Spatial PPs in Blackfoot* 

Kyumin Kim
(Cheongju University)

Kyumin Kim (2017), Spatial PPs in Blackfoot. Studies in Linguistics 42, 165-186. This paper examines the distribution of spatial PPs- direction and locative- in Blackfoot, an endangered Algonquian language spoken in Southern Alberta and Northwestern Montana. The goal of this paper is to provide the description of spatial PPs in this language different from other well studied languages. It is shown that a direction P has a simplex structure in that it does not embed a locative PP, contrary to a well-known cross-linguistic generalization. This paper also discusses the consequences of having a simplex direction PP with respect to motion verbs. This paper contributes to the documentation of spatial PPs and their interaction with motion verbs in the language, on which data are scarce and to which less attention has been given in the literature. (Cheongju University)

Key Words: : spatial PPs, direction, locative, linker, non-linker

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1. Introduction

Spatial PPs refer to PPs that indicate either path or location (Jackendoff, 1983). Consider the English examples in (1).

(1) a. John went to the store.
    b. John is in the room.

In (1a), the P to indicates a path, the trajectory that John followed with respect to the reference point object the store. In particular, the P in (1a) specifies the reference point of the object as a goal of motion. On the other hand, in (1b), the P in indicates the place where John is located. Spatial PPs have been the subject of studies on numerous languages, and various analyses have been proposed in different theoretical frameworks (e.g., Talmy, 1985, 2000; Jackendoff, 1983; Koopman, 2000; den Dikken, 2010; Svenonius, 2010).

In Blackfoot, there are set of prefixes called, a linker or a non-linker, which indicates the meaning of a spatial P as in English. It can introduce path or location meanings (Frantz, 2009; Kim, 2014). Linkers are exemplified in (2), and non-linkers are exemplified in (3).  

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1 Throughout this paper, Blackfoot examples (only those that are grammatical) are presented with an additional first line which indicates the orthographic spelling following Frantz (2009) without pitch accent; however, I followed my consultants' orthographic spelling when there is an inconsistency. Unless otherwise noted, all data presented in this paper is from the author's fieldwork. Morpheme breakdowns in this paper are not exhaustive and morphemes irrelevant to this paper are not indicated. The data presented come from the Kainai (Blood) dialect. The following abbreviations are used in the paper: 1/2/3 – 1st/2nd/3rd person; AN – animate; AI – animate intransitive; DEM – demonstrative; DUR – durative aspect; FUT – future; II – intransitive inanimate; IIN – Independent Indicative Neutral; INA – inanimate; INST – instrument; LOC – locative linker; PATH – path linker; P – plural; S – singular; TA – transitive animate; TI – transitive inanimate.
(2) a. anna John itapoo anni niitahtaayi
   anna John itap-o-wa anni niitahtaayi path
   DEM John PATH-go.AI-3s DEM river
   ‘John is going to the river.’

b. anna John itohpai’piiyi anni niitahtaayi
   anna John it-o-ohpai’piiyi-wa anni niitahtaayi locative
   DEM John LOC-jump.AI-3s DEM river
   ‘John is jumping in the river.’

(3) a. anna John aamisoo
    anna John waamis-o-wa (*anni niitahtaayi)
    DEM John up-go.AI-3s DEM river
    ‘John is moving upwards.’

b. anna John iihkitsipoyi
    anna John iihkit-ipoyi-wa (*anni iitaisooyo’p)
    DEM John on.top-stand.AI-3s DEM table
    ‘John stood on top (*of the table).’

In (2a), a direction linker itap- appears as a prefix on the verb ‘go’, and in (2b), a locative linker it- is prefixed to the verb ‘jump’. The linkers can introduce a nominal object; for instance, in (2a), the direction linker itap- introduces a goal of the motion event ‘going’, namely ‘to the river’. In contrast, non-linkers, waamis- ‘up’ (3a) or iihkit- ‘on top’ (3b), cannot introduce a nominal, although they indicate direction (3a) or location meaning (3b).2

In Blackfoot, the distribution of spatial PPs—linkers and non-linkers—are different from those in other well studied languages such as English.3 Contrary to a cross-linguistic generalization (e.g., van Riemsdijk, 1990; van Riemsdijk, 1990; 2 Linkers and non-linkers are similar to what are called ‘relative roots’ in the Algonquian literature (Rhodes, 2010).

3 I use the terms ‘spatial PP’ and ‘linker/non-linker’ interchangeably, except when a distinction is necessary.
Cinque, 2010; Svenonius, 2010), this paper shows that a direction P in Blackfoot does not embed a locative PP and this has not been discussed in the literature. There has been work on locative linkers (Bliss, Déchaine, & Hirose, 2013) or instrument/path linkers (Kim, 2014, 2015a, 2015b). There have also been some studies on PPs in general in Algonquian, e.g., Rhodes (2010) on Ojibwe, Oxford (2008) on Innu–aimun, and LeSourd (2014) on Maliseet–Passamaquoddy. However, none of these studies attempt an in-depth examination of spatial PPs in the contexts of motion and posture verbs. Descriptively, thus, this study contributes to the documentation of the language in the area of spatial PPs in the context of motion and posture verbs, which is scarce in the current literature. Empirically, this paper contributes to the understanding of cross-linguistics variation of spatial PPs.

This paper is organized as follows. Section 2 provides some background on verb classification in Blackfoot and the general distribution of spatial PPs in the language. Section 3 provides evidence for the proposal that a direction P does not embed a locative PP in Blackfoot, contrary to the cross-linguistic generalization on the internal structure of spatial PPs. This section also discusses the consequence of having a simplex direction PP with respect to motion verbs. Section 4 concludes the paper.

2. Background on Blackfoot

2.1. Nouns and verbs in Blackfoot

In Blackfoot, nouns are categorized into two grammatical classes: animate and inanimate. Nouns in the inanimate class are inanimate things such as iitaisooyp ‘table’ or saakokotoissko ‘bottle’. Nouns in the animate class may be humans or animals, but may also be certain inanimate things. For instance, nouns such as ainaka’si ‘wagon’ or atapiim ‘doll’ belong to the animate noun class although they are semantically inanimate
Like in other Algonquian languages, Blackfoot verbs are classified into four different types and each type of verb has a different verbal morpheme called a ‘final’. Finals are suffixes indicating the transitivity of the verb and the grammatical animacy of the subject or object noun (Bloomfield, 1946), as illustrated in Table 1. The verb classification in Bloomfield’s classification refers to grammatical animacy classification.

Table 1. Bloomfield verb classes for Algonquian languages

<table>
<thead>
<tr>
<th>Verb Class</th>
<th>Transitivity</th>
<th>Animacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transitive Animate (TA)</td>
<td>Yes</td>
<td>Animate (obj)</td>
</tr>
<tr>
<td>Transitive Inanimate (TI)</td>
<td>Yes</td>
<td>Inanimate (obj)</td>
</tr>
<tr>
<td>Animate Intransitive (AI)</td>
<td>No</td>
<td>Animate (subj)</td>
</tr>
<tr>
<td>Inanimate Intransitive (II)</td>
<td>No</td>
<td>Inanimate (subj)</td>
</tr>
</tbody>
</table>

Among these finals, the most relevant to the current paper is an AI verb class, to which most motion and posture verbs belong. For instance, the motion verb ‘go’ in (4a) or the posture verb ‘stand’ in (4b) belong to AI verbs: they are intransitives having a subject but no object, and in particular, their subjects should be grammatically animate. For example, either a human noun ‘the boy’ in (4a/b) or certain non-human nouns such as ‘wagon’ (4a) or ‘doll’ (4b) that belong to a grammatical animate noun class can appear as a subject.

(4) a. anna saahkomaapi/anna ainaka’si aamisoo
    anna saahkomaapi/anna ainaka’si waamis-oo-wa
    DEM boy.AN /DEM wagon.AN up-go.AI-3s
    ‘The boy went up’/ ‘The wagon moved up’

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4 II motion or posture verbs in Blackfoot are rare based on the examination of a dictionary (Frantz & Russell, 1995): there are only a few instances of motion verbs, e.g., yiistsi ‘float’ (II) or innisi ‘fall’ (II), which I do not discuss in this paper.
b. anna saahkomaapi itsipoyi ni iitaisooyo’p
   anna saahkomaapi /anna atapiim it-a-ipoyi-wa
   DEM boy.AN /DEM doll.AN up-DUR-stand.AI-3s
   ami iitaisooyo’p
   DEM table.IAN
   ‘The boy/The doll is standing on the table.’

However, AI verbs do not allow grammatically inanimate nouns, as indicated by the Bloomfield verb classification (see Table 1). This is exemplified in (5) with the verb ‘disappear’. In (5), the verb is in an AI form, and the grammatically animate noun ‘wagon’ appears as a subject of this verb. In contrast, the grammatically inanimate noun ‘table’ cannot appear as the subject of this AI verb as indicated in (5).\(^5\)

\[(5)\] anna ainaka’si sayinakoyim
   [anna ainaka’si ] /[* anni iitaisooyo’p] sayinakoyi-m-wa
   DEM wagon.AN / DEM table.INA disappear.AI-AN-3s
   ‘[The wagon]/[*the table] disappeared.’

2.2. Basic distribution of spatial PPs in Blackfoot

In Blackfoot, spatial PPs are expressed by linkers or non-linkers, as mentioned in section 1. There, it was shown that the most defining difference between the two is that a linker introduces a nominal (see (2)) but a non-linker is not able to introduce a nominal (see (3)). For the rest of this paper, following the previous studies on linkers and non-linkers (e.g., Kim, 2014), I assume that linkers belong to standard PPs that have complements, and that non-linkers are similar to particles that do not have

\(^5\) This suffix (-m) in (5) appears with some AI verbs that have II counterparts. It appears only on AI forms but not on the corresponding II forms. Although the precise role of the suffix is not clear, I gloss it AN (animate) for now.
complements (cf. Emonds, 1985; Svenonius, 2010).

Spatial PPs (i.e., linker and non-linker prefixes) in Blackfoot cannot be independent from verbs, unlike in English or other Algonquian languages such as Innu-aimun (Oxford, 2008): as shown in (6), the P tâkut ‘on’ in Innu-aimun is independent from the verb, just like English Ps.

(6) [PP Anita tâkut tetapûkanit] nîmuat auâssat.
[PP the.LOC on.top couch.LOC] dance.3p child.3p
‘The kids are dancing on the couch.’ (Oxford, 2008)

However, Ps in Blackfoot, both linkers and non-linkers, are strictly verbal prefixes and cannot be separated from the verb. For example, the direction linker prefixed to the verb which introduces the direction of motion (7a) cannot appear separately from the verb, as the ungrammaticality of (7b) illustrates.

(7) a. nitsitapohpai'piiyi ni niitahtaayi
   nit-itap-ohpai'piiyi anni niitahtaayi
   1-PATH-jump.AI DEM river.INA
   ‘I jumped toward the river.’

b. nohpai'piiyi itap ni niitahtaayi
   *nit-ohpai'piiyi itap anni niitahtaayi
   1-jump.AI PATH DEM river.INA
   ‘I jumped toward the river.’

As noted in Jackendoff (1983), English has several types of path expressed by different prepositions: goal (‘to’), source (‘from’), direction (‘toward’), and route (‘along’/’pass’). In Blackfoot, these paths can be expressed by two linkers: the linker itap—expresses a goal or a direction, while the linker oht—expresses a source or route (Frantz, 2009; Kim, 2014, 2015b). The linker oht—appears as iiht—in word initial position (Frantz,
2009). In the rest of the paper, each path linker will be glossed with its particular path type: itap- as goal or direction, and oht- as source or route. These paths are exemplified in (8). Example (8a) shows a goal or direction expressed by the direction linker itap-. (8b) shows the use of the linker oht- as a source and (8c) as a route.

(8) a. anna John aakitapoo oomi ssphahyo\text{yi}
    anna John yaak-itap-oo-wa oomi issphahyo\text{yi}
    DEM John \text{FUT-GOAL-go.AI-3s} DEM hill.INA
    'John will go to the hill.'

b. anna saahkomaapi iiht-o'\text{too} mohkinsstsisi
    anna ssahkomaapi iiht-o'\text{too}-wa M\text{ohkinsstsisi}
    DEM boy \text{SOURCE-arrive.AI-3s} Calgary.INA
    'The boy is coming from Calgary.'

c. nitaakohtaamis ni niitahtaayi
    nit-yaak-oht-waamis-oo anni niitahtaayi
    I-\text{FUT-ROUTE-go.AI-3s} DEM river.INA
    'I will go along the river.'

Non-linkers can express a similar range of meanings without introducing a nominal, as shown in (9).

(9) a. aaksainnisoo
    yaak-sainnis-oo-wa \text{vertical}
    \text{FUT-down-go.AI-3s}
    '(S)He will go downward.'

b. nitiiistapohpai'piiyi
    nit-miistap-ohpai'piiyi \text{entral}
    I-\text{away-jump.AI}
    'I jumped away.'

c. aakopamoo
    yaak-opam-oo-wa \text{route}
Both the linkers and non-linkers can also express locative meanings, as in (10) and (11) respectively. For instance, locative linker it- expresses a locative meaning with non-motion verbs (10a) or it can express the location of a motion event (10b).

(10) a. nitaakitooyi ni napioyisi
    nit-yaak-it-ooy-i-wa anni napioyisi
    1-FUT-LOC-eat-AI-3s DEM house.INA
    ‘I will eat in the house.’

 b. nitsitokska’si ni ksaahkoyi
    nit-it-oksaksas’i anni ksaahkoyi
    1-LOC-run.AI DEM earth.INA
    ‘I ran on the ground.’

(11) a. nitsiistapokska’si
    nit-miistap-okska’si
    1-away-run.AI
    ‘I ran away.’

 b. nitaakipsstooyi
    nit-yaak-ipsst-ooy-i-wa
    1-FUT-inside-eat-AI-3s
    ‘I will eat inside.’

Moreover, a locative linker and non-linker can appear with posture verbs such as ipoyi ‘stand’ or opii ‘sit’, as illustrated in (12). In these examples, a linker and non-linker co-occur: the linker is a prefix it- which introduces a location, e.g., ‘the table’ in (12a). A non-linker ohkit- ‘on’ (12a-b) and a non-linker ipsst- ‘inside’ in (12c-d) further specify the location introduced by the linker.
(12) a. itohkisipoyi ni iitaisooyo'p
    it-ohkit-ipoyi-wa  anni iitaisooyo'p
    LOC-on-stand.AI-3s  DEM table.INA
    'He stood on the table.'

b. itohkitopii ni iitaisooyo'p
    it-ohkit-opii-wa (anni) iitaisooyo'p
    LOC-on-sit.AI-3s (DEM) table.INA
    'He sat on the table.'

c. anna John ipsstopii
    anna John ipsst-opii-wa
    DEM John inside-sit.AI-3s
    'John sat inside.'

d. anna John itsipsstopii ni napioyisi
    anna John it-ipsst-opii-wa  anni napioyisi
    DEM John LOC-inside-sit.AI-3s  DEM house.INA
    'John sat inside the house.'

Regarding the complements of the linkers, it can be either an NP or a DP, assuming a distinction between NP and DP as in Glougie (2000). In Blackfoot, it has been shown that an NP consists of a bare noun, while a DP consists of a demonstrative and an NP (Glougie, 2000). Linkers generally can have either an NP or a DP object. For instance, as indicated in (12b), a locative linker can have an NP complement consisting of a bare N iitaisooyo'p 'table' or a DP complement consisting of a demonstrative anni, and an NP iitaisooyo'p.  

Some linkers and non-linkers are optional when they appear with certain type of motion verbs such as okska'isi 'run' or posture verb such as opii 'sit'. For instance, as illustrated with manner of motion verbs (13a–b) and a posture verb (13c), the presence of a linker or non-linker

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6 When the complement of a linker is an NP, its definiteness is not clear. According to my consultants it can be glossed as either 'a' or 'the'. I leave this issue for future research.
is not required. Manner of motion verbs are those verbs that indicate a motion usually involving displacement, but importantly, they do not specify an inherent direction in their meaning (Levin, 1993).

(13) a. nitaak(itap)okska'si (ni napioyisi)
    nit-yaak-(itap)-okska'si (anni napioyisi)
    1-FUT-(goal)-run.AI (DEM house.INA)
    'I will run (to the house).'
b. nitaak(aamis)okska'si
    nit-yaak-(waamis)-okska'si
    1-FUT-(up)-run.AI
    'I will run (upward).'
c. nitaak(it)(ohkit)opii (ni soopa'tsis)
    nit-yaak-(it)-(ohkit)-opii (anni soopa'tsis).
    1-FUT-(LOC)-(on)-sit.AI (DEM chair.INA)
    'I will sit (on the chair).'

In contrast, the direction linker and non-linker are obligatory when they appear with inherently directed motion verbs, as illustrated with the verb 'go' in (14). Motion verbs specify an inherent direction in their meaning, but not manner (Levin, 1993).

(14) a. itapoo ni niitahtaayi
    *(itap)-oo-wa (anni niitahtaayi)  Linker
    goal-go.AI-3s DEM river.INA
    '(S)He went to the river.'
b. aamisoo
    *(waamis)-oo-wa non-linker
    up-go.AI-3s
    '(S)He went up.'

The locative linker or non-linker can also be obligatory when they appear
with a posture verb which assumes a particular spatial configuration such as 'stand' as shown in (15). The facts in (14–15) suggest that those spatial PPs are not simply adjuncts, unlike when they appear with manner of motion or other posture verbs (see (13)).

(15) a. aakitsipoyi ni ksaahkoyi
  yaak-*it-ipoi-wa *(anni ksaahkoyi)
  FUT-LOC-stand.AI-3s DEM earth.INA
  '(S)He will stand on the ground.'

b. aakipoipoyi
  yaak-*ipo-ipoi-wa
  FUT-up-stand.AI-3s
  '(S)He will stand up.'

3. Internal structure of spatial PPs

In this section, building on empirical data, I propose that in Blackfoot a path P does not embed the locative P in its structure, contrary to a well-known cross-linguistic generalization (e.g., van Riemsdijk, 1990; Koopman, 2000; den Dikken, 2010; Cinque, 2010).

3.1. Complex structure of spatial PPs

Those aforementioned studies on spatial PPs have suggested a cross-linguistic hierarchical relation between a path P (P_path) and a locative P (P_loc): P_path always embeds P_loc, as illustrated in (16). In (16), a preposition 'in' which instantiates P_loc moves to P_path whose exponent is 'to' yielding 'into' as in (16a). The hierarchical relation between P_path and P_loc in (16b) is argued to hold even if P_loc or P_path is morphologically null.\(^7\)

\(^7\) Another issue surrounding the structure of spatial PPs is whether these
(16) a. into the house

\[ \text{[\text{PP\text{Path}} \text{ Path} \ [\text{PP\text{Loc}} \text{ Loc} \ \text{DP}]]} \]

to in the house

Evidence for (16) mostly comes from cross-linguistic patterns of morphology of the two prepositions. For example, in Macedonian as in (17a), a locative P kaj ‘at’ marks a location of the subject ‘I’. On the other hand, a path P in the language is complex consisting of morphologically simplex locative P kaj ‘at’ in (17a) and a direction P na ‘to’ as illustrated in (17b).

(17) a. \text{Kaj parkot sum}
\at \text{park.def be.1s}
I am \text{at the park.}

b. \text{Odam na-kaj parkot}
go.1s \text{to-at park}
I am going \text{to the park.} \quad \text{(Pantcheva, 2011)}

More evidence for the relative structural position of locative and path Ps as shown in (16) comes from languages where locative and direction Ps co-occur to indicate path, like in Macedonian. Relevant example is illustrated in Romanian (18). In (18), (i) both locative la ‘at’ and direction de ‘from’ Ps co-present, which is required to indicate a path meaning, and (ii) the direction P appears outside of the locative P.

(18) Ion \text{vine [de la magazin]}
Ion is coming \text{from at store}

PPs project a higher functional projection. In fact, P\text{Path} and P\text{Loc} are argued to be functional projections of a corresponding lexical P (e.g., van Riemsdijk, 1990; Koopman, 2000; den Dikken, 2010 among many others). Similar proposals have been made for Blackfoot, e.g., Kim (2014, 2015a) for the instrument linker. As this issue is not crucial to the topic of this section, I do not discuss it further.
‘Ion is coming from the store.’
(c.f. Ion este la magazin, literally, ‘Ion is at store.’)

(Zegrean, 2007)

3.2 Complex structure of spatial PPs in Blackfoot

In this section, I show that the complex PP\textsubscript{path} structure in (16) may not account for the range of facts found with spatial PPs in Blackfoot, and I argue that the facts discussed below suggest that Blackfoot P\textsubscript{Path} does not embed P\textsubscript{Loc}. Recall that Blackfoot has two separate prefixes to indicate direction and locative meaning respectively, as illustrated in (19). The direction linker itap- introduces the nominal goal of the motion as in (19a), while the locative linker it- intro- duces a nominal that indicates a location as shown in (19b). Contrary to other language examples in (17–18) provided for evidence of the complex PP\textsubscript{path} structure in (16), no locative linker appears to indicate a path in Blackfoot as shown in (19a). Only a direction linker is present to indicate a path (cf. the locative linker example (19b)).

(19) a. itapoo ni sspahkoyi
   \hspace{1cm} \textit{itap} oo-wa anni isspahkoyi
   \hspace{1cm} goal-go.AI-3s DEM hill.INA
   \hspace{1cm} ‘(S)He went to the hill.’

b. aakitsipoy ni kssahkoyi
   \hspace{1cm} \textit{it} ipoy-wa anni kssahkoyi
   \hspace{1cm} LOC-stand.AI-3s DEM earth.INA
   \hspace{1cm} ‘(S)He stood on the ground.’

In fact, the sentence becomes ungrammatical if the locative linker co-occurs with a direction linker (20a). The change in the order of the locative and direction linkers does not change the grammaticality, as shown in (20b). These data suggest that Blackfoot direction P may not
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(20) a. itapitoo ni sspahkoyi
   *itap-it'-oo-wa anni isspahkoyi
   goal-go.AI-3s DEM hill.INA
   Intended meaning: ‘(S)He went into the hill.’
b. *it-itap-oo-wa anni isspahkoyi

A similar pattern is observed with manner of motion verbs as in (21a-b): direction and locative linkers appear together with those verbs, and the sentences are ungrammatical. The different order of direction and locative linkers also do not change the grammaticality, as shown in (21c) for the example (21b).

(21) a. nitsitapitokska'si ni napioysis
   *nit-itap-it'-okska'si anni napioyisi
   1-goal-LOC-run.AI DEM house.INA
   Intended meaning: ‘I ran into the house.’
b. *nit-itap-it'-ohpai'piiyi-wa anni niitahtaayi
   1-goal-LOC-jump.AI-3s DEM river.INA
   Intended meaning: ‘I jumped into the river.’
c. *nit-it-itap-ohpai'piiyi-wa anni niitahtaayi

The proposal that $P_{path}$ does not embed $PP_{Loc}$ in Blackfoot is further supported by the fact that direction linker itap- ‘to’ is not composed of two morphemes consisting of a locative and a direction Ps, unlike other languages discussed in (17-18). For instance, it might be suggested that the direction linker itap- can be decomposed into locative it- and a direction ap-. However, this is not borne out by the data, as shown in (22). In (22a), there are two separate prefixes, it- and ap-, which appear to be decomposable parts of the direction prefix itap-. However, contrary to the prediction, ap- has a location meaning ‘on/around’ in the language
and it is a non-linker that is not capable of introducing a nominal. Moreover, note that a stress falls on the prefix ap- in (22a) and the sentence indicates a locative meaning only, but no direction meaning. In order to indicate a direction meaning, the non-decomposable prefix itap- must appear as shown in (22b), and unlike in the locative meaning of (22a) stress falls on the first syllable of the direction prefix. 8

(22) a. anna John itápsskapatom ni skinitsimaan ni kssahko
    anna John it-áp-sskapato-m-wa anni skinitsimaan
    DEM John LOC-on-drag.ti-dir-3s DEM bag.INA
    anni kssahko
    DEM earth.INA
    ‘John is dragging the bag on the ground.’ (Location/*Path)

b. anna John itapsskapatom ni skinitsimaan ni kssahko
    anna John itap-sskapato-m-wa anni skinitsimaan
    DEM John goal-drag.ti-dir-3s DEM bag.INA
    anni kssahko
    DEM earth.INA
    ‘John is dragging the bag to the ground.’ (Path/*Location)

Building on the data in (19)-(22), I propose that in Blackfoot the direction P_{Path} does not embed PP_{Loc}, contrary to the cross-linguistic proposal of complex PP_{path} in (16).9 I further propose that P_{Path} does not embed PP_{Loc} in Blackfoot, but they project their own phrases. That is, in Blackfoot, PP_{path} and PP_{Loc} are simplex, as illustrated in (23).

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8 A form that consists of itap- and ap- does not exist in the language. As for meaning such as ‘onto’, a non-linker ohkit- ‘on’ appears with itap- together. As discussed in section 2, a non-linker ohkit- cannot introduce a goal of location unlike a linker itap-. Exploring the structure of a non-linker is beyond the scope of this paper, but see Kim (2014, to appear) for the discussion of the related issue.

9 An analysis of simplex structure of PPs has been pursued in Ramchand (2007) with respect to the issues such as boundedness or resultatives.
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The proposal that PP\textsubscript{path} in Blackfoot is simplex, not complex, has some positive consequences: it can provide an account for the interaction between motion verbs and spatial PPs in the language, which appear to be different from that in other languages where a complex PP\textsubscript{path} has been proposed. A complex PP\textsubscript{path} in (16), where P\textsubscript{Path} embeds PP\textsubscript{Loc}, predicts that the presence of a morpheme that instantiates P\textsubscript{Path} would imply a locative meaning. If PP\textsubscript{path} in Blackfoot were complex as in (16), we would expect a locative meaning in the presence of PP\textsubscript{path}. However, this is not true in Blackfoot, as shown in (24).\(^{10}\)

(24) itapokska'isi ni napioyisi
   \textbf{itap-}okska'isi-wa \textbf{anni} napioyisi
   direction-run.AI-3s \textbf{DEM} house.INA
   '(S)He ran \textit{toward} the house.'/ *(S)He ran \textit{into} the house.'

In (24), a direction linker itap\textsuperscript{−} appears on a manner of motion verb 'run'. The sentence does not imply a locative meaning 'in' but the sentence has a direction reading 'toward' only. The direction of motion 'the house' could be the endpoint of the motion event 'running' but the subject 'he' is not necessarily inside the house at the end of the running event. A locative meaning can be added by prefixing a locative non-linker ipsst 'inside', as shown in (25a).\(^{11}\) This is true with other manner of motion verbs such as

\(^{10}\) Kim (to appear) provides diagnostics such as culmination cancellation to test whether a given preposition in Blackfoot has an endpoint meaning such as 'to' or a direction meaning such as 'toward'. It is predicted that 'to' meaning as in (25) would fail culmination cancellation, unlike 'toward' meaning in (24), which remains to be tested for future research.

\(^{11}\) Inherently directed motion verbs, however, do not show the same pattern as manner of motion verbs. For example, the verb oo\textsuperscript{−} 'go' does not allow co-occurrence of a locative and a direction linker. Moreover, this type of the
as ‘jump’ or ‘dance’, as exemplified with ‘jump’ (25b).

(25) a. itapipsstokska’si ni napioyisi
dem goal inside run AI
(S) He ran into the house.

b. nitsitapipsstohpai’piiyi ni niitahtaayi
dem goal inside jump AI
I jumped into the river.

Another consequence of simplex PP-path in Blackfoot as in (23) is that it can account for the lack of the ambiguity of verbs such as jump with a locative PP. Complex PP-path in (16) has been proposed to provide an account for the ambiguity of verbs like jump with a locative PP. For instance, consider the following English sentences in (26).

(26) a. John will jump in the river.
b. John danced in the river.

Some manner of motion verbs such as ‘jump’ (26a) are ambiguous when they occur with a locative PP 12, unlike other manner of motion verbs like ‘dance’ (26b). With ‘jump’ as in (26a), one reading is locative and the other is directional (e.g., Ramchand, 2007; Tungseth, 2008; Svenonius, 2010). The locative reading in (26a) means that the event of jumping will take place in the river, while the direction reading means that the event

verbs also do not allow a locative linker alone either. I leave this issue for future research.

12 These verbs are referred as semelfactive verbs (Smith, 1991). Events expressed by this type of verbs are punctual, i.e., instantaneous. For example, the verb ‘jump’ in (26a) is ambiguous in the sense of punctual reading, not an iterative reading.
of jumping takes place toward the river. With ‘dance’ as in (26b), however, only a locative reading is available. The direction reading with ‘jump’ is captured by the complex structure PP<sub>Path</sub> that embeds PP<sub>Loc</sub> as in (16). The locative only reading with ‘dance’ or the locative reading of ‘jump’ is accounted for, if the relevant PP is PP<sub>Loc</sub> without having a higher P<sub>Path</sub>.

If Blackfoot P<sub>Path</sub> does not have PP<sub>Loc</sub> internally but if those two Ps project their own phrases, as proposed in this paper, the prediction is that the Blackfoot equivalent to (26a) would not have a direction reading (i.e., it would not be ambiguous). This is borne out by the data. In (27a), the verb ‘jump’ appears with a locative PP ‘in the river’. The location ‘river’ is introduced by the locative linker it- on the verb. The only reading available here is a locative reading but no direction reading is available. The same pattern is shown with the verb ‘dance’ in (27b). Thus, unlike English, Blackfoot does not show a difference between ‘jump’ and ‘dance’ with respect to a locative PP.

(27) a. itohpai'piyi ni niitahtaayi
   it-ohpai'piyi-wa anni niitahtaayi Locative linker
   LOC-jump.AI-3s DEM river.INA
   ‘(S)He jumped in the river.’/ *(S)He jumped toward the river.’
   Only reading available: ‘The activity of jumping took place in the water.’

b. itssipiyi ni miistikistsi
   it-ihipiyi-wa anni miistikistsi Locative linker
   LOC-dance.AI-3s DEM mountain.INA
   ‘(S)He danced on the mountain.’/ *(S)He danced toward the mountain.’

The data provided in this section constitute solid evidence that Blackfoot P<sub>Path</sub> is not complex embedding PP<sub>Loc</sub>, unlike English type languages. Rather, P<sub>Path</sub> and PP<sub>Loc</sub> project their own phrases, as
advocated in this paper.

4. Conclusion

This paper studied the distribution of spatial PPs expressed by linkers and non-linkers in Blackfoot with particular focus on motion and posture verbs, which is scarce in literature. In particular, it provides how the distribution of some spatial linker and non-linker PPs are restricted with certain type of motion (manner or inherently directed) verbs. Moreover, this paper showed that spatial PPs in Blackfoot have a simplex structure, contrary to a common view of a complex structure.

This paper contributes not only to documenting these significant data in Blackfoot, but also to providing new empirical data on spatial PPs and their interaction with motion verbs different from other well known languages. As such, the result emerging from this paper will be instrumental to the understanding of cross-linguistic variation of spatial PPs.

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Kyumin Kim
Department of English Language and Literature
Cheongju University, 298, Daeseong-ro,
Cheongwon-gu, Cheongjusi, Chungcheongbukdo, 28503, South Korea
043-229-8365
kyumin@cju.ac.kr

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