TOPICS IN THE SYNTAX AND SEMANTICS OF BLACKFOOT QUANTIFIERS AND NOMINALS

by

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Abstract

In Blackfoot, DPs appear to take obligatory wide scope with respect to the universal quantifier while bare nouns take obligatory narrow scope with respect to the universal quantifier. I propose that the difference in scope-taking properties of Blackfoot nominals is a consequence of their syntactic position. I propose that over argument DPs are adjoined to the clause whereas bare nouns are base generated in an argument position. I suggest that the scope properties fall out from this distinction in the syntax.

The Blackfoot universal quantifier, ohkan-, is a preverb. That is, ohkan- occurs as a part of the verb stem preceding the verb root itself. I propose that ohkan- is head of its own QP which takes the VP as its complement. I follow Sportiche (1998) in categorizing ohkan- as a stranded quantifier since it is base generated external to VP.

Bare nouns, since they are generated within VP, are structurally inferior to ohkan-, since they are within its c-command domain. The adjoined DPs, however, are structurally superior to ohkan-, since they are adjoined to the clause. I propose that the structural superiority of DPs translates to their obligatory wide scope. Conversely, the structural inferiority of bare nouns translates to their obligatory narrow scope.

Blackfoot is a relatively understudied Algonquian language spoken in Southern Alberta and Northern Montana. The Blackfoot data presented in this work come primarily from my own work with two Blackfoot speakers. Both of my language consultants hail from Southern Alberta speak and the Blood dialect of Blackfoot.
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0. Introduction

In Blackfoot, different nominal types are in different scope relations with respect to the universal quantifier. DPs appear to have wide scope relative to the universal quantifier while bare nouns take narrow scope relative to the universal quantifier. In order to account for the scope differences, I propose that the two types of nominals correspond to two different syntactic structures.

I assume that DPs are adjoined to the clause while bare nouns are generated in an argument position. I propose that the universal quantifier is the head of its own Quantifier Phrase (QP) which takes the VP as its complement. I assume that DPs, from their adjoined position, are structurally superior to the universal quantifier, which forms a part of the verb stem. A DP takes wide scope relative to the rest of the clause, including the universal quantifier. I propose that bare nouns are base generated in the complement position of VP and are abstractly incorporated at Logical Form. As a complement of the verb, the bare noun is structurally inferior to the universal quantifier, which dominates the VP. The bare noun must therefore take narrow scope relative to the universal quantifier. By following May (1989), the difference in scope properties between DPs and bare nouns is a consequence of the syntax.

I propose that the two types of nominals are distinct not only in their syntax but also in their semantics. Blackfoot determiners are shown to encode an assertion of existence. That is, the individual denoted by a noun phrase complement of a determiner will be asserted to exist in the universe of discourse. I suggest that this difference in semantics is attributable to the difference in syntax insofar as I assume that the determiner head is the locus for assertion of existence. It would follow then, that only nominals within a DP would be asserted to exist. The interpretation of nominals with respect to assertion of existence and scope is dependant on their position in the syntactic structure.

The semantics of Blackfoot nominals is a consequence of the syntax. DPs occur adjoined to the string and are therefore structurally superior to the universal quantifier. They hence take wide scope relative to the universal quantifier. A nominal introduced within a DP will be interpreted as asserted to exist because of the presence of the determiner head. The determiner head is the locus for assertion of existence. Bare nouns, however, occur within the VP and are within the c-command domain of the universal quantifier. Bare nouns must therefore take narrow scope with respect to the universal quantifier. A bare noun is not
introduced within a DP, the result of which is that bare nouns are unmarked for assertion of existence. There is no determiner head to force an assertion of existence reading. Hence, the semantics of Blackfoot nominals can be determined from their syntax.

The data presented in this work come from two main sources: the material published by Frantz, but more commonly the data elicited from two fluent Blackfoot speakers. I worked with two speakers in the collection of data for my research, both of whom speak the Blood dialect of the Fort McLeod area in Southern Alberta. One speaker was a male in his late twenties, the other a female in her early fifties. Both spoke Blackfoot during their childhood.

The organization of the thesis is as follows: In the remainder of the Introduction, I present background assumptions about Blackfoot clause structure. Chapter 1 is a discussion of the main problem in this thesis, namely, the scope-taking properties of Blackfoot nominals. Chapters 2 and 3 constitute my proposal. In Chapter 2, I propose two types of nominals in Blackfoot: DPs, which I assume are adjoined structures, and bare nouns, which I assume are abstractly incorporated noun heads. In Chapter 3, I present my analysis of the Blackfoot universal quantifier ohkan-. In Chapter 4, I show how my proposal is able to account for the problem set out in Chapter 1. That is, I show how the semantics of Blackfoot nominals are a consequence of the syntax. In Chapter 5 I suggest that the syntax is also able to explain Assertion of Existence in Blackfoot. Chapter 6 concludes.

0.1 Blackfoot Clause Structure

I follow Daviault's (1986) conclusions for Algonquian in assuming that Blackfoot canonical argument positions are occupied by null pronominals. Daviault argues that Algonquian VPs contain pros as opposed to overt DP arguments. I suggest that, similarly, all Blackfoot DPs must occur in adjoined positions rather than in canonical argument positions.

---

1 Blackfoot is comprised of three dialects: the Blood, the Blackfoot, and the Peigan.
I appeal to a distinction between what I am calling an argument position versus an argument expression. For the purposes of this discussion, I assume that an argument is material that is base generated in canonical argument positions, i.e., in the specifier or complement of the verb. An argument expression is any nominal that is not generated in an argument position, but is nonetheless interpreted as subject or object of the verb, i.e., any adjoined DP. The definitions for each are given in (2).

(2) a. **Argument position** material that is base generate in SpecV or CompV  
    b. **Argument expression** a nominal that is interpreted as subject or object of the verb

Only *pro* and bare nouns are able to occur in argument positions in Blackfoot. Argument expressions must be adjoined to the clause.

Bare plurals and DPs do not occur in argument positions, while *pro* and bare nouns do. I show that bare plurals are introduced by a covert determiner, and accordingly function as DPs with overt determiners. I suggest that these types of argument expressions are adjoined to the structure. Bare nouns, however, are assumed to be a bare noun head that is not introduced by a covert determiner. These bare nouns are assumed to be base generated in canonical argument positions and must undergo semantic incorporation in order to be licensed. I will use the following terminological classifications throughout this thesis.

(3) a. **Bare plural** a plural noun which occurs with no overt determiner  
    b. **Bare noun** a noun, unmarked for number, which occurs with no overt determiner

Both bare plurals and noun phrases introduced by overt determiners are classified as DPs in this analysis. Thus, so far, I have suggested three ways in which a noun can be introduced in Blackfoot: introduced by a
determiner, as a bare plurals, or as a bare noun. There is a fourth type of argument expression noted in Blackfoot which will not be discussed in this thesis; namely, the noun in its “nonparticular” form. (Frantz, 1991) Frantz’s nonparticular is composed of the noun stem itself plus the suffix -i. I suggest that this suffix is a type of polarity item, however, I leave further discussion of this form to future research.

For the purpose of this thesis, I adopt the analysis of Algonquian agreement put forth in Déchaine (1999) in which first and second person affixes, which are discontinuous in the surface string, are base generated in adjacent positions. First and second person markers are discontinuous insofar as the person markers are prefixes to the verb stem, while the corresponding number markers are suffixes.

(4)a. nits-iyap-hpa
   1-pst.see.intr-1/2sg
   ‘I saw’

   b. nits-iyap-hpinnan
   1-pst.see.intr-1/2pl
   “we saw”

(5)a. kit-okskaas-pa
   2-run.intr-1/2sg
   “you.sg run”

   b. kit-okskaas-pinnan
   2-run.intr-1/2pl
   “you.pl run”

Déchaine argues that all Algonquian agreement morphology is base generated above the Functional projections Tense and Aspect in the tree. Her analysis captures the dependency between prefixal and suffixal agreement by base generating the surface discontinuous affixes in adjacent positions. A structure in her analysis would be as follows
In order to derive the correct surface order of morphemes within the verb-stem, Déchaine posits movement of the IP through SpecNumP and onto SpecPersP. If only the verb head were to move up the tree, via head-to-head movement, then tense and aspect morphemes would appear on the surface as suffixes, which is not the case. Thus, after movement, (6) would have the structure in (7).

The correct surface order of agreement, tense and aspect morphemes is achieved by moving the entire IP up to SpecPersP.

1.0 Scope-Taking Properties of Blackfoot Nominal Expressions
The primary aim of this thesis is to provide an account for the scope-taking properties of nominal expressions in Blackfoot. In Blackfoot, DPs obligatorily take wide scope with respect to the universal quantifier while bare nouns obligatorily take narrow scope with respect to the universal quantifier. In Chapters 2 and 3 I present an analysis in which I claim that the semantics of Blackfoot nominals follow from the syntax. First, however, it is necessary to examine the problem with respect to the data.

1.1 DPs take wide scope

Blackfoot DPs obligatorily take wide scope with respect to the universal quantifier, as shown in the following data.

(8) a. ihkan-ano-yi-a [om-i piita]dp
    pst.all-see.tr-3'-pl dem-3' eagle
    ‘they all saw the eagle’

   b. i. $\exists x[eagle'(x) \land \forall y[\text{discourse-referent}(y) \rightarrow saw'(y,x)]]$
      for some $x$, $x$ is an eagle, it is the case the all $y$, $y$ is a discourse referent, $y$ saw $x$.

   ii. *$\forall y[\text{discourse-referent}(y) \rightarrow \exists x[eagle'(x) \land saw'(y,x)]]$
        * for all $y$, $y$ is a discourse referent, there is some $x$, $x$ is an eagle, such that $y$ saw $x$.

(9) a. om-iksi ihkan-ohpoma-ts-i-a [om-i poos]dp
    dem-pl pst.all-buy-tr-3'-pl dem-3' cat
    ‘they all bought the cat’

   b. i. $\exists x[\text{cat'(x)} \land \forall y[\text{discourse-referent}(y) \rightarrow bought'(y,x)]]$
      for some $x$, $x$ is a cat, it is the case the all $y$, $y$ is a discourse referent, $y$ bought $x$.

   ii. *$\forall y[\text{discourse-referent}(y) \rightarrow \exists x[\text{cat'(x)} \land bought'(y,x)]]$
        * for all $y$, $y$ is a discourse referent, there is some $x$, $x$ is an cat, such that $y$ bought $x$.

In the data in both (8) and (9), the object nominal is introduced by the determiner om-i. The data correspond to the interpretations in (b.i) where the DP takes wide scope with respect to the universally quantified subject. The data do not correspond to the (b.ii) interpretations, where the DP takes narrow scope with respect to the universally quantified subject. The DP must take wide scope with respect to the universal quantifier. As I show in the next subsection, this is not the case for bare nouns.

1.2 Bare nouns take narrow scope

Bare nouns, unlike DPs, must take narrow scope with respect to the universal quantifier, as shown in the data.
(10) a. ihkan-iyapi-ya [piita]  
    pst.all-see.intr-pl eagle  
    'they all saw an eagle'  

    b. i. * ∃x[eagle'(x) ∧ ∀y[discourse-referent(y) → saw'(y,x)]]  
       * for some x, x is an eagle, it is the case the all y, y is a discourse referent, y saw x.  

    ii. ∀y[discourse-referent(y) → ∃x[eagle'(x) ∧ saw'(y,x)]]  
       for all y, y is a discourse referent, there is some x, x is an eagle, such that y saw x.  

(11) a. om-iksi ihkan-ohpoma-ya [poos]  
    dem-pl pst.all-buy.intr-pl cat  
    'they all bought a cat'  

    b. i. * ∃x[cat'(x) ∧ ∀y[discourse-referent(y) → bought'(y,x)]]  
       * for some x, x is a cat, it is the case the all y, y is a discourse referent, y bought x.  

    ii. ∀y[discourse-referent(y) → ∃x[cat'(x) ∧ bought'(y,x)]]  
       for all y, y is a discourse referent, there is some x, x is an cat, such that y bought x.  

In the data in (10) and (11), the object is a bare noun. Unlike in (8) and (9), the (a) examples in (10) and (11) cannot correspond to a wide scope reading. That is, the bare noun cannot take wide scope with respect to the universal quantifier, as in (b.i) in the examples above. Instead, the bare noun must take narrow scope with respect to the universal quantifier, as in the (b.ii) examples above.  

1.3 Summary  

As shown in 1.1, DPs must take wide scope with respect to the universal quantifier. Bare nouns, however, must take narrow scope with respect to the universal quantifier, as in 1.2. In the following chapter, I propose that the two different types of nominals, DPs and bare nouns, correspond to different syntactic structures. I propose that these syntactic structures determine the interpretation of the nominal.  

2. The Syntax of Blackfoot Nominal Expressions  

In this section, I propose that the difference in scope-taking properties of Blackfoot nominals is a consequence of their differing syntactic structures. I propose that Blackfoot DPs are adjoined to the clause and that they are interpreted as subject or object of the verb via a coindexation relationship with a pro in the corresponding canonical argument position. I propose that, unlike DPs, bare nouns are noun heads base generated in an argument position.
I suggest, following Longobardi, (1994) that determiners are crucial for argumenthood. I distinguish two types of bare nouns in Blackfoot: bare plurals, which I assume are covert DPs and bare nominals, which I assume are noun heads.

2.1 Argument-expressions are DPs

Longobardi (1994) proposes that determiners are crucial for argumenthood:

(12) A ‘nominal expression’ is an argument only if it is introduced by a category D.

(Longobardi 1994:620)

Longobardi further argues that determiners are operators that bind a variable within an NP. Thus, a determiner is required to introduce any argument NP in order to bind that NP. Most of the evidence cited by Longobardi comes from Romance and Germanic; I show that the same holds true for Blackfoot.

If DPs are required to introduce argument expressions in the syntax, then we predict that all argument expressions will be introduced within a DP. In Blackfoot, we also find that an argument expression, here, an object of a transitive verb or a subject, must be introduced by a determiner in order for the sentence to be grammatical.

(13)a. [amo aki] iyimmi
dem woman pst.laugh
‘the woman laughed’

b. *[aki] iyimmi
woman pst.laugh
‘(the) woman laughed’

(14) a. nit-ano-a [om-a piita]
1-see.tr-3 dem-3 eagle
‘I saw the eagle’

b. *nit-ano-a [piita]
1-see.tr-3 eagle
‘I saw a/the eagle’

(15) a. kit-hpoma-ts-i [om-i isooyoop-i]
2-buy-tr-3’ dem-3’ table-3’
‘I bought the table’

b. *kit-hpoma-ts-i [isooyoop-i]
2-buy-tr-3’ table-3’
‘I bought a/the table’
In the (a) examples above, the NP is introduced by a determiner, and the sentence is grammatical. In the (b) examples, however, a determiner does not introduce the argument, and the sentence is ungrammatical. This establishes that an argument must be introduced in the syntax as a DP.

Longobardi maintains that arguments must be DPs, but he points out apparent exceptions in English and Italian, bare nouns. He argues that bare nouns are introduced by a covert determiner. I show that the Blackfoot data is consistent with his overall claim that DPs are necessary for argumenthood, and that bare nouns in Blackfoot can be accounted for using his analysis.

2.2 Two types of bare nominals

I illustrate two types of bare nominals in Blackfoot, both of which are consistent with Longobardi's analysis. These two types of bare nominals can be distinguished with respect to four properties, as shown in the table in (16).

(16)

<table>
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<th>'bare plurals'</th>
<th>'bare nouns'</th>
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<tr>
<td>number</td>
<td>plural</td>
<td>unmarked for number</td>
</tr>
<tr>
<td>argument type</td>
<td>subject, object</td>
<td>object</td>
</tr>
<tr>
<td>Agreement on verb</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>N or NP?</td>
<td>NP</td>
<td>N°</td>
</tr>
</tbody>
</table>

Bare plurals, as the name suggests, must have plural marking, whereas bare nouns are unmarked for number. Bare plurals can occur in subject or object position, while bare nouns can only ever be interpreted as objects. Bare plurals cooccur with overt agreement marking on the verb, whereas bare nouns never cooccur with verbal agreement. Finally, bare plurals can be greater than just a head, while bare nouns must be no greater than a head. On the basis of the above distinctions and the following data, I assume that bare plurals are indeed argument expressions (DPs), whereas bare nouns are semantically incorporated noun heads (N°'s). Let us now examine the data that supports this.

Proper names are also an apparent exception to this analysis in languages like English where proper names never occur with a determiner. Blackfoot proper names must be introduced by a D° as in the following data and hence are not exceptions.

i. *tsaan
   John

ii. anna-hk tsaan
    dem-nv John
2.3 Bare plurals are argument-expressions

Bare plurals are always interpreted as having a generic reading in Blackfoot. That is, bare plurals are always interpreted as generic whether they occur as subject or object of individual or stage level predicates. Following Longobardi's (1994) analysis of generics in English and Italian, I assume a null D° position for null plurals.

Longobardi assumes the following as universal principles: that an empty head must be lexically governed and that an empty D° is assigned an existential interpretation by default. Therefore, where an empty D° is lexically governed by V°, the D° is assigned an existential interpretation. Where the empty D° is not lexically governed by V°, the null D° is illicit. In order to save an empty D° that is not lexically governed, therefore, the noun head from the complement NP must move up, via head-to-head movement, to fill the D° position itself. Thus, the pre-movement structure for a bare plural with a null D° is as follows:

(17)

\[
\begin{align*}
\text{DP} & \quad \text{D'} \\
\quad & \quad \quad \text{D°} \\
\quad & \quad \quad \quad \Omega \\
\quad & \quad \quad \quad \quad \text{N'} \\
\quad & \quad \quad \quad \quad \quad \text{N°} \\
\quad & \quad \quad \quad \quad \quad \quad \text{kiaayo-ks}
\end{align*}
\]

'bears'

If the D° in (17) is lexically governed, the structure can remain as is and the null D° will be assigned an existential reading by default. If the D° is not lexically governed, then N° must move to D° so that the D° will no longer be empty, as in (18).

(18)

\[
\begin{align*}
\text{DP} & \quad \text{D'} \\
\quad & \quad \quad \text{D°} \\
\quad & \quad \quad \quad \text{N°_i} \\
\quad & \quad \quad \quad \quad \text{kiaayo-ks} \\
\quad & \quad \quad \quad \quad \Omega \\
\quad & \quad \quad \quad \quad \quad t_i \\
\quad & \quad \quad \quad \quad \quad \text{N'} \\
\quad & \quad \quad \quad \quad \quad \text{N°}
\end{align*}
\]
In a language such as Blackfoot where all DPs are base generated in adjunct positions, no DP will ever be lexically governed. Hence, in order to license a null D° in such a language, N°-movement must take place. Since N°-movement is associated with the generic reading, it is predicted that languages which have adjoined DPs will only permit DPs introduced by a null D° to be interpreted as generics.

This prediction, which can be tested in Blackfoot, since all Blackfoot DPs are adjoined, is consistent with the data. In all of the examples of stage and individual level predicates in (19-22), the bare plurals are interpreted generically.

(19) **Stative stems**

a. *individual level*  
_ kiaayo-ks_ ik-a-sskonatapsi-ya  
*bear-pl very-dur-strong-pl*  
‘bears are strong’  
* ‘there are bears who are strong’

b. *stage level*  
_ kiaayo-ks_ ik-a-sistsiko-ya  
*bear-pl very-dur-tired-pl*  
‘bears get tired’  
?? ‘bears are tired’  
* ‘there are bears who are tired’

(20) **Unaccusative stem**  
_sahkomapi-iks_ okskaas-iiks  
*boy-pl run-pl*  
‘boys run’  
* ‘there are boys who run’

(21) **Unergative stem**  
_ninna-iks_ i-yimmi-ya  
*man-pl pst-sleep-pl*  
‘men sleep’  
* ‘there are men who sleep’

(22) **Transitive stems**

a. *stage level*  
_ninna-iks_ ikskima-ts-i-ya kiaayo-ks  
*men-pl hunt-tr-3-pl bear-pl*  
‘men hunt bears’  
* ‘there are men who hunt bears’

b. *stage level*  
_ninna-iks_ iksksima-ts-i-ya kiaayo-ks  
*men-pl hunt-tr-3-pl bear-pl*  
‘men hunt bears’  
* ‘men hunt (only) bears’

c. *individual level*  
_ninna-iks_ i-ssksini-mya kiaayo-ks ot-o’i-hsa mammi  
*men-pl 3-know-3pl bear-pl 3-eat.tr-3-3conj fish*  
‘men know that bears eat fish’  
* ‘there are men who know that bears eat fish’
This is unlike English, where not all bare plurals are generic. Rather, in English, bare plurals can be interpreted existentially as well as generically.

(23)a. I excluded only old ladies
   b. Generic: in principle, all old ladies have been excluded
   c. Existential: some old ladies have been excluded but some can have been admitted

According to the data, a bare plural in Blackfoot is always interpreted generically. This is unlike English, where an existential reading is also sometimes possible for a bare plural. I assume that this discrepancy is consistent with an analysis in which Blackfoot bare plurals are actually argument-expressions, i.e., DPs, and that Blackfoot DPs are adjoined to the clause.

Longobardi concludes for English that both a default existential reading and a generic reading are possible with bare plurals, and that it is the movement of the noun head to D°, or lack thereof, which determines the reading. However Blackfoot is unlike English in that it only allows the generic reading, and not an existentially quantified reading. Hence, I conclude that bare plurals in Blackfoot are introduced by a null D° which must be the landing site for N-raising in order to satisfy the requirement that all empty heads be lexically governed.

2.3.1 Bare plurals trigger object agreement

Bare plurals function like arguments in that they must show agreement marking on the verb:

(24) kiaayo-ks ik-a-sskonatapsi-ya
    bear-pl very-dur-strong-pl
    ‘bears are strong’
    * ‘there are bears who are strong’

In (24) the bare plural subject kiaayoks ‘bears’ agrees with the intransitive verb via the plural marker –ya.

In (19.b), the bare plural subject ninnaiks ‘men’ also agrees, this time with a transitive stem, via the plural marker –ya.
The bare plural subject of (25) kiaayo-ks corresponds to the obviative suffix -i on the transitive stem. If agreement is absent from the verb, the sentence becomes ungrammatical, as in (26) below.

(26)a. *[ninna-iks] ikskima-ts-i-a [kiaayo-ks]
\[\text{man-pl hunt-tr-3'}-\text{pl bear-pl}\]
\text{‘men hunt bears’}

b. *[ninna-iks] ikskima-ts-i [kiaayo-ks] Problem: no plural agreement
\[\text{man-pl hunt-tr-3’ bear-pl}\]
\text{‘men hunt bears’}

\[\text{man-pl hunt-tr-pl bear-pl}\]
\text{‘men hunt bears’}

(26.a) is ungrammatical because the intransitive stem is not marked for plural to agree with the plural subject kiaay-oks. In (26.b), the verb has the obviative marking to agree with its object, however, it is lacking plural agreement to agree with its plural subject. In (26.c) the reverse is true; the verb agrees with its plural subject while it lacks the obviative agreement required by the object.

Bare plurals behave like all other argument-expressions in Blackfoot in that they require corresponding argument marking on the verb in the form of agreement. A lack of this agreement marking results in ungrammaticality:

(27)a. * [om-iksi kiaayo-ks] ik-sskonatapsi
\[\text{dem-pl bear-pl very-strong}\]
\text{‘those bears are strong’}

b. * [om-iksi ninna-iks] iksimats-i [om-iksi kiaayo-ks]
\[\text{dem-pl man-pl hunt-3’ dem-pl bear-pl}\]
\text{‘those men hunted those bears’}

c. * [om-iksi ninna-iks] iksimata-ya [om-iksi kiaayo-ks]
\[\text{dem-pl man-pl hunt-pl dem-pl bear-pl}\]
\text{‘those men hunted those bears’}

(27.a) and (27.b) are ungrammatical because of a lack of plural marking, while (27.c) is ungrammatical because the verb stem is not marked for the obviative. Argument expressions are required to agree with
their verb stems. Bare plurals must also agree with their verbs stem. Thus, I assume that bare plurals are indeed argument expressions in Blackfoot; i.e., they are DPs.

### 2.3.2 Bare plurals are (covert) DPs

The bare plurals discussed so far have consisted of a single nominal. The question that arises is whether a bare plural is syntactically a simplex head or a phrasal projection. The fact that bare plurals can host relative clauses, as in (28), suggest that they are phrasal.

(28) a. [kiaayo-ks ik-a-siksinaam-ya] oy-i-a mammi
    bear-pl very-dur-black-pl eat-3'-3pl fish
    `bears that are black eat fish`

    b. [sahkomapi-iks maat-o'ka-ya] a-passk-a-ya
    boy neg-sleep.intr-pl dur-dance.intr-3-pl
    `boys that do not sleep dance`

I propose the following structure for relative clauses in Blackfoot.

(29)

In chapter one, I assumed that Blackfoot DPs are adjoined rather than base generated in a canonical argument position. Thus, DPs which host relative clauses are adjoined to CP, with the relative clause CP adjoining to the NP.

### 2.3.3 Bare plurals may be pre- or post-verbal

If bare plurals are in fact DPs introduced by a covert D°, then it is predicted that they will be able to occur in the same range of structural positions as DPs introduced by an overt D°. Because DPs are
adjoined to the structure, they can adjoin pre-verbally or post-verbally. This predicts that bare plurals will also be able to occur pre-verbally or post-verbally.

It is indeed the case that bare plurals occur both pre- and post-verbally. Consider the following data, involving an intransitive verb stem and a bare plural subject. In (92.a), the subject is pre-verbal. In (92.b), the subject is post-verbal. Both are equally grammatical.

\[(30)\]
\[
a. \quad [\text{kiaayo-ks}] \text{ik-omhkimi-ya} \\
  \text{bear-pl} \quad \text{very-big-pl} \\
  \text{‘bears are big’}
\]
\[
b. \quad \text{ik-omhkimi-ya} [\text{kiaayo-ks}] \\
  \text{very-big-pl} \quad \text{bear-pl} \\
  \text{‘bears are big’}
\]

In (30), where the verb stem is transitive, the bare plural object can either follow the verb, as in (31.a) or it can precede the verb, as in (31.b). Again, both are grammatical.

\[(31)\]
\[
a. \quad \text{kiaayo-ks oy-i-a } [\text{mammi}] \\
  \text{bear-pl} \quad \text{eat-3.^pl} \quad \text{fish} \\
  \text{‘bears eat fish’}
\]
\[
b. \quad \text{kiaayo-ks } [\text{mammi}] \text{ oy-i-a} \\
  \text{bear-pl} \quad \text{fish} \quad \text{eat-3.^pl} \\
  \text{‘bears eat fish’}
\]

Like DPs, bare plurals can occur before or after the verb stem; they can be either pre- or post-verbal.

**2.3.4 Bare plurals are VP-external**

I assume that Blackfoot DPs are adjoined to the structure. It follows, therefore, that Blackfoot DPs are external to the VP. I extend this argument to include bare plurals, which I have assumed are in fact covert DPs. Consequently, an LF representation involving a bare plural would have a structure like that in (32.b).
I assume that sentences involving bare plurals have an LF structure like that in (32). Like DPs, bare plurals are adjoined to the phrase rather than occur in a canonical argument position.

2.4 Bare nouns

Having shown that bare plurals do indeed behave like arguments in Blackfoot, I now show that bare nouns do not behave like arguments in a number of crucial ways. Recall that bare nouns are those that are base generated in the specifier or complement of the verb. First, I show that bare nouns obligatorily lack corresponding agreement on their verb. Since subject agreement in Blackfoot must is obligatory, bare nouns are predicted to not occur as subjects. This is borne out since the data show that bare nouns can only occur as the object of a morphologically intransitive verb. Bare noun objects must be no greater than a noun head, and have a fixed post-verbal order, whereas other argument expressions can occur pre- or post- verbally. I thus conclude that bare nouns are VP-internal and undergo abstract incorporation.

2.4.1 Bare nouns do not trigger object agreement

All Blackfoot argument expressions are marked by agreement on the verb. In contrast, bare nouns never agree with their verb. In order to be grammatical, therefore, bare nouns only occur with verbs that
are morphologically intransitive, i.e. with verbs that have subject agreement, but lack object agreement. Since morphologically transitive verbs have both subject and object agreement, bare nouns are always impossible with such verbs.

(33)a. nits-i-yapi [kiaayo]
   1-pst-see.intr  bear
   ‘I saw a bear’

   b. i-kskima-ya  [kiaayo]
   pst-hunt.intr-pl  bear
   ‘they hunted a bear’

When we try to use a bare noun with the transitive stem for ‘see’ as in (34.a) or with the transitivized form of ‘hunt’, as in (34.b), the resulting sentence is ungrammatical.

(34)a. *nits-ino-a [kiaayo]
   l-see.tr-3  bear
   ‘I saw a bear’

   b. *ikskima-ts-i-ya [kiaayo]
   hunt-tr-3’-pl  bear
   ‘they hunted a bear’

Because subject agreement must always be marked on both transitive and intransitive stems, bare nouns are predicted to never be construed as subjects. This is borne out in the data.

(35)a. *[kiaayo] ikskima
   bear  hunt
   ‘(a) bear hunted’

   b. *[kiaayo] ikskima-ts-i om-i mammi
   bear  hunt-tr-3’ dem-3’ fish
   ‘(a) bear hunted that fish’

Unlike bare nouns, bare plurals and DPs can be interpreted as subjects of intransitive and transitive verbs, as shown in the following examples.

(36)a. [kiaayo-ks] ikksima-ya
   bear-pl  hunt-pl
   ‘bears hunt’

   b. [kiaayo-ks] ikskima-ts-i-ya mammi
   bear-pl  hunt-tr-3’-pl  fish
   ‘bears hunt fish’
Bare nouns can never cooccur with agreement on the verb. They do not cooccur with transitive stems, nor do they occur as subjects.

2.4.2 Bare nouns are N's

A bare noun can never be greater than a noun head. Recall that bare plurals can host relative clauses. This is not the case for bare nouns, as shown in the following data.

(38)a. \[\text{ni-maat-hpoma-hpa} \ [\text{om-i itasooyoop-i isookska}]\]
\[1\text{-neg-intr.buy-lnonaffirm dem-3'} table-np broken}\]
'I didn’t buy that table that is broken'

b. *\[\text{ni-maat-hpoma-hpa} \ [\text{itasooyoop isookska}]\]
\[1\text{-neg-buy.intr-lnonaffirm table broken}\]
'I didn’t buy a table that was broken'

Bare nouns are not able to introduce relative clauses, as in the example above. I conclude that a bare noun is never able to contain more structure than just the head itself. Hence, bare nouns are not NPs but noun heads only and, because they are not NPs, they cannot host relative clauses.

2.4.3 Bare nouns must be post-verbal

Bare nouns are unlike DPs in that their position is fixed within the structure. Recall that Blackfoot argument expressions (DPs) are able to occur in SVO, VSO or SOV orders. That is, the most important ordering is that of subject and object. The subject must always precede the object in the linear string, but the object DP can occur before or after the verb:

(39)a. \[\text{SVO}\]
\[\text{[om-iksi ninna-iks] [ino-yi-a] [om-i piita]}\]
\[\text{dem-pl man-pl pst.see.tr-3'-3pl dem-3' eagle}\]
‘the men saw the eagle’
b. VSO
[ino-yi-a] [om-iksi ninna-iks] [om-i piita]
pst.see.tr-3'-3pl dem-pl man-pl dem-3' eagle
‘the men saw the eagle’

c. SOV
[om-iksi ninna-iks] [om-i piita] [ino-yi-a]
dem-pl man-pl dem-3' eagle pst.see.tr-3'-3pl
‘the men saw the eagle’

OVS, VOS and OSV word orders are not possible in Blackfoot.

(40) a. OVS
* [om-i piita] [ino-yi-a] [om-iksi ninna-iks]
dem-3' eagle pst.see.tr-3'-3pl dem-pl man-pl
‘the men saw the eagle’

b. VOS
* [ino-yi-a] [om-i piita] [om-iksi ninna-iks]
pst.see.tr-3'-3pl dem-3' eagle dem-pl man-pl
‘the men saw the eagle’

c. OSV
* [om-i piita] [om-iksi ninna-iks] [ino-yi-a]
dem-3' eagle dem-pl man-pl pst.see.tr-3'-3pl
‘the men saw the eagle’

While there are three possible orders for DPs (SVO, VSO, SOV), bare nouns are restricted to post-verbal position. Since, as discussed above, a bare noun must be an object, this means that a bare noun is only ever found with SVO ordering.

(41) a. SVO
[om-iksi ninna-iks] [iyapi-ya] [piita]
dem-pl man-pl pst.see.intr-3pl eagle
‘the men saw an eagle’

b. VSO
* [iyapi-ya] [om-iksi ninna-iks] [piita]
pst.see.intr.-3pl dem-pl man-pl eagle
‘the men saw an eagle’

c. SOV
* [om-iksi ninna-iks] [piita] [iyapi-ya]
dem-pl man-pl eagle pst.see-intr-3pl
‘the men saw an eagle’

The bare noun does not behave like a typical Blackfoot argument expression in terms of word order.

2.4.4 Bare nouns are VP-internal
The discussion above has shown that bare nouns differ from Blackfoot argument-expressions with respect to a number of crucial properties. Bare nouns must not agree with their verbs, while argument expressions obligatorily do. Bare nouns are, therefore, restricted to occurring as objects and must only occur with morphologically intransitive stems. Argument expressions, however, may occur in subject or object position, and their occurrence is not restricted by verb type. Argument expressions are less restricted in terms of word order than bare nouns, which must occur immediately following their verbs.

The difference between bare nouns and other argument expressions in Blackfoot can be captured in the syntax by analysing bare nouns as incorporated nouns. Baker (1996) argues that in a polysynthetic language, an argument is licensed by the Morphological Visibility Condition (as discussed in chapter one, repeated here).

(42) The Morphological Visibility Condition (MVC)
A phrase X is visible for \( \theta \)-role assignment from a head Y only if it is coindexed with a morpheme in the word containing Y via:
(i) an agreement relationship, or
(ii) a movement relationship

(Baker 1996; 17)

An argument DP or bare plural would satisfy the MVC via an agreement relationship, given that all arguments must correspond to agreement marking on the verb. At first glance, bare nouns, violate the MVC since they do not correspond to agreement marking on the verb and they do not overtly incorporate, as shown in the following data.³

(43)a. \[om-iksi ninna-iks\] iyapi-ya [piita]
dem-pl man-pl see.intr-pl eagle
'the men saw an eagle'

b. *[om-iksi ninna-iks] [piita]-iyapi-ya
dem-pl man-pl eagle-pst.see.intr-3pl
'the men eagle-saw'

³ Thus, the MVC predicts that Blackfoot bare nouns should not be licensed. Baker (1996) suggests that Algonquian languages like Blackfoot are not polysynthetic in the sense of those languages based on which he devised the MVC. Instead, he argues that, in Algonquian, only one parameter of the MVC holds, namely, that ‘arguments must be agreed with, but incorporated roots are not permitted to make arguments visible.’ (p. 18) Since Blackfoot bare nouns must not be agreed with, they shouldn’t be licensed in an analysis in which only the agreement parameter of the MVC holds.
In order to license bare nouns, we must allow abstract movement (i.e., movement at LF). In terms of the MVC, that would require a laxing of the second parameter to allow both overt and abstract movement. This accounts for the fact that bare nouns have characteristics of overtly incorporated nouns; that is, bare nouns may be comprised only of a noun head and must be strictly adjacent to the verb head in direct object position.

(45)

\[ \text{VP} \]
\[ \text{pro} \]
\[ \text{V'} \]
\[ \text{V}^\circ \]
\[ \text{N}^\circ \]
\[ \text{iyapi} \]
\[ \text{see.intr} \]
\[ \text{poos} \]
\[ \text{cat} \]

2.5 Summary

I have assumed that bare nouns are distinct from DPs in a number of crucial ways. Unlike DPs, bare nouns are restricted to occurring without corresponding agreement marking, to occurring with intransitive verbs, and to occurring immediately following a verb. This analysis is consistent with Longobardi’s analysis of DPs and argumenthood in the following way. Bare nouns are not introduced by means of a DP, and thus, the generalizations involving empty D°s are irrelevant. The bare nouns are not argument-expressions and so must necessarily incorporate. Thus, I posit that nominals are licensed either by agreement (for DPs) or incorporation (for bare nouns). This is a modification of Baker (1996), who does not distinguish DP from NP.

3. The Universal Quantifier ohkan-

In this chapter, I discuss the Blackfoot universal quantifier ohkan-. I argue that ohkan- is the head of a QP which is external to VP. I adopt Sportiche’s (1998) analysis of Floated Quantifiers to license ohkan- and May’s (1989) analysis to account for its properties; namely, its ability to bind more than one
variable and its scope invariance relative to other operators. I assume that the universal quantifier *ohkan-* is a preverbal element (henceforth, 'preverb') that occupies a position in the verb stem which precedes the verb head itself. In order to better understand the consequences of *ohkan-* being a part of the verb stem, we must understand the structure of the VP and of clause structure in Blackfoot.

3.1 *Ohkan-* is a head

There are three possible ways for *ohkan-* to be introduced in the clause: as a head, a specifier, or an adjunct. In (46), *ohkan-* is the head of its own maximal projection. In (47), *ohkan-* is introduced in the specifier position of some XP. In (48), *ohkan-* is adjoined to some maximal projection XP. I assume, following Sportiche (1998) (discussion to follow) that *ohkan-* is the head of a QP as in (46) that takes a VP its complement.

(46) *ohkan-* as a head

```
OP
  ├── Q'
  │    └── ohkan- VP
```

(47) *ohkan-* as a specifier

```
XP
  └── ohkan- X'
      └── X YP
```

(48) *ohkan-* as an adjunct

```
XP
  └── ohkan- XP
      └── X' YP
          └── X YP
```

Thus, I will be assuming a structure like that in (46) in this thesis.
3.2 Ohkan- binds a variable

Quantification is what allows language speakers to generalize across individuals. That is, it allows speakers of a language to make generalizations about members of sets without picking out individual members of those sets (Chierchia & McConnell-Ginet, 1996). Formally, quantification may be defined in terms of operator-variable binding. The English ‘all/every’ and Blackfoot ohkan- are natural language instances of the universal quantifier, represented in formal logic by the symbol \( \forall \). In formal logic, the universal quantifier binds a variable within the proposition to which it applies (Chang, 1997, p.1). A Blackfoot simple sentence would have an informal representation as follows.

(49) nit-hkan-okskaas-pinnan
\( 1\)-all-run.intr-1/2pl

gloss: ‘we all run’

\textit{semantic form}: \( \forall x, \) discourse-participant(\( x \)), run(\( x \))
for all \( x \), \( x \) is one of us, \( x \) runs.

(50) matapi-wa ik-hkan-a-sayi
person-3 very-all-dur-lie

gloss: ‘people all lie’

\textit{semantic form}: for all \( x \), \( x \) is a person, \( x \) lies.
\( \forall x, \) person(\( x \)), lie(\( x \))

In (49) and (50), ohkan- corresponds to the universal quantifier \( \forall \) and \( x \) is the variable bound by the quantifier.

Sportiche argues that the QP can either be analysed as taking a DP complement or a VP complement. Thus, if the quantifier takes a DP complement, the LF form would be as in (51).

(51) \[
\begin{array}{c}
\text{QP} \\
\text{Q'} \\
\text{Q} \\
\text{DP}
\end{array}
\]

If the quantifier takes a VP complement, the LF form would be as in (52), where the DP moves up into SpecQ from within the VP.
The discussion above has assumed that the QP is external to the VP. In the following subsection, I present the evidence supporting this structural placement.

In Sportiche (1998), the quantifier/variable relationship is one of Spec-Head Agreement; the variable can be any material that moves into SpecQP. Sportiche provides an analysis for the French quantifier *tous*, ‘all,’ which can undergo stranding. Thus the following structure must be achieved by LF in order for variable binding to be licit.

\[
(53) \quad [\text{QP DPf } [\text{tous } [\ldots t; \ldots ]]]
\]

His analysis of stranded quantifiers, therefore, involves two points: first, the quantifier is base generated external to V, and second, that the relationship between the quantifier and its variable is one of spec-head agreement. I adopt the first point, namely, that *ohkan-* is base generated external to V. I do not adopt the second point of Sportiche’s analysis, however. A spec-head relationship is not compatible with May’s (1989) analysis of multiple variable binding, which I adopt in 3.4.3.

### 3.3 The placement of *ohkan-* in the clause

I assume above that *ohkan-* is the head of a QP which takes VP in its complement. In addition, the relative ordering of preverbal elements establishes that Blackfoot only tolerates *ohkan-* between Tense and Aspect. Hence, its place in the structure would be as in the following tree.
Given that *ohkan-* is the head of a QP and because *ohkan-* must follow tense markers and precede aspect markers, I conclude that *ohkan-* must immediately dominate AspP and must be immediately dominated by TP.

### 3.3.1 The Placement of *ohkan-* relative to Tense and Aspect

In the linear order of preverbs, *ohkan-* follows tense marking and precedes aspect marking. The data in (55.a) show the future marker *ak-* preceding *ohkan-*. In (55.b), the reverse order is shown to be ungrammatical.

(55)a. ann-a *ak-hkan-ohpoma-ts-i om-iksi poos-iiks*  
*dem-3 fut-all-buy-tr-3’ dem-pl cat-pl*  
‘he will buy all those cats’

b. *ann-a *ohkan-ak-ohpoma-ts-i om-iksi poos-iiks*  
*dem-3 all-fut-buy-tr-3’ dem-pl cat-pl*  
‘he will buy all those cats’

In the following data set, *ohkan-* is shown to precede the durative aspect marker –*a*. The reverse order, namely, [Asp ⊏], is ungrammatical.

(56)a. *ohkan-a-yooki-ya*  
*all-dur-sleep-pl*  
‘they are all sleeping’
(57) ni-maat-ak-ohkan-om-oi'-hpinnan
1-neg- fut-all-yet- eat.intr-1/2pl
‘we will have not all eaten yet’

Given the linear order of morphemes, namely [Tense-∀-Aspect], I conclude that ohkan- must be structurally superior to aspect marking, and structurally inferior to tense marking.

The only possible structural position for QP is immediately dominating AspP in order to arrive at the correct linear order. If the QP were to dominate TP, then we would predict that tense markers would be nearer the verb root than ohkan-. Given the data in (55.b), this is not the case. If we assume that the QP immediately dominates VP, then we predict that ohkan- will occur nearer the verb root than aspect markers, which, according to (56.b), is not the case.

This is consistent with Sportiche’s (1998) analysis of Stranded Quantifiers. I assume the following definition of Stranded Quantifier for the purposes of this thesis.

(58) **Stranded Quantifier**: any quantifier that is base generated external to VP.

Sportiche argues that the pre-Infl position, the equivalent to TP, does not tolerate a stranded Q in French, though it does in English. Consider the following French examples from Sportiche.

(59)a. Les enfants ont été tous aperçus par les voisins
b. Les enfants ont *tous* été aperçus par les voisins
   *c. Les enfants tous ont été aperçus par les voisins

   ‘The children have all been seen by the neighbors’ (Sportiche, 1998; p. 32)

The stranded quantifier is permitted before the verb *aperçus* and before the aspectually inflected auxiliary *été*, but not before the tense inflected auxiliary *ont*. In English, the stranded quantifier *all* is permitted in all three positions.

(60)a. The children will have **all** left
b. The children will **all** have left
c. The children **all** will have left
The English stranded quantifier can occur before the tense marker will, the aspect marker have or the verb left. In Blackfoot, the stranded quantifier occurs before the aspect marker, and never before the tense marker.

(61)a. *nit-ak-\-a-\-hkan-kskaas-pinnan
   1--fut-dur-\-all-\-run.intr-1/2pl

b. nit-ak-hkan-a-\-kskaas-hpinnan
   1-\-fut-all-\-dur-run.intr-1/2pl

c. *nit-hkan-ak-a-\-kskaas-hpinnan
   1-\-all-\-fut-dur-run.intr-1/2pl

‘we will all be running’

Thus, the placement of the stranded Q in French, English and Blackfoot can be summarized as in the following table.

<table>
<thead>
<tr>
<th></th>
<th>before tense</th>
<th>before aspect</th>
<th>before verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>French</td>
<td>*</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Blackfoot</td>
<td>*</td>
<td>✔</td>
<td>*</td>
</tr>
</tbody>
</table>

I conclude then that English allows the stranded quantifier to occur before tense, aspect or the verb, while French is more restricted in that it does not permit the stranded quantifier before tense. Blackfoot is the most restrictive insofar as the only place it tolerates the stranded quantifier is before aspect.\(^4\)

### 3.3.2 The placement of ohkan- relative to negation

In the previous subsection, I showed that ohkan- occurs between tense and aspect in the linear string. Here I examine the position of ohkan- relative to negation.

Negation in Blackfoot is comprised of two elements: the preverb maa\-\(^5\) and a nonaffirmative suffix marked for number.\(^6\)

---

\(4\) While I note that Blackfoot differs from English and French with respect to restrictions on the stranded Q, I do not make any claims about the nature of this restriction, but rather note it for future research.

\(5\) The preverb saa- is sometimes used to mark negation in Blackfoot. Though its occurrence is rare, it behaves in a manner consistent with the analysis put forward for maa\-, i.e., it preceeds tense, aspect and the universal quantifier. In all of the data I have collected, the saa- negation marker occurs only with the distributive marker, however, I leave a detailed analysis of saa- for future research.

\(6\) Negation in Blackfoot is comprised of two elements: the preverb maa\- and a nonaffirmative suffix marked for number.
The examples in (63) show the nonaffirmative endings cooccurring with third person marking. They also mark number, as shown in the distinction between the singular and plural nonaffirmative endings. Thus, the nonaffirmative can be analysed as occupying the head of NumP. The S-structure tree for the example in (37.b) can, therefore, be shown as in (64).

In the structure in (64), the nonaffirmative ending arguably occupies the head of NumP. I assume that the preverb maat- occurs as the head of its own NegP, and that NegP is structurally higher than TP. Placing NegP higher than TP in the tree is consistent with its linear ordering. The negation preverb maat- precedes tense in the verb stem and is itself preceded by first and second person prefixes, as is shown in the following examples.

---

6 The use of nonaffirmative endings is not exclusive to negation. They also appear in Yes/No and Wh-questions.
(65)a. **ni-maat-ak-hpoma-hpa**
    *-neg-fut-buy.intr-1/2sg
    'I will not buy'

b. ***nit-ak-maat-hpoma-hpa**
    *-fut-neg-buy.intr-1/2sg
    'I will not buy'

c. ***maat-nit-ak-hpoma-hpa**
    *-neg-fut-buy.intr-1/2sg
    'I will not buy'

In (65.a), the linear order of preverbs is *person-negation-tense* and the sentence is grammatical. (65.b) in which tense precedes negation and (65.c) in which negation precedes person are both ungrammatical. Thus, I conclude that negation occurs higher in the tree than the TP but lower than the person prefixes. This is captured in the tree in (64).

If NegP is higher in the tree than TP, then this predicts that it will also be higher in the tree than QP, which, on independent grounds has been shown to be lower than TP. Taken together, this predicts the order [*Neg-Tense-∀*]. This prediction is consistent with the data:

(66)a. **maat-ak-hkan-ano-yi-waiksa**
    *-neg-fut-all-see.tr-3'-3nonaffirm

b. ***ak-maat-hkan-ano-yi-waiksa**
    *-fut-neg-all-see.tr-3'-3nonaffirm

c. ***ak-hkan-maat-ano-yi-waiksa**
    *-fut-all-neg-see.tr-3'-3nonaffirm

"they did not all see them"

In (66.a), the negation marker precedes tense, which precedes the universal quantifier in the linear string and the sentence is grammatical. (66.b) is an example of [*Tense-Neg-∀*] ordering. This is shown to be ungrammatical, indicating that tense cannot precede negation. In (66.c), the ordering of negation and the universal is reversed, with tense preceding both. This also is ungrammatical. I conclude, therefore, that an analysis in which [*Neg-Tense-∀-Aspect*] is the only possible morpheme order is consistent with the Blackfoot data.

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7 The first and second person nonaffirmative endings are the same as the declarative endings *-hpoma* and *-hpinnan*.  
29
3.4 Binding properties of ohkan-

In this subsection, I show that ohkan- binds arguments in its c-command domain. Ohkan- is restricted to binding only argument variables and not event variables. A single instance of ohkan- has the capacity to bind multiple argument variables.

3.4.1 Ohkan- binds any argument in its c-command domain

In the previous section, I suggested for a clausal structure in which ohkan- is the head of a functional projection Q(uantifier)P which is immediately dominated by TP and immediately dominates AspP. With this in mind, we can now define ohkan-'s c-command domain. I assume the following definition of c-command, formalized by Aoun & Sportiche (1983) and cited from May (1989).

\[\text{(67) C-command: } \alpha \text{ c-commands } \beta \text{ iff}\]
\[\begin{align*}
\text{(i) every maximal projection dominating } \alpha \text{ dominates } \beta \\
\text{(ii) } \alpha \text{ does not dominate } \beta
\end{align*}\]
(cf. May, 1989, p. 390)

Given this definition, the c-command domain of ohkan- is AspP and VP.

In this section, I show that ohkan- has the following three properties: it (i) binds only argument-variables, (ii) must bind all argument-variables within its c-command domain; (iii) binds these argument-variables from its in situ position.

3.4.2 Ohkan- binds only argument-variables

In this section, I suggest that ohkan- is an argument binder and not an event binder. An event binder binds the event argument of a verb, as in the following example taken from Honcoop & Doetjes (1996: 137).

\[\text{(68)a. } 400 \text{ sheep jumped over the fence last night.}\]
\[\begin{align*}
\text{i. Object related reading: } 400 \text{ sheep are such that each of them jumped over the fence last night.} \\
\text{ii. Event related reading: } \text{there are 400 events in which a sheep jumped over the fence last night.}
\end{align*}\]

The interpretational difference between (68.i) and (68.ii) is most clearly seen in the following: The object related reading is felicitous in a context where 200 sheep each jumped over the fence twice last night. This contrasts with the event related reading where 400 sheep-jumps were involved.
In (68), the sentence is ambiguous between an object related reading and an event related reading. There are, however, English event binders which unambiguously bind the event argument of a given verb. These include *always, never, usually and seldom*.

(69)a. John always buys two sandwiches for lunch

≠ i. Object related reading: *there are two sandwiches such that John always buys those two sandwiches for lunch*

= ii. Event related reading: *it is always the case that John buys two sandwiches for lunch*

b. John never buys two sandwiches for lunch.

≠ i. Object related reading: *there are two sandwiches such that John never buys those two sandwiches for lunch*

= ii. Event related reading: *it is never the case that John buys two sandwiches for lunch*

c. John usually buys two sandwiches for lunch.

≠ i. Object related reading: *there are two sandwiches such that John usually buys those two sandwiches for lunch*

= ii. Event related reading: *it is usually the case that John buys two sandwiches for lunch*

d. John seldom buys two sandwiches for lunch.

≠ i. Object related reading: *there are two sandwiches such that John seldom buys those two sandwiches for lunch*

= ii. Event related reading: *it is seldom the case that John buys two sandwiches for lunch*

In all of the (69) examples above, it is the event of *buying a sandwich for lunch* that is bound by the operator, and not *two sandwiches* itself. An object related reading, in which *two sandwiches* were bound by the operator, would require that the same two sandwiches be the object of each action. For example, in (69.a.i), the object related reading would require John to buy the same two sandwiches for lunch every day. This is not the case. The event related reading would require that John engage in the act of buying two sandwiches every day. This is the expected reading. Hence, *always, never, usually, seldom* bind events rather than arguments in English. Blackfoot event binders occur preverbally, like *ohkan-*.

Consider the following data from Blackfoot.

(70)a. nit-aahks-oat-oop natoka-sts pootstaksi-sts

1-always-eat-tr two-3pl sandwich-pl

*I always eat two sandwiches*

≠ i. Object related reading: *there are two sandwiches such that I always eat those two sandwiches*

= ii. Event related reading: *it is always the case that I eat two sandwiches*
b. nit-a'kumps-ok-oat-oop natoka-sts pootstaksi-sts
   1-seldom-perf-eat-tr two-3'pl sandwich-pl
   'I seldom have eaten two sandwiches'

≠ i. Object related reading: there are two sandwiches such that I have seldom eaten those two sandwiches

= ii. Event related reading: it is seldom the case that I have eaten two sandwiches

In (70), the operators aahks- and a'kumps- bind the event argument of the verb run. Considering that ohkan- is also a preverb, one might expect it to also function as an event binder. Given that it is able to function as the universal quantifier, it's event binder interpretation is predicted to be always, or something to that effect. This is not the case. In (70.a), aahks- 'always' is able to cooccur with a singular subject. This is because aahks- is binding the event argument. That is, it is binding multiple events (eating two sandwiches) each completed by a single subject (the speaker). If ohkan- were to bind event arguments, we predict that it too should be able to occur with a singular arguments, since it is the plurality of the event that is of paramount concern. The plurality of the subject is irrelevent. It is not the case that ohkan- can occur with singular subjects like aahks- can, as shown in the following ungrammatical examples.

(71.a. * nit-hkan-okskaas
   1-all-run.intr
   'I always run'

b. nit-hkan-okskaas-pinnan
   1-all-run.intr-1/2pl
   'we all run'

(72)a. * nit-hkan-oï sitokhkitan
   1-all-eat.intr pie
   'I always eat pie'

b. nit-hkan-oï-hpinnan sitokhkitan
   1-all-eat.intr-1/2pl pie
   'we all eat pie'

If ohkan- were an event binder, the presence of a plural argument would not be required, since it would be binding the event argument. That the subject and/or object of a verb stem containing ohkan- is required to be plural indicates that ohkan- is binding the thematic argument and not the event argument.

Another indication that ohkan- cannot function as an event binder with an interpretation like 'always' is that it can cooccur with the Blackfoot marker a'kumps-, 'seldom'.

32
(73)a. nit-hkan-a’kumps-ok-okskaas-pinnan
   l-all-seldom-perf-run.intr-l/2pl
   ‘we all seldom have run’

b. * nit-aahks-a’kumps-ok-okskaas-pinnan
   l-always-seldom-perf-run.intr-l/2pl
   ‘we always seldom have run’

(73.a) is felicitous whereas (73.b) is infelicitous. Thus, ohkan- cannot be functioning as an event binder with a meaning similar to that of aahks-, which we would predict, given the argument-binder interpretation of ohkan-. I conclude that ohkan- only binds arguments.

3.4.3 Ohkan- can bind more than one argument-variable

A single instance of the Blackfoot universal quantifier ohkan- is able to simultaneously bind both the subject and the object of a transitive verb. The following example is only felicitous if all of the members of the group of men saw all of eagles in the discourse context.

(74) om-iksi ninna-iks ihkan-ino-yi-a om-iksi piita-iks
   dem-pl man-pl all-see.tr-3'-3 dem-pl eagle-pl
   ‘all the men saw all the eagles’

i. ∀x∀y[man(x) ^ eagle(y) → saw(x,y)]
   for all the men and for all the eagles, it is the case that the men saw the eagles

ii. *∀x[man(x) → saw(x,eagles)]
   *for all the men it is the case that the men saw the eagles

iii. *∀y[eagle(y) → saw(men,y)]
   *for all the eagles, it is the case that the men saw them

Ohkan- is a ‘pair quantifier’ in the sense of May (1989) insofar as it can bind multiple arguments.

May proposes that the universal quantifier is a pair quantifier of the type \( f_{ij} (S) = f_i (f_j (S)) \) such that the following logical representations are equivalent.

---

* The reverse order of the event and argument binders is possible as well, as shown in the following example.

i. nit-a’kumps-ohkan-ok-okskaas-pinnan
   l-seldom-all-perf-run.intr-l/2pl
   ‘we seldom all run’

in a context where each of us always run individually, but we seldom all run together. Hence, unlike for other preverbs, the placement of event and argument binders can be reversed. Negation and the universal occur in a rigid order with respect to other preverbs. The data in (i) suggest that event binders may occur in adjoined structures, while argument binders are not adjoined.
According to May, if all of the quantifiers who share a scope domain match in type, we can ‘form up a single quantifier of just the number of variables as there are quantifiers in the sequence.’ (p. 404) In Blackfoot, the sequence will consist of adjacent quantifiers. Multiple instances of ohkan- will be generated adjacently in the string, i.e. immediately dominating AspP and immediately dominated by TP. Hence, they will share a scope domain. Thus, in Blackfoot, multiple instances of ohkan- can be formed into a single quantifier binding as many variables as instances of ohkan- were consolidated.

In (76.b), ohkan- is assumed to have the same binding properties as the universal quantifier in (75.a). As a pair quantifier, in the sense of May (1989), a single instance of ohkan- is able to bind multiple variables.

3.5 Ohkan- is scope-invariant

In the literature on quantification, sentences involving multiple operators have been shown to be ambiguous. I show here that such ambiguities do not exist in Blackfoot sentences involving ohkan- and negation, nor in sentences containing the distributive marker ohkan-at, ‘each’.
3.5.1 Ohkan-Neg interaction: narrow-scope universal

May proposes that, when two quantifiers agree on their absolute scope domains, variation in scope can arise. Quantifiers which do agree on their absolute scope domains form what May calls a Σ-sequence. I suggest that negation, *maat-*, and the universal quantifier, *ohkan-*, do not agree on their absolute scope domains. Therefore, they do not form a Σ-sequence and scope variation is not permitted. In a standard QR analysis, it is assumed that there exists a mirroring of syntactic and semantic order. That is, scope dependencies are encoded in syntactic structure (May, 1989, p. 393). Given the following structure, therefore, whichever quantifier (α or β) adjoins to YP² at LF takes wide scope over the quantifier that adjoins to YP¹.

(77) XP

May points out that the relative scope is only mirrored by the syntactic structure in (77) if we assume that α asymmetrically c-commands β; that is, if we assume a definition of c-command like that in Reinhart (1976).

(78)  

\[ \text{c-command: } \alpha \text{ c-commands } \beta \text{ iff} \]

(i) the first branching node dominating α also dominates β
(ii) α does not dominate β


Given the definition in (78), the first branching node dominating α, YP², does dominate β, hence α c-commands β. The first branching node of β, however, YP¹, does not dominate α, and so β does not c-command α. Hence, according to a branching node definition of c-command, α asymmetrically c-

---

9 Scope ambiguities are most salient in sentences involving the existential and universal quantifiers, as in the English *Someone loves everyone*, the wide scope universal for an object in the context of negation if extremely difficult to get, as in the following examples from Acquaviva, 1997; p. 85.

(X) every student didn’t talk
\[ \forall x, x \text{ is a student, } \neg \forall x, x \text{ talked} \]
\[ \forall \neg \forall \]
\[ \neg \forall \to \forall \]
\[ \neg \to \forall \]

more naturally expressed by *not all the students talked.*
commands $\beta$. Hence, whichever quantifier adjoins to $YP^2$ takes wide scope relative to that which adjoins to $YP^1$.

May (1989) offers an alternative analysis in which he assumes the definition of c-command supplied by Aoun & Sportiche (1983)\textsuperscript{10}, repeated from above.

(79) \textbf{C-command:} $\alpha$ c-commands $\beta$ iff 
(i) every maximal projection dominating $\alpha$ dominates $\beta$
(ii) $\alpha$ does not dominate $\beta$  

(cf. May, 1989, p. 390)

Given the Aoun & Sportiche definition, the c-command relationship between $\alpha$ and $\beta$ in the structure in (79) is no longer asymmetrical. Here, both $\alpha$ and $\beta$ are dominated by the maximal projection $YP^2$ and hence $\alpha$ and $\beta$ c-command each other. $YP^2$ is the only maximal projection that is relevant for c-command under this definition because $YP^1$ and $YP^0$ are only subparts of the maximal projection. Given the symmetrical c-command relation between $\alpha$ and $\beta$, the syntax is no longer able to encode the scope dependency, as neither quantifier asymmetrically c-commands the other.

May argues that scope ambiguities will still arise in structures where sequences of quantifiers agree on their absolute scope domains. This is formalized as a $\Sigma$-sequence.

(80) \textbf{$\Sigma$-sequence} (May 1989, p.392) 
$\sigma$ is a $\Sigma$-sequence $= \forall O_i, O_j \in \sigma, O_i$ c-commands $O_j$ and $O_j$ c-commands $O_i$.

Quantifiers form a $\Sigma$-sequence if they c-command each other. Hence, in (77), $\alpha$ and $\beta$ form a $\Sigma$-sequence and will maintain a relative scope distinction.

Assuming a QR analysis, the English quantifiers \textit{everyone} and \textit{someone} in a sentence like \textit{Everyone loves someone} form a $\Sigma$-sequence. Consider the following LF-structure of this sentence.

(81)

\begin{center}
\begin{tikzpicture}
  \node {DP\textsubscript{j}} child {node {DP\textsubscript{i}} child {node {everyone}}}
  \node {DP\textsubscript{j}} child {node {DP\textsubscript{j}} child {node {someone}} child {node {t\textsubscript{i}}}
  \node {VP} child {node {loves t\textsubscript{j}}}
  \node {IP\textsuperscript{0}} child {node {IP\textsuperscript{1}} child {node {IP\textsuperscript{2}}

\end{tikzpicture}
\end{center}

\textsuperscript{10} I adopt Aoun & Sportiche's (1983) definition of c-command for the purposes of this thesis.
In (81), both quantified DPs are dominated by the maximal projection IP^2 and hence both quantified DPs c-command each other. Thus, the two quantified DPs form a Σ-sequence and are able to be interpreted as scope ambiguous.

Consider the following structure involving multiple operators in Blackfoot.

(82)a. ni-maat-hkan-iyapi-hpinnan
   l-neg-all-see.intr-1/2pl
   ‘we didn’t all see (something)’

b. [Diagram of Blackfoot structure]

In (82.b), the c-command domain of maat- is defined by the maximal projection NegP, hence, maat- c-commands ohkan-. The c-command domain of ohkan-, however, is defined by the maximal projection QP, hence, ohkan- does not c-command maat-. Thus, the absolute scope domains are not equivalent and no Σ-sequence is formed. No scope ambiguities are possible. Instead, negation must take wide scope over the universal quantifier.

3.5.2 Ohkan-at ‘each’: wide-scope distributivity

Even in languages like English which have scope ambiguity to a certain extent, distributives are known to force an unambiguous wide scope reading; (Ioup, 1977; Heim, Lasnik & May, 1991a). That is, distributives take the widest reading over any other operator within the utterance. The English distributive each forces widest scope while the universal quantifiers all and every do not. Consider the ambiguity in the following English example.
Every man loves some woman

i. for all x, x is a man, there is some y, y is a woman, such that x loves y
ii. for some y, y is a woman, for all x, x is a man, it is the case that x loves y

The example in (83) can either have the universal wide scope reading (83.i) in which for each man there is a woman that he loves or it can have the existential wide scope reading (83.ii) in which there is one woman who all men love. However, this ambiguity disappears when we substitute the distributive each.

Each man loves some woman

i. for all x, x is a man, for some y, y is a woman, it is the case the x loves y
ii. *for some y, y is a woman, for all x, x is a man, it is the case that x loves y

The sentence in (84) must have the universal wide scope reading. The distributio each forces this reading.

Ohkan- has no distributional force of its own. Rather, the distributive in Blackfoot is achieved by combining ohkan- with the marker at-. This is consistent with Gil’s (1995) universal of morphosyntactic derivation, as given below.

Universal 3 (Morphosyntactic Derivation)
If a language possesses simple and distributive-key universal quantifiers, and the two are morphologically related, then the distributive-key universal quantifier is derived from the simple universal quantifier by a morphosyntactic process. (Gil, 1995; p.329)

According to Gil, the simple universal quantifier is unmarked whereas a distinct distributive-key universal is marked. He suggests that the marked distributive is derived from the unmarked simple universal. The distributive-key quantifier in Blackfoot, ohkanat-, is derived from the simple universal ohkan-.

I assumed in the previous section that the Blackfoot universal quantifier binds in situ via c-command. This analysis was able to account for the lack of scope ambiguity and the negative wide scope interpretation of sentences involving both negation and the universal quantifier. Blackfoot is like English, however, in that the distributive also forces the universal quantifier to take scope over negation.

om-iksi ninna-iks ni-maat-\textbf{bkan-at}-in-ok-aiksa
dem-pl man-pl 1-neg-all-dist-see.tr-inv-3pl.nonaffirm
“those men each didn’t see me”

i. * it is not the case that, for all x, x is a man, x saw me
ii. for all x, x is a man, it is not the case that x saw me
(87) om-iksi ninna-iks ohkan-at-ohipoma-waiksa aksistomatomahka
dem-pl man-pl all-dist-buy-3pl.nonaffirm car
"those men each didn't buy a car"

(i) * it is not the case that, for all x, x is a man, x bought a car
(ii) for all x, x is a man, it is not the case that x bought a car

Even with the fixed scope that results from in situ binding, the Blackfoot distributive forces a widest scope interpretation when it cooccurs with other operators. This has been noted by other researchers (e.g. Heim, Lasnik & May) and the cross-linguistic mechanism by which the distributive operator forces widest scope requires further study and explanation.

3.6 Ohkan- is a strong quantifier

According to Milsark (1974), the strength of a quantifier is determined by whether or not they can occur with an NP following the copula in a sentence involving there-insertion. A strong quantifier will not be permitted in this environment, as shown in in (88).

(88) a. * There was [everyone in the room] (Milsark, 1974; p. 204)
   b. * There are [many people intelligent] (Milsark 1974; p. 159)
   c. * There are [both people intelligent]
   d. * There are [each person intelligent]

In (88.a) the universal every is not permitted to occur following the copula in a there-insertion sentence. In (88.b), many is not permitted. These are analysed by Milsark as being strong quantifiers. He shows that only weak quantifiers, as in (89), are permitted in this environment.

(89) a. There were [several ships believed to be sunk] (Milsark, 1974; p. 179)
   b. There were [three men in the garden]

In (89.a), several is permitted in there-insertion and in (89.b), the numeral three is permitted. Thus, Milsark analyses these as belonging to the class of weak quantifiers.

Blackfoot does not have the equivalent of there-insertion, hence, it cannot be used as a diagnostic to determine the strength of quantifiers. However, a distinction does exist in Blackfoot between what Milsark defines as strong quantifiers and what he defines as weak quantifiers; Strong quantifiers are able to attach to main verbs, while weak quantifiers can only attach to light verbs.
3.6.1 Strong quantifiers attach to main verbs

Although it has not been overtly discussed thus far, the examples involving ohkan- above have all involved it attaching to a main verb, as in the following examples.

(90)a. nit-hkan-okskaas-pinnan
   1-all-run.intr-1/2pl
   ‘we all run’

   b. om-istsi sitokhkitan-ists nit-hkan-ahkitatoop-ya
      dem-3’pl pie-3’ 1-all-bake.tr-pl
      ‘I baked all those pies’

   c. om-iksi ninna-iks i-hkan-ano-yi-a om-i piita
      dem-pl man-pl pst-all-see.tr-3’-pl dem-3’ eagle
      ‘those men all saw that eagle’

Thus, the universal quantifier is able to attach to the main verb of a sentence. The universal is analysed by Milsark as being a strong quantifier. Thus, we predict that other strong quantifiers in Blackfoot will behave similarly to ohkan-; namely, they will also attach to main verbs. The distributive ohkanat- and the Blackfoot equivalent of ‘almost all’, imaathkan, both attach to main verbs.11

(91)a. nyooksk-at-api-iks i-hkan-at-ayapi-ya poos
   three-there-exist-pl pst-all-dist-see.intr-pl cat
   ‘three people each saw an eagle’

   Accepted:  where three eagles in total were seen
   Rejected:  where only one eagle was seen

   b. nits-imaat-hkan-oatoop-i om-istsi sitokhkitan-ists
      1-almost-all-eat.tr-3’  dem-3’pl pie-3’pl
      ‘I ate most of those pies’ (lit. ‘I ate almost all of those pies’)

Also, the Blackfoot equivalent of ‘both’ ayak- attaches to main verbs, as shown in (92) below.

(92) nit-ayaks-ino-wa-nnan nyooksk-at-api matapi-iks
    1-both-see.tr-3-1/2pl three-there-exist person-pl
    ‘we both saw three people’

Thus, the Blackfoot equivalents of Milsark’s strong quantifiers every/all, and most are shown to attach to main verbs in Blackfoot. Also, the distributive and equivalent of both are also shown to behave like

11 Notice that both are morphologically derived from ohkan-.
strong quantifiers. The ability to attach to a main verb is restricted to strong quantifiers. Weak quantifiers, as I show in the next section, must attach only to light verbs.

3.6.2 Weak quantifiers attach to light verbs

The behaviour of the weak quantifiers is more restricted than that of the strong quantifiers discussed above. While the strong quantifiers productively attach to any verb stem, the weak quantifiers are restricted to occurring only as a preverb on light verbs meaning 'be' a'pii or 'exist' itsitsii.

(93) a. ik-onats-it-api ninna-iks iyapi piita
   very-few-there-be man-pl see eagle
   "there are few men who saw an eagle"

b. ik-aka-at-pi matapi-iks ak-omotsaki-iks
   very-many-there-be person-pl fut-win-pl
   "there will be many people who will win"

c. nats-it-api-iks matapi-iks ak-omotsaki-iks
   two-there-be-pl person-pl fut-win-pl
   "there will be two people that will win"

The weak quantifiers occupy the same position on the verb stem as the strong quantifiers, therefore, the negative marker precedes weak quantifiers as it does strong quantifiers. This predicts that the weak quantifiers will also take narrow scope relative to negation. This is indeed the case.

(94) a. maat-ak-aka-it-api-wa matapi-iks imotsaki-iks
   neg-fut-many-there-be-3pl.nonaffirm person-pl win-pl
   "there will not be many people who will win"

b. it is not the case that, for many x, x is a person, x will win

c. * for many x, x is a person, it is not the case that x will win

(95) a. maat-onats-it-api ninna-iks iyapi piita
   neg-few-there-be man-pl see eagle
   "not a few men saw an eagle"

b. it is not the case that, few x, x is a man, x saw an eagle

c. * for few x, x is a man, it is not the case that x saw an eagle

12 The meanings in (94.c) and (95.c), which are not available interpretations of the examples given, would be expressed through a narrative about the context.
Thus, weak quantifiers behave like strong quantifiers insofar as they function as preverbs which bind *in situ* and thus come under the scope of negation. However, while strong quantifiers are able to adjoin to any verb stem, weak quantifiers are restricted to adjoin to light verbs.

3.7 Summary

In this chapter, I have assumed, following Sportiche (1998) that the universal quantifier in Blackfoot, *ohkan-* behaves like a stranded quantifier. That is, it heads a QP that takes AspP in its complement. I have followed May (1989) in assuming that *ohkan-* is a pair quantifier and as such is able to bind multiple variables. I have also followed May (1989) in assuming that no relative scope interactions exist between the universal quantifier and negation because the two operators do not form a Σ-sequence; i.e., they do not mutually c-command each other. Hence the structurally higher negation operator predictably and unambiguously takes wide scope relative to the universal quantifier. Finally, I have shown a distinction between weak and strong quantifiers in Blackfoot: strong quantifiers attach to main verbs; weak quantifiers attach to light verbs.

4. Mapping of Syntax to Semantics

In this chapter, I show that the syntactic position of the nominal expression determines its scope-taking properties. Adjoined DPs are VP-external whereas bare nouns remain in the VP. This makes certain predictions with respect to the scope-taking properties of DPs and bare nouns. Namely, it predicts that DPs will take wide scope relative to VPs and operators attached to VP. Conversely, bare nouns are predicted to take narrow scope relative to VPs and operators. In the following discussion, I show these predictions to be accurate. In 4.1, I discuss the scope-taking properties of DPs. Section 4.2 is a discussion of bare nouns. 4.3 concludes.

4.1. DPs

I have assumed that DP argument expressions, which include both bare plurals and overt determiner DPs, are VP-external. This predicts that DPs take wide scope relative to *ohkan-* , which attaches within the
phrase. This is borne out in the data. DPs are also predicted to scope out of embedded clauses, since they are adjoined to these clauses. This also is consistent with the data.

4.1.1 DPs are VP-external

Throughout this thesis, I have suggested that overt DPs are VP-external and attach as adjuncts to CP. This is represented in the following structure.

(96)a. [om-iksi ninna-iks] i-yimmi-ya
   dem-pl man-pl pst-sleep.intr-pl
   'the men all slept'

b.  
   \[ \begin{array}{c}
       \text{CP} \\
       \text{DP} \\
       \text{D'} \quad \text{NP} \\
       \text{D}^o \quad \text{N'} \\
       \text{om-iksi} \quad \text{ninna-iks} \\
   \end{array} \]
   \[ \begin{array}{c}
       \text{IP}_j \quad \text{PersP} \\
       \text{TP} \quad \text{NumP} \\
       \text{VP} \quad \text{t}_j \\
       \text{i-} \quad \text{p} \\
       \text{yimmi} \\
       \text{sleep.int} \\
   \end{array} \]

(97)a. [ninna-iks] i-yimmi-ya
   man-pl pst-sleep.intr-pl
   'men used to sleep'

b.  
   \[ \begin{array}{c}
       \text{CP} \\
       \text{DP} \\
       \text{D'} \quad \text{NP} \\
       \text{D}^o \quad \text{N'} \\
       \text{ninna-iks} \quad \text{Ø} \\
       \text{N}^o_i \quad \text{D}^o_i \quad \text{t}_i \\
   \end{array} \]
   \[ \begin{array}{c}
       \text{IP}_j \quad \text{PersP} \\
       \text{TP} \quad \text{NumP} \\
       \text{VP} \quad \text{t}_j \\
       \text{i-} \quad \text{p} \\
       \text{yimmi} \\
       \text{sleep.intr} \\
   \end{array} \]
In (96), the DP with the overt determiner head is adjoined to the phrase and hence is external to VP. In (97), the DP with the covert determiner is also shown to adjoin to the phrase and thus is also VP-external. DPs with both overt and covert determiner heads are adjoined to the phrase and hence, must be outside of VP.

### 4.1.2 DPs take wide scope

I have suggested that the universal quantifier *ohkan-* attaches outside of VP but within the clause itself. DPs, however, adjoin to the clause. Hence, DPs are predicted to take wide scope relative to *ohkan-.* This is consistent with the data.

(98)a. nit-hkan-hpoma-t-a-hpinnan [om-a poos]

\[1-all\-buy\-tr\-3\-1/2pl \quad \text{dem-3 cat}\]

‘we all bought the cat’

b.  

```
  CP  
 / \  
P o s \ \  
P e r s P  |  D P  
 / \  
Q P  |  D '  
/  
O h k a n - a l l  
/  
O h p o m a - t  
  
  b u y - t r  
  
  3   
  
  T i  
  
  N u m '  
  
  a  
  
  N u m P  
  
  T i  
  
  N u m - 3  
  
  D e m - 3  
  
  P o o s  
  
  C a t  
```

c. for some y, y is a cat, it is the case that for all x, x is us, x bought y

\[\exists y[\text{cat}(y) \land \forall x[\text{man}(x) \rightarrow \text{buy}(x,y)]]\]

d. *for all x, x is us, it is the case that for some y, y is a cat, x bought y

\[\forall x[\text{man}(x) \rightarrow \exists y[\text{cat}(y) \land \text{buy}(x,y)]]\]
(99)a. nit-hkan-a-ikskima-ya [kiaayo-ks]
   1-all-dur-hunt.tr-pl  bear-pl
   'we all hunt all bears'

b. CP
   CP
   nit-
   PersP
   P
   QP
   ohkan-
   AspP
   dur
   a-
   VP
   ikskima
   hunt.tr

c. for y, y are bears, it is the case that for all x, x is us, x hunts y
   \forall y[bear(y) \rightarrow \forall x[discourse-participant(x) \rightarrow hunt(x,y)]]

d. * for all x, x is us, it is the case that for y, y are bears, x hunts y
   \forall x[discourse-participant(x) \rightarrow \forall y[bear(y) \rightarrow hunt(x,y)]

In the structures in (98) and (99), the DPs adjoin to the phrase. The operator ohkan-, however, is attached phrase internally. Hence, the DPs are predicted to take wide scope relative to ohkan-. Given that the (c), i.e., wide scope, readings are felicitous and the (d), i.e., narrow scope, readings are infelicitous, I conclude that the data are consistent with this prediction.

4.1.3 DPs can scope out of embedded clauses

DPs are VP-external in that they are base generated in an adjoined position as opposed to an argument position. Thus, we expect DPs to take wide scope with respect to the embedded VP.
We know that those men all saw an eagle.

In (100) above, I assume that the wide scope reading (in (c)) is the result of the DP omi piita being adjoined to the matrix CP. I assume the intermediate reading (in (d)) results from the DP omi piita being
adjoined to the embedded CP. What is not possible is for the singular DP to be interpreted as being within the scope of the universal quantifier. This is as predicted.

4.2 Bare nouns

I have suggested that bare nouns are VP-internal. That is, unlike DPs or bare plurals, bare nouns are base generated in a VP-internal position and undergo abstract movement to incorporate to V°. This makes a number of predictions with respect to the scope taking properties of bare nouns. Since bare nouns are VP-internal elements, it is predicted that they will not take scope out of the VP itself. Since operators are attached outside of VP, bare nouns are predicted to take narrow scope relative to operators. Likewise, bare nouns are predicted to not scope out of an embedded clause. I show here that these predictions are consistent with the data.

4.2.1 Bare nouns remain in VP

In chapter 2, I showed that bare nouns do not agree with their verb stems. Thus, an agreement relationship between the bare noun and the verb does not exist by which to license the bare noun. In order to be licensed, therefore, the noun head must incorporate with its verb. Although this incorporation is not overt in the syntax, I assume that the noun head does incorporate. Therefore, the structure of a sentence with a bare noun can be shown as follow
(101) a. om-a ninna ohpom’ poos
dem-3 man buy.intr cat
“the man bought a cat”

b. CP
   |                |
   DP                CP
   |                |
   D’                PersP
   |                        |
   om-a                IPj
   det-3                Pers’
   |                        |
   NP                AspP
   |                        |
   ninna                Ø
   man                NumP
   |                        |
   VP
   |                        |
   V’
   |                        |
   ohpom’                V°
   buy.intr                N°
   poos                cat

c. \( \exists x [\text{man’}(x) \land \text{cat-bought’}(x)] \)
   for some \( x \), \( x \) is a man, for some \( y \), \( y \) is a cat, \( x \) bought \( y \)

There is no semantic form that would adequately show the interpretation of (101), where the bare noun takes narrow scope. I use the notation exemplified in (101.c) where the object and verb are shown as a single predicate as a means of expressing the narrow scope of the bare noun. I recognize, however, that this is not standard notation.

4.2.2 Bare nouns take narrow scope

Bare nouns occur VP-internally and are abstractly incorporated. Because the bare nouns remain in a VP-internal position, they are predicted to take narrow scope with respect to the universal quantifier ohkan-, which attaches outside of VP. This is the case, as is shown in the following data.
(102a) om-iksi ninna-iks i-hkan-ohpoma-ya poos  
\textit{dem-pl man-pl pst-all-buy.intr-pl cat}  
"the men all bought a cat"

b.  
\[
\begin{array}{c}
\text{CP} \\
\mid \text{DP} \\
\mid \text{D'} \\
\mid \text{NP} \\
\mid \text{N'} \\
\mid \text{ninna} \\
\text{man}
\end{array}
\quad \begin{array}{c}
\text{CP} \\
\mid \text{PersP} \\
\mid \text{IP,} \\
\mid \text{QP} \\
\mid \text{Ø} \\
\text{NumP} \\
\mid \text{t_i} \\
\mid \text{V'} \\
\mid \text{V°} \\
\mid \text{t_j} \\
\mid \text{N°_j} \\
\mid \text{V°} \\
\mid \text{poos} \\
\text{ohpom'} \\
\text{cat} \\
\text{buy.intr}
\end{array}
\]

c.  
i. \forall x[\text{man}'(x) \rightarrow \text{cat-bought'}(x)] 
\text{for all } x, x \text{ is a man, it is the case that } x \text{ bought } y, y \text{ is a cat}

ii. \exists y[\text{cat}(y) \lor \forall x[\text{man}(x) \rightarrow \text{bought}(x, y)]]
* \text{for some } y, y \text{ is a cat, it is the case that for all } x, x \text{ is a man, } x \text{ bought } y

The bare noun is indeed mapped within the VP, and hence is within the scope of the universal quantifier. Because it semantically incorporates with the verb, it allows a reading where each man bought a different cat. Only bare noun arguments are able to come within the scope of the universal quantifier because only the bare nouns are base generated within VP. Thus, bare nouns contribute the reading whereby an argument takes narrow scope relative to the universal quantifier.

\textbf{4.2.3 Bare nouns cannot scope out of embedded clauses}

Bare nouns are base generated within the embedded VP. Hence, they are predicted to be unable to take wide scope with respect to embedded clause. This is true given the data, as show in (103) below.
(103a) nit-sksini-hpinnan [om-iksi ninna-iks ot-hkan-iyap-sa [piita]]
1-know-l.pl dem-pl man-pl 3-all-see.intr-3'conj eagle
"we know that the men all saw an eagle"

b.  

```
       CP
         ↓
        PersP
          ↓
         IP
           ↓
          VP
            ↓
           V'
             ↓
            NumP
              ↓
             t_i
              ↓
            Num'
              ↓
           sskini
        know.tr
          ↓
         CP
           ↓
          -hpinnan
      1/2pl
```

d. i. *∃y[eagle'(y) ^ know'(discourse-participant,∀x[man'(x) → saw'(x,y)]])
   * for some y, y is an eagle, we know that it is the case the for all x, x is a man, x saw y

ii. *know'(discourse-participant,∃y[eagle'(y) ^ ∀x[man'(x) → saw'(x,y)]])
   * we know that, for some y, y is an eagle, for all x, x is a man, it is the case that x saw y

iii. know'(discourse-participant,∀x[man'(x) → eagle-saw'(x)])
   we know that for all x, x is a man, it is the case that x saw y, y is an eagle

Bare nouns do indeed get mapped within the embedded VP and are hence interpreted as taking narrow scope relative to the embedded VP.

4.3 Summary
I have shown that the scope taking properties of nominal expressions in Blackfoot follows directly
from their position in the syntax. An analysis in which DPs are VP-external and bare nouns are VP-
internal correctly predicts that DP arguments and bare noun arguments will behave differently with
respect to their respective scope-taking properties. A DP takes wide scope relative to ohkan- whereas a
bare noun takes narrow scope. An argument DP is mapped outside of its embedded clause, thus appearing
to take wide scope relative to the matrix clause. Bare nouns, however, are mapped within the embedded
VP, therefore taking narrow scope.

5. The semantics of Blackfoot determiners

Having discussed the syntactic difference between DPs and bare nouns and its effect on relative
scope, I now discuss an additional semantic distinction attributable to syntax. In this chapter, I show that
Blackfoot determiners carry syntactic and contextual information insofar as determiners encode visibility,
proximity, person and number. I also show that Blackfoot DPs do not encode definiteness or specificity
but instead encode an assertion of existence.

5.1 Blackfoot determiners encode visibility, proximity, person and number

Blackfoot determiners encode visibility, proximity, person and number. That is, the choice of a
determiner is motivated by whether or not the object(s) denoted by that noun are visible to the speech act
participants, the proximity of the object(s) denoted by that noun to the speech act participants, whether the
noun denoted is in 3rd or 4th person, and the number (singular or plural) of the noun which it is modifying.

Frantz (1991) provides the following classification for Blackfoot determiner stems.

(104) amo proximity to speaker but not to addressee
om proximity to neither speaker nor addressee
anno proximity to speaker and proximity or familiarity to the addressee
ann proximity or familiarity to the addressee but no proximity to the speaker
am proximity and familiarity to the speaker. (Frantz, 1991, p.63)

(105) proimation: near distant neutral not visible
    familiarity: neutral speaker-orient neutral neutral hearer-orient not visible
    3rd p. sg. amo am-a om-a anno ann-a ann-a-hka
    4th p. sg. amo am-i om-i anno ann-i ann-i-hki
    Plural amo-ksi am-iksi om-iksi anno-ksi ann-ksi ann-ksi-sk
According to Frantz, Blackfoot determiners are marked for proximity and familiarity relative to both speaker and addressee. My consultants do not encode familiarity in the determiner system. That is, familiarity to either addressee, speaker, or both has been neutralized in my consultants' dialects. The determiners marking near proximity, amo and anna, have been neutralized to amo. There is no familiarity distinction in the distance marker. The neutral proximity determiners, anno and ann have been neutralized to ann. My consultant uses the -hka suffix to indicate that the noun is not visible to either the speaker or the addressee. Thus, according to the data I have collected, I argue property denoting features of Blackfoot determiners as summarized in the following table.

(106)

<table>
<thead>
<tr>
<th></th>
<th>proximate</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>near</td>
<td>distant</td>
<td>neutral</td>
<td>not visible</td>
</tr>
<tr>
<td>3rd p. sg.</td>
<td>amo</td>
<td>om-a</td>
<td>ann-a</td>
<td>ann-a-hka</td>
</tr>
<tr>
<td>4th p. sg.</td>
<td>amo</td>
<td>om-i</td>
<td>ann-i</td>
<td>ann-i-sk</td>
</tr>
<tr>
<td>plural</td>
<td>amo-ksi</td>
<td>om-iksi</td>
<td>ann-iksi</td>
<td>ann-iksi-sk</td>
</tr>
</tbody>
</table>

The determiner amo is used to introduce a noun that denotes an individual near to both the speaker and the addressee.

(107)a. amo piita

dem eagle
‘this eagle (near)’

b. amo-ksi piita-iks

dem-pl eagle-pl
‘these eagles (near)’

The determiner om- is used to introduce a noun that denotes an individual distant from both the speaker and the addressee.

(108)a. om-a piita

dem-3 eagle
‘that eagle (distant but visible)’

b. om-iksi piita-iks

dem-pl eagle-pl
‘those eagles (distant but visible)’

The determiner ann- is used where proximity is not relevant in the discussion, but where the individual denoted by the noun is visible to both the speaker and the addressee.
Blackfoot determiners encode visibility, proximity, number and obviation. Unlike the description put forth by Frantz, familiarity marking in the determiner system has been neutralized in my consultants' Blackfoot.

5.2 Definiteness

In many languages, determiners carry information about the definiteness/indefiniteness of the nouns they modify. English is such a language. I will argue here that Blackfoot, unlike English, does not encode a definiteness/indefiniteness distinction in its determiners.

5.2.1 Defining Definiteness

I follow Heim (1982) and others in assuming that the major determining factor of definiteness involves the novel – familiar distinction. That is, in languages that encode definiteness, an individual novel to the discourse is introduced by a distinct determiner. In English, this corresponds to the indefinite determiner *a*, as illustrated in (111).

(111) a. I met [a man] today
    b. *I met [the man] today
(111.a) would be felicitous in a context where some man is new to the discourse; for example, where the speaker is recounting the meeting of a man that is not known to the addressee. The speaker uses the indefinite determiner *a* to introduce the man in question into the discourse. It is infelicitous, however, for the speaker to introduce an individual, unknown to the addressee, into the discourse with the definite determiner, as in (111.b). Thus, in English, an individual novel to the discourse must be introduced by the indefinite determiner.

Once an individual has been introduced into the discourse, however, the definite determiner must be used. An individual that is familiar to the discourse cannot be referred to using the indefinite determiner, but must be referred to with the definite determiner.

(112) I met [a man] today
   i.  What did [the man] look like?

(112) is felicitous because the NP ‘man’ is novel to the discourse. Once the ‘man’ has been introduced into the discourse, the definite determiner must be used (as in (112.i)) and not the indefinite determiner (as in (112.ii)). Thus, in languages like English whose determiners encode a definite/indefinite distinction, the indefinite determiner is used to refer to individuals novel to the discourse, while the definite determiner is used to refer to familiar individuals.

5.2.2 Blackfoot determiners do not encode definiteness

If Blackfoot is a language that also encodes a definite/indefinite distinction in its determiners, then we expect a different determiner to be used, depending on whether the noun it introduces is novel or familiar in the discourse. This is not the case. Notice instead that the same determiner (here, *annahk*) is used to introduce novel individuals (as in 113.a, b) as well as familiar individuals (as in 113.c).

(113)a. kit-aak-ht-itsinikh-o [ann-a-hka ninna] apaska-a
    2-fut-about-tell*story*-lsub *dem-3-nv man dance-3*
    ‘I am going to tell a story about a man who dances’ (novel)

b. [ann-a-hka ninna] nit-o’tsiim-a ann-a-hk ksistskohk
    *dem-3-nv man 1-meet-3 dem-3-nv day*
    ‘I met a man today’ (novel)
(113.a) is felicitous in a context where the speaker is telling a story to the addressee(s) and is hence introducing an individual (here 'a man') into the discourse. (113.b) is felicitous in a context where, as for the English examples above, the speaker is introducing an individual unknown to the addressee in the discourse. Hence, in (113.a) and (113.b), annahka is behaving like the English indefinite determiner a. In (113.c), where it is spoken in response to the utterance in (113.b), the individual in question has already been introduced to the discourse. In English, the definite determiner the would be required in this context. In Blackfoot, however, annahka can be used here as well. Thus, in (113.c), annahka is behaving like the English definite determiner.

The other Blackfoot determiners also behave like annahka insofar as they can be used to introduce novel individuals into the discourse and can also be used to refer to those individuals already introduced in the discourse.

(114) [om-i sinakyatsis-i] nit-hpoma-t-oop matonni
\[dem-3'\ book-3' \ i-buy.tr-3TI \ yesterday\]
'I bought a book yesterday'

**Context:** as the answer to the question 'What did you do yesterday?'.

(115) nit-hkot-a ann-a-hk tsaan [om-i sinakyatsis-i]
\[1-give.tr-3 dem-3-nv John \ dem-3' book-3'\]
'I gave the book to John'

**Context:** following (114), answering the question 'What did you do today?'

The 'book' in (114) and (115) is the same book; in (114) it is introduced into the discourse by the determiner omi. In (115), it is familiar in the discourse, but can still be preceded by the determiner omi. Hence, omi functions like annahka in that its behaviour is consistent with neither pure definites nor pure indefinites.

Blackfoot determiners are able to introduce novel individuals (indefinites) into the discourse and are able to refer to an individual already introduced into the discourse (definites). I therefore conclude that Blackfoot determiners do not encode a definite/indefinite distinction.
5.3 Specificity

Having shown that DPs in Blackfoot do not encode definiteness, I now show that these DPs do not encode a specific/nonspecific distinction either in the sense of Ludlow & Neale (1991). Ludlow & Neale’s definition of specificity, which makes use of the following three concepts.

(116)  

a. Speaker’s Grounds: the proposition that is the object of the most relevant belief furnishing the grounds for an utterance.

b. Propositions Meant: the proposition(s) a speaker intends to communicate

c. Propositions Expressed: the proposition expressed by the utterance.

(Ludlow & Neale, 1991: 176)

A nonspecific reading is the result of a proposition in which the Speaker’s Ground, Proposition Meant and Proposition Expressed are identical. According to Ludlow & Neale, a mismatch between the Speaker’s Ground and the Proposition Meant results in a specific reading, as we will see.

Suppose that I work as an organizer at a museum. Also suppose that John, a Blackfoot chief, is coming to see me tomorrow to discuss a new exhibit or. If I am asked, what is on the agenda for the week, I might respond as follows.

(117)  

a. A chief is coming to visit me tomorrow

b. Speaker’s Grounds: John is coming tomorrow

   Proposition Meant: A chief is coming tomorrow

   Proposition Expressed: A chief is coming tomorrow

I may have no reason to assume that the hearer knows John, or knows that he is coming to see me tomorrow. Therefore, even though I have a specific individual in mind, I do not express to the hearer the identity of that individual. The result is a mismatch between the Speaker’s Grounds and the Proposition Meant, and hence, a specific intention.

Consider instead that I receive a memo at the museum stating that a chief is coming to talk to me tomorrow. When asked, what is on the agenda for the week, I may give the same response as above.

(118)  

a. A chief is coming to visit me tomorrow

b. Speaker’s Grounds: A chief is coming tomorrow

   Proposition Meant: A chief is coming tomorrow

   Proposition Expressed: A chief is coming tomorrow
In (118), I do not know the identity of the chief that is coming to visit me tomorrow, and so cannot have a specific individual in mind. No mismatch incurs between the Speaker’s Grounds and the Proposition Meant, and hence, the reading is nonspecific.

If the DPs of a language encode specificity, then we expect to see a different determiner used depending on which reading is intended, specific or nonspecific. Notice that the same DP is used in English, whether a specific or nonspecific reading is intended, therefore, English DPs do not encode specificity. I show that Blackfoot DPs, likewise, do not encode specificity.

5.3.1 Blackfoot determiners do not encode specificity

In order to determine whether or not Blackfoot DPs encode specificity, we must look at a scenario like that used above. If I know that John is the chief who is coming to visit me tomorrow, I may respond, when asked about my agenda with the following statement.

(119)a. [ann-hka ist-hkan-ninna] ak-aist-oto-itstsip’s-ak-i aapinaakosi
   dem-3-nv there-all-chief fut-visit-go to-exist-inv-3 tomorrow
   ‘a chief is coming to visit me tomorrow’ (specific)

   b. Speaker’s Grounds:      John is coming tomorrow
   Proposition Meant:         A chief is coming tomorrow
   Proposition Expressed:     A chief is coming tomorrow

The determiner *annahka* is used when the reading is intended to be specific. Now we must see if *annahka* can also be used to intend nonspecificity. If I do not know which chief is coming to visit me, I may respond, when asked about my agenda, with the same statement used in above.

(120)a. [ann-hka ist-hkan-ninna] ak-aist-oto-itstsip’s-ak-i aapinaakosi
   dem-3-nv there-all-chief fut-visit-go to-exist-inv-3 tomorrow
   ‘a chief is coming to visit me tomorrow’ (nonspecific)

   b. Speaker’s Grounds:      A chief is coming tomorrow
   Proposition Meant:         A chief is coming tomorrow
   Proposition Expressed:     A chief is coming tomorrow

The same determiner is used in Blackfoot whether or not there is a mismatch between the Speaker’s Grounds and the Proposition Meant. Therefore, Blackfoot DPs do not encode specificity.
5.4 Blackfoot determiners assert existence

I have suggested so far that Blackfoot DPs do not encode definiteness nor specificity. We must consider what they do encode. I suggest that Blackfoot DPs encode an assertion of existence. I adopt the informal definition of Assertion of Existence given in Givón (1978; 293-74).

(121) **Assertion of Existence**

> 'the speaker’s intent to ‘refer to’ or ‘mean’ a nominal expression to have non-empty reference – i.e., to ‘exist’ – within a particular universe of discourse (i.e., not necessarily within the real world)’

DPs in Blackfoot all have existential force, as shown semi-formally in the data below.

(122) nits-ino-a [om-a piita]

> 1-see-3 dem-3 eagle

> ‘I saw an eagle’ (eagle can be novel or familiar)

i. there is an x, eagle(x), I saw x

\[
\exists x [\text{eagle}(x) \land \text{saw(discourse-participant,x)}]
\]

(123) ni-maats-ino-a-waatsiiks [om-i piita]

> 1-neg-see-3-nonaffirm dem-4 eagle

> ‘I didn’t see an eagle’ (eagle can be novel or familiar)

i. there is an x, eagle(x), it is not the case that I saw x

\[
\exists x [\text{eagle}(x) \land \neg \text{saw(discourse-participant,x)}]
\]

ii. * it is not the case that there is an x, eagle(x), I saw x

\[
\neg \exists x [\text{eagle}(x) \land \text{saw(discourse-participant,x)}]
\]

(122) corresponds to the reading where there is some eagle that has been seen. The utterance in (123) corresponds to the reading where negation fails to take wide scope. That is, in (123), the act of seeing the eagle is negated (123.i) and not the presence of the eagle itself. In (123), the noun 'eagle' is introduced by a determiner. The semantics of the determiner, therefore, require that the eagle exist in the universe of discourse. The negation marker cannot, therefore, negate the existence of the eagle in that universe of discourse (the reading in 123.i).

If a Blackfoot DP asserts that its NP complement exists, then we predict that we cannot negate the existence of a NP introduced by D°. This is borne out. In (124), the D° oma asserts that a cat exists in the universe of the discourse. It is infelicitous, therefore, to answer the question in (124) with the answer
given, i.e., no, there weren't any. If the cat is asserted to exist in the question, we cannot then assert that it
doesn't exist in the answer.

(124)a. ki-kat-ohpomma-tsi-waatsiiks [om-a poos-a]?
   2-interrog-buy-tr-nonaffirm dem-3 cat-3
   'did you buy a cat?'

   b. * ... saa, maat-tstsp-a
      no neg-exist-3
      'no, there weren't any'

Likewise, (125) is infelicitous because we are on the one hand asserting, by means of the verb, that
something doesn't exist, while on the other asserting, by means of the DP, that it does.

(125)  * maat-tstsp-a [an-a-hka poos-a]
      neg-exist-3 dem-3-nv cat-3
      'there isn't a cat/'there are no cats'

      i. *there is an x, x is a cat, it is not the case the x exists
         * ∃x[cat(x) ∧ ¬exist(x)]

If the DP didn't require that its NP exist, then the sentences in (124) and (125) should be perfectly
felicitous. Because they are, in fact, infelicitous, we can conclude that Blackfoot DPs assert existence.

5.5 Blackfoot determiners are deictic demonstratives

Matthewson (1996) argues that Salish languages maintain an assertion of existence distinction in their
determiner systems. That is, the determiner systems of Salish languages are made up of deictic
determiners, which assert existence, and at least one determiner which does not assert existence. Hence,
in Salish, determiner selection is dependent on whether or not the noun phrase introduced is asserted to
exist in the universe of discourse. Matthewson provides one exception from the Salish family, namely,
Straits Salish (Lummi). She proposes that Straits Salish lacks a non-assertion of existence determiner and,
hence, obligatorily lacks an assertion of existence distinction.

Jelinek & Demers' (1994) argue that Straits Salish determiners are actually
'determiner/demonstratives' because they are able to stand alone without a complement. The same is true
of Blackfoot determiners. A determiner can occur without a complement in Blackfoot.
Matthewson (1996, p.70) suggests, following Demirdache (1996a,b) that all determiners in Straits assert existence because they are all strongly deictic. According to Demirdache, deictic features supply a determiner with Spatio-Temporal Boundaries, locating it in time and space. Once an entity has been located in time and space, it must exist (cf. Matthewson, 1996, p. 71). If all the determiners in a language have these deictic properties, then they must all assert the existence of the NPs they introduce. Consider the determiner system in Straits Salish, as compared to that of Blackfoot.

(127) **Lummi - Salish** (from Matthewson 1996, p.69; (81))

<table>
<thead>
<tr>
<th></th>
<th>proximate, visible</th>
<th>neutral</th>
<th>distal, out of sight</th>
<th>remote</th>
</tr>
</thead>
<tbody>
<tr>
<td>female</td>
<td>si'α</td>
<td>ą</td>
<td>k&quot;α</td>
<td>k&quot;są</td>
</tr>
<tr>
<td>general</td>
<td>ti'α</td>
<td>ą</td>
<td>k&quot;α</td>
<td>k&quot;cą</td>
</tr>
</tbody>
</table>

(128) **Blackfoot** (repeated from above)

<table>
<thead>
<tr>
<th></th>
<th>proximate</th>
<th>neutral</th>
<th>not visible</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd p. sg.</td>
<td>amo</td>
<td>om-a</td>
<td>ann-a</td>
</tr>
<tr>
<td>4th p. sg.</td>
<td>amo</td>
<td>om-i</td>
<td>ann-i</td>
</tr>
<tr>
<td>plural</td>
<td>amo-kši</td>
<td>om-iksči</td>
<td>ann-iksči</td>
</tr>
</tbody>
</table>

Both contain determiners which are strongly deictic. We might predict the analysis of Straits Salish, i.e., that an assertion of existence distinction is absent, to extend to Blackfoot based on the fact that both Straits Salish and Blackfoot have deictic determiner/demonstratives. This analysis would be inadequate for Blackfoot. Blackfoot maintains an assertion of existence distinction, although that distinction is not found in the determiner system.
5.6 Bare nominals and the assertion-of-existence distinction

In chapter 2, I assumed that Blackfoot bare plurals are introduced by a covert D°. Given that D° is the locus of the assertion of existence distinction, it is predicted that bare plurals are asserted to exist. Bare nouns, unlike bare plurals, are not introduced by D°. They cannot, therefore, be asserted to exist, since they are lacking a D° to provide that distinction. I show here that this prediction is borne out in the data; i.e., that bare nouns fail to assert existence.

5.6.1 Bare nouns fail to assert existence

Because they are not associated with a determiner position, bare nouns do not encode an assertion-of-existence distinction: they fail to assert existence, they also fail to not assert existence.

(129)a. ki-kat-ohpomma-ts-i-watsiiks [om-a poos-a]?
   2-interrog-buy-tr-3 nonaffirm dem-3 cat-3
   ‘did you buy a cat?’

   b. *... saa, maat-tstsip-a
      no neg-exist-3
      ‘no, there weren’t any’

(130)a. ki-kat-ohpomma-hpa [poos ]?
   2-interrog-buy-2nonaffirm cat
   ‘did you buy a cat?’

   b. ... saa, maat-tstsip-a
      no neg-exist-3
      ‘no, there weren’t any’

The answer given in (129) is infelicitous because the cat under discussion has already been asserted to exist, given that is in introduced by a DP in the question. If bare nouns fail to be asserted to exist, then reformulating the question in (129) with an intransitive stem and a bare noun noun should make the answer given above felicitous. This is indeed the case.

It is also predicted that bare nouns will not have existential force, as did all Blackfoot DPs, as shown in section 2.4. This, also, is born out in the data. In (131) and (132), the bare nouns do not have existential force, whereas the corresponding DPs in (131) and (132) do.

(131) ni-maats-iyapi-hpa [piita]
   1-neg-see.intr-lnonaffirm eagle
   ‘I didn’t see an eagle’
i. it is not the case that for some \( x \), \( \text{eagle}(x) \), I saw \( x \)
\[-\exists x[\text{eagle}(x) \land \text{saw(speaker,}x)]\]

ii. * for some \( x \), \( \text{eagle}(x) \), such that it is not the case that I saw \( x \)
* \( \exists x[\text{eagle}(x) \land \text{~saw(speaker,}x)] \)

(132) ni-maats-ino-a-waatsiiks [om-i piita]
\text{1-neg-see}-3\text{-nonaffirm dem-4 eagle}  
'I didn’t see the eagle'

i. * it is not the case that for some \( x \), \( \text{eagle}(x) \), I saw \( x \)
* \( \neg \exists x[\text{eagle}(x) \land \text{saw(speaker,}x)]\)

ii. for some \( x \), \( \text{eagle}(x) \), it is not the case that I saw \( x \)
\( \exists x[\text{eagle}(x) \land \text{~saw(speaker,}x)] \)

(133) ni-maats-kita-hpa [sitokhkita]
\text{1-neg-bake.intr-1nonaffirm pie}  
'I didn’t bake a pie'

i. it is not the case that for some \( x \), \( \text{pie}(x) \), I baked \( x \)
\(-\exists x[\text{pie}(x) \land \text{baked(speaker,}x)]\)

ii. * for some \( x \), \( \text{pie}(x) \), such that it is not the case that I baked \( x \)
* \( \exists x[\text{pie}(x) \land \text{~baked(speaker,}x)] \)

(134) ni-maats-kita-astsa [sitokhkitan-ists]
\text{1-neg-bake-nonaffirm pie -pl}  
'I didn’t bake the pie'

i. * it is not the case that for all \( x \), \( \text{pie}(x) \), I baked \( x \)
* \( \neg \forall x[\text{pie}(x) \rightarrow \text{baked(speaker,}x)]\)

ii. for all \( x \), \( \text{pie}(x) \), such that it is not the case that I baked \( x \)
\( \forall x[\text{pie}(x) \rightarrow \text{~baked(speaker,}x)] \)

Bare nouns in Blackfoot do not have existential force and do not assert that the individual denoted by the noun exists in the universe of the discourse because they are not introduced by \( \text{D}^\circ \), which I assume is the locus of the assertion of existence distinction. Hence, a bare noun, which cannot be asserted to exist, provides an interpretation in which the individual denoted by the noun is not asserted to exist.

5.6.2 A comparison between Blackfoot and Salish

Matthewson (1996) argues for Stát'imcets that determiners are encoded for assertion of existence. In her analysis, the non-polarity determiners provide the assertion of existence reading while the single
polarity determiner, \( ku \), provides the non-assertion of existence reading. Thus, it is predicted that a bare noun will occur in Blackfoot where the polarity determiner occurs in St’át’imcets.

Matthewson (1996, 1999) argues that the St’át’imcets polarity determiner takes narrow scope relative to negation, as in example (146.a).

\[(135)\]

\[(135)\]

St’át’imcets

a. \( \text{cw7aoz kw-s á’-en-as } [\text{ku sts’úqwaz’}] \text{ kw-s Sophie} \)

\( \text{neg det-nom buy-tr-3erg det fish det-nom Sophie} \)

‘Sophie didn’t buy any fish’

Blackfoot

b. \( \text{ann-a-hk tsaan maat-ohpoma-watsiiks } [\text{mammi}] \)

\( \text{dem-3-nv John neg-buy.intr-3sg.nonaffirm fish} \)

‘John didn’t buy a fish’

i. it is not the case that, for some \( x \), \( x \) is a fish, John/Sophie bought \( x \)

\[ \neg \exists x [\text{fish}(x) \rightarrow \text{bought}(J/S,x)] \]

ii. * for some \( x \), \( x \) is a fish, it is not the case that John/Sophie bought \( x \)

\[ * \exists x [\text{fish}(x) \rightarrow \neg \text{bought}(J/S,x)] \]

The Blackfoot equivalent in (135.b) where negation takes wide scope involves the bare noun.

Matthewson also points out that the St’át’imcets polarity determiner takes narrow scope relative to embedded clauses, as in the \( if \)-clause in (136). An equivalent cannot be generated in Blackfoot, since bare nouns cannot occur in subject position. However, bare noun objects provide a narrow scope reading relative to embedded clauses, as in (137).

\[(136)\]

St’át’imcets

\( \text{cuz’ tsa7cw kw-s Mary lh-t’iq-as } [\text{ku qelhmémen’}] \)

\( \text{going.to happy det-nom Mary hyp-arrive-3conj det old.person(dimin)} \)

‘Mary will be happy if any elder comes’

i. Mary will be happy if, for some \( x \), \( x \) is an elder, \( x \) comes.

ii. * for some \( x \), \( x \) is an elder, Mary will be happy if \( x \) comes.

\[(137)\]

Blackfoot

\( \text{nit-aks-ikhots-itaam-’ps kam-yapi-naki } [\text{piita}] \)

\( 1\text{-fut.able-happy-1sg if-see.intr-3subj eagle} \)

‘I will be happy if I see an eagle’

i. I will be happy if, for some \( x \), \( x \) is an eagle, I see \( x \)

ii. * for some \( x \), \( x \) is an eagle, I will be happy if I see \( x \)
Finally, Matthewson claims that the polarity determiner in St'át'imcets takes narrow scope relative to a modal. This is also the case in Blackfoot.

(138) **St'át'imcets**

kân-as kelh qwal'út-s-as k Mary [ku naplit]

*WH-3conj might talk-caus-3erg Mary det priest*

'Mary might talk to a priest'

i. it might be the case that Mary will talk to some x, x is a priest

ii. *for some x, x is a priest, it might be the case that Mary will talk to x

(139) **Blackfoot**

nit-ahkamap-hpoom' [sinakyatsis-i] apinakosi

*I-might-buy.intr book-pol tomorrow*

'I might buy a book tomorrow'

i. it might be the case that I will buy some x, x is a book, tomorrow

ii. for some x, x is a book, it might be the case that I will buy x tomorrow

Blackfoot bare nouns occur in sentences where the noun takes narrow scope relative to negation, embedded clauses or modals. These are the same contexts where Matthewson argues the St'át'imcets polarity determiner occurs. Since the polarity determiner in St'át'imcets and the bare noun in Blackfoot have similar interpretations, i.e., neither assert existence, it is predicted that they should occur in the same range of environments. As shown above, this prediction is borne out in the data.

While Blackfoot allows abstract incorporation but not overt incorporation, Salish allows no incorporation, either abstractly or overtly. The Salish semantic equivalent to a Blackfoot bare noun can be achieved by an overt D, hence, a bare noun, assuming an interpretation like that in Blackfoot, would be redundant in Salish. St'át'imcets *ku* provides the same non-assertion of existence reading as Blackfoot bare nouns.

5.7 Summary

In this section, I have shown that Blackfoot DPs are not sensitive to definiteness since the same determiner can be used to introduce a novel individual into the discourse as is used to introduce a familiar individual. The determiner cannot be analyzed as homophonous between definite and indefinite because DPs do not exhibit the full range of functions that overtly marked definite and indefinite determiners do. I have also shown that Blackfoot DPs do not encode specificity, as the choice of determiner is not sensitive
to a potential mismatch between the Speaker's Ground and the Proposition Meant. Instead, the same
determiner is used whether a specific or nonspecific reading is intended. Along with syntactic (i.e.,
inflectional marking such as obviation and number) and contextual information, (i.e., proximity,
visibility) Blackfoot DPs do encode an assertion of existence. That is, an NP introduced by D° is assumed
to exist in the universe of the discourse. Thus, Blackfoot DPs encode an assertion of existence, and not
definiteness or specificity.

6. Conclusion

The primary goal of this thesis has been to present an analysis of nominal scope differences in
Blackfoot. In Blackfoot, DPs obligatorily take wide scope with respect to the universal quantifier while
bare nouns take obligatory narrow scope. In order to account for this, I have presented an analysis of two
types of Blackfoot nominals: DPs and bare nouns. I have assumed that the two types of nominals
correspond to two different syntactic structures; namely, DPs are adjoined to the phrase whereas bare
nouns are base generated within VP and are abstractly incorporated. I have assumed that agreement and
movement relationships license overt arguments, as in Baker's MVC, although clearly not in the strict
sense.

I have shown that the two syntactic structures associated with DPs and bare nouns respectively
correspond to interpretative differences with respect to the universal quantifier. I have shown that,
because DPs are base generated outside of the clause while the quantifier is base generated within the
clause, DPs appear to have wide scope relative to the universal quantifier. Conversely, because bare
nouns are generated within VP, they take narrow scope relative to the universal quantifier.

Finally, I have shown that the two types of Blackfoot nominals are distinct in terms of their
semantics with respect to assertion of existence. Blackfoot determiners have been shown to encode
assertion of existence. That is, the individual denoted by a noun phrase complement of a determiner will
be asserted to exist in the universe of discourse. I assume, therefore, that the determiner head is the locus
for assertion of existence. I have shown that, as we would therefore predict, bare nouns are not marked for
assertion of existence, because they are not introduced by a determiner head. Thus, Blackfoot DPs and
bare nouns have been shown to be representative of different positions within the syntax which
correspond to different scope-taking properties relative to the universal quantifier as well as different semantics inherent to the determiner itself.
References


Déchaïne, Rose-Marie (1999)


