

NOTE TO USERS

This reproduction is the best copy available.

UMI

**The interface of morphology and motion semantics in
East Cree: a corpus-based study**

By

Linda Zhou

A thesis submitted to the Faculty of Graduate Studies and Research
in partial fulfillment of the requirements for the degree of
Master of Arts

School of Linguistics and Language Studies

Carleton University

Ottawa, Ontario

© Linda Zhou, 2010



Library and Archives
Canada

Published Heritage
Branch

395 Wellington Street
Ottawa ON K1A 0N4
Canada

Bibliothèque et
Archives Canada

Direction du
Patrimoine de l'édition

395, rue Wellington
Ottawa ON K1A 0N4
Canada

Your file *Votre référence*
ISBN: 978-0-494-68663-8
Our file *Notre référence*
ISBN: 978-0-494-68663-8

NOTICE:

The author has granted a non-exclusive license allowing Library and Archives Canada to reproduce, publish, archive, preserve, conserve, communicate to the public by telecommunication or on the Internet, loan, distribute and sell theses worldwide, for commercial or non-commercial purposes, in microform, paper, electronic and/or any other formats.

The author retains copyright ownership and moral rights in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

In compliance with the Canadian Privacy Act some supporting forms may have been removed from this thesis.

While these forms may be included in the document page count, their removal does not represent any loss of content from the thesis.

AVIS:

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque et Archives Canada de reproduire, publier, archiver, sauvegarder, conserver, transmettre au public par télécommunication ou par l'Internet, prêter, distribuer et vendre des thèses partout dans le monde, à des fins commerciales ou autres, sur support microforme, papier, électronique et/ou autres formats.

L'auteur conserve la propriété du droit d'auteur et des droits moraux qui protègent cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

Conformément à la loi canadienne sur la protection de la vie privée, quelques formulaires secondaires ont été enlevés de cette thèse.

Bien que ces formulaires aient inclus dans la pagination, il n'y aura aucun contenu manquant.


Canada

Abstract

This corpus-based study explores the lexicalization patterns East Cree motion verbs, with a focus on eight motion finals: *-kaapuu* ‘stand’, *-puu* ‘sit’, *-shin* ‘lie’, *-hteu* ‘walk’, *-pah* ‘run’, *-payi* ‘drive’, *-pukuuu* ‘float’ and *-aashuu* ‘blow’. In total 597 verbs from the East Cree electronic dictionary were investigated. The framework for analysis is Talmy's (1985, 2000) model adapted to Algonquian languages by Quinn (2009). Our analysis confirms Quinn's proposal of a Direction/Path-Manner schema for intransitive motion verbs in Algonquin languages, and proposes to add the lexicalization patterns of Manner-Manner and Manner-Cause. Preliminarily, in motion verbs describing co-events, the stem initial (SI) is responsible for the main event and the stem final (SF) is responsible for the co-event. This study was conducted within the context of the eastcree.org project (SSHRC grant # 856-2004-1028 to Marie-Odile Junker).

Acknowledgements

I would like to express my deep and sincere gratitude to my supervisor Professor Marie-Odile Junker, who encouraged my interests in the area of Algonquin Languages, especially the language of East Cree, and guided me throughout the project. Without her, this thesis would be impossible. I am also heartily grateful to Professor Marguerite MacKenzie from Memorial University and Professor Daniel Siddiqi for their advices. I am especially thankful to Ms. Ruth Salt from Waskaganish, for sharing her knowledge of her mother tongue. I owe my loving thanks to my parents, who provided me with encouragement and understanding. Lastly, thanks to Jackie Zeng, Justine Macdonald and any of those who supported me in any respect during the progress of this project.

Table of Content

TABLE OF CONTENT	4
1 INTRODUCTION	6
1.1 Background of East Cree	6
1.2 Research Questions	7
1.3 Overview of the Sections	8
2 LITERATURE REVIEW	9
2.1 Stem Formation in Algonquin Languages.....	9
2.2 Inflection of the Cree Animate Intransitive Verb.....	11
2.3 Lexicalization Patterns and Conflation Patterns.....	12
2.4 Motion Event+ Co-Event	12
2.4.1 Co-Event	13
2.4.2 Properties of co-event conflation.....	15
2.5 Motion verbs in Algonquin Languages	16
3 THE EAST CREE DATA	18
3.1 Data Collection	18
3.2 Common motion SFS, stem and inflection.....	21
4 MOTION SFS IN EAST CREE	29
4.1 Definition of motion verbs.....	30
4.1 Posture SFS: <i>-kaapuu</i> , <i>-puu</i> , <i>-shin</i>	30
4.1.1 The posture of standing: <i>-kaapuu</i>	31
4.1.1.1 Special cases of ‘standing’	35
4.1.2 The posture of sitting: <i>-puu</i>	35
4.1.3 The posture of lying: <i>-shin</i>	37

4.2 Movement SFs: <i>-hteu, -pah</i>	39
4.2.1 The movement of walking: <i>-hteu</i>	39
4.2.1.1 Other cases of ‘walk’	40
4.2.2 The movement of running: <i>-pah</i>	42
4.2.2.1 Other cases of running.....	44
4.3 Special SFs: <i>-payi, -aapukuu, -aashuu</i>	44
4.3.1 The motion of driving: <i>-payi</i>	45
4.3.2 The motion of floating: <i>-(a)kuhchin/akumu</i> and <i>-pukuu/putaau</i>	48
4.3.2.1 The static ‘float’	49
4.3.2.2 The dynamic ‘float’	52
4.3.3 The motion of blowing: <i>-aashuu</i>	54
4.3.3.1 Paths for further research.....	57
5 CO-EVENTS	58
5.1 Are there Main events and Co-events in East Cree?	59
5.1.1 Hypothesis 1: $SI = SF$	60
5.1.2 Hypothesis 2: $SI < SF$	61
5.1.3 Hypothesis 3: $SI > SF$	62
6 CONCLUSION	64
6.1 Implications	65
6.2 Limitations	65
6.3 Further Research	67
APPENDIX A: LIST OF ABBREVIATIONS	69
APPENDIX B: TABLE 1. DIFFERENT COMBINATIONS OF SIS AND SFS	70
REFERENCES	78

1 Introduction

The purpose of this study is to explore the interface of semantics and morphology of East Cree (an Algonquin language), specifically to examine the lexicalization patterns of motion verbs. This introductory section presents the background of East Cree, the research questions for this study and the overview of following sections.

1.1 Background of East Cree

East Cree is a Native American language from the Algonquin language family and the Cree-Innu language subfamily (MacKenzie, 1980). It is spoken in the Eastern region of James Bay in Canada by approximately 13,000 speakers. The language is further divided into the Northern and the Southern dialect. Although there are phonological distinctions between the two dialects, speakers of both dialects can communicate with each other easily. For more information see <http://www.eastcree.org> and <http://www.atlas-ling.ca>.

In East Cree, about 80% of the lexicon is made of verbs. The rest consists of nouns, pronouns and particles. Cree verbs fall into four classes depending on their transitivity and animacy, as shown in example (1). Generally, a verb involving an actor and a goal is a transitive verb; if the goal is not mentioned or unclear, the verb is considered as an intransitive verb. The animacy of a verb is determined by either the actor (in intransitive verbs) or the goal (in transitive verbs).

(1) Cree Verb Classes

VTA: *transitive verbs with an animate subject and an animate object*

VTI: *transitive verbs with an animate subject and an inanimate object*

VAI: *intransitive verbs with an animate subject*

VII: *intransitive verbs with an inanimate subject*

East Cree is a polysynthetic language. Verb stems are usually attached by prefixes and suffixes to form sentences. Each verb stem is an uninflected structure consisting of at most three components: an initial, a medial and a final (see section 2.1 below). In a primary verb stem (a verb stem without any secondary derivation) each of the stem components is one individual morpheme. As shown in (1), in Plains Cree, the transitive animate verb *nimakwahten* ‘I chew it’ (Wolfart, 1996, p.424) consists of the verb stem *makwaht*, the personal prefix *ni-* and the suffixes *-e* and *-n*. The verb stem *makwaht* is further divided into an initial morpheme *makw-* ‘press’ and a final morpheme *-aht* ‘by mouth’.

- (2) *ni-makw-aht-e-n*
 1-press-by mouth-Ø.DIR-1/2
 ‘I chew it.’

In this study, I will be looking at East Cree verb stems and I will refer to each the stem components as stem initial (SI), stem medial (SM) and stem final (SF).

1.2 Research Questions

The purpose of this study is to explore the interface of morphology and semantics of verb stem elements in the Southern dialect of East Cree. The analysis is based on data from the Eastern Cree James Bay electronic dictionary database (Junker et al., 2008).

Quinn (2009) proposed that in the Algonquin language family the stem structure for intransitive motion-verbs follows the schema shown in (3).

- (3) Initial-Final
Path/Direction-Manner (or as Quinn called ‘Means’)

Does Quinn’s model apply to the data in East Cree? Theoretically it should since East Cree belongs to the Algonquin language family. This study will examine specifically this combination pattern in the East Cree database.

In addition to Path and Direction, there is also a third possible semantic element in SIs: Manner (Valentine, 2001). In the study I will confirm Quinn’s (2009) model and propose that there are at least two types of lexicalization combinations, as shown in (4).

- (4) Initial-Final
Path/Direction-Manner
Manner-Manner

Further, based on the analysis of Manner-Manner combination, there might be a third type of Manner-Cause combination which is involved only in cases of co-events.

The electronic database used in this study is a 2008 version dictionary which consists of 17968 entries of verbs, nouns, pronouns and particles. The verbs being discussed in this study are typical intransitive motion verbs and are relatively representative among other motion verbs.

1.3 Overview of the Sections

Section 1 introduces the purpose of this study and background information about East Cree. Section 2 reviews literatures in Algonquin Languages and Talmy’s (2000) work on semantics of motion verbs. Section 3 illustrates all the data to be discussed in later sections. Section 4 introduces seven motion SFs and specifically discusses their

possible combinations with different SFs. Section 5 covers some additional findings related to motion SFs discussed in Section 4 and as well as the special cases of co-events will be introduced. Section 6 concludes the findings, summarizes the limitations of the present study and raises questions for future research.

2 Literature Review

This section reviews the literature regarding the structure of Algonquin verbs and also the literature in cognitive semantics. The formation and components of the Algonquin verb stems will be discussed, as well as the way the stem of AI verbs bears inflection. Then, the differences between lexicalization pattern and conflation pattern will be addressed. The last two sections are devoted to the topic of motion event and motion verbs in Algonquin languages.

2.1 Stem Formation in Algonquin Languages

Bloomfield (1946) suggested that in a primary stem formation, the Algonquin verb stem has a tripartite templatic structure, represented as Initial-Medial-Final. The SI of a verb, usually being called the root by Algonquinists, cannot occur by itself. It is usually attached by suffixes such as a SM and a SF. Occasionally, a zero SI and a zero SF occurs in the formation, but they are usually taken as zero constituents.

Besides the primary stem formation, secondary derivation is set up in a similar way. A primarily derived stem can be attached by a secondary medial (which is optional) and a secondary final (which is obligatory). Valentine (2001) suggests that a secondary formation has a bipartite templatic structure, that is, a secondary formation consisting of an initial morpheme (which is usually derived from a primary stem) and a final

morpheme. This structure distinguishes secondary derivation from primary derivation (Goddard, 1990). The components of a verb stem can occur in both primary and secondary derivation.

Roots provide a nominal concept and may occur freely in different stem classes in primary derivation: verbs, nouns and particles (Wolfart, 1973, 1996). In a language like Chinese, verb roots are isolated from other surface elements. In comparison, roots (SIs) can never stand alone in East Cree. They are primarily combined with stem components such as SMs and SFs, and prefixes and suffixes further attach to them to form polysynthetic verbs.

SFs that do not carry a clear meaning are called abstract finals; the ones that carry specific meanings and help define the semantics of the stems are called concrete finals (Valentine, 2001). All finals determine the verb class. Abstract finals and concrete finals can be combined to form complex finals, with the former identified as an abstract sub-final and the latter as a concrete sub-final (Denny, 1989). SFs often occur in pairs based on the animacy and transitivity of the verb. Some final morphemes are used in secondary derivations only (Wolfart, 1996).

Quinn (2008), following Wolfart (1973) considers that Algonquin verb stems are maximally tripartite, for instance, a primary stem consists of maximally an Initial-Medial-Final structure. Each of the stem components can be further analyzed into a maximum of three parts. For example, a complex final can consist of a pre-final, a concrete final (AKA final) and an abstract final (AKA post-final). The SI can also be derived from other tripartite stems, as shown in Table 2.1 in (5).

(5) Table 2.1 maximally tripartite structure of Algonquin verb stem

Initial			Medial			Final		
Primary Initial	Primary Medial	Primary Final	Pre- medial	Medial	Post- medial	Pre- final	Final	Post- final

2. 2 Inflection of the Cree Animate Intransitive Verb

There are three inflectional orders in East Cree verbs: Independent, Imperative and Conjunct. Verbs in independent order tend to have personal prefixes such as *chi-* or *ni-* when either the speaker or the addressee is involved (Ellis, 1961, 1962, 1971). Since there is no infinitive form for East Cree verbs, the Independent Indicative Neutral of the third person singular form is used both in the database and in this study.

The basic structure of an East Cree AI verb in the Independent Indicative Neutral is shown in (6). This is the form that is normally found in the East Cree dictionary as the verb entry word. Normally a third person singular suffix is attached to the stem such as *-u* in (6).

(6) Stem-Third person suffix

a) *nipaa-u*
sleep-3
'She is sleeping.'

b) *nikamu-u*
sing-3
'She sings.'

2.3 Lexicalization Patterns and Conflation Patterns

Talmy (2000) uses three terms to describe the relationship of meaning and form: lexicalization (McCawley, 1968), incorporation (Gruber, 1965) and conflation (Talmy, 1972).

Lexicalization addresses a specific meaning or a series of associated meanings to a specific morpheme. Incorporation occurs at a syntactic level, it fuses one type of meaning component into another, and yet the two retain their original identities. Conflation is a fusion process of two or more meaning components and the new meaning is recategorized into other classes (Baker, 2003).

In the study of lexicalization, it is usually assumed that a particular morpheme is associated with a specific meaning, which leads to the assumption that the combination of several surface elements (such as morphemes) may be associated with one semantic meaning, or a combination of semantic meanings are embedded in a single morpheme. Therefore the same semantic element can be expressed in many surface forms across languages (Talmy, 2000b), or say, in many conflation patterns. For instance, in English we say ‘red apple’, but in French it is ‘pomme rouge’. Both languages have the same lexicalization pattern: a morpheme for ‘red’ and a morpheme for ‘apple’, but the conflation patterns are different: English has a structure of adjective+noun, and French has the structure of noun+adjective.

2.4 Motion Event+ Co-Event

A motion event is a situation that involves movement and the “continuation of a stationary location” (Talmy, 2000b). A motion event usually has a Figure moving, in

reference to the Ground, following a certain Path, in a particular Motion (which refers to the presence of the Figure, whether it is moved or located). For example, (7) illustrate a motion event that involves movement. The Figure is *Charlotte*, the Ground is the *crocodile*, the Path is *away from*, the Manner of the Motion is *swam*. In (8), *the banana* is the Figure, *the tree* is the Ground, *from* is the Path, *hung* is the Manner of the Motion but is static.

(7) *Charlotte swam away from the crocodile.* (Saeed, 1997, p.245)

(8) *The banana hung from the tree.* (Saeed, 1997, p.245)

The examples shown above are English examples. In fact, in a motion event, the surface variation across languages is distinguished by the different lexicalization patterns of Path and Motion.

2.4.1 Co-Event

In addition to these internal components, there is usually an external component attached to the motion event, often called a co-event. Co-event refers to a motion event happening in relation to the main motion event. According to Talmy (2000b), there are at least eight types of relationships between a co-event and a main motion event (Precursion, Enablement, Reverse Enablement, Cause, Manner, Concomitance, Concurrent Result and Subsequence). Manner and Cause are the most common co-events in a motion event.

Manner

A Manner co-event describes the way that the motion event is carried out.

For example: The semantic meanings of (9) and (10) both refer to a downhill movement. However, the verb *go* and *roll* are clearly different. If we change (9) into (11)

by adding ‘with the manner of rolling’ at the end, then the (10) and (11) are semantically identical.

(9) *The rock went down the hill.*

(10) *The rock rolled down the hill.* (Talmy, 2000b, p.30)

(11) *The rock went down the hill with the manner of rolling.*

‘Roll’ not only describes a movement, but also describes the way of moving, as *rolled*, not *slid* or *bounced*. Thus, we consider *roll* in (10) a conflated verb meaning ‘went with the manner of rolling’.

Cause

A Cause co-event can either precede or co-occur with the main motion event. The main event will not happen without the happening of co-event.

To illustrate, compare the expressions in following examples.

(12) *The bottle entered into the cave.*

(13) *The bottle floated into the cave.* (Talmy, 2000b, p.49)

(14) *The bottle entered into the cave with the cause of floating.*

Both (12) and (13) describe a movement towards the inside of the cave, however, *enter* and *float* are very distinctive from each other. Sentence (12) only tells us that the bottle moved into the cave, but in reality the bottle itself cannot enter into a cave if there is no external force. In comparison, (13) is more explicit about the movement: ‘the bottle floated into the cave’. If we add the cause of the movement to (12), then (12) becomes (14). Therefore the *float* in (13) is a conflation of a motion event *enter* and the cause *float*.

2.4.2 Properties of co-event conflation

In a motion event, the co-event can be conflated in the motion verb and the semantic meaning of the conflation pattern can be substituted by a subordinate clause by using ‘with the manner of’ or ‘with the cause of’, as seen in Example (11) and (14) from last section, shown in (15) and (16).

(15) Manner

Conflated verb

The pencil rolled off the table. (Talmy, 2000b, p.26)

Unconflated verb

The pencil moved off the table with the manner of rolling.

(16) Cause

Conflated verb

The pencil blew off the table.

Unconflated verb

The pencil moved off the table with the cause of blowing.

In English examples, the motion event ‘move off the table’ and the Manner *roll* are conflated in one verb. This same conflation pattern can be observed in the cause co-event, where *blew* is the cause of the movement and it is combined with the path *off* to describe the main motion event.

Recall the examples from previous section, the verb *float* can be used with or without a conflation. In ‘the bottle is floating’, the float is unconflated. It is meant to serve only one motion event which is the floating. However, in example (13) ‘the bottle floated into the cave’, the verb *float* is conflated with the movement of *enter* and the presence of buoyancy. In this case, the motion verb *float* then is used here to express the

semantic meanings of two motion verbs. This conflation of two lexicalized usages for a single motion verb is also called ‘two verb usage’ (Talmy, 2001b).

In a sense, posture verbs can also be conflated verbs, but the co-event is always a Manner event (Example 17).

(17) Motion event with conflated posture verbs

a) Conflated verb

The book lay on the table.

Unconflated verb

The book was on the table with the manner of lying.

b) Conflated verb

The bottle stands on the shelf.

Unconflated verb

The bottle is on the shelf with the manner of standing.

c) Conflated verb

The man sat in the chair.

Unconflated verb

The man was in the chair with the manner of sitting.

2.5 Motion verbs in Algonquin Languages

In Nishnaabemwin (traditionally called Ojibway), “motion verbs customarily have a final specifying the nature of the motion, or the means of conveyance. SFs consist of Directionals and other specifications of Path, Relative roots, and a host of Manner terms” (Valentine, 2001, p.374). Quinn (2009) also suggests that in Algonquin languages, SFs are restricted to packaging the Manner elements. No motion SF was found to convey directional semantics. SIs have to be attached to the SFs in order to express the directional component.

Evidence has been found in Penobscot (an Algonquin language) intransitive verbs too, as shown in (18).

(18) Initial-Final

nah-pəy.e
 downstream-paddle.move by paddling
 Direction-Manner

Quinn (2009) compared a list of Nishnaabemwin and Penobscot intransitive motion SFs and found a big overlap between the two languages, and he proposes that preliminarily the ‘Manner-only constraint’ appears to hold true for SFs across the Algonquin language family.

Thus, Quinn proposed an intransitive motion-verb stem schema, as shown in (3), repeated here as (19).

(19) Initial-Final
 Path/Direction-Manner

Loosely saying, Nishnaabemwin and Penobscot have the same lexicalization patterns as English, but the conflation pattern is different, as shown in (20).

(20) Penobscot
note-ohs.e
 out-walk
 ‘walk out’ (Quinn, 2009)

English
walk out
 walk out
 ‘walk out’

Based on Quinn’s proposal, if Nishnaabemwin and Penobscot have the same lexicalization patterns as English, then so does East Cree. For example, we would expect the same lexicalization pattern (a morpheme for *walk* and a morpheme for *out*) in East Cree for ‘walk out’, but a different conflation pattern, presumably ‘out walk’. My

hypothesis is that East Cree should follow the intransitive motion-verb stem schema the same way as Nishnaabemwin and Penobscot. The purpose of this thesis is to show that Quinn's proposal is in fact applicable to East Cree. The next section illustrates selected motion verbs from the East Cree electronic dictionary (Junker et al. 2008).

3 The East Cree Data

This section presents the original source of the data, the collection process and lists of data that are used in this study.

3.1 Data Collection

Data studied in this paper are from an unpublished electronic East Cree dictionary database (2008 version). The first book edition of this dictionary dates back to 1987 (MacKenzie et al., 1987). The dictionary was entirely revised and published as distinct books for each dialect in 2004 (East Cree-English). In the fall of 2004, the first electronic, on-line edition was published on the eastcree.org website, offering not only Cree-English for each dialect, but also English-Cree. In 2007, Junker et al, completed and published the French edition on the web. All those dictionaries have since been updated regularly by an editorial team consisting of linguists and speakers of East Cree (Junker et al., 2009). I was given access by Prof. Junker to the 2008 master database of these on-line dictionaries, to conduct my research for this study. I used the Southern dialect dictionary database.

The database includes 17,963 lexical entries in the Southern dialect of East Cree. For each entry, there is detailed information consisting of the spelling of the entry word in syllabics, in roman orthography, a tentative morpheme representation, the part of speech,

one or more keywords (in English and French), definitions (in English and French), sometimes examples in Cree (syllabics and roman orthographies) with a translation of each example in English and in French, dialectal restriction (coastal, inland or specific community), semantic categories, additional grammatical information (for example about verb stem type), last edited date and comments by the editors.

The dictionary was made available to me in a database of software called Toolbox (SIL, 2009) which I will use for my analysis. Toolbox is developed by SIL (originally known as the Summer Institute of Linguistics) to help field linguists manage and analyze data source. The data displayed can be customized according to users' preference and needs. For example, a list of data can be sorted alphabetically according to either their SIs or their SFs. Filters can be created using one or more criteria. For my purpose, I used the English keyword and the part of speech.

Talmy (2000) defines a motion event as either an event that involves movement, or the continuation of a static presence (posture). For this study, eight typical motion verbs are investigated, including non-spontaneous movement like walking, running, driving, posture verbs like standing, sitting, lying, and spontaneous movement like floating and blowing.

As listed below in Table 3.1, in total I created eight sub-databases, using the English keyword and the part of speech VAI (verb animate intransitive) as the filters. Each filtered database is a small subset of the 17,963 Cree entries (whole database). The entries of the eight sub-databases were cross-checked by filtering respective East Cree SFs. Except SFs for the motion of driving and lying (discussed in 4.3.1 and 4.1.3), there is no significant difference between the data in each sub-database. The reason I am only

studying VAI here is because the other three classes (VTA, VTI, VII) can be developed based on the patterns of the AI verbs. Also, VAI form a natural semantic class in the sense that in AI verbs, the subject is usually the one experiencing the movement.

(21) Table 3.1 Numbers of entries found in each sub-database

English keywords	Number of VAI Entries (total 596)
<i>Walk</i>	124
<i>Run</i>	86
<i>Drive</i>	36
<i>Stand</i>	97
<i>Sit</i>	102
<i>Lie</i>	78
<i>Blow</i>	39
<i>Float</i>	34

Entries in each subset were categorized and analyzed according to their surface (morphological) structure (based on the Roman orthography), their semantic meanings in the (English) keyword field and their definition (in English).

Some English motion verbs are used metaphorically beyond their literal meanings. For example: ‘my ideas are flying.’ or ‘Your idea doesn’t sit well with me’. The semantic meaning of *fly* and *sit* are violated: ‘my ideas’ do not have the capability of moving in the air and ‘your idea’ is also not capable of sitting on a chair. The same motion verb is used metaphorically to express emotional feelings. Although this is not the main objective of this study, I am interested to see whether a same motion verb can be used metaphorically in East Cree. However, in the analysis of the chosen motion verbs, only the literal meanings will be investigated.

3.2 Common motion SFs, stem and inflection

For each of the eight sub-databases mentioned previously, there is a common SF that is related to the motion event directly, as shown in Table 3.2.

(22) Table 3.2 common motion SFs in each sub-database

English keywords	East Cree SFs	East Cree SFs with 3 rd person inflection
<i>Walk</i>	<i>-hte</i>	<i>-hteu</i>
<i>Run</i>	<i>-pah- (+taa-)</i>	<i>-pahtaau</i>
<i>Drive</i>	<i>-payi</i>	<i>-payuu</i>
<i>Stand</i>	<i>-kaapuu</i>	<i>-kaapuu</i>
<i>Sit</i>	<i>-pi</i>	<i>-puu</i>
<i>Lie</i>	<i>-shin</i>	<i>-shin</i>
<i>Blow</i>	<i>-aashi</i>	<i>-aashuu</i>
<i>Float</i>	<i>-aapuku</i>	<i>-aapukuu</i>
<i>Float</i>	<i>-kuhchin</i>	<i>-kuhchin</i>

Some morphophonemic rules apply when the SF is combined with the verbal inflection. The second column lists the underlying morphological forms of the finals. The third one lists the finals as they can be found as verb entries endings in the electronic dictionary.

Our dataset of 8 finals illustrates several of the VAI stems, as they are described by Junker & MacKenzie (2005). According to Junker (p.c.) VAI stems can end in vowels or in -n. When they end in -n, the 3rd person singular inflection is not audible nor visible in the dictionary form, which is the independent indicative neutral. Vowel stems on the other hand, usually exhibit the 3rd person singular inflection, although some morphophonemic changes take place. However the first person inflection allows us to see the stem vowel more clearly. The following, taken from Junker & MacKenzie (2005) illustrates the different vowel stems for AI verbs in the Southern dialect of East Cree.

VAI stems can end in one of six different vowels : *-e, -aa, -ii, -uu, -i, -u.*

- (23) *nimetawe-n* 'I am playing.'
ninipaa-n 'I am sleeping.'
nuuhchii-n 'I come from...'
niniipuu-n 'I am standing.'
nitapi-n 'I am sitting.'
ninikamu-n 'I am singing.'

Stems ending in *-uu* undergo vowel coalescence and stems ending in *-i* vowel harmony.

- (24) *niipuu-u* > *niipuu*
 's/he is standing' (one u disappears)
api-u > *apuu*
 's/he is sitting' (the i becomes u)
 (From Junker & MacKenzie, 2005. pp. 21-22)

We see in our list of finals in table 3.2 above that vowel harmony is indeed taking place for the short *i* in stems *-payi, -pi* and *-ashi* and vowel coalescence for the long *uu* stem *-kaapuu*.

In the remainder of this thesis I will sometimes refer to the final in its uninflected form (column 2) in table 3.2 above, sometimes in its inflected form (column 3), depending on whether a full morphological decomposition is necessary for my argumentation.

When motion SFs are combined with numeral SIs the verb stem is inherently inflected into plural form (Junker, 2007), as shown in (25).

- (25) Motion verbs in plural forms

- a) *neu-hteu-ch*
four-walk.3-PL
'They are four walking together.'
- b) *nishu-puwi-ch*
two-sit.3-PL
'They are two sitting.'
- c) *maamuu-pah-taau-ch*
together-run-Ø.3-PL
'They run together.'
- d) *neu-pah-iituwi-ch*
four-run-RECIP.3- PL
'They run in a pack, groups of four.'

The combination of numeral SIs and motion SF is always used in order to describe movements done by a group of people. The SIs such as *neu-* 'four' can be replaced by 'two', 'three' or other numerals

-hteu is often used in verbs describing walking, as shown in (26) and (27).

(26) *-hteu* in Initial-Final structure

- a) *iiche-hteu*
to.the.side-walk.3
'She walks out of the way, to one side.'
- b) *waaskaa-hteu*
around-walk.3
'She walks all around the perimeter.'
- c) *ashaa-hteu*
backwards-walk.3
'She walks backwards.'
- d) *niipaa-hteu*
night-walk.3
'She walks at night.'
- e) *kaahkape-hteu*
spread.apart-walk.3
'She walks with her legs spread apart.'

In addition to the Initial-Final structure shown above, classificatory medials (such as *-sku-* ‘ice’, *-aasku-* ‘stick-like’) are sometimes inserted to form an Initial-Medial-Final structure, as shown in (27).

(27) *-hteu* in Initial-Medial-Final structure

- a) *maahii-sku-hteu*
downriver-ice-walk.3
‘She walks downriver on the ice.’
- b) *naatak-aasku-hteu*
ashore-stick.like-walk.3
‘She walks ashore on the ice.’
- c) *iyaashtuw-aasku-hteu*
among-stick.like-walk.3
‘She walks among the trees.’
- d) *taskam-isku-hteu*
straight.across-ice-walk.3
‘She walks straight across ice.’

The SF *-pah* exemplifies the pattern of a complex final presented earlier. *-pah* is associated with the motion of ‘running’, but is always followed by a secondary abstract final, as shown in (28).

(28) *-pah* as run

Initial-Final-SEC Final

ashaa-pah-taau
backwards-run- Ø.3
‘She runs backwards.’

Initial-Medial-Final-SEC Final

maahii-sku-pah-taau
downriver-ice-run-Ø.3
‘She runs downriver on the ice.’

Initial-Final-SEC Final

wiiwii-pah-twaau
to.go.out-run-Ø.3.IO
'She runs out with it.'

The SF *-pah* is normally followed by either *-taau* or *-twaau*, as shown in (29).

(29) *-pahtaau* and *-pahtwaau*

chihch-ipahtaau
go away-run.3
'She runs off.'

chihch-ipahtwaau
go away- run.3.IO
'She runs off with it.'

kutaaw-aasku-pahtaau
go into-woods-run.3
'She runs into the forests, woods.'

kutaaw-aasku-pahtwaau
go into-woods- run.3.IO
'She runs into the forest carrying it.'

naachi-pahtaau
to go (towards something)-run.3
'She runs up to it.'

naachi-pahtwaau
to go (towards something)- run.3.IO
'She runs to get it.'

For the keyword *drive*, *-payi* is the most common SF, as in (30).

(30) *-payi* as *drive*

a) *naatak-aas(i)-payi-u*
ashore-shore-drive-3
'She drives ashore.'

b) *aashuu-payi-u*
across-drive-3
'She drives across in a vehicle, it goes across.'

However, its meaning is not only restricted to *drive*. Example (31) and (32)

illustrates a null meaning of *-payi*.

(31) *piiu-payi-htaau*
disperse-Ø-Ø.3
'She makes it scatter.'

(32) *piiu-payi-u*
disperse-Ø-3
'She makes it scatter. It is scattered.'

Spontaneous motion verbs such as *float* have two types of expression in East Cree: the static *float* and the dynamic *float*. Verbs describing static *float* have *-kuhchin* in their SFs.

(33) *-kuhchin* as static *float*

- a) *akuhchin*
'It(anim)/It(inan) soaks, sits on top of the water, floats.'
- b) *etichinipe-kuhchin*
front.side.up-float.3
'It(anim)/It(inan) is floating right side up, on her/his/it's back.'
- c) *achihta-kuhchin*
upside.down-float.3
'It(anim)/It(inan) floats upside-down.'
- d) *ustitihipe-kuhchin*
to.the.surface-float.3
'It(anim)/It(inan) floats on the surface of the water.'
- e) *uhtishkuu-kuhchin*
facing.towards-float.3
'It(anim)/It(inan) floats against the current.'
- f) *mistuwe-kuhchin*
here.and.there-float.3
'It (anim)/It (inan) floats here and there.'

For dynamic *float*, the most common SF is *-aapukuu*, as shown in (34).

(34) verbs with *-aapukuu*

- a) *piich-ishtuw-aapukuu*
to.go.inside.mouth.of.river-floating.person.3
'She floats into the river.'
- b) *piiut-aapukuu*
shoot.rapids-floating.person.3
'She floats down the rapids.'
- c) *aapim-aapukuu*
into.a.sheltered.place-floating.person.3
'She drifts into an area of calm water.'

- d) *maah-aapukuu*
downriver-floating.person.3
'She drifts downriver.'
- e) *seku-sikw-aapukuu*
underneath-ice-floating.person.3
'She floats directly under the ice.'
- f) *pim-aapukuu*
along-floating.person.3
'She floats along the current.'
- g) *pet-aapukuu*
towards.the.speaker-floating.person.3
'She floats towards.'
- h) *taaw-aapukuu*
hit-floating.person.3
'It (anim) floats, crashes into something.'
- i) *tuw-aapukuu*
opening-floating.person.3
'It (floating ice) has an opening in it.'

(35) –*aashuu* as *blow*

- a) *pim-aashuu*
'She sails, blows along.'
- b) *wep-aashuu*
'She is blown away.'
- c) *uhp-aashuu*
'She blows upwards.'
- d) *pet-aashuu*
'She is blown in this direction.'
- e) *ashaa-aashuu*
'She is blown backwards.'
- f) *napate-y-aashuu*
'It (anim) sails on one side.'

Posture SFs such as *-kaapuu* ‘stand’, *-puu* ‘sit’ and *-shin* ‘lie’ are usually combined with Manner SIs.

(36) – *kaapuu* ‘stand’ with Manner SFs

- a) *cheshtinaachi-kaapuu*
firm-stand.3
Manner-Manner
‘She stands firmly.’
- b) *chiyaami-kaapuu*
quiet-stand.3
Manner-Manner
‘She stands quietly.’
- c) *kuisku-kaapuu*
straight-stand.3
Manner-Manner
‘She stands straight.’
- d) *kuskwaawaachi-kaapuu*
quiet(or still)-stand.3
Manner-Manner
‘She stands still.’
- e) *pahkaani-kaapuu*
separate-stand.3
Manner-Manner
‘She stands separately.’
- f) *pemihii-kaat-e-kaapuu*
crossed-leg- Ø.DIR-stand.3
Manner-Manner
‘She stands with legs crossed.’
- g) *peyaku-kaapuu*
alone-stand.3
Manner-Manner
‘She stands alone.’

(37) – *puu* ‘sit’ with Manner SIs

- a) *yaaait-apuu*
firm-sit.3
‘She sits firmly, stiffly.’

- b) *puutuu-puu*
ball.shape-sit.3
'She sits fatly, in a ball shape.'
- c) *pishiku-puu*
empty-sit.3
'She sits around empty-handed.'
- d) *utipa-puu*
crouched.over-sit.3
'She sits crouched over.'
- e) *miyu-puu*
comfortable-sit.3
'She sits comfortably.'

(38) *-shin* 'lie' with Manner SIs

- a) *iiche-shin*
aside-lie.3
'She moves to the side while lying down.'
- b) *chik-aschisine-shin*
attach-shoes-lie.3
'She lies down with her shoes on.'
- c) *nihii-shin*
proper-lie.3
'She lies down properly.'
- d) *uhpime-shkwe-shin*
to.the.side-head-lie.3
'She lies down with her head to the side.'

4 Motion SFs in East Cree

This section presents a detailed semantic analysis of East Cree motion finals, specifically motion finals for events of standing, sitting, lying, walking, running, driving, floating and blowing.

4.1 Definition of motion verbs

In this study, I define *Motion verbs* as verbs describing a motion event, whether it is dynamic or static; *Movement verbs* as verbs describing spontaneous and non-spontaneous movement; *Posture verbs* as verbs describing presence or locatedness (the sense of oneself being simply located) of the Figure.

In this section, I will specifically look at eight East Cree motion SFs in VAI (Intransitive Animate Verbs) class: *-hteu* ‘walk’, *-pah* ‘run’, *-payi* ‘drive’, *-kaapuu* ‘stand’, *-puu* ‘sit’, *-pukuu* ‘float’ and *-aashuu* ‘blow’. Due to the nature of polysynthetic structure, the term motion SFs will be used instead of motion verbs.

These motion SFs are used in typical motion event such as static postures (*-kaapuu* ‘stand’, *-puu* ‘sit’, *-shin* ‘lie’), physical movement (*-hteu* ‘walk’, *-pah* ‘run’) and spontaneous movement (*-payi* ‘drive’, *-pukuu* ‘float’, *-aashuu* ‘blow’). Motion verbs like *walk*, *run* discussed here are different from action verbs like *pull*, *tie*, *throw*. The former ones describe movement of travelling that are caused by self-propulsion, so the motions involve a change of location. The latter ones describe motions that are externally propelled, for instance, in the event of ‘throwing’, there should be an object to be thrown, otherwise the ‘throwing’ is not a valid motion.

4.1 Posture SFs: *-kaapuu*, *-puu*, *-shin*

This section lays out discussion of posture SFs *-kaapuu* ‘stand’, *-puu* ‘sit’ and *-shin* ‘lie’. The reason these three particular postures were chosen is because they are the prototypes for all other postures. When a Figure sits (attaching to something) or stands, its greatest extension is vertical and its top side is facing up. When a Figure lies down, its

greatest extension is horizontal and its top side is not facing up (Toivonen, 1997). Based on these generalizations, postures like crouch, stuck, lean etc. can all be analyzed into *stand*, *sit* and *lie* with a specific manner.

Recall Quinn's (2009) schema for intransitive motion verbs, as shown in (3), repeated here as (39).

- (39) Initial-Final
Path/Direction-Manner

With posture SFs, a Path/Direction SI is expected to be rare, since in a posture event as I defined in the previous section, the Figure is static unless it is forced externally. Therefore the only purpose for a Path/Direction SI attached to a posture SF is to describe the locatedness of the Figure.

4.1.1 The posture of standing: *-kaapuu*

The AI SF *-kaapuu* is used to refer to *stand*. There are in total 97 AI verbs in the *stand* sub-database and 95 of them have *-kaapuu* as their SFs.

-kaapuu can be combined directly with an SI, or with an SI and a secondary causative final, as seen in (40) and (41).

- (40) *uhtishkuu-kaapuu*
facing.towards-stand.3
'She stands towards someone/something.'
- (41) *aasuu-kaapuu-htaaui*
lean.on.for.support-stand-Ø.3.CAUS
'She stands it leaning against something.'

The causative final *-htaaui* in (41) is an indication of a VAI+O (Animate Intransitive Verbs with Objects) structure. Such AI verbs are also called VAI+ni or VTI2.

They are literally referred as the pseudo-transitive verbs (Junker & MacKenzie, 2005).

This type of verbs can take an inanimate noun as a goal and can be passivized. Table 4.1 in (43) shows a comparison between VAI and VAI+O structures. Verbs in the left column are true AI verbs, whereas verbs in the right column are pseudo-transitive verbs.

(42) Table 4.1 VAI and VAIO structures

VAI	VAI+O
<i>ahchi-kaapuu</i> upside.down-stand.3 Manner-Manner (see Section 5) 'She stands head down.'	<i>ahchi-kaapuu-htaa</i> upside.down-stand- Ø.3.CAUS Manner-Manner 'She stands it/him/her upside-down.'
<i>kuisku-kaapuu</i> straight-stand.3 Manner-Manner 'She stands straight.'	<i>kuisku-kaapuu-htaa</i> straight-stand- Ø.3.CAUS Manner-Manner 'She stands it/him/her straight.'

Manner SIs are used very often with *-kaapuu*, as shown in (43).

(43) *-kaapuu* 'stand' with Manner SIs

- a) *cheshtinaachi-kaapuu*
firm-stand.3
Manner-Manner
'She stands firmly.'
- b) *chiyaami-kaapuu*
quiet-stand.3
Manner-Manner
'She stands quietly.'
- c) *kuisku-kaapuu*
straight-stand.3
Manner-Manner
'She stands straight.'
- d) *kuskwaawaachi-kaapuu*
quiet (or still)-stand.3
Manner-Manner
'She stands still.'

- e) *pahkaani-kaapuu*
 separate-stand.3
 Manner-Manner
 ‘She stands separately.’
- f) *pemihii-kaat-e-kaapuu*
 crossed-leg-Ø-stand.3
 Manner-Manner
 ‘She stands with legs crossed.’
- g) *peyaku-kaapuu*
 alone-stand.3
 Manner-Manner
 ‘She stands alone.’

The schema of Direction/Path-Manner also applies on *-kaapuu*, but there were only five examples in the *stand* sub-database, as in (44).

(44) *-kaapuu* ‘stand’ with Direction/Path SIs

- a) *uhtishkuu-kaapuu*
 facing.someone-stand.3
 ‘She stands towards someone, something, facing it.’
- b) *uhtishkuu-kaapuu-shtaatu-wi-ch*
 facing.someone-stand-RECIP¹-3-Ø.PL
 ‘They stand facing each other.’
- c) *utaashtami-kaapuu*
 facing.a.direction-stand.3
 ‘She stands facing a certain direction.’
- d) *pet-aashtami-kaapuu*
 towards.speaker-facing-stand.3
 ‘She stands facing this way.’
- e) *ashaa-kaapuu*
 backwards-stand.3
 ‘She stands back.’

¹ The interpretation of *-shtaatu-* is based on observation only, not confirmed by the speakers. confirmed by the speakers.

In addition to the meaning of ‘standing’, *-kaapuu* is also found to express a general meaning of ‘approaching the vertical axis’, for instance, in (45) and (46), *-kaapuu* is used to describe one’s height.

(45) *chinu-kaapuu*
lengthen-vertically.3
‘She is tall.’

(46) *tahku-kaapuu*
make.short-vertically.3
‘She is short in height.’

Example (47) shows a metaphorical use of *-kaapuu*, which is rare and very interesting. Recall examples shown in the previous section where numeral SIs influence the inflection of verb stems and block the third person singular inflection, example (47) is very unique since a numeral SI is attached to *-kaapuu* but did not influence the third person singular *-u* attached to the stem.

(47) *niishu-kaapuu*
two-marry.3
‘She is getting married.’

AI verbs with *-kaapuu* are mostly combined with Manner initials instead of Directional/Path initials, as shown in (48).

(48) Table 4.2 Number of SIs attached to *-kaapuu*

Type of SIs	Number of entries (total 95)
Manner	89
Directional/Path	7
Numeral	1

4.1.1.1 Special cases of 'standing'

While most of the verbs filtered by the keyword *stand* have *-kaapuu* as their SFs, there are two verbs without the *-kaapuu* also referring to *stand*.

(49) *naaniipuu*
'She stands around.'

(50) *pisikuu*
'She stands up (from another position).'

In the inland dialect, *niipuu* means 'she gets married', which brings the question of whether *naaniipuu* in (49) could behave like (47) to express the meaning of 'getting married'.

pisiku- in (50) can be combined with other finals: *pisiku-n-am* (VTI), *pisiku-n-eu* (VTA), *pisiku-n-icheu* (VAI), but they all refer to 'getting something to stick out by clawing it'. It seems that similar to *-kaapuu*, the SI *pisiku-* also indicates the approaching of vertical dimension. This preliminarily suggests that a full study of Cree posture verbs should not only includes SFs like *-kaapuu*, but also should encompass morphemes like *pisiku-*.

4.1.2 The posture of sitting: *-puu*

Out of 102 AI verbs described with English *sit*, 100 have *-puu* as their SFs which clearly shows that *-puu* is associated with the posture of sitting in East Cree.

Similar to the case of *-kaapuu*, *-puu* is very often combined with Manner SIs, as illustrated in (51).

(51) *-puu* 'sit' in Manner-Manner combinations

- a) *yaait-apuu*
firm-sit.3
'She sits firmly, stiffly.'
- b) *puutuu-puu*
ball.shape-sit.3
'She sits fatly, in a ball shape.'
- c) *pishiku-puu*
empty-sit.3
'She sits around empty-handed.'
- d) *utipa-puu*
crouched.over-sit.3
'She sits crouched over.'
- e) *miyu-puu*
comfortable-sit.3
'She sits comfortably.'

In (52), there is a Manner-Manner combination involving co-events.

- (52) *min-ihkweu-puu*
drinks.to.drink-face-sit.3
'She is sitting down while drinking.'

Directional/Path initials are also attached with *-puu*, but not very common.

- (53) *utihtaamuu-n-ipuu*
facing.down-3-sit
'It (anim) sits facing down.'
- utaashtam-ipuu*
facing.a.certain.direction-sit.3
'She sits facing a certain direction.'

There are only very few examples of Numeral initials attaching to *-puu*, but as previously mentioned, this type of combination can be productive, as shown in (54).

(54) neu-pu-wi-ch
four-sit-3-PL
'They are four sitting.'

niishu-pu-wi-ch
two-sit-3-PL
'They are two sitting.'

Table 4.3 summarizes the statistics of different types of combination.

(55) Table 4.3 Number of SIs attached to *-puu*

Type of SIs	Number of entries (total 81)
Manner	66
Directional/Path	12
Numeral	3

4.1.3 The posture of lying: *-shin*

The 78 AI verbs described with the keyword *lie*, all have *-shin* as their SF. Precisely, *-shin* refers to a motion of approaching the horizontal plane. The direct meaning of *-shin* is not only 'lying down', but sometimes also being interpreted as 'falling down'.

Example (56) shows some verbs of *-shin* being interpreted as 'lying down' and attached by Manner SIs.

(56) *-shin* 'lie' with Manner SIs

a) *iiche-shin*
aside-lie.3
'She moves to the side while lying down.'

b) *chik-aschisine-shin*
attach-shoes-lie.3
'She lies down with her shoes on.'

c) *nihii-shin*
proper-lie.3
'She lies down properly.'

- d) *uhpime-shkwe-shin*
 to.the.side-head-lie.3
 ‘She lies down with her head to the side.’

Some examples of *-shin* being interpreted into other meanings are shown below.

- (57) *nawe-shin*
 bend.forward- Ø.3
 ‘She is bent forward’
- (58) *chiishkwe-shin*
 passed.out-fall.3
 ‘She falls on something and passes out.’
- (59) *chiihii-shin*
 slippery-fall.3
 ‘She slips on ice.’
- (60) *pimi-sku-shin*
 along-ice-fall.3
 ‘She walks on the ice.’

Example (57), (58) and (59) all express an event of approaching the horizontal ground. They all have *-shin* in their SFs attached with either a Directional or Manner SI. However, example (60) is a little tricky. According to the lexicalization pattern in (60), *-shin* is an overt reference of approaching horizontal ground, but the verb is interpreted as ‘walking’. A similar example was found in (61).

- (61) *pimi-aashku-shin*
 along-stick.like-lie.3
 ‘She lies stretched out.’

The SF *-shin* is interpreted as ‘lying down’ and is attached with the same Directional SI *pimi-* and a similar classificatory SM *-aashku-*. If we compare (60) and (61), the only difference is the classificatory SM, the former refers to ice and the later refers to limbs, but the types of movement is very different where (60) involves walking and (61) involves lying down. One possible analysis is that since both the SI *pimi-* and the SF *-shin* are referring to a horizontal movement, and people typically don’t lie down

or crawl on ice, therefore *walk* is a more reasonable movement, further, I suggest interpreting the SF *-shin* in (61) as ‘a movement with the potential of falling down, or slipping down’.

Another similar structure (62) is found without any SM and is also interpreted as. Again it shows that the primary meaning of *-shin* is ‘lying down’.

(62) *pimi-shin*
 along- lie.3
 ‘She lies down.’

The *-shin* sub-database discussed here is filtered by English keyword ‘lie’. However, unlike the cases of other motion SFs studied here, the sub-database filtered by East Cree SF *-shin* has 296 entries, which is a significant difference in terms of numbers (in comparison with 78 entries). The 296 verbs include the 78 ones discussed in this section and in addition include other verbs that refer to horizontal postures (such as ‘being stuck’) or motions that involve horizontal movement (such as ‘join together’). I consider that for the purpose of this study, the 78-verb sub-database is sufficient enough to test my hypotheses. I leave this larger database for further research.

4.2 Movement SFs: *-hteu*, *-pah*

This section discusses the motion SFs of physical movement *-hteu* ‘walk’ and *-pah* ‘run’. Special cases of walking event and running event will also be addressed.

4.2.1 The movement of walking: *-hteu*

For the English keyword *walk*, *-hteu* is used the most often. According to the VAI *walk* sub-database, 60 out of 124 (48.4%) verbs have *-hteu* in their SFs. Typically, *-hteu* is associated with the concept of *walk*.

The lexicalization patterns of *-hteu* verbs are consistent with Quinn's hypothesis, in which SFs are restricted to the packaging Manner of the motion event while SIs provide information about Direction, Path and Manner, as shown in (63).

(63) *-hteu* 'walk' with SIs of Direction, Path and Manner

Direction-Manner

iiche-hteu

aside-walk.3

'She walks out of the way, to one side.'

Path-Manner

yaay-aasku-hteu

along.the.edge-stick.like-walk.3

'She walks along the edge of bush.'

Manner-Manner (See section 5)

kaahkape-hteu

spread.apart-walk.3

'She walks with her legs spread apart.'

Table 4.4 shows a statistics of the three types of initials attached to *-hteu*. It is obvious that Manner initials occur the most often.

(64) Table 4.4 Number of SIs attached to *-hteu*

Type of SIs	Number of entries (total 60)
Manner	38
Directional/Path	18
Numeral	4

4.2.1.1 Other cases of 'walk'

The majority verbs in the *walk* database have *-hteu* in their SFs, the rest of walk verbs are interpreted as the concept of walking, but no overt stem elements can be found to associate directly with *walk*, as shown in (65). There are two types of situations among

the rest of the verbs: either their SFs describe other types of a motion event overtly or they have only abstract finals which do not add meaning to the stem.

(65) Verbs do not have overt *-hteu* in their stem elements

- a) *naatak-aas-ipichuu*
ashore-shore-move.winter.camp.3
'She walks ashore moving winter camp.'
- b) *nach-ikaapuu*
stop-stand.3
'She stops walking and stands.'
- c) *atim-ahamaasuu*
away-sing.3
'She walks away singing.'
- d) *pim-isku-shin*
along-ice-horizontal.3
'She walks on the ice.'

Example (a) to (d) do not have *-hteu* in their SFs, and none of their stem elements directly refers to *walk* (Example (d) was discussed in section 4.1). All of the SFs in above examples describe a co-event (see section 5 on co-events) that is happening concurrently with walking. According to my consultant², verbs like 65(d) do express a meaning of walking, but not other types of motion like running or jumping. The concept of *walk* is determined by the context and is implied in the movement itself in this type of verbs.

There are also verbs with only abstract finals, as listed in (66).

(66) *Walk* verbs with abstract finals

- a) *mus-aasuu*
'She walks out to the water from shore.'
- b) *pimuhta-taau*
'She carries it walking.'

² The consultant is Ms. Ruth Salt, who comes from Waskaganish and is a native speaker of East Cree.

c) *kuisht-ikaam-e-htaacu*
 ‘She walks around inside the teepee, the lake.’

d) *pinisu-weu*
 ‘She walks down a slope.’

In (66), all of the abstract finals do not add any meaning to the verbs and no similarity can be drawn from these SIs, which again shows that the meaning of *walk* is shaped by the context and not the form.

An interesting finding is that there is one verb shown in (67) which is associated with *walk* but has the SF *-eyim*, a SF usually found in verbs of cognition and emotion (see Junker, 2004 and Junker & Blacksmith, 2006).

(67) *aahkam-eyimu-u*
 light.weight-think.face-3
 ‘She hurries walking.’

No overt *walk* can be found in (67) and yet it describes the movement of walking. This shows that the meaning of the verbs do not always match the meaning of their parts. It is beyond the scope of this paper to discuss the question of how the meaning of ‘walk’ is conveyed in such verbs. Further studies are needed to tackle this issue.

4.2.2 The movement of running: *-pah*

There are in total 86 verbs listed in the *run* sub-database, 83 of which have *-pah* in their SFs. However, abstract finals *-taacu* or *-twaacu* are always attached to *-pah*. Although in previous discussion, the abstract final *-htaacu* was taken as the causative final, it is not the same case with *-pahtaacu*. In VAI class, *-pah* ‘run’ is always combined with abstract finals *-taacu* or *-twaacu*, *-pah* itself is never used alone. The differences between *-pahtaacu* and *-pahtwaacu* is that the latter means the running with something in

hand, carrying something. In other words, the abstract final *-twaau* indicates that there is an (implicit) indirect object, meaning ‘with it’. Comparisons can be seen in (68).

(68) Comparison between *-pahtaaui* and *-pahtwaaui*

a) *chihch-ipahtaaui*

go.away-run.3

‘She runs off.’

chihch-ipahtwaaui

go.away-run.3.IO

‘She runs off with it.’

b) *kutaaw-aasku-pahtaaui*

go.into-woods-run.3

‘She runs into the forests, woods.’

kutaaw-aasku-pahtwaaui

go.into-woods-run.3.IO

‘She runs into the forest carrying it.’

c) *naachi-pahtaaui*

to.go (towards something)-run.3

‘She runs up to it.’

naachi-pahtwaaui

to.go (towards something)-run.3.IO

‘She runs to get it.’

All of the verbs in (68) follow the Directional-Manner schema.

There are in total 58 different SIs attached to *-pah*, among which 32 are Directional/Path SIs and 25 are Manner SIs. There is also one numeral SI *neu-*, as shown in (69), discussed in 3.2.

(69) *neu-pah-iitu-wi-ch*

four-run-groups- 3-Ø.PL

‘They run in a pack, groups of four.’

Table 4.5 summarizes the combinations of different initials and *-pah*.

(70) Table 4.5 Number of SIs attached to *-pah*

Type of SIs	Number of entries (total 83)
Manner	37
Directional/Path	46
Numeral	1

4.2.2.1 Other cases of running

Instead of *-pah*, three verbs in the sub-database have *-ishimuu* ('shelter, shade, cover') as their SFs, as listed in (71).

(71) *-ishimuu* as *run*

- a) *paashtaata-ishimuu*
'She/he/it (anim) runs off the wrong way in her/his/its haste to escape.'
- b) *shaakachuwet-ishimuu*
'It (anim) runs up a tree to escape.'
- c) *papaamaahtuwiiit-ishimuu*
'She/he/it (anim, ex mouse) runs all over the place trying to escape.'

All of the examples in (71) have *run* as their keyword and the main events are all escaping from something. None of the stem components clearly indicate that the Manner of escaping is 'running'. The only possibility is that the idea of running is implied in *-ishimuu*: if one is trying to escape, he has to run.

4.3 Special SFs: *-payi*, *-aapukuu*, *-aashuu*

This section addresses special motion SFs for the event of driving, floating and blowing. The following SFs will be discussed: *-payi* 'drive', *-(a)kuhchin/-akumu* 'static float', *-pukuu* 'dynamic float' and *-aashuu* 'blow'.

4.3.1 The motion of driving: *-payi*

36 verbs with English keyword drive have *-payi* in their SFs. Although *-payi* occurs in every verb related to the concept of driving, it is difficult to define it accurately since *-payi* can be combined with other SIs to express motion events that do not involve driving, as shown in Example (72).

- (72) *pimichi-payuu*
 off.the.side- Ø.3
 ‘She falls sideways.’

In (72), *-payi* is replaced by *-payu* since there is a third person *-u* attached to it, causing a vowel harmony taking place. In later examples, I will simply refer *-payuu* as *-payi*. The abstract final *-htaa* is sometimes attached to *-payi*, but makes no overt distinction in terms of the meaning, as shown in (73) and (74). However, verbs like (74) which only have *-payi* but no causative finals (*-htaa*) tend to emphasize that the motion event is spontaneous (see also example (76) and (77) later).

- (73) *piiu-payi-htaa*
 disperse-Ø-Ø.3.CAUS
 ‘She makes it scatter.’

- (74) *piiu-payuu*
 disperse- Ø.3
 ‘She makes it scatter. It is scattered.’

Wolfart (1973) suggested that in Plains Cree, *-payi* is a concrete final that subjects to secondary derivation and involves the meaning of ‘move’. Hirose (2003) suggested it is an inchoative suffix, which indicates a change of state in an event, as shown in example (75).

- (75) *kosko-payi-w*
 wake up- Ø.INCH-3
 ‘She wakes up.’ (Hirose, 2003, p.121)

The semantic function of *-payi* is an indication of an instantaneous transition from event A (not awake) to event B (awake). However, it is questionable whether this interpretation of *-payi* is over-generalized since first there is not enough literature covering this specific motion SF and second there were not enough examples or statistics to make a comparative analysis.

Based on the data, the view of *-payi* as an inchoative suffix seems to be applicable to East Cree, as shown in (76) and (77).

- (76) *peku-payuu*
 wake- Ø.3.INCH
 ‘She wakes up.’
- (77) *naach-ipayi-htaa*
 to go- Ø.INCH- Ø.3.CAUS
 ‘She goes to get it by vehicle.’

-payi can be found in all types of verbs, as shown in (78).

- (78) *-payi* in different verb classes

VTA

shewe-payi-heu
ring- Ø.INCH- Ø.3.CAUS
 ‘She makes it give out a ringing metallic sound.’

VAI/VII

shewe-payuu
ring- Ø.3.INCH
 ‘It makes a loud ringing metallic sound.’

VAI

achichi-payi-htaa
upside.down- Ø.INCH- Ø.3.CAUS
 ‘She tips it upside-down.’

VAI

achichi-payuu
upside.down- Ø.3.INCH
 ‘She falls down head first.’

In addition to the inchoative state of an event, *-payi* also can be used in verbs describing spontaneous movement, as shown in the Intransitive Inanimate verbs of examples (79) and (80).

- (79) *kuikw-acauhchi-payuu*
 out-sand- Ø.3.SPON
 ‘The sand falls out of the container.’
- (80) *aahch-iuwe-payuu*
 change-wind- Ø.3.SPON
 ‘The wind changes direction as a storm hits.’

When *-payi* is used as *drive*, it is usually combined with Path/Directional SIs (Example 81 and 82).

- (81) *naatak-aas-ipayuu*
 ashore-shore-drive.3
 ‘She drives ashore.’
- (82) *aashuu-payuu*
 across-drive.3
 ‘She drives across in a vehicle, it goes across.’

Typically, the event of driving a vehicle is not considered as a spontaneous one since the vehicle itself is controlled by the driver and the direction where the vehicle is going to is also controllable. It seems the interpretation of spontaneous movement does not quite fit in this situation and yet *-payi* was found in every verb in the *drive* sub-database. For example, in (81) there is a directional SI *naatak-* and a classificatory SM *-aas-*, none of both involves the meaning of ‘driving a vehicle’ or ‘with a tool’, therefore one possibility is that *-payi* refers to the ‘driving. Another example appears in (82) where a directional SI *aashuu-* is combined with *-payi* to indicate a movement with the

direction of ‘across something’. There is no overt indication of any tool or instrument in this verb and yet it is interpreted as ‘drive across’. Recall the assumption made earlier that –*payi* also indicates spontaneous movement; it seems that verbs like (81) and (82) are embedded with an implication that the movement is caused by external force and there is probably a tool involved. Natural force can cause spontaneous movement but there is always either a classificatory SM or a motion SF attached to indicate the cause. Example (79) and (80), as well as (83) and (84) can provide some evidence.

(83) *kutaaw-aakun-epayuu*
 go.into-snow- Ø.3.SPON
 ‘She sinks deeply into the snow.’

(84) *wep-aashuu*
 throw.away-wind.3
 ‘She is blown away by wind.’

Table 4.6 provides a statistics of different SIs combined with –*payi*.

(85) Table 4.6 Number of SIs attached to –*payi*

Type of SIs	Number of entries (total 36)
Manner	13
Directional/Path	22
Numeral	1

4.3.2 The motion of floating: –(a)*kuhchin/akumu* and –*pukuu/putaau*

The verb *float* in English is incorporated with two meanings: a presence of buoyancy and a cause to exhibit the presence of buoyancy. For example, *float* in ‘She is floating on the river’ indicates static presence while in ‘She is floating into the cave’ indicates dynamic movement. In East Cree, the SFs for static *float* and dynamic *float* are distinguished. We will examine these cases in details in the following section.

4.3.2.1 The static 'float'

In VAI static floating is expressed through SFs *-(a)kuhchin* and *-akumu*. 9 verbs with these SFs were observed in our database of 34 AI verbs with English keyword *float*.

The verb *akuhchin* itself describes a static presence of floating, and it is only combined with Manner SIs to express static presence.

The AI final *-kuhchin* has a corresponding final *-kuhtin* in VII. Table 4.7 illustrates some pairs of verbs for comparison.

(86) Table 4.7 Static *float* in VAI and VII

VAI <i>-kuhchin</i>	VII <i>-kuhtin</i>	
<i>akuhchin</i> float	<i>akuhtin</i> float	'It (anim)/It (inan) soaks, sits on top of the water, floats.'
<i>etichinipe-kuhchin</i> front.side.up-float	<i>etichinipe-kutin</i> front.side.up-float	'It (anim)/It (inan) is floating right side up, on her/his/it's back.'
<i>achihta-kuhchin</i> upside.down-float	<i>achihta-kuhtin</i> upside.down-float	'It (anim)/It (inan) floats upside-down.'
<i>ustitihipe-kuhchin</i> to.the.surface-float	<i>ustitihipe-kuhtin</i> to.the.surface-float	'It (anim)/It (inan) floats on the surface of the water.'
<i>uhtishkuu-kuhchin</i> facing.towards-float	<i>uhtishkuu-kuhtin</i> facing.towards-float	'It (anim)/It (inan) floats against the current.'
<i>mistuwe-kuhchin</i> here.and.there-float	<i>mistuwe-kuhtin</i> here.and.there-float	'It (anim)/It (inan) floats here and there.'

There are in total 7 verbs with *-kuhchin* in the VAI *float* sub-database. In addition to 6 of those listed above, there is also *iyipe-kuhchin*, as in (87).

- (87) *iyipe-kuhchin*
on.a.slant-float.3
'She floats on a slant.'

Although the counterpart of (87), *iyipe-kuhtin* was not observed in VII, it is predictable based on the evidence in Table 4.4 that such combination exists.

According to my consultant, *mistuwe-kuhchin* in (86) involves dynamic movement which seems to contradict the prediction based on other data in (86) that *-kuhchin* is used in static floating. However, only 5 verbs (listed below) in the whole dictionary have *mistuw-* as their SIs. In (88), *mistuw-* is combined with static SF *-ku* ‘hang’.

(88) The SI *mistuw-*

VAI

mistuw-e-kutacu

‘She hangs something here and there.’

VII

mistuw-e-kuteu

‘It is hung, here and there.’

VTA

mistuw-e-kuyeu

‘She hangs it here and there.’

VII

mistuw-e-kuhtin

‘It floats here and there.’

VAI

mistuw-e-kuhchin

‘It (anim) floats here and there.’

Since there are no additional data to be referred to at this point, I suggest analyzing *mistuw-* as an SI that only combines with static SFs such as *-kuteu* and *-kuhchin*, and claim that the meaning of *mistuw-* itself refers to a dynamic movement. Therefore, to explain the exceptional case of *mistwekuhchin*: a dynamic SI *mistuwe-* combined with a static SF *-kuhchin*, together describes a dynamic movement.

However, if we take *-kuhchin* as a non-static SF, then all the examples in Table 1 could be either static or dynamic floating which clearly contradicts the semantic meaning of these verbs. For example, *akuhchin* itself refers to a static presence of floating; *achihtakuhchin* ‘It floats upside-down’ cannot be a dynamic motion either. Thus, the generalization of taking *-kuhchin* as a static SF is applicable to the data observed at this moment.

-akumuu in (89) is a very unique AI SF observed only in the situation of ‘floating in the same place’. The verb *akumuu* (VAI) itself means ‘she floats in the same place’, with the SI *kayeut-* ‘does not move, stays in the same place’, *kayeutakumuu* seems to emphasize one specific motion event: that is ‘floating in the same place’.

According to my consultant, there is no movement involved in this verb.

(89) *kayeut-akumuu*
 stays.in.same.place-float.3
 ‘She floats in the same place.’

Respectively, we could also assume that the verb *akumuu* and *kayeutakumuu* have counterparts in VII, but they were not observed in the database.

As previously mentioned in (89), the SF *-kuhtin* is used in VII to express static floating. It can be combined with *kayeut-* as in (90) to emphasize ‘floating in the same place’.

(90) *kayeut-akuhtin*
 same.place-float.3
 ‘It floats in the same place.’

Based on (90) and all the data in (86), we could assume that there exists *kayeutakuhchin* in VAI, as the counterpart of (90), to express the same meaning (floating in the same place). However, although in fact *kayeutakuhchin* exists (see example 91),

the context of ‘floating’ becomes ambiguous. This is similar to using *float* in English and *piaofu* ‘float’ in Chinese, where whether the Figure is floating in water or in air is not clarified.

- (91) *kayeut-akuhchin*
 ‘She hovers in the air, in the same place.’

For static presence of floating, only one type of lexicalization pattern was found: Manner+Manner (also see section 5 on Co-events).

4.3.2.2 The dynamic ‘float’

In addition to static *float*, there are 25 AI verbs in the database describing the dynamic motion of floating. Two SFs *-aapukuu* and *-aaputaau* (also their alternants *-hukuu* and *-hutaau*) are used the most often (20 out of 25 verbs) for dynamic floating, the former indicates that there is a human subject floating on the water; the later indicates that the floating is associated with an object but not a subject (with a causative final *-taau*).

(92) Table 4.8 Numbers of entries describing dynamic *float*

SFs for dynamic <i>float</i>	Number of entries (total 25)
<i>-aapukuu</i>	10
<i>-ahukuu</i>	3
<i>-aaputaau</i>	5
<i>-ahutaau</i>	2

As shown in (93), out of 10 *-aapukuu* SFs, except the last two which are combined with Manner SIs: *taawaapukuu* and *tuuwaapukuu*, all the other verbs have Directional/Path SIs.

(93) *-aapukuu* as *float*

- a) *piich-ishtuw-aapukuu*
to.go.inside-mouth.of.river-floating.person.3
'She floats into the river.'
- b) *piiut-aapukuu*
shoot.rapids-floating.person.3
'She floats down the rapids.'
- c) *aapim-aapukuu*
into.a.sheltered.place-floating.person.3
'She drifts into an area of calm water.'
- d) *maah-aapukuu*
downriver-floating.person.3
'She drifts downriver.'
- e) *seku-sikw-aapukuu*
underneath-ice-floating.person.3
'She floats directly under the ice.'
- f) *pim-aapukuu*
along-floating.person.3
'She floats along the current.'
- g) *pet-aapukuu*
towards.the.speaker-floating.person.3
'She floats towards.'
- h) *taaw-aapukuu*
hit-floating.person.3
'It (anim) floats, crashes into something.'
- i) *tuuw-aapukuu*
opening-floating.person.3
'It (floating ice) has an opening in it.'

As *-aapukuu*'s causative counterpart, *-aaputaau* was observed in only 5 verbs and all of them have Directional/Path SIs, as shown in Table 4.9 in (94).

(94) Table 4.9: common SIs attached to *-aapukuu/aahukuu* and *-aaputaau/aahutaau*

<i>-aapukuu</i> or <i>-aahukuu</i>	<i>-aaputaau</i> or <i>-aahutaau</i> (Causative finals)
<i>pet-aapukuu</i> (<i>pet-aahukuu</i>) towards.the.speaker-floating.person.3 'She floats towards.'	<i>pet-aaputaau</i> towards.the.speaker- floating.object.3 'She lets it float towards.'
<i>piich-ishtew-aapukuu</i> go.inside-mouth.of.river-floating.person.3 'She floats into the river.'	<i>piich-ishtuw-aaputaau</i> go.inside-mouth.of.river-floating.object.3 'She causes it to float into the river.'
<i>maah-aapukuu</i> downriver- floating.person.3 'She drifts downriver.'	<i>maah-aaputaau</i> downriver-floating.object.3 'She lets it drift downriver.'
<i>pim-aapukuu</i> along-floating.person.3 'She floats along the current.'	<i>pim-aaputaau</i> (<i>pim-aahutaau</i>) along-floating.object.3 'She floats it downriver, along the current.'
<i>wep-aahukuu</i> away-floating.person.3 'She is drifting away.'	<i>wep-aaputaau</i> away-floating.object.3 'She makes it float/drift away.'

All examples in Table 4.9 exhibit Directional/Path-Manner schema. However, the *-pukuu* (*-hukuu*) SFs are not semantic equivalents to the English *float*. Precisely, they refer to the person/thing that is at a same location with a presence of buoyancy. It is the Directional/Path SI that indicates the dynamic movement.

A preliminary conclusion is that, in general, Manner SIs are combined with *-kuhchin* to express static 'float' whereas both Directional/Path and Manner SIs can be combined with *-pukuu* (*-hukuu*) to express dynamic 'float'.

4.3.3 The motion of blowing: *-aashuu*

All the 39 VAI entries with the keyword *blow* have *-aashuu* as their SFs, except one verb (95).

- (95) *wep-aasht-itaau*
 away-wind-Ø.3.CAUS
 ‘She lets it blow away.’

In comparison, we can take a look at the verb in (91).

- (96) *wep-aashuu*
 away-blow.3
 ‘She is blown away.’

The only difference between (95) and (96) is that (95) has an abstract final *-itaau* which indicates a VAI+O structure, whereas (96) does not involve an object. Since *-aasht* is the causative counterpart of *-aashuu*, I will not go further discussing the structure of (95).

Out of 39 verbs with *-aashuu* SF, 21 have Directional/Path SIs, the rest of the verbs all have Manner SIs. In general, *aashuu* means wind and it does not specify the source of wind. Sometimes *-aashuu* refers to spontaneous blowing (by natural wind), while others refer to non-spontaneous blowing (by human). When *-aashuu* is combined with a Manner SI, as in (97), the ‘blowing’ motion is caused by wind and is spontaneous, but when a Directional/Path SI is attached, the subject (Figure) could be either the actor or the patient of the ‘blowing’, as in (98).

(97) Examples of Manner-Manner combination

- a) *nawe-y-aashuu*
'It (anim) is bent forward by the blowing wind.'
- b) *piikw-aashuu*
'It (anim) is blown apart by the wind.'
- c) *tihTip-aashuu*
'It (anim) is blown and wound around.'
- d) *puutuwek-aashuu*
'It (anim) is inflated, blown up by the wind.'
- e) *paashk-aashuu*
'It (wind) blows the cover off her.'
- f) *kutap-aashuu*
'She is blown over by the wind.'

(98) Examples of Directional/Path-Manner combination

- a) *pim-aashuu*
'She sails, blows along.'
- b) *wep-aashuu*
'She is blown away.'
- c) *uhp-aashuu*
'She blows upwards.'
- d) *pet-aashuu*
'She is blown in this direction.'
- e) *ashaa-aashuu*
'She is blown backwards.'
- f) *napate-y-aashuu*
'It (anim) sails on one side.'

In VII, *-aashuu* becomes *-aashTin*, and can be attached by Directional/Path or Manner SIs. Just like in VAI, Manner SIs are only attached to *-aashTin* to express spontaneous 'blowing', but Directional/Path SIs can be attached to describe both

spontaneous and non-spontaneous blowing, as shown in Table 4.10. However, this is just a preliminary analysis, further studies with broader data are needed to confirm this.

(99) Table 4.10 Paired *-aashuu* and *-aashtin* in VAI and VII.

VAI <i>-aashuu</i>	VII <i>-aashtin</i>	
<i>aapim-aashuu</i> into.a.sheltered.place-blow.3	<i>aapim-aashtin</i>	'It (anim/inan) blows/sails into a sheltered place.'
<i>ashaa-y-aashuu</i> backwards-y-blow.3	<i>ashaa-y-aashtin</i>	'It (anim/inan) is blown backwards.'
<i>mesht-aashuu</i> all.away-blow.3	<i>mesht-aashtin</i>	'It (anim/inan) all blows away.'
<i>naat-akaam-e-y-aashuu</i> to.go-shore-Ø.DIR-y-blow.3	<i>naat-akaam-e-y-aashtin</i>	'It (anim/inan) blows towards shore.'
<i>piim-aashuu</i> crooked-blow.3	<i>piim-aashtin</i>	'It (anim/inan) is blown crooked.'
<i>shiipaa-y-aashuu</i> under- y –blow.3	<i>shiipaa-y-aashtin</i>	'It (anim/inan) blows under it.'
<i>uhpime-y-aashuu</i> aside- y –blow.3	<i>uhpime-y-aashtin</i>	'It (anim/inan) leans to one side as it is blown by wind.'

There is no Numeral initials attached to *-aashuu*, as shown in the statistics in (100).

(100) Table 4.11 Number of SIs attached to *-aashuu*

Type of SIs	Number of entries (total 39)
Manner	16
Directional/Path	23
Numeral	0

4.3.3.1 Paths for further research

Quinn (2009) used the notion of Stem-Derived Final to describe SFs that are originally derived from SIs. For example, in Nishnaabemwin, a free stem *api-* can be used as a SF *-api* to express the same meaning 'sit'; the stem *alohke-* can also be used as

–*alohke* to refer to ‘work’. In comparison with –*aashuu* discussed previously, an *aashuu*-SI is also observed, as shown in (101).

(101) *aashuu-hteu*
 across-walk.3
 ‘She walks cross it.’

(102) *piikw-aashuu*
 break-wind.3
 ‘It (anim) is blown apart by the wind.’

As an SI, *aashuu*- functions as an indication of the direction of the movement, and when it is used as a SF in(102), it refers to spontaneous movement caused by wind (blow, sail etc.). Although the examples above do not illustrate any direct relation between the SI *aashuu*- and the SF –*aashuu*, I would like to propose that there exists a derivational relationship between the *aashuu*- and –*aashuu*. If we look at the semantics of the morpheme *aashuu*, it simply refers to ‘wind blows’, in common sense, the wind usually blows in a Manner of crosswise, from one side to another. There is always a direction involved in a ‘blowing’ motion. Therefore, there seems to be a link at the semantic level between SI *aashuu*- and SF –*aashuu*, but broader data are needed to confirm this proposal.

5 Co-Events

Quinn (2009) proposed that the Intransitive motion-verb stem schema is Path/Direction-Means (Manner). However, this model cannot be used to explain the cases of co-events. When two motion events occur concurrently, there is a main event and a co-event (which could be Manner or Cause) component involved (Talmy, 2000). In this section, I will discuss specifically the lexicalization pattern of Event-Event in East Cree.

5.1 Are there Main events and Co-events in East Cree?

As mentioned previously, there are three different types of Initial-Final combinations: Directional-Manner, Path-Manner and Manner-Manner. In the Manner-Manner combination, the Manner SI could be a position ('she stands on the chair'), a posture ('she stands with her arms stretching out'), a stance ('she stands confidently') or an event ('she stands and sings). The last type of Manner SI is the most ambiguous one because when it is attached with a motion SF, very likely it will become an 'event-event' structure. The interpretation of these types of verbs could be ambiguous when it comes to two concurrent events.

(103) *kaahkape-hteu*
 spread.apart-walk.3
 Manner-Manner
 'She walks with her legs spread apart.'

(104) *piihtwaau-hteu*
 smoke.tobacco-walk.3
 Manner-Manner
 'She smokes while walking.'

Using previous examples with *-hteu*, *kaahkape-* in (103) refers to a posture of spreading things apart, thus it is a posture SI combined with a Manner SF *-hteu*. Different from (103), in (104), the smoking *piihtwaau-* occur while the subject (Figure) is walking, which means that there are two different events happening concurrently. At this point, it is difficult to say which one is the main event and which one is the co-event because the decision cannot be made based on the English equivalent.

One possibility is to say that neither *piihtwaau-* nor *-hteu* in (104) is a main event, both are co-events at an equivalent level in terms of their influences to the result of the motion. Another possibility is to say that since *piihtwaau-* is the root which is obligatory

in a verb stem, the smoking could be considered as the main event; and since the concrete final adds additional information to the root, *-hteu* refers to the co-event (Manner).

5.1.1 Hypothesis 1: SI = SF

Hypothesis 1 proposes that there is no such thing as main-event and co-event in East Cree. In a case where two events are happening at the same time, they are described at an equal semantic level.

For example, in (104) *piihtwaahteu* ‘she smokes while walking’, the smoking and walking are occurring together and there is no difference in terms of the importance of the two events. Therefore under hypothesis 1, the verb can also be interpreted as ‘she walks and smokes at the same time’. The key motion for this verb would be both *walk* and *smoke*.

- (105) *yaayaahchi-kaapuu*
to move-stand.3
‘She moves around while standing.’

If we take a look at a similar case with *-kaapuu* ‘stand’ in (105), while the Figure is standing, another event *yaayaahchi-* ‘move’ is also happening. This example can also be used as evidence for Hypothesis 1.

However, Hypothesis 1 cannot be used to explain (106) since *muuchi-* and *-pahtwaa(u)* exhibit a Cause relationship in this motion event.

- (106) *muuchi-pahtwaa*
grab.fetch-run.3.IO
‘She runs to quickly pick up, grab it (anim) as it falls.’

Talmy (2000) suggests that the Cause relationship between the main event and the co-event is specifically referring to the situation where the main event cannot happen without the occurrence of the co-event. In other words, if a Cause relationship exists, then

there should be a distinction between a main event and a co-event. In (106), without *-pah* ‘run’, *nuuchi-* ‘fetch’ cannot happen. Thus an equal level of co-events is not the case in (106). At this point, Hypothesis 1 is not applicable to all the examples, therefore it is invalid.

5.1.2 Hypothesis 2: SI < SF

Hypothesis 2 proposes that in a verb describing co-events, the SF is responsible for describing the main event, and the SI is additional information describing co-event.

Again, using (104) and (105) as examples, the *-hteu* ‘walk’ and the *-kaapuu* ‘stand’ are the main events in these two verb stems. The Manner SIs are semantically additional information attached to the SFs. Example (104) could be interpreted as ‘she walks in a manner of smoking’ and example (105) would be ‘she stands in a manner of moving’.

Under Hypothesis 2, *-pah* ‘run’ in example (106) is the main event, whereas *nuuchi-* ‘fetch’ is the co-event. As mentioned previously, there is a Cause relationship between the SI and SF in (106). According to Talmy (2000), a co-event of a motion event consists of two components: Manner and Cause. While Quinn (2008) argued that Algonquin SFs are restricted to the packaging Manners, he also mentions that an element like Result is impossible to occur in SFs, but he did not discuss these in details. Valentine (2001) also did not clarify whether Cause is described by SIs or SFs.

If Cause is the co-event, Hypothesis 2 suggests that *nuuchi-* ‘fetch’ is the Cause and *-pah* ‘run’ is the Result, which is contradictory to the meaning of the verb, as well as Quinn’s (2008) claim. Based on (106), I suggest that Cause is restricted to SF only.

Further, there is a possible combination of Manner-Cause (or Result-Cause) where the motion SF causes the event in SI to happen.

As discussed above, Hypothesis 2 is invalid.

5.1.3 Hypothesis 3: SI > SF

Hypothesis 3 proposes that in verbs describing co-events, the SI is responsible for describing the main event, and the motion SF is responsible for co-event. Thus the SF would be taken as an additional element to the SI.

Since the previous two hypotheses are incorrect for verbs involving a Cause relationship, we will take a look at this type of verbs first for Hypothesis 3. Based on the Hypothesis, the SF is the co-event which consists of either Manner or Cause.

- (107) *pishkuche-shin*
 explode.break-fall.down.3
 ‘It (anim) breaks open by falling down.’

Example (107) involves a Cause relationship between *pishkuche-* and *-shin*: *pishkuche-* cannot happen without *-shin*, therefore *-shin* ‘falling down’ is the Cause to the event. In this case, Hypothesis 3 is applicable.

Following examples exhibit patterns of Manner-Manner and Manner-Cause, as in (108) and (109).

- (108) *paahpew-aahche-pahtaa*
 flap-air-run.3
 ‘It (anim) flaps its wings as it (anim) runs along.’

- (109) *nachi-kaapuu*
 to.stop-stand.3
 ‘She stops walking and stands.’

Example (108) has a Manner SI attached with a Manner SF. According to Hypothesis 3, *-pah* ‘run’ is the main event, therefore the interpretation should be ‘it runs

in a manner of flapping wings’. Example (109) exhibits a Manner-Cause combination. According to Hypothesis 3, the literal meaning of (109) would be ‘she stops walking because she stands’. However, the English interpretation here is ambiguous and does not convey the precise meaning of the verb.

Recall example (104), repeated here as (110), a Manner SI *piihtwaau-* ‘smoke’ is combined with a motion SF *-hteu* ‘walk’. The *piihtwaau-* is also found to be attached with *-kaapuu* ‘stand’ and *-puu* ‘sit’, as shown in (111) and (112).

(110) *piihtwaau-hteu*
 smoke-walk.3
 ‘She smokes while walking.’

(111) *piihtwaau-kaapuu*
 smoke-stand.3
 ‘She stands around smoking.’

(112) *piihtwaau-puu*
 smoke-sit.3
 ‘She sits there smoking.’

The comparison clearly shows that with the same SI *piihtwaau-*, there can be different motion SFs attached, and the reversed combination was not observed (walk-smoke, stand-smoke), which means that motion SFs like *-hteu* ‘walk’ and *-kaapuu* ‘stand’ are considered as ‘additional information’. When two motion events happen concurrently, the SF is a co-event, for the SI *piihtwaau-*, additional information such as *-hteu* ‘walk’ and *-kaapuu* ‘stand’ can be added to describe the co-event.

In summary, Hypothesis 3 is the only valid one among all the hypotheses, which means when describing co-events, within one verb stem, the SI is responsible for describing the main event and the SF is responsible for describing the co-event.

Based on Talmy's (2000) proposal of two verb usages, I suggest analyzing verbs describing co-events in East Cree as conflated verbs and verbs with lexicalization pattern of Path/Direction-Manner as un-conflated verbs, since the former describes two concurrent events within one verb stem and the later only expresses one single event.

6 Conclusion

In Section 4, eight different types of East Cree motion SFs were discussed: *-kaapuu* 'stand', *-puu* 'sit', *-shin* 'lie, fall', *-hteu* 'walk', *-pah* 'run', *-payi* 'drive, go', *-pukuu* (also *-(a)kuhchin/akumu*) 'float' and *-aashuu* '(wind) blow', as well as special SFs used for these typical motion events. Data analysis showed different lexicalization patterns: Path/Direction-Manner and Manner-Manner, which confirmed Quinn's (2009) schema of intransitive Algonquin motion verbs: Path/Direction-Manner, but also raised the question of whether Manner-Manner exists in East Cree and whether there are more possible combinations.

Section 5 analyzed the special case of co-events in which one single verb stem is used to describe two concurrent events. Evidences in the data showed that within the verb stem describing co-events, the SI is more dominant than the SF in terms of semantic importance. In other words, the SF could be considered as the co-event of the SI (main event). Therefore, two more lexicalization combinations are valid: Manner-Manner and Manner-Cause, since both Manner and Cause are components of co-events.

6.1 Implications

My study confirms Quinn's (2009) schema for Algonquian intransitive motion verb stems, which proposes that the stem initial (SI) is responsible for the Path/Directional component and the stem final (SF) consists of Manner component. My study also elaborated on the lexicalization combinations based on Quinn's model. I proposed and confirmed that in addition to the Path/Direction-Manner combination, there is also a Manner-Manner combination and a preliminary Manner-Cause combination. While previous literature discussed similar issues in stem formation and lexicalization combinations in other members of the Algonquian language family (such as Plains Cree, Ojibway), my study explored specifically verb stems for motion events in East Cree. My analysis laid some ground work for future research of East Cree morphology and motion semantics, also contributed to the process of building an East Cree morpheme dictionary and developing the search capacities of Algonquian electronic dictionaries. Appendix B summarizes my observations and can be readily used in this regard. It also has potential pedagogical value in terms of language teaching and acquisition.

6.2 Limitations

East Cree is a very productive language. In a simple verb stem, the SI can be combined with different SFs like *pim-aashuu* 'blow along', *pim-shin* 'lie down', *pim-uh-teu* 'walking'. One SF can also be combined with different SIs, such as *pisu-h-teu* 'walk slowly', *aayimu-h-teu* 'walk around', *niipaa-h-teu* 'walk at night'. The table in Appendix B illustrates very clear that some stem components are more productive than the others. In this study, I did not discuss issues of productivity of East Cree beyond the stem-level. Some examples of co-events involves secondary-derivation, such as *min-ihkweu-puu* 'she

sits down while drinking’, where the *-ihkweu* is in fact a primary medial *-ihk-* and a primary final *-weu*, so *-puu* in this verb is a secondary final. The difference is not discussed here as it is beyond the scope of the paper, however, the role of the secondary derivation in co-event verbs is a very intriguing topic.

The analysis of this study is based on limited quantity of data recorded in the 2008 version of East Cree electronic database. The verbs studied are inflected in the 3rd person Independent Indicative Neutral Order, which is the form found in the dictionary entry. Further research should include a method of filtering based on the Cree finals, when such data becomes available. Data discussed in the study are mostly Intransitive Animate Verbs, which generally have their animate subject as the figure experiencing the motion. The selected motion SFs are restricted to 8 different types of activities including posture (*stand, sit, lie*), physical movement (*walk, run*) and spontaneous movement (*drive, float, blow*). These verbs are different from action verbs, which include verbs like *drag, pull, throw, tie*.

Some data were excluded for one or more of the following reasons:

1. The stem structure is unique, no similar structures can be found in the database;
2. The stem structure is difficult to cut, even for the speaker (my consultant);
3. The verb stem cannot be identified by the speaker;

The weakest point of my study is that all the discussion is based on the nature of English language. First of all, the data collection process started with searching for English keywords instead of Cree stem components. Regardless of the number, potential verb entries were excluded from the study. Secondly, my analysis is at some level influenced by the English translation of the Cree verbs, I assigned each East Cree SF an

English form such as ‘walking’, ‘floating’, while the actual meaning of each SF is never discussed in metalanguage. Furthermore, in the discussion for co-events, I was not able to rule out the presupposition in English language. I concluded that Hypothesis 2 in section 5 is invalid mainly because I did not see any reversed examples of (110), (111) and (112) in the dictionary. However, the reversed forms are not yet confirmed as non-existing by native speakers. As the language develops, some old structures might be eliminated and new forms of verbs are becoming popular but it does not necessarily exclude the possibility that certain unseen forms in fact exist. Therefore, my conclusion is not a solid one in a larger scope of the language.

6.3 Further Research

To take a further step, a following-up study should ideally involve three or more native speakers of East Cree. In order to gather accurate data, the collection process should start from collecting Cree stem components. Each motion event can be illustrated in the form of a picture or a short video. Participants describe what they see in East Cree in as many ways as they can think of. Then the data will be recorded and checked with each of the participants. Motion events to be studied should include typical posture events, movement events with or without a tool. The scope of the study should also cover verbs from different classes, or further to include verbs with tenses. To be semantically precise, the analysis should be based on metalanguage but not English nor East Cree.

Additional research questions are raised based on my discussion of East Cree lexicalization patterns in previous sections. Is my analysis applicable to other intransitive verbs? Are there any exceptions when it comes to action verbs with English glosses like ‘pull’, ‘tie’, ‘throw’ etc.? The Manner-Cause pattern is valid with the data I investigated,

however, is Cause restricted to SFs for other motion verbs, including the action verbs I mentioned above? Is the Path/Direction/Manner-Manner combination applicable to transitive verbs? Will there be more types of lexicalization patterns? Future studies with broader data are needed to confirm my analysis and to explore more issues in this area.

Appendix A: List of Abbreviations

0	Null person
1	First person
2	Second person
3	Third person
1/2	Non-third person
CAUS	Causative
FUT	Future
INCH	Inchoative
INTR	Intransitive
IO	Indirect object
PL	Plural
PRV	Preverb
PST	Past
RECIP	Reciprocal
SPON	Spontaneous

Appendix B: Table 1. Different combinations of SIs and SFs

(Note: The checkmark in the table indicates that this combination is observed in the database. A blank cell indicates that the combination is not observed in the database but may or may not exist.)

	East Cree	-hteu	-pah	-payi	-kaapuu	-puu	-shin	-pukuu	-aashuu
	English	walk	run	drive	stand	sit	lie	float	blow
change, to move	aahch-				✓		✓		
to change	aahht-	✓				✓			
on top of each other, layer	aakuihtuu-					✓			
out of sight	aakuu-	✓							
take off, fall off	aami-		✓						
behind, in the corner	aapim-							✓	✓
on side of something	aashtam-				✓	✓			
crosswise	aashtune-					✓			
go out, extinguish	aashtuw-								✓
across	aashuu-	✓	✓	✓			✓		
with hands on something (jaw/cheek)	aashwaa-				✓	✓			
lean on for support	aasuu-				✓				
out of sight	aausew-	✓		✓					
relocate	aayim-	✓		✓		✓			
upside down	achiht/achihch-				✓			✓	
stick to, stay at one place	aku-							✓	
sweat	apwe-	✓							
bundle, gather together	as-		✓			✓	✓		

	East Cree English	-hteu walk	-pah run	-payi drive	-kaapuu stand	-puu sit	-shin lie	-pukuu float	-aashuu blow
tired of doing something	<i>asch-</i>		√		√	√	√		
backwards	<i>ashaa-</i>	√	√	√	√				√
together with others	<i>ashich-</i>				√				
with the others, with the rest	<i>ashit-</i>					√			
cover, padding	<i>asp-</i>					√			
away	<i>atim-</i>	√	√		√		√		
without knowing something	<i>atut-</i>					√			
for sure, securely, reliable	<i>cheshtin-</i>				√	√			
lazy	<i>chihitim-</i>				√	√			
near something	<i>chii(h)k/chiihch-</i>				√	√			
around in a circle	<i>chiinikwaan-</i>	√	√						
to hold up	<i>chiipit-</i>					√			
blocked	<i>chip-</i>				√	√			
to stop	<i>chiphich-</i>	√			√				
angry	<i>chishuu-</i>	√					√		
to depart	<i>chistu-</i>	√							
quietly, silent	<i>chiyaam-</i>				√	√			
on the ground	<i>en-</i>					√	√		
front side up, on one's back	<i>etichin-</i>						√	√	
out of the way, aside	<i>iiche-</i>	√	√		√	√	√		
on both sides, on each side	<i>iituu-</i>					√	√		
there, in that way	<i>is-</i>		√						
in certain way, to identify	<i>ish-</i>				√	√	√		√
high	<i>ishp-</i>					√	√		
women	<i>iskweu-</i>	√							

	East Cree		-hteu	-pah	-payi	-kaapuu	-puu	-shin	-pukuu	-aashuu
	English		walk	run	drive	stand	sit	lie	float	blow
in a certain way	it-		✓						✓	✓
to go there	itu-		✓							
among	iyaashtuw-		✓							
ruin, to destroy	iyaayuu-									✓
tired	iyesku-		✓			✓	✓			
on a slant/angle	iyipe-						✓	✓	✓	
move back and forth	kaahkaa-		✓			✓				
spread apart	kaahkape-		✓	✓		✓		✓		✓
ashore	kappa-			✓						✓
short cut	kask-		✓							
in the same place	koyeut/koyeuch-					✓	✓	✓	✓	
around	kuis(h)tikaam-		✓	✓	✓		✓			
straight	kuisku-		✓			✓		✓		
still, quiet	kusk(u)w-					✓	✓			
from the shore to the inland	kusp-			✓						
go into snow/forest	kutaaw-			✓						
capsize, to turn over	kutap-									✓
to go around to a point	kuitipew-				✓					
(blow) down, (throw) away	kuw-								✓	✓
to turn, change (direction)	kweska-				✓	✓	✓			
away from, off, out of	m(u)ushaaw/m(u)ushaau-		✓	✓					✓	✓
to depart	maachii-			✓						
downriver	maah(ij)-		✓	✓					✓	
together	maamuu-		✓	✓		✓	✓			
join together, junction	maataa-		✓			✓				
hold together	maausiku/maausikw-		✓							

	East Cree								
	English	-hteu	-pah	-payi	-kaapuu	-puu	-shin	-pukuu	-aashuu
bent forward	nawe-	v	v		v	v	v		v
four	neu/new-	v	v		v	v	v		
down	niht/nihch-	v	v	v	v				v
ahead	niikaan-	v	v	v		v			
at night	niip(oo)/niipe-	v		v		v			
kneeling	niipisku-	v				v			
in a line, row	niipite-	v			v	v	v		
two	nishu-	v		v	v	v	v		
side by side, together	niisw-				v				
down (at the bank of river)	nimitaa-		v						
upstream	nishtah-	v							
three	nishtw/nishtu-	v			v	v			
upriver	nitah(ii)-	v	v						
to arrive	paa-		v						
dry, thirsty	paahku-					v			
to flap (wings)	paahpew-		v						
expand, open out	paan-								v
uncover, make visible	paashk-								v
to put aside, separate	pahkaan-				v	v			
shake, knock, hit	pahpu(w)-								v
into the water	pakashuu-	v							
around	papaa(t)-	v							
to wander	papaam-	v	v						
side, out of line	patute-		v	v		v		v	
towards the speaker	pet-	v			v		v		v
alone	peyaku-	v			v	v			

	East Cree	-hteu	-pah	-payi	-kaapuu	-puu	-shin	-pukuu	-aashuu
	English	walk	run	drive	stand	sit	lie	float	blow
to go inside	<i>pii(h)ch/piihite-</i>	v	v	v		v		v	v
smoke tobacco	<i>piihtwaau-</i>	v			v	v			
break apart	<i>piiku/piikw-</i>								v
crooked	<i>piim-</i>	v	v		v	v	v		v
down the rapids	<i>piut-</i>							v	
along, in a line	<i>pim(e)-</i>	v	v	v	v			v	v
off to the side, across	<i>pimich-</i>			v	v				
sprinkle, become powdery	<i>pin-</i>						v		v
downhill	<i>pinisuw-</i>	v	v	v					
trench, channel	<i>pis-</i>		v						
go off the road, go astray	<i>pisch-</i>	v				v			
to empty, to detach	<i>pishiku-</i>	v	v		v	v			
stand up to someone	<i>pisiku-</i>				v				
pile, clump	<i>pisku-</i>					v			
put in(to)	<i>puuht-</i>	v				v			
to inflate, get fat	<i>puutuu/puutuw-</i>					v			v
come out	<i>saach/saak-</i>		v	v	v	v			
underneath the ice	<i>sekusikw-</i>							v	
ashore	<i>sesch-</i>		v						
go into	<i>sesk-</i>		v	v					
up	<i>shaak-</i>		v			v			
go through	<i>shaapw/shaapuhtuwe-</i>	v	v	v					v
bare	<i>shaashaach-</i>				v				
stretch out	<i>shaau-</i>								v
to open	<i>shyuu-</i>								v
strong, long lasting	<i>shiip-</i>				v				v

	East Cree	-hteu	-pah	-payi	-kaapuu	-puu	-shin	-pukuu	-aashuu
	English	walk	run	drive	stand	sit	lie	float	blow
under	shiipaa-	v	v						v
upright	shimit/shimich-	v			v	v	v		
tight, together	siiht-				v	v			
hold tight, be carefully	siituu-				v	v	v		
support	sisk-	v							
strong	suuhch-				v				
footprints	taahtaa-	v							
to make level	taapituu-					v			
hit/run/crash into	taaw-							v	
on top of something	tahkuhch-		v		v		v		
to hold, to stick	taku-				v				
across the water	tas(h)kam-	v	v				v		
to spread, to straighten	tashu-				v				
on top	teht/tehch-				v	v			
all around	tet(ipew)-	v	v	v					
to roll, wrap around	tihtip-								v
stand upright, straight									
across	tipishkuuch-				v				
to open, opening	tuuw-							v	
boss	uchimaa(u)-	v				v			
raise, upwards	uhp-								v
to the side, to one side	uhpime-	v			v	v	v	v	v
blow, sail	uht-								v
facing towards	uhtishkuu-				v	v		v	
beyond	usewe-			v					
at a distance from	ushtaahchii-				v	v	v		

	East Cree English	-hteu walk	-pah run	-payi drive	-kaapuu stand	-puu sit	-shin lie	-pukuu float	-aashuu blow
on the surface	ustit-							✓	
back, behind	utaahch-	✓							
to face, facing	utaashtm-				✓	✓			
upside down	utihtaarmuu-					✓			
crouched over	utip/utih-					✓	✓		
bend, crooked	wach/wack-	✓				✓	✓		
dawn	waapan-	✓			✓		✓		
around, in a circular manner	waashikaam/waaska-		✓						
around	waaska-	✓			✓		✓		
in curves, winding	waawack-	✓				✓			
curve	waayinuu/waayiyuu-	✓		✓					
wrong	wan-		✓	✓					
get ready	waweyi-				✓	✓	✓		
(drift/throw) away	wep-							✓	✓
to wrap around	wewek/ch-					✓	✓		
go around (to avoid something)	wiimaa-	✓	✓						
cover, wraps	wiiskwe-				✓	✓	✓		
to go out, run out, fall out	wiwiwi-	✓	✓						
along the edge	yaak-					✓			
firmly, stiffly	yaait/yaaiich-				✓	✓	✓		
along (on) the edge	yaay-	✓	✓						
to move	yaayahch-				✓				
along the shore	yaayew-	✓	✓				✓		✓
air flows	yuu-								✓
soft	yuuski/ch-					✓	✓		

References

Websites consulted:

www.eastcree.org

www.sil.org

Free download of the Toolbox software: <http://www.sil.org/computing/toolbox/>

- Baker, M. C. (2003) *Lexical Categories: Verbs, Nouns, and Adjectives*, Cambridge University Press, Cambridge Studies in Linguistics 102.
- Bloomfield, L. (1946). Algonquin. In H. Hoijer (Eds.), *Linguistic Structures of Native America*. (pp. 85-129). New York: Viking Fund.
- Denny, J. Peter. (1989). The nature of polysynthesis in Algonquin and Eskimo. In D. Gerds and K. Michelson (eds.), *Theoretical Perspectives on Native American Languages* (230-258). Albany: State University of New York Press.
- Ellis, C. D. (1961). The so-called interrogative order in Cree. *IJAL*, 27, 24-119.
- Ellis, C. D. (1962). *Spoken Cree*. Toronto.
- Ellis, C. D. (1971). Cree verb paradigms. *IJAL*, 37, 76-95.
- Goddard, I. (1990). Primary and secondary stem-derivation in Algonquin. *IJAL*, 56(4), 449-483.
- Gruber, J.S. (1965). Studies in lexical relations. Doctoral dissertation, MIT. Reprinted as part of *Lexical structure in syntax and semantics*, 1976. Amsterdam: North-Holland.
- Hirose, T. (2003). *Origins of predicates: evidence from Plains Cree*. Outstanding dissertations in Linguistics. New York: Routledge.
- Junker, M.O. (2004). A Native American view of the “mind” as seen in the lexicon of cognition in East Cree. *Cognitive Linguistics*, 14(2-3), 167-194.
- Junker, M.O. & MacKenzie, (2005) Cree verb stems. In *East Cree Reference Grammar, Verbs (Southern dialect)*. Unpublished ms. To appear on the eastcree.org website.
- Junker, M.O. & Blacksmith, L. (2006). Are there emotional universals? Evidence from the Native American Language East Cree. *Culture and Psychology*, 12(3), 275-303.

- Junker, M.O. (2007). La reduplication en cri de l'Est: quantification et distributivité. *Faits de Langue*, No 29. *La reduplication*. A. Morgenstern et A. Michaud (eds.): 160-175.
- Junker, M.O. (2009). *Cree verb classes*. Retrieved July 20, 2009, from <http://www.eastcree.org/en/grammar/SVe/ESVe-classes.html>
- MacKenzie, M. (1980). *Towards a dialectology of the Cree-Montagnais-Naskapi language*. University of Toronto, Toronto, ON. Retrieved May 20, 2009, from <http://www.innu-aimun.ca/modules.php?name=papers&p=MM>
- MacKenzie, M., Whiskeychan, A., Salt, L., Blacksmith, L. & Louttit, E.(eds.). (1987). *Cree Lexicon: Eastern James Bay Dialects*. Val d'Or: Cree School Board.
- MacKenzie, M., Junker, M.O., Salt, L., Duff, E., Moar, D., Salt, R., Neeposh, E. & Jancewicz, B. (Eds.). (2004-2009). *The Eastern James Bay Cree Dictionary on the Web : English-Cree and Cree-English (Northern and Southern dialects.)* Retrieved June 17, 2009, <http://dict.eastcree.org/>
- MacKenzie, M., Junker, M. O., Neeposh, E., Moar, D., Salt, R., & Jancewicz, B. (2008). *TOOLBOX database of the Eastern James Bay Cree dictionary-southern dialect (electronic version)*. (6th ed.) Cree School Board. ISBN 1-894843-37-1.
- McCawley, J. (1968). Lexical insertion in a transformational grammar without deep structure. In *Papers from the Fourth Regional Meeting of the Chicago Linguistic Society*. Chicago: Department of Linguistics, University of Chicago.
- Quinn, C. M. (2008). Medials in the Northeast. *Paper presented at the 40th Algonquin Conference, 24 November 2008*. Retrieved June 17, 2009, from <http://www.conormquinn.com/MedialsInTheNortheast-AC40writeup.pdf>
- Quinn, C. M. (2009). Semantic Packaging and the Manner/Means Constraint on Algonquin Verbal Stem Structure. *Paper presented at SSILA annual meeting, 8-11 January 2009*. Retrieved June 17, 2009, from <http://www.conormquinn.com/SSILA2009-HTG2008-AC2006updated.pdf>
- Saeed, J. I. (1997). *Semantics*. Malden, MA: Blackwell Publishing.
- Talmy, L. (2000). *Toward a cognitive semantics, volume II: typology and process in concept structuring systems*. Cambridge, MA: MIT Press.
- Toivonen, I. (1997). The acquisition of Swedish body-posture words. Unpublished manuscript.

Wolfart, H. C. (1973). *Plains Cree: a grammatical study*. American Society, Philadelphia.

Wolfart, H. C. (1996). Sketch of Cree, an Algonquin language. In I. Goddard (Eds.), *Handbook of North American Indians* (Vol. 17, pp. 390-439). Washington: Smithsonian Institution.

Valentine, J.R. (2001). *Nishnaabemwin reference grammar*. Toronto: University of Toronto Press.