \(k u\) is an NP rather than a DP, it is not clear where \(k u\) is to be situated in the tree. An alternative analysis would be to say that the \(k u\)-phrase is a DP which is adjoined to an adjective phrase. This enables a unified analysis of \(k u\) as a determiner, but raises problems of its own, namely that it is no longer clear how to derive the categorial restrictions on the second element of the complex predicate (i.e. that it can only contain an NP). I will assume for reasons of consistency with analyses presented in later sections that the \(k u\)-phrase in (65) is a DP in adjoined position; however, it is clear that further work needs to be done on the structure of complex predicates.

The optionality of \(k u\) in the complex predicates can be derived by a phonological deletion rule, which requires adjacency between the adjective and the adjoined DP. For example, if a subject clitic is inserted into the complex predicate, as in (66), \(k u\)-deletion is blocked:
66.
\begin{tabular}{|c|c|c|c|}
\hline \multirow[t]{4}{*}{a.} & ¢əા̧əl-łkal & *(k \({ }^{\text {W/u}}\) ) & Šmú \\
\hline & gélgel-lhkalh & *(ku) & smúlhats \\
\hline & strong-1pl.subj & *(det) & woman \\
\hline & 'We're strong w & men.' & \\
\hline
\end{tabular}
b. n?áṅwas-kaq \(*\left(k^{W} u\right)\) Sáma?
n7án'was-kalh \(\quad *(k u) \quad\) sáma7
two(human)-1pl.subj \(\quad{ }^{*}\) (det) white.person
'We are two white people.'
(St'át'imcets; RW)

Assertion of existence determiners are not substitutable for \(k u\) in the complex predicate construction; the examples in (65) would be ungrammatical with \(t i \ldots a\) instead of \(k u\). If assertion of existence DPs locate an individual in space and time, we can say that this location of an individual is incompatible with predicate environments. \({ }^{29} \mathrm{Ku}\), however, does not spatiotemporally locate (a stage of) an individual, but can introduce a predicate modifier (i.e. type \(<\langle e, t\rangle,\langle e, t\rangle\rangle)\). As such, the meaning of \(k u\) is compatible with appearance inside a predicate, as in (65) and (66). \({ }^{30}\)

In the predicate domain, just as in the argument domain, we have seen an asymmetry between assertion of existence determiners and \(k u\). With argument DPs, there is an interpretive difference (whether existential force obtains or not), as well as a distributional difference (the environments where \(k u\) is licensed are a subset of the environments where assertion of existence determiners are licensed). In the complex predicate domain, there is purely a distributional difference; assertion of existence determiners are not possible.

\footnotetext{
\({ }^{29}\) The location of an individual in space and time might suggest that assertion of existence DPs are of type \(e\) (entities). However, there are problems with such an analysis, as discussed in Chapter 6.
\({ }^{30}\) See Partee (1987) on the type-shifting possibilities of noun phrases.
}

\subsection*{3.2.2. Relative clauses}
\(K u\) may appear on the NP which is coreferential with the head in an NP-final relative clause (see Demirdache and Matthewson 1995a, Matthewson and Davis 1995 on this type of relative clause). \(K u\) is optional (although dispreferred) in this construction. The relative clauses in (67) are all judged 'better' without \(k u\), but are permissable with \(k u\). As with the complex predicates, I assume a phonological deletion rule which eliminates \(k u\).
67.


As with the complex predicates, assertion of existence determiners may not be substituted for \(k u\) in the NP-final relative clauses, as shown in (68).
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline 68. & * & pún-qkan & [ t & \(\mathrm{x}^{\text {Wúuləl-a }}\) & ti & ċqáx \({ }^{\text {P-a] }}\) \\
\hline & * & pún-lhkan & [ti & cúlel-a & ti & ts'qáx 7 -a] \\
\hline & & find(tr)-1sg.subj & [det & run.away-exis & det & horse-exis] \\
\hline
\end{tabular}

For concreteness, I propose the structure in (69) for the NP-final relative clause. \({ }^{31}\)

\footnotetext{
\({ }^{31}\) See Demirdache and Matthewson (1995a) for the first treatment of this type of relative clause. Demirdache and Matthewson's structure differs from (69) in that the nominal which is coindexed with the head appears in a higher position than the \(\mathrm{D}^{0}\) head of the entire DP. See also
}
69. ti xzúma ku spzúza7 'the big bird'


The adjoined phrase is coindexed with the null head of the relative clause. The determiner on the adjoined phrase will be correctly restricted to \(k u\) if, as suggested in the previous subsection, \(k u\) is the only determiner which allows its DP to be of type \(\langle\langle e, t\rangle,\langle e, t\rangle\rangle\). As with the complex predicates, the adjoined phrase here is not the argument of a main predicate. The \(k u\)-phrase receives a theta-role from the predicate inside the relative clause (see Demirdache and Matthewson 1995a, Matthewson and Demirdache 1995).

\subsection*{3.2.3. Quantified temporal adjuncts}

Inside temporal adjuncts, \(k u\) may co-occur with a quantifier (unlike inside arguments; see §3.1.1).
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline 70. & [tákəm & ( \(\mathrm{k}^{W} \mathrm{u}\) ) & Şılt] & \(k^{W}-\) - \(n-5-w a ́\) & \(\lambda\) 方 \(x^{W}\)-ən & ti & n-xiflap-a \\
\hline & [tákem & (ku) & sq'it] & kw-en-s-wá & t'écw-en & ti & n-xılílap-a \\
\hline & [all & (det) & day] & det-1sg.po-nom-prog & sweep-tr & det & 1sg.po-floor-exis \\
\hline & 'Every & I sw & p the f & & & & mcets; RW, GN) \\
\hline
\end{tabular}
\(K u\) in this construction cannot be encoding non-assertion of existence, since as mentioned above, quantifiers require that their range exists. The structure given in (71) for these constructions was

\footnotetext{
Matthewson and Davis (1995). The correct structure of the NP-final relative clauses is a complex issue which I cannot completely solve here.
}
proposed in Chapter 1 ( \(\$ 2.2 .3\) ). The quantifier ranges over a null DP (independently attested in the language; see Chapter 5), and the \(k u\)-phrase adjoins to this.
71. tákem ku sq'it 'every day'

\(K u\) may be replaced by an assertion of existence determiner in the temporal adjuncts, as shown in (72). \({ }^{32}\)


However, it was argued in Chapter 1 that the two determiner-types possible in temporal adjuncts correspond to two different constructions. In particular, the phrases which contain assertion of existence determiners (like in (72)) may appear as arguments of a main predicate, while the phases containing \(k u\) are strictly adjuncts. This is shown by the contrast in (73).
73.
a. \({ }_{*}^{*}\)
\(\begin{array}{lllll}\text { * wa7 } & \text { zact } & {[\text { [zínzeg' }} & \text { (ku) } & \text { sq'it] } \\ \text { prog } & \text { long } & {\left[\begin{array}{lll}\text { each } & \text { (det) } & \text { das } \\ \text { day }\end{array}\right.} & \begin{array}{l}\text { when-3sg.conj }\end{array}\end{array}\)
'Every day is long in summer.'
plpánčək pipántsek
summer
(St'át'imcets; RW)
 'Every day is long in summer.'
(St'át'imcets, RW)

Since the temporal phrases containing assertion of existence determiners look and behave exactly like quantified argument phrases containing assertion of existence determiners, I analyze

\footnotetext{
32 The meaning difference between temporal adjuncts containing \(k u\) and containing assertion of existence determiners is extremely subtle.
\({ }^{33} \mathrm{Ku}\) is licensed here on the object of a 'middle' verb; see \(\S 3.2 .6\) below.
}
them as involving the structure proposed for quantified argument phrases, given in (74) (see Chapter 1, Chapter 5).
74.


According to this analysis, assertion of existence determiners are not substitutable for \(k u\) inside temporal adjuncts, but rather appear in a completely different structure. \(K u\) again marks adjunction (secondary predication), while the assertion of existence \(i . . . a\) as usual appears as the head of a determiner phrase in argument position.

\subsection*{3.2.4. Demonstrative constructions}
\(K u\) may appear inside a DP which contains an overt demonstrative pronoun such as \(t i 7\) ('that').
\begin{tabular}{|c|c|c|c|c|}
\hline 75. &  & [t1] & \(\mathrm{k}^{\mathrm{W}} \mathrm{u}\) & Sqáy \({ }^{\text {w }}\) ] \\
\hline & kúkwpi7 & [ti7 & ku & sqaycw] \\
\hline & chief & [dem & det & man] \\
\hline & 'That man & ef.' & & \\
\hline
\end{tabular}

In the demonstrative construction containing \(k u\), no non-factual Operator is required. In (76a), there is no non-factual Operator present, and \(k u\) is not licensed. However, its minimal pair in (76b) containing a demonstrative plus \(k u\) is fine:
76.
 foc [det policeman] catch(redup)-caus-1sg.obj-3erg 'It was a policeman that caught me.'
(St'át'imcets; RW, GN)
\(\begin{array}{lllll}\text { b. } & \text { nit } & {[t 17} & \mathrm{k}^{\mathrm{W}} \mathrm{u} & \text { plís } \\ \text { nilh } & {[t i 7} & \mathrm{ku} & \text { plís } \\ & \text { foc } & \text { [demon } & \text { det } & \text { poli } \\ & \text { It was a policeman that caught me.' }\end{array}\)
\(\mathrm{k}^{\mathrm{W}}\) an.əns-túmx-as
kwan.en-s-túmc-as
catch(redup)-caus-1sg.obj-3erg
\(\quad\) (St'át'imcets; RW, GN)

Assertion of existence determiners may also co-occur with demonstratives, as shown in (77).
\begin{tabular}{|c|c|c|c|c|c|}
\hline 77. & ni4-5 & \(q^{\text {w }}\) actax \({ }^{\text {ces }}\) & [ti? & ti & sqáy \({ }^{\text {w }}\)-al \\
\hline & nilh-s & qwatsáts-s & [ti7 & ti & sqáycw-a] \\
\hline & foc-nom & leave-3sg.poss & [dem & det & man-exis] \\
\hline
\end{tabular}
(St'át'imcets; van Eijk and Williams 1981:58)

One possible hypothesis, based on the fact that any determiner can co-occur with a demonstrative, is that the demonstrative simply occupies Spec, DP, and co-occurs with \(\mathrm{D}^{0}\). However, this would not account for why \(k u\) is licensed by a demonstrative, as in (76b); demonstrative pronouns not only do not belong to the class of non-factual Operators, but imply existential force, since they deictically locate an individual (cf. Demirdache 1996a,b, Chapter 1, §1.5.5).

Matthewson and Davis (1995) propose that (75,76b) have a different structure from (77). Demonstrative constructions containing \(k u\) are as in (78a), while demonstrative constructions containing assertion of existence determiners are as in (78b). Only in the assertion of existence cases does the determiner occupy the head of the entire DP.
78. a. ti7 ku plismen 'that policeman'

b. ti7 ti plísmena 'that policeman'


Matthewson and Davis offer a range of arguments for the different structures in (78). One piece of evidence comes from categorial restrictions on the \(k u\)-phrase in demonstrative constructions. Note that under normal circumstances in which a non-assertion of existence \(k u\) is licensed, any open-class item ( \(\mathrm{N}, \mathrm{V}\), or A ) can follow \(k u\). With non-nouns, a prior context is preferred, as in (79), where the two sentences form a connected discourse.
79.
\begin{tabular}{|c|c|c|c|c|c|}
\hline \(x^{W} 21 t\) & ku? & 1 & zúmak-a & 1-ti &  \\
\hline cw7it & t'u7 & i & zúmak-a & 1-ti & sat'-átqw7-a \\
\hline many & still & pl.det & spring.salmon-exis & in-det & sat'-water-exis \\
\hline 'There & of & ing & lmon in the Fraser.' & & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|}
\hline xák-mini-qkan & *u? & \(\left[\mathrm{k}^{\mathrm{W}} \mathrm{u}\right.\) & \(\left.\dot{q}^{W} u \dot{q}^{W} ¢ \chi\right]\) \\
\hline xát'-min'-lhkan & t'u7 & [ku & \(q^{\prime} \mathbf{u q}{ }^{\prime} \mathbf{w t s}\) \\
\hline hard-appl-1sg.subj & still & [non.exis.det & \\
\hline
\end{tabular}
(St'át'imcets; LT)

However, in the presence of a demonstrative, only nouns may follow \(k u\), as shown in (80). Even the presence of a prior context or pointing cannot save \((80 \mathrm{~b}, \mathrm{c})\).
80.
\begin{tabular}{|c|c|c|c|}
\hline a. \(\quad t_{2 x} x^{W} p-m i ́ n-\nmid k a n\) tecwp-mín-lhkan buy-appl-1sg.subj 'I bought that car.' & \begin{tabular}{l}
[ti? \\
[ti7 \\
[dem
\end{tabular} & \[
\begin{aligned}
& \mathrm{k}^{\mathrm{W}} \mathrm{u} \\
& \mathbf{k u} \\
& \text { det }
\end{aligned}
\] & \begin{tabular}{l}
kah] \\
kaoh \\
car]
\end{tabular} \\
\hline \begin{tabular}{l}
b. * təx"p-mín-4kan \\
* tecwp-mín-lhkan buy-appl-1sg.subj
\end{tabular} & \[
\begin{aligned}
& \text { [ti? } \\
& {[\mathrm{ti} 7} \\
& {[\mathrm{dem}}
\end{aligned}
\] & \[
\begin{aligned}
& k^{W} u \\
& \text { ku } \\
& \text { det }
\end{aligned}
\] & yzum xzum big] \\
\hline
\end{tabular}
 'I bought that one that's going by there.'

Whatever the reason for the restriction to nominal complements in (80), the contrast between (79) and (80) is at least suggestive of a different structure for the two constructions. \({ }^{34}\)

\footnotetext{
\({ }^{34}\) There are some instances where \(k u\) following a demonstrative allows a non-noun, as in (i).
i. a. \(x\) ̧txət \(t 1 ? \mathrm{k}^{\mathrm{W}} \mathrm{u}\) wa? zw átət-xal
célhcelh ti7 ku wa7 zwátet-cal
eager dem det prog know(redup)-intr 'He's a good learner.'
b. pzán-tkan [ti? \(k^{W} u\) ?áčx-ən-ax \({ }^{W}\) ]
}

The categorial asymmetry seen in (80) does not hold with the assertion of existence determiners; any category can follow \(t i . . . a\), whether or not a demonstrative is present.
81.
a. tex \({ }^{\mathrm{W}} \mathrm{p}-\mathrm{min} n-\neq \mathrm{kan}\) tecwp-mín-lhkan buy-appl-1sg.subj
\begin{tabular}{|c|c|c|}
\hline [tı? & ti & kán \\
\hline [ti7 & ti & káoh-a] \\
\hline [dem & det & car-exis] \\
\hline
\end{tabular}
'I bought that car.'
b. tex" \(p-m i ́ n-t k a n\)
\begin{tabular}{lll}
{\([t i 7\)} & ti & xzúm-a] \\
{\([t i 7\)} & ti & xzúm-a] \\
{\([\) dem } & det & big-exis]
\end{tabular}
tecwp-mín-lhkan
buy-appl-1sg.subj \(\quad\)\begin{tabular}{lll}
{\([\) ti7 } & ti & xzúm-a] \\
[dem & det & big-exis]
\end{tabular} 'I bought that big one.'
c. tax \({ }^{W} p-m i n-t k a n\) tecwp-mín-lhkan buy-appl-1sg.subj
'I bought that one that's going by there.'

This is compatible with the analysis in (78b), whereby demonstrative constructions involving assertion of existence determiners are essentially equivalent to plain DPs containing assertion of existence determiners.

Further evidence for the two structures in (78) comes from possessor facts. (82a) shows that a possessor may co-occur with a demonstrative and an assertion of existence determiner. (82b) shows that this is not possible with \(k u\).
82.
\begin{tabular}{|c|c|c|c|c|}
\hline ** p -mín-qkan & [ti? & ti & káh-s-a & S-Mary] \\
\hline tecwp-mín-lhkan & [ti7 & ku & kaoh-s-a & s-Mary] \\
\hline buy-appl-1sg.subj & [dem & det & car-3sg.poss-det & nom-Mary] \\
\hline 'I bought that car of & & & (St'át'imcets; Mat & n and Davis \\
\hline
\end{tabular}
'I bought that car of Mary's.'
(St'át'imcets; Matthewson and Davis 1995)
pzán-lhkan \begin{tabular}{l} 
[ti7 \\
meet(tr)-1sg.subj [demon \\
'I met that one that you saw.'
\end{tabular} \begin{tabular}{l} 
ku \\
det
\end{tabular}\(\quad\)\begin{tabular}{l} 
áts'x-en-acw] \\
see-tr-2sg.conj]
\end{tabular}
(ia) probably involves a different construction, literally 'that one is eager at learning', rather than
'that learning one is eager.' I do not have an explanation for (ib); notice that the adjoined status of
\(k u\) is still consistent with the absence of the requirement for a non-factual Operator to license \(k u\)
in this example.


The contrast in (82) follows directly from the structures in (78), combined with the analysis of possessors in St'át'imcets as internal arguments of N , argued for by Matthewson and Davis (1995) (see \(\S 4.1\) below). If possessors are internal arguments of Ns, they will not be able to occur on the right of a DP-adjunct ( \(k u\) kaoh in (82b)), but they will be able to appear on the right of an ordinary D NP string (as in (82a)).

The demonstrative constructions have provided further evidence for the correlation of \(k u\) with adjoined DPs. In this environment, \(k u\) is the only determiner available. Assertion of existence determiners do not appear inside secondary predicates, but only as the head of argument DPs.

\subsection*{3.2.5. Adverbial phrases}
\(K u\) appears inside certain adverbial phrases. VP-modifying adjuncts as in (83) allow optional \(k u\) :
\begin{tabular}{|c|c|c|c|}
\hline a. & ? \({ }^{\text {ckw }}\) wal-7kan & [ \(\left(k^{W} \mathrm{u}\right)\) & \(x^{W}\) m] \\
\hline & úxwal'-lhkan & [(ku) & xwem] \\
\hline & go.home-1sg.subj & [(det) & fast] \\
\hline & 'I went home right & quickly & \\
\hline
\end{tabular}
(St'át'imcets; RW)

(St'át'imcets; GN)

Argument-oriented adverbials, as in (84), have obligatory \(k u\) :
84.
\begin{tabular}{|c|c|c|c|c|c|}
\hline a. & \(x^{\text {w }} 7\) az & \(k^{W}-a-{ }^{\text {c }}\) & Ṧ́ákimx-əと & [* (kw \({ }^{\text {w }}\) ) & \({ }^{\text {w }}\) ] \\
\hline & cw7aoz & kw-a-s & st'at'imc-ets & [*(ku) & tî7texw] \\
\hline & neg & det-prog-nom & st'at'imc-mouth & [*(det) & correct] \\
\hline
\end{tabular} 'He doesn't speak St'át'imcets correctly.' (subject-oriented) (St'at'imcets; RW)
 'She cut the bread thinly.' (object-oriented) (St'át'imcets; RW)

Assertion of existence determiners are not substitutable into the adverbial phrases. Unfortunately, the range of adverbs which allow these constructions is very limited (in fact, is almost exhausted by (83-84)), and it is difficult either to suggest structures with any degree of certainty, or to come up with a reason for the difference between (83) and (84) with respect to optionality of \(k u\). Following the argumentation so far, we can at least hypothesize that an adjunction structure is involved, roughly schematized in (85).
85.


\subsection*{3.2.6. 'Objects' of middles'}

The final environment in which \(k u\) appears is on the objects of so-called 'middle' verbs. 'Middle' verbs (adopting traditional Salishanist terminology) are unergative predicates that are morphologically intransitive, but allow an overt object argument (see Davis 1993, 1994a, to appear for analysis). \({ }^{35}\) The object of a middle verb contrasts with the object of an ordinary transitive predicate, which may not contain \(k u\) unless a non-factual Operator is present. In the minimal pairs in (86-87), the (a) versions contain a middle verb, while the (b) versions contain a transitive verb. \({ }^{36}\)

\footnotetext{
35 'Morphologically intransitive' predicates are those which do not contain overt transitive morphology. They may, but need not, contain overt intransitivizing morphology (cf. (72) above). See also footnote 38.
\({ }^{36}\) Irene Heim (p.c.) points out the puzzling fact that the verb look for is standardly treated as an intensional verb, and as such should license \(k u\)-objects even in the transitive constructions in (86b, 87b). I do not have an explanation for this phenomenon at this stage.
}
b. * \(\mathrm{x}^{\mathrm{w}} \mathbf{1 9} 1-2 n-4 \mathrm{kan}\)
[k" \({ }^{\mathrm{w}}\)
\(q^{\text {w }} \mathrm{u}\) 2]
* cwil'-en-lhkan
look.for-tr-1sg.subj
'I looked for some water.'
[ku
[non.exis.det
qu7]
water] (transitive)
(St'át'imcets; RW)
87.
\begin{tabular}{|c|}
\hline \(x^{\mathrm{w}} \mathrm{\beta} \mathfrak{1}-ə m\) - 7 kan cwil'-em-lhkan \\
\hline look.for-intr-1sg. \\
\hline 'I looked for a bear \\
\hline
\end{tabular}
\begin{tabular}{lll}
{\(\left[k^{W} u\right.\)} & míxat] \\
{\([\) ku } & míxalh] \\
[non.exis.det & bear]
\end{tabular}
(middle)
(St'at'imcets; RW)
b. * \(x^{w}\{1\) il-ən-4kan
* cwil'-en-lhkan
look.for-tr-1sg.subj 'I looked for a bear.'
\(\left[\mathrm{k}^{\mathrm{W}} \mathrm{u}\right.\)
míxa+]
[ku míxalh]
[non.exis.det bear]
(transitive)
(St'át'imcets; RW)

The middle verbs do not license \(k u\) on a subject, providing yet another example of a subjectobject asymmetry.

(St'át'imcets; LT)

Contrast (88) with (89), where a future auxiliary licenses \(k u\) on the subject of a middle verb:
89.
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \(\mathrm{x}^{\text {W/uz }}{ }^{\prime}\) & wa? & púpəǹ & \(\left[\mathrm{k}^{\mathrm{W}} \mathrm{u}\right.\) & Šqayx \({ }^{\text {w }}\) ] & \(\left[\mathrm{k}^{\mathrm{W}} \mathrm{u}\right.\) & ] \\
\hline cuz' & wa7 & púpen' & [ku & sqaycw] & [ku & i7] \\
\hline going.to & & find(redup) & [non & & .ex & \\
\hline 'Some & & na find a de & 'r today ' & & (St'át'im & ts; LT \\
\hline
\end{tabular}

I claim that the 'objects' of middle verbs undergo incorporation into the predicate at LF. Following de Hoop (1992), we can differentiate objects which behave as 'real arguments of a predicate' from those which 'are more readily interpreted as in some sense part of the predicate' (de Hoop 1992:98). De Hoop's informal description is as follows:
in a sentence such as Paul has described this fish the predicate describe takes two independent arguments Paul and this fish, which can be formulated in predicate logic as \(\mathrm{D}(\mathrm{p}, \mathrm{f})\), whereas in a sentence such as Paul is describing a fish, Paul is the
only real argument of the predicate describe a fish, which can be noted down as \(\mathrm{D}^{\prime}(\mathrm{p})\) (de Hoop 1992:98).

De Hoop claims that objects which are real arguments of the predicate (such as this fish in (90a)) receive STRONG CASE, while objects with WEAK CASE are interpreted as part of the predicate (90b). \({ }^{37}\) Partee's (1987) type-shifting principles are adopted, so that strong objects are of type \(\ll e, t>, t\rangle\) (i.e. generalized quantifiers), while weak objects are either of type \(\ll e, t\rangle,\langle e, t\rangle>\) (predicate modifiers) or of type \(e\) (entities).
90. a. Paul has described [this fish].
b. Paul is describing [a fish].

Within de Hoop's system, the objects of middles in Salish would receive weak Case and function as part of the predicate. They contrast in this with objects of transitives, which receive strong Case and are real arguments of the predicate. Aspectual effects and determiner-choice effects correlate with choice of Case, just as in English.

Support for this analysis comes from Davis (1994a), who claims that the objects of middles 'show many characteristic properties of incorporation'. They are 'generally interpreted as generic, non-specific, or collective', and contrast in their interpretation with the objects of transitives (Davis to appear): \({ }^{38}\)

\({ }^{37}\) In the English examples given by de Hoop, there is both an aspectual difference and a definiteness difference between the 'real argument' cases and the 'part of the predicate' cases. Both aspect and definiteness can influence the interpretation of the object.
38 The cross-Salish 'middle' suffix generally contains \(-m\). St'at'imcets possesses two intransitive suffixes which allow overt DP 'objects', the middle suffix -(V)m and the active intransitive suffix -cal (seen in (91)). See Davis (to appear) for detailed analysis.

The use of the non-referential determiner \(k^{W} u\) is typical of DPs in the [middle] construction, as are both the generic reading of the object in [91a] and the irrealis mood in [91b]. In fact, active intransitives are generally restricted to these environments. In telic contexts they are replaced by directive transitives:
\[
\begin{aligned}
& \text { c. put-uñ-7kán tu? [?1 ?ú?š?-a] } \\
& \text { pulh-un'-lhkán tu7 [i ú7s7-a] } \\
& \text { boil-dir-1sg.subj compl [pl.det egg-exis] } \\
& \text { 'I boiled some (specific) eggs.' }
\end{aligned}
\]

For some speakers, assertion of existence determiners are highly dispreferred on the objects of middle verbs. For these speakers, middle verbs necessarily take objects which are part of the predicate. Some speakers, on the other hand, do allow sentences such as in (92).

(St'át'imcets; RW)
(92) must have a different structure at Logical Form from the 'part of the predicate' cases. In (92), the DP appears in argument position, just like the object of an ordinary transitive predicate.

What is the position of the middle-objects at S-Structure? If these cases are to parallel the other non-argument cases of \(k u\), they should ideally appear in adjoined positions. This possibility is supported by the fact that in some Salish languages, objects of middles must be marked as oblique (M.D. Kinkade, p.c.; see Thomason and Everett 1993 for Selis, \({ }^{39}\) among others). Also note that objects of middles require special morphology when syntactically extracted in many languages (Kroeber 1991, Davis et al. 1993, Gardiner to appear), a requirement which is usually taken to mean that the relevant DPs do not start out in argument position. Finally, note that secondary prediction often correlates with syntactic adjunction (Speas 1986, McNulty 1988, Déchaine 1993). \({ }^{40}\)

39 Thomason and Everett call the relevant intransitive suffix 'antipassive', but the suffix is directly parallel to the St'at'imcets middle suffixes.
40 Eloise Jelinek suggests (p.c.) that the middle-objects cases could be combined with the complex predicates discussed in §3.2.1 above, and that both constructions may involve overt incorporation at S-Structure. There are several arguments against such an analysis in St'at'imcets. Objects of middle verbs do not behave as if they were incorporated at S-Structure. Unlike the nominal element in complex predicates, middle objects can be overtly extracted by focussing or in wh-questions. Unlike in complex predicates, an adverbial may intervene between a middle

\subsection*{3.2.7. The two uses of \(\boldsymbol{k u}\)}

The environments in which \(k u\) may appear are summarized in (93). According to the analyses proposed in preceding subsections, \(k u\) is never interchangeble with assertion of existence determiners in (93vi-xi). If it appears that substitution is possible, different structures at SStructure and/or Logical Form have been proposed.
\begin{tabular}{|c|c|c|}
\cline { 2 - 3 } \multicolumn{1}{c|}{ 93. } & environment & licensing \\
\hline i. & c-commanded by modal & non-factual Operator \\
\hline ii. & c-commanded by intensional V & non-factual Operator \\
\hline iii. & c-commanded by yes-no marker & non-factual Operator \\
\hline iv. & c-commanded by wh-phrase & non-factual Operator \\
\hline v. & c-commanded by negation & non-factual Operator \\
\hline vi. & complex predicate & adjunction \\
\hline vii. & NP-final relative & adjunction \\
\hline viii. & quantified temporal adjuncts & adjunction \\
\hline ix. & demonstrative construction & adjunction \\
\hline x. & adverbials & adjunction \\
\hline xi. & c-commanded by middle verb & adjunction \\
\hline
\end{tabular}

There is a clear split between (i-v) and (vi-xi), both in syntax and semantics. Cases (i-v) involve argument DPs, with a non-assertion of existence interpretation and a licensing requirement that a non-factual Operator be present. Cases (vi-xi) do not require licensing by a non-factual Operator. Several of these cases have independently been argued to involve syntactic adjunction; I have hypothesized that all the instances in (vi-xi) where \(k u\) does not require licensing by a non-factual operator involve adjunction structures. This accords with the semantics of these constructions, since they all appear to involve secondary predication, which often corresponds to syntactic adjunction (see references cited above).

I have further proposed that in (vi-xi), \(k u\)-DPs are of semantic type \(\ll e, t\rangle,\langle e, t\rangle>\), namely predicate modifiers. The nature of the assertion of existence DPs precludes them being of this
type; they locate an individual in space and time. \({ }^{41}\) It is therefore not an accident that it is precisely the non-assertion of existence determiner which allows a wide range of additional uses outside of DPs in argument position.

\section*{4. The internal syntax of DP}

To conclude the discussion of St'at'imcets, this section briefly summarizes what is known about the internal structure of DP in ths language. For further details and analysis, see Matthewson and Davis (1995).

A determiner in St'at'imcets may select a projection of any open class lexical item, as shown in (94).
94.
 ts'áqw-an'-lhkan [ni ts'úqwaz'-a] eat-tr-1sg.subj [det fish-exis] 'I ate the fish.'

ts'áqw-an'-lhkan [ni kwán-an-a]
eat-tr-1sg.subj [det catch(tr)-1sg.conj-exis]
'I ate the one I caught'.
c. čáq\({ }^{W}-a n ̉-\not+k a n\) [nt \(\left.x z u ́ m-a\right]\)
ts'áqw-an'-lhkan [ni xzúm-a]
eat-tr-1sg.subj [det big-exis]
'I ate the big one.' (the one which was big)

Matthewson and Davis (1995) analyze (94b) and (94c) as relative clauses headed by an empty pronominal. Their analysis of the DPs in (94), which I adopt, is given in (95). The clitic portion of the determiner encliticizes to the first element inside the complement of \(D\).

\footnotetext{
verb and its object, and unlike in complex predicates, an overt determiner is obligatory rather than optional on the object of a middle verb (thanks to Henry Davis for discussion of this issue). 41 Assertion of existence DPs are generalized quantifiers, i.e. of type \(\ll e, t\rangle, t\rangle\), when they contain an overt quantifier. See Chapter 6.
}
95. a.

b. /c.


In (95b,c), the determiner selects a relative clause, whose head is null (pro), and inside which movement of an empty Operator takes place. \({ }^{42}\) There is therefore a clausal structure inside (95b/c) but not inside (95a). Evidence for this distinction comes in large part from headed relative clauses, which show a clear categorial distinction between the two structures in (6).
96. a. [D NP]
b. [D clause]

For discussion of headed relative clauses in St'at'imcets, see the Introduction, Matthewson and Davis (1995), and Demirdache and Matthewson (1995a).

\footnotetext{
42 In St'at'imcets and other Salish languages, special morphology indicates that movement of some sort has taken place inside relative clauses (see Kroeber 1991, Davis et al. 1993, Demirdache and Matthewson 1995, Montler 1994, Hukari 1995, among others). Since the head nominal is null in relatives like in ( \(94 \mathrm{~b}, \mathrm{c}\) ), the element which has moved must be phonologically empty.
}

\subsection*{4.1. Possessors}

Overt possessors in St'át'imcets are base-generated as complements of N and may undergo DPinternal scrambling. Evidence that possessors in St'át'imcets are complements, rather than specifiers, comes firstly from word order facts. In the Lower dialect, a possessor must always follow its possessed nominal head, as shown in (97).
97.
\begin{tabular}{|c|c|}
\hline a. & pəlp-s-kán \\
\hline & pel'p-s-kán \\
\hline & lost-caus-1sg.subj \\
\hline & 'I lost Mary's book \\
\hline
\end{tabular}
[?1 púkwn-s-a s-Mary]
[i púkw-s-a s-Mary]
[pl.det book-3sg.poss-exis nom-Mary] 'I lost Mary's books.'
(St'át'imcets; Upper or Lower dialect)
b. * \(\begin{aligned} & \text { * } \text { pəlp-s-kán } \\ & \text { pel'p-s-kán } \\ & \text { lost-caus-1sg.subj } \\ & \text { II lost Mary's books. }\end{aligned}\)
\begin{tabular}{lll} 
[క-Mary & ?1 & púk \(\left.{ }^{W}-s-a\right]\) \\
[s-Mary & i & púkw-s-a] \\
[nom-Mary & pl.det & book-3sg.poss-exis] \\
& & \\
& &
\end{tabular} (St'át'imcets, Lower dialect)

Speakers of the Upper dialect allow possessors either to precede or follow the possessed nominal (see also Gardiner et al. 1993). However, when stacked possessors are used (such as 'Mary's mother's friend'), word order possibilities are not free even in the Upper dialect. The possessorfinal order is always grammatical for all speakers.

The base structure for possessives proposed by Matthewson and Davis (1995) is given in (98) (cf. Baker 1996:259). \({ }^{43}\)

\footnotetext{
43 Baker (1996) proposes for Mohawk that possessors are internal arguments of N. However, in Mohawk, the complement to N position is filled by pro. In the case of an overt possessor, an NP corresponding to the possessor is adjoined to DP and coindexed with the pro inside DP (Baker 1996:257-258).
Another difference between Mohawk and St'át'imcets is that the possessor in Mohawk is an NP, while in St'at'imcets it is a DP, as shown by the fact that the possessor obligatorily requires its own determiner (unlike in English; cf. 'the chiefs' mother', * 'the chief's the mother').
}
98.


Possessor

Support for the proposal that the possessor is an internal argument of N comes from the fact that unlike in English，possessors in St＇at＇imcets do not saturate the noun phrase of which they are a part．That is，possessed nominals in St＇át＇imcets can still function as predicates，as shown in（99）．
99.
\begin{tabular}{|c|c|c|c|}
\hline  & S－Mary］ & ［t \(\dagger\) & pint－án－an－a］ \\
\hline ［tsitcw－s & s－Mary］ & ［ti & pint－án－an－a］ \\
\hline ［house－3sg．poss & nom－Mary］ & ［det & paint－tr－1sg．conj－exis］ \\
\hline ＇I painted Mary＇s & house．＇（＇The & I & ted was Mary＇s house．＇） \\
\hline
\end{tabular}
b．
\begin{tabular}{llll}
［s－Mary & とit \({ }^{W}\)－s］ & ［ti & pint－án－an－a］ \\
［s－Mary & tsitcw－s］ & ［ti & pint－án－an－a］ \\
［nom－Mary & house－3sg．poss］ & ［det & paint－tr－1sg．conj－exis］
\end{tabular}
＇I painted Mary＇s house．＇（＇The one I painted was Mary＇s house．＇）（St＇át＇imcets；RW）

A possessed nominal which lacks a determiner may not function as an argument（since it is unsaturated），as shown in（100a）．To function as arguments，possessed NPs require an initial determiner（100b）

a．＊フáćx－2n－4kan
＊áts＇x－en－lhkan see－tr－1sg．subj
＇I saw Mary＇s house．＇
［xitx \({ }^{W}-\)－
s－Mary］
［tsitcw－s s－Mary］ ［house－3sg．poss nom－Mary］
（St＇át＇imcets；Matthewson and Davis 1995）
b．Táčx－ən－みkan
áts＇x－en－lhkan
see－tr－1sg．subj
＇I saw Mary＇s house．＇
［t1 čitx \({ }^{W}\)－š－a s－Mary］
［ti tsitcw－s－a s－Mary］
［det house－3sg．poss－exis nom－Mary］
（St＇át＇imcets；Matthewson and Davis 1995）

I assume that saturation can be performed by an element in Spec position or in head position, but not by an internal argument (see Rothstein 1983, Higginbotham 1985). Hence, the fact that possessors do not saturate NPs in St'at'imcets fits with the analysis in (98).

A language which is similar to St'át'imcets in that possessors do not saturate NPs is Italian; Giorgo and Longobardi (1991:157) note that 'articleless singular NPs containing a possessive ... cannot function as arguments'. Giorgo and Longobardi analyze Italian possessors as adjectives.

Further evidence for the internal argument status of possessors in St'at'imcets comes from the absence of any other complements to N . This follows if there is only one theta-role assigned to each syntactic position (cf. Baker 1996). Mohawk, which also has internal possessors, also lacks other complements to N; see Baker (1996). In English, on the other hand, the possessor occupies Spec, DP and the complement position is available for use in phrases such as a picture of John, the destruction of the city.

Finally, the possessor in St'at'imcets cannot, unlike in English, receive the agent theta-role (a role typically associated with specifier positions). This is shown in (101).
\begin{tabular}{llllll} 
101. a. & wa? & látiך & {\([\mathrm{tti}\)} & púk \({ }^{\mathrm{w}}-\mathrm{s}-\mathrm{a}\) & S-Mary] \\
& wa7 & láti7 & {\([\mathrm{ti}\)} & púkw-s-a & s-Mary] \\
& aux & deic & [det & book-3sg.poss-exis & nom-Mary \(]\)
\end{tabular}
'That's Mary's book.' (she owns it)
* 'That's Mary's book.' (the one she wrote)
(St'át'imcets; Matthewson and Davis 1995)
\begin{tabular}{lllll} 
b. wa? & látj? & [ti & píǩ̌a-s-a & s-Mary] \\
wa7 & láti7 & [ti & piktsa-s-a & s-Mary] \\
aux & deic & [det & picture-3sg.poss-exis & nom-Mary \(]\)
\end{tabular}
'That's Mary's picture.' (she owns it)
'That's Mary's picture.' (she is in it)
? 'That's Mary's picture.' (she took it) (St'át'imcets; Matthewson and Davis 1995)

\subsection*{4.1.1. Possessor scrambling}

Possessor scrambling is strictly DP-internal; possessors may not escape DP under any circumstances (see Matthewson and Davis 1995, Davis et al. 1993, Gardiner et al. 1993). Evidence suggests that possessors scramble (in the Upper dialect) to adjoin to DP. This is shown in (102), where a possessor may scramble to either side of a strong quantifier. These quantifiers are independently shown to adjoin to DP (see Chapter 5, Matthewson and Davis 1995). Hence, (102) implies that possessors also adjoin to DP.
\begin{tabular}{ll} 
102. a. & \begin{tabular}{l} 
pzán-łkan tákəm \\
pzán-lhkan tákem
\end{tabular} \\
& \begin{tabular}{l} 
meet(tr)-1sg.subj all
\end{tabular} \\
& I met all John's relatives.'
\end{tabular}
\begin{tabular}{|c|c|c|}
\hline John & 71 &  \\
\hline s-John & i & snek'wnúk'wa7-s-a \\
\hline \multirow[t]{2}{*}{nom-John} & \multicolumn{2}{|l|}{pl.det} \\
\hline & & thewson and Da \\
\hline
\end{tabular}
(St'át'imcets; Matthewson and Davis 1995)
\(\begin{array}{llll}\text { b. } & \text { pzán-Ykan } & \text { S-John } & \text { tákəm } \\ \text { pzán-lhkan } & \text { S-John } & \text { tákem } \\ & \text { meet(tr)-1sg.subj nom-John } & \text { all }\end{array}\)
\(\begin{array}{llll}\text { b. } & \text { pzán-4kan } & \text { S-John } & \text { ták } 2 m \\ \text { pzán-lhkan } & \text { s-John } & \text { tákem } \\ & \text { meet(tr)-1sg.subj nom-John } & \text { all }\end{array}\)
\(\begin{array}{llll}\text { b. } & \text { pzán-4kan } & \text { S-John } & \text { ták } 2 m \\ \text { pzán-lhkan } & \text { s-John } & \text { tákem } \\ & \text { meet(tr)-1sg.subj nom-John } & \text { all }\end{array}\)
'I met all John's relatives.'

21 Snə \({ }^{W}{ }^{W}\) núk \(^{W}{ }^{W}\) a?-s-a i snek'wnúk'wa7-s-a pl.det friend(redup)-3sg.poss-exis (St'át'imcets; Matthewson and Davis 1995)

On the other hand, when a demonstrative pronoun is present, a possessor may only scramble to precede it, not to follow it.
103.


The data in (103) are consistent with the claim that the demonstratives (unlike the strong quantifiers) occupy Spec, DP and that the possessors scramble to adjoin to DP. Further evidence for this is provided in the next subsection.

\subsection*{4.2. Demonstrative pronouns vs. universal quantifiers}

When demonstratives pronouns co-occur with universal quantifiers, the demonstrative must follow rather than precede a quantifier, as shown in (104).


This supports the claim that demonstratives occupy Spec, DP, while universal quantifiers adjoin to DP. See Chapter 5 for further discussion.

The structure proposed for DPs in St'at'imcets is given in (105). If a demonstrative is present, this structure represents only the case with an assertion of existence determiner (cf. (78a,b) above).
105.


\section*{5. Conclusions}

This chapter has shown that the non-assertion of existence determiner \(k u\) appears in two distinct sets of environments, which are seen to be unified when one considers the nature of the nonassertion of existence determiner itself. When \(k u\) appears inside an argument DP, it must be licensed by a c-commanding non-factual Operator. This accords with the definition of assertion of existence within DRT given in the previous chapter: non-assertion of existence determiners must introduce a discourse referent which is inside a subordinate DRS.

The other set of environments in which \(k u\) appears have all been argued to involve syntactic adjunction and secondary predication. Crucially, assertion of existence determiners are ungrammatical in these contexts; their semantics is incompatible with secondary predication. \(K u\), on the other hand, does allow the DP which it creates to be of type \(\langle\langle e, t\rangle,\langle e, t\rangle\rangle\).

The licensing evironments for \(k u\) inside arguments provide evidence for a configurational clause structure in St'át'imcets, as also argued by Matthewson (1993), Matthewson et al. (1993), and Davis (1993). Evidence was provided that both negation and intensional verbs only license \(k u\) on a subset of argument DPs, namely those that they c-command at Logical Form.

\section*{CHAPTER 5}

\section*{DP-QUANTIFICATION IN SALISH}

\section*{0. Introduction}

Previous chapters have shown (among other things) that quantifiers do not occupy the determiner position in Salish. This finding is illustrated in (1) (see also Jelinek 1995).
1.


I have proposed that the restriction against quantificational determiners follows from a general restriction on determiners themselves in Salish, namely that they may not encode distinctions which rely on the common ground. The Common Ground Parameter is repeated in (2).

\section*{2. Common Ground Parameter}

Determiners may access the common ground:
Yes: \{English, ... \}
No: \{Salish, ... \}

This chapter begins the examination of the ways in which quantificational notions are expressed in Salish. Although the Salish system differs substantially from the English system, I will argue that many of the differences can be traced back to the independently required parameter in (2), and to the assertion of existence distinction which was introduced in Chapter 3.

This chapter begins with an overview of the D (eterminer)-quantification vs. A(dverbial)quantification distinction proposed by Partee et al. (1987). The rest of the chapter then addresses the status of the D vs. A-quantification split in Salish.

In §2, I show that Salish languages possess quantifiers which appear syntactically inside DP, and which therefore are classed as D-quantifiers according to the discussion in Partee (1991). The only syntactic position which is disallowed for quantifiers is the determiner ( \(\mathrm{D}^{0}\) ) position; quantifiers are legitimate in other DP-internal positions, such as adjoined to DP.
§2.2 argues that DP-internal quantifiers in at least St'at'imcets are not adverbial in their semantics; they are not unselective, and do not quantify over events or situations. There is therefore both syntactic and semantic evidence that D-quantifiers exist in some Salish languages. \({ }^{1}\)

Given that both D-quantifiers and A-quantifiers exist in Salish, the D-vs. A-quantification split cannot by itself account for the major difference between the Salish-type system and the Englishtype system, namely the lack of quantificational determiners in Salish. The D- vs. Aquantification split obscures an important distinction between different types of DP-internal quantifiers, those which occupy the syntactic position of a determiner (which are missing in Salish), and those which appear elsewhere within DP (present in Salish).

Another reason why the D- vs. A-quantification distinction cannot by itself account for Salish is that many A-quantifiers are unexpectedly missing from quantifier inventories in Salish, as shown in §3.

For these reasons, I propose in \(\S 4\) that the D-vs. A-quantification distinction be revised in favour of a three-way split, with quantifiers appearing in the syntactic position of the determiner receiving a separate status. The revised classification of quantifiers is given in (3).
3. a. A-quantification: A man always loves his children.
b. DP-quantification: [All the men] love their children.
c. \(\mathrm{D}^{0}\)-quantification: [Every man] loves his children.

\footnotetext{
1 Jelinek (1995:448) claims that Straits Salish lacks D-quantification, allowing only Aquantification or quantifiers which are predicates.
}

Salish languages possess A-quantifiers and DP-quantifiers, but lack \(\mathrm{D}^{0}\)-quantifiers.

The chapter concludes with a brief discussion of the implications of the three-way split for predicting the inventory of quantifiers in Salish languages.

\section*{1. D-quantification vs. A-quantification}

The distinction between D-quantification and A-quantification was introduced in Partee et al. (1987); see also Jelinek (1995), Partee (1991). 'D' stands for 'determiner', but D-quantification is taken to include all DP-internal quantification (i.e. a D-quantifier is not necessarily restricted to the syntactic position of a determiner). The ' A ' in 'A-quantification' stands for adverbs, auxiliaries, affixes and argument-structure adjusters (Partee 1991:441). An example of each type is given in (4).
4. a. Most women eat pancakes for breakfast.
(D-quantification)
b. John usually eats pancakes for breakfast.
(A-quantification)

D-quantifiers tend to range over individuals, while A-quantifiers often range over times, events, cases or situations. For example, in (4a) the quantifier most ranges over individuals who are women, while in (4b) the quantifier usually ranges over situations where John eats breakfast. The typical properties of quantification over individuals and events are listed in (5), which is adapted from Partee (1991:448). \({ }^{2}\) The 'individual' column corresponds roughly to D-quantification, while the 'case/event/situation' column corresponds roughly to A-quantification.
5.
\begin{tabular}{|l|c|c|}
\cline { 2 - 3 } \multicolumn{1}{c|}{} & Individual & Case/event/situation \\
\hline category & DP & S \\
\hline operator & \(\mathrm{D}^{0}\) & \begin{tabular}{c} 
adverb of Q, modal, \\
aux,,..
\end{tabular} \\
\hline sortal & noun & verb or verb frame \\
\hline predicates in restrictors & individual-level & stage-level \\
\hline typical restrictors & \begin{tabular}{c} 
CNP \\
relative clauses
\end{tabular} & \begin{tabular}{c} 
if/when clauses \\
focus frames
\end{tabular} \\
\hline
\end{tabular}

\footnotetext{
\({ }^{2}\) I have changed Partee's 'NP' to 'DP', in line with the DP-analysis of noun phrases assumed here.
}

As stated in (5), quantification over individuals tends to take place within DP, with the determiner as the operator and the noun as the sortal predicate; this is the case in (4a) above. Dquantifiers tend to have individual-level predicates inside their restrictors, which consist either of common noun phrases (women in (4a)), or relative clauses, as in (6).

\section*{6. [Most women who get up at 6 a.m.] eat pancakes for breakfast.}

Quantification over cases, events or situations, on the other hand, is often expressed at the sentence-level, either by an adverb of quantification (as in (4b)), or by a modal, as in (7a). The sortal predicate for A-quantifiers is often the verb, and typical restrictors involve if-clauses containing stage-level predicates, as in (7b).
7. a. Women who get up at 6 a.m. must eat pancakes for breakfast.
b. If John gets up at 6 a.m., he eats pancakes for breakfast.

The two columns in (5) correspond only roughly to the D/A split. In reality, there are many semantic parallels between the two types of quantification. For example, it is not true that D quantifiers always range over individuals and A-quantifiers never do (as pointed out by Lewis 1975, Partee 1990, 1991, Heim 1982).

When attempting to characterize the difference between D -quantification and A-quantification, authors sometimes state that A-quantifiers are more likely to quantify unselectively (see e.g. Jelinek 1995, Vieira 1995:701). Unselective binding is shown in (8). The universal adverbial quantifier always binds both variables, x and y , producing universal quantification over mandonkey pairs (see Lewis 1975, Heim 1982, Kamp 1981, and much subsequent research).
8. If a man owns a donkey, he always beats it.
\(=\quad\) Always, if \(x\) is a man, if \(y\) is a donkey, and if \(x\) owns \(y, x\) beats \(y\).
(cf. Lewis 1975:9)

However, D-quantifiers display unselective binding as well, as shown in (9) (cf. Heim 1982).
\(=\quad \forall x, y\), if \(x\) is a man, if \(y\) is a donkey, and if \(x\) owns \(y, x\) beats \(y\).

Thus, both D-quantifiers and A-quantifiers may unselectively bind variables (see Partee 1990).

D-quantifiers and A-quantifiers also display similarity in that both may induce tripartite quantificational structures (see e.g. Kamp and Reyle 1993:635, Partee 1991, Chierchia 1992, 1995, Schwarzschild 1989). The tripartite structure format is given in (10), with examples of both D- and A-quantifiers:
10.


The semantic parallels between the two types of quantification are summed up in Partee's (1990:5) statement that 'an adverb of quantification can function just like a 'determiner quantifier". \({ }^{3}\)

The lack of a clear semantic distinction between D -quantifiers and A -quantifiers, and the many semantic parallels between the two types, mean that the D-vs. A-quantification distinction must be regarded as a syntactic distinction, rather than a semantic one. \({ }^{4}\)

However, even though the definitions of D- and A-quantification are syntactically based, they are syntactically a little vague. In particular, the term 'D-quantification' applies to any

\footnotetext{
\({ }^{3}\) The choice between a D-quantifier and an A-quantifier can influence interpretations in cases involving the PROPORTION PROBLEM (cf. Partee 1984, 1991, Rooth 1987, Kadmon 1987, 1990, Heim 1990, Partee 1991, Chierchia 1992, 1995, among others). When it comes to the proportion problem, 'D-quantification ... favor[s] quantifying over individuals, while A-quantification ... favor[s] quantifying over episodes or cases' (Partee 1991:443). The differences are tendencies rather than direct mappings from the syntax to the interpretation. See Partee (1991) for discussion.
4 Gil (1993) uses a classification which is less syntactically-based. He separates nominal quantification (which quantifies over individuals) from verbal quantification (which quantifies over events).
}
quantification which takes place inside DP. This is shown by the example in (11a) from Partee (1991), where the quantificational portion (in bold) consists of two lexical items and does not on the surface look like an \(\mathrm{X}^{0}\) category (and hence not like a \(\mathrm{D}^{0}\) ). \({ }^{5}\) The same is true of Keenan and Stavi's (1986) 'determiners' in (11b-d).
11. a. Almost every woman who owns a dog talks to it.
(Partee 1991; example taken from Kadmon 1987)
b. John's five ...
c. every ... but John
d. a prime number of ...
e. more of John's than of Mary's ...
(Keenan and Stavi 1986:254-255)
f. all the ...

The semantic literature on quantification consistently groups together pre-determiners, adjoined modifiers and determiners into one category called 'determiner' (see e.g. Barwise and Cooper 1981, van Benthem 1986, Jelinek 1995, Löbner 1987, Keenan and Moss 1985, Keenan and Stavi 1986, Partee 1995, Keenan 1996, among others). \({ }^{6}\) Quantifiers occupying any of the positions indicated in (12) could be classed as D-quantifiers under this system.
12.

\({ }^{5}\) The string almost every could in principle be a complex \(\mathrm{D}^{0}\), as in (i).
i.


Such a treatment is less likely for the combinations given in (11b-e).
6 An exception is Rothstein (1988). Rothstein argues that various strings of pre-nominal elements which are classed as 'determiners' by semanticists (e.g. many of the, not every) cannot syntactically fill the determiner position. She claims that the syntactic class of determiners is not homomorphic with the semantic class known as \(\mathrm{D}_{\text {det }}\). However, Rothstein's work does not incorporate the DP-analysis, and her conclusions about the set of items which can function syntactically as determiners differ from mine.

The claim that the set of 'D-quantifiers' includes all DP-internal quantificational elements predicts that all DP-internal quantifiers will pattern together in natural language, as opposed to all A-quantifiers. Partee (1991) argues that this is the case, claiming that while A-quantification is universal, D-quantification is not. Similarly, Jelinek (1995) claims that D-quantifiers as a group are all missing from Straits Salish, and Vieira (1995) makes a similar proposal for Asurini do Trocará.

I will provide evidence below that Salish languages do possess D-quantification (i.e. DP-internal quantification). The only systematic gap in the D-quantification system of Salish is the absence of quantifiers which appear in the syntactic position of the determiner (shown in (13)).
13.


The two-way classification of quantifiers will therefore be revised into the three-way classification given in (14). The term \(\mathrm{D}^{0}\)-QUANTIFICATION refers to quantification involving the position indicated in (13), the syntactic position of the determiner. \(\mathrm{D}^{0}\)-quantification is a subset of DP-quantification; the latter term replaces the old 'D-quantification', and includes any quantifiers appearing inside DP.
14.
\begin{tabular}{|l|l|l|}
\hline Quantification type & Definition & Example \\
\hline A-quantification & quantifiers external to DP & A man always loves his children. \\
\hline DP-quantification & quantifiers internal to DP & [All the men] love their children. \\
\hline \(\mathrm{D}^{0}\)-quantification & quantifiers in \(\mathrm{D}^{0}\) position & [Every man] loves his children. \\
\hline
\end{tabular}

The Salish evidence for this restructuring of the system begins in the next section.

\section*{2. Salish possesses DP-quantifiers \({ }^{7}\)}

Based on the theory of Salish developed so far within this dissertation, nothing rules out quantifiers appearing within DP, as long as they do not appear in the determiner position. Ceteris paribus, we expect DP-quantifiers to be possible, and this prediction will be shown to be upheld. In this section I provide evidence that universal quantifiers adjoin to DP in many Salish languages. In Chapter 6, I will argue that weak quantifiers appear either adjoined to NP, or adjoined to DP.

\subsection*{2.1. Universal quantifiers adjoin to DP}

Universal quantifiers which correspond to English all, which take plural agreement, and which attach to an argument DP in the syntax, are found in at least Cowichan (Gerdts 1988), St'át'imcets, Squamish and Secwepemctsín (Demirdache et al. 1994), and Upper Chehalis (Matthewson 1994b). \({ }^{8}\)

Examples of universal quantifiers are given in (15).
 qwatsáts tu7 [tákem i sk'wemk'úk'wm'it-a] leave compl [all pl.det children-exis]
(St'át'imcets; BF, RW)
b. qwetséts [xwexwéyt re sqélemc] leave [all det man]
'All the men left.'
(Secwepemctsín; Demirdache et al. 1994)
c. ? \(2 x^{w}\) á-w-n [ \(\underline{x}^{w}\) áq \({ }^{w} u\) t \(t\) cálıs=ums]
run-intr-3subj [all det chief-people]
'All the upper-class people run.'
(Upper Chehalis; M.D. Kinkade, p.c.)

\footnotetext{
7 Much of the evidence for the presence of DP-internal quantification in Salish was first presented in Demirdache et al. (1994).
\({ }^{8}\) For evidence that these quantifiers semantically correspond to English all, see Chapter 6, §1.
}

'All the children ran.'
(Cowichan; Gerdts 1988:79)

see-3subj [det man] [all
'The man saw all the women.'
y1 stalter14]
pl.det woman]
(Chilliwack; Galloway 1977:454)
f. na ilhen [i7xw ta sta7uxwlh]
rel eat [all det children]
'All the children are eating.'
(Squamish; Demirdache et al. 1994)

The construction exemplified in (15) is not the only one in which universal quantifiers appear in Salish. I am not arguing that Salish lacks A-quantification; therefore, I do not predict that adverbial uses of universal quantifiers are impossible. They are merely outside our present focus of attention.

The [Q DP] strings enclosed in brackets in (15) function as syntactic DP constituents. Evidence for the constituency of the [Q DP] strings comes firstly from the impossibility of inserting another DP between the universal quantifier and its range. The data in (16) show that the quantifier may not range over a DP which is separated from it by another argument; the quantifier must be construed with the immediately adjacent DP. \({ }^{9}\)
16. a. wik-t-s xwexwéyt [re stsmémelt] [re núxwenxw]
see-tr-3erg all [det children] [det woman]
'The woman saw all the children.'
* 'All the women saw the children.'
(Secwepemctsín; Demirdache et al. 1994)
b. na ch'aw-at-as i7xw [ta siw'i7ka] [ta slhenlhanay'] rel help-tr-3erg all [det men] [det women]
'All the men helped the women.'
* 'The men helped all the women.'
(Squamish; Demirdache et al. 1994)

In the example in (17), the determiner \(t a \ldots a\) is unambiguously singular. Since a quantifier and its range must be adjacent, the only possible interpretation of the sentence involves quantification

\footnotetext{
\({ }^{9}\) As mentioned in the Introduction, there is some variation across Salish as to the preferred word order (whether VSO or VOS).
}
over all the parts of a single child. There is some speaker variation on the acceptability of the 'parts of a single child' reading. \({ }^{10}\)
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{5}{*}{17.} & & 7aċx-ən-イt-as & tákəm & [ta &  & [?1 & Šmútact-a] \\
\hline & & ats'x-en-ít-as & tákem & [ta & sk'úk'wm'it-a] & & smúlhats-a] \\
\hline & & see-tr-3pl-3erg & & [det & child-exis] & [pl.det & woman-exis] \\
\hline & & 'All the women s & the chil & & & & \\
\hline & & The women saw & whole & & & (St'át'imce & ts; RW, LT) \\
\hline
\end{tabular}

The Nte \(7 k\) kepmxcin sentence in (18) illustrates that in this language also, a quantifier must be directly adjacent to the DP over which it ranges. For the speaker whose judgements are reflected in (18), it is not possible for a quantifier to range over a singular DP. Since the only DP over which the quantifier could range (due to adjacency) is singular, the sentence is ungrammatical. \({ }^{11}\)
 'The child ate all the berries.' / 'All of the child ate the berries.'
(Nłe?kepmxcín; DU)

The claim that the [Q DP] sequence forms a DP constituent is consistent with the fact that it coordinates with ordinary DPs, as in (19). (19a,b) contain a [Q DP] as the first and second conjunct respectively.
19.
\[
\begin{aligned}
& \text { [ti } \left.k^{W}{ }^{W} k^{W} p 17-a\right] \\
& \text { [ti kúkwpi7-a] } \\
& \text { [det chief-exis] } \\
& \text { 'I swear at all the women and the chief.' }
\end{aligned}
\]
b. [1 nuxwnúxwenxw] ell [xwexwéyt 1 sqélqlemc] m-sxup [det women] conj [all det men] compl-left 'The women and all the men left.' (Secwepemctsín; Demirdache et al. 1994)

\footnotetext{
\({ }^{10}\) For speakers who do not allow the 'parts of a child' reading, the sentence in (17) is completely ungrammatical.
\({ }^{11}\) The conjunctive marker \(u s\) in (18) is phonologically enclitic to the quantifier, and does not affect constituency. See Gardiner (in press) on the conjunctive clitic in Secwepemctsín.
}

Further support for the claim that the quantifiers in (15-19) belong inside DP is that there is no position available between the main predicate and its argument(s) which the quantifier could plausibly be occupying. Generally, no lexical item (other than a second-position clitic) may appear between the main predicate and a following DP. (20) shows that predicative items may not appear in this position; (21) shows that adverbials (in this case the A-quantifier meaning 'always') also may not. \({ }^{12}\)
20.

(St'át'imcets; RW, GN)
b. * qwetséts xyum [re sqélemc]
leave big [det man]
'The big man left.'
(Secwepemctsín; Demirdache et al. 1994)
c. * na huyá7 hiyí [ta swi7ka]
rl leave big [det man]
'The big man left.'
(Squamish; Demirdache et al. 1994)
21.
\begin{tabular}{|c|c|c|c|c|}
\hline \multirow[t]{4}{*}{a. *} & \(q^{\text {w }}\) actác & papt & [ 21 & కyáq¢? \\
\hline & qwatsáts & papt & & syáqts7-a] \\
\hline & leave & always & [pl.det & woman-exis] \\
\hline & \multicolumn{4}{|l|}{'The women always leave.'} \\
\hline
\end{tabular}
(St'át'imcets; LT)

'The children are always eating.'
(Squamish; Demirdache et al. 1994)

The final piece of evidence that [Q DP] behaves as a constituent comes from negated sentences.
Consider the English paradigm in (22). (22a) has only one reading, while (22b) is ambiguous.
22. a. Not all the boys will run.
\(\neg(\forall \mathrm{x}\), boy \((\mathrm{x})\), will run ( x\()\) )
12 The only elements other than universal quantifiers which immediately follow a main predicate in St'át'imcets are adverbial deictic elements, which frequently appear in clause-second position.
i. kəx-2úl
lák \({ }^{W}\) ? a
[t1
t́h-sw w-a]
t'ec-7úl lákw7a
sweet-too deic
[ti tíh-sw-a]
tea-2sg.poss-exis]
'Your tea is too sweet for me.'
(St'át'imcets; van Eijk 1985:203) These deictics designate spatial / temporal location relative to the speaker. See van Eijk (1985), and see Anderson and Keenan (1985) for a cross-linguistic discussion of such elements. The universal quantifier does not belong to the set of deictics.
b. [All the boys] won't run.
i. \(\neg(\forall x\), boy \((x)\), run \((x))\)
ii. \((\forall x\), boy \((x)), \neg(r u n(x))\)
(Carden 1973:17-18)

Under the reading in (22a) and (22bi), the negation has higher scope than the quantified DP. In the reading in (22bii) (which Carden 1973 calls the NEG-V reading) the subject DP all the boys is outside the scope of negation. The latter reading is obtainable under the assumption that all the boys forms a constituent, which appears in a position higher than negation at Logical Form. \({ }^{13}\)

The same scopal interactions between quantifiers and negation exist in St'at'imcets, Squamish and Secwepemctsín. (23a) shows negation taking higher scope than the universal quantifier. In (23b,c), on the other hand, the quantified subject DP escapes the scope of negation.
23.


13 Carden (1973) proposes that the relative scope of the quantifier and negation be structurally represented; the only major difference with a Quantifier Raising-type analysis is that for Carden, logical relations are captured at deep structure rather than at Logical Form.
14 The different surface realizations of negation in (23) result from a combination of dialect differences and optional phonological reduction.

The sentences in (23) are not ambiguous (unlike the English sentence in (22b)). St'at'imcets allows only the scope relations which are present by S-Structure; if the negation takes scope over the quantified DP at S-Structure, it necessarily does so at Logical Form. Given the underlyingly predicate-initial nature of Salish languages, it is plausible to assume that in (23b,c), raising of the subject DP has taken place at S-Structure.This is one example of a tendency for Logical Form to be more transparently represented in the overt syntax in Salish than it is in English. See Demirdache et al. (1994), Demirdache and Matthewson (1995b), Chapters 6 and 7 below for further discussion. \({ }^{15}\)

A quantified subject DP may also take higher scope than negation in Squamish, as shown in (24). The Quantifier Raising of the quantified DP has taken place at S-Structure.
24. [i7xw ta sta7uxwlh \(]_{i}\) haw \(\underline{\text { k-as }}\) ya huyá \(t_{i}\) [all det children] not irr-3conj asp leave \(t_{i}\) 'All the children didn't leave.' (none of the children left)
\[
(\forall x, \operatorname{child}(x)), \neg(\operatorname{leave}(x))
\]
(Squamish; Demirdache et al. 1994)

In Secwepemctsín, (25c) contrasts with (25a,b) in that the single constituent [xwexwéyt DP] takes higher scope than negation. Again, the raising of the [Q DP] string to a position higher than negation has happened by S-Structure in (25c).

neg irr nom-leave-3poss [all det children]
'Not all the children left.' (some children left)
\(\neg(\forall x\), child \((x)\), leave \((x))\)
(Secwepemctsín; Demirdache et al. 1994)

15 Some speakers of St'at'imcets allow quantified subjects to have higher scope than negation when the subjects are not sentence-initial at S-Structure:
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \multirow[t]{5}{*}{i.} & \(x^{\text {W/ }}\) ? \(z^{\text {a }}\) & \(\mathrm{k}^{\mathrm{W}}\) - \({ }^{\text {c }}\) &  & [tákəm & \(? 1\) & Stmətmútač-a] \\
\hline & cw7aoz & kw-s & q'weláw'-em & [tákem & & smelhmúlhats-a] \\
\hline & neg & det-nom & pick.berries-intr & [all & pl.det & woman(redup)-exis] \\
\hline & \multicolumn{6}{|l|}{\multirow[t]{2}{*}{'None of the women picked berries.' \((\forall \mathrm{x}\), woman \((\mathrm{x})), \neg\) (picked berries ( x\()\) )}} \\
\hline & & & & & & \\
\hline
\end{tabular}
(i) has the reading given only for some speakers; others construe this sentence with wide-scope negation. None of the speakers consulted allow ambiguity for (i). Obviously, further research is required into the interaction of negation with quantifier scope.
b. ta7 k s-xwexwéyt-s re stsmémelt k s-qwetséts-s neg det nom-all-3poss det children irr nom-leave-3poss
'Not all the children left.' (some children left)
\(\neg(\forall \mathrm{x}\), child \((\mathrm{x})\), leave \((\mathrm{x}))\)
(Secwepemctsín; Demirdache et al. 1994)
c. [xwexwéyt re stsmémelt] ta7 \(_{i} \mathrm{k} \quad \mathrm{s}\)-qwetséts-s \(\quad \mathrm{t}_{\mathrm{i}}\) [all det children] \({ }_{i}\) neg irr nom-leave-3poss \(t_{i}\) 'All the children didn't leave.' (none of the children left)
\[
(\forall x, \text { child }(x)), \neg(\text { leave }(x))
\]
(Secwepemctsín; Demirdache et al. 1994)

The evidence for Quantifier Raising in (23b,c), (24) and (25c) implies that the quantifier forms part of the DP constituent; a string which moves as a unit must form a constituent. The only other possible analysis of these cases is that the quantifier raises separately from its DP range; in other words, that two separate movements take place. The latter option is highly unlikely, however, since movement of an overt DP to the front of the sentence is dispreferred in St'at'imcets and Squamish, unless a quantifier is attached. \({ }^{16}\)
(26) shows the raising of the subject DP (which contains the quantifier) to an adjoined position. The exact landing site of the quantified DP cannot be ascertained until further work is done on functional projections in Salish; the exact landing site is not crucial for our current concerns.
26.


\footnotetext{
\({ }^{16}\) Secwepemctsín and the Lower dialect of St'át'imcets allow DPs to precede the predicate, even when no quantifier is present. See Gardiner (to appear) on Secwepemctsín word order.
}

Morphological evidence also supports the analysis whereby the quantified DP raises as a constituent to the front of the sentence; the special extraction morphology highlighted in (27) indicates that movement has taken place by S-Structure. See Demirdache et al. (1994) for further details.
27.
a. [tákəm ?1 stmált-s-a] stsmál't-s-a] [all pl.det children-3sg.poss-exis] 'All her children saw somebody'
7ačx-ən-tál1 ats'x-en-táli see-tr-erg.extr
(St'át'imcets; LT)
b. [tákəm ?i \(x^{\text {Wh}}\) 依-tən-a] \(k^{W} u \neq ə n-m i n n-a n\)
[tákem i cwîk'-ten-a] kulhen-mín-an [all pl.det butcher-instr-exis] borrow-appl-1sg.conj 'I borrowed all the knives'
(RW 2115)
c. [xwexwéyt re swewll] ri7 re m-s-kec-t-é(t)n [re núxwenxw] [all det fish] foc det compl-nom-give-tr-1subj [det women] 'It's all the fish that I gave the women.'
(Secwepemctsín)

I analyse the [Q DP] constituent as in (28); a universal quantifier adjoins to the argument DP which defines its range. For argumentation as to why the quantifier is adjoined, rather than occupying Spec, DP, see Matthewson and Davis (1995), Chapter 4 above.
28.


The DP to which the universal quantifier adjoins may be any of the types of DP independently known to be available in Salish languages; these are listed in (29).
29. a. \([\mathrm{D}+\mathrm{NP}]_{\mathrm{DP}}\)
b. [D + null-headed relative clause]DP
c. [pro]DP
d. [subject clitic]DP
(see Davis 1996b,c)
e. [wh-word] \({ }_{\text {DP }}\)

An example of each type of DP combined with an adjoined quantifier is given in (30) from Upper Chehalis. Examples can easily be found for other languages.
30. a. \([\mathrm{Q}[\mathrm{D} \mathrm{NP}]]_{D P}\)
\begin{tabular}{|c|c|c|c|}
\hline ? \(a \chi^{\text {w }}\) á-w-n & [ \(\underline{x}^{\text {w }}\) áq \({ }^{\text {w }}\) u & &  \\
\hline run-intr-3subj & [all & det & chief-people] \\
\hline
\end{tabular} 'All the upper-class people run.'
(Upper Chehalis; M.D. Kinkade, p.c.)
b. [Q [D null-headed relative clause] \(]\) DP
\begin{tabular}{|c|c|c|c|c|c|}
\hline 21t & sfit-n & \(\mathrm{c}_{\mathrm{n}}\) & \(\left[\chi^{W}{ }^{\text {a }}{ }^{\text {W }} u\right.\) & & \(x\) x \({ }^{\text {] }}\) \\
\hline perf & change-tr & 1sg.subj & [all & det & bad] \\
\hline 'I cha & all (of the) & things.' & ones & d & \\
\hline
\end{tabular}
(Upper Chehalis; M.D. Kinkade, p.c.)
c. [Q [pro]]DP
 'I give you all of it.'
(Upper Chehalis; M.D. Kinkade, p.c.)
d. \([Q\) [subject clitic] \(] D P\)
\(\left[\begin{array}{lll}x^{W} a^{2} q^{W} u & c+]\end{array}\right] \quad\) àlstállwan \(x^{w}\) [all 1pl.subj] look.alike
'All of us look alike / We all look alike.' (Upper Chehalis; M.D. Kinkade, p.c.)
e. [Q [wh-word] \(]_{D P}\)
\begin{tabular}{|c|c|c|c|c|}
\hline \multirow[t]{3}{*}{\begin{tabular}{l}
wi \\
and \\
'and muc
\end{tabular}} & qるx \({ }^{\text {¢ }}\) & stix \({ }^{W} n\)-sawm \({ }^{\text {c }}\) & [x \({ }^{\text {a }}\) du & tám] \\
\hline & many & kill-3plposs & & what] \\
\hline & is thei & kill of all kinds/o & rything' & \\
\hline & & & (Up & hali \\
\hline
\end{tabular}

A subset of DP-type (29a) is the type in (31).
31.
\[
[\mathrm{D}+\text { proper name }]_{\mathrm{DP}}
\]

The universal quantifier may also attach to this type of DP in St'át'imcets, as shown in (32) (data are presently unavailable for other languages). \({ }^{17}\)

\footnotetext{
\({ }^{17}\) The one type of DP to which universal quantifiers probably cannot attach in Salish is PRO. Research into infinitives in Salish is just beginning (see Chapter 4, Kroeber 1994b, Davis and Matthewson 1996a,b), and I do not have anything more to say about PRO at this stage.
}
32.
\begin{tabular}{llll}
{\(\left[\begin{array}{lll}\text { tákəm } & \text { ?1 } & \text { Mary-ha] }\end{array}\right.\)} & táq-ləx \\
[tákem & i & Mary-ha] & tálh-lec \\
[all & pl.det & Mary-exis] & stand-body \\
'All the Marys stood up.' &
\end{tabular}
(St'át'imcets; LT)

There are many questions concerning the syntax of universal quantifiers in Salish which are beyond the scope of the present discussion. These include the appearance of the universal quantifier after the determiner within DP (rather than before), as in (33a), and raising of the quantifier without its range to adjoin to IP at S-Structure, as in (33b). \({ }^{18}\)
\begin{tabular}{|c|c|c|c|c|}
\hline 33. a. & \(q^{\text {Waxaxa }}\) c & [ 21 & tákem-a & x] \\
\hline & qwatsáts & [i & tákem & smúlhats] \\
\hline & leave & [pl.d & all-exis & oman] \\
\hline
\end{tabular}
b. xwexwéyt \(t\) m-qwetséts es re núxwenxw all obl compl-leave
'All the women left.'

3conj det women
(Secwepemctsín; Demirdache et al. 1994)

See Gerdts (1988), Kroeber (1994c), Demirdache et al. (1994), Demirdache and Matthewson (1995b) for some discussion. For current purposes, it suffices to show that [Q DP] functions as a DP constituent, and hence that quantifiers may adjoin to DP in Salish languages.

Further evidence for the existence of DP-quantifiers in Salish is given in Chapter 6; it will be seen that weak quantifiers also may appear DP-internally, either adjoined to DP or adjoined to NP.

As noted above, Jelinek (1995) claims that DP-quantifiers do not exist in Straits Salish. In the this section I have argued that Jelinek's claim is only partially right for the rest of the Salish family. While it is true that quantifiers do not appear in \(\mathrm{D}^{0}\) position in Salish, other positions within DP are available.

\footnotetext{
18 For evidence that the quantifier has undergone movement in (33b), rather than being basegenerated as an adverbial, see Demirdache et al. (1994).
}

\subsection*{2.2. Not all quantification is adverbial in Salish}

In this section, I examine the universal quantifiers introduced above, and establish that they do not function semantically as adverbial quantifiers. \({ }^{19}\) It should be noted that the semantic discussion in this section serves only to supplement the syntactic evidence given in the previous section. As pointed out in \(\S 1\), all quantifiers share similarities in semantic function, meaning that the only foolproof way of distinguishing A-quantifiers from other quantifiers is by their syntax.

In this section, then, I will examine the tendencies and typical characteristics of A-quantifiers, and show that the DP-adjoined universal quantifiers in Salish do not display these characteristics. Due to the necessity for detailed fieldwork to settle such questions, I will only investigate DPquantifiers in St'át'imcets and N+e ?kepmxcín.

A-quantifiers often display unselective binding. The example given in (8) of unselective binding is repeated in (34).
34. If a man owns a donkey, he always beats it. \(=\quad\) Always, if x is a man, if y is a donkey, and if x owns \(\mathrm{y}, \mathrm{x}\) beats y .
(cf. Lewis 1975:9)

Lewis's (1975) definition of unselective universal quantification is given in (35).
35. \(\quad \forall \Phi\) is true iff \(\Phi\) is true under every admissible assignment of values to all variables free in \(\Phi\).
(Lewis 1975:7)

If the DP-internal universal quantifiers in Salish were adverbial in nature, we might expect that the quantifiers could unselectively bind variables throughout the sentence, including variables drawn from other arguments, or predicate variables. According to Jelinek (1995), the universal

\footnotetext{
19 Jelinek (1995) claims that apart from quantifiers which function as main predicates, all quantification in Straits is A(dverbial)-quantification.
}
quantifier in Straits displays exactly these properties. In Lummi, the universal quantifier can range over a predicate; Jelinek calls this an adverbial, unselective reading. \({ }^{20}\)
```

36. mə\mp@subsup{k}{}{W}=\emptyset '\partial\dot{W}
all=3abs link white det sprout
'They are all / completely white, the flowers.'
```
(Lummi; Jelinek 1995:514)

In English, the universal quantifier all can appear either inside DP (as in.(37a)), or outside DP, as in (37b).
37. a. [All the flowers] are white.
b. The flowers are all white.

The DP-internal universal quantifier in (37a) cannot quantify over the predicate:
38. [All the flowers] are white.
\(\neq\) The flowers are completely white.

The DP-external universal quantifier in (37b) is ambiguous between a 'floated' DP-quantifier, which still ranges over individuals (in this case, flowers), and an adverbial quantifier, which ranges over the predicate, giving a meaning comparable to the Lummi example in (36).

In many Salish languages, universal quantifiers have both a DP-internal usage and a DP-external, adverbial usage (see Matthewson 1994b). The null hypothesis is that the Salish DP-internal universal quantifiers I have introduced in this section will behave like DP-internal quantifiers in English, and will lack the adverbial 'completely' reading. \({ }^{21}\)
(39) shows that this prediction is upheld in St'at'imcets, the language for which I have available data.

\footnotetext{
\({ }^{20}\) See also Kinkade (1992) for the claim that in Upper Chehalis (Tsamosan), \(x^{w} a^{W} q^{W} u\) 'all' can be used with 'a straightforward modifying role; this role is often adverbial.' Matthewson (1994b) argues that Upper Chehalis possesses both an adverbial use of \(x^{w} a^{W} u\) and a DP-internal use. \({ }^{21}\) In cases where English DP-quantifiers allow unselective binding (e.g. donkey sentences), St'át'imcets DP-quantifiers do as well. See Chapter 6 for discussion.
}
\begin{tabular}{|c|c|c|c|}
\hline pəq & [tákəm & 21 & ¢̧¢ \\
\hline peq & [tákem & & \(s\)-p'áq'-m \\
\hline white & [all & pl.d & nom-bloon \\
\hline
\end{tabular}
* 'The flowers are completely white.'
(St'át'imcets; RW, GN, LT)
 ts'aqw-an'-lhkál'ap eat-tr-2pl.subj 'You guys ate all the fishes (pl.).' * 'You guys ate the fish completely.'
[tákəm
[tákem
[all
21 Sccúq"az'-a]
i sts'úqwaz'-a]
pl.det fish-exis]
(St'át'imcets; LT)

Takem 'all' in St'at'imcets cannot have an adverbial 'completely' reading even when it is detached from DP at S-Structure, as shown in (40).
40.
tákam
spáa-m-a tákem peq i s-p'áq'-m-a all white pl.det nom-bloom-intr-exis 'All the flowers are white.'
* 'The flowers are completely white.'
(St'at'imcets; RW, GN)

This is evidence that sentence-initial uses of takem in St'át'imcets are not adverbials, but DPquantifiers which have been Quantifier Raised at S-Structure (as in Demirdache et al. 1994).

Weak quantifiers also may not unselectively bind any element in a sentence, but may only bind their range within DP. Cw7it 'many' in (41) may not quantify over the predicate: \({ }^{22}\)
41.
\begin{tabular}{|c|c|c|c|c|}
\hline a. &  & [ 71 & \(x^{W} 7\) ft-a & Citx \({ }^{\text {w }}\) ] \\
\hline & tseqwtsíqw & [i & cw7it-a & tsitcw] \\
\hline & read & [pl.det & many-exis & house] \\
\hline & 'Many house & red.' & & \\
\hline & 'The houses & stly red & & \\
\hline
\end{tabular}
(St'át'imcets; LT)

[cw7it i tsítcw-a] wa7 tseqwtsíqw
[many pl.det house-exis] prog red
'Many houses are red.'
* 'The houses are mostly red.'
(St'át'imcets; RW, GN)

Another type of unselective binding by quantifiers is exemplified by Japanese. In this language, the universal quantifier unselectively binds \(w h\)-words when these are used as polarity items
\({ }^{22}\) See Chapter 6 for details of the syntactic structures in which weak quantifiers appear, and further discussion of their semantics.
rather than as question words (Nishigauchi 1986, 1990; see also Cheng 1991, Li 1992, Cheng and Huang 1994 for Chinese). In (42), the quantifier mo binds all three wh-words:
42. \begin{tabular}{lllll} 
Dare-ga \\
who-N
\end{tabular} \begin{tabular}{l} 
doko-de \\
where-at
\end{tabular}\(\quad\)\begin{tabular}{l} 
nani-o \\
what-A
\end{tabular}\(\quad\)\begin{tabular}{l} 
kaw-te-mo, \\
buy-
\end{tabular} who-N where-at what-A buy-Q I-Top care-not
'For all, \(\mathrm{x}, \mathrm{y}, \mathrm{z}, \mathrm{x}\) a person, y a thing, z a place, I don't care if x buys y at z .'
(Japanese; Nishigauchi 1986:161)

The DP-internal universal quantifiers in Salish, on the other hand, do not unselectively bind any element in a clause, but bind only their range DP (which forms their restrictive clause). (43a) shows that in S't'át'imcets, tákem 'all' can bind a wh-word, in this case giving rise to the meaning 'everyone'. However, tákem cannot determine the quantificational force of more than one whword, as shown in (43b). (43c) shows that tákem cannot unselectively bind both a wh-word and another DP.


The same absence of unselective binding holds in N+e?kepmxcín; the universal quantifier only quantifies over the single DP to which it adjoins. To obtain a reading where two DPs are universally quantified, two universal quantifiers are required, as shown in (44c):

\footnotetext{
23 (43b) is ungrammatical under any interpretation; it cannot mean 'What did everyone see?' or 'Everyone saw something'. The former reading is ruled out because it contains a \(w h\)-in-situ without a higher \(w h\)-word being in a \(+w h\) Comp, a configuration which is impossible in St'át'imcets. The 'Everyone saw something' reading is ruled out because there is no binder for the second \(w h\)-word, given that the universal quantifier is not binding it.
}
44.


The absence of unselective binding by DP-universal quantifiers in Salish supports the hypothesis that these quantifiers are not behaving adverbially.

\section*{3. Evidence against a two-way split: missing A-quantifiers}

Recall that Jelinek (1995) claims that Straits lacks all DP-quantification, and possesses only Aquantification or predicate quantification. Previous sections have already cast doubt on the D- vs. A-quantification distinction as a possible explanation for the differences between Salish and English quantification systems. Firstly, it was shown that Salish possesses quantifiers which syntactically appear inside DP. Secondly, we saw that these quantifiers do not display the typical characteristics of adverbial quantifiers. All this evidence points to the conclusion that Salish possesses DP-quantifiers.

In this section I draw attention to another feature of Salish which remains unexplained by an account which claims that all quantification in these languages is adverbial. Far from freely possessing all A-quantifiers, as we would a priori expect, Salish lacks most of the A-quantifiers which are found in English. The question of why the gaps in the A-quantifier inventory should exist is a topic for future research. The relevance of the absent A-quantifiers here is merely to show that a division along the D - vs. A-quantification lines is insufficient to account for the Salish facts.

An inventory of St'át'imcets quantifiers is given in (45). I have not included complex quantifiers such as tqilh t'u7 tákem 'almost all', but have merely investigated which lexical items express quantificational notions. For more on the strong/weak quantifier distinction, see the following chapter; the most relevant division here is between the DP-quantifier column and the Aquantifier column.
45. St'át'imcets quantifiers:
\begin{tabular}{|c|c|c|}
\hline & DP-quantifiers & A-quantifiers \\
\hline strong & \[
\begin{gathered}
\text { tâkem 'all' } \\
\text { zî7zeg' 'each' }
\end{gathered}
\] & papt 'always' \\
\hline weak & pála7, án'was, ... 'one, two, ...' cw7it 'many' \(k^{\prime}\) wik'wena7 '(a) few' & lhnúkwas 'sometimes' \\
\hline
\end{tabular}

The A-quantifier column is remarkably impoverished, as is further demonstrated by a comparison with English:
46. A-quantifiers in St'át'imcets vs. English:
\begin{tabular}{|c|c|c|}
\cline { 2 - 3 } \multicolumn{1}{c|}{} & English & St'át'imcets \\
\hline strong & \begin{tabular}{c} 
always \\
usually \\
seldom
\end{tabular} & papt \\
& -- \\
\hline weak & \begin{tabular}{c} 
once, twice, \(\ldots\) \\
often \\
sometimes \\
never
\end{tabular} & -- \\
& lhnükwas \\
\hline
\end{tabular}

The DP- vs. A-quantification distinction does not by itself capture the distribution of quantifiers in St'át'imcets; there are unexplained gaps in the A-quantification system. While the exact details of (45) and (46) cannot be extended to other Salish languages, the inability of the DP- vs. Aquantification distinction to explain the system obtains for all the languages investigated by Matthewson (1994b), as far as available data extends; these include Halkomelem (Cowichan, Chilliwack), Nłe ?kepmxcín, Secwepemctsín, Squamish, Upper Chehalis, Bella Coola, Sechelt, Colville and Lushootseed.

It is perhaps worth pointing out at this stage that the other available quantifier classification, the strong/weak distinction, also does not account for the gaps in the inventory of Salish quantifiers. This is shown by the fact that the gaps in (46) cross-cut the strong/weak division as well as the DP/A division. See Chapter 6 for details of the strong/weak distinction in Salish, and Chapter 7 for more discussion of gaps in Salish quantifier inventories.

\section*{4. Revision of the D-vs. A-quantification division}

In §2, I showed that many Salish languages possess DP-internal quantifiers. The claim that Salish possesses DP-quantifiers, yet lacks quantifiers in the \(\mathrm{D}^{0}\) position, entails that Salish cannot be accounted for using the simple two-way D- vs. A-quantifier classification. In particular, a distinction must be made between DP-quantifiers, which appear anywhere inside DP , and \(\mathrm{D}^{0}\)-quantifiers, which occupy determiner position. (47) is repeated from (15) above:
47.
\begin{tabular}{|l|l|l|}
\hline Quantification type & Definition & Example \\
\hline A-quantification & quantifiers external to DP & A man always loves his children. \\
\hline DP-quantification & quantifiers internal to DP & [All the men] love their children. \\
\hline \(\mathrm{D}^{0}\)-quantification & quantifiers in \(\mathrm{D}^{0}\) position & [Every man] loves his children. \\
\hline
\end{tabular}

Salish possesses DP-quantifiers, while lacking \(\mathrm{D}^{0}\)-quantifiers. This provides evidence for the three-way classification, since under the two-way classification of Partee et al. (1987), no distinction is made between DP-quantifiers and \(\mathrm{D}^{0}\)-quantifiers; they are both grouped under D quantification.

The three-way split awards significance to the syntactic position of the determiner, unlike current semantic theories (which almost always combine all DP-internal quantifiers, whatever their syntax, under the heading 'determiner'). See the references cited in \(\S 2\).

\section*{5. How do Salish and English differ? \({ }^{24}\)}

Two alternative proposals exist about the differences between Salish and English quantificational systems. Jelinek (1995) proposes that Straits Salish lacks D-quantifiers, and that this follows from the absence of a noun/verb distinction in this language. Jelinek argues that if a language lacks NPs, it will necessarily lack D-quantifiers.

On the other hand, I have argued in previous chapters of this dissertation that Salish languages lack a subset of DP-internal quantifiers, namely \(\mathrm{D}^{0}\)-quantifiers. I derived this result from an independently required Common Ground Parameter on determiners. The purpose of this section is to assess the extent to which these two analyses capture different intuitions about Salish quantifiers, and the extent to which they capture the same insights.

Jelinek's analysis differs empirically from the analysis proposed here, in that Jelinek does not specify that it is only \(\mathrm{D}^{0}\)-quantifiers which are missing from Salish. Jelinek concentrates on Straits, a language which lacks all DP-adjoined quantifiers, as well as all \(\mathrm{D}^{0}\)-quantifiers. As discussed above, most other Salish languages lack only \(\mathrm{D}^{0}\)-quantifiers.

Abstracting away from this difference between Straits and other languages, Jelinek's theory captures a generalization which holds throughout the Salish family, not only in Straits. This generalization is given in (48). \({ }^{25,} 26\)
48. In Salish, the range of a quantifier (the sortal base) is never an NP.

According to (48), Salish lacks the paradigmatic case of DP-quantification, a [D NP]DP structure. There is never any instance of a bare NP forming the range of a quantifier. (48) follows

\footnotetext{
24 Thanks to Hamida Demirdache for helpful discussion on matters presented in this section.
25 Jelinek does not word it in this way; (48) represents my interpretation of Jelinek's analysis.
\({ }^{26}\) The distinction between the category DP (a complete argument phrase) and NP (a predicative phrase selected for by D ) is crucial to understanding (48). As will become clear below in the text, DP may serve as the range of a quantifier, but NP may not.
}
within Jelinek's system from the claim that Salish lacks NP constituents altogether. If there are no NPs, there are by definition no quantifiers which range over NPs. \({ }^{27}\)

The analysis of Salish proposed here also derives the generalization in (48), but from a different perspective. Instead of linking the absence of NP-ranges of quantifiers to the absence of lexical categorial distinctions, (48) is derived here from a parameter on the determiners themselves. If determiners are never quantificational for independent reasons, then there is no way an NP can be the range for a quantifier, under the assumption that \(\mathrm{D}^{0}\) is the only category which selects an NP as its complement (see the Introduction).

If quantifiers cannot range over NP in Salish, what category can they range over? I have argued in §2.1 that DP-quantifiers in Salish obligatorily take the category DP as their range:
49. a. qwetséts [xwexwéyt re sqélemc]
leave [all det man]
'All the men left.'
(Secwepemctsín; Demirdache et al. 1994)
b.

\({ }^{27}\) Eloise Jelinek (p.c.) brings to my attention examples such as (i), containing DP-internal weak quantifiers in Straits:
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \multicolumn{5}{|c|}{s'əltanə刀]} & \multicolumn{2}{|l|}{\multirow[t]{3}{*}{s'əltənəŋ] berry]}} \\
\hline \multicolumn{6}{|r|}{\multirow[t]{2}{*}{xist=3abs [det big/many berry]}} & \\
\hline & & & & & & \\
\hline
\end{tabular}
'There [the] many beries: berry]
'There are [the] many berries.'
(Straits; Jelinek 1995:520)
Even though DP-internal quantification does exist in Straits, the generalization in (48) still holds under Jelinek's analysis, perhaps trivially, since Jelinek does not admit the existence of a category NP in Straits.
In Chapter 6, §3.3.1, I will argue that constructions parallel to (i) in St'at'imcets involve LF raising of the quantifier to adjoin to DP. Thus, in these cases as well as in the universal quantifier cases, the range of the quantifier is DP rather than NP.

The ability of DP to serve as the sortal base for a quantifier is not unique to Salish; DPs can serve as the sortal base in English also, as shown in (50).
50. a. [ All [the men] DP ]DP left. (DP range)
b. [ Most [men] \(\left.{ }_{\mathrm{NP}}\right]_{\mathrm{DP}}\) left. (NP range)

English allows either DP or NP to serve as the range of a quantifier; Salish allows only DP. Understanding the difference between English and Salish hinges on understanding the difference between (50a) and (50b). The relevant difference has nothing to do with adverbial quantification vs. non-adverbial quantification. The DP-adjoined quantification in (50a), which exists in Salish as well as English, is not assumed to be an instance of A-quantification.

In both (50a) and (50b), the quantifier ranges over individuals. Similarly, the Salish DPquantifiers range over individuals. Hence, Salish provides evidence for the separation of two sets of characteristics which are often assumed to be linked, and to be indicative of D-quantifier status (cf. (5) above):
51. Characteristics of DP-quantifiers:
a. The quantifier ranges over individuals
b. The restriction is provided by a DP
c. The restriction is provided by an NP

The absence of NP restrictions in Salish (51c) is derived both by Jelinek's analysis and by the current analysis. However, Jelinek's analysis as it stands also entails that (51b) is absent in Salish, and that qantification over individuals is not possible. I have argued in this chapter that Salish does allow quantification which ranges over individuals. The individuals are provided by the syntactic category DP.

\section*{6. Conclusions}

This chapter has presented arguments that the two-way division between D-quantifiers and Aquantifiers should be revised. I have shown that many Salish languages possess quantifiers which are syntactically part of the DP constituent; universal quantifiers adjoin to DP. These DPinternal quantifiers do not function as adverbial quantifiers; for example, they do not display unselective binding.

Salish does differ from English in lacking quantifiers which occupy the syntactic position of the determiner. This implies that \(\mathrm{D}^{0}\)-quantifiers form an isolable class, which is a subset of the larger group including all DP-internal quantifiers. Once a three-way classification of quantifiers is adopted, we can pinpoint the way in which Salish differs from English. In Salish, a quantifier must always range over a DP, never an NP. This result follows directly from the Common Ground Parameter introduced in Chapter 2, since if determiners are never quantificational, then there is no way a quantifier can directly select for an NP. The only possibility is for a quantifier to co-occur with a determiner, ranging over an entire DP.

\section*{CHAPTER 6}

\title{
GENERALIZED QUANTIFIERS IN SALISH AND THE STRONG-WEAK DISTINCTION
}

\section*{0. Introduction}

This chapter addresses two main issues: the status of DPs in Salish with respect to the theory of generalized quantifiers, and the nature of the strong/weak quantifier distinction.

\subsection*{0.1. Generalized quantifiers in Salish}

Barwise and Cooper (1981) claim that noun phrases which correspond to generalized quantifiers are universal in natural language. Jelinek (1995) and Partee (1991) argue that Salish languages falsify this universal claim. The first goal of this chapter is to provide evidence that generalized quantifiers do exist in at least one Salish language.

In §1, the predictions of the generalized quantifier hypothesis are laid out and applied to St'attimcets. One prediction is that there will be syntactic constituents which function as DPs, which contain quantificational elements. \(\$ 1.3\) briefly reiterates the syntactic evidence for generalized quantifiers in Salish. As shown in the previous chapter, DPs which contain clearly quantificational elements do exist in Salish.

In §1.4, I address the semantic evidence for DP-generalized quantifiers. Semantic predictions include the claim that DP-generalized quantifiers will denote families of sets, and be of type \(<\langle e, t\rangle, t\rangle\) (that is, will be functions from a property to a truth value; see Partee 1990). Generalized quantifiers, if they exist in Salish, should also obey the universal conditions on generalized quantifiers set out by Barwise and Cooper (1981), namely CONSERVATIVITY and MONOTONICITY (which will be defined below). The quantificational elements inside DP should
be restrictive quantifiers. All these predictions are shown to be upheld by DPs containing quantifiers in St'at'imcets.

In §1.6, I raise the issue of whether simple DPs (of the form [D NP]) function as generalized quantifiers in Salish. Various syntactic and semantic differences between DPs which contain quantifiers and DPs of the form [D NP] might lead us to argue that simple DPs are not generalized quantifiers in Salish. If this were true, there would be a qualitative difference between simple DPs in English and in Salish (cf. Barwise and Cooper's 1981 proposal that all DPs in English are generalized quantifiers). Unfortunately, this issue cannot be fully resolved at this time, for reasons to be outlined below.

The analysis of quantificational DPs in Salish as generalized quantifiers is important for three reasons. First, it helps clarify our understanding of Salish DPs. Second, it has implications for the nature of cross-linguistic variation in quantificational strategies. If the St'at'imcets evidence holds up for the rest of the Salish family, then we do not need to admit the existence of languages which lack generalized quantifiers. We can therefore retain the strong hypothesis that quantificational strategies are universally provided, and are not subject to cross-linguistic variation.

Finally, the generalized quantifier discussion presented in \(\S 1\) is relevant for demonstrating how semantic predictions can be rigorously tested in an unfamiliar language (i.e. without direct access to intuitions about meaning). The data presented here are not available for any other Salish language.

\subsection*{0.2. The strong-weak quantifier distinction}

In §2, the strong/weak distinction is addressed. \(\S 2.1\) introduces the syntactic differences between strong and weak quantifiers in Salish languages. §2.2 points out some problems with the
traditional analysis of strong and weak quantifiers: a three-way split in readings (strong, weakproportional, weak-cardinal) is reduced in most analyses to a two-way split (strong and weakproportional on the one hand, vs. weak-cardinal on the other). St'át'imcets evidence provided in later sections will demonstrate the need for a distinction between the strong quantifiers (as in every woman) and the proportional reading of the weak quantifiers (as in many of the women).
§3 investigates DP-internal weak quantifiers in Salish. I argue that weak quantifiers in St'át'imcets appear in two distinct DP-internal positions: adjoined to NP, and adjoined to DP. Quantifier Raising of the quantifier to adjoin to its DP, combined with movement of the entire DP to sentence-initial position, takes place in the overt syntax in St'at'imcets.

In §3.2, the semantics of weak quantifiers are investigated. After outlining some common analyses of English weak quantifiers, I show that St'átimcets DP-internal weak quantifiers are not ambiguous. On the contrary, they disallow the cardinal reading and allow only the proportional reading. This reading crucially involves a restrictive interpretation, thus providing further evidence for the existence of generalized quantifiers in Salish.
§4 shows that predicative weak quantifiers in St'at'imcets allow a cardinal reading. There is thus a strict correlation between syntactic position and interpretation for weak quantifiers in St'át'imcets. I suggest that this correlation derives from an isomorphism constraint on the correspondence between overt syntax and Logical Form.

\section*{1. DP-generalized quantifiers in Salish}

\subsection*{1.1. What are DP-generalized quantifiers? \({ }^{1}\)}

Barwise and Cooper (1981) point out that natural language syntax fails to correspond to logical syntax in two respects. First, the syntactic structure of sentences in natural language differs from that of predicate calculus; in natural language, quantified nominal expressions form a syntactic unit, unlike in their logical translations.

\section*{1. a. [All men] love hockey. \\ b. \(\quad \forall \mathrm{x}\) ( x is a man \(\rightarrow \mathrm{x}\) loves hockey)}

Second, natural language contains quantified expressions which cannot be rendered using the first-order quantifiers \(\forall\) and \(\exists\) (for example most men). The solution, according to Barwise and Cooper (see also Cooper 1983, Keenan and Stavi 1986, van Benthem 1983, among many others), is to define quantifiers as the combination of determiners plus set expressions.
2. \(\quad\) Generalized Quantifier \(=[D+N P]\)

The term 'determiner' is used within this theory in a loose, non-syntactic sense, and includes predeterminers, post-determiners and numerals (Barwise and Cooper 1981:216, fn 2). Semantically, Ds are functions from sets (NPs) to sets of sets (generalized quantifiers). An example is given by de Hoop (1992:3):
[M]ost linguists then denotes a family of sets of individuals. Each set represents a property that holds for most linguists. Thus, if it is true that most linguists drink a lot, that most linguists have a cat, and that most linguists work at night, then the family of sets denoted by most linguists contains the set of individuals that drink a lot, the set of cat-owners, and the set of night-workers.

When used in a sentence, as in (3), the generalized quantifier most linguists is a function from a property (the property of being a linguist) to a truth value (in this case, false).

\footnotetext{
\({ }^{1}\) See e.g. Löbner (1987) on the application of generalized quantifier theory to adverbial quantifiers.
I do not discuss adverbial generalized quantifiers here, for two reasons. Firstly, the range of investigation of this dissertation is limited to DPs. Secondly, the DP is the site of the Salish quantification controversy. No-one has argued that adverbial quantifiers do not exist in Salish.
}
3. [Most linguists] earned \(\$ 1000000\) last year.

The categorial type of the entire DP is \(\ll e, t>, t\rangle\), where \(e\) stands for an individual and \(t\) stands for a truth value. Type \(\langle e, t\rangle\) is a function from an individual to a truth value (i.e. a one-place predicate), and type \(\ll e, t\rangle, t\rangle\) is a function from a one-place predicate to a truth value.

In following sections, I will set out the predictions that generalized quantifier theory makes for the semantics of DPs, and then argue that St'at'imcets quantificational DPs uphold the predictions.

\subsection*{1.2. The NP-Quantifier Universal}

Barwise and Cooper's NP-Quantifier Universal is given in (4).

\section*{4. NP-Quantifier Universal:}

Every natural language has syntactic constituents (called 'noun-phrases') whose semantic function is to express generalized quantifiers over the domain of discourse (Barwise and Cooper 1981:177).

It is clear from Barwise and Cooper's discussion that the constituents which correspond to generalized quantifiers in English are maximal projections which contain determiners. Hence, within the phrase-structure system adopted in this dissertation, Barwise and Cooper's claim can be re-stated as predicting that DPs corresponding to generalized quantifiers are present in all languages.

Partee (1990) claims that there are two possible versions of the NP-Quantifier Universal; the version given in (5) is what Partee calls the 'weak and unobjectionable' form. (For the reasons just stated, I have replaced the term 'NP' with 'DP' in Partee's definition).
5. 'All languages have [DPs] and all [DPs] can be analyzed as generalized quantifiers.'
(Partee 1990:4; emphasis original)

The strong form, given in (6), is the one claimed by Partee to be falsified by Salish (cf. also Thijsse 1983, Bach et al. 1995):


The purpose of the current investigation, then, is to find out whether Salish languages possess essentially quantificational DPs, i.e. DPs which it would be unreasonable to analyze as anything other than generalized quantifiers. I will argue that such DPs do exist in Salish.

Before we begin the investigation of Salish, it should be noted that the exact predictions of the generalized quantifier hypothesis are not immediately obvious from perusal of the literature. This is due in part to the fact that, as with the D-vs. A-quantifier split discussed in the previous chapter, some of the characteristics of generalized quantifiers are merely tendencies rather than strict rules. We shall see examples of this below.

In cases where it is either unclear what the predictions of the generalized quantifier hypothesis are, or where DPs in English do not consistently obey the predictions, I will adopt the strategy of comparing St'at'imcets quantificational DPs with English ones. We will see that in every major respect, the St'at'imcets facts parallel the English facts. Therefore, even if we do not have all the answers about the nature of generalized quantifiers in English, we can still be sure that if English possesses generalized quantifiers, St'át'imcets does too. The similar results found in both types of language provide strong evidence that quantificational strategies are universal.

\subsection*{1.3. Syntactic evidence for generalized quantifiers in Salish}

One of the fundamental tenets of the generalized quantifier approach is that it 'permit[s] logical syntax to correspond more closely to natural language syntax' (Barwise and Cooper 1981:159;
cf. especially Montague 1974). Syntactic nominal constituents correspond to logical generalized quantifiers, as schematized in (7) (see also von Fintel 1994:2). \({ }^{2}\)
7. a. Syntax:

b. Logical form:

(adapted from Barwise and Cooper 1981:162)

The syntax/logical form pairing in (7) means that a necessary prerequisite for DP-generalized quantifiers in Salish is that they form syntactic DP-constituents.

Jelinek (1995) argues that no DP-internal quantificational elements exist in Straits, and therefore that syntactic structures corresponding to (7a) are absent. The lack of generalized quantifiers as in (7b) then follows automatically from the absence of (7a). I will make the reverse argument. I first establish the existence of DP-internal quantificational elements as in (7a); the existence of generalized quantifiers as in (7b) will then follow naturally.

The presence of DP-internal quantifiers in Salish was argued for in Chapter 5. Examples are given in (8).
8. a. wá?-łkan q^lq^l-č-mín [tákəm ?1 syáqč?-a]DP múta?
wá7-lhkan qvlqvl-ts-mín' [tákem i syáqts7-a]DP múta7
prog-1sg.subj bad(redup)mouth-appl [all pl.det woman-exis]DP and
[ti \(\left.k^{W}{ }^{W} k^{W}{ }^{W} \mid>-a\right]_{D P}\)
[ti kúkwpi7-a]DP
[det chief-exis]
'I swear at all the women and the chief.'
(St'át'imcets; LT)
b. qwetséts [xwexwéyt re sqélemc]DP
leave [all det man]DP
'All the men left.'
(Secwepemctsín; Demirdache et al. 1994)

\footnotetext{
\({ }^{2}\) In (7a), I have converted Barwise and Cooper's tree into the DP-analysis. I have also changed their 'Det' node to 'Q' in (7a), since Barwise and Cooper's 'Det' category includes a range of DPinternal elements, including pre-determiners. I prefer to reserve the term 'determiner' for \(\mathrm{D}^{0}\) elements.
}

I demonstrated in Chapter 5 that the universal quantifiers in (8) form part of the syntactic constituent DP. Further evidence will be given in §3.1 below that weak quantifiers in Salish also appear within DP. Hence, the syntactic evidence supports the generalized quantifier hypothesis.

\subsection*{1.4. Semantic evidence for generalized quantifiers in St'át'imcets}

In this section, I will show that DPs containing quantifiers in St'at'imcets obey the following five predictions of the generalized quantifier hypothesis:
9. i. Quantificational DPs denote families of sets (§1.4.1).
ii. Quantificational DPs are conservative (§1.4.2).
iii. Quantificational DPs are monotone (§1.4.3).
iv. Quantificational DPs create tripartite structures (§1.4.4).
v. Quantifiers take their DP-internal range as the restriction (§1.4.5).

St'at'imcets is the only language for which such semantic claims can be made, since detailed fieldwork is required to test each prediction. No comparable data bearing on the generalized quantifier hypothesis have been provided for other Salish languages so far. It is to be hoped that the methodology used in this section will prove useful to researchers who desire to test the generalized quantifier hypothesis in other Salish languages or in other language families.

\subsection*{1.4.1. Quantificational DPs in St'át'imcets denote families of sets \({ }^{3}\)}

In the generalized quantifier literature (which deals mostly with Indo-European), it is often stated that generalized quantifiers denote families of sets. The readers' intuitions are often relied on for confirmation of the claim. An example of this approach is de Hoop's description of the meaning of most, repeated here:

\footnotetext{
\({ }^{3}\) Irene Heim notes (p.c.) that the material in this subsection and in \(\S 14.2\) and \(\S 1.4 .3\) merely serves to show that the lexical item takem is really a universal quantifier meaning 'all'. If tákem has the meaning 'all', it will follow automatically that the DP it appears in denotes a family of sets, and that conservativity ( \(\$ 1.4 .2\) ) and monotonicity ( \(\$ 1.4 .3\) ) are obeyed.
While this is true, it is far from uncontroversial that there would be a lexical item meaning 'all' in a Salish language. Jelinek's (1995) analysis of Straits allows only for a universal which is an adverbial, with the meaning of 'always'. Therefore, it is still relevant to argue that tákem, an item which is syntactically inside DP, means 'all' and therefore creates generalized quantifiers.
}
[M]ost linguists then denotes a family of sets of individuals. Each set represents a property that holds for most linguists. Thus, if it is true that most linguists drink a lot, that most linguists have a cat, and that most linguists work at night, then the family of sets denoted by most linguists contains the set of individuals that drink a lot, the set of cat-owners, and the set of night-workers (de Hoop 1992:3).

When dealing with an unfamiliar language, judgements must often be obtained from consultants who are unfamiliar with set theory. The explanation given by de Hoop, although intuitively plausible, is difficult to test rigorously in Salish.

Fortunately, there is a concrete way of stating the semantics of generalized quantifiers, which is testable. Acording to Zwarts (1983), de Jong and Verkuyl (1985), van Benthem (1986) and others, we can view the quantificational element inside a generalized quantifier as a relation between two sets of individuals. The interpretation of the universal quantifier and the negative quantifier are given in (10), with prose translations in (11).
10. a. EVERY (A) \((B)=\) true iff \(A \subseteq B\)
b. \(\quad \mathbf{N O}(A)(B)=\) true iff \(A \cap B=\emptyset\)
(Keenan 1996:42-43)
11. a. Every (A) (B) is true if and only if \(A\) is a subset of \(B\).
b. No (A) (B) is true if and only if the intersection of sets A and B is empty.

We can test whether quantificational elements inside DP in St'at'imcets have the meanings in (10) by finding out the circumstances under which sentences containing quantified DPs are true. The results obtained support the hypothesis that there are DPs which correspond to generalized quantifiers in St'át'imcets.

Consider the sentence in (12).
12. wa? ?ama-mín-itas k-wa píx-əm̀ [tákəm ?i twów w ət-a] wa7 ama-min-itas k-wa píx-em' [tákem i twéw'w'et-a] prog good-appl-3pl.erg det-prog hunt-intr [all pl.det boy(redup)-exis] 'All the young men like to go hunting.'
(St'át'imcets; LT)
\(\mathrm{A}=\) the set of young men
\(\mathrm{B}=\) the set of individuals who like to go hunting

According to the definition in (10a), we expect (12) to be true if and only if the set of young men is a subset of the set of individuals who like to go hunting. If there is a member of set A who is not also a member of set \(B\), the sentence should be false. This is correct; according to the consultant for this sentence, (12) is false if even one young man exists who does not like hunting.

\subsection*{1.4.2. Quantifiers in St'át'imcets are conservative}

Generalized quantifiers are predicted to obey CONSERVATIVITY, defined as in (13) (cf. Barwise and Cooper's 'lives on' property): \({ }^{4}\)
13. \(Q\) is conservative iff for all \(A, B: Q(A)(B)\) iff \(Q(A)(A \cap B)\)
(adapted from Gamut 1991:245)

The set A in (13) corresponds to the first argument of the quantifier, which in English is often the NP predicate inside the DP. The set B corresponds to the second argument of the quantifier, the VP. Hence, a natural language test for conservativity is as in (14). \({ }^{5}\)

\section*{14. Det NP VP \(<>\) Det NP are NP that VP}
a. Some girls are dancing \(<>\) Some girls are girls that are dancing.
b. All boys walked \(<=>\) All boys are boys that walked.
(Gamut 1991:246)

Conservativity means that the second argument of a quantifier (the VP in (14)) gets evaluated in the context established by the first argument (the NP range of the quantificational element). The first argument 'sets the scene' (von Fintel 1994:67); there is ASYMMETRY between the first and the second arguments (see also Keenan 1996:54).

\footnotetext{
4 There are some apparent exceptions in English to the claim that all generalized quantifiers obey conservativity (see e.g. Westerstahl 1985, Herburger 1993). I will discuss Herburger's examples below.
5 The test for conservativity in (13) can appear trivial at first glance; however, Keenan and Stavi (1986) argue that the conservativity requirement rules out the vast majority of possible quantifier functions.
}

Let us take (14b) as an example. To determine the truth of this sentence, we need to know the size of the set of boys, and also the size of the intersection of the set of boys and the set of invididuals that walked. The size of the second argument (the set of individuals that walked) is irrelevant. This is schematized in (15), following de Hoop (1992:7). The unshaded area contains information which is not relevant to determining the truth value of the sentence.

\section*{15. Conservativity}


The fact that the first argument has priority over the second argument is mirrored in the syntactic structure, since the quantifier all in (14b) combines syntactically with its first argument.

When asked to translate the right-hand side of the equivalence in (14b), namely All the boys are boys who went walking, my St'at'imcets consultant produces (16), and states that 'you do not need to say 'boys' twice.'

'All the boys are boys who went walking.' (literally 'All the boys went walking.')
(St'át'imcets; LT)

The equivalence of the St'at'imcets sentence in (16) with All the boys are boys who went walking is already suggestive that conservativity holds. However, the evidence in (16) is not conclusive, since it involves cross-linguistic translation, rather than language-internal evidence. \({ }^{6}\)

\footnotetext{
\({ }^{6}\) It is not possible literally to translate the control sentence All the boys are boys who went walking into St'át'imcets, since relative clauses are not permitted in NP predicate position (see Demirdache and Matthewson 1995a for some discussion).
}

Fortunately, there is another way of testing conservativity which gives clearer results. As schematized in (15), the principle of conservativity requires that the only sets which are relevant in a sentence of the form \(Q(A)(B)\) are \(A\), and \(A \cap B\). The size of set \(B\) is irrelevant (cf. de Hoop 1992:6). This principle is upheld in the sentence in (17).
 [tákem i sqayqéqyecw-a] tsicw mám'teq [all pl.det man(redup)-exis] go walk(redup) 'All the boys went walking.'
(St'at'imcets; LT)
\(\mathrm{A}=\) the set of boys
\(B=\) the set of people who went walking
(17) is true just in case all the boys in the domain went walking, regardless of whether or not some girls also went walking. In other words, the rest of the set B , other than the intersection of \(A\) and \(B\), is irrelevant to the truth conditions. In line with the principle of conservativity, there is an asymmetry between the first argument of the quantifier (the DP-internal range) and the second argument (the VP).

\subsection*{1.4.3. Quantifiers in St'át'imcets are monotone}

Another property which Barwise and Cooper claim is shared by all generalized quantifiers is MONOTONICITY. Generalized quantifiers are universally either monotone increasing or monotone decreasing. Definitions are given in (18), with prose translations in (19).
18. a. Monotone increasing:
for all \(A, B \subseteq E\) : if \(A \in Q\) and \(A \subseteq B\) then \(B \in Q\)
b. Monotone decreasing:
for all \(A, B \subseteq E\) : if \(A \in Q\) and \(A \supseteq B\) then \(B \in Q\)
(Gamut 1991:232,234)
19. a. Monotone increasing:

For all sets of individuals A and B , if A produces the value 'true' when combined with a quantifier, and A is a subset of B , then B produces the value 'true' when combined with the quantifier.
b. Monotone decreasing:

For all sets of individuals A and B, if A produces the value 'true' when combined with a quantifier, and \(A\) is a superset of \(B\), then \(B\) produces the value 'true' when combined with the quantifier.

Examples are given in (20). Since the set of individuals who walked slowly is a subset of the set of individuals who walked, the implication in (20a) shows that all is a monotone increasing quantifier (with respect to its second argument). The reverse implication in (20b) shows that no is a monotone decreasing quantifier with respect to its second argument (see Barwise and Cooper 1981:184-185).
20. a. Monotone increasing:

All men walked slowly \(\Rightarrow\) All men walked.
b. Monotone decreasing:

No man walked \(\Rightarrow\) No man walked slowly.

Barwise and Cooper propose the following constraint on generalized quantifiers:
21. The simple [DPs] of any natural language express monotone quantifiers or conjunctions of monotone quantifiers.
(Barwise and Cooper 1981:187)

We therefore predict that if Salish possesses generalized quantifiers, they will be monotone. \({ }^{7}\)

The universal quantifier tákem in St'át'imcets is monotone increasing, as shown in (22) (adapted from Gamut 1991:232). The set of individuals who are dreaming is a subset of the set of individuals who are asleep. The one-way implication in (22) accords with the definition of monotone increasing in (22a).

\footnotetext{
\({ }^{7}\) As will be seen in §1.6, it is not clear whether 'simple DPs' of the form [D NP] in St'att'imcets function as generalized quantifiers. Therefore, Barwise and Cooper's claim in (21) may be falsified by St'át'imcets, if 'simple DPs' in this language are not monotone. This section serves merely to demonstrate the existence of monotone quantifiers in St'at'imcets.
}


Quantifiers in St'át'imcets obey monotonicity, as predicted by the generalized quantifier hypothesis. \({ }^{8}\)

\subsection*{1.4.4. Quantificational DPs in St'át'imcets form tripartite structures}

It is often claimed to be a characteristic of DP-generalized quantifiers that they involve a TRIPARTITE STRUCTURE, schematized in (23) (cf. Heim 1982, and Partee 1991 for the application to generalized quantifiers).
23.


The relation between the notions 'generalized quantifier' and 'tripartite structure' is summarized by von Fintel (1994:2):

\footnotetext{
8 Hamida Demirdache (p.c.) observes that monotonicity is not obeyed by the A-quantifier always in examples such as (i):
i. The girls always walk slowly \(\neq>\) The girls always walk.

Thus, the monotonicity of tákem 'all' in St'át'imcets is further evidence that it does not function as an A-quantifier (cf. discussion in Chapter 5).
}

Due to specifics of intellectual history, there are at least three headings under which variants of the approach are located: (i) restricted quantification, (ii) generalized quantifiers, (ii) tripartite structures. As far as I know, there are no substantial differences, except for question of syntactic constituency ... the term 'generalized quantifiers' often presupposes the existence of a syntactic and semantic constituent comprising the quantificational element and a restrictive argument.

Generalized quantifiers, according to von Fintel, are syntactic constituents which set up a tripartite structure at logical form. Tripartite structures crucially involve RESTRICTIVE QUANTIFICATION; the restriction of the quantifier is explicitly represented in the tripartite structure, as in (24). \({ }^{9}\)
24. [Most students] were here.


The restriction within the tripartite structure comes from the first argument of the quantifier; in the case of a DP-generalized quantifier, from the residue of DP. Thus, the common noun phrase student in (24) appears inside the restrictive clause. \({ }^{10}\)

In §3.3, we will see that weak quantifiers in St'át'imcets provide strong evidence for restrictive interpretations. In the next subsection we will investigate the restrictive properties of universal quantifiers in St'át'imcets.

\footnotetext{
9 The notion of tripartite structure is not equivalent to conservativity, as will be seen below in the discussion of focus-affected readings for weak quantifiers (Herburger 1993).
\({ }^{10}\) Irene Heim notes (p.c.) that the tripartite structure actually contradicts the constituency requirements of a generalized quantifier, since in the tripartite structure, the operator and its restriction do not form a constituent. This is also mentioned in the excerpt from von Fintel immediately above in the text. The crucial feature of tripartite structures which I am concentrating on here is the fact that there is a restrictive interpretation.
}

\subsection*{1.4.5. Quantifiers in St'át'imcets take their DP-internal range as the restriction}

As mentioned above, the generalized quantifier hypothesis assumes a close relation between syntactic constituency and semantic constituency. DP-generalized quantifiers contain a quantificational element plus its first argument. Commonly, the first argument (the restriction) corresponds to the NP complement of D, as in the English DP every woman:
25.

\section*{a. Syntax:}


\section*{b. Logical form:}

(cf. Barwise and Cooper 1981:162)

It was argued in Chapter 5 that the range of a quantifier in Salish is never an NP, but always a DP (we will see further evidence for this in §3.3.1 below). Nevertheless, it should still be true that the quantificational element finds its restriction from within its syntactic constituent. The restriction in Salish will be of the syntactic category DP, as shown in (26). \({ }^{11}\)
26.

b. Syntax:


\footnotetext{
11 The option of a DP-range for a quantifier is available in English also, as in all the women.
}

In this section I will briefly show that universal quantifiers in St'át'imcets take only their DPinternal range as their restriction, crucially not unselectively binding other variables from outside DP. I will also discuss donkey-sentences, which just as in English involve unselective binding of more than one variable taken from inside the DP-internal range.

\subsection*{1.4.5.1. The lack of unselective binding outside the DP}

It was shown in Chapter 5 that universal quantifiers in Salish do not unselectively bind variables throughout the sentence, such as variables arising from other arguments, or predicate variables. This constitutes evidence that the syntactic structure in (26b) is paralleled by a semantic structure in which the universal quantifier ranges over the set denoted by the DP range, as we expect if we are dealing with a generalized quantifier.

The evidence against unselective binding is briefly reiterated here. (27) shows that the universal quantifier tákem 'all' cannot determine the quantificational force of more than one wh-word.

'Everyone saw everything.'
( \(\forall \mathrm{x}, \mathrm{y}, \mathrm{x}\) a person, y a thing, x saw y .) (St'át'imcets; GN, RW)

DP-internal quantifiers in St'át'imcets also cannot quantify over a predicate, as shown in (30). \({ }^{12}\)
28.
pəq [tákəm
11 క̌páq̉-m-a]
peq [tákem
all [white
i \(\quad s-p\) 'áq'-m-a] pl.det nom-bloom-intr-exis]
'All the flowers are white.'
* 'The flowers are completely white.'
(St'at'imcets; RW, GN, LT)

\footnotetext{
12 Recall from Chapter 5 that universal quantifiers in adverbial positions in Salish may have the interpretation which is ruled out in (28) (see Jelinek 1995).
}

\subsection*{1.4.5.2. Donkey sentences}

Quantificational DPs in English sometimes involve unselective binding. A famous example is donkey sentences, in which DP-quantifiers such as every or most can unselectively bind more than one variable.
29. [Every man who owns a donkey] beats it.

Under Heim's (1982), Kamp's (1981) well-known analysis of donkey sentences, the universal quantifier every in (29) unselectively binds not only the variable introduced by a man, but also the variable introduced by a donkey. Another example is given in (30), with the logical translation.
30. a. [Every cat that likes a kitten] licks it.
b. \(\quad \forall \mathrm{x}, \mathrm{y}[[\) cat \((\mathrm{x}) \&\) kitten \((\mathrm{y}) \&\) like \((\mathrm{x}, \mathrm{y})]=>\) licks \((\mathrm{x}, \mathrm{y})]\)
(de Hoop 1992:17)

The universal quantifier every binds the variable introduced by cat, and also that introduced by the indefinite \(a\) kitten, giving universal force to all cat-kitten pairs. \({ }^{13}\)

When dealing with donkey sentences, I will adopt the null hypothesis that the DP-internal quantifiers in Salish parallel their English counterparts. In that case, we predict that donkeysentence effects will also exist in St'át'imcets. This prediction is correct, as shown in (31).

\begin{tabular}{lllllll}
{\([\) táakem } & i & sqáycw-a & wa7 & e(s)-sqáxa7] & wa7 & sek-en-ítas \\
[all & pl.det & man-det & prog & stat-dog] & prog hit-tr-3pl.erg
\end{tabular}
b. \(\quad \forall \mathrm{x}, \mathrm{y}[[\operatorname{man}(\mathrm{x}) \& \operatorname{dog}(\mathrm{y}) \& \operatorname{own}(\mathrm{x}, \mathrm{y})]=>\) hit \((\mathrm{x}, \mathrm{y})]\)

\footnotetext{
13 Many subsequent analyses of donkey sentences reject the unselective binding approach; see for example Heim (1990), Chierchia (1992, 1995). I abstract away from the exact analysis of donkey sentences here, showing merely that St'at'imcets parallels English in the effects.
\({ }^{14}\) For discussion of the possessive interpretive effect of the prefix glossed as 'stative' in (31), see Burton and Davis (1996), to appear.
}

The unselective nature of tákem in (31) is demonstrated by the fact that the sentence is false if some men do not hit all the dogs they own (i.e. if a men who own multiple dogs only hits one of the dogs that he owns). The universal quantifies over man-dog pairs, just as in English. \({ }^{15}\)

In this section we have seen that St'át'imcets DP-quantifiers parallel English DP-quantifiers in allowing unselective binding only in a restricted range of contexts.

\subsection*{1.5. Conclusions - the NP-Quantifier Universal is upheld}

Previous subsections have presented evidence that St'át'imcets contains DP-quantifiers which take their first argument (the DP to which they adjoin) as their restriction, and which set up a tripartite structure corresponding to a generalized quantifier. The generalized quantifiers obey the principles of conservativity and monotonicity, as predicted by Barwise and Cooper (1981). We therefore have good evidence that generalized quantifiers exist in Salish. \({ }^{16,17}\)

However, recall that Partee (1990) demands proof of a strong version of the NP-Quantifier Universal, repeated in (32).
32. NP-Quantifier Universal (strong version):
'All languages have essentially quantificational [DPs], i.e. [DPs] which can be analyzed as generalized quantifiers but not reasonably as referential (type \(e\) ) or predicative ( \(\langle e, t\rangle\) ).'
(Partee 1990:4; emphasis original)

For this version of the universal to be upheld, we must show that DPs which contain universal quantifiers in Salish cannot reasonably be analyzed either as referential or predicative. In fact, the discussion so far should already have made it clear that this is the case. If the quantificational

\footnotetext{
\({ }^{15}\) At least some donkey sentences have readings where universality over pairs of variables is not required; see Chierchia \((1992,1995)\) and references cited therein for discussion.
16 While I cannot comment on the semantic properties of the DPs containing quantificational elements in Salish languages other than St'át'imcets, I predict that we will find the same results throughout the family wherever DP-quantifiers exist.
\({ }^{17}\) Recall that we are not dealing with adverbial generalized quantifiers, since the presence of adverbial quantifiers in Salish is not under dispute. This does not mean there are no interesting issues with the adverbial quantifiers; see Chapter 7 for some discussion.
}

DPs involve restrictive quantification over a DP range, then they are by definition quantificational. They cannot be of type \(e\), since \(e\) represents an entity and not a function. They cannot be of type \(<e, t>\), since \(<e, t>\) represents a predicate.

We shall see extra evidence for this claim in the discussion of weak quantifiers. DP-internal weak quantifiers in St'at'imcets cannot have a cardinal, predicative reading, but only a proportional, quantificational reading.

\subsection*{1.6. Are all DPs in Salish generalized quantifiers?}

In preceding sections I have argued that DPs which contain overt quantificational elements in St'at'imcets correspond to generalized quantifiers. Within the generalized quantifier literature, it is sometimes assumed that all DPs in English are generalized quantifiers (see e.g. Barwise and Cooper 1981). A DP need not contain an overt quantifier such as every to constitute a generalized quantifier; even proper names are argued to function as generalized quantifiers.

The status of simple DPs (of the form [D NP]) in St'at'imcets with respect to the generalized quantifier hypothesis is not obvious. There are various syntactic and semantic differences between DPs which contain quantifiers and DPs which do not (Demirdache 1996a,b,c, Davis 1995a,b, Demirdache and Matthewson 1995b). Some of these differences have been outlined in previous chapters. For example, I argued in Chapter 1 (§1.4.2.3) that DPs without overt quantifiers do not undergo Quantifier Raising in Salish, while DPs containing quantifiers do. I also presented arguments made by Demirdache (1996a,b) that simple DPs in St'at'imcets do not have the semantic properties of quantificational DPs. For example, they lack the quantificational properties of English definite DPs, disallowing freedom of temporal reference, and lacking the Individual Concept Reading. The question is whether or not these differences between simple DPs and quantificational DPs indicate that simple DPs are not generalized quantifiers, i.e. not of type \(\langle e, t\rangle, t\rangle\).

One of the reasons for claiming that simple DPs, including proper names, form generalized quantifiers in English is that they may co-ordinate with quantificational DPs, as in (33):
33. a. [Laura] and [most of the students] turned up at the defence.

The semantics of co-ordination would need to be very complicated to deal with (33) if the proper name Laura were of a different semantic type than the generalized quantifier most of the students. Under the assumption that proper names are generalized quantifiers, co-ordination operates straightforwardly.

In St'át'imcets, it is possible to co-ordinate a proper name with an overtly quantificational DP:


By the same reasoning as in used for English, this might suggest that proper names in St'át'imcets are of type \(\langle e, t\rangle, t\rangle\), i.e. generalized quantifiers. \({ }^{18}\)

At this stage the issue of the status of simple DPs in Salish must remain open. It is possible that type theory offers categories which are too broad to distinguish between simple and quantificational DPs in Salish, and that the differences must receive an explanation from another source.

\footnotetext{
18 Thanks to Kai von Fintel and Irene Heim for discussion of this matter. In English, coordination with or provides strong evidence for the generalized quantifier status of proper names. In St'at'imcets, there is no item corresponding to or with which DPs may be co-ordinated.
}

\section*{2. The strong/weak distinction in Salish}

So far, I have concentrated mainly on universal quantifiers, which are a type of strong quantifier. In this section, I bring weak quantifiers into the picture. Weak quantifiers differ syntactically in several ways from strong quantifiers, but are shown nevertheless to create DP-generalized quantifiers. Some problems with the strong/weak division are pointed out in §2.2, which Salish data will help to shed some light on.

The distinction between weak and strong quantifiers was introduced in Chapter 1; weak quantifiers are those that can appear in there-insertion contexts (Milsark 1974).
35. a. There are some / many / three / no New Zealanders in the garden.
(weak)
b. * There are the / every / all / most New Zealanders in the garden.
(strong)

Weak quantifiers are often assumed to be ambiguous. Weak quantifiers are only permitted in there-insertion sentences under their CARDINAL reading (see e.g. Milsark 1974 and many others). The other reading, shown in (36b), is ungrammatical in there-insertion contexts. I will refer to the non-cardinal reading as PROPORTIONAL; it has received various names, including 'strong', 'partitive', 'proportional' and 'presuppositional'. The reading in (36b) is paraphrasable as 'three of the ghosts'.
36. a. There are three GHOSTS in my kitchen.
b. * There are THREE ghosts in my kitchen. \({ }^{19}\)
(cardinal reading)
(proportional reading)

There is evidence that a two-way distinction between partitive and cardinal readings of weak quantifiers is insufficient; see for example de Hoop (1992, 1995), Herburger (1993). \({ }^{20}\) I return to this issue in §3.2.1 below.

\footnotetext{
19 The proportional reading of weak quantifiers in there-insertion contexts is possible in some contexts in English, as in the following example provided by Henry Davis (p.c.):
i. There are some of those damned New Zealanders in the garden.

See de Hoop (1992), Enç (1991) for some discussion.
\({ }^{20}\) De Hoop (1992) divides the non-cardinal readings of weak quantifiers into referential, partitive, generic and generic collective.
}

\subsection*{2.1. Syntactic differences between strong and weak quantifiers in Salish}

This section documents the evidence for a division into strong and weak quantifiers in Salish languages (see also Jelinek 1995). The differences are summarized in (37).
37. i. Only weak quantifiers may function as main predicates (§2.1.1)
ii. Only weak quantifiers are possible in existential sentences (§2.1.2).
iii. Only strong quantifiers bind \(w h\)-polarity items ( \(\$ 2.1 .3\) ).
iv. Only strong quantifiers allow null ranges (§2.1.4).
v. Only strong quantifiers can strand their range (§2.1.5).

The data come mostly from St'át'imcets. Most if not all of the strong/weak differences outlined here are also found in other Salish languages, but space prevents the proof of this here. See Matthewson (1994b), Demirdache et al. (1994) and Jelinek (1995) for some discussion.

\subsection*{2.1.1. Only weak quantifiers are main predicates}

Weak quantifiers may appear in main predicate position in Salish (see e.g. Kroeber 1994b, Matthewson 1994a,b, Jelinek 1995). Examples are given in (38).
38. a. ŋən̉=ø [ce š̌eenəx \({ }^{\mathrm{W}}\) ]
big/many=3abs [det fish]
'They are many, the fish.'
(Lummi; Jelinek 1995:519)
b. qəx [tə 天 \(\operatorname{ki}^{W}\{y \partial 1 p]\)...
many [det bean.vines] ...
'There's a lot of bean vines ...' (The bean vines are many)
(Chilliwack; Galloway 1977:437)

Like ordinary main predicates, weak quantifiers can take intransitive subject endings:
39. a. \(x^{w}\) ft-kat
cw7ít-kalh
many-1pl.subj
'There's a lot of us.'
(St'át'imcets; LT)
b. \(\dot{k}^{W} \tilde{i}^{W} n a ?-w i t\)
k'wík'wna7-wit
few-3pl
'There's just a few of them.'
(St'át'imcets; RW)

Universal quantifiers, on the other hand, may not function as main predicates. (40) shows the inability of a universal quantifier to take a DP argument to form a sentence, and (41) shows that if a pronominal clitic attaches to tákem 'all' in St'át'imcets, the result is not a sentence either. \({ }^{21}\)
40. a. tákəm [?1 čî?-a]
tákem [i ts'ī-a]
all [pl.det deer-exis]
'all the deer' 'not a full sentence'
(St'át'imcets; RW, GN)
41. tákəm-7kał
tákem-lhkalh
all-1pl.subj
'all of us' 'not a full sentence'
(St'át'imcets; LT)

\subsection*{2.1.2. Only weak quantifiers appear in existential sentences}

DP-internal weak quantifiers are possible in existential sentences in St'át'imcets. \({ }^{22}\)

wa7 [i cw7ít-a míxalh] [l-ta/láku7 sqwém-a]
exist [pl.det many-exis bear] [on-det/deic mountain-exis]
'There are many bears on the mountain.'
(St'át'imcets; GN, LT)

Strong quantifiers are not possible in existential sentences.


\footnotetext{
\({ }^{21}\) M.Dale Kinkade (p.c.) provides the following example from Moses-Columbian (Southern Interior), which contains no obvious predicate other than possibly the universal quantifier:
i. yas'yas'tú-won-ta?
all-pl.imper-imper
'All of you come in!'
(Columbian; M.D. Kinkade, p.c.)
There may well be an alternative analysis of (i) which avoids postulating the universal quantifier as the main predicate. Without closer knowledge of Columbian I cannot suggest an analysis of (i), but note that predicates which are derived from universal quantifiers are fine in Salish. In St'át'imcets, the universal quantifier takem combines with a causative transitivizer to create a predicate meaning 'to take everything' (van Eijk 1987:58-59).
22 One speaker rejects the sentence in (42).
}

The issue of existential sentences is complicated, since although the verb wa7 is used to translate English there-sentences, Davis (1996a) argues that wa7 is not an existential verb, but a locative. \({ }^{23}\) In any case, there is still a contrast between strong and weak quantifiers with respect to sentences introduced by wa7, which is all that is relevant for current purposes.

\subsection*{2.1.3. Only strong quantifiers bind wh-polarity items}

Strong quantifiers can bind a wh-polarity item; weak quantifiers cannot:
44. a. tákəm Šwat wa? ?该-əm
tákem swat wa7 ít'-em
all who prog sing-intr
'They're all singing.'
(St'át'imcets; AA)

(St'át'imcets; RW)

Although I do not have conclusive evidence from other Salish languages about the ungrammaticality of sentences corresponding to (44b), I have found no evidence of weak quantifiers binding \(w h\)-polarity items. On the other hand, it is easy to find examples of strong quantifiers binding \(w h\)-polarity items, as seen for example in (45).
45.

(Upper Chehalis; M.D. Kinkade, p.c.)

\subsection*{2.1.4. Only strong quantifiers allow null ranges}

St'át'imcets weak quantifiers cannot appear bare as arguments, unlike strong quantifiers. Consultants comment that (46) requires a discourse context where the individuals over which

\footnotetext{
\({ }^{23}\) More precisely, wa7 is used either as an aspectual auxiliary (progressive), or as a locative main verb (see Davis 1996a).
}
tákem ranges are known already. I analyzed this construction in Chapter 5 as involving a null pro range.
46.
\begin{tabular}{lll} 
?áćx-ən-łkan & [tákəm & pro] \\
áts'x-en-lhkan & [tákem & pro] \\
see-tr-1sg.subj & [all & pro] \\
'I saw all of them.' & &
\end{tabular}
pro]
(St'át'imcets; RW)
(47), even under equivalent discourse circumstances, is ungrammatical.
47. * つáčx-ən-7kan
* áts'x-en-lhkan see-tr-1sg.subj 'I saw many of them.'
[x \({ }^{W}\) ? it
pro]
[cw7it pro]
[many pro]

\subsection*{2.1.5. Only strong quantifiers can strand their range}

Strong quantifiers can move to the front of the sentence, stranding their range; weak quantifiers cannot. (For more on this operation, see Demirdache et al. 1994, Demirdache and Matthewson 1995b).
48.
\begin{tabular}{|c|c|c|c|c|c|}
\hline a. & \begin{tabular}{l}
tákəm \\
tákem \\
all \\
'All the
\end{tabular} & \(q^{W}\) aćáx qwatsáts leave omen left.' & \[
\begin{aligned}
& ? 1 \\
& \mathrm{i} \\
& \text { pl.det }
\end{aligned}
\] & Šmútač-a smúlhats-a woman-exis & (St'át'imcets; RW, GN) \\
\hline b. & \begin{tabular}{l}
* \(x^{w}\) 2it \\
* cw7it \\
many 'Many p
\end{tabular} & \(q^{\text {w }}\) axác qwatsáts leave ople left.' & \[
\begin{aligned}
& ? 1 \\
& \text { i } \\
& \text { pl.det }
\end{aligned}
\] & ?uxwalmíx \({ }^{\text {w }}-\mathrm{a}\) ucwalmícw-a person-exis & (St'át'imcets; BF) \\
\hline
\end{tabular}

\subsection*{2.2. Problems with the strong/weak division}

The differences between strong and weak quantifiers in St'at'imcets are summarized in (49).
\begin{tabular}{|c|c|c|c|}
\hline 49. & & strong quantifiers & weak quantifiers \\
\hline i. & main predicate & * & \(\checkmark\) \\
\hline ii. & 'existential' sentence & * & \(\sqrt{ }\) \\
\hline iii. & bind wh-polarity item & \(\checkmark\) & * \\
\hline iv. & bind null range & \(\checkmark\) & * \\
\hline v. & strand range & \(\checkmark\) & * \\
\hline
\end{tabular}

The division between strong and weak quantifiers looks robust; even if we do not have an explanation for why these particular differences should exist, it at least seems clear that we have two distinct sets of elements.

However, when we come to look at the semantics of weak quantifiers in St'át'imcets, we will discover a puzzling fact; inside DP, weak quantifiers only have a proportional reading, never a cardinal reading. This apparent difference between St'át'imcets and English (since English weak quantifiers are supposed to be ambiguous between two readings) raises questions about the nature of the strong/weak split.

The reason for the problem is outlined in (50). There are three semantic classes, which correspond to two lexical classes in English, since the lexical class of 'weak quantifiers' is ambiguous.
50.
lexical classes:
readings:
examples:
\begin{tabular}{|c|c|c|}
\hline strong quantifiers & \multicolumn{2}{|c|}{ weak quantifiers } \\
\hline strong & proportional & cardinal \\
\hline all, every, most & FEW, MANY & few, many \\
\hline
\end{tabular}

In terms of the readings, there is a three-way split to be accounted for. However, most tests which distinguish strong quantifiers from weak quantifiers only make a two-way split, and in particular, group the proportional reading of the weak quantifiers with the strong quantifiers.

For example, the existential there-insertion test in English does not differentiate weak quantifiers from strong quantifiers. Rather, it differentiates the cardinal readings of weak quantifiers on the
one hand, from both strong quantifiers and the proportional reading of weak quantifiers on the other.
51. a. * There are the / every / all / most kids in the garden.
(strong)
b. * There are SOME / MANY / THREE kids in the garden.
(weak, proportional)
c. There are some / many / three kids in the garden.
(weak, cardinal)

Another test which is used to divide strong from weak quantifiers is the individual-level predicate test. Milsark (1974; see also Diesing 1992) notes that only strong quantifiers and the proportional reading of weak quantifiers are possible inside the subject of an individual-level predicate. Again, the test does not single out weak quantifiers as a class:
52. a. The / every / most kid(s) is/are tall.
b. SOME / MANY / THREE kids are tall.
c. * S'm / many / three kids are tall.
(strong)
(weak, proportional)
(weak, cardinal)

The same problem arises with other semantic characterizations of the strong/weak distinction, or hypotheses about the syntactic consequences of the distinction:
53. i. Herburger (1993), noting problems with the traditional division into symmetric and non-symmetric readings, proposes that the distinction between strong and weak readings is that strong readings involve FAMILIARITY. She groups the partitive (proportional) reading of weak quantifiers together with strong quantifiers as involving familiarity.
ii. Diesing (1992) claims that both strong quantifiers and weak quantifiers on their noncardinal reading induce Quantifier Raising at Logical Form. It is only the cardinal reading of weak quantifiers which does not induce QR .
iii. De Hoop's (1992) strong vs. weak Case distinction groups the non-cardinal readings of weak quantifiers with the strong quantifiers. \({ }^{24}\)
iv. Musan's (1995) distinction between cardinal DPs (where the common noun phrase forms part of the nuclear scope) and presuppositional DPs (where the common noun phrase is inside the restrictive clause) groups the proportional readings of weak

\footnotetext{
24 Differences between Dutch and English with respect to the environments where strong readings may appear (such as the possibility of strong readings in there-sentences in Dutch) are derived by de Hoop from differing Case-assignment possibilities in the two languages (1992:176-181). It is still true for each language that the non-cardinal readings of weak quantifiers receive strong Case, just as truly strong quantifiers do.
}
quantifiers with the presuppositional group (i.e. Musan does not distinguish proportional weak quantifiers from strong quantifiers).

This leaves us without a real definition of the division between weak and strong quantifiers, except the one in (54).
54. 'Weak quantifiers' are those lexical items which are ambiguous between weak and
strong readings.
(54) begs the question of why there should be lexical items which are ambiguous, rather than one simple division between weak quantifiers and strong quantifiers. Put in a different way, (54) begs the question of why only weak quantifiers are ambiguous. Why do strong quantifiers not have two readings?

St'át'imcets can shed some light on this situation, at the very least in clarifying the questions which need to be asked. Firstly, St'át'imcets forces us to distinguish between strong quantifiers (such as every and most) and the proportional reading of weak quantifiers. This is because weak quantifiers inside DP are unambiguously proportional in St'át'imcets, yet still behave differently from the strong quantifiers (such as the universals).

Secondly, the St'át'imcets weak quantifier data show that the various interpretations of weak quantifiers correlate with differences in syntactic position. Although this is sometimes suggested for English, claims which are made about the readings of weak quantifiers in English do not usually rigorously control for syntactic position. St'át'imcets indicates that once syntactic position is controlled for, there are far less 'ambiguities' to account for. We need only one division (between strong and weak quantifiers), with the different readings falling out from the different syntactic constructions.

\section*{3. DP-internal weak quantifiers in Salish}

In this and following sections, I discuss weak quantifiers corresponding to English many and (a) few. In §3.1, the syntax of DP-internal weak quantifiers is investigated. It is argued that there are two positions within DP in which weak quantifiers appear; adjoined to DP, as in (55a), and adjoined to NP, as in (55b).
55. a. [weak-Q [ \(\left.\left.\mathrm{D}^{0} \mathrm{NP}\right]_{\mathrm{DP}}\right]_{\mathrm{DP}}\)
b. [ \(\mathrm{D}^{0}\) [ weak-Q [NP]]NP ]DP

In §3.2, the semantics of weak quantifiers in St'at'imcets is examined. I will demonstrate that in both structures in (55), weak quantifiers receive only a proportional, and never a cardinal, reading in St'át'imcets.

The absence of the cardinal reading inside DPs provides extremely strong evidence that the DPs involve restrictive quantification, and hence are generalized quantifiers. In later sections I will argue that just like the strong quantifiers, St'át'imcets weak quantifiers combine with DP ranges rather than NP ranges. The generalization proposed in Chapter 5 that quantifiers in Salish may never range over the category NP is thus upheld (supporting claims made by Jelinek 1995).

\subsection*{3.1. The syntax of DP-internal weak quantifiers}

There are two positions available for weak quantifiers within DP in Salish: post-determiner (preceding the residue of the DP) and DP-initial (preceding the determiner). I will analyze the first position as adjoined to NP, and the second as adjoined to DP. In St'át'imcets, the latter position is available only when the entire DP appears in sentence-initial position. I argue that DP-adjoined weak quantifiers have undergone Quantifier Raising in the overt syntax.

\subsection*{3.1.1. Weak quantifiers adjoin to NP}

Weak quantifiers may appear inside DP, following the determiner and preceding NP. \({ }^{25}\)
56.
\[
\begin{aligned}
& \text { ít'-em [i cw7ít-a smúlhats] } \\
& \text { sing-intr [pl.det many-det woman] } \\
& \text { 'A lot of women sang.' } \\
& \text { (St'át'imcets; RW, GN) } \\
& \text { c. čî́s-n [t qóxł と Cawat[6.]ms] } \\
& \text { come-3subj [det many girl[dimin]] } \\
& \text { 'Many girls come.' } \\
& \text { (Upper Chehalis; M.D. Kinkade, p.c.) } \\
& \text { d. Tatkc-ti-ts [wa slax wa yaki] } \\
& \text { see-3pl.obj-1sgsubj [pl.det many pl.det mountain.goat] } \\
& \text { 'I see many mountain goats.' } \\
& \text { (Bella Coola; Nater 1984:121) }
\end{aligned}
\]

> nom-accomp see-cont.tr-3poss [det many actual-swim]
> 'and he did see a bunch of swimmers.' (Saanich; Montler 1986:251)
> f. +u.-di?-áhəx \({ }^{W} \quad\left[k^{W} j\right.\) qa ?aciłtalbix \(\left.{ }^{W}\right]\)
> expect-prep-change [det many people]
> 'There will be a lot of people here.' (Lushootseed; Hess 1976:364) \({ }^{26}\)

This position, between the determiner and a following NP, is one otherwise occupied by predicative elements (verbs or adjectives), as shown in (57) (see Matthewson 1994b, Demirdache and Matthewson 1995a).


\footnotetext{
\({ }^{25}\) The relevant NP may be the null head of a relative clause, as in (56e).
\({ }^{26}\) The Lushootseed example in (56f) has an English gloss which suggests a cardinal, rather than proportional, reading of the weak quantifier. Further investigation is required to determine whether the gloss accurately reflects a non-restrictive interpretation.
}
b. ... [t ?る́y stánay]
[det good woman]
... 'a good woman'
(Upper Chehalis; M.D. Kinkade p.c.)

... contemp have-want det have-spouse obl [det good s-young.man]
'... wanted to be the wife of the nice young man' (Saanich; Montler 1986:252)

The weak quantifiers in (56) are clearly DP-internal, since they intervene beween a determiner and its complement. (58) shows that an adverbial element cannot intervene between the quantifier and the nominal over which it ranges. The quantifier and its range form a constituent which cannot be separated. \({ }^{27}\)
\[
\begin{aligned}
& \text { * áts'x-en-lhkan i cw7ít-a i-nátcw-as n-snek'wnúk'wa7 } \\
& \text { see-tr-1sg.subj pl.det many-exis when.past-day-3sg.cj 1sg.poss-friend(redup) } \\
& \text { 'I saw a lot of my friends yesterday.' }
\end{aligned}
\]

The post-determiner weak quantifiers are classed as DP-quantifiers under the three-way classification of quantificational elements given in Chapter 5. Post-determiner quantifiers fall into Barwise and Cooper's (1981) semantic category of 'Determiner'; i.e. they are functions from sets to generalized quantifiers, as will be established in §3.3.

The exact attachment site of the post-determiner weak quantifiers has not yet been specified. Based on word order facts, and on analogy with the universal quantifiers, which appear in adjoined position, I propose the structure in (59).
59.
\begin{tabular}{|c|c|c|}
\hline [ 71 & \(x^{W}\) 2姩t-a & Smúqax] \\
\hline [i & cw7ít-a & smúlhats] \\
\hline [pl.de & many-exis & woman] \\
\hline many & ' \({ }^{\prime}\) & \\
\hline
\end{tabular}
(St'át'imcets)

27 A similar test was used in Chapter 5 to establish the constituency of [universal-Q DP] sequences.


I will argue below that the weak quantifiers undergo Quantifier Raising from their DP-internal position to adjoin to DP. This suggests that they are not categorically APs, but rather QPs. The adjoined to NP position seems to fit with the facts, and I will adopt it from now on.

\subsection*{3.1.2. Weak quantifiers adjoin to DP}

Weak quantifiers are excluded from immediately preceding the determiner of a DP which appears in argument position. (60) shows a full paradigm of grammatical relations from St'at'imcets; in each case, the weak quantifier may not precede the determiner.
60.
\(\begin{array}{lll}\text { a. } & \text { q }^{\mathrm{w}} \text { ačáx } & x^{\mathrm{w}} 21 \mathrm{t} \quad \text { ?1 } \\ \text { * quatsáts } & \text { cw7it } \quad \text { i } \\ & \text { leave many pl.det } \\ & \text { 'Many children left.' }\end{array}\)

qwatsáts cw7it i sk'wemk'úk'wm'it-a 'Many children left.' (intransitive subject) (St'at'imcets; BF, RW)
b. * pal?-alč-mîn-č-as
* pal7-alts-mín-ts-as
\(x^{W}\) it \(71 \quad n-\) Snə \(\dot{k}^{W}\) núk \(^{W}\) ²-a one-house-appl-1sg.obj-3erg many pl.det 1sg.poss-friend(redup)-exis 'Many of my friends visited me.' (transitive subject)
c. * クáć \(x-2 n-4\) kan
* áts'x-en-lhkan see-tr-1sg.subj 'I saw two women.'
n?án̉waš 71 Šmúłact-a
n7án'was i smúlhats-a two(human) pl.det woman-exis
(transitive object)
(St'át'imcets; RW)
(61) shows that in Secwepemctsin and Squamish, the same restriction applies.
61.
\begin{tabular}{clll} 
a. * & qwetséts & cw7it & re \\
leave many & sqélemc \\
& Many men left.' & man
\end{tabular}
\[
\begin{array}{lll}
\text { b. } * & \text { na huyá7 kex ta } & \text { swi } 7 \mathrm{ka} \\
\text { rl leave many det } & \text { man } \\
& \text { 'Many men left.' }
\end{array}
\]

However, a weak quantifier may precede a determiner in St'át'imcets, just in case the relevant DP precedes the predicate, as in (62).
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline 62. & \(x^{W} 21 t\) & 21 & 2ux \({ }^{\text {a }}\) almix \(x^{\text {w }}\)-a & ?ačx-2n-tál1 & [ta & Šqáx?-a] \\
\hline & cw7it & i & ucwalmícw-a & ats'x-en-táli & [ta & sqáx7 \\
\hline & many & pl.det & person-det & see-tr-erg.extr & [det & dog-exis] \\
\hline
\end{tabular}

The correct syntactic analysis of (60) is not obvious from surface evidence. It could be the case that the weak quantifier is contained within a sentence-initial DP, which has undergone overt Quantifier Raising, as in (63).
63. [xw?it ?1 ?ux \({ }^{w}\) almîx \(x^{w}\)-a
[cw7it i ucwalmícw-a] \({ }_{i}\)
[many pl.det person-exis]i
'Many people saw the dog.'
\begin{tabular}{llll} 
?ačx-ən-táli & {\([t a\)} & Sqáx?-a] & \(t_{i}\) \\
ats'x-en-táli & {\([t a\)} & sqáx7-a] & \(t_{i}\) \\
see-tr-erg.extr & {\([\) det } & dog-exis] & \(t_{i}\)
\end{tabular}
(St'át'imcets)

Alternatively, the quantifier could be functioning as the main predicate of the sentence, whose argument is a relative clause 'the people who saw the dog', as in (64)..\(^{28}\)
64.
\begin{tabular}{|c|c|c|c|c|c|}
\hline \(x^{W}\) ว1t & [?1 & ?ux \({ }^{\text {a }}\) almíx \({ }^{\text {w }}\)-a & 2aċx-ən-táli & ta & Sqáx \\
\hline cw7it & [i & ucwalmícw-a & ats'x-en-táli & ta & sqáx7-a] \\
\hline many & [pl.de & person-exis & see-tr-erg.extr & det & dog-exis] \\
\hline 'The pe & e who & saw the dog are & & & (St'át'imcets) \\
\hline
\end{tabular}

The analysis in (62) is the correct one. The first piece of evidence for (63) comes from coordination. It is possible to co-ordinate a [weak-Q \(\mathrm{D}^{0} \mathrm{NP}\) ] string with a DP when fronting to sentence-initial position has taken place, as in (65). \({ }^{29}\) Fronting of a non-quantificational DP to

\footnotetext{
\({ }^{28}\) Either analysis would be consistent with the presence of the morpheme -tali, which signals ergative extraction. If the entire subject is fronted, as in (63), ergative extraction marking is appropriate. In (64), the transitive subject within the relative clause has been extracted (see Matthewson 1993, Davis 1994c, Roberts 1994).
\({ }^{29}\) The change in morphology on the predicate in (65a) (from transitive subject morphology to conjunctive morphology) indicates that syntactic movement (of the co-ordinated DP) has taken place. See Demirdache et al. (1994), Kroeber (1991), Davis et al. (1993) among others, and brief discussion in the Introduction.
}
sentence-initial position is not usually possible in St'at'imcets; the co-ordinated DPs in (65) are quantificational, due to the weak quantifier contained within them. Hence, fronting is possible.
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline 65. a. & [ \(\mathrm{x}^{W}\) \% 71 & 21 & Šyáqč-a] & múta? & [ 31 & Šqáyx \({ }^{\text {W-a] }}\)-a] & つáċx-ə \\
\hline & [cw7it & & syáqts7-a] & múta7 & [i & sqáycw-a]] & ts'x- \\
\hline & [many & pl.det & woman-exis] & and & [pl.det & man-det]] & see-tr-1sg.conj \\
\hline & saw m & wom & \(n\) and men.' & & & & (St'át'imcets; LT) \\
\hline
\end{tabular}
 [[n7án'was i smelhmúlhats-a] múta7 [ti kúkwpi7-a]] wa7 alkst [[two(hum) pl.det woman(red)-exis] and [det chief-exis] prog work 'Two ladies and the chief are working / were working.' (St'át'imcets; RW)
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \multirow[t]{3}{*}{c.} & [ \([1]\) & \(\mathrm{k}^{W} \mathrm{u}^{\text {Tp }}\) pip-a] & múta? & [ \(n\) ?áṅwas & \(? 1\) & కyəqyáq̌̌?-a]] \\
\hline & [ [ti & kúkwpi7-a] & múta 7 & [n7án'was & & syeqyáqts7-a]] \\
\hline & [[det & chief-exis] & and & [two(hum) & pl.det & woman(red)-exis]] \\
\hline & wa? & \(\dot{\text { k }}^{\text {w }}\) əzúśs-əm & & & & \\
\hline & wa7 & k'wezús-em & & & & \\
\hline & prog & work-intr & & & & \\
\hline & \multicolumn{6}{|l|}{'The chief and two women are working.' (St'at'imce} \\
\hline
\end{tabular}

There is no alternative analysis of (65a-c) whereby the weak quantifier forms the main predicate of the sentence. This is shown by the meaning of (65b); if the weak quantifiers \(n 7\) ann'was 'two' were the main predicate, the sentence would literally mean 'the women and the chief who are working are two'. However, the English gloss shows that this is not the interpretation the sentence receives. \({ }^{30}\)

The ability of the [weak-Q \(\mathrm{D}^{0} \mathrm{NP}\) ] strings in (65) to co-ordinate with a DP implies that they themselves form a DP constituent. \({ }^{31}\)
\({ }^{30}\) There is also no alternative analysis of (65a-c) whereby the co-ordinated elements form the main predicate; as outlined in Chapter 1, main predicates do not allow determiners in St'át'imcets, while DP arguments require them.
31 (60-61) showed that when a DP is in post-predicate position, a weak quantifier may not precede the determiner. Therefore, co-ordination of [weak-Q \(\mathrm{D}^{0} \mathrm{NP}\) ] with an ordinary DP in post-predicate position is correctly predicted to be impossible:


The second piece of evidence for (63) over (64) is that a sentence-initial weak quantifier can be followed by a string which is not usually permitted as a relative clause. This would be unexpected under the analysis in (64). For example, (66) shows that the string \(i\) spzúz7a xzum ('the birds big') is not permitted as the single argument of the one-place predicate saq'w 'fly'.

(St'át'imcets; RW, GN)

The ungrammaticality of (66) follows from categorial requirements on DPs containing two open class elements (such as spzúza7 'bird' and xzum 'big'). As argued by Demirdache and Matthewson (1995a) and Matthewson and Demirdache (1995), the final item in such constructions must be an NP. Reversal of the elements in (66) so that the final item is the NP spzúza7 'bird' rather than the AP xzum 'big' leads to grammaticality, as shown in (67).

(St'át'imcets; RW, GN)

Since the string i spzúz7a xzum 'the birds big' cannot function as the DP argument of a predicate, the weak quantifier cw7it 'many' cannot be functioning as the main predicate in (68).
68. \begin{tabular}{llll}
\(x^{W}\) it \(\quad\) ?1 & Spzúz?-a & xzum \\
cw7it i & spzúz7-a & xzum \\
many pl.det bird-det & big \\
'Many birds are big.' &
\end{tabular}
(St'át'imcets; RW, GN)

The weak quantifier in (68) cannot be analyzed as a one-place predicate which takes a relative clause as its argument. Rather, the main predicate in (68) is xzum 'big', and the quantified DP cw7it i spzúz7a 'the many birds' has undergone Quantifier Raising at S-Structure to sentenceinitial position, as indicated in (69). By extension, the same reasoning applies to sentences such as those in (62).
69.
\begin{tabular}{|c|c|c|c|}
\hline [ \(\mathrm{x}^{\text {\% }}\) 7 7 & 21 & Spzúz?-a] \({ }_{1}\) & xzum \\
\hline [cw7it & & spzúz7-a] & xzum \\
\hline \multicolumn{4}{|l|}{\multirow[t]{2}{*}{'Many birds are big.'}} \\
\hline & & & \\
\hline
\end{tabular}
(St'át'imcets; GN)

When Quantifier Raising of a weakly quantificational DP has taken place, the weak quantifier must precede the determiner, as shown by the ungrammaticality of (70a). \({ }^{32}\) (70a) is corrected by speakers to (70b), with a DP-initial quantifier.
70.


The situation is as follows for DP-internal weak quantifiers in St'at'imcets: the weak quantifier precedes the determiner if and only if the entire DP has been fronted to sentence-initial position. This is schematized in (71). (Compare the weak quantifiers with the strong quantifiers, which can precede the determiner in both pre- and post-predicate positions).
71. Possible word orders for DP-internal weak quantifiers:
\begin{tabular}{|c|c|c|}
\hline \begin{tabular}{c} 
Pre-predicate \\
{\(\left[\text { weak-Q } \mathrm{D}^{0} \mathrm{NP}\right]_{\mathrm{DP}}\)}
\end{tabular} & Predicate & \begin{tabular}{c} 
Post-predicate \\
{\(\left[\mathrm{D}^{0} \text { weak-Q NP] }\right]_{\mathrm{DP}}\)}
\end{tabular} \\
\hline
\end{tabular}

In Demirdache et al. (1994), an analysis of universal quantifiers in Salish is given which can be adapted for the weak quantifiers. The analysis involves S-Structure Quantifier Raising. Two operations take place. The entire DP containing a quantifier is raised to adjoin to IP (or an equivalent functional projection), and the quantifier itself is raised to adjoin to its DP. This is an

\footnotetext{
32 (70a) is grammatical for the subset of speakers who independently allow argument DPs to precede the predicate. (70a) is ungrammatical for those speakers for whom fronting is licensed only by focussing or by the presence of quantifiers.
}
overt instance of the LF operations often proposed for English and other languages (see e.g. Heim 1982, May 1985 and many others). \({ }^{33}\)
72.


This analysis accounts for the impossibility of pre-determiner weak quantifiers in post-predicate position (see (70a)); it is only if Quantifier Raising of the entire DP to adjoin to the clause takes place that the quantifier itself can extract from its DP. I will argue below that weak quantifiers must always appear adjoined to DP by Logical Form; just like the universal quantifiers, they range over an entire DP. \({ }^{34}\)

There is another possible analysis of (72a), whereby the quantifier and the DP have each separately raised to sentence-initial position. This analysis can be ruled out for two reasons. First, there is no other instance in St'át'imcets of two separate elements preceding the predicate. Second, for speakers of the Upper dialect, DPs may not appear before the predicate unless they

33 Overt Quantifier Raising in Salish was also discussed in Chapter 5, §§2.1-2.2. See also Nicholls (1996) on S-Structure Quantifier Raising in Zuni.
34 Michael Rochemont (p.c.) suggests an Empty Category Principle account of why the quantifier may not either adjoin to DP or undergo QR to the front of the sentence while the DP remains in argument position. Assuming a) that the trace of the raised QP must be antecedentgoverned, b) that DP functions as a barrier to government, and c) that adjunction is only possible to non-arguments (see Chomsky 1986), the desired results will follow. If the quantifier raised to the front of the sentence, stranding the DP, its trace would fail to be antecedent-governed. The quantifier cannot 'escape' DP by means of adjunction unless the entire DP itself raises to an A'position.
Strong quantifiers can escape DP (see §2.1.5), because they do not start out inside DP.
contain a quantifier. Hence, the fronting of the DP separately from its quantifier would be unmotivated.

In summary, weak quantifiers may appear DP-internally in Salish languages. They are DPquantifiers, according to the classification system proposed in Chapter 5. They are generated in a modifier position, adjoined to NP, and may undergo raising to adjoin to their DP in at least St'at'imcets and possibly in other languages. If the latter operation takes place, then the entire DP must also have fronted to adjoin to the clause in the overt syntax.

The movement seen in St'at'imcets parallels in the overt syntax the covert movements proposed for languages like English by May (1985), Heim (1982) and others. Thus, the overt syntax gives direct evidence for such Logical Form operations as Quantifier Raising.

\subsection*{3.2. The semantics of DP-internal weak quantifiers}

Almost all of the literature on the semantics of weak quantifiers deals with Indo-European languages. This section therefore begins with a summary of claims which have been made about weak quantifiers in these languages (in particular, in English). Following this, we can lay out a set of predictions for the semantics of weak quantifiers in Salish. It should be noted that there is far from a consensus about the semantics of English weak quantifiers; the complexity of the area is noted by Lappin and Reinhart (1988:1029), who claim that 'Many (and few) poses a problem for virtually every current semantic account of the weak-strong distinction.'

\subsection*{3.2.1. The semantics of weak quantifiers in English}

As was noted in §2, weak quantifiers in English have at least two readings. Since Milsark (1974), it has been common to distinguish a cardinal reading, which appears in there-insertion
contexts, from a non-cardinal (in my terms, proportional) reading, which is ruled out in thereinsertion contexts.

Partee (1988) argues that there is a true semantic ambiguity between the cardinal and proportional readings of weak quantifiers. She characterizes the two meanings of the weak quantifier many as in (73). \({ }^{35}\)
73. Many aspens burned.
a. cardinal reading: \(\quad|\mathrm{A} \cap \mathrm{B}| \geq \mathrm{n}\)
b. proportional reading: \(\frac{|\mathrm{A} \cap \mathrm{B}|}{|\mathrm{A}|} \geq \mathrm{k} \quad\) (k a fraction or \%)
(Partee 1988:1)

Prose translations are given in (74).
74. a. cardinal reading: The cardinality of the set of entities which were aspens and which burned is greater than or equal to some number \(n\).
b. proportional reading: The proportion of the set of entities which were aspens and which burned compared to the total set of aspens is greater than or equal to some fraction or \(\% \mathrm{k}\).

The two readings can give different truth conditions, as shown by a context in which 100 out of 500 aspens in a particular forest burned (illustrated in (75)). The sentence in (73) would usually be considered true under a cardinal reading (since 100 is a large number), but false under a proportional reading (since 0.2 is a small proportion).
75.


For the meaning of the weak quantifier few, Partee states that the \(\geq\) symbols in the definition are reversed to \(\leq\). This gives the following definitions for few:

\footnotetext{
35 The number n and the fraction k are provided partly by context.
}
76. Few aspens burned.
a. cardinal reading: \(\quad|A \cap B| \leq n\)
b. proportional reading: \(\quad|\mathrm{A} \cap \mathrm{B}| \leq \mathrm{k} \quad\) ( k a fraction or \%)
(cf. Partee 1988:1)
77. a. cardinal reading: The cardinality of the set of entities which were aspens and which burned is smaller than or equal to some number \(n\).
b. proportional reading: The proportion of the set of entities which were aspens and which burned compared to the total set of aspens is smaller than or equal to some fraction or \(\% \mathrm{k}\).

In a context where 4 out of 5 aspens burned, the sentence in (76) would usually be true under its cardinal reading, but false under its proportional reading (because the relevant proportion would not be small). See Chapter 7 for discussion of contextual factors which can influence truth conditions with weak quantifiers.

Weak quantifiers under the proportional reading share some properties with strong quantifiers, such as not obeying the intersection condition. The property of intersection (also known as symmetry) is obeyed by a determiner if the equivalence in (78) is valid.
78. Symmetry / Intersection:
\(D\) (A) (B) iff D (B) (A)

The sentences in (79) should come out true if symmetry is obeyed by many and few respectively:
79. a. Many linguists are women iff many women are linguists.
b. Few linguists are women iff few women are linguists.

Sentences like (79) are interpreted as false under the proportional reading of many (see e.g. Partee 1988). The proportional reading does not obey symmetry/intersection.

Immediately, some problems arise with the analysis of weak quantifiers in English as ambiguous between two readings. English speakers I have consulted do not construe the equivalences in
(79) as valid. An example of a context in which (79a) is not valid is given in (80). There are 100 linguists, 500 women, and 80 female linguists.
80.


In this situation, it is true that a large proportion of linguists are women, but not true that a large proportion of women are linguists. In this context, (81a) and (b) have different truth values. Symmetry is not obeyed. \({ }^{36}\)
81. a. Many linguists are women. (true)
b. Many women are linguists. (false)

In general, it is too simplistic to say that weak quantifiers have two readings in English, since syntactic position can influence the readings available for weak quantifiers. For example, Partee (1988) claims that a weak quantifier which appears in an unambiguously adjectival position, as in (82), has only the cardinal reading.
82. The many protestors shunned violence.

Another environment which yields the cardinal reading (insofar as the sentences are grammatical), is predicate position, as shown in (83).
83. ? The protestors were many.

\footnotetext{
\({ }^{36}\) Kai von Fintel (p.c.) suggests that the symmetry test is inherently flawed, because the nominal predicates used in the test are individual-level predicates. Individual-level predicates strongly favour a proportional rather than a cardinal reading (see e.g. Diesing 1992 and references cited therein). On the other hand, Barbara Partee (p.c.) claims that the symmetry test should not be completely dismissed, and that the apparent lack of symmetry in (81) results from pragmatic intereference (because the set of women is far larger than the set of linguists). I introduce the symmetry test here merely because it has been so widely offered as a way of isolating the cardinal reading.
}

Although the sentence is marginal, it seems that the only requirement imposed by (83) is one of a large cardinality.

Finally, weak quantifiers which co-occur with partitive of, as in (84), are unambiguously proportional:
84. Many of the women are linguists.

Sentences containing overt partitives as in (84) fail both the cardinality test and the symmetry test, as shown in (85) and (86) (cf. (74) and 79)).
85.


Many of the aspens burned.
(false)
86.

a. Many of the linguists are women.
(true)
b. Many of the women are linguists.
(false)

The results are summarized in (87) for the correlation of syntactic position with interpretation in English. The cardinal reading for quantifiers inside DP is marked with ' \(* / \sqrt{ }\) ?', to take account of the doubts raised above that this syntactic environment always allows ambiguity.
\begin{tabular}{|l|c|c|}
\cline { 2 - 3 } \multicolumn{1}{l|}{ 87. } & cardinal & proportional \\
\hline there-insertion & \(\checkmark\) & \(*\) \\
\hline predicate position & \(\sqrt{2}\) & \(*\) \\
\hline adjective & \(\sqrt{c \mid}\) & \(*\) \\
\hline argument position & \(* / \sqrt{ }\) & \(\sqrt{ }\) \\
\hline overt partitive & \(*\) & \(\checkmark\) \\
\hline
\end{tabular}

We will see evidence below that St'át'imcets has a strict relationship between syntactic position and interpretation, such that weak quantifiers are never ambiguous. In addition, St'át'imcets shows enough similarity with the facts in (88) to suggest that the relationship is universally valid. The significance of the Salish investigation is that is enables us to view well-studied English data in a new light.

Another respect in which a two-way ambiguity between cardinal and proportional readings is not sufficient to explain English is that there are other possible readings. Herburger (1993) argues that there is a third reading of weak quantifiers, which she calls FOCUS-AFFECTED. This reading arises only with contrastive stress indicating focus. Thus, the sentence in (88) is two-ways ambiguous, but if incompetent is contrastively stressed as in (89), a third reading emerges.
88. Few incompetent cooks applied.
a. [ \(\exists \mathrm{x}\) : few (x) \& incompetent (x) \& cooks (x)] applied x
(cardinal)
b. [Few x: incompetent (x) \& cooks (x)] applied (x)
(proportional)
89. Few INCOMPETENT cooks applied.
[Few x: cooks (x) \& applied (x)] INCOMPETENT (x) (focus-affected)

Under the cardinal reading in (88a), the only requirement is that the number of individuals who are incompetent cooks and who applied be small. The sentence can therefore be true in the context in (90).
90. There are only 5 incompetent cooks. They all applied for the job.

On the other hand, the proportional reading will result in a reading of false in the context in (91), since the proportion of incompetent cooks who applied is not small. \({ }^{37}\)

The focus-affected reading in (89) means that few (a small proportion) of the cooks who applied were incompetent. The focus-affected reading can be distinguished by the context in (91). In this context, only the focus-affected reading comes out true.
91. Despite the efforts of its tourist board, there remain as many as 20 incompetent cooks in some small town. They all applied for the same job at the hotel. Besides them, also 80 competent cooks applied for this job (Herburger 1993:7).

In (91), the number of incompetent cooks who applied was not small; hence, the cardinal reading would result in a judgement of 'false'. The proportional reading also comes out false, since all the incompetent cooks who exist applied. The sentence comes out true only under the focus-affected reading (89), where a small proportion of the cooks who applied were incompetent. \({ }^{38}\)

In following sections, I will also test for the focus-affected reading in St'at'imcets. We will see no evidence for such a reading, and I will suggest that there is an independent reason why the reading is ruled out in St'at'imcets.

\subsection*{3.2.2. Predictions for weak quantifiers in Salish}

With regard to predictions about Salish weak quantifiers, I assume the null hypothesis to be that any construction involving weak quantifiers in Salish which syntactically parallels an English construction will have the same range of semantic possibilities as the English construction.

Recall that weak quantifiers in St'át'imcets appear in two syntactic environments within DP:39

\footnotetext{
\({ }^{37}\) A version of this test is attributed by Partee (1988) to Huettner (1984). The proportional reading of \(f e w\) comes out false if all members of a group are selected.
\({ }^{38}\) Focus-affected readings are restrictive, but are not conservative (see §1.4.2).
\({ }^{39}\) I will return to the issue of weak quantifiers which function as main predicates in \(\S 4\).
}
92. a. adjoined to NP [ \(\quad\) D 0 weak-Q [NP]]
b. adjoined to DP [ weak-Q [ \(\left.\mathrm{D}^{0} \mathrm{NP}\right]\) ]

English does not allow the DP-adjoined structure in (91b), but does possess the similar construction in (93).
93. [Many of the women] are linguists. [ weak-Q of [ \(\left.\mathrm{D}^{0} \mathrm{NP}\right]\) ]

Based on surface syntactic structure and comparison with English, we might expect that the NPadjoined quantifier (92a) will give rise to the cardinal reading, while the DP-adjoined quantifier (92b) will give rise to the proportional reading. However, we will see in §3.2.3 that St'at'imcets allows only the proportional reading for any weak quantifier contained within DP.

With regard to the focus-affected reading, recall that it appears only in a focused environment. I have not so far found any evidence in St'átimcets for the existence of focal stress. When asked how to render the contrast between (94a) and (94b), consultants are unable to come up with any way to do so, except by using an overt cleft construction for the focused version, as in (95b).
94. a. The bad policemen left.
b. The BAD policemen left (not the good ones).
95.
\begin{tabular}{|c|c|c|c|c|}
\hline a. & \(q^{\text {W }}\) atác & [21 & Qíl-a & plîsmən] \\
\hline & qwatsáts & [i & qvi-a & plísmen] \\
\hline & leave & [pl.d & bad-exis & policeman] \\
\hline & 'The bad & oolice & en left.' & \\
\hline
\end{tabular}
 'The bad policemen are the ones that left.' (St'at'imcets; LT)

The apparent lack of a focal stress contrast predicts that the focus-affected reading will be impossible in St'at'imcets, except possibly with the overtly focused construction in (95b).

The tests I will use for the various readings are listed in (96).
96. for \(\mathrm{D}(\mathrm{A})(\mathrm{B}) \quad\) reading
\begin{tabular}{|l|l|l|}
\hline i. & symmetry/intersection test upheld & cardinal reading \\
\hline ii. & truth value depends only on cardinality of A & cardinal reading \\
\hline iii. & truth value depends on proportion of \(\mathrm{A} / \mathrm{B}\) & proportional reading \\
\hline iv. & truth value depends on proportion of B/A & focus-affected reading \\
\hline
\end{tabular}

\subsection*{3.2.3. Readings for St'át'imcets DP-internal weak quantifiers}

St'at'imcets is the only language discussed here, since the type of information required must rely on fieldwork with native speakers. Data such as are presented here are not at present available for any other Salish language. The quantifiers tested are \(c w 7 i t\) 'many' and \(k^{\prime}\) 'wik'wena7 'few'.

\subsection*{3.2.3.1 The failure of symmetry}

The symmetry/intersection test, repeated in (97), fails in St'át'imcets for DP-internal weak quantifiers.
97. Symmetry / Intersection:
a. \(\quad D(A)(B)\) iff \(D(B)(A)\)
b. Many linguists are women iff many women are linguists.

The failure of symmetry can be shown by use of a context in which truth values should be different for two sentences under a proportional reading. Take the context schematized in (98) (cf. (80) above). There are 100 policemen, 500 women, and 80 female policemen.
98.


In this situation, it is true that a large proportion of policemen are women, but not true that a large proportion of women are policemen.

In St'át'imcets, NP-adjoined weak quantifiers do not obey symmetry. The sentences in (99) have the truth values given, for the context in (98). An analysis of weak quantifiers as allowing a symmetric reading incorrectly predicts that (99b) can be used to describe the situation in (98).
99.

(St'át'imcets; LT)

(St'át'imcets; LT)

Further evidence that a cardinal interpretation is not possible comes if we put similar sentences into the future tense. (100a), which contains the assertion of existence determiner \(i . . . a\), crucially describes a particular set of women (who the speaker knows) who will become policemen. It cannot be a statement merely about the cardinality of the set of individuals who will be both
 set of policemen who will become women, not the future cardinality of the set of female policemen. Consequently, the only possible meaning of (100b) is that a few policemen are going to have a sex change.
\[
\begin{aligned}
& \text { a. } \\
& \text { cuz' plísmen [i k'wik'wen7 } \\
& \text { going.to policeman [pl.det few-exis } \\
& \sqrt{ } \text { '(A) few women are gonna be policemen.' } \\
& \text { * 'There will be (a) few women policemen.' } \\
& \text { b. } x^{w} u z^{\prime} \text { syáqča? } \\
& \text { cuz' syáqtsa7 } \\
& \text { going.to woman } \\
& \text { [pl.det few-exis } \\
& \checkmark \text { 'A few of the policemen are gonna become women.' } \\
& \text { (i.e. will have a sex change) } \\
& \text { * 'There will be (a) few women policemen.' }
\end{aligned}
\]
```

pl〔̌mən] plísmen] policeman]

```

I will expand on the issue of the lack of cardinal readings below.

\subsection*{3.2.3.2. Only the proportional reading is possible}

In this section, I test DP-internal weak quantifiers in St'át'imcets for the cardinal reading, the proportional reading, and the focus-affected reading. Two tests are used for the cardinal reading. The first involves a situation which contradicts the proportion required under a proportional reading of the quantifier. For example, on a cardinal reading, (101) will be true in the context given. The cardinality of shouting women is large, but the relevant proportion is small. The small proportion contradicts the proportional reading of many, indicating that the cardinal reading is being accessed. \({ }^{40}\)
101. Many women were shouting at the demonstration.

Context: There were 500 women at the demonstration. 100 of them were shouting.

The same result holds for few in (102b); the extent to which the sentence is judged true in the context given is the extent to which the cardinal reading is available.
102. Few women were shouting at the demonstration.

Context: There were 5 women at the demonstration. 4 of them were shouting.

The second way of testing for a cardinal reading is that if all members of a certain group did something, a cardinal weak quantifier can still be used. So, (103) is true in the context given only under the cardinal reading. All that is necessary for the cardinal reading is that the number of women who were shouting be large.
103. Many women were shouting at the demonstration.

Context: There were 500 women at the demonstration. There were all shouting.

The same test (reversed) can be applied to few. If (104) is true in the context given, then the cardinal reading obtains.

\footnotetext{
\({ }^{40}\) Recall that the proportion required for many to be felicitous is partially determined by context (see fn 35). In Chapter 7 we will see that in a restricted set of pragmatic contexts, a small proportion can license the propotional reading of many.
}
104. Few women were shouting at the demonstration.

Context: There were 3 women at the demonstration. They were all shouting.

In St'at'imcets, the purely cardinal reading is unavailable for DP-internal cw7it 'many', as shown in (105) for both syntactic constructions in which weak quantifiers appear. Whether the weak quantifier appears adjoined to NP or to DP ((105i,ii) respectively), a large number is insufficient to make the sentence true (105a,b). Rather, a large proportion is what is required, as in (105c). \({ }^{41}\)
105. i.
\begin{tabular}{|c|c|c|c|}
\hline ? \({ }^{\text {cxaw }}\) al & [? & \(x^{\text {W }} 7\) 亿it-a & plísmən] \\
\hline úxwal' & [i & cw7it-a & plísme \\
\hline go.home & & many-exis & policeman] \\
\hline 'Many (of & & cemen & home \\
\hline
\end{tabular}

(St'át'imcets; LT)

Possible readings:
a. False in context: (cardinal)

There are 100 policemen (along with a bunch of cooks and teachers) at a party. 25 policemen go home, and 75 stay.
b. False in context:
(cardinal)
There are 25 policemen (along with a bunch of cooks and teachers) at a party. All the 25 policemen go home.
c. True in context: (proportional)

There are 30 policemen (along with a bunch of cooks and teachers) at a party. 25 policemen go home, and 5 stay.

Notice that the main predicate in (105) is a stage-level predicate; hence, we cannot explain the absence of a cardinal reading by appealing to the well-known correlation between individual-

\footnotetext{
41 (105a) and (b) give contexts in which the sentences were judged to be infelicitous. The sentences in these contexts may not necessarily have a truth value of 'false'. For example, it is not immediately obvious whether it is false to use 'many' when 'all' would be more appropriate, as in (105b).Throughout this chapter, I have not distinguished among the different possible reasons for infelicity, since this requires further in-depth research.
}
level predicates and non-cardinal subjects (see e.g. Carlson 1977, Milsark 1974, Diesing 1992, among others). \({ }^{42}\)

The focus-affected reading is unavailable for both DP-internal manifestations of cw7it 'many', as shown in (106).
106. i.
\begin{tabular}{|c|c|c|c|c|}
\hline 2úx \({ }^{\text {w }}\) al & [21 &  & q^1 & plîsmən] \\
\hline úxwal' & [i & cw7ít-a & qvo & plísmen] \\
\hline go.home & & many-exis & bad & policeman] \\
\hline 'Many (of & the) & policeme & & \\
\hline
\end{tabular}
(St'át'imcets; LT)
ii. [xWフít 21 q^1-a plísmən] 2úx"al
\(\begin{array}{lllll}\text { [cw7it } & \text { i } & \text { qvl-a } & \text { plísmen] } & \text { uxwal' } \\ \text { [many } & \text { pl.det } & \text { bad-exis } & \text { policeman] } & \text { go.home }\end{array}\)
'Many (of the) bad policemen went home.'
(St'át'imcets; LT)

False in context:
(focus-affected)
There are 100 good policeman and 100 bad policemen at a party. 20 bad policemen go home, along with 5 good policemen (i.e. Many of the policemen who went home were bad).

Turning to \(k^{\prime} w i k\) 'wena 7 'few', we find the same results. Only the proportional reading is possible for both NP-adjoined and DP-adjoined \(k^{\prime} w i k^{\prime} w e n a 7\).

```

    wa7 qlil [i k'wík'wen7-a
    prog angry [pl.det few-exis
    '(A) few (of the) children are angry.'
    ```

```

sk'wemk'úk'wm'it]
child(redup)]

```
(St'át'imcets; GN)

[k'wík'wena7 i sk'wemk'úk'wm'it-a] wa7 qlil
[few pl.det child(redup)-exis]
'(A) few (of the) children are angry.'
prog angry
(St'át'imcets; LT)

Possible readings:
a. False in context:
(cardinal)
There are 4 children waiting for Santa, and he doesn't come. 3 of them get angry.

42 The absence of a cardinal reading holds for all predicate-types in St'át'imcets. Parallel examples to (105) can be produced with individual-level main predicates such as \(q\) ' \(u q\) ' wts 'fat'.
b. False in context:
(cardinal)
There are 3 children waiting for Santa, and he doesn't come. All 3 of them get angry.
c. True in context:
(proportional)
There are 25 children waiting for Santa, and he doesn't come. 3 of them get angry.

The focus-affected reading is impossible for NP-adjoined \(k^{\prime}\) wík'wena7, as shown in (108).
108.
\[
\begin{aligned}
& \text { uxwal' tu7 [i k'wík'wen7-a qlil sk'wemk'úk'wmit] } \\
& \text { go.home compl [pl.det few-exis angry child(redup)] } \\
& \text { '(A) few (of the) angry children went home.' (St'át'imcets; LT, GN, RW) }
\end{aligned}
\]

\section*{False in context:}
(focus-affected)
There are 25 angry kids. They all went home. Plus there are 100 kids who aren't angry, who also went home. (i.e. Few of the children who went home are angry).

When the focus-affected reading was tested with DP-adjoined \(k^{\prime}\) wík'wena7, as in (109), the consultant offered (110) as a correction:
\begin{tabular}{|c|c|c|c|c|}
\hline [ \({ }^{W}{ }^{W} \hat{i}^{\mathbf{k}}{ }^{W}\) әna? & ?i & ql & Sk & \\
\hline ík'wena7 & i & qlîl-a & sk'wemk'uúk'wmit] & úxwal' \\
\hline [few & pl.det & angry-exis & child(redup)] & go.hom \\
\hline
\end{tabular} '(A) few (of the) angry children went home.'

\section*{False in context:}
(focus-affected)
There are 25 children waiting for Santa, and 3 of them get angry. All the angry ones go home, plus 20 others who aren't angry go home. (i.e. Few of the children who went home were angry).
110.
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline n14 & 1 & k & wa? & Q1I &  & 兄 \\
\hline nilh & [i & k'wík'wen7-a & wa7 & qlil & sk'wemk'úk'wmi7t] & \\
\hline c & [pl.det & few-exis & prog & angry & child(redup) & go.home \\
\hline
\end{tabular} 'It was a few angry children who went home.'

True in context:
(focus-affected)
There are 25 children waiting for Santa, and 3 of them get angry. All the angry ones go home, plus 20 others who aren't angry go home. (i.e. Few of the children who went home were angry).

The correction of (109) to the overtly-focused (110) supports Herburger's (1993) claim that the focus-affected reading is available only in focused contexts, as well as my claim that the only way of expressing focus in St'át'imcets is by a syntactic focus construction. \({ }^{43}\)

The results for the DP-internal weak quantifiers in St'át'imcets are summarized in (111).

\section*{111. Readings of weak quantifiers in St'át'imcets:}
\begin{tabular}{|l|c|c|c|}
\cline { 2 - 4 } \multicolumn{1}{c|}{} & symmetric & proportional & focus-affected \\
\hline DP-adjoined & \(*\) & \(\sqrt{*}\) & \(*\) \\
\hline NP-adjoined & \(*\) & \(\sqrt{ }\) & \(*\) \\
\hline
\end{tabular}

I will address the question of why only the proportional reading is allowed in §5.

\subsection*{3.3. DP-internal weak quantifiers set up triprartite structures}

We have seen that weak quantifiers appear inside DP in Salish. Do these DP-internal weak quantifiers have a restrictive interpretation? If they do, we will have additional evidence that generalized quantifiers exist in Salish languages.

The answer to the question is yes. Although there is some controversy about whether the cardinal readings of weak quantifiers involve tripartite structures, it is generally accepted that the

43 The same speaker accepted (109) on another occasion. If the focus-affected reading were possible with DP-adjoined \(k^{\prime}\) wik'wena7, DP-adjoined \(k^{\prime} w i k^{\prime} w e n a 7\) would be the 'odd one out' of all the DP-internal weak quantifiers. My suspicion is that the consultant accepts (109) under the alternative analysis whereby \(k^{\prime}\) wik'wena 7 'few' is the main predicate, as in (i).

'The angry children who went home were few.' (St'át'imcets; LT)
Note that the sentence would be true under the cardinal reading, since the number of angry children who went home is very small. We will see in \(\S 4.1\) that the cardinal reading is available for weak quantifiers in predicate position in St'át'imcets.
Although the analysis in (i) is dispreferred, due to the degraded status of the relative clause it contains (see §3.1.2), it is possible that the consultant allows this construction in order to obtain the relevant reading. See \(\S 4\) on the readings of weak quantifiers in predicate position.
proportional readings induce tripartite structures. \({ }^{44}\) For example, Partee (1988) claims that the proportional reading of many sets up a tripartite structure with a restrictive clause.
112. a. Many students arrived today.
b. Proportional reading:


Under the proportional reading, the weak quantifier acts like strong quantifiers such as every and most in setting up a restrictive clause which contains the common noun phrase students.

On the other hand, Partee (1988), like many other authors, claims that under their cardinal readings, weak quantifiers do not have quantificational force: 'the cardinal reading seems to be basically adjectival and not intrinsically quantificational' (Partee 1988:14). Partee argues that DPs containing cardinal weak quantifiers should be treated as Kamp-Heim indefinites; no tripartite structure is created and there is no restriction (see also Milsark 1974, Higginbotham 1987, Diesing 1992, among others). \({ }^{45}\)
113. a. Many students arrived today.

\footnotetext{
44 Recall from §1.4.4 above that tripartite structures share with generalized quantifiers the property of involving restrictive quantification. Although it is generally assumed that a tripartite structure corresponds to a 'strong' reading of a weak quantifier, Kai von Fintel notes (p.c.) that this does not follow intrinsically from the formalism. An extra assumption must be made to force the correspondence, possibly that there is an existential presupposition on the first argument of a tripartite structure.
45 The claim that cardinal readings are unrestrictive has not gone unchallenged. See Musan (1995) for arguments that weak quantifiers are always restrictive (i.e. truly quantificational). Musan proposes that both cardinal and 'presuppositional' (in our terms, proportional) readings introduce tripartite structures, but that the readings differ in what goes into the restriction. Under the presuppositional/proportional reading, the common noun phrase provides the restriction; under the cardinal reading, the restriction is implicitly provided by the resource domain variable. The details of Musan's analysis are not relevant here, since the controversy surrounds cardinal readings, which are disallowed inside DPs in St'át'imcets anyway. See Chapter 7 for some discussion of resource domain variables.
}
b. Cardinal reading:


Truth conditions: There is (was) a group of students whose cardinality is many and which arrived today.
(Partee 1988:15)

Since the cardinal reading is not available for weak quantifiers inside DP in St'át'imcets, we have the strongest evidence possible that weak quantifiers in this language are restrictive quantifiers. Consequently, we have strong supporting evidence for the generalized quantifier hypothesis discussed in §1 above.

For completeness, I should mention that the focus-affected reading appears to involve a tripartite structure, but one in which the main predicate of the sentence appears inside the restrictive clause. Herburger's (1993) contrast between the proportional reading and the focus-affected reading is given in (114). Notice that the logical forms have the same structure, with the only difference being the relative placement of the focused predicate and the main predicate of the sentence. \({ }^{46}\)
114. a. Few incompetent cooks applied.
[Few x: incompetent ( x ) and cooks ( x )] applied ( x )
(proportional)
b. Few INCOMPETENT cooks applied.
[Few x: cooks (x) and applied (x)] INCOMPETENT (x)
(focus-affected)

The evidence provided in this section clearly shows that DP-internal weak quantifiers in St'at'imcets form generalized quantifiers. The syntactic constituency of the quantifiers within DP, the presence of the restrictive, proportional reading, and consequently the setting up of tripartite structures, all provide support for Barwise and Cooper's NP-Quantifier Universal (see §1.2, §1.5).

\footnotetext{
46 This raises questions to do with the correct statement of which readings are ruled out in English there-insertion sentences, which I will not go into here. See Herburger (1993) for discussion, and Chapter 7 below.
}

\subsection*{3.3.1. DP, not NP, forms the restriction of a weak quantifier}

We saw in Chapter 5 that the restriction of a universal quantifier in Salish must be of category DP. This is summarized in (115).
\begin{tabular}{|c|c|c|}
\hline 115. & English & Salish \\
\hline DP range & [ All [the men] \(\left.{ }_{\text {DP }}\right]_{\text {DP }}\) left. & [Tákem [i sqáyqeycw-a]DP]DP qwatsáts [all [pl.det man(redup)-exis]DP]DP leave 'All the men left.' \\
\hline NP range & Most [men] \(\left.{ }_{\text {NP }}\right]_{\text {DP }}\) left. &  \\
\hline
\end{tabular}

The inability of the lexical projection NP to act as the restriction of a quantifier was derived from the Common Ground Parameter, which rules out a quantifier occupying \(\mathrm{D}^{0}\) position. Quantifiers which adjoin to DP take the entire DP as their restriction. \({ }^{47}\)

With St'at'imcets weak quantifiers, there are two structures in the overt syntax. In (115a), the range of the quantifier is clearly DP. In (116b), it could be the case that an NP forms the restriction of the quantifier.
116. a. [ weak-Q [D \({ }^{0}\) NP \(\left.]_{D P}\right]_{D P}\)
b. \(\quad\left[D^{0}[\text { weak-Q NP] }]_{N P}\right]_{D P}\)

However, I have shown that St'át'imcets always allows movement of the quantificational DP to sentence-initial position in the overt syntax. I have analyzed this movement as overt Quantifier Raising, and claimed that in the Quantifier Raised cases, the quantifier ranges over DP. The question is what happens when there is no overt Quantifier Raising.

Whether overt QR takes place or not, the interpretation of the weak quantifiers is always proportional. Parallelism arguments suggest that both the structures in (116) correspond to the same Logical Form configuration. I therefore propose that there is obligatory Quantifier Raising at LF of NP-adjoined weak quantifiers into a DP-adjoined position, as in (117).

\footnotetext{
\({ }^{47}\) The inability of NP to function as the restriction of a quantifier is derived in a different way by Jelinek (1995); for Jelinek, it follows from the absence of an NP category altogether.
}
117.


This correlation of the DP-adjoined structure with the proportional reading fits with the fact that in English, constructions which involve a DP-range for the weak quantifier are also unambiguously proportional (cf. (84) above): \(\mathbf{4 8}^{48}\)
118. Many of [the aspens]DP burned.
(proportional reading only)

\section*{4. Predicative weak quantifiers in Salish}

We have so far examined DP-internal weak quantifiers in some detail. This section will show that predicative weak quantifiers, unlike DP-internal weak quantifiers, allow the cardinal reading.

\subsection*{4.1. The cardinal reading is available}
(119) shows that a cardinal reading is possible for predicative weak quantifiers. The quantifier appears inside a complex predicate (see Chapter 4): 49

\footnotetext{
\({ }^{48}\) The difference between DP-adjoined weak quantifiers in St'at'imcets and partitives containing weak quantifiers in English is that in English, but not in St'át'imcets, there is a familiarity requirement on partitives (see Chapter 7 for discussion).
\({ }^{49}\) Recall from Chapter 4 that in complex predicate nominals, the determiner \(k u\) is optional. This is true also for (119), as shown by the parallel example in (i):
 [cw7it ku catch-intr] [i úxwal'-a] [many det policeman] [pl.det go.home-exis] 'The ones who went home were many policemen.'
(St'át'imcets; GN) True in context:
(cardinal)
}
[x²it plîsmən] [?i ?úxáal-a]
[cw7it plísmen] [i úxwal'-a]
[many policeman] [pl.det go.home-exis]
'The ones who went home were many policemen.'
(St'át'imcets; LT)

True in context: (cardinal)
There are 100 policemen (along with a bunch of cooks and teachers) at a party. 25 of the policemen go home.

True in context:
(cardinal)
There are 25 policemen (along with a bunch of cooks and teachers) at a party. All the 25 policemen go home.

As predicted for the cardinal reading, the cardinality of the group must be large; a large proportion is not sufficient to license cw7it 'many'. Thus, (120) is fine if 20 out of 25 white people raise their hands (because 20 is a large enough number), but is not fine if 3 out of 4 do.
\begin{tabular}{|c|c|c|c|c|}
\hline [ \(\mathrm{x}^{W}\) ว1t & Sáma?] & [ 21 & wa? & xat-aká?-əm] \\
\hline [cw7it & sáma7] & [i & wa7 & cat-aká7-em] \\
\hline [many & white] & [pl.d & prog & lift-hand-intr] \\
\hline \multicolumn{5}{|l|}{} \\
\hline
\end{tabular}
(St'át'imcets; LT)

True in context: (cardinal/proportional) \({ }^{50}\)
There are 25 white people at a meeting. 20 of them raise their hands.

False in context: (proportional)
There are 4 white people at a meeting. 3 of them raise their hands.

The focus-affected reading is impossible for both cw7it 'many' and \(k^{\prime}\) wik'wena 7 'few' in predicate position.

'The ones who went home were many good policemen.'
(St'át'imcets; LT)

There are 25 policemen (along with a bunch of cooks and teachers) at a party. All the 25 policemen go home.
50 This context produces a value of 'true' under the cardinal reading of the quantifier, because the number of white people who raised their hands is large enough to satisfy the cardinality requirement of \(c w 7\) it. A proportional reading of the quantifier would also result in a value of 'true' in this context, because 20 out of 25 is a large enough proportion to satisfy the proportional requirement of \(c w 7\) it. This is one example of different readings giving the same truth conditions.

False in context:
(focus-affected)
There are three good policemen at a policemen's party, and they all go home at once, and at the same time one bad policemen goes home (i.e. many of the policemen who went home were good).
b. \(\quad\left[\dot{k}^{W} 彳^{W} \dot{k}^{W}\right.\) əna? [k'wík'wena7 [few
few bad
plîšmən] [?i حúx wal-a] plísmen] [i úxwal'-a] policeman] [pl.det go.home-exis]
'The ones who went home were few bad policemen.'
(St'át'imcets; LT)

False in context:
(focus-affected)
There are four bad policemen at a policemen's party, and they all go home at once, and at the same time 25 good policemen go home (i.e. few of the policemen who went home were bad).

\section*{5. Explanations and questions}

\subsection*{5.1. Why is the cardinal reading disallowed inside arguments?}

In previous sections I have argued that in St'at'imcets, the interpretation of weak quantifiers is dependent on syntactic position at S-Structure. The contrast to be explained is between DPinternal weak quantifiers, which allow only the proportional reading, and predicative weak quantifiers, which allow the cardinal reading. I will derive this contrast rather stipulatively, pending further investigation, by simply postulating that there is an isomorphism constraint in St'át'imcets. Material which is inside an argument DP in the overt syntax (forming a syntactic constituent with a quantifier) must stay within the restriction of the quantifier at logical form.

The cardinal reading, which is disallowed for DP-internal weak quantifiers, is often taken to correspond to a Logical Form in which the common noun phrase does not appear inside the restriction of the quantifier. An example of such an analysis is given by Partee (1988) (repeated from (113) above):
122. a. Many students arrived today.
b. Cardinal reading:


Truth conditions: There is (was) a group of students whose cardinality is many and which arrived today.

The common noun phrase students in (122) forms part of the nuclear scope of the quantifier at LF. This contrasts with the proportional reading, where the common noun phrase is assumed to raise into the restriction of the quantifier, as in (123) (repeated from (112)): \({ }^{51}\)
123. a. Many students arrived today.
b. Proportional reading


Perhaps it is the possibility of the common noun phrase appearing inside the nuclear scope at LF which is disallowed in St'át'imcets quantified DPs (Hamida Demirdache, p.c.). The environment where the cardinal reading is disallowed is argument DPs; let us suppose, therefore, that when a weak quantifier and its first argument form a syntactic DP constituent, the syntactic range of the quantifier maps automatically to the restriction at logical form. To receive the cardinal reading, some LF operations would need to take place, moving the syntactic range of the quantifier into the nuclear scope at LF (cf. Diesing 1992 on the mapping of syntactic structure into tripartite structures at LF).

Suppose that such LF operations are not allowed in St'át'imcets. This generalization is stated in (124). \({ }^{52}\)
124. In St'át'imcets, there is isomorphism between overt syntax and logical form: Material which is syntactically the restriction of a quantifier (forms a DP constituent with the quantifier) must stay in the restriction of the quantifier at logical form.
\({ }^{51}\) See also Diesing (1992), who correlates raising out of the VP at Logical Form with a restrictive interpretation.
52 cf. also Huang (1982) on isomorphism in Chinese, used in a slightly different context.

The constraint in (124) derives the absence of a cardinal reading for DP-internal weak quantifiers in St'át'imcets, since DP-internal weak quantifiers take DP-internal material as their range. Consequently, at logical form it is not possible for that DP-internal material to appear inside the nuclear scope.

The constraint in (123) aso derives the lack of focus-affected readings in St'at'imcets. The relevant examples are repeated in (125).

(St'át'imcets; LT)
ii. [xwクít ?i q^1-a plísmən] ?úxªl
[many pl.det bad-exis policeman] go.home
'Many bad policemen went home.'
(St'at'imcets; LT)

False in context:
(focus-affected)
There are 100 good policeman and 100 bad policemen at a party. 20 bad policemen go home, along with 5 good policemen (i.e. Many of the policemen who went home were bad).

The focus-affected reading for (125), according to Herburger's (1993) analysis, would be as in (126).
126.
[Many x: policeman (x) \& went-home (x)] BAD
(focus-affected)

The focus-affected reading requires mapping DP-internal information ('bad'), which at SStructure was inside the restriction of the quantifier, into the nuclear scope. \({ }^{53}\) This alteration of S-Structure relations is ruled out in St'at'imcets.

Let us now check whether the cardinal reading is correctly ruled in for predicative weak quantifiers. An example is repeated in (127).

53 The focus-affected readings do not obey conservativity (see e.g. Keenan 1996:fn 1).

There are 25 policemen (along with a bunch of cooks and teachers) at a party. All the 25 policemen go home.

If the logical representation of (127) is something like (128), then DP-internal material ('went home') has moved into the nuclear scope at LF.
128.
\[
[\text { many }(x) \& \text { policemen }(x) \& \text { went-home }(x)]
\]

This is permitted, however, according to (124). It is only when argument DPs do not contain a quantifier that symmetry is possible. In (127), the syntactic environment for the isomorphism constraint is not met. At S-Structure, the quantifier is already in predicate position, along with the NP plísmen 'policeman'. It stays in this position at LF.

An obvious question is whether St'át'imcets differs from English in possessing (124). I have suggested in §3.2.1 that English DP-internal weak quantifiers strongly prefer the proportional reading in argument contexts such as (129).
129. [Many linguists] are women.
(proportional)

If this is true, then English parallels St'at'imcets in not allowing conversion of the common noun phrase contained within an argument (linguists in (128)) to predicate position at LF.

There is one case, however, where DP-internal weak quantifiers clearly allow the cardinal reading in English, namely when the quantifiers appear in adjective position (see (81) above). There must, therefore, be some differences between English and St'at'imcets with respect to (123). English must allow some LF operations which St'át'imcets does not allow (placing syntactic arguments into the nuclear scope).

Such cross-linguistic variation in the possibility of LF movement is not unprecedented. For example, Diesing (1992) argues that German and English differ in that in German, the LF position of DPs is represented transparently in the overt syntax, while in English, LF operations take place to alter the position of DPs. German 'wears its LF on its sleeve', while English does not.

I have argued in this section that ungrammatical readings for weak quantifiers can be ruled out in St'at'imcets if we assume that there is a strict mapping from the overt syntax to the logical representation, such that material which is inside the restriction of a quantifier at S-Structure stays within the restriction at LF.

\subsection*{5.2. Salish evidence on the strong/weak distinction}

It was pointed out in \(\$ 2.2\) that the traditional methods of distinguishing strong from weak quantifiers group the proportional reading of weak quantifiers together with the strong quantifiers. On the other hand, we saw in \(\S 2.1\) that there are a number of differences between strong quantifiers and weak quantifiers in St'át'imcets. The results are summarized in (130).
\begin{tabular}{|c|c|c|c|c|}
\hline \multicolumn{2}{|l|}{130.} & strong & weak \(_{\text {prop }}\) & weak \(_{\text {card }}\) \\
\hline i. & main predicate & * & \(\sqrt{ }\) ? & \(\checkmark\) \\
\hline ii. & 'existential' sentence & * & \(\checkmark\) & \(\checkmark\) \\
\hline iii. & bind wh-polarity item & \(\checkmark\) & * & * \\
\hline iv. & pro range & \(\checkmark\) & * & * \\
\hline v . & Q-float & \(\checkmark\) & * & * \\
\hline vi. & DP-internal & \(\checkmark\) & \(\checkmark\) & * \\
\hline
\end{tabular}

The reason why there is a question mark beside the proportional reading of weak quantifiers in predicate position is as follows. We have seen evidence that the cardinal reading is possible for predicative quantifiers. However, in any environment in which the proportional reading is true, the cardinal reading is also true. Hence, if the predicative quantifiers are ambiguous between a
proportional and a cardinal reading, we will not see separate evidence for the proportional reading. \({ }^{54}\)

Almost all the tests distinguish the lexical class of strong quantifiers from the lexical class of weak quantifiers, grouping both readings of the weak quantifiers into one class. For example, (129iii) states that weak quantifiers may not bind wh-polarity items. It is not the case that weak quantifiers on their proportional reading can bind \(w h\)-polarity items, while weak quantifiers on their cardinal reading cannot. Both readings of the weak quantifiers pattern together.

The only test where the proportional reading of the weak quantifiers patterns with the strong quantifiers is whether the reading is possible for DP-internal quantifiers or not. If we assume, as outlined above, that the interpretation of weak quantifiers is dependent on syntactic position at S-Structure, then the patterning of proportional weak quantifiers with strong quantifiers in this respect is expected. Both the strong quantifiers and the proportional weak quantifiers set up tripartite structures at logical form. I have argued above that material which is inside the syntactic restriction of a quantifier at S-Structure (i.e. inside an argument DP which contains a quantifier) must remain in the restriction at LF. Hence, DPs may contain any quantifier which creates a restrictive interpretation with the common noun phrase occupying the restriction either strong quantifiers, or weak quantifiers on their proportional reading.

Some of the questions which remain unanswered about the strong/weak distinction are summarized in (131).
131. a. What is the semantic basis for the division between strong quantifiers on the one hand, and all readings of weak quantifiers on the other hand?

\footnotetext{
54 The one case in which we could recognize the proportional reading would be in contexts where the relevant proportion is large, but the cardinality is small, as for example in (i).
i. Context: There are 4 white people at a meeting, and 3 of them raise their hands.

Many white people raised their hands.
However, contexts such as (i) independently disallow the use of \(c w 7\) it 'many', since even on its proportional reading, the cardinality must be large for cw7it. This is one of the ways in which cw7it 'many' is distinguished from English most; see Chapter 7.
}
b. Why are only weak quantifiers ambiguous?

The answers to these questions go beyond the scope of this dissertation; it is worth pointing out, however, that it was detailed study of the Salish data which lead to the posing of the questions in the first place. St'at'imcets provides clear syntactic evidence for a division between strong quantifiers and weak quantifiers. We cannot account for St'at'imcets by using traditional explanations for the strong/weak split, since these would predict that there is no difference between strong DP-quantifiers and weak DP-quantifiers (which always receive a proportional reading).

Intuitively, I believe that the solution to the strong/weak split is that strong quantifiers inherently make reference to some set other than what is overtly provided as their range. Reuland and ter Meulen (1987a) state it as follows, describing Barwise and Cooper's (1981) analysis:

> A noteworthy result of this set-theoretic analysis of determiners is that for a weak determiner the verification of a sentence Det N is/are Pred is based only on the intersection of the N - and Pred-interpretations, that is, information provided by the sentence itself, whereas strong determiners require for their verification consideration of some other set, often already given in the interpretation or otherwise available as part of the conversational background or common ground (Reuland and ter Meulen 1987:4).

Barwise and Cooper's definition of 'strong' includes the proportional readings of weak quantifiers, so their claims about weak quantifiers refer only to the cardinal readings. However, I believe their statements can be adapted to capture the distinction we want to capture.

On the proportional reading of many, it is not part of the meaning of the quantifier how much the proportion is (see Chapter 7 for justification). This is not the case with the strong quantifier most; most necessarily compares two proportions and decrees that one must be bigger than the other. \({ }^{55}\) Strong quantifiers take into account the set excluded. Keenan and Stavi's (1986) definition of most entails that the set included is bigger than the set excluded (see Chapter 7). Kamp and Reyle (1993:315) similarly claim that 'the truth of a sentence in which most occurs

\footnotetext{
55 Thanks to Henry Davis (p.c.) for discussion of this point.
}
depends upon the comparison between (the sets of objects satisfying two formulas, not on the property of (the set of objects satisfying) some one single formula.' 'Most Ps are Qs will be true if the set of Ps that are Qs contains more than half as many objects as the set of Ps.' 56

These speculations fall far short of answering the questions in (131), which must be the subject of future research.

\section*{6. Conclusions}

In this chapter, two main issues were addressed. The first concerned the presence of generalized quantifiers in Salish languages. I provided syntactic and semantic evidence that DPs which contain quantifiers in St'attimcets function as generalized quantifiers at logical form. If the St'át'imcets results extend to other Salish languages, we obtain the desirable result that quantificational strategies do not need to be parameterized. We do not need to claim that a family of languages completely lacks generalized quantifiers.

On the other hand, there may still be differences between English and Salish with respect to whether 'simple DPs' function as generalized quantifiers. Many interpretive differences between quantificational DPs and simple DPs in St'at'imcets raise the possibility that in order for a DP to function as a generalized quantifier in that language, a (non-determiner) quantificational element might need to be present. Jelinek (1995) and Partee (1990) may therefore be correct in proposing a difference in the interpretation of simple DPs in English and in Salish. Since I have already argued in previous chapters that there is a parametric difference between English and Salish with respect to the properties of determiners, it would not be very surprising if simple DPs in the two language-types had differing properties. As noted above, however, these issues await further investigation.

\footnotetext{
\({ }^{56}\) Kamp and Reyle claim that all generalized quantifiers have this property. If this were true, the claim could not be used to differentiate strong quantifiers from weak quantifiers.
}

In §2 of this chapter, I addressed the strong/weak quantifier distinction and argued that in St'at'imcets, there is a strict correlation between syntactic environment and interpretation, such that DP-internal weak quantifiers only receive a proportional reading. These DP-internal quantifiers provide further evidence for generalized quantifiers in Salish, and in addition show overt evidence of the operation of Quantifier Raising. The correlation between syntactic position and interpretation was derived from an isomorphism constraint on the mapping from the syntax to logical form.

\section*{CHAPTER 7}

\section*{QUANTIFICATION IN SALISH: FURTHER IMPLICATIONS}

\section*{0. Introduction}

Previous chapters have shown that Salish differs from English in lacking D \({ }^{0}\)-quantifiers. In this chapter, further features of Salish quantificational systems are investigated. The first section discusses gaps in quantifier inventories. I argue that Salish lacks quantifiers corresponding to every, most, some, no, usually, seldom, and generic all.

The absence of a quantifier corresponding to English every is demonstrated in §1.1. It might appear that the absence of every falls out from the absence of any \(\mathrm{D}^{0}\) quantifiers, since every is a \(\mathrm{D}^{0}\) quantifier in English. However, the deeper question is whether a quantifier with the meaning of English every would necessarily be a \(\mathrm{D}^{0-}\) quantifier in any language in which it existed. It is in principle possible for Salish to possess a quantifier which parallels English every in its function and discourse properties, but which adjoins to DP (a legitimate position for quantifiers in Salish).

I will argue that a quantifier with the function of English every will necessarily fill the \(\mathrm{D}^{0}\) position in any language in which it appears. Hence, the absence of every in Salish is a necessary result of the absence of \(\mathrm{D}^{0}\)-quantifiers in these languages. I suggest that every in English performs two functions. It not only presupposes the existence of its range, but it introduces a contextually-relevant set (following von Fintel 1994). The resource domain over which every quantifies is implicitly provided by a RESOURCE DOMAIN VARIABLE. Unlike von Fintel, I claim that not all quantifiers introduce a resource domain variable; only quantifiers which occupy \(\mathrm{D}^{0}\) position perform this function. I therefore contrast every, which introduces a resource domain variable, from all, which either obtains its range from a full DP (as in all the men), or receives a generic interpretation (as in all men).

I further demonstrate that universally quantified DPs do not have generic interpretations in St'at'imcets. This follows from the nature of the determiner system; quantificational DPs always contain an assertion of existence determiner with deictic features. This determiner explicitly limits the range of the quantifier, making a generic interpretation impossible.
§1.3 presents a number of tests which show that St'át'imcets lacks a quantifier with the meaning of most. St'att'imcets also lacks DP-quantifiers corresponding to some and no, as discussed in \(\S 1.4\) and \(\S 1.5\) respectively. A complete account of these gaps is not available at this stage, although some comments can be made. In this chapter, I concentrate on providing evidence that the gaps exist, and offer suggestions of the directions a future explanation might take.
§2 examines the nature of partitive DPs in English and in Salish. I show that quantifiers which adjoin to DP in Salish differ from English partitives in lacking a familiarity requirement. This is predicted by the absence in Salish of a definite determiner contained within the partitive construction.

\section*{1. Gaps in the inventory of quantifiers in Salish}

Inventories of quantifiers are fairly restricted in Salish languages. The St'át'imcets quantifier inventory is given in (1), using the three-way distinction proposed in Chapter 5.
1. St'át'imcets quantifiers:
\begin{tabular}{|c|c|c|c|}
\cline { 2 - 4 } \multicolumn{1}{c|}{} & DP-quantifiers & \(\mathrm{D}^{0}\)-quantifiers & A-quantifiers \\
\hline strong & \begin{tabular}{c} 
tákem 'all' \\
zízeg' \\
'each'
\end{tabular} & & papt 'always' \(^{\text {cardinber }}\) \\
\hline weak & \begin{tabular}{c} 
cardinal numbers \\
cw7it 'many' \\
\(k^{\prime}\) wik'wena7 '(a) few'
\end{tabular} & & lhnúkwas 'sometimes' \\
\hline
\end{tabular}

St'át'imcets lacks lexical items corresponding to every, most, some, no, usually, often, seldom, never or the ordinal numbers.

Similar results appear to obtain in other Salish languages (see Matthewson 1994b). \({ }^{1}\) There are some differences between languages, such as the lack of an item corresponding to each in languages other than St'at'imcets, \({ }^{2}\) and the presence of a set of ordinals in some languages (e.g. Lushootsed; Bates et al. 1994).

The purpose of this section is not to compare quantifier inventories in English and Salish, but rather to use the gaps in Salish inventories to derive hypotheses about the nature of quantifiers in Universal Grammar. We will see that most of the gaps in Salish quantifier inventories can be accounted for by independent features of the determiner system (i.e. from the Common Ground Parameter and the presence of an assertion of existence distinction), plus some assumptions about the nature of the relationship between syntax and semantics. In particular, I will argue that the \(\mathrm{D}^{0}\) position (which is unavailable for quantifiers in Salish) is the only position within DP which can host certain types of quantifier. If this is correct, then these types of quantifier are predicted to be absent in Salish.

I will not propose an explanation here for the gaps in the A-quantification system. Since we are concentrating here only on DP-internal quantification, the gaps in the list of A-quantifiers must be relegated to future research.

\subsection*{1.1. Salish languages do not possess a quantifier with the function of every}

Salish languages lack a quantifier corresponding to English every. This statement might seem trivial, since every is a \(\mathrm{D}^{0}\)-quantifier in English, and we already know that Salish lacks \(\mathrm{D}^{0}\) -

\footnotetext{
1 The languages discussed by Matthewson (1994b) include Nłe 7 kepmxc in (Northern Interior), Secwepemctsín (Northern Interior), Halkomelem (Central; Cowichan and Chilliwack dialects), Squamish (Central), Sechelt (Central), Lushootseed (Central), Upper Chehalis (Tsamosan) and Bella Coola.
2 The presence of a distributive universal each in St'at'imcets is interesting, when compared to the absence of an item corresponding to every. This will follow from differences in the discourse function of every and each.
}
quantifiers. However, current theories provide no reason why a quantifier with the semantics and discourse properties of every should not appear in DP-adjoined position in some languages. I will argue that the semantics of every mean that every can only appear in \(\mathrm{D}^{0}\) position. If this is correct, it will follow without further stipulation that Salish languages lack an item corresponding to every.

In St'at'imcets, there are two universal quantifiers, takem, usually glossed 'all', and \(z i 7 \mathrm{zeg}\) ', usually glossed 'each'. \({ }^{3}\) Zí7zeg' is a distributive universal quantifier. It can occur with either a plural range or a singular range, as shown in \((2,3)\) respectively. \({ }^{4}\)

[zí7zeg' i wa7 píx-em'] kwámem [ku míxalh] [each pl.det prog hunt-intr] take(redup) [det bear] 'Each of the hunters caught a bear.' (they caught one each). (St'át'imcets; RW, GN)
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline \multirow[t]{4}{*}{b.} & k \({ }^{\text {Wán }}\) - + kan & \(\left[\mathrm{k}^{\mathrm{W}} \mathrm{u}\right.\) & mulx] & [+-̧1-k15 & zi゚zə¢ \({ }^{\text {a }}\)-a &  \\
\hline & kwán-lhkan & [ku & mulc] & [lh-él-ki & zí7zeg'-a & sk'úk'wm' \\
\hline & take(tr)-1sg.subj & [det & stick] & [from-obl-pl.det & each-exis & child] \\
\hline & \multicolumn{4}{|l|}{'I took a stick from each of the children} & (St'át'i & ts; RW, GN \\
\hline
\end{tabular}
3.
a. q^lq^l-と-mín-łkæn
qviqvl-ts-mín-lhkan

\(\begin{array}{lll}\text { ta } & \text { sqáycw-a } & \text { áts'x-en-an] } \\ \text { det } & \text { man-exis } & \text { see-tr-1sg.conj] }\end{array}\)
bad(redup)mouth-appl-1sg.subj [each
'Each man I saw, I swore at.'
(St'át'imcets; RW, GN)

kwán-lhkan ku mulc [lhél-ti zí7zeg'-a sk'úk'wm'it] take(tr)-1sg.subj det stick [from-det each-exis child] 'I took a stick from each of the children.'
(St'át'imcets; RW, GN)

\footnotetext{
\({ }^{3}\) In most Salish languages, there is only one DP-universal quantifier; St'át'imcets is unusual in possessing a separate distributive universal.
\({ }^{4}\) The singular construction with zîzeg' is less common than the plural construction. I have not yet been able to ascertain a difference in meaning between (2b) and (3b), which differ only in plurality. Note also that some speakers find \(z i 7 \mathrm{zeg}^{\prime}\) marginal, and prefer to render (2) and (3) with tákem 'all'.
5 Although the determiner \(k i \ldots a\) is glossed as 'collective' (see Chapter 4, §1), there is neutralization between \(k i . . . a\) and the non-collective plural determiner \(i \ldots a\) following a preposition; only \(k i . . . a\) surfaces in this environment (van Eijk 1985:226). The use of \(k i . . . a\) in (2b) does not imply collectivity.
}

The distributive nature of \(z i 7 z e g^{\prime}\) is shown by its inability to attach to semantically mass nouns, as in (4a), and its impossibility with collective predicates, as in (4b) (from Demirdache et al. 1994).

* 'Each snow is white.'

* [zí7zeg' t'u7 i sqáycw-a] gew'p
[each part pl.det man-det] gathered
* 'The men each gathered.'
(St'át'imcets; LT)

Zí7zeg' contrasts in these respects with the non-distributive universal tákem 'all', as shown in (5).
Tákem can range over a mass noun, and is permissable with collective predicates.
5. a. pəq ku? [tákəm ?i máq?-a]
\begin{tabular}{lllll} 
peq & t'u7 & [tákem & i & máq7-a] \\
white & part & [all & pldet & snow-exis
\end{tabular}
white part [all pl.det snow-exis]
'All snow is white.'
(St'át'imcets; LT)
b. [tákəm k̉u? ?1 Sqáyy \({ }^{W}\)-a] £əஸ̉p
[tákem t'u7 i sqáycw-a] gew'p
[all part pl.det man-exis] gathered
'The men all gathered.'
(St'át'imcets; LT)

In Chapter 5 I argued that DP-internal universal quantifiers in Salish appear in DP-adjoined position. The distributive universal quantifier in St'át'imcets fits with this analysis. In (6), the [zīzeg \(\left.\mathrm{D}^{0} \mathrm{NP}\right]\) string has been fronted to the beginning of the subordinate clause, inducing the ergative extraction marker -tali. \({ }^{6}\) This is a position into which only a single DP can move (see Demirdache et al. 1994), and hence (6) provides evidence that \(z i 7 z e g^{\prime}\) forms part of the constituent DP.

\footnotetext{
6 The suffix -tali has both discourse-tracking and syntactic effects; see Matthewson (1993), Davis (1994c), Roberts (1994). The relevant feature of it here is that it only appears when a transitive subject has been moved to the front of a clause.
}
6.

'You said each woman saw Mary.'
(St'át'imcets; RW)
Evidence such as this leads me to assign the DP-adjunction structure in (7) to zi7zeg'. This is the structure that was assigned in Chapter 5 to DPs containing the universal quantifier tákem 'all'.
7.


To ascertain whether or not St'at'imcets (and Salish in general) possesses an item which corresponds to every, we should examine both syntactic and semantic evidence. Syntactically, every occupies \(\mathrm{D}^{0}\) position in English. Every can only appear immediately preceding an NP, and is in complementary distribution with other determiners. \({ }^{7}\)
8. a. * [Every the girl] forgot her pencil.
b. * [The every girl] forgot her pencil.
c. [Every girl forgot her pencil.

These facts follow if every occupies the determiner position, as in (9).
9.


\footnotetext{
\({ }^{7}\) I am setting aside more complicated cases such as every which way and my every desire.
}

St'át'imcets lacks a quantifier which parallels every in being directly followed by an NP. This much follows from the Common Ground Parameter, since quantifiers cannot themselves appear in \(D\) position.

What about the semantics of every? An important feature of every in English is that it can range over a specific group of individuals, even when that group of individuals has not been explicitly introduced. This feature is accounted for by von Fintel's (1994) theory of a RESOURCE DOMAIN, with respect to which a quantifier is interpreted.

Von Fintel aims to account for the well-known fact that the domain of a quantifier is contextually restricted. For example, if a speaker is relating the experiences of last night when a group of people went out for pizza, he or she might say:
10. Everyone had a good time.
(von Fintel 1994:28)
(10) does not mean that every individual in the world had a good time; rather, 'what is said by [10] is literally the narrower claim that every member of the group last night had a great time' (von Fintel 1994:29). The concept of a resource domain is summarized thus:

Not all information restricting a quantifier comes from sentence-internal restrictive arguments ... the discourse context is an important source of quantifier restrictions ... all quantifiers have a hidden domain argument, whose value is contextually supplied (von Fintel 1994:28).

The contextually supplied set is the resource domain (von Fintel 1994:30); the quantifier is interpreted relative to the resource domain, which is intersected with the set represented by the common noun. In a particular utterance situation, the resource domain variable is determined either deictically, anaphorically, or by being bound (von Fintel 1994:31).

In the remainder of this section, I will make the following points. (11a) has already been argued for in Chapter 2; (11b) and (c) are novel.
11. a. All quantifiers induce a presupposition of existence on their range (Chapter 2, §3.3).
b. This presupposition of existence is not equivalent to the introduction of a resource domain variable.
c. Only quantifiers in \(\mathrm{D}^{0}\) position can introduce a resource domain variable.

We have seen evidence that every introduces a resource domain variable, in von Fintel's terms. However, this feature of every is one which not all quantifiers appear to share. For example, every contrasts in this respect with all, which cannot be used to talk about a specific group of individuals. Compare (12a) with (12b):
12. a. I admire [every linguist].
(specific group of linguists) \({ }^{8}\)
b. I admire [all linguists]. (generic quantification over linguists)

In both (12a) and (12b), no prior discourse context is necessary. However, while (12a) can be used to talk about a specific group of linguists (such as every linguist at a conference for linguists and philosophers), (12b) can only be construed as a generic. If all is to range over a specific group of individuals, it must co-occur with the definite determiner, as in (13).
13. I admire all the linguists. (specific group of linguists)

The contrast between every and all is further illustrated in (14-16). (14a) does not have a generic interpretation whereby the speaker talked to every linguist in the world. Rather, it is construed as ranging over a smaller group of linguists. This interpretation is not available for all, however; (14b) only has the pragmatically odd reading whereby the speaker talked to all linguists in the world.
14. a. I talked to every linguist.
(specific group of linguists)
b. ! I talked to all linguists. (generic)

\footnotetext{
\({ }^{8}\) Every can be used generically as well, as noticed for example by Stowell and Beghelli (1995), who compare every with each in this respect.
i. a. Every dog has four legs. (pure generic/universal construal ok)
b. Each dog has four legs. (must involve a specific set of dogs)
(Stowell and Beghelli 1995)
I will not go into the differences between every and each in English here.
}

Similarly, in (15a) the presence of a relative clause containing past tense (incompatible with generics) is ungrammatical. (15b), containing every, is fine. \({ }^{9}\)
15. a. I admire all linguists * who attended the conference.
b. I admire every linguist who attended the conference.

When a present tense is used, either every or all is possible:
16. a. I admire all linguists who attend conferences.
b. I admire every linguist who attends conferences.

I propose that every performs the following functions. It induces a presupposition of existence on the set ranged over by its common noun. This much is common to all quantifiers, as argued in Chapter 2. It also introduces a resource domain variable, which implicitly limits the set over which the quantifier will range. Finally, it performs universal quantification over that limited set.

Unlike every, all does not seem always to be able to introduce a resource domain variable. Unless a set is overtly specified (by the co-occurence of a definite determiner as in all the men), DPs containing all receive an unambiguously generic interpretation. This is because no specific group is picked out; a generic, which does not involve a specific set, is the only possible interpretation.

The issue of the differences between every and all is a complex one, which goes far beyond the range of this dissertation. For concreteness' sake, and in order to account for the data in (15-16), I propose the claim in (17a), which I reduce to the generalization in (17b).
17. a. Every introduces a resource domain variable; all does not.
b. Within DP, only \(\mathrm{D}^{0}\) quantifiers may introduce resource domain variables.

The interaction of the operations which quantifiers may perform is illustrated in (18). All quantifiers presuppose the existence of their range, but only a subset of quantifiers introduce a resource domain variable (i.e. range over an implicitly defined set).

\footnotetext{
9 Thanks to Rose-Marie Déchaine (p.c.) for the examples in (15) and (16).
}
\begin{tabular}{l} 
presuppose existence \\
\(\qquad\)\begin{tabular}{c} 
introduce \\
resource domain variable
\end{tabular} \\
\hline
\end{tabular}

For the claim in (17b) to derive the desired facts, I must assume that all in English never occupies \(\mathrm{D}^{0}\) position. There is some evidence for this, and specifically for the claim that all in English always adjoins to DP. For a start, all always combines with a plural range, as shown in (19).
19. a. [All linguists] are millionaires.
b. * [All linguist] is a millionaire.

This would be compatible with an analysis whereby all adjoins to a bare plural (which itself is a DP). Support for this analysis comes from similarities in the interpretation of phrases of the type [all NP] and bare plurals, implying that all adjoins to a bare plural when it does not co-occur with a determiner.

Both bare plurals and [all NP] phrases receive a generic interpretation in present tense sentences.
20. a. [All linguists] vote.
b. [Linguists] vote.

When the past tense is used (a tense which is not compatible with generics), sentences containing [all NP] become somewhat odd, and bare plurals receive a default existential interpretation.
21. a. ? [All linguists] voted.
b. [Linguists] voted.

An existential interpretation is unavailable for a phrase introduced by the universal quantifier all. The only way (21a) can be interpreted is by the hearer attempting to supply a range for the universal quantifier; the difficulty of this results in the degraded status of the sentence.

There is much more to be said on the differences between all and every, but on the basis of this evidence I will adopt the hypothesis that all is not a \(\mathrm{D}^{0}\) quantifier, and that this correlates with its inability to introduce a resource domain variable.

Let us now return to Salish. Quantifiers in Salish cannot occupy \(D^{0}\) position. If (17b) is correct, we predict that Salish will lack a quantifier which parallels every in introducing a resource domain variable and then ranging over the resource domain. That is, if we assume that there is a correlation between the introduction of a resource domain variable and the \(\mathrm{D}^{0}\) position, we will predict that Salish lacks a quantifier with the semantics of every.

This prediction is correct; there is no universal quantifier in Salish which introduces a resource domain variable (i.e., which allows implicit information to restrict the range of a quantifier). On the contrary, universal quantifiers always co-occur with determiners which explicitly limit the range of the quantifier. In (21), the quantifier co-occurs with the assertion of existence determiner \(i \ldots a\). As argued in Chapter 1, all assertion of existence determiners in Salish situate an entity (or entities) in time and space. As such, the range of the quantifier is explicitly delimited by the determiner. \({ }^{10}\)

(St'át'imcets; LT)

The range of a quantifier is Salish is always an explicitly delimited set of individuals, of whom the speaker has personal knowledge (see Chapter 3).

The absence of a quantifier corresponding to every appears to extend beyond St'át'imcets to all Salish languages (see Matthewson 1994b for some discussion). One can find items in Salish

\footnotetext{
\({ }^{10}\) See \(\S 1.2\) below for discussion of a proposal which derives the obligatorily deictic nature of determiners in Salish (Demirdache 1996c).
}
which are translated into English as every; however, these do not function in the same way as English every. An example of this comes from Upper Chehalis. The word \(\mathrm{k}^{\mathrm{w}}\) até? is translated as every in (23):
23.

\(\mathrm{K}^{\mathrm{W}}\) até? always appears in combination with a lexical suffix, and from the evidence available it seems as if \(\mathrm{k}^{\mathrm{W}}\) até? never ranges over individuals, but only over stretches of time. This makes it unlike English every in crucial respects; \(\mathrm{k}^{\mathrm{W}}\) até? is an adverbial quantifier which only appears inside adverbial phrases (temporal adjuncts). It does not falisify my claim that Salish lacks an element corresponding to English every. \({ }^{11}\)

In this section I have argued that Salish languages lack every, and that this result follows from the analysis of Salish presented here as long as one additional assumption is adopted. This assumption is repeated in (24).
24. Within DP , only \(\mathrm{D}^{0}\) quantifiers may introduce resource domain variables.

In Chapter 2, I argued that all quantifiers, both weak and strong, induce a presupposition of existence. The fact that every can introduce a resource domain variable (i.e. range over a contextually defined set of individuals) is an extra requirement, beyond a simple presupposition that its range is non-empty. We can say that every performs both the quantifier function and the determiner function, as illustrated in (25).

\footnotetext{
\({ }^{11}\) M.D. Kinkade points out (p.c.) that the behaviour of quantifiers in combination with lexical suffixes is a whole separate area yet to be investigated.
}
25.


Quantifiers which do not occupy D position (such as all) only perform the quantifier functions, and determiners which are not quantificational (such as assertion of existence determiners in Salish) perform only the determiner function. \({ }^{12}\) There can be no lexical item in Salish which combines both quantifier and determiner functions as every does; this follows from the requirement that determiners in Salish are not able to presuppose existence (see Chapter 2).

Returning finally to the St'át'imcets distributive universal zí7zeg' 'each', I propose that this quantifier, like other quantifiers in Salish, performs only the quantifier functions in (25), and does not introduce a resource domain variable. I suspect that the same is true of English each, which receives a partitive interpretation and can range over a full DP, as in each of the men (cf. Stowell and Beghelli 1995). The only difference between St'at'imcets zīzeg' and English each is that the latter appears in familiar discourse contexts. See the discussion in \(\S 2\) of the familiarity requirement of partitives in English.

\subsection*{1.2. The absence of generic all}

We have seen that DP-quantifiers in Salish always co-occur with determiners, which explicitly limit the range. I have also argued that a generic universal quantifier is one which involves neither an explicit nor an implicit limitation of its range. We therefore predict that there will be no universal quantifiers in Salish which allow a generic interpretation.

\footnotetext{
12 This raises the question of the status of the English determiner the in phrases such as all the men; is the quantificational in this construction? I will not attempt to answer this here.
}

This prediction is upheld. When attempts are made to elicit generic statements in St'át'imcets, a universal construction involving a DP-adjoined quantifier is produced, as shown in (26a). The quantified DP in such statements is identical in form to quantified DPs involving universal quantification over a specific set, as shown in (26b).
26. a. [tákəm ?i twów ẁ 1 t-a] ?ama-mîn-itaš k-wa pix-əm
\(\begin{array}{llllll}{[\text { tákem }} & \text { i } & \text { twéw'w'et-a] } & \text { ama-mín-itas } & \text { k-wa } & \text { píx-em' } \\ \text { [all } & \text { pl.det } & \text { boy(redup)-exis] } \\ \text { good-app-3pl.subj } & \text { det-prog } & \text { hunt-intr }\end{array}\) 'All boys love hunting.'
(St'át'imcets; GN, RW)
b. [tákəm ?i xáxləp-a twów ẁət] naš tu? píx-əஸ்
[tákem i cáclep-a twéw'w'et] nas tu7 píx-em'
[all pl.det Fountain-exis boy(redup) go compl hunt-intr
'All the boys from Fountain went hunting.'
(St'át'imcets; GN, RW)

Sentences such as (26a) do not have a generic meaning. For example, the consultant for (27) commented that 'there's a bunch of men there; it doesn't pertain to all the men in the world.' However, when asked how she would refer to all the men in the world, (27) was the only way it could be done.
27.
\begin{tabular}{lcc} 
lóxləx & S-Henry & [łб́l-ki \\
léxlex & s-Henry & [lhél-ki \\
intelligent & nom-Henry & [from-pl.det \\
'Henry is the most intelligent of all the men.'
\end{tabular}
\begin{tabular}{ll} 
tákəm-a & క̌qáyqəyx \({ }^{w}\) ] \\
tákem-a & sqáyqeycw] \\
all-exis & man(redup)] \\
& (St'át'imcets; GN)
\end{tabular}

This suggests that there is no real generic construction in St'át'imcets. DP-adjoined universal quantifiers are used as the closest approximant, but since the quantifier always co-occurs with a deictic, assertion of existence determiner, there is no way of quantifying over a group which is not contextually specified.

Note that the absence of generic universal quantifiers in Salish can only be predicted if it is independently derived that determiners in Salish are always deictic (i.e. always locate the discourse referent(s) in time and space). Demirdache (1996a,b,c) argues that determiners in Salish perform part of the role of tense: they can fix the temporal reference of a whole sentence.

As such, they are necessarily deictic. It follows in turn from this that generic interpretations are disallowed, since a generic is incompatible with a deictically located set.

Demirdache (1996c,d) further argues that deixis is incompatible with anaphora. Thus, there are two ways to locate a contextually-defined set: either by deixis, or by anaphora. Evidence for this is seen in English: pronouns locate a discourse referent either deictically, or anaphorically, but never both anaphorically and deictically at the same time. Therefore, the deictic determiners in Salish would be incompatible with a resource domain variable which either locates the resource domain anaphorically, or does not distinguish between anaphoric and deictic methods of locating the domain. \({ }^{13}\)

\subsection*{1.3. Salish lacks most}

We saw in Chapter 6 that St'át'imcets \(c w 7\) it 'many' has an unambiguously proportional reading when it appears inside DP. This raises the question of whether and how \(c w 7\) it is differentiated from English most, a strong proportional quantifier. The difference between most and the proportional reading of many is not obvious even in English; Partee (1988:6) notes only that the two interpretations are 'similar'.

Keenan and Stavi (1986) give two definitions of most, which differ only in the truth value which arises when the range of most is empty. Keenan and Stavi do not decide between the two definitions, and the difference between them is not relevant here. For concreteness' sake, I will adopt the definition in (28).
28. \(\quad t \in \operatorname{most}_{1}(s)\) iff \(\mid s\) and \(t|>| s\) and \(t^{\prime} \mid\)
(Keenan and Stavi 1986:280)

\footnotetext{
\({ }^{13}\) Kai von Fintel (p.c.) questions whether deixis is incompatible with anaphora, citing data of Barbara Partee's which suggest that plural pronouns such as we involve a deictic and an anaphoric component simultaneously:
i. Whenever two people visit me, we play trios.

In (i), the deictic component is 'I', and the other people apart from the speaker are anaphorically identified. I leave this issue open, since it is not central to my analysis.
}

A prose translation for (28) is given in (29).
29. Most (s) \((t)\) is true if and only if the number of \(s\) which are \(t\) is greater than the number of \(s\) which are not \(t\).

Keenan and Stavi's example is given in (30).
30. Most unicorns like cabbage.
true iff the number of unicorns who like cabbage is greater than the number who don't

In a world in which unicorns do not exist, (30) will come out false under the definition in (28), since the number of unicorns who like cabbage (zero) is equivalent to the number who do not (zero). \({ }^{14}\)

Setting aside cases where the range is empty, the definition for most looks very like the proportional reading of many which is allowed in St'át'imcets weak quantifier constructions. In particular, the proportion must be large for a sentence containing cw7it 'many' to be true.

In this section I will argue that \(c w 7\) it does not correspond to the definition of most in (28). To demonstrate this, I will use a number of tests which distinguish between many and most in English. In each case, we will see that cw7it behaves like many and unlike most.

\subsection*{1.3.1 Test 1a: Unexpected proportions}

The first test which distinguishes most from many involves situations where the relevant proportion is small, but larger than one would usually expect. In such cases, many is possible but most is not, as shown for English in (31).

\footnotetext{
\({ }^{14}\) According to my claim in Chapter 2 that all quantifiers presuppose their range, a sentence containing most will actually fail to have a truth value if its range is empty. This will result in presupposition failure, and the sentence will sound pragmatically odd.
}
31. Background assumption: Usually, only \(1 \%\) of the student population votes in student elections.

Context: This year, \(20 \%\) of the student population voted.
a. * Most students voted this year.
b. \(\sqrt{ }\) Many (of the) students voted this year.

The reason why most is impossible in such contexts is that the requirement in (28) does not hold. The number of students who voted is not greater than the number of students who abstained.

Cw7it is possible in such contexts in St'át'imcets, as shown in (32) for both DP-adjoined (32a) and NP-adjoined (32b) positions of the quantifier.
32. Background assumption: Usually, only \(1 \%\) of women hunt. \({ }^{15}\)

Context, This year, \(20 \%\) of women hunted.


\subsection*{1.3.2. Test 1b: Most is greater than half}

Test 1 b is similar to test 1 a , in that it relies on the fact that most, but not many, strictly requires that the proportion be greater than half. The situation in (33) cannot be described by most in English, but it can be described by \(c w 7\) it inSt'át'imcets. \({ }^{16}\)

\footnotetext{
15 Subsequently to eliciting this example, I discovered that it was and is fairly common in Interior Salish culture for women to go hunting. This does not affect the 'unexpected proportion' effect in (32), since the background assumption was explicitly set up and agreed to during the elicitation of this example.
\({ }^{16}\) Consultants sometimes correct such examples to sentences containing the sáq'ulh 'half'. This could be due to Grice's (1975) maxim of quantity:
}
33. Context: There are 50 kids, and 25 of them go home.
a. * Most (of the) kids went home.
b. \(\sqrt{ }\) Many (of the) kids went home.

(St'át'imcets; LT)

úxwal' [i cw7ít-a sk'wemk'úk'wm'it] go.home [pl.det many-exis child(redup)]
'Many (of the) kids went home.'
(St'át'imcets; LT)

\subsection*{1.3.3. Test 1c: Exhaustive partitioning}

The third test which tells most apart from many (suggested by Henry Davis, p.c.). is that most requires an exhaustive partitioning of the domain, while many does not. That is, if we say that most men left, we not only say something about the size of the set of men who left, but also something about the size of the set of men who did not leave (namely that it must be smaller than the set who did leave; see (28) above). It therefore follows that (34a) is impossible, since the second clause contradicts the first. (34b), on the other hand, shows that the same is not true of many in English.
34. a. * Most men left, but most men stayed.
b. Many (of the) men left, but many (of the) men stayed.

Cw7it in St'át'imcets behaves like English many with respect to this test. Again, this is shown for both DP-adjoined \(c w 7\) it (35a) and NP-adjoined \(c w 7\) it (35b).

\footnotetext{
i. Make your contribution as informative as is required.

Conversational participants who are behaving co-operatively will give as much information as necessary (unless intending to make a specific implicature by flouting of the maxim). In certain contexts, it will be more informative (and hence more appropriate) to state that half of a set has some property, than to state that many members of the set have that property.
}

\begin{tabular}{|c|c|c|c|c|}
\hline ku? & [ \(\mathrm{x}^{\text {W }}\) 21t & 71 & Šqáy \({ }^{\text {w }}\) - a ] & s-kal \\
\hline t'u7 & [cw7it & i & sqáycw-a] & s-t'al \\
\hline just & [many & pl.det & man-exis] & stat-stop \\
\hline & the) me & ut man & \(y\) (of the) m & stayed. \\
\hline
\end{tabular}
b. そ̇ák-wit

t'ák-wit stop-3pl
ku?
t'u7 just 'Many (of the) men left, but many (of the) men stayed.'

Šáyx \({ }^{W}\) ], sqaycw], man]

\subsection*{1.3.4. Test 2: Pure proportionality}

The final test I will use to distinguish most from many is that most is a purely proportional quantifier, while many is not. With most, a large proportion is a necessary and a sufficient condition. With the proportional reading of many, a large proportion is a necessary, but not a sufficient, condition. Some account of cardinality must be taken for many (at least according to my own intuitions). This is shown in (36). \({ }^{17}\)
36. Context: There were 4 white people at a meeting, and 3 of them raised their hands.
a. \(\sqrt{ }\) Most (of the) white people raised their hands.
b. ? Many (of the) white people raised their hands.

According to this test, St'át'imcets \(c w 7\) it acts like English many, not most.

\footnotetext{
17 There is some speaker variation on the acceptability of (36b). Some speakers reject it, while some report that it is acceptable. I have not found any speaker who rejects (36a) in the context given.
}
37. Context: There were 4 white people at a meeting, 3 of them raised their hands.
a. * \(\left[x^{w}>1\right.\)
21 Šám?-a]
xat-aká?-əm
* [cw7it i sám7-a]
cat-aká7-em [many pl.det white.person-exis] lift-hand-intr 'Many (of the) white people raised their hands.'
(St'át'imcets; LT)

* cat-aká7-em [i cw7ít-a sáma7]
lift-hand-intr [pl.det many-exis white.person]
'Many (of the) white people raised their hands.'
(St'át'imcets; LT)

A large proportion is not sufficient (though it is necessary) to license \(c w 7\) it 'many'. \({ }^{18}\)

The evidence presented in this section supports Matthewson's (1994b) claim that Salish languages lack a quantifier corresponding to English most. In-depth study is clearly necessary for the other languages of the family, but it is at least certain that St'át'imcets does not possess a purely proportional quantifier corresponding to English most.

The question of why Salish should lack such a quantifier must be the subject of future research, although note that most is a \(\mathrm{D}^{0}\)-quantifier in English. The question of why Salish lacks most may or may not reduce to the question of why English lacks most the men.

\footnotetext{
18 St'át'imcets does not completely lack purely proportional quantifiers. Applying the pure proportionality test to \(k^{\prime}\) wik'wena7 'few', we obtain the opposite results (i.e. a small proportion is sufficient to license \(k^{\prime}\) wik'wena7, even if a large cardinality is involved).


There are 500 children, and 100 of them are angry.
English appears to have a similar asymmetry between many and few, but the questions raised by this go beyond the scope of the present study.
}

\subsection*{1.4. Some does not exist in St'át'imcets}

The purpose of this section is to demonstrate that in St'at'imcets, there is no quantifier which corresponds to English some. The comparison is relevant because some in English is traditionally taken as introducing an existential quantifier into logical form, as in (38).
38. a. Some cat prowls.
b. \(\quad(\mathrm{x}: \operatorname{cat}(\mathrm{x}))\) prowl ( x\()\)
(Chierchia and McConnell-Ginet 1990:113)

We have already seen that Salish languages possess a range of determiners which assert existence. The question therefore arises of whether these determiners correspond to English some. We will see that they do not, and that the reason why they do not follows from the analysis presented in previous chapters.

Like all weak quantifiers, some in English has more than one reading. Stressed some, as in (39a), is a concealed partitive, corresponding roughly to (39b).
39. a. SOME New Zealanders are in the garden (the rest are in the kitchen).
b. Some of the New Zealanders are in the garden.

Covert and overt partitive some are both ungrammatical in there-insertion contexts, as shown in (40).
40. * There are some of the / SOME New Zealanders in the garden.

Unstressed some (written \(s^{\prime} m\) ) is grammatical in there-sentences.
41. There are s'm New Zealanders in the garden.

In St'át'imcets, there is no single lexical item which can be analyzed as introducing existential force into a sentence, and which is ambiguous between a partitive and a non-partitive reading.

Partitive some is rendered in St'át'imcets by the lexical item nukw (glossed 'other', 'next' in its citation form). \(N u k w\) is translated in these contexts as 'some of the'.
42.
 (St'át'imcets; GN, RW)

The unambiguously partitive meaning of this quantifier is illustrated in (43), which was an attempt to elicit 'Someone loves everyone'. The consultant commented that there is 'just one meaning: those particular people love everyone'.

wa7 [i núkw-a] wa7 xwi-s-twítas [i tákem-a úcwalmicw]
prog [pl.det other-exis] prog love-caus-3erg [pl.det all-exis person]
'Some people love everyone.'
(St'át'imcets; RW)

Nukw cannot appear in existential contexts, as shown in (44). In (44a), a plain assertion of existence DP is used. In (44b), nukw is used. The focal stress in the English translations was provided by the St'at'imcets consultant.
\begin{tabular}{|c|c|c|c|c|c|}
\hline a. & wa? & [?1 & míxat-a] & [ \({ }^{\text {ák }{ }^{W} \text { u }}\) ? & Sqw \({ }^{\text {² }}\) m-a] \\
\hline & wa7 & & míxalh-a] & [láku7 & sqwém-a] \\
\hline & exis & [pl.d & bear-exis] & [deic & mountain-exis] \\
\hline
\end{tabular}
(St'át'imcets; LT)

(St'át'imcets; LT)
\(N u k w\), then, is a partitive quantifier meaning 'some, but not all'. Does non-partitive s'm exist in St'át'imcets? English sentences containing \(s^{\prime} m\) are shown in (45). Under negation, as in (45e), \(s^{\prime} m\) turns into polarity any.
45. a. [S'm men] came in.
b. There are [ \(s\) ' \(m\) trout] in the creek.
c. I lent the woman [s'm money].
d. Rose will give me [s'm fish].
e. She didn't see [any men].

The St'át'imcets versions of versions of (45) are given in (46). (46a-c) contain an assertion of existence determiner, and (46d,e) contain a non-assertion of existence determiner.
46.
\begin{tabular}{|c|c|c|}
\hline a. & 2 \(47 x^{\text {w }}\) & [ 71 \\
\hline & ulhew & \\
\hline & go.in & [pl.det \\
\hline & 'S'm m & came in. \\
\hline
\end{tabular}

Sqáyqəyx \(\left.{ }^{W}-a\right]\)
ulhew [i sqáyqeycw-a]
'S'm men came in.'
man(redup)-exis]
(St'át'imcets)
\(\begin{array}{lll}\text { b. } & \text { wa? } \quad[? 1 \\ \text { wa7 } & {[i} \\ & \text { prog } & {[\text { [pl.det }} \\ & \text { 'There are s'm trout }\end{array}\)
\begin{tabular}{ll} 
ċóćg̉az'-a] & [1-ta \\
ts'éts'qwaz'-a] & {\([1-\mathrm{ta}\)} \\
trout-exis] & {\([\) in-det }
\end{tabular}
'There are s'm trout in the creek.'
\(x_{w}\) áw \(x^{w}-\) a]
tswáw'cw-a]
creek-exis]
(St'át'imcets; RW, GN)
c. \(k^{W} u ́ \not \partial \partial n-క ̌-k a n ~\)
kúlhen-s-kan
[ta Šqláw-a] [ta Šmúłač-a]
lend-tr-1sg.subj [det money-exis] [det woman-exis]
'I lent the woman s'm money.'
(St'át'imcets; RW, GN)


[ku sts'úqwaz'] \({ }^{19}\)
'Rose will give me s'm fish.'
(St'át'imcets; LT)
\begin{tabular}{|c|c|c|c|c|c|}
\hline e. & \(x^{\text {w }}\) ? 2 zz & \(k^{W}-{ }^{\text {c }}\) & フáčx-ən-as & [k & Sqay \({ }^{\text {w }}\) ] \\
\hline & cw7aoz & kw-s & áts'x-en-as & [ku & sqaycw] \\
\hline & neg & det-nom & see-tr-3erg & & man] \\
\hline
\end{tabular}
'She didn't see any men.'
(St'át'imcets; GN)

Partitive nukw cannot appear in weak s'm contexts, as shown in (47).
47.

(St'át'imcets; RW, GN)

\footnotetext{
19 (46d) is also possible with an assertion-of-existence determiner \(i . . . a\) instead of non-assertion of existence \(k u\); this would be where the speaker asserts knowledge that the fish exists.
}

The contrast between partitive nukw and the translations of weak s'm into St'át'imcets shows that where English uses one determiner, St'át'imcets uses the non-determiner nukw, plus two different determiners. Consequently, there is no lexical item in St'át'imcets which equates with the quantifier some in English.

The absence of a lexical item corresponding to some in St'at'imcets derives from the nature of the determiner system. St'át'imcets, like other Salish languages, encodes assertion of existence, and assertion of existence divides up the possible contexts in a different way than English some does. In particular, the assertion of existence distinction cross-cuts the distinction between weak \(s^{\prime} m\) and any. \(S^{\prime} m\) can be used in contexts where the existence of an entity is asserted, as in (45ac), or where it is not, as under the scope of a future operator in (45d). St'át'imcets must differentiate these two notions, as shown in the contrast between (46a-c) on the one hand, and (46d-e) on the other.

\subsection*{1.5. DP-internal no in Salish}

It was shown in Chapter 1 that the negative element in Salish typically functions as a main predicate. Some examples are repeated in (48).
48. a. mítta [t n-d̉aq s -?fiñ]
neg [det my-modal impf-sing]
'I won't sing.'
b. 7axw ti ka lhalas 7ala 7ats neg art hyp boat prep here 'There is no boat here.'
c. \(x^{w} \mathfrak{i} ? \quad g^{w}-ə d-y i ̂ q u u s\)
neg might-my-basket
'I don't have a basket.'
(Lushootseed; Hess 1976:567, Bates et al. 1994)

If a negative element were to appear within DP in Salish, there would be two possible sites for it (since the determiner position is excluded; see Chapter 2). It could either adjoin to DP, or it could adjoin to NP (see Chapter 6, §3.1). These two options are schematized in (49).
49. a. \(\quad\left[\mathrm{Neg}\left[\mathrm{D}^{0} \mathrm{NP}\right]_{\mathrm{DP}}\right]_{\mathrm{DP}}\)
b. \(\quad\left[\mathrm{D}^{0}[\mathrm{Neg}[\mathrm{NP}]]_{\mathrm{NP}}\right]_{\mathrm{DP}}\)

The option of DP-adjoined negation is ruled out in St'at'imcets.
50.

(St'át'imcets; LT)
(St'at'imcets; LT)

The ungrammaticality of ( \(50 \mathrm{a}, \mathrm{b}\) ) follows simply from the impossibility of the syntactic structures required. The negative element \(c w 7 a o z\) is a predicate in St'át'imcets (as in other Salish languages). Predicates cannot adjoin to DP or appear in any pre-determiner position within DP in these languages, as shown in Chapter 5, §2.1 (see Zanuttini 1990, among others, on the different positions available for negation).

This deals with the impossibility of DP-adjoined negation (cf. (49a)). The other available position within DP, adjoined to NP, should be a possible site for negation, since an adjective is a type of predicate. That this is the correct prediction is shown in (51) for Bella Coola and Straits. The negative inside DP results in a meaning such as 'the one(s) who do(es) not X' (Nater 1984):
51. a. ti 7axw 7ats kstcw art neg here do 'these (ones) who have not done it'
\(\begin{array}{llcc}\text { b. } & \text { cə } & \text { 'əwə-s } & \text { sw } \begin{array}{l}\text { sỳqə' } \\ \\ \text { det }\end{array} \quad \text { neg-irreal male } \\ \text { 'the no-man / the one who isn't a man' } & \text { (* 'no man') }\end{array}\)
(Jelinek 1995:526)

Compare these examples with English no woman, which does not mean 'the one who is not a woman', but rather simply denies the existence of the denotation of the NP. A similar point can be made for Upper Chehalis, where a bound morpheme negative tay- exists (in addition to clausal negation). Tay- attaches to nominals, but crucially results in the meaning 'without NP', rather than 'no NP.' This is seen in (52). \({ }^{20}\)
52.
a. \(\left.\quad \begin{array}{l}\text { táy }-\dot{k}^{W} u y \\ \\ \text { neg-mother } \\ \\ \\ \text { orphan' } \\ \\ =\end{array}\right)\) without mother'
(Upper Chehalis; Kinkade 1991:137)
b. tay-ál-cuq
neg-connect-wife
'bachelor'
\(=\) 'without wife'
(Upper Chehalis; Kinkade 1991:137)

There are many unresolved and interesting issues to do with negation in Salish languages; these comments have only brushed the surface. I have argued that a DP-adjoined negative element would be categorially impossible. Negation in adjective position is possible, as expected.

\subsection*{1.6. The syntax / semantics mapping}

In previous subsections, we have seen some evidence which suggests a strong relationship between the syntax of a quantifier and its semantics. It is suggestive that the quantifiers which are missing from inside DP in Salish are exactly those quantifiers which appear to occupy determiner position in English. If there is something about the meaning of every, most and some

\footnotetext{
\({ }^{20}\) St'át'imcets also allows DP-internal predicate negation, as shown in (1).

'The one who didn't arrive must be lost.' (St'att'imcets; LT) The obligatory presence of the overt marker of subordination \(k\) in (i) is unexplained at present.
}
which is strongly linked to the \(\mathrm{D}^{0}\) position, then their absence in Salish would follow from the independently required Common Ground Parameter without any further stipulations.

Based on comparison between different universal quantifiers in English, I have suggested that the \(\mathrm{D}^{0}\) position could be linked to the introduction of a resource domain variable, which implicitly narrows down the set over which a quantifier may range. Every in English ranges over a contextually limited set (following von Fintel 1994); I have argued that all in English does not. If my claim is correct that the only DP-internal elements which can introduce a resource domain variable is a D , we predict there will be no language which allows * every the woman.

On the other hand, quantifiers which are in adjoined position do not themselves provide information about the existence or identity of their range. It is the determiner with which they cooccur which does this. In all the women, the determiner explicitly locates the range of the quantifier.

This helps to shed some light on what the function of the determiner position is. Let us say that the function of a determiner is to identify the discourse referent of the DP, giving information about its existential status and linking it to the common ground. The determiner is the only element which can perform this function. Every, as I said above, locates a set of individuals and ranges over that set as well; it performs the determiner function as well as the quantifier function. Due to the Common Ground Parameter, this combination of both tasks into one lexical item will be impossible in Salish.

\section*{2. On the nature of partitivity}

DPs containing universal quantifiers in Salish show some surface similarity with overt partitives (such as many of the men) in English, in that the quantifier always co-occurs with a determiner. However, the discourse requirements of quantificational DPs in Salish and partitives in English
differ from each other. In particular, Salish quantificational DPs do not need to range over a familiar group of individuals. I will argue that this derives straightforwardly from the nature of the determiner contained within such DPs. Salish therefore provides support to de Hoop's (1992, 1995) proposal that the familiarity requirement is not a necessary component of partitive constructions.

Salish (non-universal) quantificational DPs share with English (non-universal) partitives the requirement that the quantifier ranges over a group which is overtly identified (i.e. the range is never a bare NP). In addition, partitives (other than universals) necessarily involve only a part of the entire domain; English partitive some of the, for example, means 'some, but not all'. The same is true of Salish quantificational DPs, as discussed in Chapter 6.

However, there are important differences between English partitive DPs and Salish quantificational DPs. English partitives have the further restriction of being familiar within the discourse; the presence of the definite determiner the forces the quantifier to range over a previously-introduced group of individuals (see Jackendoff 1977, Enç 1991, Diesing 1992, among many others). Link (1987) characterizes the difference between three students and the partitive three of the students as follows:

Using [three students] you introduce a sum of three students into the discourse, whereas with [three of the students] you pick out a sum of three from a contextually provided, already familiar group of students (Link 1987:153).

Salish has been shown to lack a determiner which performs the function of picking out a familiar group. Consequently, we predict that quantificational DPs in Salish will not need to quantifiy over an already-introduced group. This prediction is upheld; the sentence in (53), unlike its English partitive counterpart, can be used in a discourse-initial (novel) context.


The presence of the assertion of existence determiner \(i . . . a\) in (53), which asserts that a range for the quantifier exists, means that sentences containing quantified DPs in St'át'imcets can appear in the same range of contexts as any other DPs containing the assertion of existence quantifier \(i \ldots a\). The St'at'imcets sentences do not require familiarity of the individuals ranged over. The familiar nature of English partitives must therefore derive purely from the nature of the determiner contained within the partitive.

Support for a separation of the 'familiar' component of partitives from other aspects of their structure and function comes from de Hoop \((1992,1995)\). De Hoop shows that the Dutch weak quantifier sommige \({ }^{2 I}\) is disallowed in existential there-sentences.
54. a. * Er zijn [sommige eenhoorns] [in dit bos] there are [some unicorns] [in this forest] 'There are some unicorns in this forest.'
(Dutch; de Hoop 1992:208)
\begin{tabular}{llll} 
b. * & zijn & [sommige eenhoorns] & wit \\
there are & [some & unicorns] & white
\end{tabular}
* 'There are some unicorns white.'
(Dutch; de Hoop 1995:427)

Sommige always gets a partitive reading, not a cardinal reading (see also de Jong 1983); it means 'some, but not all'. It might seem as if the necessarily partitive reading for sommige will account for its ungrammaticality in there-sentences. However, explicit and implicit partitives are allowed in Dutch there-sentences (unlike in English).
\begin{tabular}{lllll} 
55. a. & \begin{tabular}{l} 
Er \\
there
\end{tabular} & zijn \\
& are & [enkele & eenhoorns] \\
[some & unicorns]
\end{tabular} \begin{tabular}{llll}
{\([i n\)} & dit & bos] \\
{\([\) in } & this & forest]
\end{tabular} 'There are some unicorns in this forest.' (Dutch; de Hoop 1992:208)

\footnotetext{
\({ }^{21}\) Sommige is weak according to the following test, taken from Barwise and Cooper (1981). (ia), which contains a strong quantifier, is true in every model, while the truth of (ib), which contains a weak quantifier, is contingent on the presence of unicorns in the model.
i. a. All unicorns are unicorns.
b. Some unicorns are unicorns.

De Hoop claims (1995:425) that the truth value of (ii) is contingent on the model, indicating that sommige is weak.
ii. Sommige eenhorns zijn eenhoorns
'Some unicorns are unicorns.'
}


Hence, the partitive nature of sommige cannot be responsible for its being disallowed in the existential environment. There must be some other property of sommige which differentiates it from ordinary partitives.

The answer proposed by de Hoop is that sommige is presuppositional, by which she means that it ranges over a group which must be familiar in the discourse. This is what is incompatible with the existential context (see also Comorovski 1988). Dutch thus provides evidence for a separation of the two notions of partitive. Sommige is partitive in the sense of selecting a portion of some larger group (de Hoop 1995:434). However, while ordinary partitives which select a portion of a larger group are allowed in there-sentences, sommige is not. This follows from the fact that sommige necessarily ranges over a familiar group.

According to this account, the partitives which are allowed in there-sentences in Dutch must be non-familiar. \({ }^{22}\)

While Dutch and Salish provide evidence for a separation of the familiarity requirement from partitivity, in English these notions are often assumed to coincide. An example of such an analysis is the one given by Herburger (1993). Herburger argues that familiarity is the relevant

\footnotetext{
\({ }^{22}\) De Hoop notes that the analysis of ordinary Dutch partitives as non-familiar accords with Barwise and Cooper's (1981) categorial analysis of partitive of, but not with Keenan's (1987). The difference is illustrated in (i); (ia) represents the Barwise and Cooper analysis, while (ib) represents Keenan's analysis.
i. a. [at least two]D [of the ten students] NP
b. [at least two of the ten]D [students]NP
(Keenan 1987:296)
Under Barwise and Cooper's analysis, partitives have the form [Det N]. If the Det (at least two in (ia) is not strong, partitives are permissable in existential sentences. Under Keenan's analysis, the complex Det in (ib) is not existential.
}
notion for distinguishing which readings of weak quantifiers are possible in existential sentences. She proposes that the difference between all strong readings (i.e. the readings which are disallowed in there-insertion contexts) and weak readings (which are allowed in thereinsertion contexts) is one of familiarity. Strong readings induce familiarity; weak readings do not. Out of the three readings in (56), only (56b) is strong. Consequently, (56a) and (56c) are both disallowed in familiar contexts, as is shown by the discourse situation in (57), from Herburger (1993:19).
56. Few incompetent cooks applied.
a. [ \(\quad\) x: few ( x ) \& incompetent ( x ) \& cooks ( x )] applied x
(cardinal)
b. [Few x : incompetent ( x ) \& cooks ( x )] applied ( x )
c. [Few x: cooks (x) \& applied (x)] INCOMPETENT (x)
(focus-affected)
57. The hotel fired all its employees. Few INCOMPETENT cooks reapplied.

Only a familiar interpretation of the few-DP is sensible in (57) (i.e. that the few incompetent cooks are somehow related to the employees who were fired). A symmetric reading is unavailiable for the few-DP, and so is a focus-affected reading. The only possible reading is the proportional one ('Few of the incompetent cooks reapplied'). Thus, the enforced familiarity of the discourse situation forces the proportional/partitive reading.

While I agree with Herburger that familiar readings are ruled out in existential sentences, her claim that the familiar reading and the proportional reading coincide is only true of English, not Salish or Dutch. As we saw with Dutch sommige, the familiar and the 'portion of a group' senses of partitive must be differentiated in some languages. Thus, the existence of languages like Salish where quantifiers with proportional readings do not induce familiarity is predicted.

\section*{3. Conclusions}

In this chapter I have I have argued that the lack of a determiner with the properties of English every in Salish follows from the Common Ground Parameter. This result relies on the claim that
every performs two different functions, that of a quantifier and that of a determiner. Every not only presupposes the existence of a range, it also introduces a resource domain variable limiting the range.

I have also demonstrated that St'át'imcets lacks a quantifier most, while possessing a proportional quantifier many; see Chapter 6). A quantifier corresponding to English some is also absent. I have derived some of these absences from the analysis presented in previous chapters, and left others (such as the absence of most) to future research.

Finally, I argued that Salish quantificational DPs provide evidence for a separation of the notion 'familiar' from the notion 'partitive'. The familiarity requirement on English partitives results purely from the presence of a definite determiner. Languages which lack definite determiners, such as Salish, may possess quantificational structures corresponding to partitives, which lack a familiarity requirement.

\subsection*{3.1. How much of the typological split has been explained?}

Although deriving several apparently disparate features of Salish languages, the Common Ground Parameter proposed in this dissertation cannot by itself account for every difference between Salish and English. The Common Ground Parameter is not a 'macro-parameter' (cf. Baker 1996). It does not alone derive radically different language-types. Rather, I claim that multiple parameter settings are required to derive all the features of Salish languages. Salish languages lie somewhere along a continuum between truly 'pronominal argument' languages such as Mohawk (Baker 1996), and languages like English with impoverished agreement morphology. In this respect, I concur with Speas (1990:123), who in turn agrees with Hale (1985:7) that "there is no single parameter giving rise to the various properties commonly associated with the term 'non-configurational'."

It remains an empirical issue whether individual phenomena such as the possibility of null arguments or the presence of rich agreement morphology in Salish languages should be tied to the determiner facts. Current approaches which link the lack of quantificational determiners to morphological features of agreement (Baker 1996) or to the nature of the pronominal system (Jelinek 1995) suffer from empirical failings when they are applied to some languages in the Salish family, as outlined in the Introduction and in Davis (1993, 1994b). However, future research may well reveal ways in which additional features of Salish can be linked to the Common Ground Parameter, without sacrificing empirical coverage.

\section*{ABBREVIATIONS}
\begin{tabular}{ll} 
1(st) & first person \\
2(nd) & second person \\
3(rd) & third person \\
A & accusative \\
abs & absolutive \\
abst & abstract suffix \\
acc & accusative \\
accom(p) & accompanying \\
act & actual aspect \\
actv & active intransitivizer \\
appar & apparently \\
appl & applicative \\
asp & aspect \\
aux & auxiliary \\
caus & causative \\
poss & possessive \\
compl & completive \\
conj & conjunctive \\
cmdl & control middle \\
conj & conjunction / conjunctive \\
cont(em) & contemporaneous \\
contin & continuative \\
deic & deictic \\
det & determiner \\
demon & demonstrative \\
dimin & diminutive \\
dir & directive transitive \\
ditr & ditransitive \\
DP & Determiner Phrase \\
encl & enclitic \\
erg & ergative \\
exis & assertion of existence \\
exist & existential verb \\
extr & extraction \\
fact & factive \\
fem & feminine \\
foc & focus \\
hum & human \\
hyp & hypothetical \\
impf & imperfective \\
& \\
\hline
\end{tabular}
\begin{tabular}{ll} 
inch & inchoative \\
instr & instrument \\
int & interrogative \\
intr & intransitive \\
IP & Inflectional Phrase \\
lex & lexical suffix \\
LF & Logical Form \\
limit & limiting \\
loc & locative \\
masc & masculine \\
N & nominative \\
neg & negative \\
nom & nominalizer \\
nomin & nominative \\
NP & Noun Phrase \\
obl & oblique \\
obj & object \\
ooc & out of control \\
pass & passive \\
perf & perfective \\
pl & plural \\
pred & predicate \\
prep & preposition \\
pro & null pronominal \\
procl & proclitic \\
prog & progressive \\
Q & quantifier \\
quot & quotative \\
red(up) & reduplication \\
rl & realis \\
sg & singular \\
s.t & something \\
sta(t) & stative \\
sub(j) & subject \\
Top & topic \\
TP & Tense Phrase \\
tr(ans) & transitive \\
VP & Verb Phrase \\
ynq & yes-no question \\
& \\
&
\end{tabular}

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[^0]:    ${ }^{1}$ See Barwise and Cooper (1981), van Benthem (1983), Keenan and Moss (1985), Keenan and Stavi (1986), Partee (1991, 1995), Keenan (1996), among others.

[^1]:    ${ }^{2}$ All the properties of Salish listed here will be exemplified later in this section.

[^2]:    ${ }^{3}$ The view that Amerindian languages differ fundamentally from English can also be found in early works such as Swadesh (1936), Whorf (1950), Bloomfield (1933).
    ${ }^{4}$ See also Gil (1987) on the imporance of cross-linguistic research for theoretical linguistics.
    ${ }^{5}$ Head-marking languages contrast with dependent-marking languages, which utilize Case rather than agreement morphology on the verb.
    ${ }^{6}$ Examples taken from written works use the orthography of the original work, unless otherwise stated.

[^3]:    ${ }^{7}$ See Newman (1977), (1979a,b), (1980) for discussion of pan-Salish pronominal systems and their historical development.
    ${ }^{8}$ Kuipers' (1967) orthography has been translated into a phonemic script.

[^4]:    ${ }^{9}$ Lexical suffixes are affixes with lexical content (often somatic, as in (i)). See Hinkson (in prep) and references cited therein on lexical suffixes in Salish.

[^5]:    ${ }^{12}$ See also Bach (1992) on the categorial issue.

[^6]:    ${ }^{13}$ Aspect marking is much more pervasive than tense marking in Salish (M. Dale Kinkade, p.c., Thompson and Kinkade 1990).

[^7]:    ${ }^{14}$ The structure in (23) violates Kayne's (1995) proposals that Specifiers always appear on the left. I am not concerned here with details of the clausal structure, but only with the necessity for a hierarchical structure of some kind.

[^8]:    ${ }^{1}$ For attempts to make universally valid hypotheses about determiner semantics, see Barwise and Cooper (1981), Keenan and Moss (1982), van Benthem (1983), Zwarts (1983), Keenan and Stavi (1986), among others.

[^9]:    2 Demirdache and Matthewson (1995b) claim that Salish lacks all quantificational determiners, including a determiner corresponding to English the (since the has been analyzed as a universal quantifier by Milsark 1974 and others). Their arguments are based not on examination of the semantics of determiners (as here), but on relative scope phenomena. Their analysis is discussed in $\S 1.4 .2 .3$ below, and in Chapter 2, §4.1.
    ${ }^{3}$ Thanks to Robert May (p.c.) for pointing out the first possibility.

[^10]:    ${ }^{4}$ There are interesting topics for future research involving the distinction between features which are typically encoded on determiners (such as deixis) and features which are often encoded on nouns (such as gender and possibly number). See Keenan (1996), and see Ritter (1991) for proposals that features like number may have their own functional projections inside DP.
    5 Bella Coola is not unusual within Salish in allowing temporal notions to be encoded on determiners. M. Dale Kinkade informs me (p.c.) that similar effects are found in Sechelt, Halkomelem, Upper Chehalis, Cowlitz, and possibly in Kalispel and Tillamook. See also Chapter 4 below and Demirdache (1996a,b).

[^11]:    ${ }^{6}$ Montler (1986) assigns internal structure to the determiners in Saanich, another Straits dialect. For example, the formative $\mathrm{k}^{\mathrm{w}}$ - in that dialect is glossed 'invisible, remote'. It is possible that the determiners in (7) also have internal structure.

[^12]:    ${ }^{7}$ Case distinctions are fairly common in Salish, often distinguishing 'direct' arguments (subject and object) from 'obliques' (oblique arguments and adjuncts). The distinctions are usually marked by means of oblique particles, rather than by opposing determiner sets. See for example Hess (1995:82-85) for Lushootseed (Central).
    ${ }^{8}$ The variation in the relative determiners is dialectal (Dwight Gardiner, p.c.).
    ${ }^{9}$ While the subset of Salish languages examined here is large enough to suggest an identifiable 'Salish pattern', there may be counter-examples in other languages of the family.

[^13]:    ${ }^{10}$ In Sechelt examples I substitute a 7 for Beaumont's ?, since this eliminates a number of otherwise unnecessary font-changes.
    $11 \mathrm{t} 1 ? 1+$ is the distal, non-feminine determiner (Hess 1995:77).

[^14]:    12 Exceptions arise with explicit existential or locative contexts, which allow an indefinite reading for a subject (Jelinek 1995:528).

[^15]:    ${ }^{13}$ Cowlitz (Tsamosan) also shows definiteness marking, according to M.D. Kinkade (p.c.).
    ${ }^{14}$ To be precise, an indefinite is expected whenever the discourse referent is not part of the common ground; being previously mentioned is just one way of being part of the common

[^16]:    ground, as noted above. Therefore, to rule out the definiteness analysis conclusively for Upper Chehalis, we would need proof that tit can be used when describing discourse referents which are not part of the common ground for any reason. Such information is not available at the present time.

[^17]:    ${ }^{15}$ If the speaker wishes to denote any past, present or future president, the adverb papt 'always', in combination with the determiner $k u$, must be used (see $\S 1.5$ below, Chapter 4 for discussion of $k u$ ):

    | i. | pap | ? ${ }^{\text {áxa? }}$ | $\left[\mathrm{k}^{\mathrm{W}} \mathrm{u}\right.$ | kə17áastən-s | t1 |  |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    |  | papt | á7xa7 | [ku | kel7áqsten-s | ti | United.States-a] |
    |  | always | powerful | [det | chief-3sg.poss | de | United.States-det] |

    'The president of the United States is always powerful.' (St'at'imcets; LT)
    ${ }^{16}$ Irene Heim suggests (p.c.) that there is no necessary connection between the Individual Concept Reading and definiteness. At least under a quantificational analysis of the definite determiner (as in Russell's work), we would expect the Individual Concept Reading to be possible for all definites, since it is the reading which gives rise to a universally quantified interpretation. Further research is required into the connection between the two notions.

[^18]:    ${ }^{17}$ C.-T. James Huang notes (p.c.) that there are languages which lack determiners altogether, but which display definiteness effects elsewhere in the grammar. If definiteness effects were found elsewhere in Salish, this might constitute evidence for an underlying definiteness distinction in the determiners which is neutralized on the surface (although the empirical problems noted in the text would still remain). However, I have found no indication, either in my own fieldwork or in published materials, that the distinction between familiar and novel individuals is ever grammatically relevant in Salish.
    18 One final note is in order regarding homophony. According to Heim (1982), a definite determiner instructs the hearer to locate the representation for a familiar individual, while an indefinite determiner instructs the hearer to create a representation for a novel individual. If definite and indefinite determiners are homophonous, there can be no such instructions to the hearer, in effect removing the entire content of the definite-indefinite distinction.
    One could of course argue that for reasons of Universal Grammar, it is still preferable in this situation to postulate homophony rather than cross-linguistic parameterization in definiteness marking. Note, however, that homophony on such a large scale does not come cheap. Just in the subset of Salish languages investigated here, there are over 50 different determiners, which would have to correspond to over 100 determiners in the underlying representation, with every definite-indefinite pair being homophonous.

[^19]:    19 cf. also Donnellan (1966), Kripke (1977) on the distinction between the speaker's grounds and the speaker's intentions in the use of definite descriptions.

[^20]:    ${ }^{20}$ Ludlow and Neale do not discuss situations where there is a mismatch between the Speaker's Grounds and the Proposition Expressed, or the Proposition Meant and the Proposition Expressed. These are peripheral to the current concerns in any case.

[^21]:    ${ }^{21}$ The enclitic portion of the determiner $t i \ldots a$ is phonologically deleted following the auxiliary wa7 in (33).

[^22]:    22 Irene Heim (p.c.) expresses doubt that there are any languages at all which encode specificity in the sense of Ludlow and Neale (1991). If this is correct, then the absence of such encoding in Salish will not need to be specially derived. See also discussion in Chapter 2, §5.4.

[^23]:    ${ }^{23}$ This is not unanimously accepted; see for example Stowell (1993), who proposes a separate phrase QP, of which the quantifiers in (38) presumably occupy the head position.
    24 The discussion in this section is organized according to the strong/weak division in English. I will provide Salish-internal evidence for a strong/weak distinction in Chapter 6.

[^24]:    ${ }^{25}$ Languages which are not included in (43) are omitted because of lack of available data. For example, I can only find one example of a universal quantifier in Beaumont's (1985) description of Sechelt, and only a couple in Nater's (1984) description of Bella Coola. Neither author provides discussion which would enable generalizations about the syntax of universally quantified phrases to be made.
    ${ }^{26}$ The glossing of the quantifiers in (43) and elsewhere as 'all' relies on detailed semantic argumentation to be provided in Chapter 6. Jelinek (1995) has argued that Straits Salish possesses only an adverbial universal quantifier, with the meaning of 'always'.

[^25]:    ${ }^{27}$ Lummi (Northern Straits; Central) does not allow a quantifier to attach prior to a determiner inside a DP as in (43) (Jelinek 1995).

[^26]:    ${ }^{29}$ Speakers of the Lower dialect of St'at'imcets allow DPs to appear sentence-initially with more freedom than speakers of the Upper dialect, whose judgements are reflected in (51).

[^27]:    ${ }^{30}$ There are exceptions to the claim that definites entail existence; see the discussion in §1.2.1.
    ${ }^{31} \mathrm{Ku}$ may also appear on the morphologically unlicensed 'object' of an intransitive verb (i.e. in a DP representing the theme argument, which does not induce pronominal agreement on the predicate). See Chapter 4 for details.

[^28]:    ${ }^{34}$ For one principled exception to the claim that $k u$-DPs may not corefer with subsequent DPs, see the discussion of modal subordination in Chapter 3, §2.3.

[^29]:    35 Beaumont (1980) provides some instances of she without a non-factual operator present. For some reason, the body parts in (i) receive she. I do not have an explanation for this phenomenon. i. a. xət కัəーn dənx ${ }^{W}$ sore det-1sg.poss throat 'My throat is sore.
    (Sechelt; Beaumont 1980)
     'My flesh creeps.'
    (Sechelt; Beaumont 1980)
    36 Nater (1984) characterizes the determiner elements in (71) as proclitics and enclitics, rather than prefixes and suffixes.

[^30]:    38 (74) has other possible interpretations, according to contextual factors which can 'neutralize' either the distal space or the distant past components of the V affixes. The brief summary of the system offered here cannot do justice to its complexity. See Davis and Saunders (1975) for details of how the spatial and temporal information interact with each other in Bella Coola determiners.

[^31]:    ${ }^{40}$ According to Montler (1986:224), there is a subset of determiners in the Saanich dialect of Straits which may not serve as demonstrative pronouns. Saanich is still differentiated from languages like St'át'imcets, where none of the determiners may function as demonstratives.

[^32]:    ${ }^{41}$ Some consequences of this difference for the structure of DP in St'át'imcets are discussed in Matthewson and Davis (1995). See also Chapter 4, §4.1 on possessors in St'át'imcets.

[^33]:    42 Recall that determiners are equivalent to demonstratives in Straits ( $\$ 1.5 .5$ above).
    43 Nater also notes that 'Proper names and geographical names are often found without an article (due to English influence?)', for example nuxalk 'Bella Coola' (Nater 1984:42). He does not give an example of a proper name appearing in argument position in a sentence without an article.

[^34]:    44 This is true also in other languages such as Nte?kepmxc $n$, where the absence of determiners on arguments is due to phonetic deletion processes, and determiners should be regarded as syntactically present (Kroeber 1994b).
    ${ }^{45}$ As Kroeber (1991) notes, there may be exceptions to the obligatoriness of determiners in the Southern Interior languages. M.D. Kinkade (p.c.) confirms this for Columbian (Southern Interior).

[^35]:    ${ }^{47}$ The enclitic ... $a$ is missing in the St'át'imcets temporal adjuncts in (113). In argument position, the proclitic portion of the determiner may phonetically delete in fast speech, but the enclitic portion never deletes. This is evidence that there is truly no determiner (other than possibly the quantifier) in (113a,b).

[^36]:    ${ }^{48}$ Support for the claim that the $k u$-phrases, when they appear, are adjoined and give rise to a meaning like 'every one of them, for days' rather than 'every day' comes from a speaker's attempt to make sense of (i).

    | i. | $*$ | yək-ən-ikán | ku? | [tákəm | $k^{\mathrm{W}} \mathrm{u}$ |
    | :--- | :--- | :--- | :--- | :--- | :--- |
    |  | $*$ | xek-en-lhkán | t'u7 | [tákem | ku |
    |  | count-tr-1sg.subj just | [all | det | cat] |  |

    ! 'I counted them all and they were all cats.'
    (St'át'imcets; RW)
    ${ }^{49}$ Recall that some languages in the Southern Interior branch allow overt determiners to be absent in argument DPs. Further research is required into whether these are instances of null (phonetically empty) determiners (cf. Longobardi 1994), or whether they constitute counterevidence to the claims being made here.

[^37]:    50 Sporadic instances have been recorded of temporal phrases in argument position with a missing determiner; I can find no systematicity in where this occurs.
    ${ }^{51}$ It is difficult to find a pragmatically possible sentence where a temporal phrase functions as a transitive subject, hence the absence of such an example in (119).

[^38]:    ${ }^{1}$ In Heim's definition of presupposition, given in (i), the file F represents the common ground.
    i. 'A presupposes $P$ means $A$ is felicitous with respect to a file $F$ only if $F$ already contains the information expressed by P' (Heim 1982:366).
    2 Presuppositions which are not already present in the common ground can be accommodated under certain circumstances; see Lewis (1979), Heim (1982), Stalnaker (1974), among others, and discussion in Chapter 1 above.

[^39]:    ${ }^{3}$ Due to similarities in the two theories, both are sometimes grouped together under the term 'Discourse Representation Theory'; see e.g. de Hoop (1992), Chierchia (1995).
    4 A major motivation for both theories is the search for an adequate treatment of donkey sentences as in (i), which are not directly relevant to the current discussion.
    i. Every man who owns a donkey beats it.

[^40]:    5 Definites are variables also, according to Heim. Unlike indefinites, they are obligatorily unbound by an operator, and as such must refer to a contextually determined individual (1982:230,246). See the discussion of the Extended Novelty-Familiarity Condition below. ${ }^{6}$ File cards can be compared to Karttunen's (1976) 'discourse referents'; see Heim (1982:249263, 281). See also immediately below in the text for discussion of discourse referents within Discourse Representation Theory.

[^41]:    ${ }^{7}$ See also Heim's discussion (1982:253) of the inappropriateness of the term 'discourse referent'.

[^42]:    8 The identification of the 'common ground' with the 'file' (the set of file cards) comes from Heim (1982:286): 'I propose that the common ground of a context be identified with what I have been calling the "file" of that context.'
    ${ }^{9}$ Existence within the file (the common ground of the speaker and hearer) must be differentiated from existence within the real world. For example, a DP may introduce a file card even if it has no referent in the real world. In (i), the indefinite under the scope of negation does not (under the preferred reading) correspond to an entity in the real world; it still introduces a file card, however.
    i. Sophie didn't buy [a fish].

    While the indefinite in (i) introduces a temporary file card which lasts only under the scope of the negation, definite DPs always correspond to 'permanent' file cards, and thus induce a presupposition of existence. See Heim (1982) for discussion.
    10 Since Heim's work was written before the DP-hypothesis was introduced, we can take the 'NP's in the definition to correspond to present-day 'DP's.

[^43]:    ${ }^{11}$ Some exceptions to the claim that definites always correspond to pre-existing file cards were noted in Chapter 1; an example is repeated in (i). (i) can be uttered when there has been no previous mention of the first baby to be born in the year 2010. The baby in question does not exist yet, so there is also no possibility that a file card for it has been entered into the file by virtue of the conversational participants both knowing the baby.
    i. I will meet the first baby to be born in the year 2010.
    (i) was claimed in Chapter (1) to involve presupposition accommodation. See also $\S 4.1$ below.

    12 I have not discussed how Discourse Representation Theory (Kamp 1981) deals with the definite/indefinite distinction, mainly because no satisfactory account is available within that theory. Kamp and Reyle (1993:336) suggest that definites and indefinites be distinguished by relative scope: the discourse referent of a definite NP goes into the main DRS (like that of proper names such as Maggie in (17) above), while the discourse referent of an indefinite is inserted at the level at which it is processed (i.e. possibly within a subordinate DRS, as with a clarinet in (17)).

    Apart from the fact that this characterization of the definite-indefinite distinction ignores the familarity effects discussed by Heim and others, Kamp and Reyle themselves admit that it fails to capture the scope facts, since indefinites may have wide scope, and definites may have narrow scope. See $\S 3.2$, $\S 6.2$ for more discussion of the main/subordinate DRS distinction.
    13 Thanks to Irene Heim (p.c.) for discussion of the issues presented in this section. She does not necessarily agree with the views presented here.

[^44]:    ${ }^{14}$ For a list of the factors which tend to favour a specific or a non-specific reading for indefinites, see Fodor and Sag (1982). The specific reading of (23) is facilitated by the placing of stress on book..

[^45]:    15 See Ludlow and Neale (1991) for the claim that specific indefinites can have intermediate scope.
    ${ }^{16}$ See Heim $(1989,1991)$ for later discussions of specificity.

[^46]:    ${ }^{17}$ The relationship between presupposition of existence and the impossibility of the range of the quantifier being empty is highlighted by de Hoop (1992:213), who claims that in Dutch, 'sommige $N$ presupposes existence, in the sense that it remains undefined if the set denoted by N is empty (cf. Strawson, 1950).' See Chapter 7 for more on sommige 'some' and presuppositionality in Dutch.

[^47]:    ${ }^{18}$ See Chapter 3 for discussion of the exact mechanisms which derive existential force in (36).

[^48]:    19 Diesing's examples use the weak quantifier some; the same results should apply to all weak quantifiers, according to her theory.
    ${ }^{20}$ Focal stress on the noun helps to force the cardinal reading in (39c) (Michael Rochemont, p.c.). Michael Rochemont also notes that while the stress pattern in (i) unambiguously induces the 'weak' reading, focal stress on the quantifier, as in (39a), does not unambiguously produce the 'strong' reading. While interesting, these issues are orthogonal to the main points here.

[^49]:    ${ }^{21}$ As indicated above, there are some indefinites that do not involve presuppositions of existence of the set ranged over by their common noun, namely those containing the indefinite determiner $a$ in examples such as (36).
    ${ }^{22}$ On the projection of presuppositions, see Langendoen and Savin (1971) and much subsequent work (cited in §3.2) above.

[^50]:    ${ }^{25}$ Lappin and Reinhart admit that the weak quantifiers many and few are non-symmetric anyway, even on their cardinal readings. They therefore exclude many and few from their account. For a definition and discussion of intersection / symmetry, see Chapter 6, §3.2.

[^51]:    ${ }^{26}$ The same reasoning holds for the specific/non-specific distinction; it was shown in Chapter 1 that DPs in Salish may have clearly non-specific uses. This means that they lack the defining properties of specifics.
    ${ }^{27}$ See §1.2.3 and §1.4.2.3.

[^52]:    ${ }^{30}$ Chierchia and McConnell-Ginet's (1990:290) definition of 'common ground' also explicitly makes note of the relevance of the hearer's beliefs. See also Heim (1982).

[^53]:    ${ }^{31}$ For discussion of the function and phrase structure position of syntactic nominalization in St'át'imcets, see Davis and Matthewson (1996b).

[^54]:    32 Focal stress as in (67a) does not appear to exist in St'at'imcets (see Chapter 6).

[^55]:    ${ }^{36}$ I will argue in Chapter 3 that the distinction in English between indefinites which allow coreference into subsequent sentences and those which do not may correlate not with specificity, but with assertion of existence. If that is true, then the question remains open whether English shows evidence of specificity.

[^56]:    37 The absence of duplex conditions will follow directly from a negative parameter setting iff elements which set up duplex conditions are necessarily presuppositional (i.e. necessarily access the common ground). This seems correct, given the arguments in $\S 3.3$ above that all quantifiers presuppose their range (i.e. their restriction).
    ${ }^{38}$ Heim calls the relevant phrases 'noun phrases'; they are the equivalent of today's DPs.

[^57]:    ${ }^{1}$ As discussed in Chapter 1, assertion of existence DPs are not singular terms or directly referring expressions.

[^58]:    ${ }^{2}$ The dispreferred reading of (18b), where there is asserted to be a car which Sophie might buy, allows coreference. This reading is rendered in Salish with an assertion of existence determiner, and in Salish just as in English, coreference is allowed. There are various factors which influence the possibility of coreference, such as the presence of a relative clause as in (18a). See Fodor and Sag (1982) for some discussion.
    ${ }^{3}$ Thanks to Irene Heim for discussion of this issue.
    ${ }^{4}$ Recall from Chapter 1 that specificity, under either Enç's (1991) definition or Ludlow and Neale's (1991), differs from assertion of existence in that assertion of existence DPs may be either specific or non-specific.

[^59]:    ${ }^{5}$ We can easily tell that the DP asserts existence, because of the determiner used. The speaker is aware that the white man in question exists, since she saw him.

[^60]:    ${ }^{6}$ Roberts (1989:693) also notes that the 'metalanguage existential quantification' of DRT 'has the truth conditional effect of existentially quantifying over all of the discourse referents on the top level of a representation.' Thus, any discourse referent which is to receive existential force must be in the main DRS (whether it is specific or non-specific).

[^61]:    ${ }^{7}$ Hamida Demirdache points out (p.c.) that the second sentence in (32) contains the verb know, which could be setting up a modal subordination environment (see $\$ 2.3$ below). This casts doubt on the validity of (32) as a test for cross-sentential coreference. According to my judgements, the coreference in (i) (which does not contain a modal subordination environment) is also fine in the same discourse context:
    i. John didn't hit [a white man] $]_{i}$ He swore at $[h i m]_{i}$.

[^62]:    ${ }^{8}$ Although DPs containing relative clauses are used in (34), this is only to facilitate the relevant reading. It is not necessary that a relative clause be present to obtain an assertion of existence reading in either language.

[^63]:    ${ }^{9}$ The symbol $\square$ in (36) represents the necessity operator.

[^64]:    ${ }^{11}$ According to Karttunen, 'the appearance of an indefinite noun phrase establishes a "discourse referent" just in case it justifies the occurrence of a coreferential pronoun or a definite noun phrase later in the text.' Karttunen's absence of a discourse referent corresponds to Heim's 'short life-span' of a discourse referent.

[^65]:    12 See Ludlow and Neale (1991) for arguments against Fodor and Sag's analysis.

[^66]:    13 The distinction is necessary because only non-factual operators, and not quantifiers, license non-assertion of existence determiners.

