LISA MATTHEWSON

ON THE INTERPRETATION OF
WIDE-SCOPE INDEFINITES*

This paper argues, on the basis of data from St'át'imcets (Lillooet Salish), for a theory of wide-scope indefinites which is similar, though not identical, to that proposed by Kratzer (1998). I show that a subset of St'át'imcets indefinites takes obligatory wide scope with respect to *if*-clauses, negation, and modals, and is unable to be distributed over by quantificational phrases. These wide-scope effects cannot be accounted for by movement, but require an analysis involving choice functions (Reinhart 1995, 1997). However, Reinhart's particular choice function analysis is unable to account for the St'át'imcets data. A Kratzer-style theory, on the other hand, accounts not only for the wide-scope effects, but also for the emergence of narrower-than-widest interpretations for indefinites which contain bound variables. I depart from Kratzer's analysis in claiming that St'át'imcets choice function indefinites are not 'specific'; the discourse context does not provide a value for the function variable. Therefore, I utilize wide-scope existential closure over choice functions rather than leaving the variables free. However, my analysis provides support for Kratzer's claim that English indefinites are ambiguous between a choice function interpretation and a quantificational interpretation, since St'át'imcets determiners overtly encode the English ambiguity. I conclude by suggesting that the proposed analysis of wide-scope indefinites may be universally valid.

1. INTRODUCTION

This paper argues, on the basis of data from St'át'imcets (Lillooet Salish), for a theory of wide-scope indefinites which is similar, though not identical, to that proposed by Kratzer (1998). I provide evidence that a subset of St'át'imcets indefinites display wide-scope effects which cannot be accounted for by movement, but require an analysis involving choice functions (Reinhart 1995, 1997). However, I argue that Reinhart's particular choice function analysis is unable to account for the St'át'imcets data,

and I suggest that a Kratzer-style theory is the most appropriate for the interpretation of wide-scope indefinites universally.

The problem posed by wide-scope indefinites is illustrated in (1). In (1a), the quantified phrase *most philosophers* is unable to take scope outside the island created by the coordinate structure. This follows straightforwardly if wide scope for *most philosophers* would need to be obtained by covert movement. In (1b), however, the indefinite *some philosopher* can be interpreted with wider scope than the matrix subject. The indefinite seems to be able to ignore island constraints.

(1) a. Some linguist reported that [Max and *most philosophers*] disappeared.   (unambiguous)

     b. Most linguists reported that [Max and *some philosopher*] disappeared.   (ambiguous)
                           (adapted from examples in Reinhart 1997)

The contrast between (1a) and (1b) poses a conceptual problem for a theory which relies on Quantifier Raising to obtain scopal possibilities, since QR would need to be stipulated to have different properties when it applies to indefinites and when it applies to strongly quantified phrases. There is also an empirical problem, pointed out by Ruys (1992, 1995): an island-free QR approach overgenerates wide-scope distributive readings for plural indefinites. Thus, if indefinites could undergo unconstrained QR, (2) would incorrectly be predicted to allow the interpretation paraphrased in (3) (for details of the argument, see Reinhart 1997 and references cited therein).[1, 2]

(2)   If three relatives of mine die, I will inherit a house.
                                                          (Ruys 1995)

(3)   For each of three relatives of mine, if that relative dies, I will inherit a house.
        $\exists X$ (three (X) & relatives of mine (X) & for all $z \in X$ (z dies $\rightarrow$ I inherit a house))

---

[1] Another empirical problem for an island-free QR approach to indefinite scope is the one raised by Fodor and Sag (1982), namely the absence of intermediate readings in sentences such as (i).

(i)   Every teacher overheard the rumor that a student of mine had been called before the dean.

I will discuss intermediate readings in detail below.

[2] Abusch (1994) claims that wide-scope distributive readings *are* possible for plural indefinites contained within islands. However, Abusch's examples differ from (2) in possibly relevant ways; see Winter (1997, 417, footnote 21). See also footnote 12 below.

Reinhart (1995) proposes that a solution to the wide-scope indefinites problem lies in the use of choice functions. The evidence to be presented in this paper will support the use of choice functions for wide-scope indefinites in St'át'imcets. However, there are a number of specific approaches to choice functions available in the literature, which differ from each other in a number of conceptual and empirical respects. I will argue that St'át'imcets wide-scope indefinites can only be accounted for by a theory of choice functions which yields similar empirical results to that of Kratzer (1998). I will further suggest that St'át'imcets indefinites provide overt evidence for the ambiguity that Kratzer postulates for English indefinites between those which utilize choice functions and those which do not.

The paper is organized as follows. In section 2, I provide a brief summary of the approaches to choice functions to be compared, namely those of Reinhart (1997), Winter (1997), and Kratzer (1998). In section 3, I begin the investigation of St'át'imcets indefinites. After an introduction to the St'át'imcets determiner system and some comments on methodology, I present data on the interpretation possibilities for indefinites in this language. I show that a subset of indefinites display wide-scope behavior, taking obligatory wide scope with respect to *if*-clauses, negation, and modals. The remaining subset of indefinites show obligatory narrow scope with respect to these operators.

In section 4, I argue that a movement account is unable to account for St'át'imcets wide-scope indefinites. I begin by showing that the same arguments against an island-free QR account which were mentioned above for English hold also in St'át'imcets. In section 4.1, I introduce distributivity data (originally discovered and analyzed by Demirdache and Matthewson 1997), which cannot be accounted for by a movement approach. We will see that distributive readings are unavailable for any transitive sentence which contains only wide-scope indefinites. The inability of these indefinites to be distributed over cannot be a result of syntactic position.

In section 5, I provide arguments against the hypothesis that the wide-scope behavior of some St'át'imcets DPs can be accounted for by claiming that the determiners involved are really definite articles.

In section 6, I present my analysis of St'át'imcets indefinite determiners, which is summarized in (4).

(4) a. All non-polarity determiners are obligatorily interpreted as variables that range over choice functions.
     b. The polarity determiner is not interpreted as a variable that ranges over choice functions.

    c. Choice function variables are always existentially closed at the highest level (i.e., with widest scope).

After illustrating how (4) explains the relevant wide-scope and distributivity facts, I discuss further predictions of the analysis in sections 6.3 and 6.4. I show that the analysis predicts that distributive readings will become grammatical when the object DP contains a bound variable pronoun. This prediction is upheld. Sentences containing islands also behave exactly as predicted by (4). Choice function indefinites appearing inside islands are obligatorily interpreted with widest scope, unless they contain bound variable pronouns. Bound variable pronouns license intermediate readings.

These successful predictions are inherited from Kratzer's (1998) treatment of choice functions, and therefore support the broad outline of her analysis. The one important respect in which I depart from Kratzer's analysis is discussed in section 7. I argue that St'át'imcets choice function indefinites are not interpreted as 'specific'; there need be no particular value for the choice function which is provided by the discourse context. Therefore, it seems appropriate to utilize existential closure rather than leave the variables free.

In section 8, I address the question of the optimal crosslinguistic theory of choice functions. Reinhart's (1997) and Winter's (1997) systems, according to which choice functions may be freely interpreted with wide, intermediate, or narrow scope, cannot account for the St'át'imcets data without additional stipulations. On the other hand, a Kratzer-style analysis not only derives all the St'át'imcets facts, but allows for an elegant theory of crosslinguistic variation. In particular, St'át'imcets provides crosslinguistic support for Kratzer's claim that indefinites in English are ambiguous between a choice function interpretation and a quantificational interpretation. St'át'imcets determiners simply overtly encode the English ambiguity.

2. CHOICE FUNCTIONS

The following definition of a choice function is taken from Reinhart (1997, 372):[3]

(5)   A function f is a choice function (CH(f)) if it applies to any non-empty set and yields a member of that set.

---

[3] I ignore the issue of what happens when the set denoted by the noun is empty, since that issue is not relevant here; see Reinhart (1997), Winter (1997), Romero (1997) for discussion.

According to Reinhart, indefinite determiners may introduce variables over choice functions; these variables are bound by existential quantifiers which can appear at any level. A simple example is given in (6).

(6)   Every lady read some book.
        a. ∃f [CH(f) & ∀z [lady (z) → z read f(book)]]

                                                    (Reinhart 1997, 372)
        b. ∀z [lady (z) → ∃f [CH(f) & z read f(book)]]

In (6a), the choice function variable introduced by the indefinite determiner *some* is existentially closed at the highest level: there is some choice function f, such that every lady read the book which f picks out from the set of books. Under this reading of the sentence, every lady read the same book. In (6b), on the other hand, the choice function variable is existentially closed with narrow scope: for every lady z, there is a (potentially different) choice function f such that z read the book which f picks out. Under this reading, each lady can have read a different book.

Since the existential closure over choice function variables can be arbitrarily far away from the restriction of the indefinite (which remains in situ; cf. (6a)), Reinhart's analysis predicts that indefinites will be impervious to constraints on movement, being able to be interpreted with widest scope from an in-situ position inside an island.

For example, Reinhart's theory correctly predicts that the indefinite *some woman* in (7) can be interpreted with scope outside the *if*-clause. If wide scope were necessarily obtained by QR (or by an equivalent of QR which doesn't involve actual movement but which is subject to similar constraints), this reading of the sentence would create a problem, since the movement required should be syntactically disallowed.[4]

(7)   If some woman comes to the party, John will be glad.
        a. ∃f [CH(f) & [come (f(woman)) → glad (John)]]
        b. [∃f [CH(f) & come (f(woman))]] → glad (John)

The wide-scope reading represented in (7a) says that there is a choice function f, such that if the individual woman picked out by f comes to the party, John will be glad.

Reinhart's approach to choice functions also predicts that in a sentence

---

[4] Compare (7) with (i), which as Winter (1997, 401) points out, does not allow an interpretation where *every woman* takes wide scope. See also extensive discussion in Fodor and Sag (1982).

    (i)   If every woman comes to the party, John will be glad.

like (8), all three options should be available for the interpretation of the indefinite: widest, intermediate, and narrowest.

(8)   Most linguists have looked at every analysis that solves some problem.

   a. *Choice function bound at widest level:*
      $\exists f$ [CH(f) & for most linguists x, $\forall y$ [(analysis (y) & y solves f(problem)) $\rightarrow$ x looked at y]]
      'There is some problem, such that most linguists have looked at every analysis that solves that problem.'

   b. *Choice function bound at intermediate level:*
      for most linguists x, $\exists f$ [CH(f) & $\forall y$ [(analysis (y) & y solves f(problem)) $\rightarrow$ x looked at y]]   (Reinhart 1997, 374–375)
      'For most linguists, there is some problem, such that they have looked at every analysis that solves that problem.'

   c. *Choice function bound at narrowest level:*
      for most linguists x, $\forall y$ [(analysis (y) & $\exists f$ [CH(f) & y solves f(problem)) $\rightarrow$ x looked at y]]
      'Most linguists have looked at every analysis that solves a problem.'

The issue of whether intermediate readings are available for sentences involving islands was first discussed by Fodor and Sag (1982), who claimed that they were absent. Yet as just noted, they are freely generated in Reinhart's system. Reinhart (1997, 347) claims that intermediate readings are always available, and that techniques which eliminate one of the competing readings (such as inserting a bound variable pronoun on the indefinite, ruling out widest scope) can make the intermediate reading more salient. I will return to this issue below. (See also Farkas 1981, King 1988, Ludlow and Neale 1991, Ruys 1992, Abusch 1994 for discussion of intermediate readings.)

   Winter (1997) presents a theory of choice functions which is similar to Reinhart's in many major respects. In particular, Winter also claims that choice function variables are bound by existential quantifiers which may be introduced at any compositional level. Thus, Winter's proposal shares with Reinhart's the prediction that any interpretation is possible for choice function indefinites, including the intermediate interpretation in sentences like (8).[5]

---

[5] With regard to the difficulty of intermediate readings in certain cases, Winter (1997, 431–432) claims that this is a result of pragmatic factors. See section 8.1.1 below for discussion.

The main difference between Reinhart's and Winter's approaches is that for Winter, *all* simple indefinites (indefinites containing *a*, *some*, or bare numerals) are unambiguously interpreted using choice functions. There is no other option for these indefinites. For Reinhart, there is the possibility of a non-choice-function, generalized quantifier interpretation for simple indefinites.[6] I will return briefly to this difference in sections 8.2 and 8.3 below.

Now let's turn to Kratzer's (1998) analysis. According to Kratzer, choice functions are only used for a subset of indefinite interpretations. Her overall point of view is summarized as follows:

> Like Fodor and Sag, I want to say that indefinite NPs are ambiguous between a specific and a quantificational interpretation. If they are quantificational, their scope is local, and they are interpreted as generalized quantifiers, like any other quantifier phrase. Unlike Fodor and Sag, however, I do not take specific readings to be referential. Instead, I want to explore the possibility that the specific reading for indefinites depends on a choice function. (Kratzer 1998, 166–167)

Under Kratzer's theory, choice function indefinites are not existentially quantified. The choice function variable remains free at LF and its value is provided by the context. The value for the choice function is "often intended by the speaker, but not revealed to the audience" (Kratzer 1998, 167). This gives rise to wide-scope effects for choice function indefinites, while non-choice function indefinites must obey usual movement constraints.

Kratzer's analysis does not generate intermediate readings in the usual case. However, readings which are very close to intermediate readings arise when bound variable pronouns are present. A typical minimal pair which illustrates this phenomenon is given in (9). An intermediate reading in (9a) is very difficult or impossible to get, while in (9b) it is fine. Thus, (9b) can mean that for every professor, there is a (potentially different) student of his such that he will rejoice if that student cheats.

(9) a. Every professor will rejoice if a student of mine cheats on the exam.
    b. Every professor will rejoice if a student of his cheats on the exam.   (Ruys 1992)

---

[6] There are other differences between Reinhart's and Winter's systems, which are not important for current purposes. For example, Winter would not produce the representation in (7a) above, because he redefines the type of a DP containing a choice function (i.e., the result of applying a choice function to its argument) as being of type $\langle\langle e, t\rangle, t\rangle$ (a quantifier). Therefore, for Winter, f(woman) in (7a) would be a function which takes the predicate *come* as its argument.

The intermediate reading is unavailable in (9a) because the choice function which picks out one student of mine from the set of my students cannot vary with respect to different professors. In (9b), on the other hand, the choice function which picks out one student from a set of a professor's students will have different restrictor sets for each professor. Therefore, the choice function can choose a different individual student for each professor, and a pseudo-intermediate reading appears.[7]

   The main differences between the approaches to choice functions being investigated are summarized in (10).

> (10) a. • Kratzer says choice function variables are free and interpreted according to the context, giving a 'widest scope' interpretation.
>   • Reinhart and Winter say choice function variables can be existentially bound, at any level.
>
>   b. • Kratzer says bound variable pronouns give rise to a pseudo-intermediate scope reading.
>   • Reinhart and Winter say bound variable pronouns are not required for intermediate readings.
>
>   c. • Kratzer says indefinites are ambiguous between a choice function interpretation and a generalized quantifier interpretation.
>   • Winter says all simple indefinites are interpreted using choice functions.
>   • Reinhart suggests that simple indefinites may be ambiguous.

The main systematic empirical difference is that Reinhart and Winter rule in all intermediate readings, while Kratzer rules them out (allowing pseudo-intermediate readings with bound variables). All three approaches, however, are capable of accounting for the majority of English data. Reinhart and Winter deal with the apparent absence of intermediate readings in some cases by appealing to pragmatics or interference from other readings; Kratzer deals with the apparent presence of intermediate readings in some sentences which lack bound variables by appealing to implicit arguments. It can be seen from this that if we restrict ourselves to examination of English, the

---

[7] This is a simplified version of Kratzer's analysis. The simplified version incorrectly predicts that if two professors happen to teach the same set of students, they can only rejoice about the same cheating student. Kratzer's final analysis avoids this problem by means of implicit arguments for the function variables introduced by determiners like *a certain* and (one reading of) *some*. See Kratzer (1998, 7–11). Implicit variables will not be relevant here (although see footnote 41), and they are avoided in the main text for ease of presentation.

theories are difficult to tease apart empirically. Moreover, the very locus of the empirical difference (intermediate readings in sentences containing islands) means that the appropriate test sentences involve subtle and some-times variable judgments.

For these reasons, it is useful to examine a language other than English. We will see in subsequent sections that St'át'imcets provides a good testing ground for the competing hypotheses about wide-scope indefinites. I will argue that if we assume that all non-polarity indefinites in St'át'imcets are interpreted using choice functions, a minor variant of Kratzer's approach succeeds straightforwardly in accounting for the facts. On the other hand, Reinhart's and Winter's theories run into problems.

3. The interpretation of indefinites in St'át'imcets

St'át'imcets (a.k.a. Lillooet) is a Northern Interior Salish language currently spoken by fewer than 200 people in southwestern British Columbia, Canada.[8] Before presenting data about the interpretation of indefinites in this language, I provide a brief introduction to St'át'imcets indefinite determiners, and some comments on methodology.

3.1. *Introduction to St'át'imcets Determiners*

The St'át'imcets indefinite determiners are presented in (11) (see section 5 for arguments that these are indefinites). There is a major division between the set of determiners which encode number and spatio-temporal distance from the speaker, and the determiner *ku*, which encodes neither number nor distance.[9]

(11)

	present	absent	remote	
singular	*ti . . . a*	*ni . . . a*	*ku . . . a*	*ku*
plural	*i . . . a*	*nelh . . . a*	*kwelh . . . a*	

(adapted from Matthewson, in press; see also van Eijk 1997)

---

[8] There are two main dialects of the language, Upper and Lower; all generalizations pre-sented hold for both dialects unless otherwise stated.

[9] Data are presented in Jan van Eijk's practical orthography of the language. See the appendix for a key to the orthography and the abbreviations used.

The determiner *ku* has a restricted distribution; it may only appear when inside the c-command domain of an operator such as negation, a question morpheme, or a modal. It is ungrammatical to use *ku* in a simple declarative sentence, as shown in (13).[10]

(12) a. Negation licenses *ku*:

cw7aoz kw-s   áts'x-en-as   [**ku   sqaycw**]
NEG   DET-NOM   see-TR-3ERG   [**DET   man**]

'S/he didn't see any men.'

b. Questions license *ku*:

ats'x-en-lhkácw   **ha**   [**ku   sqaycw**]
see-TR-2SG.SUBJ   **YNQ**   [**DET   man**]

'Did you see a man/any men?'

c. Modals license *ku*:

ats'x-en-ás   **k'a**   [**ku   sqaycw**]
see-TR-3ERG   **APPAR**   [**DET   man**]

'S/he must have seen a man.'

(13)   * áts'x-en-as   [**ku   sqaycw**]
           see-TR-3ERG   [**DET   man**]

'S/he saw a man.'

Because *ku* requires a c-commanding licenser, I shall refer to it as a polarity determiner (although note that it does not completely parallel English *any*). All other determiners will be referred to by the theory-neutral term 'non-polarity determiners'.

3.2. *Methodology*

The data and generalizations presented in this paper result from fieldwork with five (non-linguist) native speakers of St'át'imcets (see the first footnote). The distributivity data were collected over a period of two years; other data and generalizations are drawn from fieldwork done over a five-year period by myself, Henry Davis and Hamida Demirdache.

---

[10]   See Matthewson (in press) for more detailed discussion of all the licensing environments for the determiner *ku*. See also Demirdache (in prep.) for discussion of *ku*, and Lin (1996) for discussion of *wh*-indefinites in Chinese, whose licensing environments show some similarities with those of *ku*-phrases.

In many cases judgments are required on potential ambiguities; there may be a number of possible readings to tease apart for any one sentence. The method used in such instances is to elicit judgments about truth conditions. A context is first described to the consultant, as for example in (14), a context designed to test distributive readings. The context may be given either in English or in St'át'imcets. If the context would contain a sentence similar to the sentence being tested, then it is described in English, for obvious reasons.

(14)   Context: There were four boys. They each shot three bears, so that 12 bears altogether got shot.

Next, a potentially ambiguous sentence (which is independently known to be grammatical) is presented to the consultant, and the consultant is asked whether the sentence is true in the context given. For example, on one occasion a consultant was given the context in (14), and then presented with the sentence in (15):

(15)   qus-en-ítas   [i   nxwexw7útsin-a twéw'w'et]
        shoot-TR-3PL.ERG [DET.PL four(HUM)-DET   boy]

        [i   kalhélhs-a   míxalh]
        DET.PL   three(ANIM)-DET   bear

        'Four boys shot three bears.'

The consultant rejected sentence (15) in context (14), and commented that in this context the sentence "sounds wrong; it would not be okay if 12 were shot. It means that three bears were shot." Results such as these lead to the claim that (15) does not allow a distributive reading where each boy shot three potentially different bears.

3.3. *Wide-Scope Indefinites in St'át'imcets*

In this section I demonstrate that non-polarity indefinites in St'át'imcets display a range of wide-scope effects. They contrast in this respect with polarity indefinites, which obligatorily take narrow scope.[11]

First let's examine indefinites contained within *if*-clauses. The sentence in (16), which contains a non-polarity indefinite, could have in principle two readings, roughly schematized in (17a,b).

---

[11]   For more details, and for the original arguments that wide vs. narrow scope is encoded in the St'át'imcets determiner system, see Matthewson (in press).

(16)   cuz'   tsa7cw   kw-s   Mary   lh-t'íq-as
        going.to   happy   DET-NOM   Mary   HYP-arrive-3CONJ
        [**ti   qelhmémen'-a**]
        [DET   old.person(DIMIN)-DET]
        'Mary will be happy if an elder comes.'

(17) a. ∃x [elder (x) & [come (x) → happy (Mary)]]   (wide scope)
     b. [∃x [elder (x) & come (x)]] → happy (Mary)   (narrow scope)

In the context described in (18), (16) is true under the wide-scope inter-
pretation of the indefinite, and false under the narrow-scope interpretation.
The fact that the sentence is accepted in this context therefore shows that
the wide-scope interpretation is available.

(18)   Context: There are a bunch of elders in this community. Mary
        dislikes most of these elders and doesn't want them to come.
        There is just one elder who she wants to come.

        Sentence (16), in context (18): <u>Accepted</u>.

Unlike in English, the wide-scope interpretation is the *only* one available
for the St'át'imcets indefinite in (16). This is shown by context (19), where
the narrow-scope reading is true but the wide-scope reading is false. The
consultant's comment indicates that sentence (16) has obligatory wide-scope
existential force for the indefinite.

(19)   Context: Mary will be happy if any elders come, but that's
        impossible, because there are no elders in this community.

        Sentence (16), in context (19): <u>Rejected</u>.

        Consultant's comment: "Mary doesn't know that there are none,
        but you know, so if you're saying that it's not proper."

If we replace the non-polarity indefinite in (16) with a polarity indefinite,
the sentence allows only a narrow-scope reading. It means that Mary will
be happy if any elder comes; it is rejected in context (18), and accepted
in context (19).

(20)   cuz'   tsa7cw   kw-s   Mary   lh-t'íq-as
        going.to   happy   DET-NOM   Mary   HYP-arrive-3CONJ
        [**ku   qelhmémen'**]
        [DET   old.person(DIMIN)]
        'Mary will be happy if any elder comes.'
        Sentence (20), in context (18): <u>Rejected</u>.
        Sentence (20), in context (19): <u>Accepted</u>.

Turning now to other scope-bearing operators, we find that non-polarity indefinites also take obligatory wide scope with respect to negation, as shown in (21).

(21)   cw7aoz   kw-s   áz'-en-as   [**ti   sts'úqwaz'-a**]
       NEG   DET-NOM   buy-TR-3ERG   [**DET   fish-DET**]

       kw-s   Sophie
       DET-NOM   Sophie

       'Sophie didn't buy a fish.' (= 'There is a fish which Sophie didn't buy.')

       = ∃x [fish (x) & ¬[buy (x) (Sophie)]]
       ≠ ¬[∃x [fish (x) & buy (x) (Sophie)]] (Matthewson, in press)

Narrow scope with respect to negation is unambiguously rendered by the polarity determiner:

(22)   cw7aoz   kw-s   áz'-en-as   [**ku   sts'úqwaz'**]
       NEG   DET-NOM   buy-TR-3ERG   [**DET   fish**]

       kw-s   Sophie
       DET-NOM   Sophie

       'Sophie didn't buy any fish.'

       ≠ ∃x [fish (x) & ¬[buy (x) (Sophie)]]
       = ¬[∃x [fish (x) & buy (x) (Sophie)]]

Consistent with the claim that (22), but not (21), allows a narrow-scope reading for the indefinite, (22), but not (21), can be true in a discourse context where no fish at all were caught.

Finally, the two types of indefinite also contrast in the environment of modals. As shown in (23–24), a non-polarity indefinite takes obligatory wide scope with respect to the modal *kelh* 'might', while a polarity indefinite takes obligatory narrow scope. (23) commits the speaker to the claim that a priest exists; (24) does not.

(23)   kán-as   kelh   qwal'út-s-as   k   Mary
       WH-3CONJ   might   talk-CAUS-3ERG   DET   Mary

       [**ti   naplít-a**]
       [**DET   priest-DET**]

       'Mary might talk to a priest.' (= 'There is a priest who Mary might talk to.')

(24) kán-as   kelh qwal'út-s-as   k   Mary
      WH-3CONJ   might talk-CAUS-3ERG   DET   Mary

      [**ku   naplít**]
      [**DET   priest**]

      'Mary might talk to a priest.'

      Consultant's comment: "If you say *ku*, that's any priest."

In this section we have seen that non-polarity indefinites in St'át'imcets are obligatorily interpreted with wide scope with respect to a range of operators. In the next section I will argue that these data cannot be accounted for by claiming that non-polarity indefinites are syntactically located in wide-scope positions at Logical Form.

4. EVIDENCE AGAINST A MOVEMENT APPROACH

If St'át'imcets non-polarity indefinites obligatorily appeared in wide-scope positions at LF, we would automatically account for the wide-scope effects discussed in the previous section. The purpose of this section is to argue that syntactic wide scope is not a tenable explanation of the facts.

   There are actually two ways that the indefinites in question could arrive in wide-scope positions by LF. They could be generated there, or they could move there. The former option could potentially fit in with Jelinek's (1984, 1995) Pronominal Argument Hypothesis, according to which in some languages all overt DPs are adjoined to the clause rather than appearing in argument positions (see also Baker 1991, 1996, Jelinek and Demers 1994). An analysis along these lines would work as follows:

(25)   i.   Non-polarity indefinites are always adjoined to the clause.
       ii. Polarity indefinites are never adjoined to the clause.

There would thus be a subset of St'át'imcets DPs which are unable to appear in argument positions.

   This analysis can immediately be rejected, however, because St'át'imcets is not a pronominal argument language. The evidence for this is amply documented elsewhere; it mainly concerns syntactic subject-object asymmetries and argument-adjunct asymmetries which are unexpected under the Pronominal Argument Hypothesis. These syntactic asymmetries arise with *both* types of St'át'imcets DP. See for example Davis (1993, 1997a), Matthewson and Davis (1995), Matthewson et al. (1993), Demirdache et al. (1994), Matthewson (in press), and Demirdache (1997a, to appear).

   The other way in which non-polarity indefinites could get into widest-

scope positions is by covert movement. Note firstly that such an approach would give rise to the same conceptual problems which were noted above for a QR analysis of English. QR of non-polarity indefinites would be unconstrained by islands, in contrast to overt movement and to other instances of covert movement.

More compellingly, however, there are strong empirical reasons why a movement analysis cannot account for the St'át'imcets data. The first piece of evidence that a QR analysis does not work is that St'át'imcets lacks wide-scope distributive readings for plural indefinites contained within islands, as shown in (26). Just like its English counterpart, (26) does not allow the distributive interpretation which would be predicted by a free QR approach. Consultants comment that three relatives have to die before a house gets inherited.[12]

(26) lh-zúqw-as   [i   nkekalhás-a   nk'sáytken],
      HYP-die-3CONJ   [DET.PL   three(HUM)-DET   relatives]

      tsuwa7-mín-lhkan   kelh   [ta   tsítcw-a]
      own-APPL-1SG.SUBJ   might   [DET   house-DET]

      'If three of my relatives die, I'll own a house.'

      Rejected in context: I'll inherit a house if any of a group of three relatives of mine dies.

Summarizing so far, we have seen that St'át'imcets non-polarity indefinites display wide-scope behavior, and we have seen some evidence that the wide-scope effects are not the result of free QR. These indefinites seem like prime candidates for a choice function analysis. However, the case for a choice function approach can be made even stronger.

4.1. *Distributive Readings as a Source of Information about Scope*

So far we have investigated the scope of indefinites in St'át'imcets by examining scopal relations between indefinites and operators such as modals. In this section we turn to scopal relations between noun phrases. A standard way of determining scopal relations between noun phrases in sentences like (27a–c) is to examine the possibility of distributive readings.

---

[12]   Sentence (26) was accepted by one consultant with a distributive reading. Note that English speakers also have somewhat variable judgments on 'three relatives' sentences. (For example, David Pesetsky and Jonathan Bobaljik (p.c.) find distributive readings acceptable in such sentences.)

(27) a. Two girls shot three bears.
     b. Every man loves a woman.
     c. Three students read every book.

There are in principle two separate distributive readings available for sentences like (27a). The first is a reading where each girl shot a potentially different set of three bears. Under this reading, the sentence is true in a situation where the total number of bears shot was six. The second type of distributive reading is an inverse reading; under this interpretation, (27a) is true when the total number of *girls* is six.[13]

Whatever the particular mechanism of distributivity which is assumed (whether an adverbial D-Operator, as in Link 1983, Roberts 1987 among many others, a D-Operator which attaches to a noun phrase as in Heim, Lasnik and May 1991, or the inherent distributivity of standard generalized quantifiers), it is a necessary component of distributive readings that there is an asymmetric scopal relation between the DPs involved. The reading of (27a) where six bears got shot arises only when the subject takes wider scope than the object at LF; the inverse reading is available only when the object takes wide scope over the subject at LF. We can therefore use judgments about distributivity as a diagnostic for scopal relations between noun phrases.

What do we expect for St'át'imcets transitive sentences containing non-polarity indefinites? Note that however high these indefinites are adjoined at LF, one must still be structurally higher than the other. Therefore, a movement theory of St'át'imcets wide-scope indefinites predicts that as long as the language allows distributivity at all, at least one type of distributive reading should be possible in such sentences.[14]

However, this is not the case. Demirdache and Matthewson (1997) propose essentially the following generalization:

(28)   Transitive sentences whose DPs contain non-polarity determiners do not allow distributive readings.

---

[13] The inverse reading is marginal for some speakers for (27a), but is fairly salient in (27c), for example. See Beghelli et al. (1996), and references cited therein, for discussion of factors which facilitate inverse distributive readings.

[14] There is one proposal in the literature whereby two adjoined quantified DPs do not enter into an asymmetric scopal relation with respect to each other: May's (1985) theory of Σ-sequences. May defines c-command in such a way that two phrases which are adjoined to the same clause have the same c-command domain as each other, and therefore c-command each other. These two adjoined phrases form a Σ-sequence. He further proposes (1985, 34) that members of Σ-sequences may be 'interpreted independently of one another', giving rise to a cumulative reading. However, distributive readings are still predicted to be present by May's approach; QPs which form a Σ-sequence allow not only a cumulative reading, but also both types of distributive reading (May 1985, 90).

In the following subsection I will present the relevant data, and I will then demonstrate that there is nothing wrong with distributivity per se in St'át'imcets. Therefore, the absence of distributive readings in transitive sentences cannot be accounted for by syntactic wide scope. In later sections, we will see that the absence of distributive readings is straightforwardly predicted under the choice function analysis to be proposed.

4.2. *The Absence of Distributive Readings*

The absence of subject-wide-scope distributive readings is illustrated in (29) and (30) for plural indefinite objects, and in (31) for a singular indefinite object.[15, 16]

---

[15]   The basic word order is VOS in the Upper dialect and VSO in the Lower. In both dialects, there is some freedom of order in the post-predicate domain, as shown in (i).

(i)   áts'x-en-as   [ta   smúlhats-a]   [ta   sqáycw-a]
      see-TR-3ERG   [DET   woman-DET]   [DET   man-DET]

'A man saw a woman.'/'A woman saw a man.'

Distributive readings are absent for both VOS and VSO. For further discussion of St'át'imcets word order, see Gardiner et al. (1993), Davis (1997b), and Davis and Demirdache (in prep.).

[16]   Kai von Fintel (p.c.) points out a quirk with using acceptability judgments in ruling out distributive readings for sentences containing numerals, such as (29). Kadmon's (1987) analysis of numerals as inherently having an 'at least' semantics predicts that (29) will be *true* if six bears were shot, even under a non-distributive reading. However, the 'exactly' interpretation of the numeral will predominate in neutral pragmatic contexts, due to the Gricean maxim of Quantity.

Sentences like (29) do indeed become acceptable if six bears were shot, in a pragmatic context where the 'at least' reading of the numeral is made salient:

(i)   kwan-ens-twítas   [i   xw7ú7tsin-a   ts'úqwaz']   [wi   s-Rosa
         catch-TR-3PL.ERG   [DET.PL   four(ANIM)-DET   fish]   [3PL   NOM-Rosa

         múta7   s-Tanya]
         and   NOM-Tanya]

'Rosa and Tanya caught four fish.'

Rejected in neutral discourse context if eight fish were caught.

Accepted in context: There was a fish-catching contest. In teams of two, people had to try to catch at least four fish in a certain amount of time. Rosa and Tanya took part in this contest and were really fast and caught eight in the time allowed. Then someone asks who caught enough to get a prize, i.e., which pairs managed to get four.

Note that there is still a clear difference between St'át'imcets and English in neutral discourse contexts. St'át'imcets, but not English, requires an elaborate context which favors the 'at least' reading before a 'more than four fish' scenario is accepted. Moreover, sentences such as (ii) show that the distributive reading is truly absent in St'át'imcets.

(29)   qus-en-ítas   [i   n7án'was-a   smém'lhats]
       shoot-TR-3PL.ERG   [DET.PL   two(HUM)-DET   woman(DIMIN)]

       [i   kalhélhs-a   míxalh]
       [DET.PL   three(ANIM)-DET   bear]

       'Two girls shot three bears.'

   √ 'A total of two girls shot a total of three bears.'
   * 'Each of two girls shot three bears, such that the total number
       of bears shot was six.'

(30)   qus-en-ítas   [tákem i   smém'lhats-a]   [i
       shoot-TR-3PL.ERG   [all   DET.PL   woman(DIMIN)]   [DET.PL

       kalhélhs-a   míxalh]
       three(ANIM)-DET   bear]

       'All (the) girls shot three bears.'[17]

   √ 'There are three bears, which all the girls shot.'
   * 'Each girl shot three (possibly different) bears.'

(31)   wa7   xwey-s-twítas   [ta   smúlhats-a]   [tákem i
       PROG love-CAUS-3PL.ERG   [DET   woman-DET]   [all   DET.PL

       sqáyqeycw-a]
       man(PL)-DET]

       'All (the) men love a woman.'

       <u>Rejected</u> in context: Each man loves a different woman.

(ii)   kwán-ens-as   s-Mary   [i   kalhélhs-a   ts'úqwaz'   múta7
       catch-TR-3ERG   NOM-Mary   [DET.PL   three(ANIM)-DET   fish]   and

       kwán-ens-as   s-Adeline   [i   tsétslekst-a   ts'úqwaz',   t'u7
       catch-TR-3ERG   NOM-Adeline [DET.PL   five(ANIM)-DET   fish]   but

       tsukw t'u7   [á7en'was i   ts'úqwaz'-a] kwan-ens-twítas   [wi
       only   but   [two(ANIM) DET.PL   five-DET]   catch-TR-3PL.ERG [3PL

       s-Rosa   múta7   s-Tanya]
       NOM-Rosa and   NOM-Tanya]

       'Mary caught three fish, and Adeline caught five fish, but Rosa and Tanya
       only caught two fish.'

       <u>Rejected</u> in context: Rosa and Tanya each caught two fish.

The presence of 'only' makes the 'at least' reading of the numeral unavailable, and (unlike
its English gloss), (ii) is rejected in a distributive context. Thanks to Kai von Fintel and
Irene Heim for discussion of this issue.

[17]   Recall that all St'át'imcets determiners are indefinite; there is no English determiner which
accurately translates the plural determiner inside the quantified phrase in (30) and similar
examples. The closest English approximation would be 'all of some girls'.

> Consultant's comment: "There's just one lady. Can't mean a different one each. It sounds like you're talking about that one lady."

Although the basic word order in St'át'imcets is predicate-initial, quantified DPs may appear sentence-initially. This construction has been analyzed as involving movement in the overt syntax (see Demirdache et al. 1994, Demirdache and Matthewson 1995). (32) shows that moving a quantified subject DP to clause-initial position does not rescue the subject-wide-scope distributive reading.

(32)　[tákem i　　　sqáyqeycw-a]ᵢ wa7 xwey-s-twítas
　　　　[all　　DET.PL man(PL)-DET]ᵢ PROG love-CAUS-3PL.ERG

　　　　[ta　　smúlhats-a]　tᵢ
　　　　[DET woman-DET]　tᵢ

　　　　'All (the) men love a woman.'

　　　　<u>Rejected</u> in context: Each man loves a different woman.

　　　　Consultant's comment: "Still means there's just one lady."

In the examples so far, both distributive and non-distributive readings were equally pragmatically plausible. Strong evidence that distributive readings are impossible comes from sentences where the non-distributive reading is pragmatically implausible, such as (33)–(34). These sentences are only understood by consultants as having the pragmatically odd, non-distributive readings.[18]

(33)　# [tákem i　　　sqáyqeycw-a l-ti　　tsítcw-a]
　　　　　[all　　DET.PL man(PL)-DET in-DET house-DET]

　　　　melyíh-s-as　　　[ti　　emh-ál'qwem'-a syáqtsa7]
　　　　marry-CAUS-3ERG [DET good-appear-DET woman]

　　　　'All (the) men in our building married a beautiful woman.'

　　　　Consultant's comment: "Doesn't make sense. How can they all marry one woman?"

(34)　# wa7　s-teq-s-ás　　　　　　[wi　s-Mary　　múta7
　　　　PROG STA-touch-CAUS-3ERG [3PL NOM-Mary and

　　　　s-Rose]　　[ti　　pátkwh-a]
　　　　NOM-Rose] [DET needle-DET]

　　　　'Mary and Rose are holding a needle.'

> Consultant's comment: "Sounds like they are both holding the same one in that sentence."

Turning to inverse distributive readings, these are also unavailable in St'át'imcets, as shown in (35)–(36).

(35)   wa7   mitsaq-mín-as [ta   twíw't-a]   [i
       PROG sit-APPL-3ERG [DET   child-DET] [DET.PL

       n7án'was-a   smelhmúlhats]
       two(HUM)-DET   woman(PL)]

       'A child is sitting on two women.'[19]

   i.   Accepted in context: There is one child, who is sitting on two women's laps.
   ii. Rejected in context: A different child is sitting on each woman's lap.

   Consultant's comment: (laughs) "Wow! The young boy is sitting on two women's laps. Adventurous! At the same time, he's trying to sit on both."

(36)   # wa7   s-tálh-lec   [ti   sk'úk'wm'it-a]
       PROG   STA-stand-INTR   [DET   child-DET]

       nklús-ts-a   [i   án'was-a   tsitcw]
       in.front-3SG.POSS-DET   [DET.PL   two-DET   house]

       'A child is standing in front of two houses.'

   i.   Pragmatically odd in context: There is one child, who is standing in front of two houses.
   ii. Rejected in context: There are two houses, such that there is a different child who is standing in front of each house.

Speakers' reactions to (36) clearly demonstrate the impossibility of the inverse distributive reading. (37) shows consultants' efforts to understand (36) in the only possible way it can be understood, namely in the pragmatically odd sense where there is one child who is standing in front of two houses at once:

---

[19]   This sentence contains a transitive main predicate in St'át'imcets.

(37)   Consultant A's comment re (36): "It's kind of hard to say that they're in front of the two houses. You'd have to be in between the two houses. There's only one front of a house. Or maybe the houses could be opposite. That child would be in between these two houses, and for both houses that would be the front. She can't be in front of the two houses if they're side by side."

Consultant B's comment re (36): "Impossible. Because a house has a front, and two houses have two fronts, and you have one child. He'd have to be standing in between. Split personality maybe!"

(38) shows that inverse distributive readings are impossible even if the object contains a universal quantifier, and (39) shows that raising of the overtly quantified DP also does not save the inverse distributive reading.

(38)   paqw-al'ikst-min-ítas   [i   nkekalhás-a
        look-leaf-APPL-3PL.ERG   [DET.PL   three(HUM)-DET

        sk'wemk'úk'wm'it]   [tákem i   púkw-a]
        child(PL)]   [all   DET.PL   book-DET]

        'Three children read all (the) books.'

        i.   Accepted in context: Three children together read all the books (e.g., "one could be reading it and the others could be listening, and they take turns").
        ii. Accepted in context: Three children between them read all the books.
        iii. Rejected in context: Three different children read each book.

(39)   [tákem i   púkw-a]   az'-en-ítas   [i
        [all   DET.PL   book-DET] buy-TR-3PL.ERG   [DET.PL

        án'was-a sqaycw]
        two-DET   man]

        'Two men bought all (the) books.'

        Rejected in context: Two different men bought each book.

In this section I have provided evidence that St'át'imcets transitive sentences containing non-polarity determiners disallow both a subject-wide-scope distributive reading, and an inverse distributive reading.[20] The

---

[20]   Apart from the absence of distributive readings, St'át'imcets transitive sentences display essentially the same range of interpretations as English transitive sentences do. In particular, collective and cumulative readings are both available. For example, (i) is judged to be

significance of this fact is that it is not predicted under an analysis of wide-scope effects which relies on the syntax of the indefinites at LF. However high the relevant DPs are adjoined by LF, one of them by definition must be structurally higher than the other. Therefore, the prerequisite for distributivity is fulfilled.

It is, of course, possible that the distributivity data are irrelevant to the discussion of the scope of indefinites, because distributivity per se is impoverished in this language. In other words, the blame for the lack of distributive readings in St'át'imcets could rest not with the indefinites themselves, but with the mechanism which induces distributivity, namely the D-Operator. The purpose of the next subsection is to eliminate this possibility.

4.3. *Nothing Is the Matter with the D-Operator*

Perhaps distributive readings in St'át'imcets are absent because something goes wrong with the mechanism which induces distributivity. I will argue against this hypothesis by showing the following three things:

(40) a. St'át'imcets possesses a lexical item which is a distributor, similar in all relevant respects to English *each*.
      b. This overt distributor forces distributive readings in certain sentence types.
      c. Even this overt distributor does not license subject-wide-scope or inverse distributive readings in sentences containing only non-polarity determiners.

---

acceptable both in a context where the girls cooperate in performing the action denoted by the predicate (i.a), and in a context where each girl is the agent of at least one complete cooking event, and the total number of fish cooked altogether is four (i.b). These two contexts represent a collective and a cumulative reading respectively (see Scha 1981 and much subsequent work on cumulative readings).

(i)   q'wel-en-ítas   [i   xw7útsin-a   sts'úqwaz'] [i   n7án'was-a
         cook-TR-3PL.ERG [DET.PL four-DET   fish]   [DET.PL   two(HUM)-DET

         smelhmém'lhats]
         woman(DIMIN)(PL)]

         'Two girls cooked four fish.'

      a. <u>Accepted</u> in context: Two girls cooperated to cook a total of four fish.
      b. <u>Accepted</u> in context: One girl cooked two fish and another girl cooked two different fish.
      c. <u>Rejected</u> in context: Each of two girls cooked four fish. The total number of fish cooked was eight.
      d. <u>Rejected</u> in context: Each of four fish was cooked by two girls. The total number of girls was eight.

Even if the strongest possible restriction on the D-Operator was in force, namely that it was completely absent from the language, we would still expect distributive readings to be licit in the presence of noun phrases which contain an overt distributor like *each*. But this is not true (see (40c)). Therefore, the hypothesis that the D-Operator "goes wrong" fails as an explanation for the distributivity facts.

The St'át'imcets quantifier *zí7zeg'* is translated by consultants as 'each' or 'each and every one of'. Some examples are given in (41).[21]

(41) a. [zí7zeg' lhél-ki smúlhats-a] ít'em
      [each from-DET.PL woman-DET] sing

      'Each and every one of the women sang.'

  b. [zí7zeg' lhél-ki sk'wemk'úk'wm'it-a]
      [each from-DET.PL child(PL)-DET]

      úm'-en-ts-as [ku kándi]
      give-TR-1SG.OBJ-3ERG [DET candy]

      'Each of the children gave me some candy.'

  c. um'ím'-en-lhkan [i zí7zeg'-a sk'wemk'úk'wm'it]
      give(RED)-TR-1SG.SUBJ [DET.PL each-DET child(PL)]

      [ku t'ec s-7ílhen]
      [DET sweet NOM-eat]

      'I gave some candy to each child.'

Just like English *each*, *zí7zeg'* is ungrammatical with predicates which are unambiguously collective. The contrast between DPs containing *zí7zeg'* and other quantified DPs is illustrated in (42).

(42) a. [nkekalhás / tákem i sqáycw-a] gew'p
      [three(HUM) / all DET.PL man-DET] meet

      'Three men / All (the) men met.'

  b.*[zí7zeg' i sqáycw-a] gew'p
      [each DET.PL man-DET] meet

    * 'Each of the men met.'

---

[21] *Zí7zeg'* appears in several different syntactic environments, and may take either a plural or a singular range (see Matthewson, in press). The difference, if any, in meaning between the different agreement possibilities has not yet been ascertained.

    The polarity determiner *ku* is licensed in (41b,c) and (43) by being inside a noun phrase which is not a direct argument of the main predicate. See footnote 22, and see Matthewson (in press) for further discussion.

The most striking evidence that *zí7zeg'* induces distributivity comes from an alternative syntactic construction, unlike the transitive sentences seen so far throughout this paper. This alternative syntactic construction is illustrated in (43).

(43) a. [i   zí7zeg'-a smelhmúlhats] ú7stek   [ku
        [DET.PL each-DET woman(PL)]   catch.fish [DET

        sts'úqwaz']
        fish]

     'Each woman caught a (different) fish.'

   b. [zí7zeg' i   tsícw-a píx-em']   kwámem   [ku
      [each   DET.PL go-DET hunt-INTR] catch(INTR) [DET

      míxalh]
      bear]

      'Each of the hunters caught a bear.' (one each)

This construction, and its ability to license distributive readings, is discussed in detail in Demirdache (in prep.); see also Demirdache and Matthewson (1997). The important feature of the construction is that the notional 'object' contains the polarity determiner *ku*.[22]

There are two important points with respect to the data in (43). First, although plural subjects which do not contain *zí7zeg'* also allow distributive readings in this construction, as shown in (44)–(45), they do not *force* a distributive reading. Thus, while the sentences in (43) are unambiguously distributive, those in (44) and (45) allow either collective or distributive interpretations.[23]

(44) qús-cal   [ku tsítselkst   míxalh] [i   twéw'w'et-a]
     shoot-INTR [DET five(ANIM) bear]   [DET.PL boy-DET]

     'Some boys shot five bears.'

     Consultant's comment: "Either five bears each, or five altogether."

---

[22]   Recall from section 2.1 that *ku* is licensed only in certain environments. One of these environments is when *ku* appears on the notional 'object' of a syntactically *intransitive* predicate, as in (43). The construction in (43) bears some similarity to the West Greenlandic anti-passive (cf. Bittner 1994, van Geenhoven 1996, and see Matthewson, in press). For one speaker, distributive readings are possible in this construction only when the subject is universally quantified. This might represent a dialect difference, but I have no idea at present about how to account for this speaker's system.
[23]   Word order is again irrelevant.

(45)   [tákem   i   syáqts7-a]   t'cum   [ku   xetspqíqin'kst]
       [all   DET.PL   woman-DET]   win(INTR)   [DET   hundred]

    'All (the) women won $100.'

    i.   <u>Accepted</u> in context: There are three women, who together
        buy a lottery ticket which wins $100.
    ii. <u>Accepted</u> in context: There are three women. Two win $30
        each and one wins $40.
    iii. <u>Accepted</u> in context: There are three women. They each
        win $100.

  √ *collective*
  √ *cumulative*
  √ *subject-wide-scope distributive*

This indicates that *zí7zeg'* differs from other quantifiers in St'át'imcets in
being an unambiguous distributor.

    The second important point is that although *zí7zeg'* is an unambiguous
distributor, it cannot save subject-wide-scope distributive readings in sen-
tences which contain only non-polarity determiners:

(46)   [zí7zeg'   smelhmúlhats]   met'-en-ítas   [ta   máw-a]
       [each   woman(PL)]   pet-TR-3PL.ERG   [DET   cat-DET]

    'Each woman petted a cat.'

    i. <u>Accepted</u> in context: Each woman petted the same cat.
    ii. <u>Rejected</u> in context: Each woman petted a different cat.

(47)   ts'aqw-an'-ítas   [zí7zeg'   i   smelhmúlhats-a]   [ta
       eat-TR-3PL.ERG   [each   DET.PL   woman(PL)-DET]   [DET

    tvmvlens-a]
       watermelon-DET]

    'Each woman ate a watermelon.'

    Consultant's comment: "That means they each got a piece of that
    particular watermelon. But if you were gonna say that each
    woman ate a whole watermelon it would be a little different."[24]

---

[24]   A reviewer suggests that (47) does not make the desired point, since the consultant's
comment could merely reflect an interpretation of the main predicate as 'eat of' rather than
'eat'. However, this would not account for the fact that (47) is rejected in a context where
each woman ate (of) a *different* watermelon. As stated by the consultant, there is only one
watermelon involved. My interpretation of the facts is supported by the oddness of (i),
where it is pragmatically unlikely that each child was involved in the eating (of) a single
apple. If a distributive reading were available, then (i) should be perfect, regardless of the
exact implicatures about eating carried by the predicate.

Zí7zeg' also cannot license inverse distributive readings in sentences containing only non-polarity determiners, as shown in (48).

(48) paqw-al'ikst-min-ítas   [i   nkekalhás-a
      look-leaf-APPL-3PL.ERG [DET.PL three(HUM)-DET

      sk'wemk'úk'wm'it] [i   zí7zeg'-a pukw]
      child(PL)]   [DET.PL each-DET   book]

      'Three children read each book.'

   i. <u>Accepted</u> in context: There are four books altogether. Each
       of a group of three children read all four books.
   ii. <u>Rejected</u> in context: There are four books altogether. Three
       different children read each book.

       Consultant's comment: "Doesn't mean that there's twelve kids."

Summarizing, we know that there is a distributive lexical item in the language, similar to English *each*. And we know that even in the presence of this lexical item, sentences containing only non-polarity determiners do not allow subject-wide-scope or inverse distributive readings. Therefore, the absence of distributive readings does not plausibly have anything to do with the absence of a D-Operator.

5. THE DETERMINERS ARE REALLY INDEFINITE

The wide-scope effects discussed in section 3 arise only with non-polarity determiners. Likewise, the inability to be distributed over is a feature only of non-polarity indefinites. It therefore seems an unavoidable conclusion that both the wide-scope effects and the absence of distributivity have to do with the semantics of the determiners themselves.[25]

   What could be the relevant property of the determiners which accounts for all the facts? I will argue below that the answer lies in the fact that non-polarity determiners, but not polarity determiners, are obligatorily interpreted using choice functions. In this section, I will consider and reject one initially plausible hypothesis about the semantics of the determiners. This hypothesis is given in (49).

(i)   #[zí7zeg' i   sk'wemk'úk'wm'it-a] ts'aqw-an'-ítas [ta   áopels-a]
        [each   DET.PL child(PL)-DET]   eat-TR-3PL.ERG [DET apple-DET]

        'Each of the children ate an apple.'

[25]   This conclusion was already reached by Demirdache and Matthewson (1997). The analysis of the determiners to be provided below differs from theirs, however.

(49)   Non-polarity determiners are definite articles.

If the non-polarity determiners were really definites, rather than indefinites as I have claimed, then their wide-scope behavior would not be surprising. In (50a–c) (cf. (16), (21), (23) above), the most natural interpretation of the sentences has the existential import of the definite taking wider scope than the *if*, the negation, and the modal respectively.[26]

(50) a. John will be happy if the elder comes.
    b. Sophie didn't buy the fish.
    c. Mary might talk to the priest tomorrow.

With respect to distributive readings, sentences with definite objects lack subject-wide-scope distributive readings (51), and sentences with definite subjects lack inverse distributive readings (52):[27]

(51) a. Two girls shot the three bears.
    b. Every man loves the woman.

(52) a. The three students read every book.
    b. The guard is standing on top of two buildings.

Establishing that St'át'imcets non-polarity DPs are indefinites is not a simple matter, because the most straightforward way of showing that a particular noun phrase is indefinite is to contrast its behavior with that of a definite. However, I have argued in detail elsewhere that there is no definiteness/indefiniteness contrast in St'át'imcets (Matthewson, in press). Therefore, my claim is as in (53).[28]

(53)   All St'át'imcets determiners are indefinite.

The first piece of evidence that non-polarity DPs are indefinite is that they are possible in existential sentences. (54) demonstrates that just as in

---

[26] This would follow under a Fregean interpretation of definites as carrying a presupposition of existence, but I do not address the correct analysis of definites here.

[27] Again, on their usual interpretation. In certain discourse contexts, definites can participate in distributive readings. In the context in (i), (51a) can be interpreted with a distributive reading:

(i)   Context: A bunch of girls were at a carnival. They were playing a game where each player was assigned three toy bears, which they had to try and shoot with toy guns.

This is presumably due to an implicit variable inside the definite.

[28] Demirdache (1997b) argues that St'át'imcets only lacks one subtype of definite descriptions, namely anaphoric definites. For specific arguments against her analysis, see Matthewson (in prep.).

English, this is an environment which contrasts weak with strong quantifiers; (55) shows that both plural and singular non-polarity indefinites appear in this context.

(54) a. wa7 [i   cw7ít-a   míxalh] [láku7 sqwém-a]
          be   [DET.PL many-DET bear]   [DEIC   mountain-DET]

          'There are many bears on that mountain.'

     b.* wa7 [tákem   i   míxalh-a] [láku7 sqwém-a]
          be   [all   DET.PL bear-DET] [DEIC   mountain-DET]

      * 'There are all (the) bears on that mountain.'

(55) a. wa7 [i   míxalh-a] [láku7 sqwém-a]
          be   [DET.PL bear-DET] [DEIC   mountain-DET]

          'There are bears on that mountain.'

     b. wa7 [ti   míxalh-a] [láku7 sqwém-a]
          be   [DET bear-DET] [DEIC   mountain-DET]

          'There is a bear on that mountain.'

Secondly, St'át'imcets non-polarity DPs never force anaphoric interpretations the way English definite descriptions do. For example, if the determiner *ti . . . a* were definite, we would expect the two DPs in (56) to pick out the same cougar (and the sentence to be pragmatically odd). However, the sentence is fine and the DPs introduce two separate discourse referents.

(56)   wa7 lts7a pankúph-a   [**ti   swúw'h-a**] múta7 wa7
          be   here   Vancouver-DET [**DET cougar-DET**] and   be

          láku7 líl'wat-a   [**ti   swúw'h-a**] t'it
          there   Mount.Currie-DET [**DET cougar-DET**] also

          'There is a cougar here in Vancouver and there is also a cougar there in Mt. Currie.'

          Consultant's comment: "There are two different cougars."

Thirdly, St'át'imcets non-polarity DPs do not carry a uniqueness entailment or presupposition. In English, DPs whose discourse referent is known to be non-unique in the universe of discourse must contain an indefinite article, as shown in (57). Such non-unique discourse referents readily take non-polarity determiners in St'át'imcets, as in (58).

(57)   A star appeared. / # The star appeared.

(58) ka   hál'h-a   [ta   nkakúsent-a]
      OOC show-OOC [DET star-DET]

      'A star appeared.'

Similarly, the discourse contexts in (59) and (60) are such that unique-
ness is not satisfied, and non-polarity DPs are legitimate. (As expected in
(60), all the boys have to see the same bird, since there is no distributive
reading.)[29]

(59) Context: There are five puppies in the room. One of them is
      sleeping.

      cw7áoz-as kw-á-su   wenácw-ts! wa7 guy't
      NEG-3CONJ DET-PROG-2SG.POSS true-mouth PROG sleep

      [ta   sqéqx7-a]
      [DET dog(DIMIN)-DET]

      'Be quiet! A / *The puppy is sleeping.'

(60) Context: There is a tree outside the window. There are three birds
      on the tree.

      [tákem i   sqayqéqy'ecw-a]   ats'x-en-ítas   [ti
      [all   DET.PL man(DIMIN)(PL)-DET] see-TR-3PL.ERG [DET

      spzúz7-a]
      bird-DET]

      'All (the) boys saw a / *the bird.'

      Consultant's comment: "They're all seeing the same one."

Sluicing is a fourth test for indefiniteness; the noun phrase which is cor-
related with the *wh*-remnant of ellipsis in sluicing cases can only be an
existential (see Chung, Ladusaw and McCloskey 1994, and Reinhart 1997
for discussion of the indefiniteness requirement). This is shown by the
contrast in (61), which was brought to my attention by a reviewer:

(61) John is looking for a book / *the book / *this book, but I don't
      know which.

(62) shows that sluicing is possible with St'át'imcets non-polarity DPs,
supporting my analysis of them as indefinites:

---

[29] Thanks to a reviewer for suggesting (60).

(62) wa7   cwíl'-en-as   k   Henry [ti   púkw-a],   t'u7
      PROG look.for-TR-3ERG   DET Henry [DET book-DET] but

      aoz   kw-en-s   zwát-en   stám'-as
      NEG   DET-1SG.POSS-NOM   know-TR   what-3CONJ

      'Henry is looking for a book, but I don't know which.'

The diagnostics given so far were relatively straightforward. More complicated issues arise when we consider more closely two major properties of the definite/indefinite contrast, namely (non)-familiarity and (non)-uniqueness. St'át'imcets DPs do not act equivalently to English indefinites with respect to these two criteria. However, I argue in Matthewson (in prep.) that St'át'imcets DPs behave precisely as we would expect for indefinites in a language which lacks definites. My analysis follows the spirit of such works as Heim (1991) and Hawkins (1991), who propose that certain properties of indefinites are not a matter of their inherent semantics, but arise from implicatures due to the presence of a contrasting definite option.

Briefly, the hypothesis is as follows. Definites are familiar and unique. Indefinites have no specification either way for familiarity and uniqueness, but in languages which possess definites, the choice to use an indefinite gives rise to implicatures of non-familiarity and non-uniqueness.

This predicts that in a language without definites, indefinites will be able to be used for both novel and familiar discourse referents, and for both unique and non-unique discourse referents. This prediction is upheld for St'át'imcets indefinites. We have seen above that they can be used in novel contexts, as in (56), and in non-unique contexts, as in (58)–(60). They can also be used for familiar discourse referents, as in (63b), and for unique discourse referents, as in (64).

(63) a. húy'-lhkan   ptakwlh, ptákwlh-min   lts7a [**ti**
         going.to-1SG.SUBJ   tell.story tell.story-APPL here [**DET**

         smém'lhats-a] . . .
         woman(DIMIN)-DET]

         'I am going to tell a legend, a legend about a girl_i . . .'
                                                            (*novel*)

     b. . . . wa7   ku7   ílal láti7 [**ti   smém'lhats-a**]
         . . . PROG QUOT   cry   DEIC [**DET   woman(DIMIN)-DET**]

         '. . . The girli was crying there.'   (*familiar*)
                                         (van Eijk and Williams 1981, 19)

(64)   ka   hál'h-a   [ta   snéqwem-a]
       OOC   show-OOC   [DET   sun-DET]

       'The sun appeared.'

This section has shown that although it is clearly some property of the semantics of the determiners which accounts for the wide-scope behavior of St'át'imcets non-polarity DPs, the relevant property is not that they are really definite articles. The next section presents my choice function analysis of St'át'imcets wide-scope indefinites.

6.   A CHOICE FUNCTION ANALYSIS

The analysis to be proposed is summarized in (65).

(65) a. All non-polarity determiners are obligatorily interpreted as variables which range over choice functions.
   b. The polarity determiner is not interpreted as a variable that ranges over choice functions.
   c. The choice-function variables are always existentially closed at the highest level.

I will begin this section by showing how the analysis in (65) accounts for the wide-scope effects with respect to *if*-clauses, negation, and modals. In section 6.2, I show how (65) accounts for the absence of distributive readings in transitive sentences containing non-polarity determiners. Following that, the predictions of the analysis for sentences containing bound variable pronouns are laid out. These predictions are shown to be upheld.

6.1.   *Wide-Scope Effects with Respect to Negation, Modals and* if-*Clauses*

The proposed analysis accounts straightforwardly for the behavior of non-polarity indefinites with respect to *if*-clauses, negation and modals. The only possible representation for sentence (66), according to the analysis in (65), is as in (66a). This corresponds to the wide-scope reading of the indefinite. The narrow-scope reading in (66b) is ruled out because choice functions may only be existentially closed at the highest level.

(66) cuz'   tsa7cw kw-s   Mary lh-t'íq-as   [ti
      going.to happy   DET-NOM   Mary HYP-arrive-3CONJ   [DET

      qelhmémen'-a]
      old.person(DIMIN)-DET]

      'Mary will be happy if an elder comes.'

   a. = ∃f [CH(f) & [come (f(elder)) → happy (Mary)]]

                                                    (wide scope)
   b. ≠ [∃f [CH(f) & come (f(elder))]] → happy (Mary)

                                                    (narrow scope)

Similarly, the analysis correctly derives obligatory wide-scope readings
for non-polarity indefinites with respect to negation and modals, as shown
in (67) and (68) respectively:

(67) cw7aoz kw-s   áz'-en-as   [ti   sts'úqwaz'-a]
      NEG   DET-NOM   buy-TR-3ERG   [DET   fish-DET]

      kw-s   Sophie
      DET-NOM   Sophie

      'Sophie didn't buy a fish.'

   a. = ∃f [CH(f) & ¬[buy (f(fish)) (Sophie)]]
   b. ≠ ¬[∃f [CH(f) & buy (f(fish)) (Sophie)]]

(68) kán-as   kelh   qwal'út-s-as   k   Mary [ti
      WH-3CONJ   might talk-CAUS-3ERG   DET   Mary [DET

      naplít-a]
      priest-DET]

      'Mary might talk to a priest.'

   a. = ∃f [CH(f) & MIGHT [talk-to (f(priest)) (Mary)]]
   b. ≠ MIGHT [∃f [CH(f) & talk-to (f(priest)) (Mary)]]

As predicted by (65b), narrow scope in all these cases is unambiguously
rendered by the polarity determiner *ku*.

6.2. *Why Distributive Readings Are Absent*

Now let's see how the proposed analysis accounts for the absence of dis-
tributive readings. We will look first at subject-wide-scope readings.
Consider the sentence in (69):

(69) qus-en-ítas   [s-Rosa   múta7   s-Tanya]   [ta
      shoot-TR-3PL.ERG [NOM-Rosa   and   NOM-Tanya] [DET

      míxalh-a]
      bear-DET]

      'Rosa and Tanya shot a bear.'

(69) is accepted by consultants in two types of situation. Either Rosa and
Tanya collectively shot one bear, or Rosa and Tanya each shot the same
bear, so that the bear was shot twice.[30] The two meanings are represented
in (70a,b) respectively.

(70) a. $\exists$f [CH(f) & Rosa$\oplus$Tanya shot f(bear)]
     b. $\exists$f [CH(f) & Rosa$\oplus$Tanya^D (shot f(bear))]

These are both 'wide-scope' readings for the indefinite object, and there
is no other possibility, since the determiner *ti . . . a* is obligatorily inter-
preted as a choice function variable, and choice functions are always
existentially closed with widest scope.

  Now let's take a slightly more complicated example. (71) contains two
determiners which are variables over choice functions. The meaning is
represented in (72).

(71) qus-en-ítas   [i   n7án'was-a   smém'lhats]
      shoot-TR-3PL.ERG [DET.PL two(HUM)-DET   woman(DIMIN)]

      [i   kalhélhs-a   míxalh]
      [DET.PL   three(ANIM)-DET   bear]

      'Two girls shot three bears.'

(72) $\exists$f $\exists$g [CH(f) & CH(g) & f(two girls) shot g(three bears)]

Here, the choice functions do not pick out single individuals. For con-
creteness, I follow Reinhart (1997, 380–381) and assume that the choice
function f in (72) applies to a set of sets of two girls, and picks out a
set of two girls. The notation f(two girls) is therefore shorthand for
f({X | girls (X) & |X| = 2}).

  The analysis proposed here correctly rules out any possibility of subject-
wide-scope distributive readings. If two choice functions are both
existentially closed at the highest level, it is impossible for one of the

---

[30] Consultants consistently disprefer a collective reading, citing pragmatic reasons.

relevant DPs to distribute over the other. To see this, let's examine (73), which illustrates Winter's (1997) approach to distributivity.[31]

(73)   Three workers had a baby.
         $\exists f$ [CH(f) & (f(three workers))^D ($\lambda x.\exists g$(CH(g) & had (g(baby))
         (x))]   (cf. Winter 1997, 423)

Three workers is a predicate, denoting "the set of plural individuals consisting of exactly three singular workers. The CF variable *f* picks one plural individual from this set. The distributivity operator *D* applies to this individual, to generate a universal quantifier over singular individuals" (Winter 1997, 423).

So (73) means that for every singular individual which is a member of the plural individual (denoting three workers) which the choice function f picks out, there is a choice function g which picks out a baby which that worker had. This is the distributive reading.

Now, what if we insert a D-Operator into a St'át'imcets sentence like 'Three women shot a bear'? We get (74):

(74) $\exists f \exists g$ [CH(f) & CH(g) & (f(three women))^D $\lambda x.$shot (g(bear))
         (x)]]

(74) says that there is a function which picks out some plural individual composed of three women, and there is a function which picks out some bear, such that every singular individual which is part of the plural individual composed of three women shot that bear. Since both choice function variables are existentially closed with wider scope than the D-Operator, the sentence still means that only one bear got shot.

The inverse distributive reading will be correctly ruled out for exactly the same reason, since the choice function variable introduced by the determiner inside the subject DP must also be existentially closed at the highest level.

Before closing this section, I will point out an interesting issue raised by universally quantified DPs, as in (75):

(75)   [tákem   i   sqáyqeycw-a]   wa7   xwey-s-twítas
         [all   DET.PL   man(PL)-DET]   PROG love-CAUS-3PL.ERG

         [ta   smúlhats-a]
         [DET   woman-DET]

         'All (the) men love a woman.'

---

[31] Winter makes use of a Heim, Lasnik, and May-style D-Operator on the noun phrase; the same results obtain if an adverbial D-Operator is adopted.

An initial pass at the meaning of (75) is given in (76).

(76) $\exists f$ [CH(f) & $\forall x$ [man(x) $\rightarrow$ x loves f(woman)]]

However, (76) ignores the fact that the universally quantified subject DP contains a determiner which should also be interpreted as a choice function variable, according to the analysis being proposed. Intuitively, what is going on with universally quantified DPs in St'át'imcets is that a choice function picks out a set of individuals (in this case, men), and then this set is quantified over. (75) therefore means that for every individual who belongs to the set of men which some choice function picks out from the set of sets of men, that individual loves the woman which another choice function picks out from the set of women.

A second pass at the meaning of (75) is given in (77).

(77) $\exists f \exists g$ [CH(f) & CH(g) & $\forall x$ [x $\in$ f({X $\mid$ men(X)})
         $\rightarrow$ x loves g(woman)]]

However, Kai von Fintel (p.c.) points out that the truth conditions of (77) are too weak; the sentence is predicted to be true whenever there is a set of men, all of whom love the woman picked out by the choice function g. For example, if there are 20 men, the sentence is incorrectly predicted to be true if there is some set of 10 men, all of whom love the relevant woman, while the other 10 men do not love her.

For now, I must leave unsolved the question of the semantics of determiners which combine with universal quantifiers. The ultimate goal is that the analysis of plural determiners in St'át'imcets is uniform, and therefore that the determiner in (75) introduces a choice function variable just as all other non-polarity determiners do.[32]

---

[32]   One possibility which could be explored is to exploit the fact that for some (as yet unexplained) reason, plural non-polarity determiners have a (cancelable) implicature of maximality. Thus, if there are five puppies in the room, utterance of (i) is taken to mean that all five puppies are sleeping.

(i)   wa7   guy't   [i   sqexqéqx7-a]
        PROG   sleep   [DET dog(DIMIN)(PL)-DET]
        'Puppies are sleeping.'

(Unlike with an English definite, the maximality in (i) can be canceled, for example in a context where it is only relevant that there exist some sleeping puppies).

If a plural determiner by implicature picks out the maximal set available, then the choice function f in (77) will not pick out a subset of 10 men from a total set of 20, but will pick out all 20. The universal determiner will then force all of those 20 men to love the relevant woman.

6.3. *Predictions about Bound Variable Pronouns*

The analysis being developed here predicts that when there is a pronoun inside the object DP which is interpreted as a bound variable, a subject-wide-scope distributive reading will be licensed. To see that this is what is predicted, consider the sentence in (78).

(78)   [tákem i   sqáyqeycw-a]   cwil'-en-ítas   [ti
        [all   DET.PL   man(PL)-DET]   look.for-TR-3PL.ERG [DET

        kukw7-**í**-ha]
        grandmother-**3PL.POSS**-DET]

        'All (the) men looked for a grandmother of theirs.'

Under one reading of (78), the possessive pronoun inside the object is not interpreted as a bound variable. This reading is represented in (79) (setting aside the issue raised above about universally quantified DPs). The variable y must be given a value by the context, and therefore the choice function g always returns the same value (a single woman). This is the non-distributive reading.

(79)   ∃f [CH(f) & ∀x [man (x) → x looked for f(**y**'s grandmother)]]

On the other hand, if the possessive pronoun in (78) is interpreted as a variable bound by *tákem i sqáyqeycwa* 'all the men', the meaning is as represented in (80).

(80)   ∃f [CH(f) & ∀x [man (x) → x looked for f(**x**'s grandmother)]]

(80) says that there is a choice function f, such that every man looked for the grandmother of his that f picks out. Since each man can have a different set of grandmothers, the choice function f can return different values for each man, giving a distributive interpretation where each man looked for his own grandmother.

The prediction that bound variable pronouns will license distributive readings is upheld, as shown in (81). For comparison, a non-bound-variable pronoun version is given in (82).[33]

---

[33]   A note is in order regarding number morphology. When variable binding is not involved, plural morphology is optional for third person pronouns in St'át'imcets. This is shown in (i), where possessive morphology can be either singular or plural:

(i)   nilh [ta   tsitcw-**s/i**-(h)a   s-Rosa   múta7 s-Tanya]
        FOC   [DET   house-**3SG.POSS/3PL.POSS**-DET   NOM-Rosa   and   NOM-Tanya]
        'That's Rosa and Tanya's house.'

(81) [tákem i   sqáyqeycw-a] cwil'-en-ítas   [ti
      [all   DET.PL man(PL)-DET] look.for-TR-3PL.ERG [DET

      kukw7-**í**-ha]
      grandmother-**3PL.POSS**-DET]

      'All (the) men looked for a grandmother of theirs.'

      <u>Accepted</u> in context: Each man looked for his own grandmother.

      Consultant's comment: "That's not saying they're brothers, it's just saying all the men were looking for their grandmothers. So that's more than one grandmother, if it says *their* grandmother."

(82) [tákem i   sqáyqeycw-a] cwil'-en-ítas   [ti
      [all   DET.PL man(PL)-DET] look.for-TR-3PL.ERG [DET

      naplít-a]
      priest-DET]

      'All (the) men looked for a priest.'

      <u>Rejected</u> in context: Each man looked for a different priest.

      Consultant's comment: "There must be just one priest."

Further evidence that distributive readings are licensed by bound variables is given in the minimal pair in (83). (83a) does not contain a bound variable pronoun, and (83b) does.

(83) a. [tákem i   smelhmúlhats-a] wa7   xwey-s-twítas
        [all   DET.PL woman(PL)-DET] PROG love-CAUS-3PL.ERG

        [i   kalhélhs-a   maw]
        [DET.PL three(ANIM)-DET   cat]

        'All (the) ladies like three kittens.'

        <u>Rejected</u> in context: Each woman loves three different kittens.

        Consultant's comment: "Sounds like they ALL like the three kittens."

With bound variable pronouns, there is some speaker variation with respect to plurality marking on both the determiner and the pronoun. The most common pattern is for a singular determiner to co-occur with a plural pronoun, as in (81). It is not clear at this stage whether variations in morphological agreement are significant.

b. [tákem   i   smelhmúlhats-a]   wa7   xwey-s-twítas
    [all   DET.PL woman(PL)-DET]   PROG   love-CAUS-3PL.ERG

    [i   kalhélhs-a   máw-**i**]
    [DET.PL   three(ANIM)-DET   cat-**3PL.POSS**]

    'All (the) ladies like their three kittens.'

    <u>Accepted</u> in context: Each woman loves three different kittens.

    Consultant's comment: "Could be three different ones for each
    lady. It's THEIRS."

Non-possessive, null argument pronouns which are bound by a quantified
phrase also license a subject-wide-scope distributive interpretation, as shown
in (84).

(84)   wa7   xwey-s-twítas   [i   nkekalhás-a
       PROG   love-CAUS-3PL.ERG   [DET.PL   three(HUM)-DET

       smelhmém'lhats   i   zwat-en-**ítas**-a]   [i
       woman(DIMIN)(PL)   DET.PL   know-TR-**3PL.ERG**-DET]   [DET.PL

       n7án'was-a   twéw'w'et]
       two(HUM)-DET   boy]

       'Two boys love three girls that they know.'

       <u>Accepted</u> in context: Two boys each love three different girls.

       Consultant's comment: "It can be six girls. It's their own three
       girls."

The fact that distributive readings are possible in (81), (83b), and (84) is
entirely expected under not only the current analysis, but also those of
Kratzer (1998), Reinhart (1997), and Winter (1997). What is surprising
for a Reinhart/Winter approach is the contrast between these examples
and the cases without bound variables where there is no distributive reading
(cf. (82), (83a), and section 4.2 above).

What about inverse distributive readings? The predictions of my analysis
are outlined in (85).

(85)   Inverse distributive readings should be:
       i.   possible, if at all, only in the presence of a bound variable
            pronoun inside the subject DP;
       ii. weak crossover violations.[34]

---

[34]   Thanks to Irene Heim (p.c.) for pointing this out about weak crossover.

The reason why inverse distributive readings should give rise to weak crossover violations is illustrated in (86). In order for the inverse reading to be available, the object DP must raise to a position higher than the subject DP, as in (86b). A St'át'imcets version of the sentence would receive the representation in (86c). This gives an inverse distributive reading, due to the bound pronoun inside the subject, but violates weak crossover.

(86) a. A cat of hers$_i$ bit [two women]$_i$.
     b. [two women]$_i$ [a cat of hers$_i$ bit t$_i$]   (*WCO violation*)
     c. ∃f ∃g [CH(f) & CH(g) & (f(two women))^D λx. bit (x) (g(cat of x's))]]

It is independently known that St'át'imcets displays weak crossover effects, as shown in (87) (Henry Davis, p.c.). Therefore, we should expect inverse distributive readings to be rejected.

(87) a. [ti   skúza7-s-a]   wa7   áts'x-en-as   [ti
         [DET offspring-3SG.POSS-DET] PROG see-TR-3ERG   [DET

         sqáycw-a]
         man-DET]

         'His$_i$ child saw [a man]$_{i/k}$.'

     b. [i   sqatsez7-í-ha]   ats'x-en-ítas   [tákem i
         [DET father-3PL.POSS-DET]   see-TR-3PL.ERG   [all   DET.PL

         twéw'w'et-a]
         boy-DET]

         'Their$_i$ father saw [all (the) boys]$_{*i/k}$.'

Judgments on inverse distributive readings are somewhat variable. Some speakers reject them, as shown in (88). The sentence contains a possessive pronoun inside the subject, but cannot be construed distributively.

(88) t'áol-aon-as   [i   n7án'was-a   smúlhats] [ta
      bite-TR-3ERG [DET two(HUM)-DET woman]   [DET

      máw-i-ha]
      cat-3PL.POSS-DET]

      'Their cat bit two women.'

      i. <u>Accepted</u> in context: One cat that two women own bit those two women.
      ii. <u>Rejected</u> in context: For each of two women, that woman's cat bit her.

Some speakers, on some occasions, accept inverse distributive readings. In (89b), the presence of a bound variable pronoun inside the subject DP licenses distributivity.

(89) a. wa7   s-tálh-lec   [ta   sk'úk'wm'it-a] [l-ta
         PROG   STA-stand-INTR   [DET   child(PL)-DET]   [on-DET

         nklús-ts-a   i   n7án'was-a   smelhmúlhats]
         front-3SG.POSS-DET   DET.PL two(HUM)-DET   woman(PL)]

         'A child is standing in front of two women.'

   i.   <u>Accepted</u> in context: There is one child, who is standing in front of two women.
   ii. <u>Rejected</u> in context: There are two women, and a (different) child is standing in front of each woman.

   Consultant's comment: "The picture I see is that the two ladies are standing beside each other and the little girl is standing in front of them."

   b. wa7   s-tálh-lec   [ta   skúza7-**s**-a]   [l-ta
        PROG   STA-stand-INTR   [DET   offspring-**3SG.POSS**-DET]   [on-DET

        nklús-ts-a   i   n7án'was-a   skícza7]
        front-3SG.POSS-DET   DET.PL two(HUM)-DET   mother]

        'Her child is standing in front of two mothers.'

   i.   <u>Pragmatically odd</u> in context: There is one child, who is standing in front of her two mothers.[35]
   ii. <u>Accepted</u> in context: There are two mothers, and her own child is standing in front of each mother.

   Consultant's comment: "Means there's two mothers there and their own girl is standing in front of them. There are two little girls."

In spite of the variation observed with judgments about inverse distributive readings, we can tentatively say that the data support the proposed analysis. Prediction (85i) is supported since it is only bound variable pronouns which ever license inverse readings.[36] Prediction (85ii) is at least not definitively contradicted by the data, since inverse readings are gen-

---

[35]   The sentence is acceptable on this reading in a situation where the child has a birth mother as well as an adoptive mother.
[36]   A Reinhart-style analysis, for example, would not be able to account for the contrast between (89a) and (89b).

erally bad. (Examples like (89b) are still a little puzzling, but note that (89b) pragmatically almost forces an inverse reading.)

The data presented in this section have shown that bound variable pronouns license distributive readings in sentence types which otherwise disallow them. The fact that bound pronouns have an effect is straight-forwardly predicted by the analysis being proposed, whereby St'át'imcets non-polarity DPs introduce choice function variables which are existentially bound with widest scope.

Even though the current analysis differs from that of Kratzer (1998) in having the choice function variables existentially bound rather than remaining free, the successful predictions of the analysis are inherited directly from Kratzer's treatment of choice functions. A free existential closure approach (such as in Reinhart 1997 or Winter 1997) can easily account for the bound variable sentences, but not for the contrast between these and sentences which lack bound variables.

6.4. *Predictions about Indefinites in Island Contexts*

The analysis proposed here inherits another empirical result from Kratzer's (1998) approach to wide scope indefinites, to do with sentences containing islands. Both Kratzer's and my own approach predict that choice function DPs should always be interpreted with widest scope, unless a bound variable pronoun is present. This prediction is upheld.

(90) shows that in an island context without a bound variable, only widest scope is possible for a non-polarity indefinite.

(90)   [tákem   i   wa7   tsunám'-cal]   cuz'   wa7
       [all   DET.PL PROG teach-INTR]   going.to   PROG

       qwenúxw-alhts'a7   lh-káw-lec-as   [ta   twíw't-a]
       sick-inside   HYP-far-INTR-3CONJ   [DET   child-DET]

       'Every teacher will be sad if a child quits.'

   i.   <u>Accepted</u> in context: There is one child, who every teacher
        doesn't want to leave.
   ii. <u>Rejected</u> in context: For each teacher, there's one child who
        s/he doesn't want to leave.
   iii. <u>Rejected</u> in context: Every teacher will be sad if any child
        leaves.

   √ *widest*
   * *intermediate*
   * *narrowest*

(91) shows that a bound variable licenses the intermediate reading.

(91) [tákem i   wa7   tsunám'-cal] cuz'   wa7
      [all   DET.PL PROG teach-INTR]   going.to PROG

      qwenúxw-alhts'a7 lh-káw-lec-as   [ta   twíw't-a
      sick-inside   HYP-far-INTR-3CONJ [DET   child-DET

      ti   wa7   núk'w7-an-**as**]
      DET   PROG help-TR-**3ERG**]

      'Every teacher will be sad if a child s/he helped quits.'

      i.   <u>Accepted</u> in context: There is one child who somebody
           helped, and every teacher will be sad if that child leaves.
      ii. <u>Accepted</u> in context: For each teacher, there's a child s/he
           helped, and s/he will be sad if that child leaves.
      iii. <u>Rejected</u> in context: Every teacher will be sad if any child
           leaves.

      √ *widest*   (non-bound variable reading of pronoun)
      √ *intermediate* (bound variable reading of pronoun)
       * *narrowest*

Another minimal pair is given in (92) vs. (93).

(92) [tákem i   kúkwpi7-a] xat'-min'-ítas
      [all   DET.PL chief-DET]   hard-APPL-3PL.ERG

      kw-a-s   zwat-en-ítas   kánem-as   lh-as
      DET-PROG-NOM know-TR-3PL.ERG why-3CONJ   HYP-3CONJ

      úlhcw-s-tum   [ta   n-snúk'w7-a]
      enter-CAUS-PASS [DET   1SG.POSS-friend-DET]

      'All (the) chiefs want to know why a friend of mine was
      arrested.'

      i.   <u>Accepted</u> in context: There is a friend of mine, about whom
           all the chiefs wonder why he was arrested.
      ii. <u>Rejected</u> in context: Each of the chiefs wonders about a
           (different) friend of mine why he was arrested.

      √ *widest*
       * *intermediate*

(93)   [tákem   i   kúkwpi7-a]   xat'-min'-ítas
       [all   DET.PL   chief-DET]   hard-APPL-3PL.ERG

       kw-a-s   zwat-en-ítas   kánem-as   lh-as
       DET-PROG-NOM   know-TR-3PL.ERG   why-3CONJ   HYP-3CONJ

       úlhcw-s-tum   [tu   wa7   zwat-en-ítas   n-snúk'wa7]
       enter-CAUS-PASS   [DET   PROG   know-TR-3PL.ERG   1SG.POS-friend]

       'All (the) chiefs want to know why a friend of mine that they
       know was arrested.'

       i.   Accepted in context: There is a friend of mine who all the
            chiefs know, about whom all the chiefs wonder why he was
            arrested.
       ii. Accepted in context: Each of the chiefs wonders about a
            (different) friend of mine that s/he knows why that friend
            of mine was arrested.

       √ *widest*   (non-bound variable reading of pronoun)
       √ *intermediate*   (bound variable reading of pronoun)

A striking fact about the data in (90)–(93), and other similar examples, is
that no suggestions on my part were required to obtain the contrast. The
elicitation method was as follows: the sentence without the bound variable
pronoun was presented first. When consultants were asked about the
possibility of an intermediate reading, they in all cases spontaneously
volunteered a sentence containing a bound variable. Thus, (91) and (93)
were volunteered corrections of (90) and (92) respectively, given as ways
to obtain the intermediate reading.

   None of the sentences involving choice-function determiners allow
narrowest-scope readings. Narrowest-scope readings are achieved by the use
of the polarity determiner *ku*, which I claim does *not* introduce a choice
function variable. Thus, observe the 'minimal triplet' in (94). (94c) shows
that the narrowest scope reading is achieved by the use of *ku*.

(94) a.   [tákem   i   wa7   tsunám'-cal]   cuz'   wa7
          [all   DET.PL   PROG   teach-INTR]   going.to   PROG

          qwenúxw-alhts'a7   lh-tsúkw-as   [ta   twíw't-a]
          sick-inside   HYP-stop-3CONJ   [DET   child-DET]

          'All (the) teachers will be sad if a young person finishes.'

          √ *widest*
          * *intermediate*
          * *narrowest*

b. [tákem   i   wa7   tsunám'-cal]   cuz'   wa7
   [all   DET.PL PROG teach-INTR]   going.to   PROG

   qwenúxw-alhts'a7   lh-tsúkw-as   [**ti   wa7**
   sick-inside   HYP-stop-3CONJ   [**DET PROG**

   s-xwez-*s*   twiw't]
   NOM-love-*3SG.POSS*   child]

   'All (the) teachers will be sad if a young person they like
   finishes.'

   √ *widest*
   √ *intermediate*
   * *narrowest*

c. [tákem   i   wa7   tsunám'-cal]   cuz'   wa7
   [all   DET.PL PROG teach-INTR]   going.to   PROG

   qwenúxw-alhts'a7   lh-tsúkw-as   [**ku   twiw't**]
   sick-inside   HYP-stop-3CONJ   [**DET child**]

   'All (the) teachers will be sad if a young person finishes.'

   * *widest*
   √ *narrowest*

   Consultant's comment, when asked whether (c) can be used if
   there's just one kid who all the teachers will be sad about: "No,
   you're referring to just ANY young person."

More research needs to be done into the properties of *ku*, since it is not
yet clear whether *ku* unambiguously forces narrowest scope, or merely
disallows widest scope. Investigation needs to take place into whether *ku*-
phrases can give rise to intermediate readings in cases where a higher
licenser is available (recall that *ku* requires a c-commanding licenser; see
section 3.1 above). Since the focus here is on the choice function deter-
miners, I set these issues aside for now.

    The data presented in this section have shown that in sentences involving
islands, intermediate interpretations are available if and only if a bound
variable pronoun is present. This result is correctly predicted by the current
analysis, and is also correctly predicted by Kratzer's approach to choice
functions. Based on the data so far, it seems as if we could have adopted
Kratzer's analysis wholesale to account for St'át'imcets. The next section
will outline the reasons why I have not taken this route.

7. WHY EXISTENTIAL CLOSURE?

The analysis proposed here has choice function variables existentially closed at the highest level. It borrows existential closure from Reinhart and Winter, but unlike Reinhart and Winter, stipulates that existential closure takes place only at the highest level. Due to this restriction on existential closure, the empirical predictions of my analysis coincide almost completely with those of Kratzer (1998), for whom choice function variables remain free and receive a value from the context. The purpose of this section is to present arguments that Kratzer's analysis as it stands is unable to account for St'át'imcets, and that existential closure seems to be preferable to leaving the choice function variables free.

7.1. *St'át'imcets Choice Function Indefinites Are Not 'Specific'*

There are two ways that I can see to interpret Kratzer's claim that choice function variables remain free.[37] The usual way of understanding free variables is that they are licit only if the common ground provides a value for them. In other words, free variables are presuppositional items; the speaker and the hearer must both be able to provide the same value for the variable, or else the utterance will not be felicitous.

On the other hand, this may not be what Kratzer intends. From her discussion, and based on the explicit comparison she provides with Fodor and Sag's 'specific indefinites', it seems that her view is that only the *speaker* needs to be able to provide a value for the choice function variable. The hearer may not be able to provide a value, but will realize that the speaker has one in mind.

Neither of these two ways of interpreting the free-variable analysis yields correct results for St'át'imcets. The first option, that non-polarity DPs introduce a free variable over choice functions whose value is given by the common ground, amounts to saying that these DPs are definite, which I have argued against in detail in section 5 above. (See also Demirdache and Matthewson 1995, Matthewson (in press), Demirdache (to appear) for arguments that St'át'imcets DPs which do not contain strong quantifiers do not induce any presuppositions.)

This leaves only the second possibility for the free variable theory, namely that non-polarity DPs are 'specific' in the sense of the speaker needing to have a particular individual (or choice function) in mind when s/he utters the sentence. It is not easy to test such matters as what the speaker

---

[37] Thanks to Kai von Fintel and Irene Heim for discussion of this issue.

needs to have in mind. However, the context and mini-discourse in (95) seem to suggest that the DP *ta púkwa* 'a book' is not 'specific' in this sense.[38]

(95)   Context: Rose goes to the store and asks the salesperson for a copy of the book *False Crow*. The salesperson gives her a book in a bag, and Rose pays for it. When she gets home, she tells her daughter:

i. tecwp-kán   [ta   púkw-a]
   buy-1SG.SUBJ [DET   book-DET]

'I bought a book.'

When uttering (i), Rose thinks that the book she bought was *False Crow*. But when she opens the bag, she finds out that the salesperson made a mistake and she really bought a book by Ray Kinsella, not *False Crow*.

Was her statement in (i) wrong?

Consultant's comment: "No. I did buy a book, I paid for it."

Consultant's comments in other similar examples indicate that a sentence containing a DP such as *ta púkwa* is true just in case *any* book satisfies the conditions given by the rest of the sentence. I have not been able to find a case where it affects truth conditions *which* particular book satisfies the relevant conditions.

While these comments are only suggestive, the variant of Kratzer's analysis adopted in this paper seems empirically more correct than Kratzer's original version, at least for St'át'imcets. There is no evidence that St'át'imcets non-polarity DPs are either presuppositional or 'specific'.

8.   WHAT IS THE BEST THEORY OF CHOICE FUNCTIONS?

In this section I begin by discussing the extent to which the theories of Reinhart (1997) and Winter (1997), if applied as they stand to St'át'imcets, could account for the range of facts introduced above. We will see that both these approaches overgenerate distributive readings and intermediate readings, and that the absence of such readings cannot be a result of pragmatics or interference from other salient readings. In section 8.2, I argue that St'át'imcets provides overt support for Kratzer's claim that indefi-

---

[38]   For arguments that St'át'imcets DPs are also not 'specific' in the sense of Enç (1991) or Ludlow and Neale (1991), see Matthewson (in press).

nites are ambiguous between those which utilize choice functions and those which do not. In section 8.3, I speculate about the implications of my conclusions about St'át'imcets for a universal theory of wide-scope indefinites.

8.1. *Existential Closure at Any Level Does Not Work for St'át'imcets*

Recall that both Reinhart (1997) and Winter (1997) claim that choice function variables may freely be bound with widest, intermediate or narrow scope. These approaches, if applied as they stand to St'át'imcets, could not account for the restriction to wide scope of non-polarity DPs, and could not explain the contrast between wide-scope indefinites and polarity indefinites. Furthermore, these theories as they stand would incorrectly predict that distributive readings should be available in transitive sentences. For example, a 'free existential closure' analysis cannot avoid generating a representation essentially equivalent to (97) for the sentence in (96).

(96) wa7 paqw-al'íkst-min-as [ta púkw-a] [i
      PROG watch-leaf-APPL-3ERG [DET book-DET] [DET.PL

      nkekalhás-a sqáyqeycw]
      three(HUM)-DET man(PL)]

      'Three men are reading a book.'

(97) $\exists f [CH(f) \& (f(\text{three men}))^D (\lambda x.\exists g(CH(g) \& \text{read }(g(\text{book})) (x))]$
                        (= subject-wide-scope distributive reading)

Reinhart's and Winter's analyses, if applied blindly to St'át'imcets, would also fail to account for the fact that bound variables are crucial for licensing distributive readings and intermediate readings. For example, a free existential closure system incorrectly predicts that there is no difference in St'át'imcets between (96) and (98) with respect to the availability of a distributive reading:

(98) wa7 paqw-al'íkst-min-as [ta púkw-**i**-ha]
      PROG watch-leaf-APPL-3ERG [DET book-**3PL.POSS**-DET]

      [i nkekalhás-a sqáyqeycw]
      [DET.PL three(HUM)-DET man(PL)]

      'Three men are reading a book of theirs.'

There are a couple of options for advocates of a Reinhart/Winter approach. One is to say that St'át'imcets indefinites are not interpreted using the

same type of choice function mechanism as English indefinites. While in English, choice function variables can be existentially bound at any level, in St'át'imcets they cannot. Another is to say that the apparent lack of certain readings in St'át'imcets is due to the same pragmatic factors which are claimed to be relevant in English for intermediate readings in non-bound-variable-containing island sentences. The next subsection examines this possibility.

8.1.1. *It Is Not Pragmatics Which Rules out Non-Widest-Scope Readings*

Recall that Reinhart and Winter predict that intermediate readings are in principle available for any noun phrases which are interpreted with the help of choice functions. They claim that the apparent absence of inter-mediate readings in the traditional Fodor and Sag examples is due to pragmatics, or to some interference effect, based on the availability of alter-native, perhaps more plausible, readings for the sentences. According to Reinhart (1997, 347), "[t]he more available all three readings are, the harder it is to identify just the intermediate one."

One obvious possibility which should be checked out is whether this same account could apply to St'át'imcets. However, whatever one's view of the English data, this would be quite implausible for St'át'imcets. The reason is that it is not just complex cases involving intermediate readings that we are dealing with in this language. We are dealing with the absence of narrow readings for indefinites in ordinary transitive sentences such as (33), repeated here:

(33) # [tákem i   sqáyqeycw-a l-ti   tsítcw-a]
        [all   DET.PL   man(PL)-DET   in-DET   house-DET]

        melyíh-s-as   [ti   emh-ál'qwem'-a syáqtsa7]
        marry-CAUS-3ERG [DET good-appear-DET woman]

        'All (the) men in our building married a beautiful woman.'

        Consultant's comment: "Doesn't make sense. How can they all marry one woman?"

This sentence is expressly designed to make the narrow-scope interpreta-tion of the indefinite pragmatically salient and the wide-scope interpretation pragmatically incoherent. Yet the narrow-scope interpretation is disallowed. It cannot possibly be pragmatics which is ruling out the distributive reading here.

With respect to island sentences, we also find evidence that pragmatics is not the reason for the absence of intermediate readings. When discussing

sentences where it is easy to detect the intermediate reading, Reinhart and Winter cite examples like (99a), and Kai von Fintel (lecture notes) gives (99b,c). The characteristic feature of this sentence type is that the narrowest-scope reading is trivial. Therefore, this reading is non-salient, and the intermediate reading becomes easier to get.

(99) a. Most linguists have looked at every analysis that solves some problem.
b. Most carpenters admire every table made out of some material.
c. Most literature professors dislike every novel that some author wrote.

When sentences following this pattern are translated into St'át'imcets, intermediate readings are not available:

(100) [tákem i lalíl'tem-a] wa7 ama-s-twítas
[all DET.PL parent-DET] PROG good-CAUS-3PL.ERG

[tákem i títsh-a wa7 tsunam'-en-ítas ti
[all DET.PL teacher-DET PROG teach-TR-3PL.ERG DET

twíw't-a]
child-DET]

'All (the) parents like all (the) teachers who teach a child.'

i. Accepted in context: There is one problem child, and all the parents like all the teachers who can manage to teach that child.

ii. Rejected in context: For each parent, there's a different problem child that s/he knows of, and s/he likes all the teachers who can manage to teach that child.

iii. Rejected in context: All the parents like any teachers (who teach any children).

√ *widest*
* *intermediate*
* *narrowest*

Consultant's comment, when asked about intermediate reading scenario: "No, that's all the same, the same kid."

Results such as these show that in St'át'imcets, the relationship between bound variables and narrower-than-widest-scope interpretations for indefinites is real. It is not an artifact of some pragmatic or perceptual difficulty about intermediate readings.

8.2. *Overt Evidence for Kratzer's Ambiguity*

Empirically, the analysis I have proposed here is closer to that of Kratzer (1998) than to that of either Reinhart (1997) or Winter (1997). As such, this paper can be regarded as providing crosslinguistic empirical support for the broad outline of Kratzer's version of choice functions.

In this section I will argue that the current analysis is also conceptually very similar to Kratzer's. In particular, it supports the ambiguity which Kratzer proposes between indefinites which utilize choice functions and those which do not.

Recall that Kratzer says choice functions are only used for a subset of indefinite interpretations, namely those with 'widest scope' effects (Fodor and Sag's 'specifics'). Other indefinites are ordinary generalized quantifiers and must obey movement constraints. Reinhart (1997) also tentatively suggests that indefinites may be ambiguous between choice function and generalized quantifier interpretations. For Reinhart, however, unlike for Kratzer, the ambiguity is not semantically necessary (all interpretations can be achieved using choice functions), but is a result of her particular syntactic analysis of the internal structure of DPs. Winter (1997) argues that all simple indefinites are interpreted using choice functions; there is no ambiguity.

St'át'imcets can shed some light on this debate. We have seen that all the St'át'imcets facts can be accounted for if we assume that only *some* indefinites are interpreted using choice functions, and that choice function indefinites display widest scope effects. In other words, St'át'imcets overtly encodes exactly the ambiguity which Kratzer proposes, between indefinites which utilize choice functions and those which do not.

The distinction encoded by St'át'imcets determiners is more difficult to derive in either Reinhart's or Winter's theory. For both these authors, choice function indefinites can receive any scopal interpretation. Neither theory admits an ambiguity of the type which is useful for St'át'imcets; the distinction between polarity and non-polarity determiners encodes a difference which is in principle absent from both Reinhart's and Winter's approaches as they stand.

8.3. *Towards a Universal Theory of Choice Functions*

Having presented an analysis of St'át'imcets indefinite determiners which crucially involves choice functions, I am now faced with the question of what St'át'imcets tells us about the nature of choice functions crosslinguistically. This question cannot be fully investigated here, but I can offer some speculations.

There are two (related but separate) issues: what constitutes the most elegant theory of crosslinguistic variation, and which analysis has the greatest empirical success. The optimal situation with respect to cross-linguistic variation would be if it were non-existent. Therefore, the best theory will be one which can capture the facts of both English and St'át'imcets while requiring minimal statements about variation.

I should begin by making clear that I take no strong position with respect to which theory does best at accounting for English. As noted in section 2, all available theories are capable, with varying degrees of elegance, of accounting for the majority of English data, and I shall assume basic adequacy in that regard.

First let us consider what would follow if Reinhart or Winter were right about the correct analysis of English. We have seen that Reinhart's and Winter's analyses cannot extend straightforwardly to St'át'imcets. There is nothing inherent to the 'free existential closure' approach which allows one to even state the behavior of St'át'imcets indefinite determiners. We would probably have to say that there can be different possibilities for choice function behavior from language to language, such that in some languages, existential closure over choice function variables can take place at any level, while in other languages, it is restricted in its application. This is certainly possible, but it makes for a relatively unappealing parametric situation, and eliminates the very aspect of the Reinhart/Winter approach which is most conceptually appealing: the lack of a need to stipulate where the existential closure takes place.

Winter's analysis may run into an additional problem with St'át'imcets polarity indefinites. Recall that for Winter, *all* simple indefinites are interpreted using choice functions. Recall also that polarity indefinites are never interpreted with widest scope. If polarity indefinites are interpreted using choice functions, we cannot simply say that St'át'imcets differs from English in possessing a restriction on existential closure over choice functions. Rather, the restriction on existential closure must hold only for *some* indefinites, a complication of the theory. An alternative would be to reject the claim that all simple indefinites necessarily use choice functions. Reinhart, for example, could say that since polarity indefinites are for independent reasons (their requirement for a c-commanding licenser) unable to be interpreted with widest scope, they utilize the other available option, a generalized quantifier interpretation.[39]

---

[39] Further research is necessary into the precise properties of polarity indefinites. If these indefinites are merely restricted to being inside the c-command domain of their licenser, an approach could be explored whereby all indefinites use choice functions, and existential closure over choice functions in St'át'imcets must be as high as *possible*, rather than

What about if Kratzer's analysis is correct for English? We would have the following situation. In English, there is a systematic ambiguity in the interpretation of indefinites, between choice function indefinites and generalized quantifiers. In St'át'imcets, the English ambiguity is overtly encoded; determiners unambiguously specify whether choice functions are used or not. This minimal and plausible variation gives rise to the surface result that in English, transitive sentences containing indefinites allow distributive readings, while in St'át'imcets, such readings are disallowed with non-polarity determiners.

However, if Kratzer's analysis is adopted for English, and my analysis is correct for St'át'imcets, there is an unfortunate crosslinguistic difference in the choice function mechanism, namely that in some languages, choice function variables can remain free (receiving a 'specific' interpretation), while in others, they are existentially bound at the highest level.

This undesirable situation could be eliminated if it were the case that in *all* languages, choice functions are existentially closed with widest scope. This amounts to extending my analysis of St'át'imcets to English and beyond, claiming that no language possesses 'specific' indefinites in Kratzer's sense. If this is correct, we have an elegant theory of crosslinguistic variation in the choice function mechanism, namely that variation is non-existent.

Conceptually, there is an objection to this approach, namely that the restriction of existential closure to the highest level does not follow from other principles of the grammar, but must simply be stipulated. Perhaps it would be better to adopt Kratzer's free variable approach for all languages, rather than postulating wide-scope existential closure.

Although the empirical differences between a widest-scope existential closure approach and a free variable approach are subtle, I believe that the choice between the two is an empirical issue. In section 7.1 above, I showed that choice function indefinites in St'át'imcets are neither presuppositional, nor 'specific' in the sense of the speaker having to have a particular value for the choice function in mind. Based on this evidence, and at the current stage of research, I am unavoidably led to the widest-scope stipulation for St'át'imcets.[40] If the same facts hold for English,

---

necessarily at the highest level. On the other hand, if polarity indefinites are additionally restricted to obeying syntactic islands, this suggests that not all indefinites use choice functions, contrary to Winter's analysis. It appears that the latter situation holds, but the relevant data involve very subtle judgments, and further work is necessary.

[40] Roger Schwarzschild (p.c.) suggests that there is no empirical difference between widest-scope existential closure and leaving the variables free. This is because for Schwarzschild, variables which receive a value from the context do not need to be assigned a value in the

then the widest-scope stipulation becomes a universal restriction on the choice function mechanism. It is obviously my hope that future research will uncover a deeper reason for the restriction.[41]

9. CONCLUSION

The main claim of this paper is that we need, at least for St'át'imcets and possibly more generally, a theory of wide-scope indefinites which involves widest-scope choice functions. I have shown that a range of wide-scope effects, including the absence of distributive readings, cannot be accounted for either by movement or by a theory of choice functions which allows existential closure at any level. I have argued that a Kratzer-style theory of choice functions succeeds in accounting not only for the wide-scope effects and the absence of distributive readings, but also for the appearance of narrower-than-widest interpretations when bound variable pronouns are present. I have observed that St'át'imcets overtly encodes the ambiguity which Kratzer proposes for English indefinites, between those which are interpreted using choice functions and those which are not.

The value of examining a language other than English is crucially illustrated here. In English, the properties of choice functions are partially obscured by the possibility of an alternative interpretation method for indefinites (as existential quantifiers). Since a narrow-scope choice function interpretation and a narrow-scope existential quantifier interpretation are semantically indistinguishable, empirical differences between Reinhart's and Kratzer's approaches surface only in complex constructions involving intermediate readings out of islands. In St'át'imcets, the difference between

---

speaker's mind. If this view of free variables turned out to be correct, then I would happily abandon widest-scope existential closure in favor of free variables.

[41]   Another interesting topic for future research has to do with implicit arguments for function variables (thanks to Irene Heim, Danny Fox, and Henry Davis for discussion of this point). Kratzer utilizes implicit arguments in cases where although there is no overt bound pronoun, intermediate readings are still possible (see for example (99a–c) above). I have shown that in St'át'imcets, an *overt* bound pronoun is required for intermediate readings with non-polarity determiners. This suggests that St'át'imcets non-polarity indefinites lack implicit variables. Apart from the question of why there might be this difference between the two languages, there is a possible empirical consequence. If implicit arguments are absent in St'át'imcets, we seem to predict that the St'át'imcets version of (i) does not allow an interpretation where two professors reviewed the same set of books, but each singled out a different book to reward students for having read (see Kratzer 1998, 167–170 for discussion of how implicit arguments are used in the analysis of (i)).

(i)   Every professor$_i$ rewarded every student who read some book she$_i$ had reviewed for the New York Times. (Kratzer 1998, 166)

I have not yet begun to investigate this prediction or the conceptual issues which arise.

choice function indefinites and non-choice function indefinites is overtly encoded in the determiner system. Consequently, choice functions display themselves in simple transitive sentences. We have seen that they behave almost exactly as Kratzer predicts, thus providing strong crosslinguistic support for Kratzer's claim that choice functions give rise to wide-scope effects.

APPENDIX

1. Abbreviations

ANIM = animal, APPL = applicative, CAUS = causative, CONJ = conjunctive, DEIC = deictic, DET = determiner, DIMIN = diminuative, ERG = ergative, HUM = human, HYP = hypothetical, INTR = intransitive, NEG = negation, NOM = nominalizer, OBJ = object, PASS = passive, PL = plural, POS(S) = possessive, PROG = progressive, QUOT = quotative, RED = reduplication, SG = singular, STA = stative, SUB(J) = subject, TR = transitive, YNQ = yes-no question.

2. Key to St'át'imcets orthography (van Eijk and Williams 1981)

Orthography	Phonemic script	Orthography	Phonemic script	Orthography	Phonemic script
p	p	k'	ḱ	gw	ʕʷ
p	ṗ	kw	kʷ	g'w	ʕ'ʷ
m	m	k'w	ḱʷ	h	h
m'	ṁ	c	x	w	w
t	t	cw	xʷ	w'	ẃ
ts	č	q	q	y	y
ts'	c̓	q'	q̇	y'	ẏ
s	š	qw	qʷ	z	z
n	n	q'w	q̇ʷ	z'	ż
n'	ṅ	x	x̱	7	ʔ
t'	ƛ̓	xw	x̱ʷ	a	a
lh	ɬ	r	γ	e	ə
l	l	r'	γ'	i	i
l'	ì	g	ʕ	u	u
k	k	g'	ʕ'	v	ʌ

REFERENCES

Abusch, D.: 1994, 'The Scope of Indefinites', Natural Language Semantics **2**(2), 83–135.
Baker, M.: 1991, 'On Some Subject-Object Non-Asymmetries in Mohawk', *Natural Language and Linguistic Theory* **9**, 537–576.
Baker, M.: 1996, *The Polysynthesis Parameter*, Oxford University Press, New York.
Beghelli, F., D. Ben-Shalom and A. Szabolcsi: 1996, 'Variation, Distributivity and the Illusion of Branching', in A. Szabolcsi (ed.), *Ways of Scope Taking*, Kluwer, Dordrecht.
Bittner, M.: 1994, *Case, Scope and Binding*, Kluwer, Dordrecht.

Chung, S., W. Ladusaw, and J. McCloskey: 1994, 'Sluicing and Logical Form', *Natural Language Semantics* **3**(3), 239–282.

Davis, H.: 1993, 'A Configurational Pronominal Argument Language', *Proceedings of WECOL*, University of Washington, Seattle.

Davis, H.: 1997a, 'Turning the Pronominal Argument Hypothesis on its Head', paper presented at the 2nd Workshop on Structure and Constituency in Native American Languages, University of Manitoba.

Davis, H.: 1997b, 'Word Order and Scrambling in St'át'imcets', paper presented at the 4th Annual Victoria Salish Morpho-Syntax Workshop, University of Victoria.

Davis, H. and H. Demirdache: in prep., 'VOS and VSO', to appear in A. Carnie and E. Guilefoyle (eds.), *VSO Languages*.

Demirdache, H.: 1997a, 'Condition C', in H. Bennis, P. Pica, and J. Rooryck (eds.), *Atomism and Binding*, Foris, Dordrecht.

Demirdache, H.: 1997b, 'On Descriptions in (Lillooet) Salish', paper presented at the Colloque de Syntaxe et de Sémantique de Paris.

Demirdache, H.: to appear, 'On the Temporal Location of Predication Times: The Role of Determiners in St'át'imcets (Lillooet Salish)', *Proceedings of WCCFL 16*, University of Washington.

Demirdache, H.: in prep., 'On Narrow Scope Indefinites', ms., University of British Columbia.

Demirdache, H. and L. Matthewson: 1995, 'Quantifier Raising and Topic-Focus in St'át'imcets', paper presented at the Linguistic Society of America, New Orleans.

Demirdache, H. and L. Matthewson: 1997, 'The Syntax and Semantics of Distributivity in St'át'imcets', paper presented at the 2nd Workshop on Structure and Constituency in Native American Languages, University of Manitoba.

Demirdache, H. and L. Matthewson: in prep., 'On Distributivity: Evidence from St'át'imcets (Lillooet Salish)', to appear in S. Allen, R.-M. Déchaine, C. Reinholtz, and L. Saxon (eds.), *Arguments and Adjuncts*.

Demirdache, H., D. Gardiner, P. Jacobs, and L. Matthewson: 1994, 'The Case for D-quantification in Salish: 'All' in St'át'imcets, Squamish and Secwepemctsín', *Papers for the 29th International Conference on Salish and Neighboring Languages*, pp. 145–203. Salish Kootenai College, Pablo, Montana.

Enç, M.: 1991, 'The Semantics of Specificity', *Linguistic Inquiry* **22**(1), 1–25.

Farkas, D.: 1981, 'Quantifier Scope and Syntactic Islands', *Proceedings of CLS 17*, pp. 59–66.

Fodor, J. D. and I. A. Sag: 1982, 'Referential and Quantificational Indefinites', *Linguistics and Philosophy* **5**(3), 355–398.

Gardiner, D., L. Matthewson, and H. Davis: 1993, 'A Preliminary Report on Word Order in Northern Interior Salish', *Papers for the 28th International Conference on Salish and Neighboring Languages*, pp. 139–157. University of Washington, Seattle.

Hawkins, J.: 1991, 'On (In)definite Articles: Implicatures and (Un)grammaticality Prediction', *Journal of Linguistics* **27**, 405–442.

Heim, I.: 1991, 'Artikel und Definitheit', in A. von Stechow and D. Wunderlich (eds.), *Semantik: Ein Internationales Handbuch der Zeitgenössischen Forschung*, pp. 487–535. Walter de Gruyter, Berlin.

Heim, I., H. Lasnik, and R. May: 1991, 'Reciprocity and Plurality', *Linguistic Inquiry* **22**(1), 63–101.

Jelinek, E.: 1984, 'Case and Configurationality', *Natural Language and Linguistic Theory* **2**, 39–76.

Jelinek, E.: 1995, 'Quantification in Straits Salish', in E. Bach, E. Jelinek, A. Kratzer, and B. Partee (eds.), *Quantification in Natural Languages*, pp. 487–540. Kluwer, Dordrecht.

Jelinek, E. and R. Demers: 1994, 'Predicates and Pronominal Arguments in Straits Salish', *Language* **70**, 697–736.

Kadmon, N.: 1987, *On Unique and Non-Unique Reference and Asymmetric Quantification*,

PhD dissertation, University of Massachusetts, Amherst. Published by Garland, New York, 1992.

King, J.: 1988, 'Are Indefinite Descriptions Ambiguous?', *Philosophical Studies* **53**, 417–440.

Kratzer, A.: 1998, 'Scope or Pseudo-Scope? Are There Wide-Scope Indefinites?', in S. Rothstein (ed.), *Events in Grammar*, pp. 163–196. Kluwer, Dordrecht.

Lin, J.-W.: 1996, *Polarity Licensing and Wh-phrase Quantification in Chinese*, PhD dissertation, University of Massachusetts, Amherst. Published by GLSA.

Link, G.: 1983, 'The Logical Analysis of Plurals and Mass Terms: A Lattice Theoretical Approach', in R. Bäuerle, C. Schwarze, and A. von Stechow (eds.), *Meaning, Use, and the Interpretation of Language*, pp. 302–323. de Gruyter, Berlin.

Ludlow, P. and S. Neale: 1991, 'Indefinite Descriptions: In Defence of Russell', *Linguistics and Philosophy* **14**(2), 171–202.

Matthewson, L.: in press, *Determiner Systems and Quantificational Strategies: Evidence from Salish*, Holland Academic Graphics, The Hague.

Matthewson, L. and H. Davis: 1995, 'The Structure of DP in St'át'imcets (Lillooet Salish)', *Papers for the 30th International Conference on Salish and Neighboring Languages*, pp. 54–68. University of Victoria, Victoria.

Matthewson, L., H. Davis, and D. Gardiner: 1993, 'Coreference in Northern Interior Salish', *Papers for the 28th International Conference on Salish and Neighboring Languages*, pp. 217–232. University of Washington, Seattle.

May, R.: 1985, *Logical Form*, MIT Press, Cambridge, MA.

Reinhart, T.: 1995, *Interface Strategies*, OTS working papers, TL-95-002.

Reinhart, T.: 1997, 'Quantifier Scope: How Labor is Divided Between QR and Choice Functions', *Linguistics and Philosophy* **20**, 335–397.

Roberts, C.: 1987, *Modal Subordination, Anaphora, and Distributivity*, PhD dissertation, University of Massachusetts, Amherst.

Romero, M.: 1997, 'Choice Functions for *Which*-Phrases and Wide Scope Indefinites', paper presented at MIT.

Ruys, E.: 1992, *The Scope of Indefinites*, PhD dissertation, Utrecht University. Published in the OTS Dissertation Series, Utrecht.

Ruys, E.: 1995, 'Weak Crossover as a Scope Phenomenon', ms., Utrecht University.

Scha, R.: 1981, 'Distributive, Collective and Cumulative Quantification', in J. Groenendijk, M. Stokhof, and T. M. V. Janssen (eds.), *Formal Methods in the Study of Language*, Mathematisch Centrum, Amsterdam.

van Eijk, J.: 1997, *The Lillooet Language: Phonology, Morphology, Syntax*, University of British Columbia Press, Vancouver.

van Eijk, J. and L. Williams: 1981, *Cúystwi Malh Ucwalmícwts*, Ts'zil Publishing House, Mount Currie.

van Geenhoven, V.: 1996, *Semantic Incorporation and Indefinite Descriptions*, SfS-Report-03-96, Tübingen.

Winter, Y.: 1997, 'Choice Functions and the Scopal Semantics of Indefinites', *Linguistics and Philosophy* **20**, 399–467.

Department of Linguistics and Philosophy
Massachusetts Institute of Technology
Room 245
Building E39
Cambridge, MA 02139
USA
E-mail: maggie@mit.edu