

The instrument linker *iiht-/oht-* in Blackfoot as a functional *p**

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Abstract: This paper demonstrates that an instrument linker in Blackfoot, which introduces a non-core argument, cannot be represented by the Applicative head (Appl). Although the applicative morpheme, realized as Appl, is well-known to introduce a non-core argument across many languages, including Blackfoot, the linker is shown to have a different syntactic distribution from that of applicative morphemes. It is argued that the linker is represented by a functional head *p*. This paper also shows that the syntax of linkers in the language is not coherent: for instance, the instrument linker may occupy a different structural position, depending on its meaning. Thus, the syntax of non-core arguments is more heterogeneous than previously proposed in the literature.

Keywords: (instrument) linker, functional, non-core argument

1 Introduction

In Blackfoot, an Algonquian language, there are set of prefixes called linkers that mark a range of oblique roles which are usually indicated by prepositions in English (Frantz 2009). Those arguments that are oblique are often referred to as non-core arguments in the verbal argument structure literature (e.g., Baker 1988, Kim 2012, Marantz 1993, Pylkkänen 2008, among others).¹ Among the linkers, this paper focuses on the syntax of an instrument linker that marks a wide range of non-core arguments such as instrument, means, source, contents, and path (Frantz 2009). I have also found that it can mark cause/reason. As illustrated in (1), the instrument linker *iiht-* (*oht-* in a non initial position) can optionally add a non-core argument of instrument/means (1a) or cause/reason (1b). I assume that the linkers are adpositional, following Kim (2014a).

* I would like to thank Sandra Many Feathers (formerly Crazybull) and Brent Prairie Chicken for sharing their language with me, and Betsy Ritter for her support and valuable comments. Of course, all errors are my own. Significant amount of time has passed since I presented this work, and this paper somewhat diverges from the materials presented at WSCLA 18. Similar issues but a significantly expanded version of them has been presented at NELS 44. This research is supported by the Social Science and Humanities Research Council (SSHRC) of Canada Postdoctoral fellowship to the author (#756-2012-0483). Additional support comes from the Jacobs Research Fund and the Philips Fund for Native American Research. Unless otherwise noted, all data presented in this paper are from my own fieldwork. The data presented come from the Kainai (Blood) dialect. The following abbreviations are used in the paper: 1/2/3 – 1st/2nd/3rd person; APPL – applicative morpheme; AI – intransitive animate; AN – animate; DIR – direct object theme; DEM – demonstrative; DIRECTION – direction linker; IN – inanimate; INST – instrument linker; INV – inverse theme; PL – plural; S – singular; TA – transitive animate; TI – transitive inanimate.

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¹ A linker-type morpheme is called the relative root in the Algonquian literature (e.g., Rhodes 2010), but I use linker in this paper.

- (1) a. *ihtawayaaakiaawa miistsii*
iht-waawayaaki-aa-wa miistsisi
 INST-hit.TA-DIR-3S stick
 ‘He was hit **by** a stick.’ (Frantz 2009)
- b. *ana isttoan nohta’kai’taki*
 ana isttoana nit-**oht**-a’ka-i’taki
 DEM knife 1-INST-hate-AI
 ‘I have hatred **because of** the knife.’ (i.e., ‘I hate the knife.’)

In this paper, I show how the instrument linker is different from another non-core argument introducer, an applicative morpheme in the language which patterns similarly to those in other languages. I argue that the linker cannot be represented as Appl as in Pykkänen (2008), despite similar roles to those of Appl that the linker introduces. I also argue that it is represented as a functional *p*, rather than a lexical P. It will be argued that the linker phrase is a functional *pP* that adjoins to *vP*. I also argue that the linker can appear in different syntactic positions, depending on the kind of meaning it indicates. As will be argued in this paper, it appears as a *vP* adjunction when it indicates means or reason. On the other hand, it appears in the specifier of I(nner)-AspP (in the sense of Travis 2010) when it indicates a path meaning appearing with motion verbs, which has also been argued for the direction linker (*itap-*) in the language (Kim 2013, 2014b).

This paper shows that, building on Blackfoot data, not all non-core arguments are syntactically represented in the same way, and that they are not always introduced by an Appl head. Moreover, it shows that a non-core argument introduced by the same linker may not be in the same structural position. Thus, the proposed account shows that the syntax of non-core arguments are more refined than current theories suggest (e.g., Baker 1988; Pykkänen 2008).

2 Instrument linker is not an applicative head

The instrument linker is similar to the applicative morpheme in world languages, e.g. Bantu, in that it introduces a wide range of oblique roles, as some of which are illustrated in (1). However, I show that it is not syntactically the same as an applicative morpheme by comparing the linker to the applicative suffix *-omo* in the language. I assume that the applicative suffix is represented by Appl in the sense of Pykkänen (2008), as suggested in Bliss (2010). I discuss five different properties of the linker that differ from those of the applicative suffix: morphology, the absence of person prefix marking, animacy, theme marking, and agreement. Other linkers such as associative or direction have been shown to behave in the same way as the instrument linker with respect to these properties (Kim 2013).

The linker is a prefix as shown in (1), while the applicative morpheme is a suffix *-omo* as shown in (2). This morphological difference initially suggests that they cannot not belong to the same element.

- (2) *nitsskiitomok napayin ana John*
 nit-ihkiit-**omo**-ok-wa napayin ana John
 1-bake-APPL.TA-DIR-3S bread DEM John
 ‘John baked bread **for** me.’

The linker also differs from the applicative suffix in that it cannot be marked by a person prefix, *nit-* or *kit-*. In (2), a beneficiary is indicated by the person prefix *nit-*. In contrast, the object of the

instrument linker cannot be expressed by the person prefix, as the ungrammaticality of (3a) shows. A grammatical version of (3a) is shown in (3b), where the argument introduced by the linker must appear as an independent pronoun.

- (3) a. **ana John nohta 'kai 'taki*
 ana John **nit**-oht-a'ka-i'taki-wa
 DEM John **I**-INST-hate-AI-3S
 Intended: 'John hates me.'
- b. *ana John iihta 'kai 'taki niistoo*
 ana John iiht-a'ka-i'taki-wa **niistowa**
 DEM John INST-hate-AI-3S **I**
 'John hates me.'

Animacy plays a significant role in Blackfoot. For instance, core arguments, such as actor or primary object, show sensitivity to animacy (Frantz 2009). More specifically, those arguments must be sentient (Bliss 2010, Kim 2014c, Ritter and Rosen 2010); the beneficiary cannot be an inanimate entity such as 'the wagon', as illustrated in (4).

- (4) **nitaahkanomoawa anni ainaka 'si qamiksi si 'kaaniksi*
 nit-(w)aahkan-omo-a-wa ani ainaka'si am-iksi si'kaan-iksi
 1-sew-APPL.TA-DIR-3S DEM wagon.AN DEM-INA.PL blanket.INA.PL
 Intended: 'I sewed those blankets for the wagon.' (Adapted from Bliss 2010)

However, non-core arguments of linkers do not show any animacy restrictions. That is, they can be a sentient animate 'John', a grammatically animate 'the knife', or an inanimate 'the soup', as exemplified in (5).

- (5) *ana John/ni koopis/ni isttoana nohtaawaakomi 'taki*
 ana John / ani koopis / ani isttoana nit-oht-aawaakom-i'taki
 DEM John.AN / DEM soup.INA / DEM knife.AN 1-INST-love-AI
 Lit. 'I am in love, **by means of John/the soup/the knife.**' ('I love John/the soup/the knife.')

Theme marking in Blackfoot, like other Algonquian languages, indicates the direction of the action. Like animacy, it indicates the direction of action between core-arguments. Direct-inverse systems make reference to a person scale such as that shown in (6), which is simplified for the purpose of this paper. If the direction of action is from a 1st/2nd person to a 3rd person, or from 1st person to 2nd person, the verb is marked as being direct. If the direction is the opposite, such as a 3rd person to a 1st/2nd person or from 2nd person to 1st, then the verb is marked as being inverse. For instance, in (2) above, the 3rd person subject 'John' acts on the 1st person beneficiary 'me'; as a consequence, the inverse marker *-ok* appears.

- (6) Simplified scale
 a. 1st, 2nd > 3rd
 b. 1st > 2nd

However, non-core arguments of the instrument linker are inert to theme marking. For instance, in (7), 'the finger' is introduced by the instrument linker *iiht-*. The intended direction of the action is from 'the finger' to the first person 'I' as might be marked by the inverse marker *-ok* in (7).

However, the sentence is ungrammatical with this interpretation. An acceptable interpretation of the sentence is ‘Someone caught me by the finger’, where the direction of action is from an unknown 3rd person to the 1st person, marked with the inverse marker *-ok*.

(7) *na mookitsis nohtsissino'tokwa*

ana mookitsis nit-**oht**-yissino'to-**ok**-wa
 DEM finger.AN 1-INST-catch.TA-INV-3S

‘The finger caught me.’ (3 > 1)
 ‘Someone caught me by the finger.’ (3 > 1)

Lastly, the linker is also different from the applicative suffix in that it cannot be marked for agreement. In (8), the beneficiary is in the singular and agrees with the verb, as the 3rd person singular suffix shows.

(8) *nitaahkanomoawa anna issitsimaan amiksi si'kaaniksi*

nit-(w)aahkan-omo-a-wa/*-yi **ana** **issitsimaan** am-iksi si'kaan-iksi
 1-sew-APPL.TA-DIR-3S/*-3PL **DEM** **baby** DEM-PL blanket-PL

‘I sewed those blankets **for the baby**.’ (Bliss 2010)

With respect to the argument introduced by the linker, as shown in (9), it does not agree with the verb. In (9b), for instance, ‘those arrows’ is introduced by the linker, and it is plural. However, the verb agrees with the object in the singular, as the singular suffix *-wa* shows.

(9) a. *nohtsissino'taya niksi saahkomaapiiksi ni apssi*

nit-oht-yissino'to-a-yi an-iksi saahkomaapi-iksi ani apssi
 1-inst-catch.TA-DIR-3PL DEM-PL boy.AN-PL DEM arrow.IN

‘I caught the boys by means of the arrow.’

b. *nohtsissino'tawa na saahkomaapi nistsi apssistsi*

nit-oht-yissino'to-a-wa ana saahkomaapi an-istsi apssi-istsi
 1-inst-catch.TA-DIR-3S DEM boy.AN DEM-PL arrow.IN-PL

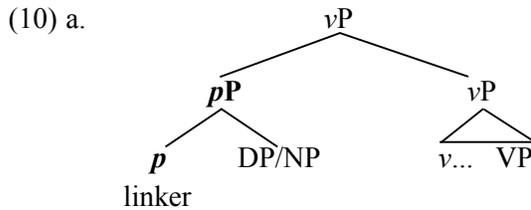
‘I caught the boy by means of the arrows.’

The data discussed in this section strongly indicate that the instrument linker cannot be represented by Appl. Otherwise, the differences between the linker and Appl remain unexplained.

3 Instrument linker as a functional *p*

There are a variety of studies that propose a functional head above P (e.g., Van Riemsdijk 1990, Zeller 2001, among many others). The name I give for this functional head is *p*, following Svenonius (2003), and I argue that a linker is a realization of this functional *p*, shown in (10). Evidence for this proposal will be detailed in next sections. Throughout the paper, I use *p* to refer to a functional adposition which has been termed with various labels in different studies (e.g. F in Zeller 2001), and I use P for a lexical adposition.

The previous discussion demonstrates that a linker cannot be represented by Appl, although it introduces non-core arguments. Abstracting away from the issues of discontinuity,² I argue that linkers are syntactically represented by a functional *p*, and at some point in the derivation they are adjoined to a functional phrase, *vP*, rather than to a lexical phrase, VP, as represented in (10). On the other hand, they are not the same as lexical Ps (i.e. non-linkers) in the language, as shown in the previous section. The fact that a linker can introduce either a DP or an NP will be pointed out as the section unfolds.



- b. *iihtawayaaakiaawa miistsii*
iiht-waawayaaaki-aa-wa **miistsisi**
 INST-hit.TA-DIR-3S **stick**
 ‘He was hit **by a stick.**’

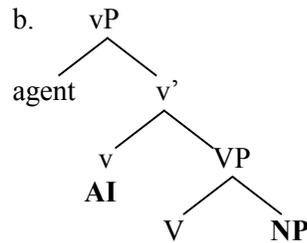
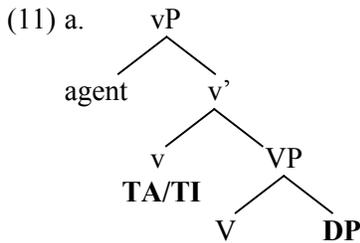
3.1 Instrument linker as a *p*

I present evidence for the functional status of the instrument linker. Some of the evidence presented in this section is from Kim (2013; 2014a,b), where linkers in general are argued to be functional in contrast to non-linkers.

One type of evidence comes from Zeller's (2001) claim that a functional *p* has a functional feature similar to *v* or *n*; in particular, in Germanic languages, a *p* head has been proposed to allow a lexical P to assign case to its complement (Svenonius 2003, Zeller 2001). Although Blackfoot does not have case, I argue that the instrument linker has functional properties like *v*, in that it licenses an argument in a manner similar to *v* in the language. In Blackfoot, *v* licenses an argument but not by assigning case, unlike other familiar languages of the world (Ritter and Rosen 2010). Ritter and Rosen (2010) showed that the functional head *v* in Blackfoot is realized by the final morphemes. In particular, the head *v* that is realized by the TA, TI, or AI finals introduces an agent, as illustrated in (11). Crucial to the present discussion is that *v* licenses a DP or an NP object. A transitive *v* realized by the TA or TI finals licenses a DP object (11a), while an intransitive *v* realized by the AI final licenses an NP object complement (11b).³

² Discontinuous constituents are characteristic of Algonquian languages (e.g., Reinholtz 1999). As shown through the examples on the linkers in this paper, a linker and its object are also discontinuous. Moreover, the proposed account in (10) suggests that the linker phrase, *pP*, is also discontinuous from a lexical PP, a non-linker phrase; however, unlike discontinuous DPs often discussed in the literature where D can appear with an NP, the discontinuous *pPs* do not seem to appear with a PP in the first place. As shown by examples provided in this paper, linkers do not have to appear with PPs, and vice versa. I leave this issue for further research.

³ Specifically, it is proposed that an NP object, unlike a DP object, is licensed by being incorporated into *v* covertly (Glougie 2000).



In Blackfoot, it has been shown that an NP consists of a bare N, while a DP consists of either a demonstrative and an NP or of a bare plural (Glougie 2000). For example, in (12a), a TA verb licenses a DP object consisting of a demonstrative and an N, but not an NP consisting of a bare N. With an AI verb, as in (12b), an NP object is possible but not a DP object.

- (12) a. *naowatsiw *(amo) mamii*
 na-oow-at-yii-wa amo mamii
 PAST-eat-TA-DIR-3S DEM fish.AN
 ‘S/he ate this fish.’

- b. *naoyiw (*amo) mamii/akooapis*
 na-ooy-i-wa (mamii/akooapis)
 PAST-eat-AI-3S (fish/soup)
 ‘S/he ate (fish/soup).’

(Ritter and Rosen 2010)

Thus, the functional head *v* in Blackfoot licenses an object complement: the TA/TI-final *v* a DP, but the AI-final *v* an NP. That is, the licensing of an argument is not mediated by case in Blackfoot, but the capacity to introduce a DP or NP can be viewed as licensing an argument.

I argue that this ability is exactly what the instrument linker has: The linker is like the Blackfoot *v* in that it can introduce an argument. In particular, similar to *v* (11), it introduces either a DP or an NP complement, as shown throughout this paper. As in (13), the instrument linker may introduce either an NP made up of a bare N or a DP made up of a demonstrative and an N.

- (13) *(ana) mamii nohta'kai'taki*
 (ana) mamii nit-oh-t-a'ka-i'taki-wa
 (DEM) fish 1-INST-hate-AI-3S
 Lit. ‘I have hatred **because of (a/the) fish.**’ (i.e., ‘I hate a/the fish.’)

In contrast, non-linkers in the language lack this functional property. Non-linkers are similar to linkers in that they are prefixes attached to verb stems, and indicate prepositional meanings (Frantz 2009). Importantly, they differ from linkers because they cannot introduce either DP or NP complements, as shown by *waamis-* ‘up’ in (14).

- (14) *nitaamisokska'si (*ni isspahkoyi)*
 nit-waamis-okska'si (*ani isspahkoyi)
 1-up-run.AI (*DEM hill)
 ‘I ran up (*the hill).’

The similarity between *v* and the linker (examples (11) and (13) respectively) supports the proposal that the linker is functional, like *v*. Moreover, the contrast between a linker (13) and a non-

linker (14) provides additional evidence that a non-linker is not functional. For now, I assume that there is no PP projection between a linker and its complement, similar to the functional (adpositional) projection in German discussed in Zeller (2001).⁴

Another piece of supporting evidence is based on Baker's (2003) proposal that a functional element cannot be the input or output of derivational morphological processes.⁵ I show that the instrument linker, in contrast to non-linkers in the language, does not participate in derivational morphological processes. Non-linkers are prefixes like linkers, as shown in (14), but they can be separated from the verb by being attached to a locative suffix. Some of them are illustrated below:

- | | |
|---|--|
| (15) a. <i>aamisoohsi</i>
waamis-oohtsi
up-place
'upper place' (e.g. upstairs) | b. <i>ipsstoohsi</i>
ipsst-oohtsi
in-place
'indoor' |
|---|--|

My fieldwork reveals that the locative morpheme *-oohtsi* in Blackfoot can be suffixed to non-linker productively, and derives a noun; a typical property of derivational morphemes. For example, (15a) 'upstairs' can appear with a demonstrative in the language, as shown in (16).

- (16) *nitsitapokska'si ni aamisoohsi*
nit-itap-okska'si ani waamis-oohtsi
1-DIRECTION-ran.AI DEM upstairs-place
'I ran to upstairs.'

The fact that the demonstrative can appear with the derived word *waamis-oohtsi* 'upstairs' indicates that the derived word is a noun, as in Blackfoot the demonstrative can only appear with a noun. Thus, it seems safe to conclude that the morpheme *-oohtsi* is a derivational morpheme. This conclusion is also consistent with the Blackfoot Dictionary (Frantz and Russell 1995). In the dictionary, there are some examples of non-linker combining with the morpheme *-oohtsi*. Importantly, they are marked as nouns, as the examples in (17) show. The derived word in (17a) is the result of the combination of the non-linker (17b) and the locative suffix *-oohtsi*. In (17a), the label *nin* indicates that the derived word is an inanimate *noun*. Also, note (17c) where the derived noun *saipa'-oohtsi* is preceded by a demonstrative *amo* 'this'.

- (17) a. *saipa'-oohtsi* 'the area beyond a boundary or limit.' *nin*
b. *saipa'* : outside of a certain boundary
c. ***amo saipa'-oohtsi*** *iikayissta'piiwa*
'It gets noisy **beyond our boundary**.' (Frantz and Russell 1995)

On the other hand, the instrument linker cannot participate in this derivational process, as shown in (18). The possible meaning of the ungrammatical derivation in (18) is not indicated, as a

⁴ It may be the case that there is a null P below *p*. Alternatively, a linker is realized under the null P and incorporates into *p*. I have no evidence favoring either of these proposals over the other. Lacking such evidence, I assume the simpler structure proposed in (10).

⁵ Another form of evidence used in Baker (2003) is the cross-linguistic pattern of incorporation. This is hard to test in Blackfoot, so I do not discuss this type of evidence.

potential plausible meaning is unclear. Nevertheless, the example in (18) demonstrates that the linker does not behave like non-linkers with respect to the locative morpheme *-oohtsi*.

- (18) **iihtoohtsi*
 iiht-oohtsi
 INST-place

The fact that the linker cannot participate in the derivational process suggests that they are not lexical, but functional. Another emerging conclusion seems to be that non-linkers in the language belong to lexical P, as they can participate in this derivational process. This is consistent with the fact that it cannot introduce an argument, in contrast with the linker.

In sum, the data discussed in this section provides solid evidence for the proposed analysis that the instrument linker belongs to a functional category, unlike lexical Ps (i.e. non-linkers) in the language.⁶

3.2 Instrument linker as an adjunction to *vP*

I have so far shown that the instrument linker is a functional element. The next question is where it adjoins; I argue that it adjoins to *vP*. In this subsection, I first show that the linker phrase appears above I(nner)-AspP, the lowest functional phrase in Blackfoot phrase structure that appears between *vP* and VP (see (19) or (22) below), and then show that it adjoins to *vP* above I-AspP, rather than to IP.

Abstract nominalization in Blackfoot shows that a linker phrase must appear above I-AspP. Abstract nominalization is one of the several nominalization types available in the language and is morphologically marked with *-n* or *-hsin* (Frantz 2009). The first variant attaches to stems ending in *-aa*. The second allomorph appears elsewhere. Abstract nominalization indicates either the state or process described by the verb (Frantz 2009).

In a recent study on abstract nominalization in this language (Ritter 2014a), it has been shown that the source of the nominalization is I-Asp (in the sense of Travis 2010), located between *vP* and VP, as represented in (19).⁷

- (19) [_{VP} V [_{I-AspP} **I-Asp** [_{VP} V]]

The proposal that abstract nominalization targets I-Asp (19) predicts that an element outside I-Asp cannot undergo abstract nominalization, while an element inside I-Asp can. In particular, regarding the linker, the prediction is that it should not undergo abstract nominalization if it appears outside I-Asp.

This is what is exactly attested in Blackfoot. The instrument linker is ungrammatical with abstract nominalization, as shown in (20).⁸

⁶ Kim (2013b) provides more evidence from idioms for the same conclusion.

⁷ I-Asp in Blackfoot, unlike temporal languages where it marks a telic or atelic distinction, appears to mark an animacy distinction (Ritter 2014b ms, Kim 2014b). For instance, it has shown in Kim (2014b) that an event can have an endpoint expressed by a direction linker (*itap-*) only if the subject is semantically animate, e.g., ‘The boy will go to the river’ is grammatical in Blackfoot, but the Blackfoot counterpart of ‘The wagon will go to the river’ is ungrammatical, as the subject is inanimate. See (26) for examples.

⁸ A similar range of data regarding abstract nominalization is shown in Bliss, Ritter, and Wiltschko (to appear) with a locative linker *it-*.

(20) **iihta'kai'takihsin*

iiht-a'ka-i'taki-hsin

INST-hate-AI-NOM

Intended: 'Hating (someone/something).'

The ungrammaticality suggests that the linker attaches to a phrase higher than I-AspP. Lexical Ps (non-linkers) contrast with the linkers in (20) in this respect. They are grammatical with abstract nominalization, as shown in (21). This grammaticality suggests that P, a non-linker, attaches to a phrase inside I-Asp, contrary to the linkers. I assume that it appears inside VP, following Kim (2014a).

(21) a. *aamisokska'ssini*

waamis-okska'si-hsin

up-run.AI-NOM

'Running up.'

b. *iihkitopiihsin*

iihkit-opii-hsin

on-sit.AI-NOM

'Sitting on.'

Evidence from abstract nominalization indicates that linkers appear above I-AspP in contrast to non-linkers, which appear below I-Asp. A remaining question is the position of the linkers above I-AspP. I show evidence that a linker phrase is an adjunct to vP, as proposed in (10).

Assuming the phrase structure for Blackfoot illustrated in (22) (Bliss 2010, Ritter and Rosen 2010, Ritter and Wiltschko 2009, in press) where irrelevant phrases are not presented, there are two potential adjunction site for the linkers: IP and vP, both of which appear above I-AspP. In (22), a final morpheme is realized as *v*.

(22) [IP INFL [[vP/AppIP v/AppI [I-AspP I-Asp [V (DP)]]]]] – *person/number*⁹
 PERSON Final/Ben
 (1st/2nd prefix)

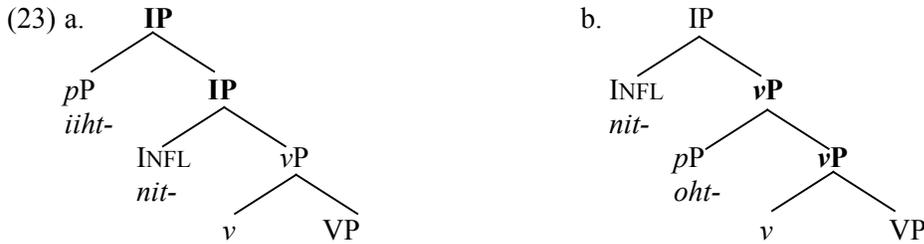
1st and 2nd person prefixes have been argued to be realized under INFL as in (22) (Ritter and Wiltschko 2009, in press), as mentioned earlier; this needs some explanation. Ritter and Wiltschko argue that Blackfoot grammar is organized in terms of participants, not tense. Blackfoot lacks evidence of temporal organization in the grammar: there is no dedicated morphological present or past tense marker, and no evidence of telicity (Kim 2014c, Louie 2008, Ritter and Rosen 2010). Under the hypothesis in which languages can vary with respect to which grammatical features, such as tense or person, are associated with functional categories,¹⁰ Ritter and Wiltschko (in press) argue that in Blackfoot the content of INFL is PERSON rather than tense.¹¹ Crucial to the current discussion, they show that person prefix markings in Blackfoot are functionally equivalent to tense in other languages (for details see Ritter and Wiltschko 2009, in press), and as such, the person prefixes are realized under INFL.

⁹ PERSON in the prefixal position and *person* in the suffixal position cannot be treated in the same way (Ritter and Wiltschko 2009). The suffixal morphemes realized as *person* are the regular form of (object) agreement, unlike PERSON under INFL. See Ritter and Wiltschko (2009) for evidence. I assume this distinction as well.

¹⁰ This is the essence of the Parametric Substantiation Hypothesis in Ritter and Wiltschko (in press).

¹¹ According to Ritter and Wiltschko (in press), this does not mean that tenseless languages like Blackfoot cannot express temporal meaning. Rather, what they are arguing is that INFL in such tenseless languages is associated with a different grammatical feature than tense. e.g., PERSON in Blackfoot or location in Halkomelem.

Getting back to the central question of where the linkers adjoin, there are two likely places. They could either adjoin to IP (23a) where a person prefix (e.g., *nit-* 1st person) is realized under INFL, or they could adjoin to *v*P (23b). I argue that the correct position is *v*P. As is cross-linguistically noted (e.g. di Sciullo 2005), prefixes show different linearization mechanism than suffixes. Although I am abstracting away from a precise mechanism of prefix linearization in Blackfoot, I assume that the prefixes are linearized according to their relative height in the structure in Blackfoot (Bliss 2013). If so, adjunction to IP (23a) yields an order of linker-person prefix, while an adjunction to *v*P (23b) yields the opposite order of person prefix-linker.



The data presented in this paper support the order predicted by (23b) where the adjunction site is *v*P. A representative example is presented in (24). Person prefixes appear before a linker in (24a), which corresponds to the structure in (23b) above. If the order is changed between the two so that the linker appears before the person prefix, the sentences are ungrammatical, as shown in (24b) which corresponds to the structure of (23a) above.

- (24) a. *ana mamii nohta 'kai'taki*
ana mamii nit-oht-a'ka-i'taki
 DEM fish 1-INST-hate-AI
 Lit. 'I have hatred **because of the fish.**' (i.e., 'I hate the fish.')
- b. **iiht-nit-a'ka-i'taki-wa*

The pattern in (24) constitutes evidence that *p* attaches to the functional phrase *v*P, not to IP.

The linker is an adjunct to *v*P; this in part captures the fact that the linker is not marked for person prefix marking, theme marking, animacy, or agreement. These properties are possible for only arguments of the VP, not adjoined arguments. As an adjunct, a linker phrase is not eligible for these types of markings. Moreover, semantically, *p*P adjunction to *v*P captures the fact that this operation modifies the event phrase described by the verb phrase.

4 Instrument linker with a path use

I have shown that the instrument linker is functional, being represented as *p*, and adjoins to *v*P. In Kim (2013), it is shown that direction linker *itap-* 'to' in the language is also functional, by providing evidence similar to what is discussed in this paper. The direction linker usually appears with motion verbs, as illustrated in (25). In (25), the linker *itap-* introduces a goal of motion, 'the hill', described by the verb. The linker is obligatory in (25); inherently directed motion verbs such as 'go' must be prefixed with an element that indicates direction, e.g., a direction linker as in (25) or a direction non-linker such as *waamis* 'up' or *sainnis* 'down' (Kim 2014b).

(25) *aakitapoo ni isspahkoyi*

yaak-*(itap)-oo-wa ani isspahkoyi
will-DIRECTION-go.AI-3S DEM hill
'(S)He will go to the hill.'

In Kim (2014b), the direction linker is argued to appear in the specifier of I-Asp when it occurs with inherently directed motion verbs such as 'go' in (25), which is different from the position of the instrument linker argued in this paper. In this section, I show some evidence that the instrument linker may appear at the level of I-Asp like the direction linker, when it indicates a path meaning such as 'past/along' or 'from'. Thus, it may be possible that the instrument linker can appear in a different structural position depending on its meaning: it appears at vP level in its means/cause use, as shown in the previous section. On the other hand, it appears at I-Asp level in its path use.

I-Asp is the lowest functional head in Blackfoot clause structure, as illustrated earlier in (22). Major evidence for the claim that the direction linker appears inside I-Asp is that (i) the direction linker is obligatory with inherently directed motion verbs (see (25)),¹² and (ii) its distribution is subject to the animacy of the subject.¹³ The direction linker can appear only if the subject is a semantically animate (26a), and ungrammatical with a grammatically animate but semantically inanimate subject (26b).

(26) a. *ana John aakitapoo oomi isspahkoyi*

ana **John** yaak-itap-oo-wa oomi isspahkoyi
DEM **John** will-DIRECTION-go.AI-3S DEM hill
'John will go to the hill.'

b. **ana ainaka'si aakitapoo oomi isspahkoyi*

ana **ainaka'si** yaak-itap-oo-wa oomi isspahkoyi
DEM **wagon** will-DIRECTION-go.AI-3S DEM hill
Intended: 'The wagon will go to the hill.'

(Kim 2014b)

Fact (i) indicates that the direction linker is not an adjunct. Fact (ii) indicates that in Blackfoot, a motion event is subject to the semantic animacy restriction supporting previous studies with similar conclusions (Kim 2013, Ritter 2014b, Ritter and Rosen 2010, Ritter and Wiltschko 2009, in press). In particular, in Blackfoot, Wiltschko (2012) and Ritter (2014b) propose that I-Asp in nominal domain bears the feature [animate]. Assuming that the same aspectual feature is used to classify both nouns and verbs between the nominal and verbal domains (Ritter and Wiltschko 2009, in press), they suggest that the verbal domain may be organized in terms of animacy, and thus I-Asp in the verbal domain bears the same feature [animate]. Kim's (2014b) study on motion verbs provides new evidence that the feature [animate] indeed plays a role in the verbal aspectual domain. More specifically, the animacy restriction of the direction linker as shown in (26) is captured in terms of the feature [animate] on I-Asp in the verbal domain: it is proposed that the direction linker can appear in the specifier of I-AspP when the feature [animate] appears on the head I-Asp.

¹² More specifically, it is argued that the linker fills the initial position of the stem, which is an obligatory position in Algonquian verb stems. See Kim (2014b) for evidence of this claim.

¹³ Other evidence provided in Kim (2014b) comes from abstract nominalization and idioms. For example, the direction linker can undergo abstract nominalization, unlike the means use of the instrument linker.

4.1 Path uses of the instrument linker and I-Asp

Recall that, among the linkers, the instrument linker has the widest distribution of meanings, and one of them is path (Frantz 2009), as illustrated in (27):

- (27) a. *nitaakohto'too mohkinsstsisi*
nit-oht-o'too Mohkinsstsisi
I-INST-arrive.AI Calgary
'I am from Calgary.'
- b. *nitaakohtoo ni niitahtaayi*
nit-yaak-oht-oo-wa ani niitahtaayi
I-will-INST-go.AI-3S DEM river
'I will go along the river.'
- c. *nitaakohtsitskoo ni niitmoyisi*
nit-yaak-oht-itsk-oo-wa ani niitmoyisi
I-will-INST-pass.by-go.AI-3S DEM tipi
'I will walk past the tipi.'

The name path minimally can refer to four meanings following Jackendoff (1983): 'to' (goal), 'toward' (direction), 'from' (source), or 'past/along' (route). In Blackfoot, the first two meanings are expressed by the direction linker *itap-* (Frantz 2009, Kim 2014b), as illustrated earlier. The last two meanings are expressed by the instrument linker *iht-/oht-*, as illustrated in (27).

I show that path use of the linker has a different distribution from that of the other uses of the linker, such as means or cause, as discussed throughout the paper. The properties and distribution of the instrument linker in its path use are identical to those of the direction linker discussed in (25)–(26). The similar distribution seems to suggest that the instrument linker occupies the specifier of I-Asp, as argued for the direction linker *itap-* in the language.

The first defining difference between the path and mean/cause use is that the instrument linker is obligatory when it appears with inherently directed motion verbs. In (28a), the linker is prefixed to the verb 'go' and introduces 'the river', and in (28b), it is prefixed to the verb 'flee' and introduces 'the mountains'. Without the linker, the sentences are ungrammatical. This is in contrast with when it indicates means/cause (see (1)).

- (28) a. *nitaakohtoo ni niitahtaayi*
nit-yaak-*(oht)-oo ani niitahtaayi
I-will-INST-go.AI DEM river
'I will go along the river.'
- b. *nitaakohtsipikssi miistakistsi*
nit-yaak-*(oht)-ipikssi miistak-istsi
I-will-INST-flee.AI mountain-PL
'I will flee from mountains.'

The second interesting property of the path use of the instrument linker is that its distribution is subject to the animacy of the subject. That is, it can appear when the subject of inherently directed motion verbs is semantically animate (a human or an animal) as exemplified in (29):

(29) *ana saahkomaapi/na poos aakohtoo ni niitahtaayi*

ana saahkomaapi / ana poos yaak-oht-oo-wa ani niitahtaayi
 DEM boy / DEM cat will-INST-go.AI-3S DEM river
 ‘This boy/this cat will go along the river.’

As shown in (30), the linker cannot appear with a grammatically animate but semantically inanimate subject, e.g., *ainaka’si* ‘wagon’.

(30) **ana ainaka’si aakohtoo ni niitahtaayi*

ana ainaka’si yaak-oht-oo-wa ani niitahtaayi
 DEM wagon will-INST-go.AI-3S DEM river
 Intended: ‘The wagon will go along the river.’

As the data (29)–(30) suggest, the path use of the instrument linker has similar distribution to the direction linker. Thus, it is possible that the instrument linker may appear in I-AspP when it indicates a path meaning, but appear as an adjunction to *vP* when it indicates a means/cause meaning. The two different structural positions correlated with different meanings may predict that the instrument linker will have a means/cause meaning when its use is not obligatory. This seems to be true, as illustrated in (31). The motion verbs in (31) must appear with either the non-linker *miistap-* (31a) or the linker *itap-* (31b) obligatorily. Prefixed to these elements is an instrument linker. In this case, the instrument linker is optional, and as predicted, the instrument linker has cause meaning, not path meaning. In fact, the sentences are ungrammatical with the path meaning of the instrument linker. For instance, (31a) cannot mean ‘I will go far away from this house.’

(31) a. *nitaakohtiistapoo ni naapioyisi*

nit-yaak-**oht**-[miistap-oo] ani naapioyisi
 I-will-INST-[away-go.AI] DEM house
 ‘I will go (far) away, **because of** this house.’

b. *nitaakohtsitapoo miistakistsi na nohko*

nit-yaak-**oht**-[itap-oo] miistak-istsi ana nohko
 I-will-INST-[direction-go.AI] mountains DEM my.son
 ‘I will go to the mountain, **because of** my son.’

5 Conclusion

I have shown that the instrument linker that introduces a non-core argument in Blackfoot cannot be an applicative head. The linker shows different morphological and syntactic properties from the applicative head in the language, which has been recognized in Algonquian literature (e.g., Rhodes 2010). Alternatively, I proposed that the linker is introduced by a functional head *p*. Thus, it is not the case that all non-core arguments are syntactically represented in the same way, but their syntax can vary. Moreover, it has been shown that different linkers or even the same linker in Blackfoot do not seem to have the same syntax, either. I have provided some preliminary evidence that the instrument linker in its means/cause use appears at the *vP* level, but in its path use may appear at the I-AspP level like a direction linker. It remains to be seen what the different syntax of different linkers suggests for Blackfoot grammar.

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