Acknowledgements

This thesis could not have been possible without the help of many lovely people. In particular, my supervisor Julie Brittain is always ready with advice, encouragement, and support. Her knowledge of Cree (and Algonquian) provided many helpful insights into the data presented here, and her willingness to read over drafts and documents was key to this thesis. I owe many well-phrased sentences to her editing (and of course take responsibility for all of the awkward ones). I am very grateful for the many things that I have learned from Julie, and am glad to have had her example to follow, especially in building a relationship with the Cree School Board and the community of Chisasibi. I really admire her commitment to sharing the results of the Chisasibi Child Language Acquisition Study with the community in which it is situated, and to encouraging discussion within that community. I am also very glad to count her among my friends (and travel buddies).

Marguerite MacKenzie's vast knowledge of Cree grammar was extremely useful to this work. Marguerite's insights sparked some of the new fieldwork results presented in this thesis, giving the whole an organization that would not have been possible otherwise. Her comments helped to guide my analysis of the Cree data presented within the text and her explanations of Cree phonology provided the key to some of the mysteries I hope to have explained here. Furthermore, she has been very generous in opening up her home to me. She is a woman of remarkable hospitality. Thank you, Marguerite!

I came to Memorial knowing something about Algonquian morphosyntax but very
LEARNING WORDS BEFORE LEARNING GRAMMAR:
A CASE STUDY OF PASSIVES AND UNACCUSATIVITY
IN NORTHERN EAST CREE FIRST LANGUAGE ACQUISITION

SARA JOHANSSON
LEARNING WORDS BEFORE LEARNING GRAMMAR:
A CASE STUDY OF PASSIVES AND UNACCUSATIVITY IN NORTHERN EAST CREE FIRST LANGUAGE ACQUISITION

by

© Sara Johansson

A thesis submitted to the
School of Graduate Studies
in partial fulfillment of the requirements for the degree of

Master of Arts

Department of Linguistics
Memorial University of Newfoundland

December 2012

St. John’s

Newfoundland
Abstract

This longitudinal case study of a child learning Northern East Cree (NEC) (Algonquian; polysynthetic) focuses on the development of the passive construction and unaccusativity from 4;06 – 5;10. The passive is acquired over three stages: (i) productive use of morphology and reliance on unanalyzed chunks; (ii) active analysis of the passive construction (errors, self-correction, passive-active alternations) and (iii) mastery of passive grammar marked by an increase in complexity. A set of intransitive verbs that can be unaccusative or unergative are also investigated, with a focus on causative alternations, the range of verbs used, and the development of morphological complexity in utterances, using a measure of Mean Length of Utterance by morpheme. There is an overall increase in grammatical and morphological complexity at 5;06, as expected in U-shaped development. These findings do not support nativist hypotheses that the ability to form passives and unaccusatives matures at a given age (Maturation Hypothesis).

Keywords: acquisition; passive; unaccusative; Algonquian; Cree; morphosyntax; longitudinal; polysynthetic
little about language acquisition. Yvan Rose taught me a great deal about the study of
language acquisition, and about letting the data speak for itself. He was always ready to
discuss any data point or pattern with me. He furthermore provided a ton of technological
support. (Thanks also to Greg Hedlund for his technological wizardry, and to Kelly
Burkinshaw for her readiness to help trouble-shoot while working in the field!) I really
enjoyed the discussions in Yvan’s classes, and that he would let us knit during lectures.
My sister, I’m sure, also thanks him that I managed to finish knitting her Christmas
present in time for the holidays.

My excellent examiners, Shanley Allen and Doug Wharram, did me the honour of
reading this thesis closely and offering particularly insightful comments and questions.
(Doug Wharram also helped me, during the writing process, to bridge the gap between
Algonquian and Inuktitut grammar.) The final product is more coherent, organized, and
thoughtful thanks to their generous sharing of their expertise. They have been thorough
readers; any errors that remain are mine.

The linguistics department at Memorial University is a wonderful place to study. I
had a really great time learning from and working with so many of the faculty members. I
was glad to spend some time working on my teaching skills with Phil Branigan, who is
always ready for a discussion of Algonquian syntax and Swedish film. The department as
a whole is a very helpful and friendly place. Any work that I presented was always
received with enthusiastic discussion and insightful comments. Thank you, everyone!
Thanks also to the audience at the 2012 annual conference of the Canadian Linguistic
Association in Waterloo, Ontario and to the Linguistics Department at the University of
Calgary for engaging in thought-provoking discussion of this research.

Of course, language work requires language teachers, and I had several. I extend my thanks to Luci Bobbish-Salt, who met with me not only in person but also frequently answered my questions over email and the phone. Her experience working with linguists and her explanations of Cree grammar could not have been more welcome! Elsie Duff worked with me for many long days, discussing just about every *piyi*-derived word I could find. Her patience and her sense of humour made me always look forward to our meetings. Alice Duff not only met with me to discuss Cree, she also provided practical assistance to me during my time working at the school board. I was so honoured that she brought her class to hear my talk in the library! The fieldwork presented in this thesis is the result of two trips to Chisasibi. I am thankful to Daisy Herodier and Annie Bearskin for facilitating each of those trips, and to the Cree School Board for generously providing me with workspace and tea. I loved all of the food, also! It was such a luxury to stay at Susan Runnels' home, and share meals with her. She provided everything a body might want – books, tea, treadmill, Stanley Cup hockey games, lively discussion, walks along the river, and bug spray. I loved every minute in Chisasibi – I always felt so welcomed by everyone I met, and I truly think it is one of the most beautiful spots in the world. What a treat.

In my professional opinion, my family is amazing. (Having been written in a Master's thesis, it is now an undeniable fact.) My immediate and extended family is made up of just about the sweetest, most loving, most supportive people on this green earth. I wouldn't be who or where I am today without them. I love you, all! If these had
dedications, this one would be dedicated to “all those weirdos in Alberta.” Just kidding. 

(But serious.) Eric, you are such an encouragement to me. Thank you for caring for me so well, for bringing me cheesecake and flowers when I experienced that horrid technological melt-down, for reading novels to me beside the lighthouses of the province, for going to school in a place that is sunny in February, for finding your way to Newfoundland for a summer, for having lovely, helpful ideas about appendices and spreadsheets, and for all of the ball games we'll attend all through the future. I sure do love you. Jen Holmes Curran, I really value your long-distance friendship and support, and all of our fun challenges. You're the best. For real.

I lucked out with classmates. I think everyone in my cohort is great fun. Burko and KDB and Evan, thanks for all the Settlers nights and hikes and museum visits and hockey games and kickboxing classes and for a quote book full of things that will make me laugh till I cry for years to come. Suzanne, thanks for letting me play your piano. I wish I could have gone to more of your shows – you're amazing! Lana, heaven knows no one on the face of the world will ever make me a Bananagrams birthday cake again (particularly not one with the letters for 'quintal' on it). I should have asked you if you wanted to use this acknowledgments space to advertise your custom cake business. Huyen, thank you for patiently trying to teach me the tone system of Vietnamese, and for bringing back delicious, delicious coffee. Rachel, Kayla, Kate, Steph, Behak, Jenn, Sarah, Erica – it has been such fun! To Ilia, thanks for the weekly heart-to-hearts and for watching all of the way through House of Eliott with me.

This project would not have been possible without the financial support I received
from a number of organizations. I received support from a Social Sciences and Humanities Research Council of Canada (SSHRC) J.A. Bombardier Canada Graduate Scholarship, as well as a Master’s Fellowship from the SSHRC-funded CCLAS project. I received further support from the School of Graduate Studies, an F.A. Aldrich fellowship and an A.G. Hatcher Memorial scholarship. My fieldwork trips were funded by the J.R. Smallwood Foundation and the Northern Scientific Training Program. Thanks to Peggy Nixon, Margaret McKeever and Colleen Banfield for help navigating through everything financial!
# Table of Contents

Abstract ................................................................................................................................. i
Acknowledgements .................................................................................................................. ii
List of Figures .......................................................................................................................... xv
List of Abbreviations ............................................................................................................... xvi

Chapter 1 – Introduction ......................................................................................................... 1

Chapter 2 – Overview of Northern East Cree ........................................................................ 5

Chapter 3 – Methodology ....................................................................................................... 11

3.1. Introduction ..................................................................................................................... 11
3.2. Theoretical framework ..................................................................................................... 11
3.3. CCLAS Methodology: PHON ......................................................................................... 12
3.4. Acquisition methodology: productivity criteria ................................................................. 16

Chapter 4 – Background to passive acquisition .................................................................. 18

4.1. Introduction ..................................................................................................................... 18
4.2. Passives in the world’s languages ................................................................................... 18
4.3. Passive acquisition literature .......................................................................................... 19

4.3.1. Nativist perspectives: The Maturation Hypothesis ..................................................... 19

4.3.1.1. Maturation in current theory: The Universal Phase Hypothesis ......................... 24
4.3.1.2. Summary .................................................................................................................. 26

4.3.2. Analysis-based perspectives: Language-specific characteristics and acquisition .................................................................................................................. 26

4.3.2.1. Acquisition of Sesotho passives ............................................................................. 27
4.3.2.2. Acquisition of Zulu passives .................................................................................. 28
4.3.2.3. Acquisition of Quiche Mayan passives ................................................................. 29
4.3.2.4. Acquisition of Inuktitut passives ............................................................................ 30
4.3.3. Summary ..................................................................................................................... 32

4.4. Passives in eastern Cree-Montagnais-Naskapi dialects ................................................ 32

4.4.1. Passives in Innu .......................................................................................................... 33
Chapter 4 – The acquisition of passives in NE Cree

Chapter 5 – The acquisition of passives in NE Cree
Chapter 6 – The acquisition of unaccusativity

6.1. Introduction

6.2. Overview of unaccusativity

6.3. Unaccusativity acquisition literature

6.3.1. The Maturation Hypothesis and unaccusativity

6.3.2. Longitudinal studies of the acquisition of unaccusativity

6.4. Unaccusativity in NEC: piyi-derived verbs

6.4.1. Previous discussions of -piyi

6.4.2. Classification of piyi-derived verbs

6.4.2.1. Agentive vs. non-agentive arguments

6.4.2.2. Internal causer arguments

6.4.2.3. Causative alternation

6.4.2.4. Medio-reflexives

6.4.2.5. Mystery set I: Relative root -piyi verbs

6.4.2.6. Mystery set II: Manner adverbial -piyi verbs

6.4.2.7. Summary

6.5. Methodology

6.5.1. Identifying piyi-derived utterances

6.5.2. Secondary analysis

6.5.3. Excluded utterances

6.5.4. Productivity criteria and evidence of acquisition

6.5.5. Classification of piyi-derived verbs

6.6. CDS

6.6.1. Frequency of piyi-derived verbs in NEC CDS

6.6.2. Classification of piyi-derived verbs in NEC CDS

6.7. Billy’s -piyi productions
6.7.1. Classification of piyi-derived verbs in Billy's speech.................................134
6.7.2. Range of piyi-derived verbs in Billy's speech............................................135
6.7.3. Evidence of the acquisition of unaccusativity............................................137
  6.7.3.1. Morphological acquisition: -piyi..................................................137
  6.7.3.2. Syntactic acquisition: unaccusativity.............................................139
  6.7.3.2.1. Unaccusatives.................................................................140
  6.7.3.2.2. Vehicle verbs............................................................................142
  6.7.3.2.3. Verbs of emission.......................................................................144
  6.7.3.2.4. Relative root verbs...............................................................145
  6.7.3.2.5. Manner verbs............................................................................146
  6.7.3.3. Summary........................................................................................146
6.7.4. Increasing morphological complexity in piyi-derived utterances..............148
  6.7.4.1. Mean Length of Utterance by morpheme........................................148
  6.7.4.2. Morphological inventory of piyi-derived utterances.........................150
  6.7.4.2.1. Pronominal clitics...............................................................151
  6.7.4.2.2. Preverbs..................................................................................152
  6.7.4.2.3. Derivational morphology.......................................................154
  6.7.4.2.4. Inflectional suffixes...................................................................159
6.8. Summary........................................................................................................162

Chapter 7 – Conclusion.........................................................................................163

References............................................................................................................165

Appendix I: Passive utterances (Billy's speech)...................................................194
  1. Session 1 – Age 4;06.08 (Total passive tokens: 2).....................................194
     1.1. Conversation 1......................................................................................194
     1.2. Conversation 2......................................................................................195
  2. Session 2 – Age 4;07.26 (Total passive tokens: 6).....................................196
     2.1. Conversation 3......................................................................................196
     2.2. Conversation 4......................................................................................198
     2.3. Conversation 5......................................................................................200
Appendix IV – Unergative Misanalysis Hypothesis

Appendix V – Piyi-derived utterances (Billy’s speech)

1. Session 1 – Age 4;06.08 (Total -piyi tokens: 13)
   1.1. Conversation 1
   1.2. Conversation 2
   1.3. Conversation 3
   1.4. Conversation 4
   1.5. Conversation 5
   1.6. Conversation 6
   1.7. Conversation 7
   1.8. Conversation 8
   1.9. Conversation 9
   1.10. Conversation 10
   1.11. Conversation 11
   1.12. Conversation 12

2. Session 2 – Age 4;07.26 (Total -piyi tokens: 1)
   2.1. Conversation 13

3. Session 3 – Age 4;09.14 (Total -piyi tokens: 4)
   3.1. Conversation 14
   3.2. Conversation 15
   3.3. Conversation 16

4. Session 4 – Age 5;00.13 (Total -piyi tokens: 8)
   4.1. Conversation 17
   4.2. Conversation 18
   4.3. Conversation 19
   4.4. Conversation 20
   4.5. Conversation 21
   4.6. Conversation 22
   4.7. Conversation 23
10.4. Conversation 47..............................................................................................................307
10.5. Conversation 48..............................................................................................................309
10.6. Conversation 49..............................................................................................................310
10.7. Conversation 50..............................................................................................................312
10.8. Conversation 51..............................................................................................................314

Appendix VI – Morpheme inventory (piyi-derived utterances).................................316
List of Figures

Figure 1: Map of Quebec-Labrador peninsula ................................................................. 6

Figure 2: CCLAS Auto Parser ......................................................................................... 14

Figure 3: Example of morphological analysis ................................................................. 15

Figure 4: Morphological form of passives .................................................................... 91

Figure 5: Morphological class of passives .................................................................. 95

Figure 6: Inflectional order of passives ..................................................................... 96

Figure 7: MLUm of *piyi*-derived verbal utterances .................................................. 149
## List of Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>third person inanimate</td>
</tr>
<tr>
<td>1</td>
<td>first person</td>
</tr>
<tr>
<td>2</td>
<td>second person</td>
</tr>
<tr>
<td>3</td>
<td>third person</td>
</tr>
<tr>
<td>1/2</td>
<td>first or second person (speech act participant)</td>
</tr>
<tr>
<td>1&gt;3,PL</td>
<td>first person subject; third person plural object</td>
</tr>
<tr>
<td>1sS</td>
<td>first person singular subject</td>
</tr>
<tr>
<td>3sO</td>
<td>third person singular object</td>
</tr>
<tr>
<td>3sS</td>
<td>third person singular subject</td>
</tr>
<tr>
<td>ADJ</td>
<td>adjective</td>
</tr>
<tr>
<td>ADV</td>
<td>adverb</td>
</tr>
<tr>
<td>APPLIC</td>
<td>applicative</td>
</tr>
<tr>
<td>ARTCL</td>
<td>article</td>
</tr>
<tr>
<td>CAUS</td>
<td>causative</td>
</tr>
<tr>
<td>CIN</td>
<td>Conjunct Independent Neutral</td>
</tr>
<tr>
<td>CONJN</td>
<td>conjunction</td>
</tr>
<tr>
<td>DESID</td>
<td>desiderative</td>
</tr>
<tr>
<td>DETRANS</td>
<td>detransitivizer</td>
</tr>
<tr>
<td>DIR</td>
<td>direct (theme)</td>
</tr>
<tr>
<td>DYN</td>
<td>dynamic</td>
</tr>
<tr>
<td>EMPH</td>
<td>emphatic</td>
</tr>
<tr>
<td>ENG</td>
<td>English</td>
</tr>
<tr>
<td>FUT</td>
<td>future</td>
</tr>
<tr>
<td>HAB</td>
<td>habitual</td>
</tr>
<tr>
<td>IC</td>
<td>initial change</td>
</tr>
<tr>
<td>IIN</td>
<td>Independent Indicative Neutral</td>
</tr>
<tr>
<td>IMP</td>
<td>Imperative</td>
</tr>
<tr>
<td>IMPERS</td>
<td>impersonal</td>
</tr>
</tbody>
</table>

xvi
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>INAN</td>
<td>inanimate</td>
</tr>
<tr>
<td>IND</td>
<td>indicative</td>
</tr>
<tr>
<td>INTENS</td>
<td>intensifier</td>
</tr>
<tr>
<td>INV</td>
<td>inverse (theme)</td>
</tr>
<tr>
<td>LOC</td>
<td>locative</td>
</tr>
<tr>
<td>M</td>
<td>mood</td>
</tr>
<tr>
<td>MED.RFLX</td>
<td>medio-reflexive</td>
</tr>
<tr>
<td>N</td>
<td>noun</td>
</tr>
<tr>
<td>NA</td>
<td>animate noun</td>
</tr>
<tr>
<td>NAD</td>
<td>obligatorily possessed noun</td>
</tr>
<tr>
<td>NEG</td>
<td>negative</td>
</tr>
<tr>
<td>NI</td>
<td>inanimate noun</td>
</tr>
<tr>
<td>OBJ</td>
<td>object clitic</td>
</tr>
<tr>
<td>OBV</td>
<td>obviative</td>
</tr>
<tr>
<td>P,AFF</td>
<td>affirmative particle</td>
</tr>
<tr>
<td>P,CONJN</td>
<td>conjunction particle</td>
</tr>
<tr>
<td>P,DEM</td>
<td>demonstrative</td>
</tr>
<tr>
<td>P,DEM,DST</td>
<td>distal demonstrative</td>
</tr>
<tr>
<td>P,DEM,FOC,LOCATION</td>
<td>focused location demonstrative</td>
</tr>
<tr>
<td>P,DEM,LOCATION</td>
<td>location demonstrative</td>
</tr>
<tr>
<td>P,DEM,PXL</td>
<td>proximal demonstrative</td>
</tr>
<tr>
<td>P,DEM,REM</td>
<td>remote demonstrative</td>
</tr>
<tr>
<td>P,DEM+G,PXL</td>
<td>proximal gestured demonstrative</td>
</tr>
<tr>
<td>P,DISC</td>
<td>discourse particle</td>
</tr>
<tr>
<td>P,EMPH</td>
<td>emphatic particle</td>
</tr>
<tr>
<td>P,INTJ</td>
<td>interjection</td>
</tr>
<tr>
<td>P,MANNER</td>
<td>manner particle</td>
</tr>
<tr>
<td>P,NEG</td>
<td>negative particle</td>
</tr>
<tr>
<td>P,NUM</td>
<td>number particle</td>
</tr>
<tr>
<td>P,QST</td>
<td>question particle</td>
</tr>
</tbody>
</table>

xvii
P,QUANT  quantity particle
P,TIME   time particle
P,WH     wh-particle
PASSIVE.1/2  first or second person passive (SAP)
PASSIVE.3     third person passive (non-SAP)
PL        plural
POL      politeness
POSS,PRON  possessive pronoun
PREP     preposition
PRF      perfective
PRO      pronoun
PRO,FOC    focus pronoun
PRO,HES    hesitation pronoun
PRO,INDEF  indefinite pronoun
PRO,WH    wh-pronoun
PVB       preverb
PVB,CJ    conjunct preverb
SM       subject-verb agreement marker
THM      theme
VAL      animate intransitive verb
VAL+O    transitive AI verb
VBA      verbalizer
VI       intransitive verb
VTA      transitive animate verb
VTI      transitive inanimate verb
VTR      transitive verb
Chapter 1 – Introduction

In this thesis I present a study of the acquisition of two syntactic phenomena in Northern East Cree (NEC) (Algonquian), namely the passive construction and a set of intransitive verbs, the latter being of two types (unaccusative and unergative). This thesis project is situated within the broader context of the Chisasibi Child Language Acquisition Study (CCLAS), which is located at Memorial University’s Department of Linguistics and the Cree School Board in Chisasibi, Quebec (www.mun.ca/cclas). CCLAS is the only longitudinal acquisition study to be undertaken for an Algonquian language.¹ Thus, CCLAS project output contributes significantly to the existing literature on Algonquian acquisition.

There is a growing body of research on the acquisition of polysynthetic languages, to which this thesis contributes.² Particularly well represented in this literature is the acquisition of Inuit languages (e.g., Fortescue 1985; Allen 1989; Allen & Crago 1989; 1992a; 1992b; Fortescue & Lennert Olsen 1992; Allen & Crago 1993; Allen 1996; Allen & Crago 1996; Allen 1998; Crago & Allen 1998; Allen 2000; Crago & Allen 2001; Skarabela & Allen 2002; Swift & Allen 2002; Allen & Schröder 2003; Skarabela & Allen 2004; Zwanziger, Allen & Genesee 2005; Allen 2007; Skarabela & Allen 2010). The

¹ Of note, Upper & McKay undertook a preliminary study of Oji-Cree (Algonquian) acquisition, which has yielded some various publications (Upper & McKay 1987a; Upper & McKay 1987b; Upper & McKay 1988; Mellow 1989; Upper 1993; Hack & Mellow 2007). As the quality of the source data calls into question the reliability of the findings, I do not discuss this literature in this thesis; see Brittain & O’Neil (submitted) for further discussion.
² I adopt a non-technical definition of polysynthesis, where the defining feature of a polysynthetic language is that verbs are highly complex (e.g., arguments are cross-referenced on the verb, which also bears, for example, adverbial information). See Chapter 2 for more discussion.
Inuktitut literature sets a very high standard of academic rigour and has been significantly
influential on the methodology I adopt in this thesis, particularly the work of Allen &
Crago (1989; 1996). Mayan acquisition has been studied to a similar degree (e.g., Pye
1979; 1980; 1983; 1985; Pye, Ingram & List 1987; Pye & Quixtan Pox 1988; 1989; Pye
& Rekart 1990; Pye 1990a; 1990b; 1991a; 1991b; León 1994; Pye, Loeb & Pao 1996;
Pfeiler & Martín Briceño 1997; Brown 1998; León 1998; 1999a; 1999b; Brown 2000;
Pye 2001a; 2001b; Pfeiler 2002; 2003; Pye & Mateo 2006; Pfeiler 2007; Pye 2007; Pye et
al. 2007; Pye et al. 2008). There have been acquisition studies of a number of other
polysynthetic languages as well, such as Quechua (Courtney 1998; 2002; Courtney &
Saville-Troike 2002; Courtney 2006; 2008; 2010), Dene Sǫliné (Cook 2006), Mohawk
(Feurer 1980; Mithun 1989), and Navajo (Saville-Troike 1996; Courtney & Saville-
Troike 2002; Gentner & Boroditsky 2009).

Previous studies based on the CCLAS corpora have focused on the speech of a
child code-named Ani (2;01.12 – 3;08.24). Ani's acquisition of the NEC stress system has
been examined (Swain 2008; Rose et al. 2010), as has her acquisition of segments and
syllable types (Thorburn 2010; Thorburn in press), and her acquisition of intransitive
verbal inflection (Terry 2010; with a broad overview of her linguistic development
provided in Rose & Brittain 2011).

This thesis is the first investigation of the speech of an older child, code-named
Billy (4;06.08 – 5;10.18). I show that Billy's acquisition of the passive construction
progresses in three stages, following a U-shaped development path (Marcus et al. 1992). I
show that Billy relies on unanalyzed chunks (words) in Stage I (4;06 – 5;00), that he is
undertaking active analysis of his language in Stage II (5;02-5;05) and that his linguistic abilities progress significantly in Stage III (5;06 – 5;10). In other words, I show that he acquires passive *words* (morphology) before he acquires passive *syntax*.

With respect to Billy's acquisition of a sub-set of unergative and unaccusative verbs, I show that Billy produces no errors in his productions, and he demonstrates a command of the syntactic difference between unaccusative and unergative verbs at least by 5;06, but perhaps much earlier. I further show that the complexity of his utterances increases sharply at 5;06.

Taken together, the evidence from passives and intransitive verbs suggest that Billy undertakes analysis of NEC morphosyntax around age 5;00, and that by 5;06 he has come to understand a significant amount about the grammar of his language. These observations are problematic for the theory that the ability to construct passive and unaccusative verbs requires the maturation of innate principles in the brain, the Maturation Hypothesis (Borer & Wexler 1987; Wexler 2004). The Maturation Hypothesis does not predict any evidence of analysis, nor does it predict a U-shaped development path in child language, both of which are present in Billy's speech.

As NEC is an understudied language, a significant contribution of this project comes from my fieldwork with native speakers (adults) in Chisasibi, QC. I include previously unreported distinctions within the passive system and uses of the passive construction, as well as new data about so-called “relative root” verbs (Bloomfield 1957) and the medio-reflexive construction. As such, this thesis stands alongside other CCLAS project work as a contribution to our understanding of NEC, and to Algonquian as a
The outline of this thesis is as follows: In Chapter 2 I give a brief overview of the Cree language. In Chapter 3, I summarize the methodology adopted by the CCLAS project and the methodology I adopt for this thesis. In Chapter 4, I provide an in-depth discussion of the literature on the acquisition of the passive construction and the Maturation Hypothesis, as well as a description of the passive in NEC. In Chapter 5, I present an analysis of Billy's acquisition of the passive construction, and in Chapter 6 I discuss his acquisition of a subset of unaccusative verbs. I offer concluding remarks and directions for future research in Chapter 7.
Chapter 2 – Overview of Northern East Cree

East Cree is a dialect of the Cree-Montagnais-Naskapi dialect continuum, a Central Algonquian language (MacKenzie 1980). It is spoken in the James Bay region of northwest Quebec by approximately 14,000 people (Brittain & MacKenzie 2010). The CCLAS project is located in the town of Chisasibi, Quebec, which has a population of approximately 4,000. Northern East Cree (NEC) is the principle language of the community (3,400 report speaking a language other than English or French in the home), though most residents are also second-language speakers of English; in a minority of homes French is the second language, or both French and English are spoken (Statistics Canada 2007). For the purposes of this thesis I will refer to the continuum of Cree dialects as 'Cree', and to the particular dialect of Chisasibi as 'NEC'.

---

3 Some Inuktitut is spoken in Chisasibi, as well, but the community is overwhelmingly Cree-speaking.
Figure 1: Map of Quebec-Labrador peninsula

Cree can be loosely defined as polysynthetic, in that the arguments of a verb are co-indexed with a morpheme in the verb through agreement relationships, and noun incorporation is a common (though somewhat limited) process. Because nominal referents are cross-referenced on the verbal complex (head-marking, cf. Nichols 1986), argument dropping is common, and many utterances consist of a verb alone. Consider the following NE Cree sentence (1).

---

4 Thanks to Marguerite MacKenzie for the map.
5 Note that Baker excludes Algonquian languages from the class of polysynthetic languages because incorporated roots are invisible to agreement. To Baker (1996:18), Algonquian languages are best defined as “non-configurational head-marking” languages.
Given the morphological composition of the Cree verbal complex, and its centrality to Cree grammar, the verbal domain is a natural focus for an acquisition study. Before considering how children might go about learning Cree morphosyntax, a more thorough discussion of the Cree grammatical system is in order.

Cree nouns are separated into two classes: animate, and inanimate. The class of animate nouns includes all nouns denoting sentient entities, where a sentient entity has the ability to perceive and reason (Speas & Tenny 2003). This class also includes a small number of non-sentient animate nouns, for which no easy characterization has been reached (Quinn 2001; Goddard 2002). All inanimate nouns denote non-sentient entities. Some examples are given below in (2).

(2)  **Animacy-based gender system**

a.  **Animate**

    nāpāu   'man'
    tāwâhīkān  'drum'
b. **Inanimate**

uchâpânish 'car'

The organization of the Algonquian verb complex, maximally tripartite and minimally bipartite at any level of derivation, is acknowledged in the traditional terminology of Algonquian scholarship where components are referred to as "initials", "medials", and "finals". This structure is stable across the whole Algonquian language family (Bloomfield 1946; Wolfart 1973; Goddard 1988; Goddard 1990) (3).

(3) **Algonquian Verb**

Initial + (medial) + final

Initials generally contain the bulk of the lexical information of the verb, and are widely taken to be the root of the verb (Bloomfield 1946; Wolfart 1973); I maintain that assumption here and will hereafter refer to initials as "roots". Medials are subdivided into classifiers and "generic" medials (incorporated nouns, cf. Drapeau 2008; Vaughan 2010). The generic medials are often treated as roots in their own right (cf. Mathieu 2008).

Finals encode information about the arguments selected by the verb: the number of arguments and their gender (animate or inanimate). I will refer to these morphemes as "verbalizers". The result is five verb classes, schematized below in (4).
(4) **NE Cree verb classes**

<table>
<thead>
<tr>
<th></th>
<th>Animate argument</th>
<th>Inanimate argument</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intransitive</strong></td>
<td>Animate Intransitive (VAI)</td>
<td>Inanimate Intransitive (VII)</td>
</tr>
<tr>
<td></td>
<td><em>subject is animate</em></td>
<td><em>subject is inanimate</em></td>
</tr>
<tr>
<td><strong>Pseudo-transitive</strong></td>
<td>Pseudo-transitive Inanimate (VAI+O)</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>object is inanimate, no agreement</em></td>
<td></td>
</tr>
<tr>
<td><strong>Transitive</strong></td>
<td>Transitive Animate (VTA)</td>
<td>Transitive Inanimate (VTI)</td>
</tr>
<tr>
<td></td>
<td><em>direct object is animate</em></td>
<td><em>direct object is inanimate</em></td>
</tr>
</tbody>
</table>

The Algonquianist literature draws a distinction between two levels of derivation: "primary derivation" and "secondary derivation". Primary derivation yields what I will call a "basic" stem, consisting minimally of a root and a verbalizer. Secondary derivation takes a "basic" stem and adds a further verbalizer, forming a "derived" stem (5).  

(5) **Primary and secondary derivation**

a. **Primary derivation**
   
   Root + (medial) + verbalizer
   
   **Basic stem**

b. **Secondary derivation**
   
   \[\text{Root + (medial) + verbalizer} + \text{verbalizer}\]
   
   **Derived stem**

Wolfart (1973) observes that many verbalizers occur in both primary and secondary derivation. He identifies very few verbalizers that are restricted to secondary derivation, such as the Plains Cree reflexive verbalizer shown in (6).

---

6 Secondary derivation may also add a further medial, such that both levels of derivation are bi- or tri-partite (Bloomfield 1946; Wolfart 1973; Goddard 1990).
There are different paradigms ("orders") of verbal inflection for different syntactic and semantic contexts. Typically, matrix verbs in declarative clauses are inflected in the Independent order. Verbs are inflected in the Conjunct order in wh-questions (matrix clause included) and in subordinate clauses (Brittain 2001). Imperative verbs are inflected in the Imperative order.

This introduction will be sufficient for a general understanding of this thesis. In each chapter, specifics of the grammar of the Cree constructions under study, the passive construction and unaccusativity, will be introduced in more detail. I go on in the next chapter to introduce my methodology, before continuing on to begin my analysis of Billy's acquisition of Cree morphosyntax.

---

7 Matrix clauses in declarative sentences may be inflected in Conjunct order, for example in narrative contexts. See Starks (1994) on narratives in Woods Cree.
Chapter 3 – Methodology

3.1. Introduction

In this chapter I outline the general methodology developed for this project. In each of the chapters which focus on the acquisition of specific structures, Chapter 5 (passive) and 6 (unaccusativity), I detail the specific methodologies required for the analyses. I begin by outlining my theoretical framework in §3.2, before going on to describe the methodologies in use by the Chisasibi Child Language Acquisition Study (CCLAS) for the analysis of child language in §3.3. I finish by providing an overview of methodologies that have been developed for the study of morphological acquisition in §3.4.

3.2. Theoretical framework

I adopt a generative theory of acquisition (e.g., analysis-based). Within the generative framework, there is a continuum of approaches to language acquisition. Some researchers assume that a great deal of language structure is innate, which I refer to as “nativist” (e.g., Borer & Wexler 1987, whose Maturation Hypothesis will be outlined in detail in Chapter 4). Other researchers assume that nothing is innate that can be learned, which I refer to as “analysis-based” (e.g., Pearl & Lidz 2009). I take an analysis-based approach to acquisition. I further adopt Minimalism (Chomsky 1993; 1995) as the frame within which I approach patterns in Billy's acquisition of the syntax of his language.

8 A non-generative, analysis-based approach to language acquisition is referred to as the “functional” approach, which holds that cognitive processing leads to linguistic constraints, suggesting that language universals do not guide language acquisition (see, e.g., Slobin & Bever 1982).
3.3. CCLAS Methodology: PHON

Over two-and-a-half years, six participants of the CCLAS project were filmed: three from a younger cohort (participants aged roughly 2;00 to 4;06) and three from an older cohort (participants aged roughly 3;06 to 6;00). Billy is a participant from the older cohort, whose linguistic development I investigate in this thesis.

Twenty video recordings of Billy were made by then CCLAS project manager Darlene Bearskin, a native speaker of NEC. Recordings were made in her home in Chisasibi, Quebec, a familiar and comfortable environment to Billy. Each session is approximately 30-45 minutes long, and video recordings were made once or twice a month where possible from September 2005 to April 2007. The present case study considers the ten sessions listed below in (7).

(7) **B3 SESSIONS UNDER STUDY**

<table>
<thead>
<tr>
<th>Session</th>
<th>Age</th>
<th>Session</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>B3-2005-11-22</td>
<td>4:06.08</td>
<td>B3-2006-10-14</td>
<td>5:05.00</td>
</tr>
<tr>
<td>B3-2006-01-10</td>
<td>4:07.26</td>
<td>B3-2006-11-06</td>
<td>5:05.22</td>
</tr>
<tr>
<td>B3-2006-02-28</td>
<td>4:09.14</td>
<td>B3-2006-12-11</td>
<td>5:06.27</td>
</tr>
<tr>
<td>B3-2006-05-27</td>
<td>5:00.13</td>
<td>B3-2007-03-19</td>
<td>5:10.06</td>
</tr>
<tr>
<td>B3-2006-07-26</td>
<td>5:02.12</td>
<td>B3-2007-04-02</td>
<td>5:10.18</td>
</tr>
</tbody>
</table>

All analyses of these sessions was undertaken using the program PHON (Rose & MacWhinney in press). The child speech was segmented into utterances (records) that were transcribed into the International Phonetic Alphabet (IPA) independently by two transcribers, and were then verified by a team of two more to produce the field Actual
Luci Bobbish-Salt, a native NEC speaker and experienced linguistic consultant, listened to the child utterances and provided the target forms as well as metalinguistic commentary on each record (commentary on the context of the utterances, for example). Drs. Julie Brittain and Marguerite MacKenzie were part of these work sessions, which were recorded in .wav format. The target forms were subsequently transcribed to produce the field Target IPA for each record. The substantive content of the discussions generated by each record was entered into the Notes field. Dr. MacKenzie provided the Roman orthography for each utterance to produce the field Orthography. In addition, Cree linguistic consultant Alice Duff transcribed the utterances of the adult interlocutor into Cree orthography and provided an English translation. These utterances were then segmented and entered into the relevant PHON session, where, sorted according to time stamp, they provide the context for Billy's utterances. The adult records constitute a record of the input to which Billy is exposed; throughout this thesis the adult speech is referred to as “child-directed speech” (CDS).

After this basic data preparation was completed, Billy's utterances were parsed and coded. This involves splitting any given utterance into its component morphemes and noting both the meaning of each morpheme (e.g. 'by hand') and the type of each morpheme (e.g. initial, final...). Coding was undertaken by myself and Dr. Brittain. The CCLAS project maintains uniform conventions in assigning meaning and type using the CCLAS Auto Parser, a PHON plug-in. The CCLAS Auto Parser allows the researcher to

---

9 Thanks to Ranjeet Kumar and to Greg Hedlund for their work on this plug-in!! Two exclamation points!!
fill in the Morpheme Meaning and Morpheme Type tiers from a database of existing morphemes. This is illustrated below in Figure 2.

Figure 2:  CCLAS Auto Parser

Once morphological analysis of the orthography of the child utterance was completed, a morphological analysis of the actual utterance (Actual IPA) was undertaken with the help of the PHON Alignment tool. This required the segmentation of the adult target utterance (Target IPA) into morphemes in a new tier (Target Morphology), as well as the child utterance (Actual IPA copied to Actual Morphology), marking any missing morphemes as null ("_"), as shown in Figure 3.
Figure 3: Example of morphological analysis

Given that the methodology laid out above ensures standardized morphological analysis and coding practices, and that PHON permits a search of any data tier, I am able to systematically investigate the corpus of Billy's linguistic development. For instance, his production of particular verbal paradigms or morphemes can be tracked by searching the
morpheme tiers (Orthography, Morpheme Meaning and Morpheme Type). A search of the Actual Morphology tier for null morphemes shows which morphemes do not appear in Billy's productions. PHON also has a customizable Report feature, by which the results of any search can be easily tabulated and quantified. For an in-depth report on the methodology of the project from its beginnings, see Brittain et al. (2007).

3.4. Acquisition methodology: productivity criteria

The PHON Report feature allows the researcher to easily track the emergence of any given morpheme in the corpus. The result is a spreadsheet giving all of the utterances in which a morpheme appears. However, the production of a morpheme is not equal to the acquisition of that morpheme and the associated grammar. Thus, it is necessary to define what “acquired” means.

Following Fortescue & Lennert Olsen (1992) and Allen & Crago (1989), I adopt the following criteria of morphological productivity, listed from strongest to weakest (8).

(8) CRITERIA OF MORPHOLOGICAL PRODUCTIVITY

1. The morpheme in question is wrongly attached to its stem.
2. The morpheme in question appears in the transcript on at least two different stems, and preferably with two stems of phonologically different types so that two allomorphs of the morpheme are required.
3. Alternatively, the stem appears with a different morpheme attached in the same place, elsewhere in the transcript.

Any morpheme that met the first criterion in a single session was analyzed as acquired. However, a morpheme must appear twice in order to meet the second and third criteria. If a morpheme appeared once in a single session and did not meet these criteria, no decision was made, but the use of the morpheme (productive or not) was noted. Measuring the acquisition of syntax was similarly constrained by productivity criteria, which are introduced with respect to each of the constructions under study in this thesis in Chapters 5 and 6.

Having introduced Cree and the CCLAS project, I continue in the next chapter to a discussion of the acquisition of passive constructions in languages of the world.
Chapter 4 – Background to passive acquisition

4.1. Introduction

In this chapter, I consider Billy's acquisition of what I refer to as "passive" morphology in NEC. I begin with a brief look at the passive construction in languages of the world in §4.2. I then continue with an overview of previous approaches to passive acquisition in the literature in §4.3. In §4.4 I provide a description of the morphology in question in Cree-Montagnais-Naskapi. I will point out that the nature of the construction in question is debated in the Algonquian literature, and provide examples from NEC to give the reader an idea of the behaviour and function of passive morphology.

4.2. Passives in the world's languages

Following Keenan & Dryer (2007:328), I assume that passives are derivations of verb phrases. Wichmann (2007) describes passives as constructions in which the patient argument is promoted to subject, while valency is decreased by one, as in (9).

(9) **Active and passive sentences**

<table>
<thead>
<tr>
<th></th>
<th>Active</th>
<th>Passive</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Mary slapped John.</td>
<td><strong>ACTIVE</strong></td>
</tr>
<tr>
<td>b.</td>
<td>John was slapped.</td>
<td><strong>PASSIVE</strong></td>
</tr>
<tr>
<td>c.</td>
<td>John was slapped by Mary.</td>
<td><strong>PASSIVE WITH AGENT IN A BY-PHRASE</strong></td>
</tr>
</tbody>
</table>

(Keenan & Dryer 2007:325, ex. 1)

Most typically, passive constructions form intransitive verbs from transitive verbs, and
the agent is unexpressed, as shown above in (9b). Cross-linguistically less common are impersonal passives (passives of intransitive verbs), as well as passives of ditransitive verbs (Keenan & Dryer 2007; Siewierska 1984).

Keenan & Dryer (2007:352) define the passive as a construction in which the existence of the subject of the corresponding active sentence is still entailed by the passive. In other words, as essential feature of passives is that they entail an agent, even if the argument is unexpressed. Passive constructions will be discussed in more detail in §4.4.

4.3. Passive acquisition literature

Passive acquisition has been considered from nativist and analysis-based perspectives. In this section I give an overview of the literature, with a focus on studies of non-Indo-European languages. I begin in §4.3.1 with a discussion of the nativist approach and follow in §4.3.2 with a discussion of analysis-based approaches.10

4.3.1. Nativist perspectives: The Maturation Hypothesis

The most well-known and certainly the most influential nativist theory with respect to passive acquisition is the Maturation Hypothesis, developed by Borer & Wexler (1987). Borer & Wexler liken the human language capacity to other biological processes in the human body, such as secondary sexual characteristics, which mature over time as

---

10 As this is a longitudinal study of a non-Indo-European language, I do not discuss a number of experimental and cognitive studies regarding the acquisition of passives. For information about these studies I refer the reader to the excellent overview provided in Ud Deen (2011).
governed by the biological program. They propose that the language faculty is an analogous system, such that the principles of grammar mature, following the biological program of the language faculty.\(^{11}\)

The Maturation Hypothesis asserts that children do not learn language. Every stage of child language is grammatical, based on the principles available at that time. As more principles mature, children engage in re-evaluation of their language, adjusting as necessary to incorporate the new principle. There are no hypotheses in child language learning, and there is no back-tracking – all language is innate, but grows more complete and adult-like as more principles mature. Thus, language learning is linear (not U-shaped, as suggested by Marcus et. al 1992). To demonstrate the mechanics of their proposal they turn to the acquisition of passive constructions. Their argument assumes a Government & Binding (G&B) (Chomsky 1981) analysis of passive constructions, which I outline below.

In English and Hebrew, passive constructions may be either adjectival, or verbal (Borer & Wexler 1987). Adjectival passives are lexically derived, while verbal passives undergo a syntactic transformation (Wasow 1977). In verbal passives, the passive morpheme absorbs accusative Case, as well as the external \(\theta\)-role, which may optionally be applied to the object of a by-phrase. The internal argument \(\theta\)-role is maintained, requiring the projection of an internal argument position.\(^ {12}\) However, while the internal

\(^{11}\) Borer & Wexler's (1987) goal is to address weaknesses in the prevailing nativist hypotheses of language acquisition, particularly the Continuity Hypothesis (Pinker 1984). The Continuity Hypothesis holds that humans are born with an innate knowledge of all of the principles of Universal Grammar, and that these principles are constant throughout the development of language. However, Borer & Wexler observe that such a theory does not account for the fact that children learn linguistic constructions in an observable order, for example active sentences before passive. In proposing an ordered maturation of principles, they seek to solve this ordering issue.

\(^{12}\) The \(\theta\)-Criterion (Chomsky 1981) states that "each obligatory \(\theta\)-role selected by a predicate must be
argument is assigned a θ-role in internal argument position, it cannot receive Case, since accusative Case has been absorbed. This requires that the internal argument Move to the external argument position (Williams 1980; Williams 1981) to receive nominative Case. The movement results in the creation of an Argument-chain or A-chain.

It is the formation of an A-chain that is the crucial fact for Borer & Wexler's theory. A-chain formation is required in verbal passive constructions, but not in adjectival passive constructions, which are derived in the lexicon. This distinction explains the difference between adjectival passive and verbal passive acquisition in the two languages: verbal passives are acquired later than adjectival passives because the principle that permits their formation, the principle of A-chain formation, matures later than principles required for the derivation of adjectival passives.

Borer & Wexler find supporting evidence for their theory from another widely-observed characteristic of passive acquisition: English children comprehend and produce passives of actional verbs (verbs denoting an action) (10a) earlier than passives of non-actional verbs (verbs denoting an experience) (10b) (Maratsos et al. 1985; de Villiers, Phinney, & Avery 1983; see also Berwick & Weinberg 1984; Pinker 1986).

(10) Passive of actional & non-actional verbs
    a. The doll was combed (by Mary).
    b. The doll was liked (by Mary).

(Borer & Wexler, 1987:132, ex. 1, 2)
Borer & Wexler point out that passives are potentially ambiguous between a verbal and an adjectival passive reading. They find that early passive productions in child speech are only those passives that have an adjectival reading (ambiguous or not). They further observe that participles of non-actional verbs make poor adjectives in English (11), and that unambiguously adjectival passives do not admit of by-phrases (12).

(11) a. PARTICIPLE OF ACTIONAL VERB
    the doll appears combed; the combed doll; combed though the doll was, Janie recombed her.
    (Borer & Wexler 1987:135, ex. 7a)

    b. PARTICIPLE OF NON-ACTIONAL VERB
    * the doll appears seen; *the seen doll; *seen though the movie was, John decided to go again.
    (Borer & Wexler 1987:135, ex. 6a)

(12) ADJECTIVAL PASSIVES DO NOT ADMIT OF BY-PHRASES
    a. the closed door (*by Peter)
    b. the torn doll (*by Peter)
    (Borer & Wexler 1987:136, ex. 8c-d)

Borer & Wexler propose that, at an early stage, there is a semantic restriction [+SR] on adjectival passives, which excludes the formation of passives of non-actional verbs. Thus,

---

13 See Fox and Grodzinsky (1998) for a study of the transmission of θ-roles to by-phrases in child language, and the interaction of θ-role transmission and non-actional verbs. As NEC passives do not permit by-phrases this paper will not be discussed further in this thesis.

22
children first produce adjectival passives of only actional verbs, as in (13).\footnote{At a later stage a principle matures to rule out (13a) and (13c), both ill-formed adjectival passives of actional verbs. This principle is taken to be unrelated to the development of the passive (Borer & Wexler 1987:148).}

(13) \textsc{Elicited Passives} 2;00-4;00 (Horgan 1975)

a. tree is blowed down  
b. tree is broken  
c. a ball be kicked  
d. the car's parked  
e. lamp got kicked  
f. the tree's smashed  
g. that was colored  
h. the window's breaked again

(Horgan 1975; as in Borer & Wexler 1987:147, ex. 27)

Similarly, Borer & Wexler give evidence from elicited productions that Hebrew-speaking children produce adjectival passives before verbal passives (Borer & Wexler 1987:157). This pattern in English and Hebrew passive acquisition is accounted for by the Maturation Hypothesis. Specifically, Borer & Wexler argue that the principle which allows A-chain formation does not mature until a later stage in language development. Because children do not yet know that arguments can move in the syntax, they understand all subjects to be base-generated as external arguments. This is true of the subjects of (lexical) adjectival passives, but not of (syntactic) verbal passives, which are base-generated as internal arguments.
4.3.1.1. Maturation in current theory: The Universal Phase Hypothesis

The Maturation Hypothesis is framed in terms of Government and Binding theory (Chomsky 1981). Since its formulation, syntactic conceptualizations of argument projection have developed significantly. A problematic development for the Maturation Hypothesis is that current syntactic theory assumes that subjects are Merged internal to the vP (e.g., Kitagawa 1986; Speas 1986; Rosen 1990; Woolford 1991). Furthermore, within the Minimalist framework, vP constitutes a phase boundary (Chomsky 1998). A phase is a sub-part of a syntactic derivation, such that when each phase is derived, and all syntactic processes are complete within that phase, it is spelled out and becomes unavailable to any subsequent phases in the derivation. This is referred to as the Phase Impenetrability Condition (14).

(14) **Phase Impenetrability Condition (PIC)**

When working at a phase, only the edge (the head and spec(s)) of the next lower phase are available for analysis, and nothing lower than the edge. In particular the complement isn't available.

(Wexler 2004:164, ex. 12)

This is problematic for passive sentences because the subject of a passive bears the features of the underlying object of vP, but the subject position cannot access these features through the vP phase boundary. Thus, the vP in passive derivations (as well as unaccusatives and raising verbs) is defective, and does not constitute a phase boundary. Under this assumption, the source of the delay of passive and unaccusative acquisition
lies with the acquisition of defective vPs, which is called the Universal Phase Hypothesis (UPH) (Wexler 2004). The keystone of the UPH is the Universal Phase Requirement (UPR) (15):

(15) **Universal Phase Requirement**

(holds of pre-mature children, until around age 5)

v defines a phase, whether v is defective or not

(Wexler 2004:164, ex. 13)

Thus, in a passive structure as in (16), the defective v is taken by pre-mature children to be a phase boundary, and the Minimalist notions of Agree and Move cannot obtain between the subject position (Tense/T) and the object position (*John*) because the lower phase has already been spelled out. Thus, the derivation “crashes”, or is ungrammatical.

(16) **Passive Derivation (Minimalist Theory)**

*John,* Twas v V pushed t,

(Wexler 2004:163, ex. 10)

Regardless of the theory with which we approach the acquisition of passive and unaccusative verbs, the basic learnability issue remains the same: children must learn that

---

15 An intermediate hypothesis, the External Argument Requirement Hypothesis (Babylonyshev et al. 2001), fails to account for the acquisition of raising verbs and is replaced by the Universal Phase Hypothesis.

16 For our purposes, non-technical definitions of Agree and Move will suffice. Agree is the sharing of features between two elements in the derivation (in example (22) bearing the subscript letter i) and Move is the movement of some phrase to a higher position in the derivation. See Chomsky (1995) for technical definitions of Agree and Move.
the subject of a passive verb is a theme, not an agent.

4.3.1.2. Summary

The Maturation Hypothesis provides a very strongly nativist approach to passive acquisition, placing the burden of passive acquisition on innate principles that mature over time, allowing children to re-evaluate their language, growing ever closer to adult-like syntax. This approach stands in contrast to analysis-based approaches, which predict that children constantly make hypotheses about their language, which they refine over the course of their analysis. Analysis-based approaches to passive acquisition are considered in the following section.

4.3.2. Analysis-based perspectives: Language-specific characteristics and acquisition

A very different approach to passive acquisition is taken by Demuth (1989; 1990) with regard to passive acquisition in Sesotho. Her most striking finding is that Sesotho learners acquire passives at a very young age (2;08). This runs counter to the predictions made by the Maturation Hypothesis, which suggests that children only acquire the linguistic mechanisms to form passives around the age of 4;00. Demuth therefore rejects the Maturation Hypothesis and seeks another explanation for the Sesotho facts. She proposes that the early acquisition of passives in Sesotho can be explained by a language-internal consideration of the role of passives in the language (Demuth 1989; 1990). Similar conclusions have been reached by researchers studying Zulu, Quiche Mayan, and Inuktitut, each of which is summarized in the following sections.
4.3.2.1. Acquisition of Sesotho passives

Sesotho grammar permits the passivization of a high number of grammatical roles, including indirect objects. It is therefore a very productive syntactic construction. More importantly, however, Sesotho grammar is centred around information structure. Given/old information is preferred in topic position (e.g., subject position), while new information is grammaticalized as an oblique argument, in a by-phrase. This is true even when the new information is the Agent of the clause. Consider the following conversation, between a grandmother and her grandson (3:00) (17).

(17) SESOTHO INFORMATION STRUCTURE

a. Grandmother: O-o-nk-il-e kae?
   SM-OBJ-get-PRF-M where?
   'Where did you get it from?'

b. Hlobohang: Ke-o-f-uo-e ke ausi Linaes e.
   SM-OBJ-give-PRF PASSIVE-M by sister L.
   'I was given it by sister Linaese.' [sic]

(Demuth 1990:73, ex. 9)

The above examples are indicative of a widespread pattern in Sesotho, namely that the given topic is preferred in subject position, and that this is maintained through the conversation. Thus, in (17b), Hlobohang ('I') continues in topic (subject) position and the

---

17 Based on other examples from Sesotho, I expect that the missing morpheme gloss for the verb in example (17b) is for the final morpheme -e, which ought to be glossed 'm' for 'mood'.

27
new information ('sister Linaese') is introduced in an oblique by-phrase. For this reason, Demuth (1990) argues that passive constructions are central to the grammar of Sesotho, and that this is an explanation for their early acquisition. She proposes that children learn very early on that Sesotho grammar is topic-oriented, and observes that children consistently choose to keep the discourse topic in subject position, which lends credence to her interpretation of the facts.

One important characteristic of Sesotho grammar is that there is no adjectival passive (Demuth 1989). This makes Sesotho a nice test case for the Maturation Hypothesis. In a language with no adjectival passives, all of the passive utterances will be verbal passives, requiring A-chain formation. Demuth’s finding that children acquire passives by 2;08 therefore presents a strong counter-argument to the Maturation Hypothesis, which she argues must be reformulated with a greater consideration of language typology if it is to be maintained (Demuth 1989).

4.3.2.2. Acquisition of Zulu passives

Zulu is a topic-oriented language related to Sesotho (Demuth 1990). In a study of Zulu passive acquisition, Suzman finds that children begin to produce passives between 2;06-3;00 (Suzman 1985). This is partially accounted for by noting that Zulu passives are highly productive and used in a number of different contexts, such as questions, object relatives, and adjectival passives.¹⁸ However, she notes that in the case of one child these

¹⁸ Note that while Zulu has adjectival passives and Sesotho does not, in both languages the acquisition of passives is relatively early.
utterances are restricted to adverisive recipient-of-action contexts, in which something bad happens to someone the speaker knows or to the speaker herself. Evidence for this comes from the child's account of the slaughter and preparation of a goat for a family feast. Standing in contrast to a narration of the same event by an adult, which included many passive verbs, the child's narration of the event was accomplished with short, active sentences. Situating her study within a (non-generative) analysis-based framework, Suzman suggests that passives originate in conversational routines and in prototypical situations (following Slobin 1981). In other words, passives are first associated with adverisive recipient-of-action contexts and generalized from there.

4.3.2.3. Acquisition of Quiche Mayan passives

Early passive acquisition is also attested in Quiche Mayan (Pye & Quixtan Poz 1988). Quiche Mayan is an interesting case because children must acquire both passive constructions, which require NP movement, and antipassive constructions, which do not. The Maturation Hypothesis predicts constructions that do not require NP movement to be acquired before those that do. However, Pye & Quixtan Poz (1988) find that the two constructions are acquired simultaneously, and begin to appear at the age of 2;00. The child productions alternate between the passive and active voice, which Pye & Quixtan Poz take to be evidence of the acquisition of passive constructions. Furthermore, they find no evidence that children acquire passives of actional verbs like 'hit' before passives of

19 Antipassive constructions, as the name suggests, are functionally the opposite of passive constructions. While passive constructions demote the agent of a verb, antipassive constructions emphasize the agent or the action and demote the object, which is expressed as an oblique or not at all.
non-actional verbs like 'see', unlike what has been shown in English acquisition studies (Maratsos et al. 1985; Borer & Wexler 1987). Pye & Quixtan Poz propose that the relative frequency of passive constructions in Quiche Mayan is responsible for this early acquisition of passive forms. In a comparison between child passive productions in English (Pinker, Lebeaux, & Frost 1987) and Quiche Mayan (Pye 1980), they show that Quiche-speaking children produce passive sentences roughly eight times more often than the English-speaking children. Unlike English-speaking children, Quiche-speaking children are regularly exposed to passive sentences, although active sentences predominate in the input (Pye & Quixtan Poz 1988).

4.3.2.4. Acquisition of Inuktitut passives

Frequency also plays a role in the acquisition of Inuktitut passives, and the passive is common in both early child speech (emerging around 2;00) and adult speech (Allen & Crago 1996). To account for this, Allen & Crago point out an important paradigmatic fact: Two-argument verbs in Inuktitut require agreement morphology for both the subject and object. These agreement morphemes are portmanteaux encoding person and number information. Given that Inuktitut verbs inflect across seven grammatical moods for four persons and three numbers, this results in approximately 900 possible inflectional choices. On the other hand, one-argument verbs agree with their subject only, and their possible inflections number about 100. Thus, passivizing a transitive verb reduces the range of inflections by a factor of nine. Allen & Crago note that adult speakers tend to avoid two-argument inflection, when this is possible, by passivizing and antipassivizing
transitive verbs in both spontaneous and elicited speech. This observation is borne out in a comparison of CDS in Inuktitut to CDS in English (as reported in Maratsos 1985 and Gordon & Chafetz 1990). Allen & Crago find that Inuktitut caregivers produce 7.8 passive utterances per hour, to English caregivers' 1.1-2.7 passives per hour. Undoubtedly, Inuktitut children have plenty of exposure to passive utterances, which are arguably much easier to inflect than transitive utterances.

Allen & Crago propose that the structure of Inuktitut presents other factors that may play a role in the early acquisition of passives. As Inuktitut is a head-marking (Nichols 1986), polysynthetic language, head movement is a very common syntactic process. Head movement is required for passive formation in both Inuktitut and English, but a number of other common constructions in Inuktitut involve head movement, including causatives, desideratives, antipassives, noun incorporation, verb incorporation, and verbal inflection (see Allen & Crago 1996:151 for references). In addition, case-marking in Inuktitut, an ergative language, is often associated with NP movement in the literature (e.g., Johns 1992; Murasugi 1992). Thus, children are regularly exposed to Inuktitut utterances that require head and NP movement, and are correctly producing some of these other constructions contemporaneously with passives (e.g., noun incorporation, see Allen & Crago 1989; Parkinson 1999). Allen & Crago (1996) suggest that an understanding of head and NP movement is essential to the production of even basic concepts in Inuktitut, and point out that there are no simpler alternatives available for many of these

---

20 Note that Baker (1996) does not include Eskimoan languages in his list of "true" polysynthetic languages because noun and verb roots cannot be used independently, one of his criteria for robust noun incorporation and therefore polysynthesis (Baker 1996:19).
constructions. Thus, there is impetus for the early acquisition of head and NP movement. This seems a necessary conclusion, considering the Inuktitut acquisition data, but note that the Maturation Hypothesis (Borer & Wexler 1987) cannot easily account for these facts. Allen & Crago, rather than appealing to the maturation of a given principle (A-chain formation), propose that language-internal factors determine the timing of acquisition (Slobin 1982).

4.3.3. Summary

As outlined in Chapter 3, I take an analysis-based approach to language acquisition. The evidence outlined in §4.3.2 of this chapter suggests that the structure of a language and characteristics of its usage influence the acquisition of the passive. I assume this to be true of NEC. In the following section, I give an outline of the passive construction in NEC.

4.4. Passives in eastern Cree-Montagnais-Naskapi dialects

A thorough investigation of passive constructions has yet to be undertaken in NEC. However, recent work by Drapeau (2012) investigates the same constructions in the closely related dialect of Innu. In this section, I will first give a description of passives in Innu in §4.4.1, followed by a description of NEC passives in §4.4.2. In §4.4.3 I will briefly mention a theoretical debate in the literature as to the best analysis of these forms, and discuss my decision to adopt the analysis that these constructions are passives.
4.4.1. Passives in Innu

Innu is spoken in communities in Quebec and Labrador (Sheshatshiu). Both Innu and NEC are members of the Cree-Montagnais-Naskapi dialect continuum (Michelson 1939; MacKenzie 1980); Innu and NEC belong to the “palatalized” subgroup of these dialects, which term refers to the dialects of Cree-Montagnais-Naskapi in which velars are palatalized ([k] > [tʃ]) (MacKenzie 1980). In this section I present a summary of recent work by Drapeau (2012) that presents a unified analysis of a range of passive constructions in the Innu language.

Innu permits passivization of intransitive, transitive and ditransitive verbs, where the demoted argument is an animate agent. Expression of the agent argument is not permitted, even as an oblique. The morphological form of the passive morpheme is sensitive to the morphological class of the stem from which it is derived. Recall that Algonquian verb stems are divided into four classes based on both transitivity and animacy (18).

(18) **ALGONQUIAN VERB CLASSES**

<table>
<thead>
<tr>
<th></th>
<th>Inanimate Intransitive</th>
<th>subject inanimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>VII</td>
<td>Animate Intransitive</td>
<td>subject animate</td>
</tr>
<tr>
<td>VT</td>
<td>Transitive Inanimate</td>
<td>object inanimate</td>
</tr>
<tr>
<td>VTA</td>
<td>Transitive Animate</td>
<td>object animate</td>
</tr>
</tbody>
</table>

Importantly, the morphological classification of an Algonquian verb stem is not a hard-

---

21 Innu was formerly referred to as Montagnais, and is elsewhere referred to as Innu-aimun. I follow Drapeau (2012) and use the term “Innu” to refer to this variety of Cree-Montagnais-Naskapi.
and-fast indicator of its syntactic transitivity: some AI verbs are compatible with an object (see Bloomfield 1946:95; Wolfart 1973:39). I divide this set of verbs into two sub-sets: (i) AI verbs that are compatible only with inanimate objects, which I refer to as "transitive AI" verbs, and (ii) AI verbs that are compatible with an object of either gender (animate or inanimate), which I refer to as "AI+Adjunct" verbs.  

At this point it will be useful to clarify a terminological difference between the present work and that of Drapeau (2012). I follow Bloomfield (1946) and Wolfart (1973) in my treatment of transitive AI verbs: that is, I include them in the morphological class of AI verbs. By contrast, Drapeau classifies these verbs as "TI2", a sub-set of transitive inanimate verbs. Her chosen classification captures the fact that these verbs are syntactically transitive and take grammatically inanimate objects. However, this classification does not recognize that “TI2” verbs are morphologically AI verbs, and are morphologically distinct from “true” TI verbs. For this reason I call these verbs transitive AI verbs, and will henceforth use my terminology.  

In addition to transitive AI verbs and AI+Adjunct verbs, which are morphologically intransitive but take an object, there is a subset of TI verbs that are morphologically

---

22 These verbs have been referred to by many names in the Algonquian literature, first called “pseudo-transitive” or “pseudo-transitive inanimate” verbs by Bloomfield (1946). As I draw a slightly finer distinction in this work, dividing pseudo-transitives into two sub-sets, I define new terms.  

23 Thanks to Marguerite MacKenzie for pointing out the distinction between these two types of intransitive verbs and their object selection properties. This insight arose during work on the Innu dictionary by members of the "Knowledge and Human Resources for Innu Language Development" Community University Research Alliance (CURA) project (http://innu-simun.ca). I take the object of AI+Adjunct verbs to be an adjunct based on the assumption that transitive Algonquian verbs select for objects of a particular gender (e.g., Ritter & Rosen 2010), thus the adjunct, which can be of either gender, is not a true object of the verb. To the best of my knowledge, there is no semantic distinction between these two types of verbs, though future fieldwork may reveal such a distinction.
transitive (e.g., TI verbs) but syntactically intransitive, taking no object. I refer to these verbs as "objectless TI" verbs.\(^{24}\)

To explain the distribution of different passive morphemes, Drapeau's proposal is that, regardless of syntactic transitivity, the form of the passive morpheme is triggered by the *morphological class* of the verb stem and yields an \((n-1)\)-place predicate (Drapeau 2012). Underlying this proposal is the assumption that transitive AI verbs belong to the morphological class of TI verbs, which assumption is problematic considering the morphological make-up of transitive AI verbs. These verbs, in fact, are not morphologically TI verbs, and I argue that morphological class is not what triggers passive allomorphy. See the schematization below in (19), where each shaded area represents a group of verbs that is passivized with the same morpheme. In this table, SAP stands for Speech Act Participant, which I use to refer to first or second person.\(^{25}\)

---

24 In the Algonquianist tradition these are sometimes referred to as "pseudo-intransitive" verbs (Bloomfield 1957).

25 Note that it is not possible to form a passive of an inanimate intransitive verb. This is because of the correspondence of real-world animacy and grammatical animacy in Algonquian (Hanson 2003; Bliss 2005). Agents are real-world animates, and therefore grammatically animate. Thus, the agent of an intransitive verb is denoted by a grammatically animate noun, meaning that intransitive verbs with agents are AI verbs. As passivization is a process that demotes an agent argument, of intransitive verbs only AI verbs may be passivized.
Observing the patterns in Innu (which hold also for NE Cree, as we will see below), I propose that the most useful generalization of the data is that the choice of passive allomorph is determined by syntactic transitivity. Those verbs that syntactically license an object (transitive AI, TI, TA) are passivized using the -(ā)kani/-ikaw morpheme, while those verbs that do not (AI, AI+Adjunct) are passivized using the -nänwi morpheme.26

A remaining problem with my proposal is the set of objectless TI verbs, which are morphologically TI verbs, but syntactically intransitive. If syntax determines the form of the passive allomorph, we would expect these verbs to be passivized using -nänwi, not the normal TI passive allomorph -kani. Providing an account of this set of verbs is beyond the scope of this thesis.27 I go on to outline passivization in NEC.

---

26 Drapeau (2012) additionally presents an analysis of a type of passive that she calls the medio-passive, which I set aside here as beyond the scope of this chapter.

27 One possibility is that these verbs, once syntactically transitive, have been lexicalized as intransitive verbs. As this set of verbs is small, this seems a likely direction. I leave this puzzle to be solved by future researchers.
4.4.2. Passives in NEC

A consideration of NEC passives in light of the Innu data shows little difference in passivization in the two dialects. Note that, unlike Innu, NEC does not have a dedicated passive allomorph for the ditransitive. Innu and NEC passive morphology is schematized below in (20). Unless otherwise noted, all of the examples in this section come from my own fieldwork in Chisasibi, Quebec in spring 2011 and 2012.

(20) Passive morphology: Innu and NEC

<table>
<thead>
<tr>
<th>Dialect</th>
<th>Morphological Class</th>
<th>Syntactic Transitivity</th>
<th>Passive Morphology</th>
<th>Derived Stem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innu</td>
<td>AI</td>
<td>Intransitive</td>
<td>-nânwi</td>
<td>Impersonal VII</td>
</tr>
<tr>
<td></td>
<td>AI+Adjunct</td>
<td>Transitive</td>
<td>-nânwi</td>
<td>Intransitive</td>
</tr>
<tr>
<td></td>
<td>Transitive AI</td>
<td>Transitive</td>
<td>-kani</td>
<td>Intransitive</td>
</tr>
<tr>
<td></td>
<td>TI</td>
<td>Transitive</td>
<td>-kani</td>
<td>Intransitive</td>
</tr>
<tr>
<td></td>
<td>Objectless TI</td>
<td>Intransitive</td>
<td>-kani</td>
<td>Impersonal VII</td>
</tr>
<tr>
<td></td>
<td>TA</td>
<td>Transitive</td>
<td>-âkani</td>
<td>Intransitive (non-SAP subject)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-ikaw</td>
<td>Intransitive (SAP subject)</td>
</tr>
<tr>
<td></td>
<td>TA</td>
<td>Ditransitive</td>
<td>-âkan</td>
<td>Intransitive (patient/applied object subject)</td>
</tr>
<tr>
<td>NEC</td>
<td>AI</td>
<td>Intransitive</td>
<td>-(nâ)niu</td>
<td>Impersonal VII</td>
</tr>
<tr>
<td></td>
<td>AI+Adjunct</td>
<td>Transitive</td>
<td>-(nâ)niu</td>
<td>Intransitive</td>
</tr>
<tr>
<td></td>
<td>Transitive AI</td>
<td>Transitive</td>
<td>-ikiniwi</td>
<td>Intransitive</td>
</tr>
<tr>
<td></td>
<td>TI</td>
<td>Transitive</td>
<td>-ikiniwi/-âkiniwi</td>
<td>Intransitive</td>
</tr>
<tr>
<td></td>
<td>Objectless TI</td>
<td>Intransitive</td>
<td>-ikiniwi</td>
<td>-- (Impersonal VII?)</td>
</tr>
<tr>
<td></td>
<td>TA</td>
<td>(Di)transitive</td>
<td>-âkiniwi</td>
<td>Intransitive (non-SAP subject)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-ikiwi</td>
<td>Intransitive (SAP subject)</td>
</tr>
</tbody>
</table>
Significant work on morphological paradigms in NEC has been undertaken for the recent edition of the dictionary (Bobbish-Salt et al. 2012), and in my fieldwork I sought to understand the syntactic behaviour of passivization across verb classes. Even so, our understanding of passivization in NEC is still preliminary. In particular, the set of objectless TI verbs is not clearly understood in NEC. As mentioned above (§4.4.1), the set of objectless TI verbs is an important exception to my proposal that passive allomorphy in NEC is triggered by the syntax of the passivized verb (e.g., transitive AI versus AI+Adjunct). I leave it to future researchers to confirm or disprove the tenability of this proposal.

4.4.2.1. Passives of Animate Intransitive verbs

NEC Animate Intransitive verbs are passivized using the morpheme -nāniu or its allomorph -niu. The resulting verb is an impersonal II verb, with an implicit subject that refers to "loosely collective human actors" (Drapeau 2012:186). An example of this type of verb is given below in (21).

(21) NEC PASSIVE OF AN AI VERB

\begin{verbatim}
a. Pāhp-i-u.
   laugh-V1.VBZ-3
   ROOT-V1.VBZ-IIN
   'S/he laughs.'
\end{verbatim}

(Bobbish-Salt et al. 2012:172)
b. Pâhp-i-nâniu. 

laugh-VAL.VBZ-IMPERSONAL

Root-VAL.VBZ-IN

'People are laughing. / Everyone is laughing.'

Note that the -nâniu morpheme in the above example is glossed as "impersonal". This is, in part, because nâniu-derived verbs are not fully understood. It seems clear that these morpheme can form passives (as seen in the next section), but the semantics of the forms are fairly unpredictable. 28

4.4.2.2. Passives of AI+Adjunct verbs

Passives of AI+Adjunct verbs in NEC are formed in the same way as passives of AI verbs, that is, with the morpheme -nâniul-niui. The resulting verbs appear to be compatible either with an impersonal II verb interpretation (e.g., the subject refers to people in general) or with a passive interpretation (e.g., as having a derived patient subject), as in the example below in (22).

(22) NEC PASSIVE OF AN AI+ADJUNCT VERB


play-VAL.VBZ-DETRANS-3

Root-VAL.VBZ-VAL.VBZ-IN

'S/he, it (anim) plays with it.'

(Bobbish-Salt et al. 2012:291)

28 See also the discussion of the semantic unpredictability of namu-derived forms in Naskapi and Innu in Appendix I of Brittain & MacKenzie (2011:262).
b. Mâtîw-â-châ-niû.  
\textit{Mâtîw} (\textsc{vbz} vi) \textsc{niû} (\textsc{vbl} vi) - People play with it. / It is played with.

In Algonquian languages, the subject of a subordinate clause can trigger object agreement on a matrix verb. This is called Cross-Clausal Agreement (CCA) (Branigan & MacKenzie 2002), though it was first described as raising-to-object (Frantz 1978, for Blackfoot). Algonquian languages have two agreement options with respect to clausal complements. Either the higher verb is a TI verb, agreeing with a lower CP as an object, or the higher verb is a TA verb and agrees with the \textit{syntactic subject} of the lower clause as its object (Dahlstrom 1991). In other words, there is optional non-local agreement across a clausal boundary, or Cross-Clausal Agreement. The derived subject of a passive verb can trigger CCA on the higher clause (cf. Dahlstrom, 1991), which is an indication that the patient argument in fact moves to subject position (see §4.4.3, below, for a more in-depth discussion of CCA and passive verbs). The verb given above in (22) is compatible with a passive analysis in that the grammatical animacy of the derived subject (e.g., the thing played with) determines the verb class of the matrix verb (23).
(23) DERIVED SUBJECT OF NEC AI+ADJUNCT PASSIVE VERB TRIGGERS CCA

a. ANIMATE

Ni-chisch-āyi-m-ā-u  āh  chīh mātiw-ā-chā-niwich.
1-know-by.mind-by.head29-THM-3  PVB,CJ  PAST  play-VAL.VBZ-DETRANS-IMPERS
1-ROOT-MEDIAL-VTA.VBZ-THM-IIN  PVB,CJ  PVB  ROOT-VAL.VBZ-VAL.VBZ-CIN

'I know that it (anim) was played with.'

b. INANIMATE

Ni-chisch-āyi-ht-ā-n  āh  chīh mātiw-ā-chā-niwich.
1-know-by.mind-by.head-THM-1/2  PVB,CJ  PAST  play-VAL.VBZ-DETRANS-IMPERS
1-ROOT-MEDIAL-VTA.VBZ-THM-IIN  PVB,CJ  PVB  ROOT-VAL.VBZ-VAL.VBZ-CIN

'I know that it (inan) was played with.'

As was mentioned above (§4.4.1), these verbs are compatible with objects of either gender (animate or inanimate). One counter-example has been found, and that is the verb michiu 'to eat'. While this verb is passivized by -nāniu, it is only compatible with inanimate objects. What sets this verb apart from transitive AI verbs is that there is no morphologically related TA verb, which may be an important clue for the explanation of this restriction, shown below in (24).

29 Although this morpheme is glossed with the meaning "by.head," as is the corresponding morpheme in (23b), it is functionally a verbalizer morpheme like any other in the grammar. These "by head" verbalizers fall into a class referred to as "concrete finals" (Wolfart 1973), which are those verbalizers that contribute an identifiable meaning component to the word, in this case associating the action of the verb with the head.
(24) Al+ADJUNCT verb 'to eat' requires inanimate object

a. Al+ADJUNCT

i. Mîch-i-u sîutis-iyu/*âihkunâu-h. Active
eat-VAl.VBZ-3 candy-OBV/*cake-OBV
ROOT-VAl.VBZ-IIN NI-OBV/*NA-OBV
'S/he eats the candy (inan)/*cake (anim).'

ii. Siutis/*âihkunâu chîh mîch-i-nâniu. Passive
candy/*cake PAST eat-VAl.VBZ-IMPERSON
NI/*NA PVB ROOT-VAl.VBZ-IIN
'The candy (inan)/*The cake (anim) was eaten.'

b. VTA

i. Muw-â-u âihkunâu-h. Active
eat-DIR-3 cake-OBV
ROOT-THM-IIN NA-OBV
'S/he eats the cake (anim).'

ii. Chîh muw-âkinîu-u âihkunâu. Passive
PAST eat-PASSIVE-3-3 cake
PVB ROOT-PASSIVE-IIN NA
'The cake (anim) was eaten.'

An in-depth discussion of the syntax of nāniu-derived verbs and their acquisition is beyond the scope of this thesis, and will not be pursued any further.
4.4.2.3. Passives of transitive AI verbs

The set of transitive AI verbs includes verbs derived by the verbalizers -htā, -tā, -shtā, and some verbs derived by -ā, among others. These verbs, like TI verbs, are passivized using the morpheme -ikiniw. An example of this set is given below in (25).

(25) NEC passive of transitive AI verb

a. Āpichi-htā-u.  
   use-caus-3  
   root-vai+o.vbz-in  
   'S/he uses it.'

   (Bobbish-Salt et al. 2012:68)

b. Āpichi-htā-kiniu-u.  
   use-caus-passive.3-3  
   root-vai+o.vbz-passive-in  
   'It is used.'

Typically, transitive AI verbs are related to a TA verb, which is used as required by the presence of a grammatically animate object. A set of related verbs is given below in (26).

(26) Related transitive AI and TA passive verbs

a. Transitive AI
   i. Chisi-yāpāu-tā-u.  
      clean-water-vai+o.vbz-3  
      root-medial-vai+o.vbz-in  
      'S/he rinses it (inan) out.'
b. TA
i. Chisi-yápáu-y-ā-u.  
   clean-water-VTA.VBZ-DIR-3  
   ROOT-MEDIAL-VTA.VBZ-DIR-IIN  
   'S/he rinses it (anim) out.'  
   (Bobbish-Salt et al. 2012:231)
ii. Chisi-yápáu-y-ākiniu-u.  
   Passive  
   clean-water-VTA.VBZ-PASSIVE.3-3  
   ROOT-MEDIAL-VTA.VBZ-PASSIVE-IIN  
   'It (anim) is rinsed out, e.g., a towel.'

One apparent counter-example to the claim that transitive A1 verbs restrict the animacy of their object to inanimate objects only is the verb 'to reduce by sawing.' This case is particular, since the permitted animate object of the verb is homophonous with a permitted inanimate object. The NEC noun *mishikw* has two meanings: one meaning is 'tree' (animate), another meaning is 'stick' (inanimate). Either noun is permitted as the object of the transitive A1 verb 'to reduce by sawing,' which I suggest is due to the polysemy of *mishikw* (27).
(27) NEC PASSIVE OF TRANSITIVE A1 VERB 'TO REDUCE BY SAWING'

a. Achiwi-putâ-u.  
   decrease-saw-3  
   ROO-T-V/H, VBZ-IIN  
   'S/he reduces it by sawing.'

b. Mishtikw  achiwi-putâ-kiniu-u.  
   tree/stick  decrease-saw-PASSIVE.3-3  
   NA/N  ROO-T-V/H, VBZ-PASSIVE-IIN  
   'The tree (anim)/stick (inan) is reduced by sawing.'

(Bobbish-Salt et al. 2012:58)

4.4.2.4. Passives of Transitive Inanimate verbs

Passives of NEC Transitive Inanimate verbs are typically derived by the morpheme

-ikiniw, though there appears to be free variation between -ikiniw and -àkinîw in

passivized TI verbs. Consider the following typical example (28).

(28) NEC PASSIVE OF A TI VERB

a. Wâp-iht-im.  
   light-by.head-DIR  
   ROO-T-V/H, VBZ-THM  
   'S/he sees it.'

(Bobbish-Salt et al. 2012:112)
b. Wáp-iht-ikiniu-u.  
light-by.head-PASSIVE.3-3  
ROOT-VTI.VBZ-PASSIVE-IIIN  
'It is seen.'

Variation in the passive allomorph can be seen in the following examples (29). Consultants do not identify any meaning difference between the two forms, so I treat them as if they are in free variation, though perhaps the choice is conditioned at another level of language use.

(29) **Variation in passive allomorphy in Ti verbs**

a. Ihtut-im.  
do-DIR  
ROOT-VTI-THM  
'S/he does it.'  

(Bobbish-Salt et al. 2012:10)

b. Tánitâh áh ihtut-ikiniwi-ch ú.  
how  
PVB,CJ do-PASSIVE.3-3.S  
this  
P,WH  
PVB,CJ ROOT.VTI-PASSIVE-CIN  
P,DEM.PXL  
'How do you do this?'

c. Tánitih áh ihtut-âkiníwi-ch.  
where  
PVB,CJ do-PASSIVE.3-3.S  
P,WH  
PVB,CJ ROOT.VTI-PASSIVE-CIN  
'Where do you do it?'

46
4.4.2.5. Passives of Transitive Animate and ditransitive TA verbs

Passives of Transitive Animate and ditransitive TA verbs are formed using one of two passive allomorphs. Passives of (ditransitive) TA verbs with derived third person subjects are formed with the -ākiniv morpheme, as in the following examples. The derived subject of a passivized ditransitive verb is the indirect object of the verb. The direct object shows no agreement or cross-referencing on the verbal complex and is not treated as an argument of the verb in the syntax, showing the characteristics of an adjunct (see for example Brittain, 1993 for a discussion of applicative constructions and adjunct arguments in Innu-aimun). The ditransitive example given in (30b) is one of very few lexical ditransitives in NEC; the majority of ditransitives are derived from transitive verbs through the addition of applicative morphology.

(30) NEC Passive of a TA verb (3rd person)
   a. Transitive
      i. Āpichi-h-ā-u.       Active
         use-caus-dir-3
         root-vta.vbz-thm-iin
         'S/he uses, employs her/him, it (anim).'
         (Bobbish-Salt et al. 2012:68)

      ii. Āpichi-h-ākiniv-u.  Passive
          use-caus-passive.3-3
          root-vta.vbz-passive-iin
          'S/he is employed.'
b. **Ditransitive**

i. Miy-à-u.
   
   **Active**
   
   give-dir-3
   
   vta-thm-iin
   
   'S/he gives it to her/him, it (anim).'

   (Bobbish-Salt et al. 2012:276)

ii. Miy-àkiniu-u.
   
   **Passive**
   
   give-PASSIVE.3-3
   
   vta-PASSIVE-IIN
   
   'She is given it.'

Where the derived subject of a TA verb is a first or second person argument, the passive is formed using *-ikiwi*, the SAP form of the passive morpheme (31).

(31) **NEC Passive of a TA (SAP)**

a. **Transitive**

i. Nit-ápichi-h-ikw.
   
   **Active**
   
   1-use-CAUS-INV
   
   1-ROOT-VTA.VBZ-THM
   
   'S/he employs me.'

ii. Nit-ápichi-h-ikiwi-n.
   
   **Passive**
   
   1-use-CAUS-PASSIVE.1/2-1/2
   
   1-ROOT-VTA.VBZ-PASSIVE-IIN
   
   'I am employed.'
b. **DITRANSITIVE**

i. Chi-miy-ikw.  
   2-GIVE-INV  
   2-VTA-THM  
   'S/he gives (it) to you.'

ii. Chi-miy-ikiwi-n.  
   2-give-PASSIVE.1/2-1/2  
   2-VTA-PASSIVE-IIN  
   'You are given (it).'

Here it will be important to clarify some pertinent historical morphophonology. Where an SAP passive is formed from a TA verb with the -iw verbalizer, the verbalizer and the initial vowel of the passive morpheme coalesce to form the vowel å. In other words, -iw + -ikiwi → åkiwi. This morphophonological process is undone in the body of the text, such that the verbalizer and the passive morpheme are represented separately, as demonstrated below in (32). However, in the appendix of passive utterances this morphophonology is not undone to remain faithful to the orthography, which reflects the surface rather than the underlying form.

(32) **NEC PASSIVE OF A TA VERB (SAP): COALESCEENCE OF VERBALIZER AND PASSIVE MORPHEME**

<table>
<thead>
<tr>
<th>Châkwân</th>
<th>kâ</th>
<th>ihtutâkiwiyâkw.</th>
<th>Passive</th>
</tr>
</thead>
<tbody>
<tr>
<td>châkwân</td>
<td>kâ</td>
<td>ihtut-iw-ikiwi-yâkw</td>
<td></td>
</tr>
<tr>
<td>what</td>
<td>PVBJ,CJ</td>
<td>do-VTA.VBZ-PASSIVE.1/2-2.PL</td>
<td></td>
</tr>
<tr>
<td>PRO,WH</td>
<td>PVBJ,CJ</td>
<td>ROOT-VTA.VBZ-PASSIVE-CIN</td>
<td></td>
</tr>
</tbody>
</table>

'What did they make you do?'
4.4.2.6. "Do" passives

One very intriguing aspect of NEC passives is the interpretation and use of the passive in certain questions, as below in (33). To the best of my knowledge, this use of the passive has not been recorded until now (Johansson fieldwork, June 2012).

(33) NEC “DO” PASSIVE

Tânitâh â-ihut-ikiniwi-ch. Passive
how PVb,CI-do-PASSIVE.3-3.PL
P,WH PVb,CI-ROOT.VTI-PASSIVE-CIN

‘How is it done?’

Forms such as that in (33) often received an interpretation similar to “habitual” passives, following terminology used by Allen & Crago (1996) with reference to Inuktitut. In Inuktitut, passive constructions may refer to normal methods for undertaking some action in the community. Consider the following Inuktitut example (34).

(34) INUKTITUT HABITUAL PASSIVE

Saimurtausuunguvuq.
saimuq-jau-suuq-u-vuq shake.hands-PASSIVE-HAB-be-IND.3S

‘S/he is normally shaken hands with (by people).’

(Allen & Crago 1996:113, ex. 6)

Note that, in this case, there is a habitual morpheme -suuq- present on the verb stem. Such an overt marker of habitual action is not present in the NEC question, above. It may prove
to be the case that certain passives in Cree, such as in (33), are best analyzed as impersonal passives in the sense of Drapeau (2012). This type of passive need not be formulated as a question, such that a possible answer to (33) is the passive declarative, “It is done like this.” This subset of passives does appear in the corpus of Billy's speech, most commonly in question form. For the purposes of this thesis, I do not draw any formal distinctions between standard passives and 'do'-passives, as more fieldwork is needed in this area. However, it is interesting to speculate about the impact that this type of distinction, were it to prove valid, would have on the acquisition of passives in NEC. I discuss the use of 'do'-passives in Billy's speech in §5.4.1.2.

4.4.3. The debate: Passives, or not?

The syntax of passive constructions in Algonquian languages is by no means uncontroversial. As it is not the central purpose of this thesis to weigh in on the debate, I follow Drapeau (2012) and highlight the function of passive morphology: it serves to background the subject/agent and foreground the object/patient, reducing valency by one, as is expected of passive constructions.

At a theoretical level, I assume Dahlstrom's analysis that these forms are syntactic passives, that is, derived intransitive verbs with a patient subject (Dahlstrom 1991; see also Goddard 1979 on Delaware). The key piece of evidence for her analysis comes from Cross-Clausal Agreement (CCA), discussed above in §4.4.2.2. Dahlstrom (1991) observes that in Plains Cree the syntactic subject of a lower clause may trigger CCA on the higher clause, such that the higher clause agrees with the subject of the lower clause as though it
were its object. In (35a) below, the verb in the higher clause is a TI verb with a CP object. In (35b), the verb in the higher clause is a TA verb whose object is the animate subject of the lower clause.

(35) Plains Cree CCA

a. No CCA
   Mary kiske·yiht-am George-e·-a·hkosiyit.
   Mary know.vti-3.inan George-obv be.sick-obv,ci
   'Mary knows George is sick.'

b. CCA
   Mary kiske·yim-e·-w George-e·-a·hkosiyit.
   Mary know.vta-thm.dir-3.obv George-obv be.sick-obv,ci
   'Mary knows George is sick.'
   (Dahlstrom 1991:71, ex. 27-28)

Dahlstrom (1991) reports a slight semantic difference between the two forms, with the consequence that (35b) above has a reading in which Mary is inferring that George is sick.

   Evidence from CCA shows that, in Plains Cree, the patient argument of a passive verb triggers agreement on the higher clause, indicating that it is, in fact, a derived syntactic subject. This is evidence that Cree has a true passive.

---

30 Dahlstrom (1991) marks the boundary between a preverb and a verb with '═', and verb-internal morpheme boundaries with '−'. In this thesis, I draw no such distinction, and change her glossing to match that in use here.
Dahlstrom's analysis has not gone unchallenged. Given that there is evidence that the higher verb can agree with syntactic objects in Innu (Branigan & MacKenzie 2002), Ritter & Rosen cast doubt on Dahlstrom's claim (Ritter & Rosen 2005). The pertinent facts for NEC have not been explored, but constitute an interesting avenue for future research, considering that NEC-speaking communities are geographically between Plains Cree and Innu-aimūn communities, and all are CMN dialects (MacKenzie 1980).

Other approaches have been taken to the passive construction in Algonquian. One proposal suggests that so-called passive forms are actually active forms with an obligatorily non-specific agent (Dryer 1997, Plains Cree), though Valentine (2001) points out morphological differences between passive and generalized actor forms in Nishnaabemwin. Another analysis is that inverse theme morphology is actually passive morphology and that inverse clauses are passives (LeSourd 1976; Jolley 1981; Jolley 1982) (see §6.7.4.2.3 for a discussion of inverse clauses). A third approach takes passives to be transitive passive verbs in which the agent and patient arguments are both present, but reversed in the syntax, that is, the agent becomes the object (Rhodes 1976). Any one of these approaches may prove to be the best approach to passives in NEC, but I leave this question to future work; I maintain my assumption that NEC passives are best treated as syntactically (n-1)-place predicates in which the patient is the derived subject.
Chapter 5 – The acquisition of passives in NE Cree

5.1. Introduction

In this chapter I outline three stages in Billy's acquisition of the passive construction in Cree. I show that he acquires passive morphology before acquiring the syntax of the passive construction, and that his development is U-shaped. I start with an overview of the methodology in §5.2, and a consideration of the passive utterances recorded in CDS in §5.3. In §5.4 I describe Billy's acquisition of the passive, and provide a discussion of his acquisition path and a comparison to passive acquisition in other languages in §5.5.

5.2. Methodology

This section describes the methodology that I adopted for my analysis of passive utterances in Billy's speech, and assumes familiarity with the corpus-wide methodology described in Chapter 3. I begin where all preliminary analysis is complete.

5.2.1. Identifying passive utterances

I classified as passive utterances all forms whose target utterance bears passive morphology, as defined in §4.4.2 above.31 Specifically, I classified any verbal form bearing the morpheme -ikiniw, -ākiniw (non-SAP forms), and -ikiwi (SAP forms) as passive. These were glossed in PHON using the Auto-Parser and assigned the Morpheme Meaning 'passive.3' for non-SAP forms, or 'passive.1/2' for SAP forms. All forms were

31 Recall that I set aside passives formed with -nāniu, as noted in §4.4.2.2.
assigned the Morpheme Type 'passive.' Passive morphology in the recorded CDS was identified and glossed in a similar fashion. Once all forms were analyzed, a search for the 'passive' Morpheme Type was used to extract the passive utterances for each session participant (Billy, and Adult).

5.2.2. Secondary analysis

In order to identify discrepancies between Billy's utterances and adult-like utterances, a document consisting of Billy's passive utterances was prepared and submitted to Luci Bobbish-Salt for consideration. This document consisted of Billy's age at the time of recording, and his utterances in both Cree syllabics and Roman orthography. If appropriate, the surrounding context of each utterance was included. The context was included in cases in which the passive utterance constituted part of an exchange between Billy and his interlocutor. The context was not included in cases in which the passive utterance was isolated in the discourse. An example from this document is given below. Note that this is an example from the document that was sent, before it was edited (37).
After taking some time to read the document and make corrections and comments, Luci Bobbish-Salt sent back an edited version of the document with commentary. Specifically, she considered the following questions: (i) “Does Billy’s Cree look like adult Cree, or are there some differences? If there are differences, what are they?”; and (ii) “Is Billy using verbs that end in -ákiniw and -ikiniw correctly, and in the right places? When you look at his sentences in the context of the conversation, does it make sense for him to choose those verbs?” Her input has been incorporated into the PHON corpus as well as the appendix of Billy’s passive utterances, Appendix I of this thesis. Some further analysis was conducted in person with Luci Bobbish-Salt and Elsie Duff in Chisasibi, Quebec in June, 2012. This consisted of re-recording two IPA target forms and filling in gaps in the analysis of certain utterances.

5.2.3. Excluded utterances

There are 36 utterances containing passive verbs recorded in the corpus of Billy’s speech.
Only one of these verbs was excluded from this analysis. The verb is the only passive utterance recorded in session 8 (B3-2006-12-11, age 5;06.27). Noise in the recording made only parts of the utterance possible to transcribe, and there is no available recording of the target utterance against which to compare Billy's speech. I analyzed the remaining 35 passive verbs.

5.2.4. Productivity criteria and evidence of acquisition

Following Allen & Crago (1996) I have adapted my general productivity criteria (§3.4) for the analysis of passive acquisition in Northern East Cree. The data were considered with the following criteria.

(38) **Productivity Criteria: Morphological Acquisition**

1. The passive morpheme is wrongly attached to its stem.
2. The passive morpheme appears in the transcript on at least two different stems, especially where different allomorphs of the morpheme are required.
3. Alternatively, the stem appears with a different morpheme attached in the same place, elsewhere in the transcript.


(39) **Productivity Criteria: Passive Acquisition**

1. The passive is used with clearly innovative forms (e.g., overgeneralizations).
2. Errors in passive utterances are self-corrected.
3. The same event is referred to with both passive and active utterances.

   (cf. Allen & Crago 1996)
With these two sets of productivity criteria I introduce an important terminological distinction between **Morphological Acquisition** and the **Acquisition of the Passive Construction**. What this means is that I do not take the morphological productivity of passive verbs (38) to be evidence that Billy understands the function of the passive construction (39). This distinction will be important in my discussion of Billy's acquisition (§5.4).

Furthermore, following Allen & Crago (1996), I have made note of various forms of passive utterances throughout the corpus, both in Billy's utterances and in CDS (40).

(40) **Passive Forms**

1. Basic passive
2. Passives of non-actional verb (see, understand, be called)
3. Passives of verbal stems with applicative morphology (derived ditransitives)
4. Passives with noun incorporation (medials)
5. Passives of morphological causatives
6. 'Do'-passives

(cf. Allen & Crago 1996)

Item 5 in the above list warrants further explanation, as I draw a distinction between causative verbalizers in “basic” verb stems and morphological causatives (one type of “derived” stem). Recall from Chapter 2 that a basic verb stem is composed of a verb root and a verbalizer. A morphological causative is derived from a basic verb stem, such that it is composed of a verb stem and an additional causative verbalizer (41).
(41) BASIC VERB STEMS AND MORPHOLOGICAL CAUSATIVES

a. BASIC VERB STEM
   root + verbalizer

b. MORPHOLOGICAL CAUSATIVE
   [BASIC VERB STEM root + verbalizer] + verbalizer (causative)

Some verbalizers can be used both to form basic verb stems and to derive morphological causatives. The causative verbalizer -h can be used in both ways. The following is an example of a basic verb stem derived by -h (42). As this is a basic verb stem, a passive derived from this verb is a basic passive.

(42) NEC TRANSITIVE VERB
   W'ichi-h-â-u.
   help-Caus-Dir-3
   root-VTA.VBZ-ThM-IIN
   'S/he helps her/him/it.'
   (Bobbish-Salt et al. 2012)

On the other hand, the same causative morpheme -h can be used to derive a morphological causative, as in the following example (43).
(43) NEC DERIVED TRANSITIVE CAUSATIVE VERB

Tiskimi-piyi-h-å-u.

take.across-dyn-caus-dir-3

root-vlbz-vta,vbz-thm-IIN

'S/he takes him/her straight across by vehicle.'

(Johansson & Brittain 2012)

A passive verb formed from a morphological causative verb, as above, is a "passive of a morphological causative." Note, therefore, that while the causative verbalizer -h is used in both examples, passives formed from the two verbs are treated differently.

A number of Northern East Cree-specific characteristics are also of interest in the acquisition of passive morphology, and are listed below.

(44) NEC-SPECIFIC PASSIVE CONSTRUCTION CHARACTERISTICS

1. Additional morphology on the verbal complex (obviative, plural, diminutive)
2. SAP vs. non-SAP forms
3. Morphological class of the passivized verb (VTI, VTA, transitive AI, ditransitive)
4. Inflectional order of the passivized verb (Independent, Conjunct)\(^{32}\)
5. Aspect/Mood (habitual, subjunctive)
6. Evidence of English influence

All of the above-listed criteria have been taken into account in the analysis of Cree CDS (§5.3) and Billy's passive productions (§5.4).

\(^{32}\) For a brief introduction to inflectional orders, see page 10.
5.3. CDS

As we have seen in §4.3.2, cross-linguistic studies of passive acquisition often make reference to the frequency of passive utterances in CDS. In order to compare the frequency of passives in NEC CDS against that of other languages, I have analyzed the adult side of the recorded conversations for each of the sessions in the corpus of Billy's speech. Passives were identified and glossed in these records in PHON. Each adult passive utterance was then extracted to yield both the frequency of passives in CDS (§5.3.1) as well as an idea of the range of passive forms in CDS (§5.3.2).

5.3.1. Frequency of passives in NEC CDS

Passive utterances occur in CDS in each of the 10 sessions under analysis in this thesis. The distribution of interlocutor passives is given below in (45).
In a little over 6 hours of analyzed CDS, passives occur at a rate of approximately 16 passives/hour, or one passive utterance every 3 minutes and 41 seconds. Though the sample of adult speech is small, it is clear that children learning NEC are consistently exposed to passive structures.

Analysis of a larger corpus of NEC CDS is desirable to confirm that such a high frequency of passive utterances in CDS is broadly typical of the language. At present, it is possible to consider the speech of the same caregiver, interacting with a younger child from the CCLAS study, code-named Ani, from age 2;01 to 3;08 (46).
(46) **Passives in adult speech: Ani**

<table>
<thead>
<tr>
<th>Session</th>
<th>Session Length</th>
<th># Passives (Adult)</th>
<th>Ani's Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1-2005-03-08</td>
<td>00:38:47</td>
<td>7</td>
<td>2;01.14</td>
</tr>
<tr>
<td>A1-2005-05-18</td>
<td>00:37:24</td>
<td>8</td>
<td>2;03.24</td>
</tr>
<tr>
<td>A1-2005-07-29</td>
<td>00:49:06</td>
<td>12</td>
<td>2;06.05</td>
</tr>
<tr>
<td>A1-2005-09-14</td>
<td>00:39:36</td>
<td>2</td>
<td>2;07.19</td>
</tr>
<tr>
<td>A1-2005-11-21</td>
<td>00:48:41</td>
<td>11</td>
<td>2;09.27</td>
</tr>
<tr>
<td>A1-2006-01-09</td>
<td>00:36:30</td>
<td>7</td>
<td>2;11.15</td>
</tr>
<tr>
<td>A1-2006-03-14</td>
<td>00:30:28</td>
<td>6</td>
<td>3;01.20</td>
</tr>
<tr>
<td>A1-2006-06-02</td>
<td>00:40:08</td>
<td>0</td>
<td>3;04.08</td>
</tr>
<tr>
<td>A1-2006-08-16</td>
<td>00:31:53</td>
<td>4</td>
<td>3;06.22</td>
</tr>
<tr>
<td>A1-2006-10-18</td>
<td>00:30:16</td>
<td>3</td>
<td>3;08.24</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>06:22:52</strong></td>
<td><strong>60</strong></td>
<td></td>
</tr>
</tbody>
</table>

Here again, the rate of passives per hour is quite high. In roughly 6.5 hours, Ani was exposed to 60 passive utterances, or 9.4 passives/hour. In this set, there is one passive caregiver utterance every 6 minutes and 23 seconds. It is interesting, however, that the rates of passive productions are so different for Billy and Ani. Billy is exposed to a significantly higher rate of passive utterances: more than 1.7 times as many passives per hour as Ani hears. I interpret this as evidence that Cree caregivers adapt their speech to the abilities of the child. This is supported by the passive productions of the two children: Ani does not produce a single passive utterance during the duration of her recording, but Billy produces 36 passives beginning immediately with the first session.

Consider how NEC caregiver use of passives per hour compares with CDS in

---

33 Some language teachers in the Northern Cheyenne Nation (Montana) similarly report adapting their speech for the benefit of child learners of Cheyenne (Algonquian), favouring the use of gender-marked demonstratives with nouns to facilitate acquisition of the nominal gender system (p.c., Sarah Murray).

Note that the term "full passives" refers to passives with a by-phrase (47).


<table>
<thead>
<tr>
<th>Language</th>
<th>Hours of data</th>
<th>Number of passives</th>
<th>Number of full passives</th>
<th>Number of passives/hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>English (Gordon &amp; Chafetz 1990)</td>
<td>293</td>
<td>313</td>
<td>4</td>
<td>1.1</td>
</tr>
<tr>
<td>English (Maratsos 1985)</td>
<td>37.5</td>
<td>101</td>
<td>1</td>
<td>2.7</td>
</tr>
<tr>
<td>Inuktitut (Allen &amp; Crago 1996)</td>
<td>26.7</td>
<td>208</td>
<td>35</td>
<td>7.8</td>
</tr>
<tr>
<td>NEC – Billy &amp; Ani</td>
<td>12.6</td>
<td>160</td>
<td>-- 35</td>
<td>12.7</td>
</tr>
</tbody>
</table>

As we see, CDS in NEC has the highest rate of passives per hour of any of the languages listed above, though the sample of adult speech is relatively small.

Figures of English and Sesotho passive input frequency are presented by Kline & Demuth (2010) as a percentage of the total number of verbal utterances. In the following table, I extend their work to include NEC. As was seen in the frequency count, NEC CDS consists of the highest percentage of passive verbs per total verbal utterances of any of the languages for which such a count is available. Once again, the sample size is quite small, but the results are striking (48).

---

34 Based on caregiver interactions with Adam, Eve and Sarah (Brown 1973)
35 Recall that NEC does not permit by-phrases in passive constructions
(48) **Percentage passive verbs in CDS cross-linguistically**

<table>
<thead>
<tr>
<th>Language</th>
<th>Total number of verbal utterances</th>
<th>Number of passive utterances</th>
<th>Percentage passive utterances</th>
</tr>
</thead>
<tbody>
<tr>
<td>English (Brown 1973)</td>
<td>33,125</td>
<td>91</td>
<td>0.27%</td>
</tr>
<tr>
<td>Sesotho (Demuth 1992)</td>
<td>10,021</td>
<td>269</td>
<td>2.7%</td>
</tr>
<tr>
<td>NEC – Billy &amp; Ani</td>
<td>5,609</td>
<td>160</td>
<td>2.9%</td>
</tr>
<tr>
<td>NEC – Billy</td>
<td>3,036</td>
<td>100</td>
<td>3.3%</td>
</tr>
</tbody>
</table>

5.3.2. Morphological form of passives in NEC CDS

In order to provide a baseline for comparison, passives in CDS have been analyzed in the same way as Billy's passive utterances. An overview of my analysis of CDS can be found in Appendix II.

The majority of the passive verbs Billy was exposed to were “basic” passives. In other words, the passivized stem consisted of a verb root and a verbalizer (55/86, 64%). Nearly a quarter of the passive verbs in the CDS contained a medial, that is, an incorporated noun or a classifier (20/86, 23%). One tenth of the passives Billy heard were built on stems that had undergone secondary derivation, to introduce an argument either through causative (4/86, 5%) or applicative morphology (5/86, 6%). Only two 'do'-passives were uttered (2/86, 2%), once when Billy was 4;07, and once when he was 5;05. Billy relies on this type of passive quite heavily in the beginning stages of his passive acquisition (§5.4.1.2), so it is significant that they are so infrequent in CDS (49).

36 Note that certain of these utterances were morphologically opaque in some way: the verb was unknown or some morpheme in the verbal complex was unclear. Of the 100 passive utterances in CDS, only 86 have been morphologically analyzed. The remaining 14 were left out of the analysis because they were not well-enough understood.
A good number of plural-marked passives are present in the adult speech (16/86, 19%), as are passives with overt patient NPs, which I contrast with passives where the patient undergoes pro-drop and is marked on the verbal complex only as a pronominal clitic or agreement marking (9/86, 11%). Other morphological variants of passive verbs are infrequent, with no other morphology occurring on more than 4% of passives (50).

Billy is exposed to twice as many non-SAP passive forms as he is exposed to passive forms. However, his exposure to SAP begins with the first session (51).
Researchers have shown that children have difficulty acquiring passives of non-actional verbs (e.g., Maratsos et al. 1985). A consideration of the CDS to which Billy was exposed shows that one third of the passives in CDS were passives of non-actional verbs (26/86, 30%), suggesting that any delay in the acquisition of these forms would not be due to frequency effects. My classification of verbs into actional and non-actional was based on the translation of the verbs, and defined actional verbs as verbs in which the action is something that is both observable and pictureable (Kline & Demuth 2010:225). I have provided my classifications of the passive verbs used in adult and child speech in Appendix II-III, together with a token count for each passive verb.

### Actional vs. non-actional verbs in CDS

<table>
<thead>
<tr>
<th>Actional Verb</th>
<th>Non-actional Verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>60/86 (70%)</td>
<td>26/86 (30%)</td>
</tr>
</tbody>
</table>

As mentioned above, roughly two-thirds of passive verbs in CDS were built on TA stems (53/86, 62%). The remaining passives are mostly TI passives (27/86, 31%), with few transitive AI passives (6/86, 7%) (53).

---

37 I consider both transitive and ditransitive TA verbs to be TA stems.
Passives inflected in the Conjunct order are slightly more frequent in CDS (46/86, 54%) than passives in the Independent order (40/86, 47%). Across both the Conjunct and Independent orders, nearly all passives are Indicative Neutral forms (82/86, 95%), with a handful of Dubitative Preterit forms (4/86, 5%).

5.4. Billy's passive productions

Billy produces 35 utterances containing passive verbs that are considered in this thesis. In this section, I discuss patterns in his productions. I have divided Billy's passive utterances into three stages, each of which I consider individually. The stages are as follows (55). Note that there are no passive productions under consideration in session 8.
As I discuss in the following sections, there is reason to think that passive morphology has been acquired already in Stage I (§5.4.1). However, evidence of productivity following the criteria outlined in §5.2.4 only begins to appear in Stage II (§5.4.2). Stage III shows an increase in the complexity and sophistication of Billy's passive utterances (§5.4.3). An overview of my analysis of Billy's passive utterances can be found in Appendix III.

5.4.1. Stage I – Age 4;06 – 5;00

The first stage of Billy's passive utterances consists of Sessions 1-4, from age 4;06 to 5;00. During this time, Billy produces 11 passive verbs. These are presented in Appendix I, Conversations 1-8. While there is evidence that the passive morpheme is used productively in this stage, there is no evidence that the passive construction has been
acquired. In other words, Billy appears to use the morpheme productively, but there is no evidence in the recordings that he understands the connection between the passive and active voices, or that he overgeneralizes the passive construction to demote agents.

5.4.1.1. Evidence of morphological acquisition

There is evidence that the passive morpheme has been acquired by the first session (age 4;06). There are two passive productions in this session, on two different stems, and two different allomorphs of the passive are required.

(56) PASSIVES IN SESSION 1 (4;06.08)

   this-LOC       thusly-DYN-CAUS-PASSIVE.3-3.S
   p,DEM+G,pxL-LOC  root,IC-V1.VBZ-VTA.VBZ-PASSIVE-CIN
   'This is how you make it go. / You move it this way.'

   Target:  [maw-tah  s-pi-h-akimawi-t]
   Actual:  [ma-na  si-pi-h-agəna-]  

(B3-2005-11-22#210)
b. Ni-chihi misin-ihu-kuwi-n.
1-PAST write-by.instrument-PASSIVE.1/2-1/2
1-PVB ROOT-VTR.VBZ-PASSIVE-1IN
'They wrote my name down.'
Lit. 'I was written down.'

Target: [ni-ʃi-msin-ihu-kwi-n]
Actual: [Ana n-dʒi-msən-o-gwa-n]

Comparing the Target and Actual IPA, we see that there is only one morpheme that Billy does not produce: person inflection is missing from the first utterance (56a). However, these two utterances constitute evidence that the passive morpheme has been acquired.

Further evidence that he has acquired the passive morpheme comes from the following example, where Billy selects the TA passive allomorph -ākiniw for the TI verb 'to close', instead of the passive allomorph -ikiniw, as visible in the Actual IPA (57).

(57) INCORRECT PASSIVE ALLOMORPH
Tānitāh āh ihtut-ikiniwi-ch āh chip-ih-ikiniwi-ch.
how PVB,CJ do-PASSIVE.3-0.S PVB,CJ close-VTR.VBZ-PASSIVE.3-0.S
P,WH PVB,CJ ROOT.VTI-PASSIVE-CIN PVB,CJ ROOT-VTI.VBZ-PASSIVE-CIN
'How is this closed?'

Target: [dan’d a tʰot-ikə’no-dʒ tʃp-ʰ-iga’no-tʃ]
Actual: [daen’d a dəd-ano-dʒ a dzap-ʰ-a’no-tʃ]
Note that there is no evidence that Billy has acquired the syntax of the passive at this point. For example, in the first session Billy uses the same verb stem in both active and passive voice, but he uses these verbs to discuss different events. This is evidence that the morphology has been acquired by this session, but the active-passive alternation is only taken to be evidence that the passive construction has been acquired when both forms are referring to the same event.

Billy's passive utterances in this first session appear to be precocious. Passives of causative verbs and SAP passives do not reappear without error until Stage III. One interpretation of this pattern is that Billy's passives in the first session are morphologically productive, but his understanding of the passive construction is limited or incomplete. As he acquires the passive construction, his use of passive morphology is reduced until he understands the construction well. Unfortunately, there is no way of knowing when Billy first began to produce passive verbs and what they looked like. Hopefully, with continued analysis of child speech in the CCLAS corpus, some confirmation of or counter-evidence to this interpretation can be found.

5.4.1.2. Reliance on 'do'-passives

While there is evidence that passive morphology has been acquired, Billy leans on conventionalized expressions in this stage. Of the 11 passive utterances in this stage, 6 are

---

38 The verb in question is ḏspi ‘thusly’, derived by the verbalizer -piyi, which set of verbs is the subject of Chapter 6. The two utterances I refer to here can be found in Appendix V, which lists every piyi-derived verbal utterance in the corpus. In Session 1 (B3-2005-11-22) Billy uses the verb ḏspi in the passive voice in Conversation 4, §1.4 of Appendix V (page 248). The same verb in the active voice can be found in Conversation 6, §1.6 of Appendix V (page 251).
built on the TI root *ihut* 'do' (6/11; 55%; see §4.4.2.6 for some discussion of these forms). The root 'do' may be passivized with the two allomorphs of the non-SAP passive morpheme (*-ākiniw/-ikiniw*). I refer to these constructions as 'do'-passives. Throughout the corpus, Billy consistently uses the allomorph *-ikiniw* when his intention is to discuss the manner of the action ('how' questions and statements), and *-ākiniw* when his intention is to discuss the place of the action ('where' questions), though this may be coincidence. In session 2 of Stage I he uses a 'do'-passive inappropriately. The verb is correctly formed, but is ill-placed in the sentence structure. These facts indicate that, in Stage I the 'do'-passive construction may be used as “unanalyzed chunks” (cf. Pinker 1984; see Courtney & Saville-Troike 2002 for evidence of unanalyzed chunks in the acquisition in Quechua). In other words, these appear to be single-unit verbal forms for which the child has not yet mapped out a verb-internal morphological analysis. This analysis accounts for the fact that the verb itself is well-formed, but is wrongly used within a sentence.
(58) **Stage I — inappropriate use of 'do'-passive**

a. Billy:  
U-täh åhtut-ikiniwi-ch kiyipwâ.  
this-LOC do-PASSIVE.3-0.s of.course  
P,DEM,PCL-LOC ROOT.VTI-PASSIVE-CIN P,AFF  
'How you do this.'

Target: [o-ˈdæ] tot-ɛkanowi-tʃ kiba]  
Actual: [o-da:] dod-anuwi-tʃ kâ:]  

Translator comment: Correct verb composition but strange sentence structure.

(B3-2006-01-10#139)

b. Adult: Tàpà nichischâyimàu.  
'I don't know.'

Evidence that 'do'-passives are morphologically productive appears by the third session of Stage I (4;09), where a 'do'-passive appears in a declarative sentence, embedded in a relative clause. All previous 'do'-passives occur in _wh_-questions and have an identical morphological form (the form seen in example 58, above). Embedding the 'do'-passive requires the complementizer _kâh_, which appears in preverb position (Brittain 2001; Johansson 2011). I take this to be evidence that the 'do'-passive is no longer treated as an unanalyzed chunk by 4;09, though it is possible that analysis of this form occurs earlier.
(59) 'do'-PASSIVE IN A RELATIVE CLAUSE

Åy-iyiu        utâh       kâh     ihtut-ikiniwi-ch.
PRO, HES-OBV    here       PVB,CJ  do-PASSIVE.3-0.S

Umm, the thing that is done this way.

Target:      [’a-jo ’uda ka dod-ikanowi-tj]
Actual:      [a-jo wâda ga dâd-ajgane-jt]

(B3-2006-02-28#79)

5.4.1.3. Passive forms attested in Stage I

In this section I outline the various forms of passive utterances that are produced in Stage I, including their morphological form, the appearance of “additional” morphology, the person of the patient, whether the passivized verb is actional or non-actional, the morphological class and the inflectional order of the verb.

In noting the morphological form of passive utterances, recall that basic passives are taken to be “typical” passives; that is, all passives that are not conventionalized 'do'-passives or passives of morphological causatives. Passivized verb stems that include a medial or applicative morphology are also noted (60).

(60) MORPHOLOGICAL FORM OF PASSIVES — STAGE I

<table>
<thead>
<tr>
<th>STAGE</th>
<th>BASIC</th>
<th>PASSIVE OF CAUSATIVE</th>
<th>'DO'-PASSIVE</th>
<th>PASSIVIZED STEM WITH MEDIAL</th>
<th>PASSIVIZED STEM WITH APPLICATIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I</td>
<td>4/11 (36%)</td>
<td>1/11 (9%)</td>
<td>6/11 (55%)</td>
<td>0/11 (0%)</td>
<td>0/11 (0%)</td>
</tr>
<tr>
<td>(4;06 – 5;00)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

75
Recall that 'do'-passives are very rare in CDS (2/86, 2%). Billy's speech in Stage I differs significantly from adult speech in this regard.

What I refer to as “additional morphology” includes obviative marking, plural marking (agreeing with an inanimate plural derived subject), locative phrases, and overt patient NPs, meaning that the patient argument is present as an independent lexical item, rather than a person clitic or agreement on the verbal complex.

(61) **ADDITIONAL MORPHOLOGY ON PASSIVES – STAGE I**

<table>
<thead>
<tr>
<th>STAGE</th>
<th>OBVIATIVE MARKING</th>
<th>PLURAL MARKING</th>
<th>LOCATIVE PHRASE</th>
<th>OVERT PATIENT NP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I</td>
<td>1/11 (9%)</td>
<td>2/11 (18%)</td>
<td>1/11 (9%)</td>
<td>1/11 (9%)</td>
</tr>
<tr>
<td>(4:06 – 5:00)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Both the locative phrase and the overt patient NP are found in the same example, but both are in English. Billy corrects himself after this utterance, repeating the locative phrase in Cree.³⁹ Note that this example is also marked for plural. While none of our English-speaking transcribers heard this in either the target or actual utterances, its presence has been confirmed by a Cree consultant.

³⁹ For a discussion of code-switching in the CCLAS corpus, refer to Pile (in prep).
(62) **OVERT PATIENT NP AND LOCATIVE PHRASE – STAGE I**


   Eng EMPH PAST release-by.hand-PASSIVE.3-3-0.PL Eng Eng

   N P,DISC PVN ROOT-VTR.VBPASSIVE-IIN-IIN POSS.PRON.1 N

   'Drops were put in my eye.'

   Target: [dzaps waJ gα-bits-n-igən-o- m aj]

   Actual: [dzaps aʃ tigə-bits-d-igənano-o.dm aj]

   (B3-2006-02-28#599)

b. Nishchishkuhch.

   'In my eye.'

Most of the passive utterances in Stage I are non-SAP forms, with the exception of one utterance in the first session. This is another way in which Billy's speech in Stage I differs from CDS, where SAP passives constitute one third of passive productions. (63).

(63) **PERSON OF DERIVED PATIENT SUBJECT – STAGE I**

<table>
<thead>
<tr>
<th>STAGE</th>
<th>SAP (1st OR 2nd PERSON)</th>
<th>NON-SAP (3rd PERSON)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I</td>
<td>1/11 (9%)</td>
<td>10/11 (91%)</td>
</tr>
</tbody>
</table>

| (4;06 – 5;00) |

Every passive verb in Stage I is a passive derived from an actional verb, which suggests that children learning Cree may exhibit a similar difficulty in the acquisition of non-actional passives as do children learning English (e.g., Maratsos et al. 1985) (64).
(64) **Actional vs. Non-actional verbs – Stage I**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Actional verb</th>
<th>Non-actional verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I (4:06 – 5:00)</td>
<td>11/11 (100%)</td>
<td>0/11 (0%)</td>
</tr>
</tbody>
</table>

Passive verbs in Billy’s speech are derived from transitive verbs throughout this stage, and are inflected in either the Independent Indicative Neutral (IIN) or Conjunct Indicative Neutral (CIN) orders (65). 40

(65) **Morphological class and inflectional order of passive verbs – Stage I**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Transitive Inanimate verb (VTI)</th>
<th>Transitive Animate verb (VTA)</th>
<th>Ditransitive (VTA)</th>
<th>Independent order (IIN)</th>
<th>Conjunct order (CIN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I (4:06 – 5:00)</td>
<td>9/11 (82%)</td>
<td>2/11 (18%)</td>
<td>0/11 (0%)</td>
<td>2/11 (18%)</td>
<td>9/11 (82%)</td>
</tr>
</tbody>
</table>

The high number of TI verbs and Conjunct order inflection can be explained by the fact that Billy relies on 'do'-passives in this stage, which are derived from TI verb stems. As these utterances are all wh-questions or embedded relative clauses, they are inflected in the Conjunct order (Brittain 2001). This is an important observation, as previous work on NEC acquisition has demonstrated that the Conjunct order is acquired later than the morphologically simpler Independent order (Terry 2010; Rose & Brittain 2011). In later stages Billy relies less on such forms and the TI and Conjunct numbers decrease, to more closely approximate CDS.

40 Some of the inflectional morphology is not produced in this stage. Of the 9 verbs that are inflected in the Conjunct order, the inflectional morphology is produced on 7 (7/9; 78%).
5.4.2. Stage II – Age 5;02 – 5;05

The second stage of Billy's passive utterances includes sessions 5-7, where Billy is aged 5;02 to 5;05. This Stage consists of 13 passive utterances, which can be found in Appendix I, Conversations 9-16. In this stage, we find evidence that Billy is acquiring the passive construction.

5.4.2.1. Evidence of the acquisition of the passive construction

The three sessions that make up Stage II of Billy's acquisition are filled with errors and self-corrections, as well as passive-active alternations.

One two occasions, Billy rephrases his passive utterances. In the first session of Stage II (session 5), Billy adjusts his morphological choice following the example of the adult interlocutor, changing his utterance from a passive utterance to an impersonal utterance. Billy's choice of the passive at the start of this interchange sparks a miscommunication that is clarified over the following utterances. Both the passive form and the impersonal form are grammatical, but there is a subtle change in the interpretation. In the passive utterance in (66a), the derived patient of the passive verb has a specific referent. In the impersonal utterance in (66c), the unspecified subject of the verb has a general referent. Note that the tense of Billy's utterance is also corrected from the past tense to the future tense, which is confirmed with the subjunctive utterance in (66d).
(66) Recasting of Passive Verb as Impersonal Verb – Stage II

   
   PAST measure-by.instrument-PASSIVE-3 P,EMPH
   PV B ROOT- VTL.VBZ-PASSIVE-IIN P,EMPH
   'It was paid.'

   Target: [dzi dEP-i-gë'no:- waj]
   Actual: [dzi tEP-hi-t ano:- waj]
   (B3-2006-07-26#265)

   
   PAST measure-by.instrument-DETRANS-IMPRS-3 P,QST
   PV B ROOT- VTL.VBZ-VAL.VBZ-IMPRS-IIN P,QST
   'Was it already paid?'

   Yes fut.3 measure-by.instrument-DETRANS-IMPERS-3 P,EMPH
   P,AFF PV B ROOT- VTL.VBZ-VAL.VBZ-IMPRS-IIN P,EMPH
   'Yes, it will be paid.'

   Target: [e'he? etfâkë tâp-i-d'z-ano: waj]
   Actual: [?ëhâ dzi dEP-hi-dz-ano aJ]
   (B3-2006-07-26#267)

d. Billy: Graduate-uyânâ.
   'When I graduate.'

e. Adult: Uh.
   'Oh!'
In the second instance of self-correction in Stage II, Billy produces the grammatical utterance 'It has already been seen' with reference to some toys that he is being asked about. The caregiver asks for clarification, and he changes his utterance to 'It has already been thrown out.' The difference between the two utterances is in the verbalizer morpheme: they are otherwise phonologically identical verb stems with homophonous roots.  

Billy's first utterance is the only grammatical passive of a non-actional verb in the corpus of Billy's speech (67a), but I interpret it as a speech error within the context of this exchange. Assuming this interpretation is correct, Billy produces no non-actional verbs, despite the fact that one third of passive verbs in CDS are passives of non-actional verbs.

(67)  ERROR IN VERBALIZER SELECTION — STAGE II  

   already PAST light-by.head-PASSIVE.3-3  
   P,T,M E PVB ROOT-VTI.VBZ-PASSIVE-IIN  
   'It's already been seen.'  

   Target: [ˈfaʃ dʒi wap-ʰ-t-ikʰən-o]  
   Actual: [ha dʒi japˈt-əgin-əpˈ]  
   (B3-2006-10-14#445)

b. Adult: Chichih iyân â mân.  
   'Did you have one before?'

41 The entirety of this interchange can be found in Conversation 12, §6.2 of Appendix I
There is one instance of confusion that goes uncorrected in Stage II, as shown below in (68).

(68) **Confusion between inverse and passive**

a. Billy's Utterance

Susie áh iht-á-t ni-chih it-ikiwi-n n-ikawi.

Susie PVB,CJ be-val.VBZ-3.S 1-PAST tell-PASSIVE.1/2-1/2 1-mother

N PVB,CJ ROOT-val.VBZ-CIN 1-PVB ROOT-PASSIVE-IIN 1-NAD

'Susie's place, s/he told me, my mother.'

Target: [(name) a-jtʰ-ah-t ñ-ìf ñ-it-uκu-n n-ikawi]

Actual: [(name) o-jt-a-t ni-tsta n-ìf-it-àku-n n-ikawi]

(B3-2006-11-06#628)
In (68a), Billy produces something between a transitive inverse verb and a passive verb, resulting in a passive verb that appears to have a by-phrase. (Simply put, in this example the inverse morpheme indicates that the third person “my mother” is the subject and the first person is the object. See §6.7.4.2.3 for more discussion of inverse morphology in Billy's speech.) In primary analysis (translation), Luci Bobbish-Salt noted that it should have been an inverse, as constructed in (68b). During secondary analysis, she commented that the noun 'mother' in his actual utterance appears to be an afterthought, as shown in the translations of (68a). Note that the SAP passive (-ikiwi) and inverse morphemes (-ikw) are very similar.

Perhaps the best evidence that Billy understands the passive construction is his ability to form a passive verb from an active verb produced by the interlocutor. This demonstrates his understanding of the relationship between active and passive verbs (69).
(69) **Active-Passive Alternation**

a. Adult: Châ **nikwâ-t-â-yin** kiyipwâ pîsim.
   
   FUT snare-VTA.VBZ-DIR-2.S of.cour e sun
   
   PVB,CJ ROOT-VTA.VBZ-PASSIVE.CIN P,AFF NA
   
   'You will catch the sun with your snare.'

b. Adult: Akwâtitân ū, châ nikwâtâyin kiyipwâ pîsim.
   
   'I said, “You will catch the sun with your snare”.'

c. Billy: Châkwân an “âh **nikwâ-t-âkinowi-t**.”
   
   what that PVB,CJ snare-VTA.VBZ-PASSIVE.3-3.S
   
   PRO,WH P,DEM,DST PVB,CJ ROOT-VTA.VBZ-PASSIVE.CIN
   
   'What is the meaning of “âh nikwâtâkinowiit (it was snared)”?'

   Target: ['dţagwan an a nage-t-agano-ib]
   
   Actual: [tţagân _ a ga-b-egamâ-ôf]

   (2006-10-14#517)

5.4.2.2. Passive forms attested in Stage II

In this section, I present the various morphological forms of Billy’s passive utterances in Stage II, in comparison with the forms attested in Stage I, beginning with the morphological forms of the passive utterances, followed by “additional” morphology, the person of the patient, actional and non-actional verbs, and the morphological class and order of the passivized verb.

Unlike Stage I, no passives of causative verbs are attested in Stage II (70).

---

42 This utterance is a reference to a traditional Cree story in which the hero Chakapash snares the sun.
On the other hand, as Billy's dependence on 'do'-passives decreases, we see an increase in the number of basic passives in Stage II.

Additional morphology is rare in both Stage I and Stage II.

The only first person passive utterance in Stage II is the problematic inverse-passive example discussed above in (68). This is very similar to Stage I, in which the vast majority of passive utterances are in the third person (72).
(72) **Person of derived patient subject – Stage II**

<table>
<thead>
<tr>
<th>Stage</th>
<th>SAP (1st or 2nd person)</th>
<th>Non-SAP (3rd person)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I (4;06 – 5;00)</td>
<td>1/11 (9%)</td>
<td>10/11 (91%)</td>
</tr>
<tr>
<td>Stage II (5;02 – 5;05)</td>
<td>1/13 (8%)</td>
<td>12/13 (92%)</td>
</tr>
</tbody>
</table>

There is a single non-actional passive in Stage II, but as discussed above (67a and the surrounding discussion) it appears to have been spoken in error (73).

(73) **Actional vs. Non-actional verbs – Stage II**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Actional verb</th>
<th>Non-actional verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I (4;06 – 5;00)</td>
<td>11/11 (100%)</td>
<td>0/11 (0%)</td>
</tr>
<tr>
<td>Stage II (5;02 – 5;05)</td>
<td>12/13 (92%)</td>
<td>1/13 (8%)</td>
</tr>
</tbody>
</table>

In both Stage I and Stage II, Transitive Inanimate verbs are passivized by Billy most frequently. This also accounts for the high numbers of non-SAP passives, as VTI passives are third person by necessity. In Stage II, however, there is an increase in the number of passives in the Independent Order. This coincides with an increase in basic passives, which are more likely to be in the Independent order than, for example, 'do'-passives, which are typically Conjunct order.
Inflectional morphology is always produced in Stage II, which marks an improvement over Stage I.

5.4.3. Stage III – Age 5;10

Stage III is made up of the final two sessions of Billy's speech, sessions 9 and 10, and includes 11 passive verbs. The passive utterances in this stage can be found in Appendix I, Conversations 17-25. Stage III marks a notable improvement in Billy's passive utterances. In this session we find passives of a wider range of verbs, including those with applicative morphology and morphological causatives. We also find a number of SAP passives, and passives with medials. More patient NPs are in evidence in this session as well.

5.4.3.1. Passive forms attested in Stage III

In this section, I present examples of Billy's passives in Stage III, together with comparisons against Stages I and II. I show that his understanding of passive constructions develops significantly in Stage III.
To begin with, there are two passives of morphological causatives, using two different causative morphemes. Note an additional complexity in (75a), where the relative root (is-) of the verb refers to the English phrase *up and down*.

(75) **Passives of Causative Verbs — Stage III**

a. Àukw â an up and down âh is-piyi-hå-å-kiniwi-ch.
   Target: [aw a n âp an taw a js-pi-hå-å-kanow-§]
   Actual: [awga n ab ã dند awis-pi-tå-å-gåno-§]
   (B3-2007-03-19 #617)

b. Min kåh pim-å-piyi-hå-kiniwi-t Susie.
   again pVB,CJ move-dyn-caus-passive.3-3.s Susie
   'Then it was Susie's turn, Susie had a ride.'
   Lit. 'Then Susie was driven.'
   Target: ['min ga båm-bi-hå-gåno-t (name)]
   Actual: [min ga vîm-bi-å-hå-gåno-d (name)]
   (B3-2007-04-02 #62)

In addition, there are three passives that include classificatory medials, all of which involve the 'metal mineral' medial in the verb 'to videotape' (Vaughan 2010). One example
is given below in (76), followed by a summary of morphological forms in Stages I-III (78).

(76) **Passive with a medial - Stage III**

<table>
<thead>
<tr>
<th>Åukw</th>
<th>an</th>
<th>châ</th>
<th>misin-āpisk-ihw-åkiniwi-t</th>
</tr>
</thead>
</table>

that one that **FUT write-metal, mineral**-VTA.VBZ-PASSIVE.3-3.S

PRO, FOC P, DEM, DST PVB, CJ ROOT - MEDIAL - VTA.VBZ-PASSIVE-CIN

'It will be the one that is filmed.'

Target: [awkʷ an dża msn-ams'k-w-aganöw-t³]

Actual: [awg an dżə nbisn-ask-w-odnu-t³]

(B3-2007-04-02#303)

Also in this stage, Billy begins to use passives of verb stems with applicative morphology (derived ditransitives), as in the following examples. Recall that morphophonology obscures the applicative morpheme, but I have undone this process and have presented each morpheme, as discussed in §4.4.2.5. I include an example below in (77).
In Stage III, Billy uses every morphological form of the passive available to adult
speakers, in roughly equal distribution. This marks a notable development from Stage I,
where Billy was heavily reliant on 'do'-passes (78). A graph of Billy's use of
morphological forms is given in Figure 4.
In Stage III we find an increase in the number of overt patient NPs. One was given above in (75b), and another example with an inanimate patient NP is given below in (79). A summary across the three sections is given in (80).

(79) **OVERT PATIENT NP – STAGE III**

Misin-ápisk-ihw-ákiniu-u á iskítů utâh.

write-metal, mineral-VTA.VBZ-PASSIVE.3-3 P,QST **skidoo** here

ROOT-MEDIAL-VTA.VBZ-PASSIVE-IIIN P,QST **NA** P,DEM,LOCATION

'Is the skidoo going to be filmed like this?'

Target: [psn-áb’sk-w-ágøn-o a skidu 'ult']

Actual: [ipzn-ápsk-á-agøn-ol a sgido ídæ]

(B3-2007-04-02#304)
Thus we see that use of patient NPs rises, albeit not significantly, in Stage III. This is likely due to the fact that patient NPs are uncommon in Cree passive constructions, given the availability of pronominal clitics and cross-referencing.

Billy forms SAP passives more frequently in Stage III than in Stages I and II.

(81) SAP passives — Stage III

a. Ni-chih wiht-im-iw-ikiwi-n apishish late
   1-PAST tell-by.head-APPL-I-APPL PASSIVE-1/2-1/2 little Eng
   1-PVB ROOT-VTA.VBZ-APPL-APPL PASSIVE-1N P,QUANT ADV
   ãh kiwishim-u-ch.
   PVB,CJ go.to.bed-VAJ.VBZ-3.PL
   PVB,CJ ROOT-VAJ.VBZ-CIN

'I was told they go to bed a little too late.'

Target: [n-ʧi wiht-im-a-kow-n ipif lejt a kowjim-tfʧ]
Actual: [on-dʒidʒi wet-em-a-gu-n ipif ledaj a gaʃum-tʧ]

(B3-2007-03-19#372)
b. **Ni-chih misinâpiski-hu-kiwi-n** wash shâsh.
   1-PAST videorecord-by.instrument-PASSIVE.1/2-1/2 EMPH already
   1-PVB ROOT-VAL.VBZ-PASSIVE-II N P,DISC P,TIME

'I was already videotaped. / I already had my picture taken.'

Target: \[n-\text{ʃ}i \text{msnapsk-u-ku-n \ eʃ} \text{ʃ}a\text{ʃ}]\nActual: \[\text{ʃ}e\text{ʃ} \text{msnâpsk-o-ko-n aʃ aʃ} \text{ʃ}a\text{ʃ}a\text{ʃ}a\text{ʃ}]\n
(B3-2007-03-19#582)

Example (81a) is the second utterance in a series, the completion of the previous utterance 'I was told a little about...', which is given in (77). A comparison of SAP forms in Stages I-III is given in (82).

<table>
<thead>
<tr>
<th>Stage</th>
<th>SAP (1\textsuperscript{st} or 2\textsuperscript{nd} Person)</th>
<th>Non-SAP (3\textsuperscript{rd} Person)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I</td>
<td>1/11 (9%)</td>
<td>10/11 (91%)</td>
</tr>
<tr>
<td>(4;06 – 5;00)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage II</td>
<td>1/13 (8%)</td>
<td>12/13 (92%)</td>
</tr>
<tr>
<td>(5;02 – 5;05)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage III</td>
<td>3/11 (27%)</td>
<td>8/11 (73%)</td>
</tr>
<tr>
<td>(5;10)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Despite the developments in his speech by Stage III, Billy is still not producing passives formed from non-actional verbs. The data for all three Stages is given in (83).
Stage III is the first time that the majority of passive verbs are Transitive Animate verbs, and inflected in the Independent order. This stage also marks the first use of ditransitive stems in passive constructions. I take this to be evidence that Billy's linguistic abilities are increasing. For instance, Billy relies less and less on conventionalized 'do'-passives, producing only one in this session. Recall that 'do'-passives are formed from TI stems and inflected in the Conjunct order in every recorded use. As Billy produces only one 'do'-passive expression in Stage III, his speech begins to resemble CDS, where the majority of passive verbs are formed from VTA stems and roughly half of verbs are inflected in the Conjunct order (84). A graph of Billy's use of morphological verb classes in passive utterances is given in Figure 5, and a graph of his use of inflectional orders is given in Figure 6.
### (84) Morphological Class and Inflectional Order of Passive Verbs – Stage I-III

<table>
<thead>
<tr>
<th>Stage</th>
<th>Transitive Inanimate Verb (VTI)</th>
<th>Transitive Animate Verb (VTA)</th>
<th>Ditransitive (VTA)</th>
<th>Independent Order (IIIN)</th>
<th>Conjunct Order (CIN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4;06 – 5;00)</td>
<td>9/11 (82%)</td>
<td>2/11 (18%)</td>
<td>0/11 (0%)</td>
<td>2/11 (18%)</td>
<td>9/11 (82%)</td>
</tr>
<tr>
<td>Stage II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(5;02 – 5;05)</td>
<td>8/13 (62%)</td>
<td>5/13 (38%)</td>
<td>0/13 (0%)</td>
<td>6/13 (46%)</td>
<td>7/13 (54%)</td>
</tr>
<tr>
<td>Stage III</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(5;10)</td>
<td>4/11 (36%)</td>
<td>5/11 (45%)</td>
<td>2/11 (18%)</td>
<td>6/11 (55%)</td>
<td>5/11 (45%)</td>
</tr>
</tbody>
</table>

#### Morphological Class of Passivized Verbs as Percent of Utterances

![Diagram showing the morphological class of passivized verbs as percent of utterances for stages I, II, and III.]

Figure 5: Morphological class of passives
5.4.4. Comparison to CDS

In the above section I have shown the development of Billy's passive productions up to Stage III, which is the most adult-like of the three stages. In this section, I compare Billy's productions in Stages I - III (4;06 - 5;10) to his caregiver's productions. This section requires adopting the assumption that CDS approximates conversational Cree, which is not necessarily true. What we will see is that Billy's speech has developed significantly, and that his acquisition of the passive construction is comprehensive but by no means complete.

Consider morphological forms of the passive in Billy's speech as compared to CDS.
By Stage III, Billy shows an adult-like ability to use all of the recorded forms of the passive that occur in CDS. In this regard, Billy’s acquisition is very advanced, though the percentages of his usage of various forms in Stage III are influenced by the small sample size and do not approximate usage of various forms in CDS.

With respect to the possible morphological complexity of passive utterances, Billy does not produce the same variety of morphology as his caregiver. As this morphology is optional, I present Billy’s speech as a percentage of his total utterances, as I have done for CDS. While he shows knowledge of obviative marking, plural marking, locative phrases and patient NPs, we have no evidence that he is aware of habitual or subjunctive mood marking on passives, diminutive morphology, or adverbial preverbs. Note, however, that this morphology may appear elsewhere in Billy’s speech, only not yet on passives (86).
(86) **ADDITIONAL MORPHOLOGY ON PASSIVES – BILLY’S AND CDS**

<table>
<thead>
<tr>
<th>SPEAKER</th>
<th>OBVIATIVE MARKING</th>
<th>PLURAL MARKING</th>
<th>LOCATIVE PHRASE</th>
<th>OVERT PATIENT NP</th>
<th>HABITUAL MARKING</th>
<th>DIMINUTIVE</th>
<th>SUBJUNCTIVE</th>
<th>ADVERBIAL PREVERB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Billy Stage I (4;06 – 5;00)</td>
<td>1/11 (9%)</td>
<td>2/11 (18%)</td>
<td>1/11 (9%)</td>
<td>1/11 (9%)</td>
<td>0/11 (0%)</td>
<td>0/11 (0%)</td>
<td>0/11 (0%)</td>
<td>0/11 (0%)</td>
</tr>
<tr>
<td>Billy Stage II (5;02–5;05)</td>
<td>1/13 (8%)</td>
<td>0/13 (0%)</td>
<td>0/13 (0%)</td>
<td>0/13 (0%)</td>
<td>0/13 (0%)</td>
<td>0/13 (0%)</td>
<td>0/13 (0%)</td>
<td>0/13 (0%)</td>
</tr>
<tr>
<td>Billy Stage III (5;10)</td>
<td>0/11 (0%)</td>
<td>1/11 (9%)</td>
<td>0/11 (0%)</td>
<td>5/11 (45%)</td>
<td>0/11 (0%)</td>
<td>0/11 (0%)</td>
<td>0/11 (0%)</td>
<td>0/11 (0%)</td>
</tr>
<tr>
<td>CDS</td>
<td>3/86 (4%)</td>
<td>16/86 (19%)</td>
<td>1/86 (1%)</td>
<td>9/86 (11%)</td>
<td>1/86 (1%)</td>
<td>2/86 (2%)</td>
<td>3/86 (4%)</td>
<td>3/86 (4%)</td>
</tr>
</tbody>
</table>

While SAP forms appear to be difficult to acquire, Billy's passive utterances approximate his caregiver's by Stage III. Note, however, that Billy repeats an SAP utterance twice in Stage III (see the discussion surrounding example (81a) and Appendix I, Conversation 20). Thus, his acquisition of SAP passives may not be as comprehensive as they appear to be, based on these numbers (87).
(87) **PERSON OF DERIVED PATIENT SUBJECT — BILLY’S AND CDS**

<table>
<thead>
<tr>
<th>SPEAKER</th>
<th>SAP (1st OR 2nd PERSON)</th>
<th>Non-SAP (3rd PERSON)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Billy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage I (4;06 – 5;00)</td>
<td>1/11 (9%)</td>
<td>10/11 (91%)</td>
</tr>
<tr>
<td>Billy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage II (5;02 – 5;05)</td>
<td>1/13 (8%)</td>
<td>12/13 (92%)</td>
</tr>
<tr>
<td>Billy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage III (5;10)</td>
<td>3/11 (27%)</td>
<td>8/11 (73%)</td>
</tr>
<tr>
<td>CDS</td>
<td>28/86 (33%)</td>
<td>58/86 (67%)</td>
</tr>
</tbody>
</table>

Throughout the corpus, Billy produces no non-actional passives in an adult-like way (recall that the one non-actional passive in the corpus is self-corrected and appears to be a mistake, as in §5.4.2.1). It seems that he has yet to acquire an understanding of this type of passive verb, and in this regard his speech is not adult-like (88).

(88) **ACTIONAL VS. NON-ACTIONAL VERBS — BILLY’S AND CDS**

<table>
<thead>
<tr>
<th>SPEAKER</th>
<th>Actional Verb</th>
<th>Non-actional Verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Billy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage I (4;06 – 5;00)</td>
<td>11/11 (100%)</td>
<td>0/11 (0%)</td>
</tr>
<tr>
<td>Billy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage II (5;02 – 5;05)</td>
<td>12/13 (92%)</td>
<td>1/13 (8%)</td>
</tr>
<tr>
<td>Billy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(5;10)</td>
<td>11/11 (100%)</td>
<td>0/11 (0%)</td>
</tr>
<tr>
<td>CDS</td>
<td>60/86 (70%)</td>
<td>26/86 (30%)</td>
</tr>
</tbody>
</table>

Billy's reliance on 'do'-passives initially biased the distribution of morphological verb classes in his passive utterances to VTI stems. This is unlike adult speech, in which
VTA stems predominate. By Stage III, Billy's speech is adult-like in that the majority of his passive utterances are derived from VTA stems (transitive and ditransitive). However, note that Billy's speech is unlike adult speech in that he produces no passives of transitive AI verbs. This suggests that passives of morphologically intransitive verbs are more difficult to acquire than passives of transitive verbs. An interesting question for future research will be how Billy acquires the difference between passives of transitive AI verbs, which have a patient subject, and passives of AI+Adjunct verbs, which have a generic human agent subject (89).

(89) **MORPHOLOGICAL CLASS OF PASSIVE VERBS – BILLY’S AND CDS**

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Transitive Inanimate Verb (VTI)</th>
<th>Transitive Animate Verb (VTA)</th>
<th>Transitive AI Verb (VAI)</th>
<th>Ditransitive VTA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Billy Stage I</td>
<td>9/11 (82%)</td>
<td>2/11 (18%)</td>
<td>0/11 (0%)</td>
<td>0/11 (0%)</td>
</tr>
<tr>
<td>(4;06 – 5;02)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Billy Stage II</td>
<td>8/13 (62%)</td>
<td>5/13 (38%)</td>
<td>0/13 (0%)</td>
<td>0/13 (0%)</td>
</tr>
<tr>
<td>(5;02 – 5;05)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Billy Stage III</td>
<td>4/11 (36%)</td>
<td>5/11 (45%)</td>
<td>0/11 (0%)</td>
<td>2/11 (18%)</td>
</tr>
<tr>
<td>(5;10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDS</td>
<td>27/86 (31%)</td>
<td>39/86 (45%)</td>
<td>6/86 (7%)</td>
<td>14/86 (16%)</td>
</tr>
</tbody>
</table>

Billy was exposed to passive verbs bearing dubitative preterit inflection in 5% of the utterances he heard. Throughout the corpus of his speech, he only produces passive verbs bearing indicative neutral inflection. Despite an early predominance of Conjunct
order inflection, due to his reliance on 'do'-passives, his usage of the Independent and Conjunct orders develops to a point where it is roughly similar to usage in CDS (90).

(90) **Inflectional order of passive verbs – Billy’s and CDS**

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Independent Indicative Neutral (IIN)</th>
<th>Conjunct Indicative Neutral (CIN)</th>
<th>Independent Dubitative Preterit (IDP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Billy Stage I (4;06 – 5;00)</td>
<td>2/11 (18%)</td>
<td>9/11 (82%)</td>
<td>0/11 (0%)</td>
</tr>
<tr>
<td>Billy Stage II (5;02 – 5;05)</td>
<td>6/13 (46%)</td>
<td>7/13 (54%)</td>
<td>0/13 (0%)</td>
</tr>
<tr>
<td>Billy Stage III (5;10)</td>
<td>6/11 (55%)</td>
<td>5/11 (45%)</td>
<td>0/11 (0%)</td>
</tr>
<tr>
<td>CDS</td>
<td>36/86 (42%)</td>
<td>46/86 (54%)</td>
<td>4/86 (5%)</td>
</tr>
</tbody>
</table>

5.4.5. Summary

What I have shown in this section is that Billy's acquisition of the passive develops over three Stages. In Stage I it is difficult to pinpoint how much he knows about passive constructions, though it seems clear that he has acquired the passive morpheme. In Stage II there is evidence that he is starting to understand the function of the passive morpheme, and make mistakes in his verbal composition and self-corrects. In Stage III Billy shows a much wider range of constructions, with more complex passive verbs, such as derived ditransitive verbs and morphological causatives. He shows a marked improvement from Stages I and II. However, Billy appears to have difficulty acquiring passives of non-actional verbs. Even so, his speech closely resembles CDS, though with a slight reduction in morphological complexity and inflectional variety.
5.5. Discussion

Billy's linguistic development is similar to development in some other non-Indo-European languages in that the speed with which he develops a sophisticated understanding of the passive construction is remarkable. He is exposed to a very high rate of passive utterances in CDS, which is a factor that helps to explain this fact.

One surprising aspect of Billy's acquisition of passives is that SAP passives appear later than non-SAP passives. This is unlike Zulu acquisition, where Suzman found that children produced first person adversative passives first (Suzman 1985). I believe that a likely explanation for this pattern has to do with two factors: (i) the increased morphological complexity of TA passive verbs in Cree, and (ii) the conventionalized use of the 'do'-passive, which is a non-SAP form.

Recall that Transitive Animate passives require the selection of an allomorph based on the person of the derived subject (SAP vs. non-SAP), which adds a layer of complexity to the acquisition of these forms. Furthermore, TA verbal stems in the active voice are more complex than other verbal stems because the projection of two animate arguments requires the direct/inverse system, so it is possible that Billy acquires TA verbs, both active and passive, later than TI verbs (cf. Allen & Crago 1996 on Inuktitut inflections). This is an interesting question for future work. It is significant that these passives appear late, given that they constitute the majority of the passives in the CDS.

Note also that Billy relies on 'do'-passives in his first passive utterances ('How do you do this?'). This is a non-SAP passive of a Transitive Inanimate verb in Cree, inflected in the Conjunct order. This is a highly useful phrase for a child learner. I speculate that
Billy first acquired the 'do'-passive as an unanalyzed chunk, and find some supportive evidence for this hypothesis in the corpus. This is an important observation, since Conjunct order is argued to be more complicated for the Cree learner (Terry 2010, Rose & Brittain 2011). Billy's passives are inflected in the Conjunct order to a very high degree in the first stage, because of his reliance on 'do'-passives. Unfortunately, the corpus of Billy's speech does not start early enough (4;06), and the corpus of the younger speaker Ani's speech does not continue late enough (3;08) to test whether 'do'-passives are in fact used by children to begin analysis the passive system, so I must leave this question to future researchers investigating the speech development of Cree children. The idea that Cree children first acquire basic linguistic systems and use them to begin to analyze more complex linguistic constructions is not new: this same pattern has been found in Ani's acquisition of the NEC metrical system (Swain 2008) and intransitive inflectional morphology (Terry 2010; for an overview of Ani's acquisition see Rose & Brittain 2011).

Billy does not produce passivized non-actional verbs. This resembles findings for Inuktitut (Allen & Crago 1996), but not for Quiche and Sesotho (Pye & Quixtan Poz 1988; Kline & Demuth 2010). Only one non-actional passive was produced (1/35; 3%), and it appears to be a mistake, as Billy self-corRECTs his utterance to an actional verb. More data is needed to really assess the acquisition of non-actional passives in Cree.

Overall, Billy's acquisition of the passive construction shows a U-shaped development pattern (e.g., Marcus et al. 1992), contra the Maturation Hypothesis (Borer

43 Note that recordings of Ani continue until 4:03, but no recordings have been translated or processed past 3:08.
& Wexler 1987). In Stage I (4;06 – 5;00), his use of passive morphology is productive, and his passive utterances are relatively error-free, though the majority of his passive utterances are 'do'-passives. Furthermore, we see no evidence that he has acquired the syntax of the passive. Thus, at this stage he has acquired passive morphology and passive words, but not passive grammar. In Stage II (5;02 – 5;05) there is evidence that he engages in an analysis of the syntax of the passive system, and during this stage he shows an understanding of the relationship between passive and active verb forms. This is the stage in which he produces the most errors. By Stage III there is a noticeable increase in the complexity of his passive utterances, which are in many respects adult-like, suggesting that by 5;10 he has acquired the syntax of the passive.
Chapter 6 – The acquisition of unaccusativity

6.1. Introduction

The purpose of this chapter is to investigate Billy's acquisition of unaccusativity in the subset of intransitive verbs. I begin by reviewing unaccusativity from a theoretical perspective in §6.2, then I give an overview of the literature on the acquisition of unaccusativity in §6.3. In §6.4 I introduce the subset of verbs of interest in Billy's speech, that is the set of -piyi verbs. I discuss the methodology with which I investigate this set of verbs in §6.5. In §6.6 I consider -piyi verbs in CDS, and in §6.7 I present an analysis of these verbs in Billy's speech. I conclude in §6.8 with a discussion.

6.2. Overview of unaccusativity

The theory of unaccusativity seeks to explain cross-linguistic differences in the syntactic behaviour of intransitive verbs by positing two classes of intransitive verbs that differ in their underlying syntactic representations. In the Minimalist terminology, the argument of an unergative verb is merged in subject position, while the argument of an unaccusative verb merged in object position. A simplified schematization is provided below in (91).

(91) Structure of intransitive verbs
   a. Unergative: NP [vp V]
   b. Unaccusative: [vp V NP/CP]

   (Levin & Rappaport Hovav 1995:3, ex.1)
These ideas were first formulated by Perlmutter as the Unaccusative Hypothesis (Perlmutter 1978; see also, for example, Chomsky 1981; Burzio 1986). Perlmutter observed that semantic sub-classes share syntactic behaviour, for example that change of state verbs are unaccusatives. This has been confirmed in a number of other languages.

In GB terms, the underlying object of an unaccusative verb raises to subject position to get Nominative case, forming an A-chain, while the subject of an unergative verb is base-generated in subject position. These two types of verbs form causatives in different ways. Unaccusative verbs with related transitive verbs enter into the causative-inchoative alternation (Levin 1993:27), whereas unergative verbs do not alternate (92).

(92) **CAUSATIVE-INCHOATIVE ALTERNATION**

a. **UNACCUSATIVE (ALTERNATES)**
   i. The cup broke  \textit{INCHOATIVE}
   ii. Janet broke the cup  \textit{CAUSATIVE}

   (Levin 1993:29, ex.12)

b. **UNERGATIVE (DOES NOT ALTERNATE)**
   i. The doll giggled  \textit{UNERGATIVE}
   ii. *Peter giggled the doll  \textit{*TRANSITIVE CAUSATIVE}
   iii. Peter made the doll giggle  \textit{PERIPHRASTIC CAUSATIVE}

   (Borer & Wexler 1987:159, ex. 44)

Within the Minimalist Program (Chomsky 1995), v-projections are understood to constitute phase boundaries, such that only the head and specifier(s) of the vP are

---

44 See §4.3.1 for more discussion of argument raising in GB.
available to syntactic functions higher in the derivation. Unaccusative verbs are understood to project a defective vP, which does not project an external argument, does not assign Accusative case, and does not constitute a phase boundary (Wexler 2004:168, ex. 19). In other words, the complement of VP is still available to the subject position (Spec-TP) for purposes of feature-checking (Agree), and case assignment.

(93) **Derivation of an Unaccusative Verb (Minimalist)**

The vase, T v V broke t.

Because both unergative and unaccusative verbs have the same superficial surface appearance, an intransitive verb with a single subject, unaccusative structures pose an acquisition problem, in terms of learnability. The challenge can be stated differently, depending on one's theoretical bent: (i) the acquisition of the mismatch between grammatical roles and thematic roles; (ii) the acquisition of structures requiring the formation of an A-chain; (iii) the acquisition of defective v-projections as opposed to full v-projections.

6.3. **Unaccusativity acquisition literature**

In this section, I provide a brief overview of the literature on the acquisition of unaccusativity. Much current work takes the Maturation Hypothesis (Borer & Wexler 1987) as a starting point. I restate the hypothesis here, as well as the Universal Phase Hypothesis (Wexler 2004), but refer the reader to §4.3.1 for an in-depth overview of the

---

45 See §4.3.1.1 for more on defective v-projections.
6.3.1. The Maturation Hypothesis and unaccusativity

The Maturation Hypothesis (Borer & Wexler 1987), which holds that children cannot form A-chains until around age 4;00, has implications for the acquisition of unaccusativity. Since unaccusative verbs require A-chain formation, children who lack the ability to form an A-chain are predicted to have difficulty acquiring unaccusativity.

The Maturation Hypothesis has been updated to incorporate current syntactic theory in a hypothesis known as the Universal Phase Hypothesis (UPH) (Wexler 2004), which holds that pre-mature children always understand v to be a phase boundary. Like passives, unaccusative verbs are understood to project a defective v which does not define a phase boundary. The inability to interpret a v-projection as defective (that is, as not constituting a phase boundary) would be an issue for children acquiring unaccusativity.

As children produce unaccusative verbs at a young age, Borer & Wexler (1992) propose the Unergative Misanalysis Hypothesis (UMH) to account for child speech.46

6.3.1.1. Unergative Misanalysis

A pre-mature child who is unable to form an A-chain or to interpret a v-projection as defective still undertakes an evaluation of language (Borer & Wexler 1987). The UMH holds that children presume all subjects to have been base-generated in subject position

46 Another potential misanalysis is the non-raising misanalysis, where children assume that the object of an unaccusative verb remains in situ. No evidence has been found to support this (Sano, Endo & Yamakoshi 2001).
(Borer & Wexler 1992). Thus, children will not structurally differentiate between verbs that enter into the causative-inchoative alternation (unaccusative) and verbs that do not (unergative). Since there will be no way for children to determine that only unaccusative verbs form lexical causatives, they may assume that any verb may do so. This accounts for the over-generalization of lexical causatives, as in *Peter giggled the doll, which is not uncommon in child English.

Results of experimental studies have yielded mixed results. Evidence in support of the UMH comes from the acquisition of Russian genitive-of-negation constructions (Babyonyshev et al. 2001) and Russian locative inversion constructions (Kallestino
ova 2007). Both studies found, through production tasks, that children have difficulty differentiating between unergative and unaccusative verbs, particularly around age three. Evidence against the UMH comes from two studies of Japanese acquisition, a study of “full” unaccusatives (unaccusatives with a by-phrase) (Sano, Endo, & Yamakoshi 2001), and a study of te-iru aspect constructions (Shimada & Sano 2007). Both of these studies found that children are able to comprehend structures requiring A-chains by age 3. As this thesis is not experimental in nature and the results I report do not bear on the UMH, I do not go into any further detail here, but I refer the interested reader to Appendix IV for a more detailed overview of these experimental studies.

47 Sano, Endo & Yamakoshi (2001) was later reanalyzed in favour of the Unergative Misanalysis Hypothesis by Machida, Miyagawa, & Wexler (2004).
48 Comprehension has been argued to precede production; see, for example, Clark (1993:246).
6.3.2. **Longitudinal studies of the acquisition of unaccusativity**

To the best of my knowledge, only one other longitudinal study of the acquisition of unaccusativity has been undertaken, of Inuktitut (Allen & Crago 1993).\(^{49}\) Though their classification of intransitive Inuktitut verbs into unergatives and unaccusatives is preliminary, they are able to demonstrate that children incorrectly form lexical causatives for both unergatives and those unaccusatives that do not enter into the causative-inchoative alternation, as in the following examples (94).

(94) **Causative overgeneralizations in Inuktitut\(^{50}\)**

a. **Unergative (3;05.15)\(^{50}\)**

?Niuvirialaulagit?

niuviq-giaq-lauq-lagit?

buy-begin-POL-IMP.1sS

'Want me to go buy you?'

Context: Suusi (speaker) is acting as a cashier in a pretend store

(Allen & Crago 1993:22, ex. 39b)

\(^{49}\) There is a study of the acquisition of change of state verbs in Quechua (Courtney 2002), which does not address unaccusativity directly. Rather, Courtney focuses on the acquisition of basically intransitive predicates (unaccusative, internally caused) as opposed to basically transitive predicates (externally caused). (See Levin & Rappaport Hovav 1995 for internal vs. external cause and cross-linguistic differences in the construal of event causation.) She finds that children initially analyze all change of state predicates as basically transitive, which she interprets as evidence that children first understand all change of state events to be externally caused. Thus, the difficulty for Quechua-speaking children is the acquisition of internal cause.

\(^{50}\) In this example I change Allen & Crago's (1993) glossing of -tit- from 'CSV' (causative mood) to 'caus' (causative derivational morphology), following the distinction drawn in Allen (1998).

110
b.  **UNACCUSATIVE (3;01.15)**  

<table>
<thead>
<tr>
<th>Corrected Utterance</th>
<th>Corrected Utterance</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>ljukkalagu?</em></td>
<td>Ijukkatillagu?</td>
</tr>
<tr>
<td>ijukka-lagu</td>
<td>ijukka-tit-lagu</td>
</tr>
<tr>
<td>fall-IMP.1sS.3sO</td>
<td>fall-CAUS-IMP.1sS.3sO</td>
</tr>
<tr>
<td>'Shall I fall it?'</td>
<td>'I will make it fall.'</td>
</tr>
</tbody>
</table>

Context: Suusi proposes pushing a stuffed animal down the stairs  
(Allen & Crago 1993:23, ex.41b)

Allen & Crago (1993) go on to demonstrate that this difficulty with unergatives and unaccusatives can be extended to transitivity alternations in a more general sense. They observe confusion between transitive and intransitive verbs, and difficulty with antipassive morphology, case-marking and verbal inflections. They propose that this difficulty does not arise because children lack the ability to form A-chains, but from the structure of Inuktitut grammar. As an ergative language, Inuktitut is typically analyzed as requiring NP movement in an overwhelming number of constructions (see, e.g., Johns 1992; Murasugi 1992). Children are consistently exposed to and producing constructions requiring A-chain formation. Therefore, it is not surprising that children do not exhibit a specific difficulty with the acquisition of unaccusativity, as they appear to be able to form A-chains from a very young age.

I will continue on to introduce my own study in the next sections, beginning with an overview of unaccusativity in NEC.
6.4. Unaccusativity in NEC: *pïyi*-derived verbs

Recall from Chapter 2 that Algonquian verbs are composed minimally of a root and a verbalizer. In this study I will focus on verbs derived by the verbalizer -*pïyi*. This set of verbs is of particular interest because the same verbalizer derives both unaccusative and unergative verbs, and both AI and II verbs (Brittain in press).

6.4.1. Previous discussions of -*pïyi*

Previous discussions of -*pïyi* in the literature have centred on the equivalent Plains Cree morpheme -*payi*. Wolfart (1973:71) attributes the meaning 'move' to the -*payi* verbalizer. Hirose (2003) analyzes *payi*-derived verbs as “dynamic” unaccusatives (e.g., inchoatives), and notes a subclass which denotes fast movement. He attributes the feature [dynamic] to the -*payi* verbalizer. Brittain (in press) and Johansson & Brittain (2012) provide a more detailed analysis of this verbalizer, for Naskapi and NEC respectively.

6.4.2. Classification of *pïyi*-derived verbs

*Pïyi*-derived verbs fall into three subclasses according to the semantics of the root morpheme. Johansson & Brittain (2012) propose the following classification (95).
The set of unaccusative -piyi verbs includes verbs whose argument is a patient, for example change of state verbs (pikupiyiu 'it breaks') and change of location verbs (wiyiwipiyiu 'it falls out').

Roots of vehicle verbs denote points of departure, arrival, or movement between two points and are thus considered to be “spatial” roots (Brittain in press). The verbs themselves are typically agentive manner of motion verbs, where the agent of the verb is the operator of a vehicle (e.g., boat, car, skidoo); no part of the morphology of the verb refers to a vehicle, but the use of a vehicle is entailed by the verb (âshuwipiyiu 's/he, it (anim) goes across by vehicle'). Certain of these verbs can be non-agentive, where the subject typically refers to the vehicle or engine itself (chîchhipiyiu 'it (engine) starts on its own'), though some refer to life events or time (winipiyiu 'events are going wrong').

Piyi-derived verbs of emission refer to events of substance, sound, or light emission (Substance: pishtâupiyiu 'it (anim) foams up'; Sound: shâshwâpîyiu 'it jingles'; Light: wâshtëpîyiu 'it lights up, flashes'). These are cross-linguistically non-agentive

---

51 The count is based on the Naskapi Lexicon (http://www.collectionscanada.gc.ca/naskapi). Naskapi verb forms were tested with a native NEC speaker who accepted all presented forms as NEC words. No dialectal differences between Naskapi and NEC were discovered with respect to piyi-derived words.

52 Note that verbs of smell emission are derived by a different verbalizer (NEC: -mâku) in CMN. This set of verbs is not investigated further in this thesis. However, this morphological difference does present an interesting puzzle, as verbs of emission are typically treated as a fairly homogeneous lexical-semantic
unergatives (Levin & Rappaport Hovav 1995), and have been demonstrated to be so in Blackfoot (Algonquian) (Johansson & Ritter in press).

Unlike most NEC verbalizers, -piyi can derive both AI and II verbs. In other words, the subject of a piyi-derived verb can be animate or inanimate, and the morphological form of the verb does not change, as demonstrated below in (96).

(96) **Piyi-derived verbs permit animate and inanimate subjects**

a. **Animate subjects**

| break-dyn-3 | arrow            | black-valvbz-3 | arrow          |
| root-vl.vbz-IIN | NA             | root-vl.vbz-IIN | NA            |

'The arrow (animate) is broken.'

b. **Inanimate subjects**

| Piku-piyi-u | wiyákin.        | Wiyip-á-u | wiyákin.        |
| break-dyn-3 | plate           | black-vh.vbz-3 | plate       |
| root-vl.vbz-IIN | NI             | root-vh.vbz-IIN | NI           |

'The plate (inanimate) is broken.'

'The plate (animate) is black.'

Thus, piyi-derived verbs may be AI or II verbs. While any piyi-derived verb can be AI/II, the permissible arguments differ across the three subclasses (97).
6.4.2.1. Agentive vs. non-agentive arguments

Unaccusative verbs, whose single argument is an affected entity (a patient), and verbs of emission, whose single argument is a non-agentive emitter, are not compatible with either agent-oriented adverbs or with purpose clauses. Agentive vehicle verbs are compatible with both. This is demonstrated below with examples from my fieldwork.

Johansson & Brittain (2012) provide empirical evidence to support the above classification. Their diagnostics and my fieldwork findings are outlined below.

(97) **Summary of *piyu*-derived verb classes (cf. Johansson & Brittain 2012)**

<table>
<thead>
<tr>
<th><em>piyu</em>-derived sub-class</th>
<th>Argument</th>
<th>Cree</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unaccusative</strong></td>
<td>Patient (AI/II)</td>
<td><em>pikupiyiu</em></td>
<td>It breaks</td>
</tr>
<tr>
<td><strong>Unergatives (vehicle)</strong></td>
<td>Agent (AI)</td>
<td><em>chihchipiyiu</em></td>
<td>S/he sets out by car or boat; the engine starts on its own</td>
</tr>
<tr>
<td></td>
<td>Non-agentive (AI/II)</td>
<td><em>tâpwâpiyiu</em></td>
<td>It makes a loud noise</td>
</tr>
</tbody>
</table>

Johansson & Brittain (2012) provide empirical evidence to support the above classification. Their diagnostics and my fieldwork findings are outlined below.

6.4.2.1. Agentive vs. non-agentive arguments

Unaccusative verbs, whose single argument is an affected entity (a patient), and verbs of emission, whose single argument is a non-agentive emitter, are not compatible with either agent-oriented adverbs or with purpose clauses. Agentive vehicle verbs are compatible with both. This is demonstrated below with examples from my fieldwork.

(98) **Agent-oriented adverbs only permissible with vehicle verbs**

a. **Unaccusative**

   (*Wish*)    Chwân    chîh    kwâtipi-piyi-u.
   (*deliberately*)    John    PAST    roll.over-DYN-3
   (*ADV*)    NA    PVB    ROOT-V1.VBZ-IIN

'John rolled over (*deliberately).'

115
b. VEHICLE VERB

Wisht chih wih pâ-pi-yi-u Chwân.
deliberately PAST DESID come-DYN-3 John

'John came over deliberately (e.g., in a motor boat).'

c. VERB OF EMISSION

*Wisht wihi shâshwâwâ-pi-yi-u âh nîm-i-t.
deliberately DESID jingle-DYN-3 PVB,CJ dance-VAI.VBZ-3.S

'*She deliberately makes the jingling sound while she dances.'

(99) PURPOSE CLAUSES ONLY PERMISSIBLE WITH VEHICLE VERBS

a. UNACCUSATIVE

Chwân chih kwâtipi-pi-yi-u *[âh wihi pâhp-i-h-i-t
John PAST roll-over-DYN-3 PVB,CJ DESID laugh-VAI.VBZ-CAUS-DIR-3.S

awâshish-h].

child-pl.

NA-PL

'John rolled over (unintentionally) *[to make the kids laugh].'

53 Jingle dancing is a cultural practice shared by many aboriginal communities in North America, including the Cree. It involves wearing a dress with rows of metal cones (tobacco lids) sewn on and dancing in such a way as to make the dress jingle. Jingle dancing is often part of dance competitions at powwow.
b. **VEHICLE VERB**

Chwan chihi pâ-pi-yi-u âh wîh wâp-iht-iw-â-t ut-út.

John PAST come-DYN-3 PVB,CJ DESID light-by.head-APPLIC-DIR-3.S 3-canoe

NA PVB ROOT-VL.VBZ-IIN PVB,CJ PVB ROOT=VTI.VBZ-APPLIC-THM-CIN 3-NI

'John came over (e.g., in a motor boat) to show her his canoe.'

c. **VERB OF EMISSION**

* Shâshwâwâ-pi-yi-u âh wîh pihkuht-â-t châkwâyi-u.

jingle-DYN-3 PVB,CJ DESID win-VAL.VBZ-3.S something

ROOT=VL.VBZ-IIN PVB,CJ PVB ROOT=VAL.VBZ-CIN PRO,INDEF

'*She jingles to win something (a prize).'</n
Lit. 'It is jingling to win something (a prize).'</n

This demonstrates that only vehicle verbs permit agentive external arguments, as summarized below in (100).

(100) **SUMMARY: SYNTACTIC CHARACTERIZATION OF PIY-DERIVED VERBS**

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>UNACCUSATIVE</th>
<th>UNERGATIVE (VEHICLE)</th>
<th>UNERGATIVE (EMISSION)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agentive argument</td>
<td>×</td>
<td>✓</td>
<td>×</td>
</tr>
</tbody>
</table>

6.4.2.2. **Internal causer arguments**

A shared characteristic of non-agentive external arguments is that the entity denoted by the subject has the inherent capacity to generate the event denoted by the verb. This has
been called “internal cause” by Levin & Rappaport Hovav (1995) and “teleological capacity” by Folli & Harley (2008). Consider the following English examples. In (101a), *the bell* denotes an entity that is capable of generating a chiming event. However, (101b) is strange because *John* does not denote an entity with the internal capacity to chime.

(101) **Internal cause**

a. The bell chimed.

b. *John chimed.

Internal cause is understood to be a category of causers that includes agents (Levin & Rappaport Hovav 1995). It is therefore associated with external arguments.

In the set of *piyi*-derived verbs, verbs of emission require that their argument be a non-sentient internal causer. In the case of the verb ‘whistle’, a kettle is an appropriate argument (102a), but lips are not, as lips are not in and of themselves capable of generating a whistling event (102b).

(102) **Arguments of verbs of emission are internal causers**

   whistle-DYN-3 kettle
   ROOT-V1.VBZ-IIN ni
   'The kettle is making a whistling sound.'
(103) Sentient emitters

a. Kuishkush-i-u Mirî.
whistle-DYN-3 Mary
ROOT-VL. VBZ-IIN NA
'Mary whistles.'

b. Mirî shâshwâwâ-piyyi-hu-u.
Mary jingle-DYN-MED,REFLX-3
NA ROOT-VL.VBZ-VL.VBZ-IIN
'Mary jingled (wearing a jingle dress or clothing with bells).'
Lit. 'Mary made herself jingle.'

( Johansson & Brittain 2012)

Vehicle verbs, while typically agentive manner of motion verbs, may also take internal causer subjects. My fieldwork suggests that internal causer interpretations are
available to most, if not all, vehicle verbs, as reported below (104).

(104) **Vehicle verbs with internal causers**

a. Shâsh chîh chihchi-pi yi-u ni-misinhiakin.
   already PAST leave-DYN-3 1-letter
   'My letter has left (e.g., in the post; by vehicle, by air).'

b. Awâsh tiskim-ipi yi-u.
   child straight.across-DYN-3
   'The baby crosses the water in a motor boat (e.g., the motor is what carries the non-agentive baby across).'

Verbs of emission and vehicle verbs thereby contrast with unaccusative verbs in that their non-sentient subjects are required to be internal causers (105).

(105) **Summary: Syntactic characterization of piyi-derived verbs**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Unaccusative</th>
<th>Unergative (Vehicle)</th>
<th>Unergative (Emission)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agentive argument</td>
<td>×</td>
<td>✓</td>
<td>×</td>
</tr>
<tr>
<td>Non-sentient subject = internal causer</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
6.4.2.3. Causative alternation

The causative-inchoative alternation is taken to be evidence that the subject of an unaccusative verb is an underlying object (Burzio 1986; Levin & Rappaport Hovav 1995, among others). Among piyi-derived verbs, only the unaccusative set enter into the causative-inchoative alternation. In the following examples, note that the verb root is derived by a transitive verbalizer to form the transitive verbs. This is akin to Hale & Keyser's (2002) “simple” or “automatic” transitivity alternation (106).

(106) CAUSATIVE-INCHOATIVE ALTERNATION: UNACCUSATIVE VERBS ONLY

<table>
<thead>
<tr>
<th>Intransitive</th>
<th>Transitive Alternant</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Piku-piyi-u.</td>
<td>Piku-n-im.</td>
</tr>
<tr>
<td>'It breaks.'</td>
<td>'S/he breaks it.'</td>
</tr>
<tr>
<td>b. Shāyuw-piyi-u.</td>
<td>Shāyuw-ishk-im.</td>
</tr>
<tr>
<td>'It opens up.'</td>
<td>'S/he opens it with her/his foot/body.'</td>
</tr>
</tbody>
</table>

In contrast to unaccusative verbs, neither vehicle verbs nor verbs of emission enter into the causative-inchoative alternation. Causative vehicle verbs or verbs of emission are derived from the intransitive -piyi verbs, by adding extra causative morphology. This is evidence that these verbs are unergative, and that their single argument is Merged in subject position; a causer is an additional external argument and requires additional layers of syntactic derivation to be Merged in the structure, signalled by the extra morphology.
(107) **Vehicle verbs and verbs of emission do not alternate**

<table>
<thead>
<tr>
<th>Intransitive</th>
<th>Transitive Alternant</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Chishi-piyi-u.</td>
<td>AI/II</td>
</tr>
<tr>
<td>'S/he goes fast (in a vehicle or on foot); it (vehicle) goes fast.'</td>
<td></td>
</tr>
<tr>
<td>b. Kuishkushi-piyi-u.</td>
<td>II</td>
</tr>
<tr>
<td>'It whistles.'</td>
<td></td>
</tr>
</tbody>
</table>

(Johansson & Brittain 2012)

(108) **Derived causative vehicle verbs and verbs of emission (secondary derivation)**

<table>
<thead>
<tr>
<th>a. Chisi-piyi-htá-u.</th>
<th>fast-DYN-CAUS-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>'S/he drives it fast.'</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>'The boy makes the train whistle.'</td>
<td></td>
</tr>
</tbody>
</table>

(Johansson & Brittain 2012)

Johansson & Brittain (2012) conclude that subjects of unaccusative verbs are Merged in internal argument position, but subjects of vehicle verbs and verbs of emission are

Merged in external argument position (109).54

54 The behaviour of the three classes is different, but the notion of “internal cause” allows for the unification of vehicle and emission verbs. Levin & Rappaport Hovav (1995:91) propose that internal cause subsumes agentivity. I assume this definition of internal cause, and conclude that arguments of unergative verbs are merged in subject position and have the properties of internal causers.
**Summary: Syntactic Characterization of *piyi*-Derived Verbs**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Unaccusative</th>
<th>Unergative (Vehicle)</th>
<th>Unergative (Emission)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agentive argument</td>
<td>×</td>
<td>✓</td>
<td>×</td>
</tr>
<tr>
<td>Non-sentient subject = internal causer</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Subject = external argument</td>
<td>×</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

### 6.4.2.4. Medio-reflexives

Johansson & Brittain (2012) do not focus on medio-reflexive morphology in their study of *piyi*-derived verbs. Medio-reflexive morphology consists of a transitivizer -h and an AI verbalizer -u, which seems to detransitivize the verb. The resulting verb is an AI verb, but the morphology adds some sense of agentivity (110). For example, in (110a) the source of the motion is the engine of the vehicle. However, in (110b) the source of the motion is volitional muscle control. The same morphology is used to predicate sentient emitters of verbs of emission, as in (103b), above, which is reproduced below in (110d). Medio-reflexive morphology can also be used to predicate an agent of an unaccusative verb, which will be discussed in §6.7.4.2.3.
My working hypothesis for these forms is that both vehicle verbs and emission verbs require internal causers, but that the subject of a vehicle verb is attributed the characteristics of an agent due to the conventional interpretation of the verb (cf. Brittain in press). I suggest that the medio-reflexive morphology attributes agentivity to the subject, such that the subject can be the volitional causer of some event, for example an
event of turning as in (110b). This remains to be confirmed in fieldwork.

6.4.2.5. Mystery set I: Relative root -piyi verbs

The set of relative root -piyi verbs has not been analyzed in depth, and in this thesis I treat these verbs as a homogeneous and mysterious class. Relative roots are typically translated to mean 'thusly', which captures the idea that they refer to some other contextually salient idea or event (see Bloomfield 1957; Rhodes 2006). Relative root -piyi verbs receive a default vehicle verb interpretation. This is demonstrated below (111).

(111) Relative root verbs as vehicle verbs

a. Mānā-tāh kā is-piıy-t.
   there-LOC PVb,CJ thusly-DYN-3.S
   P,DEM,REM-LOC PVb,CJ ROOT-VI.VBZ-CIN
   'S/he went over there (by vehicle).'

b. Kā is-piıy-h-ık.
   PVb,CJ thusly-DYN-CAUS-INV
   PVb,CJ ROOT-VI.VBZ-VTA.VBZ-THM
   'I took him there (by vehicle).'

c. Māu-tāh kā is-piıy-hta-t.
   this-LOC PVb,CJ thusly-DYN-CAUS-3.S
   DEM-LOC PVb,CJ ROOT-VI.VBZ-VTl.VBZ-CIN
   'S/he took it somewhere by vehicle.'

55 The vehicle interpretation is still available in the presence of medio-reflexive morphology, but the subject is interpreted as being somehow "more agentive" than in the absence of the medio-reflexive.
However, it is possible for the relative root to refer to, for example, the gesturing of the speaker as in the following examples.

(112) Relative root verbs referring to speaker gesturing

a. Måu-tah kâ is-piyi-t.
   this-LOC PVBCJ thusly-DYN-3.S
   DEM-LOC PVBCJ ROOT-VI.VBZ-CIN
   'S/he went like this (e.g., he fell – indicated by gestures of speaker).'

b. Kâ is-piyi-hu-t.
   PVBCJ thusly-DYN-MED.RFLX-3.S
   PVBCJ ROOT-VI.VBZ-VAL.VBZ-CIN
   'S/he did like this (e.g., dancing or volitional motion – indicated by gesture).'

c. Måu-tah kâ is-piyi-htâ-t.
   this-LOC PVBCJ thusly-DYN-CAUS-3.S
   DEM-LOC PVBCJ ROOT-VI.VBZ-VTA.VBZ-THM
   'S/he made me go like this.'
   Context: A child complains about a sibling spinning her around until dizzy.

d. Måu-tah kâ is-piyi-h-lk.
   this-LOC PVBCJ thusly-DYN-CAUS-INV
   DEM-LOC PVBCJ ROOT-VI.VBZ-VTA.VBZ-THM
   'He made it go like this (e.g., an inanimate thing, show motion with gesture).'

Given that the meaning of these verbs is so variable, I consider them to be a fourth subclass of piyi-derived verbs.
6.4.2.6. Mystery set II: Manner adverbial -piyi verbs

There is a small set of *piyi*-derived verbs that is, as of yet, under-studied. These are *piyi*-derived verbs that refer to quick motion, but do not denote vehicular travel. For example, consider the following example.

(113) *Pni*-DERIVED MANNER VERBS

Kicháshti-piyi-u.
fast-DYN-3
ROOT-V1.VBZ-IIN
'S/he is fast, quick, agile.'

This verb cannot refer to vehicular travel, nor to the passage of time. Similar verbs include *káchipiyihāu* 'S/he hides her/him/it quickly', and *küchipiyihāu* 'S/he quickly swallows, gulps it down'. Verbs like this are also observed by Hirose (2003), but have not been classified as either unergative or unaccusative as of yet.56

6.4.2.7. Summary

In sum, I have identified five classes of *piyi* verbs to consider in Billy's language productions. These are unaccusative verbs, vehicle verbs, verbs of emission, relative root verbs, and manner verbs. I turn now to my methodology for analyzing these verbs.

56 The various interpretations of *piyi*-derived verbs resembles the ambiguity of the verb of identity ('be an X') in Nishnaabemwin (Central Algonquian), which can refer to "an ongoing state or a transition into that state" (Valentine 2001:337-338).
6.5. Methodology

In this section I describe the methodology that I used in my analysis of Billy's acquisition of unaccusativity. This section continues from §3.3, which discusses preliminary methodology prior to analysis.

6.5.1. Identifying piyi-derived utterances

During preliminary analysis, all -piyi verbalizers in Billy's speech and the Adult's speech were glossed with the Morpheme Meaning 'inch', short for 'inchoative' and the Morpheme Type 'vintr.fin'. A search of Morpheme Meaning for 'inch' yields all and only -piyi verbs.

6.5.2. Secondary analysis

As was done with passive utterances, transcripts of the conversation surrounding each piyi-derived verb in Billy's speech were submitted to Luci Bobbish-Salt for secondary analysis. The document listed Billy's age, and his utterances in both Cree syllabics and Roman orthography, together with a translation. The surrounding context was included to facilitate the process, unless the utterance was isolated in the discourse. An example from one of these documents is given below, as it was before it was edited.

Note that in this thesis the same morpheme is glossed are 'dyn', short for 'dynamic' (cf. Hirose 2003). This reflects the results of analysis: As most piyi-derived verbs are unaccusatives, these morphemes were originally glossed as such. However, the preponderance of piyi-derived verbs in the corpus are vehicle verbs. Thus, I adopt the conventions of Brittain (in press) and Johansson & Brittain (2012) in this text.
Luci Bobbish-Salt read the transcripts and sent back an edited version with commentary. Specifically, she considered the following questions: (i) “Does Billy's Cree look like adult Cree, or are there some differences? If there are differences, what are they?”; and (ii) “Is Billy using verbs that end in -piyi correctly, and in the right places? When you look at his sentences in the context of the conversation, does it make sense for him to choose those verbs?” Her input and commentary was added to the PHON corpus, as well as to the appendix of -piyi utterances which is included in Appendix V of this thesis. Follow-up questions were sent to Luci Bobbish-Salt over email, and asked in interviews with Luci Bobbish-Salt and Elsie Duff in Chisasibi, Quebec in June, 2012. This consisted mostly of questions having to do with the classification of -piyi utterances in the corpus as unaccusative or unergative, and a preliminary investigation into relative root -piyi verbs.

6.5.3. Excluded utterances

The corpus of Billy's speech contains 68 utterances containing a piyi-derived verb. Of these, I will analyze 67. One utterance has been excluded from consideration because
poor audio quality obscured the verbal utterance. This is record B3-2006-07-26#371, from session 5 of Billy's speech, age 5:02.12.

6.5.4. Productivity criteria and evidence of acquisition

As I did for passive utterances, I have adapted my morphological and syntactic criteria from §3.4 for the analysis of the acquisition of unaccusativity in NEC (cf. Allen & Crago 1996). The data were considered as follows.

(115) **Productivity Criteria: Morphological acquisition**

1. The *-piyi* verbalizer morpheme is wrongly attached to its stem.
2. The same root appears with both *-piyi* and a different verbalizer morpheme, elsewhere in the transcript.
3. Alternatively, the *-piyi* verbalizer morpheme appears in the transcript on at least two different stems.


(116) **Productivity Criteria: Acquisition of unaccusativity**

1. The *-piyi* verbalizer morpheme is used with clearly innovative forms/arguments (e.g., overgeneralizations).
2. Errors in argument selection or causativization of *piyi*-derived verbs are self-corrected.
3. Causative and non-causative forms of the same *piyi*-derived verb are used correctly in the same session.

(cf. Allen & Crago 1996)
Here again I will distinguish between the morphological acquisition of the -\textit{piyi} verbalizer and the syntactic acquisition of unaccusativity. The first will be distinguished by purely morphological criteria (115), while the second will require a clear demonstration that Billy understands the distinction between unaccusative and unergative verbs and the syntactic characteristics of each (116).

6.5.5. Classification of \textit{piyi}-derived verbs

Each \textit{piyi}-derived verb in both Billy's speech and CDS was classified into one of five groups (117). The decision-making process for this classification is outlined below.

(117) Classification of \textit{piyi}-derived verbs

1. Unaccusative
2. Vehicle verb
3. Verb of emission
4. Relative root verb
5. Manner verb

Unaccusative verbs are most strongly identified by the availability of a transitive alternant (see §6.4.2.3), as well as by their semantics (e.g., change of state, change of location) and the thematic role of their subject (e.g., patient; subject cannot be an agent).58

Vehicle verbs are listed in the lexicon with the designation "by vehicle" in their definition. Furthermore, they have no transitive alternants and can take agentive subjects.

58 A further diagnostic is the availability of the "accidental" reading (Brittain in press).
Verbs of emission are identified by their semantics (sound emission, light emission, substance emission). They are verbs that place restrictions on their arguments (internal causers), have no transitive alternants, and typically require medio-reflexive morphology to allow agentive subjects.59

Only one verb is included in the class of relative root verbs. It is ispiyiu (also ishpiyiu) 's/he moves/goes, it happens', which is derived from the root is 'thusly'.

The category "manner verb" contains all verbs that thus far elude classification as unergative or unaccusative. These include verbs whose root is an adverb (e.g., chiyi-piyyi-u, where chiyi means 'fast'), verbs of manner of motion (e.g., pipam-ipiyyi-u, where pipam means 'to go around/wander' and the verb itself means 'moving around'), and the verb of quantity of motion (ishpish-ipiyyi-u, where ishpish is a particle meaning 'amount' and the verb itself is used with numerals to tell time or to tell the speed of a car).

6.6. CDS

In this section, I present an analysis of piyi-derived verbs in CDS, with respect to both frequency (§6.6.1) and piyi-derived subclasses (§6.6.2). Piyi-derived verbs from interactions with Billy were identified and glossed in PHON, then extracted for analysis. Unfortunately, it is beyond the scope of this chapter to include an analysis of piyi-derived verbs in CDS from the recordings of Ani's speech.

59 One counter-example to this claim is the verb nitihwawapiyin, 'I sound thusly', in which a sentient agent is an acceptable subject.
6.6.1. Frequency of pìyi-derived verbs in NEC CDS

Pìyi-derived verbs are common in CDS, and are found in every session under analysis.

The number of pìyi-derived verbs per session in CDS is given below.

(118) Pìyi-derived verbs in adult speech: Billy

<table>
<thead>
<tr>
<th>Session</th>
<th>Session Length</th>
<th># -pìyi verbs (adult)</th>
<th>Billy's age</th>
</tr>
</thead>
<tbody>
<tr>
<td>B3-2005-11-22</td>
<td>00:42:26</td>
<td>35</td>
<td>4;06.08</td>
</tr>
<tr>
<td>B3-2006-01-10</td>
<td>00:43:53</td>
<td>24</td>
<td>4;07.26</td>
</tr>
<tr>
<td>B3-2006-02-28</td>
<td>00:35:22</td>
<td>19</td>
<td>4;09.14</td>
</tr>
<tr>
<td>B3-2006-05-27</td>
<td>00:33:05</td>
<td>12</td>
<td>5;00.13</td>
</tr>
<tr>
<td>B3-2006-07-26</td>
<td>00:24:24</td>
<td>3</td>
<td>5;02.12</td>
</tr>
<tr>
<td>B3-2006-10-14</td>
<td>00:41:09</td>
<td>12</td>
<td>5;05.00</td>
</tr>
<tr>
<td>B3-2006-11-06</td>
<td>00:45:27</td>
<td>18</td>
<td>5;05.22</td>
</tr>
<tr>
<td>B3-2006-12-11</td>
<td>00:36:14</td>
<td>18</td>
<td>5;06.27</td>
</tr>
<tr>
<td>B3-2007-03-19</td>
<td>00:44:42</td>
<td>17</td>
<td>5;10.06</td>
</tr>
<tr>
<td>B3-2007-04-02</td>
<td>00:25:43</td>
<td>9</td>
<td>5;10.19</td>
</tr>
<tr>
<td>TOTAL:</td>
<td>06:12:25</td>
<td>167</td>
<td></td>
</tr>
</tbody>
</table>

Pìyi-derived verbs are abundant in CDS. Billy hears 26.9 pìyi-derived verbs/hour, or one pìyi-derived verb every 2 minutes and 13 seconds. Billy has plenty of evidence with which to analyze the different syntactic behaviour of the sub-classes of pìyi-derived verbs.

6.6.2. Classification of pìyi-derived verbs in NEC CDS

All of the pìyi-derived verbs in CDS have been classified into the five sub-classes identified in §6.5.5, above. The classification is as follows (119).
The majority of the verbs in the input are unergative (94/167, 56.3%), while only 14.4% are known to be unaccusative. Recall that unergative verbs constitute only 20% of the *piyi*-derived verbs listed in the Naskapi Lexicon (§6.4.2). Regardless, Billy is exposed to both unaccusative and unergative verbs in CDS.

### 6.7. Billy's *-piyi* productions

In this section I present a description of Billy's productions of *piyi*-derived verbs in the CCLAS corpus. I begin by classifying all of his utterances into the classes outlined above, and compare them to the utterances in CDS (§6.7.1). I then present the range of *piyi*-derived verbs in Billy's speech (§6.7.2), followed by evidence for the acquisition of unaccusativity (§6.7.3), and an overview of the morphological development of *piyi*-derived verbs in Billy's speech (§6.7.4).

### 6.7.1. Classification of *piyi*-derived verbs in Billy's speech

An analysis of Billy's speech reveals that the majority of his *piyi*-derived utterances are vehicle verbs (26/67, 38.8%), as is also true of CDS. In fact, Billy's productions mirror those of his adult interlocutor fairly consistently, excepting verbs of emission, which he uses considerably less often (7/64, 10.4%). This could be simply due to the lower number...
of tokens in Billy’s speech than in CDS, or it could be an indication that, of the set of piyi-derived verbs, verbs of emission are relatively difficult to acquire. Unfortunately, the recordings do not start early enough to know which type of piyi-derived verb is produced first.

(120) **Classification of piyi-derived verbs in Billy’s speech and CDS**

<table>
<thead>
<tr>
<th></th>
<th>Unaccusative</th>
<th>Vehicle Verb</th>
<th>Verb of Emission</th>
<th>Relative Root</th>
<th>Manner Verb</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Billy</strong></td>
<td>11/67 16.4%</td>
<td>26/67 38.8%</td>
<td>7/67 10.4%</td>
<td>17/67 25.4%</td>
<td>6/67 9.0%</td>
</tr>
<tr>
<td><strong>Adult</strong></td>
<td>24/167 14.4%</td>
<td>55/167 32.9%</td>
<td>39/167 23.4%</td>
<td>37/167 22.2%</td>
<td>12/167 7.2%</td>
</tr>
</tbody>
</table>

While Billy produces all sub-types of piyi-derived verbs, he does not produce them all at once. The first session consists of unaccusatives, vehicle verbs, and relative root verbs (4;06). Verbs of emission are first produced in the third session (4;09), and the manner verbs (all of which are tokens of *ishpishipiuyi* 'be a certain quantity', which in each occurrence is used for telling time) appear in the fourth session (5;00). Note, however, that he produces both unaccusative and unergative verbs from the first session.

**6.7.2. Range of piyi-derived verbs in Billy’s speech**

While Billy produces a good number of piyi-derived verbal utterances, the range of verbs that he uses is restricted, with a total of 14 verb types across the 67 verb tokens. The distribution of his productions is as follows (121).
When considered in this way, we see that Billy's use of unaccusative and vehicle verbs is equal in number of types, but very disparate in number of tokens. Half of the types Billy uses are unergative verbs (vehicle or emission), and one third are unaccusative. The rest are relative root and the unclassified manner verbs (122).

---

60 Where two roots are listed and the second begins with ã, this is the same root after having undergone "initial change", a morphophonological process typical of verb roots that begin with i when inflected in the conjunct order. Similarly, piyâ is the form of pâ after initial change (Wolfart 1973:82-83). The verb roots itwâ and ìtwâwâ are related by a process of reduplication, which adds "continuity, repetition, intensity" (Wolfart 1973:66).
Thus we see that Billy is capable of producing verbs from each subclass, but these distributions are not sufficient evidence to claim that Billy has acquired unaccusativity.

We turn to this question in the next section.

6.7.3. Evidence of the acquisition of unaccusativity

In this section I consider the morphological acquisition of the \textit{-piyi} verbalizer (§6.7.3.1) and the syntactic acquisition of unaccusativity (§6.7.3.2).

6.7.3.1. Morphological acquisition: \textit{-piyi}

Applying the following diagnostics yields evidence that Billy has already acquired the \textit{-piyi} morpheme from the first session (123).
(123) **PRODUCTIVITY CRITERIA: MORPHOLOGICAL ACQUISITION**

1. The *-piyi* verbalizer morpheme is wrongly attached to its stem.
2. The same root appears with both *-piyi* and a different verbalizer morpheme, elsewhere in the transcript.
3. Alternatively, the *-piyi* verbalizer morpheme appears in the transcript on at least two different stems.


There are no cases where Billy uses *-piyi* incorrectly with a verb root: all of the *piyi*-derived verbs that he produces exist in adult speech, and all are morphologically well-formed. However, there are instances in which Billy uses the same root with both *-piyi* and some other verbalizer. These occur from the first session, and are evidence that the *-piyi* morpheme has been acquired by 4;06. An example is given below in (124).\(^{61}\)

(124) **SAME ROOT DERIVED BY *-PIyi* AND *-HW* (4;06)**

a. Nimui ni-chih **chishi-pyi-n.**
   
   not 1-PAST **fast-dyn-1/2**
   
   P,NEG 1-PVB **root-v1.vbz-illn**
   
   'I can't go fast.'

   **Target:** [niru] n-\(\j\)i \(\j\)i-pi-n]
   
   **Actual:** [mojo _dji \(\j\)i-pi-]

(B3-2005-11-22#272)

---

\(^{61}\) Note that this does not constitute a causative alternation, as the example given in (124a) entails vehicular motion, while the example in (124b) does not. These two verbs are different verbs derived from the verb root *chisi*, not a pair of related intransitive and transitive verbs denoting vehicular motion.
b.  Ai  yâkwâh-chishi-hw-â-u.

   PRO,HES  careful-fast-vta.vbz-dir-3
   PRO,HES  p,INTJ-root-vta.vbz-thm-IIN

'He sends them (someone) away.'

Target:  [h  jaka-ʃaʃ-w-a-w]
Actual:  [ha  jaqa-ʃha-w-ij-ə]

(B3-2005-11-22#692)

With respect to the third criterion for morphological productivity, Billy derives
eight roots with the -piyi verbalizer morpheme in the first session (unaccusative, vehicle
verbs and relative root verbs), which is significant.

6.7.3.2. Syntactic acquisition: unaccusativity

There are no instances of pragmatically or contextually innovative piyi-derived verb
forms in Billy's speech. Furthermore, he makes no errors in argument selection or
causativization and there are no instances of self-correction. What evidence there is for
syntactic productivity comes from causativization of piyi-derived forms, the third
criterion for syntactic acquisition (116), which was discussed in §6.5.4 above.
(125) **PRODUCTIVITY CRITERIA: ACQUISITION OF UNACCUSATIVITY**

1. The -piyi verbalizer morpheme is used with clearly innovative forms/arguments (e.g., overgeneralizations).

2. Errors in argument selection or causativization of piyi-derived verbs are self-corrected.

3. Causative and non-causative forms of the same piyi-derived verb are used correctly in the same session.

   (cf. Allen & Crago 1996)

### 6.7.3.2.1. Unaccusatives

The earliest evidence that Billy has acquired the syntax of unaccusative verbs is found in session 4 at age 5:00. In this session, Billy productively uses the causative-inchoative alternation. The verb root *piku* 'break' is produced with three different verbalizers: -piyi 'dynamic', -*h* 'causative', 62 and -*pit* 'by force'. Examples of these three are given below.

![Image](https://example.com/image.png)

(126) **CAUSATIVE-INCHOATIVE ALTERNATION**

a. *PIYI-DERIVED FORM*

Chiki ihtut-im û-tâh châ piku-piyi-ch ani-tâh floor.

FUT.3 do-DIR this-LOC FUT break-DYN-0.S that-LOC ENG

PVB ROOT.VTI-THM P,DEM.PXL-LOC PVB,CJ ROOT-VI.VBZ-CINP,DEM.DST-LOC N

'If I do it like this the floor will break'

**Target:** [dʒɪɡ aʊt-əm o-’daː dʒa pʰeɡa-bajɛ-gə s flaɪ]

**Actual:** [ɪmdʒ glamorous o-ta dʒæ bigo-bii-dʒ is fλai]

(B3-2006-05-27#163)

---

62 Note that here, the causative verbalizer -*h* is used to derive a “basic” verb. See the discussion in §5.2.4 for uses of the causative morpheme.
b. \textit{Pni\text{-}derived form}

\begin{verbatim}
Ai piku-pit-im \ ai-yiu.

\texttt{PRO,HES \ break-by.force\text{-}VTI\text{.THM} \ PRO,HES\text{-}OBV}

\texttt{PRO,HES \ ROOT\text{-}VTR\text{-}VBZ\text{-}VTI\text{.THM} \ PRO,HES\text{-}OBV}

'He breaks it.'
\end{verbatim}

Target: [aj bi'gu-pat-om aj-o]
Actual: [h?aj bigu-ptd-om aj-o]

\hfill (B3-2006-05-27\#438)

c. \textit{H\text{-}derived form}

\begin{verbatim}
Chiki piku-h-am.

\texttt{FUT.3 \ break\text{-}CAUS\text{-}VTI\text{.THM}}

\texttt{PVB \ ROOT\text{-}VTA\text{-}VBZ\text{-}VTI\text{.THM}}

'He’ll break it with something.'
\end{verbatim}

Target: [\textit{fikə bik-\text{-}\text{-}am}]
Actual: [\textit{fikə bik-\text{-}om}]

\hfill (B3-2006-05-27\#680)

An additional example from a later session is very compelling: Billy uses the root \textit{mini\text{-} 'pull off'} twice in the same utterance, using both the \textit{piyi\text{-}derived intransitive variant and its causative alternant (127).}
(127) **Causative-Inchoative Alternation**

Châkât kà mini-piyi-ch ni-chîh min-in-à-n.

almost **PVB,CJ** pull.off-DYN-0.S 1-PAST pull.off-by.hand-THM-1/2

**P,MANNER** **PVB,CJ** **ROOT-VL.VBZ-CIN** 1-PVB **ROOT-VTR.VBZ-THM-IIN**

'When it almost came off, I took it off.'

Target: [fakatʰ ka mən-pij-ʃʃ ni-ʃʃi min-in-a-n]

Actual: [ʃakat ka pɪtə-pi-ʃʃ ni-ʃʃ m-in-a-ʃʃ]

(B3-2006-11-06#115)

The above examples illustrate that Billy is aware of the causative-inchoative alternation with unaccusative *piyi*-derived verbs by the age of 5;00.⁶³

### 6.7.3.2.2. Vehicle verbs

Billy correctly derives causative vehicle verbs from the first session, as seen below in (128). However, this example on its own is not sufficient to consider this construction acquired. The productivity criteria require that Billy produces a causative and a non-causative form of the same verb in the same session.

---

⁶³ Note that the absence of this type of alternation with unergative verbs is also significant. There are instances of a verb root from the set of vehicle verbs being derived by another verbalizer, for example in *chisi-hwdu* 'he rushes him away', as compared to *chisi-piyiu* 'he moves fast by vehicle'. However, in the transitive case, the verb does not entail that the subject be the operator or passenger in a vehicle, and thus I do not take it to be a transitive alternant of the verb, e.g., the verb does not mean 'he moves him away fast (by vehicle).'

142
(128) CAUSATIVIZED VEHICLE VERB (4;06)

Nimui  pimi-pi-yi-h-â-u  wîyi.
not  move-DYN-CAUS-DIR-3  3
P,NEG  RO知道-VI.VBZ-VTA.VBZ-THM-IIN  PRO

'He doesn't drive it himself (dirt bike).'

Target:  [nmâwi  pim-pi-h-a-w  wîj]  
Actual:  [mâwi  bim-bi-h-a-w  wî]  

(B3-2005-11-22#780)

The earliest evidence that Billy controls the causativization of unergative verbs is found in session 8, at age 5;06. Consider the following example (129).64

(129) CAUSATIVIZATION OF A VEHICLE VERB (5;06)

a.  Piya-pi-yâhch  mâk.
    along-DYN-1.PL  and
    IC.ROOT-VL.VBZ-CIN  P,CONJN

'As we arrive (by vehicle).'

Target:  [piya-pi-ja%f mâka]%
Actual:  [biya-bij-a  maga:a]  

(B3-2006-12-11#398)

64 Note that although pë and pîya are the same root, only pîya has undergone initial change (Wolfart 1973:82-83).
b. Awa-yiu-h  kâ  pâ-piyi-h-iku-ch.

Who-OBV-OBV  PVB,CJ along-DYN-CAUS-INV-3.PL

PRO,WH-OBV-OBV  PVB,CJ ROOT-VI.VBZ-VTA.VBZ-THM-CIN

'Who brought them (by vehicle)?'

Target:  [we-'ju-_  kæ  ba-bi-h-igu-ff]
Actual:  [wa-ε-_  ko  ba-bi-d-ikɔ-dʒ]

As the above utterances are from the same session, I take them to be evidence that Billy has acquired the syntax of unergative vehicle verbs by 5;06 (with the acknowledgment that he may well have acquired this earlier).

6.7.3.2.3. Verbs of emission

There are no instances in the corpus in which Billy alternates between a non-causative and a causative verb of emission in the same session, which is required for his utterances to be considered evidence of productivity. However, across sessions we see that he causativizes verbs of emission correctly, using the correct causative morpheme for a sentient agent acting on an inanimate thing (emitter) (130).
(130) CAUSATIVIZATION OF A VERB OF EMISSION (5:00, 4:09)

a. Sùhk chih chishwāwā-piyi-u.
   hard PAST noise-DYN-3
   P,INTJ PVB ROOT-VL.VBZ-IIIN
   'It made a loud noise.'

Translator comment: Sùhk is common in child speech
(Periphrastic strategy for adverbial information)

Target: [dʒi 괘ow-‘a-bi-o]
Actual: [sukʰ dʒe dam-‘-bij-o]

(b3-2006-05-27#380)

b. Ni-ki chishwáwā-piyi-h tà-n mà ə.
   l-FUT.1/2 noise-DYN-CAUS-1/2 EMPH P,QST
   l-PVB ROOT-VL.VBZ-VAI+O.VBZ-IIIN P,DISC P,QST
   'I am going to turn up the sound, okay?'

Target: [ni-gi 괘iwał-bi-tha-n ma ə]
Actual: [ufA-bi-t tən məx ə]

(b3-2006-02-28#345)

6.7.3.2.4. Relative root verbs

Billy uses causativization correctly from the first record with relative root verbs, as in the
following examples (131).65

---

65 Unfortunately, relative root verbs have not been definitively classed as unergative or unaccusative up to
this point, though the form of the causative is an indication that they may be unergative, at least in
vehicle verb uses.
(131) CAUSATIVIZATION OF A RELATIVE ROOT VERB (4;06)

a.  Wáp-iht-ih  mâ  âs-piyyi-ch.
    light-by.head-VTL.THM.IMP  EMPH  thusly-DYN-0.S
    ROOT-VTL.VBZ-VTL.THM.IMP  P,DISC  ROOT.İC-VTL.VBZ-CIN

    'Look how it goes.'

    Target:  [wap-ht-h  ma  ajs-pi-y]  
    Actual:  [u:o_-__  ma  ajs-pi-y]  

    (B3-2005-11-22#306)

b.  Mâu-tâh  âs-piyyi-h-âkinwi-i-t.
    this-LOC  thusly-DYN-CAUS-PASSIVE.3-3.S
    P,DEM+G,PXL-LOC  ROOT.İC-VTL.VBZ-VTL.VBZ-PASSIVE-CIN

    'This is how you make it go. / You move it this way'

    Target:  [maw-tah  s-pi-h-âkinowi-t]  
    Actual:  [ma-na  si-pi-h-agâna-]  

    (B3-2005-11-22#210)

6.7.3.2.5. Manner verbs

Billy produces no causative manner verbs in the corpus.

6.7.3.3. Summary

From the first session, there is evidence that Billy has acquired the -piyi morpheme and uses it productively. However, the evidence for syntactic acquisition is less clear.

    Taking causative alternations in the corpus to be evidence for the syntactic
acquisition of unaccusativity, I find that Billy does not produce any errors in his causativization. He correctly forms transitive variants of unaccusative verbs, and causativizes vehicle verbs, verbs of emission, and relative root verbs using proper morphology. The ages at which there is evidence of his acquisition of unaccusativity (causative alternations in a single session) are given below in (132).

(132) AGE OF ACQUISITION OF UNACCUSATIVITY

<table>
<thead>
<tr>
<th>Verb Type</th>
<th>Productive Causativization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unaccusatives</td>
<td>5:00</td>
</tr>
<tr>
<td>Vehicle verbs</td>
<td>5:06</td>
</tr>
<tr>
<td>Verbs of emission</td>
<td>--</td>
</tr>
<tr>
<td>Relative root verbs</td>
<td>4:06</td>
</tr>
<tr>
<td>Manner verbs</td>
<td>--</td>
</tr>
</tbody>
</table>

Because of the low number of tokens it is not the case that the above table should be taken as definitive evidence of the order of Billy's acquisition.66 Earlier recordings of Billy and experimental evidence would be necessary to confirm the order in which he acquires piyi-derived verb types.

As there isn't enough evidence to assess Billy's acquisition of the syntax of these forms, I turn to a global assessment of his acquisition of -piyi verbs and the morphological complexity of his utterances.

66 Note, however, that causativized unaccusative verbs are still "basic" verbs (transitive alternants), not morphological causatives. Therefore, these verbs are less morphologically complex and are predicted to be acquired before morphological causatives. In support of this prediction, Allen (1998) finds that Inuktitut-speaking children acquire the causative-inchoative alternation earlier than morphological causatives.
6.7.4. Increasing morphological complexity in piyi-derived utterances

An examination of Billy's piyi-derived verbal utterances reveals a clear development in morphological complexity. In this section I will present this development in terms of a morphological measure of his Mean Length of Utterance (§6.7.4.1) and will present an inventory of the morphology of his forms split into three stages (§6.7.4.2).

6.7.4.1. Mean Length of Utterance by morpheme

Measures of Mean Length of Utterance by morpheme (MLUm) are useful to track increasing morphological complexity in speech. However, the measure is problematic, as it is not really possible to know what constitutes a separate morpheme to the child (see Fortescue 1985; Allen & Crago 1996).

For the purposes of this study, I assume a linguist's analysis of the number of morphemes in the verbal complex. The count of morphemes per utterance is based on the Actual IPA transcription of each utterance, such that it is based on morphemes produced by Billy, not the target number of morphemes.67 Only morphemes within the piyi-derived verbal complex were counted. This includes pronominal clitics and preverbs as well as derivational morphology and agreement suffixes.

67 First person pronominal clitics are assumed to be produced where they are the only missing morpheme at the start of the verb complex. (If both the first person pronominal clitic and an immediately following morpheme are not transcribed, both morphemes are considered absent from his production.) These morphemes are often highly reduced in speech, such that they are not always transcribed by native English speakers. Additionally, the word-final obviative marker -h and word-final imperative morpheme -h are always assumed to be produced, as they are similarly difficult for English-speaking transcribers to hear. I make the conservative assumption that these morphemes are always produced, as a study of the acquisition of these morphemes would require acoustic analyses beyond the scope of this thesis. A pilot acoustic study of word-final -h is currently underway (O'Neill in prep).
The number of utterances, minimum value, maximum value, and mean value for each session is given below in (133), schematized in the chart in Figure 7.

(133) **MLUm Measurements**

<table>
<thead>
<tr>
<th>Session</th>
<th>Age</th>
<th># Utterances</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>B3-2005-11-22</td>
<td>4:06</td>
<td>13</td>
<td>3</td>
<td>5</td>
<td>3.85</td>
</tr>
<tr>
<td>B3-2006-01-10</td>
<td>4:07</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>4.00</td>
</tr>
<tr>
<td>B3-2006-02-28</td>
<td>4:09</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>4.25</td>
</tr>
<tr>
<td>B3-2006-05-27</td>
<td>5:00</td>
<td>8</td>
<td>3</td>
<td>5</td>
<td>3.75</td>
</tr>
<tr>
<td>B3-2006-07-26</td>
<td>5:02</td>
<td>6</td>
<td>3</td>
<td>6</td>
<td>4.50</td>
</tr>
<tr>
<td>B3-2006-10-14</td>
<td>5:05</td>
<td>5</td>
<td>3</td>
<td>6</td>
<td>4.20</td>
</tr>
<tr>
<td>B3-2006-11-06</td>
<td>5:05</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>4.00</td>
</tr>
<tr>
<td>B3-2006-12-11</td>
<td>5:06</td>
<td>8</td>
<td>3</td>
<td>7</td>
<td>5.00</td>
</tr>
<tr>
<td>B3-2007-03-19</td>
<td>5:10</td>
<td>5</td>
<td>3</td>
<td>6</td>
<td>4.40</td>
</tr>
<tr>
<td>B3-2007-04-02</td>
<td>5:10</td>
<td>14</td>
<td>3</td>
<td>7</td>
<td>4.29</td>
</tr>
</tbody>
</table>

**Figure 7:** MLUm of *piyi*-derived verbal utterances
The results of this analysis show an upward trend from the 3-4 MLUm range to the 4-5 MLUm range. From age 4;06 – 5;00 (sessions 1-4), Billy's MLUm ranges from 3.85-4.25. From age 5;02 – 5;05 (session 5-7), Billy's MLUm ranges from 4.00-4.50. From age 5;06 – 5;10 (sessions 8-10), Billy's MLUm ranges from 4.29-5.00. These groups of sessions will form the three stages of -piyi acquisition analyzed in the next section.

The highest MLUm is measured at age 5;06. Billy produces several complex utterances in this session: of the eight piyi-derived verbs, four are 6- or 7-morpheme utterances. Thus, as of 5;06 Billy's use of longer utterances is more sustained. For this reason, I take 5;06 to be the age that marks the beginning of Stage III in the acquisition of unaccusativity. I consider the morphological make-up of Billy's utterances below.

6.7.4.2. Morphological inventory of piyi-derived utterances

In this section, I present an inventory of the morphology used in the derivation of -piyi verbs. I separate Billy's utterances into three stages, as discussed above. Stage I includes the first four sessions, ending with the last session with an MLUm in the range of 3. Stage III begins with session 8, the session with the highest recorded MLUm in the whole corpus. These stages are the same as those used in the chapter on the acquisition of the passive (Chapter 5), and are as follows (134).
(134) **STAGES OF -PIYI ACQUISITION**

<table>
<thead>
<tr>
<th>STAGE</th>
<th># OF -PIYI VERBS</th>
<th>SESSION</th>
<th>BILLY'S AGE</th>
<th>MLUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>26</td>
<td>1</td>
<td>4;06.08</td>
<td>3.69</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>4;07.26</td>
<td>4.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>4;09.14</td>
<td>4.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td>5;00.13</td>
<td>3.75</td>
</tr>
<tr>
<td>II</td>
<td>14</td>
<td>5</td>
<td>5;02.12</td>
<td>4.50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td>5;05.00</td>
<td>4.20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7</td>
<td>5;05.22</td>
<td>4.00</td>
</tr>
<tr>
<td>III</td>
<td>28</td>
<td>8</td>
<td>5;06.27</td>
<td>5.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9</td>
<td>5;10.06</td>
<td>4.40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10</td>
<td>5;10.19</td>
<td>4.29</td>
</tr>
</tbody>
</table>

In the rest of this session, I will discuss Billy's use of morphology in each position in the morphological template of the verb, beginning with the first position in the verbal complex, pronominal clitics. A full breakdown of his morphological inventory can be found in Appendix VI.

### 6.7.4.2.1. Pronominal clitics

Billy produces first person pronominal clitics on *piyi*-derived verbs throughout the corpus, but the second person pronominal clitic only appears in Stage III.
The reason for this pattern is unclear, as second person pronominal clitics are clearly produced by Billy on other verbs by 4;09. This may well be an accident of the corpus data, as it does not appear to be indicative of some wider pattern.

6.7.4.2.2. Preverbs

Conjunct preverbs, which might be thought of as subordinating preverbs, are used by Billy throughout the three stages, as is the past morpheme in the independent order. However, tense, modal, and desiderative preverbs show some interesting developmental patterns.
The reason for the past negative preverb *uhchi* to be absent in the second and third stages and for the future conjunct preverb *chā* to be absent in the second stage appears to be an accident of the data set. Billy produces these preverbs on a variety of verbs in every stage.

The future second/third person independent preverb *chiki* and the desiderative preverb *wih* both appear to be used correctly throughout the corpus from the first session, but less frequently than later in the corpus. The same cannot be said of the future SAP independent preverb *ki*, which is regularly part of the target utterance from the first
session but is inconsistently produced throughout the corpus, even through the third stage. In many utterances, Billy simply omits \textit{ki}.

The future third person independent preverb \textit{kiti} and the modal \textit{chipi} are both extremely rare in the corpus, appearing late in Billy's speech. The preverb \textit{kiti} conveys third person future information on an independent verb. This same information is similarly conveyed by the more straightforward future independent preverb \textit{chá}, which requires no person distinctions. One way to capture this order of acquisition is to say that children will acquire one morpheme to perform one function (e.g., Pinker's 1984 Unique Entry Principle; Clark's 1987 Principle of Contrast; Markman's 1991 Mutual Exclusivity Assumption).\textsuperscript{68} The late appearance of the modal is likely due to the semantic complexity of the concept of modality (see, e.g., Papafragou 1998 and citations therein).

6.7.4.2.3. Derivational morphology

Billy's productions of derivational morphology are sporadic, excepting the diminutive morpheme. Consider the following distribution.

---

\textsuperscript{68} This similarly predicts that Billy will have difficulty acquiring the past negative independent preverb \textit{uhehí}, as it encodes more complex semantics than the past independent preverb \textit{chíhí}. Indeed, this seems to be the case, as Billy incorrectly uses \textit{chíhí} in negative sentences. Luci Bobbish-Salt notes that this error is common in the linguistic development of Cree-speaking children. I leave the analysis of the acquisition of this morpheme to future researchers, as it is beyond the scope of this thesis.
What I call the “intensifier” -si morpheme is not fully understood. It takes the form of a VAI verbalizing morpheme, but can stack with other verbalizing morphemes. It seems to add a pejorative meaning, or to function as an intensifier, as in the following (138). More study is needed to understand the semantics and function of this form.
Similarly, the medio-reflexive -hu needs a closer look. This morpheme appears to first be used in fixed phrases like “I know how to do this” and “I dress up as x (e.g., Halloween costume).” The use noted here in Stage II requires a deeper understanding of the syntax of medio-reflexives, as it is used to ascribe an agentive subject to an unaccusative verb, instead of focusing agentivity on an already sentient subject as in the fixed examples. In the following example, the agentive subject is “impersonal”, referring to people in general (139). This is also the only instance of impersonal inflection on piyi-derived verbs, which is noted in the section on inflectional morphology, below.
I assume that both of these morphemes are acquired at least by Stage II, and do not appear on Stage III *piyi*-derived verbs as an accident of the corpus.

With respect to the passive morpheme, I have argued that Stage II is the stage during which Billy is acquiring passive syntax (§5.4.2). During this time, his productions are less complex and he makes more errors. Thus, it is not surprising that he does not form passives of morphological casuatives of *-piyi* verbs during Stage II. It is tempting to hypothesize that the same holds true for causative morphology and the related theme morphology. This is an interesting question for future work: Is Stage II a time during which Billy is starting to understand how to derive more complex verbs from basic verb stems (secondary derivation)? This would mean that passive, causative, benefactive and other applicative morphology would all be acquired around the same time, predicting a fairly uniform reduction in the use of this morphology from 5;02-5;05, together with an increase in the rate of errors. Were this correct, it would strengthen my argument from

---

69 It is unclear why there is a syllable [3i] in the Target Morphology field in this example.
Chapter 5 that Billy's acquisition path is U-shaped (Marcus et al. 1992; see also Rose & Brittain 2011 for a discussion of Cree). This question must be left for future work.

Before moving on, the acquisition of the inverse theme sign deserves some discussion. Transitive verbs with two animate arguments bear “theme sign” morphology. This system interacts with the Algonquian person and gender hierarchy, which orders second person above first person, which in turn is above third person (2>1>3) (e.g., Bloomfield 1946; Wolfart 1973; Dahlstrom 1991). The theme sign morphology indicates which of the two animate arguments is the actor, and which is the patient. If the actor argument is higher on the person hierarchy than the patient, the verbal complex is marked with direct theme sign morphology. If the actor is lower on the hierarchy than the patient, the verbal complex is marked with inverse theme sign morphology.

There is a sense in the literature that verbs bearing direct theme sign morphology are somehow “more basic” (see, e.g., Dahlstrom 1991). The acquisition facts from the set of *piyi*-derived verbs appear to confirm this. While Billy produces basic transitives (e.g., transitive verb stems) with both direct and inverse morphology from the second session (4;07), the pattern is very different with derived transitive verbs (e.g., morphological causatives). Billy produces morphological causatives with direct theme sign morphology from the first session (4;06). He first produces morphological causative with inverse theme sign morphology a full year later (5;06). Consider the following example (140).
This preliminary evidence suggests that direct theme sign morphology is in fact acquired before inverse theme sign morphology, which is predicted if direct theme sign morphology is more basic. Unfortunately, the corpus of Billy's speech does not begin early enough to observe which theme sign he first uses with basic transitive verbs. I leave this question to future work.

6.7.4.2.4. Inflectional suffixes

Billy produces a range of inflectional suffixes on piyi-derived verbs. He produces subjunctive and obviative verbs from the first session, as well as verb inflected in both Independent Indicative Neutral (IIN) and Conjunct Indicative Neutral (IIN) orders. He does not produce verbs inflected in the imperative order until Stage III. Consider the following distribution (141).
While I will, for the most part, set aside discussion of inflectional morphology, a few of the above morphemes need some further attention.70

70 It is difficult to comment on the word-final obviative morpheme -h, as these morphemes are difficult for English-speaking transcribers to hear. See footnote 67 on page 148.
Impersonal morphology is an interesting part of the passive system, as discussed in §4.4.2.2. This morphology is still not well-understood and requires closer investigation. As it is, Billy produces very few of these forms, but appears to have more difficulty acquiring this morphology than passive morphology.\(^7\)

Of the inflectional morphology, the transitive first person plural morpheme -\textit{ichihch} is interesting. This morpheme is used in cases where the actor is first person plural and the patient is a third person singular animate, as in the following example (142).

\begin{align*}
\text{(142) Transitive CIN} & \quad 1_{\text{pl}}>3 \quad \text{Morphology} \\
\text{Ah} & \quad \text{pimi-piyi-h-\textit{ichihch}} \\
\text{PVB,CJ} & \quad \text{move-DYN-CAUS-1.PL} \\
\text{this} & \quad \text{this} \\
\text{PVB,CJ ROOT-VL.VBLZ-VTA.VBLZ-\textit{CIN}} & \quad \text{P1,DEM,PXL} \\
\text{'When we drive this one.'} & \quad \text{'When we drive this one.'}
\end{align*}

<table>
<thead>
<tr>
<th>Target:</th>
<th>[æ pʰam-bi-ˈh-\textit{i}\text{dʒtfʰ} o]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual:</td>
<td>[ajæ bɪn-bi-ha-\textit{jætf} o]</td>
</tr>
</tbody>
</table>

(B3-2006-05-27#505)

Take note of Billy's utterance in the Actual IPA field. The phonological form of the morpheme is not adult-like. Instead, he appears to be producing the CIN morpheme for a first person plural subject of an \textit{intransitive} verb, -\textit{yahch}. This is true of both utterances in the corpus in which Billy ought to produce -\textit{ichihch} – both have the phonological form of -\textit{yahch} in his productions. This is an example of Billy generalizing intransitive

\(^7\) See example (66) on page 80, where Billy incorrectly produces a passive instead of an impersonal verb.
inflectional morphology to transitive verbs. Whether this is a pattern found throughout his speech is a question that I leave to future research.

6.8. Summary

In this chapter I have shown that Billy has acquired the syntax of unaccusative and unergative verbs by 5;06 at the latest, though possibly earlier. I have further demonstrated that his *piyi*-derived verbal utterances increase in morphological length and complexity across three stages. I have shown that modals appear late in Billy's *piyi*-derived verbs, as do morphemes whose basic semantics can be expressed in another, simpler way. I have hypothesized that U-shaped development is a more general pattern in Billy's acquisition of derivational morphology, and have given preliminary evidence from the order of acquisition that direct theme sign markers are in fact "more basic" than inverse theme sign markers. I have demonstrated one case in which Billy generalizes intransitive inflectional morphology to transitive verbs.

I have raised a number of questions in this chapter, summarized below.

(143) Questions for future research

1. What is the role of sentence in the acquisition of unaccusativity?
2. Does Billy's acquisition of derivational morphology follow a U-shaped developmental path?
3. Is direct theme sign morphology acquired before inverse theme sign morphology in "basic" verbal stems (primary derivation)?
4. Does Billy regularly produce intransitive inflectional suffixes on transitive verbs, as he does with the morpheme *-ichihch*?
Chapter 7 – Conclusion

In this thesis I have presented a case study of Billy's acquisition of the passive construction and unaccusativity in Northern East Cree from 4;06 – 5;10.

With respect to the passive construction, I have shown that Billy has acquired passive morphology by the first session, but not the grammar of the passive. I split his acquisition of the passive into three stages. In Stage I he relies on unanalyzed chunks ('do'-passives) and shows no evidence of syntactic acquisition. In Stage II he produces errors and self-corrections and demonstrates an understanding of the relationship between the active and passive voices, which I take to be evidence of his ongoing analysis of the passive. In Stage III he shows an excellent command of the passive construction, and his utterances increase in complexity and variety. This is evidence of U-shaped development (Marcus et. al 1992).

With respect to unaccusativity, I have restricted my investigation to the set of piiv̩̑ derived verbs, which includes unaccusatives, unergative vehicle and emission verbs, relative root verbs and manner verbs. There are no errors in Billy's productions of these verbs in the entirety of the corpus, but I am able to suggest from causative alternations that he productively uses the causative-inchoative alternation (transitive pairs of unaccusative verbs) earlier than he shows command of morphological causativization of unergative verbs. However, there is not enough data for these findings to be conclusive. I show that he produces a restricted range of verbs, but that the morphological complexity in these verbs rises significantly at 5;06, in line with his mastery of the passive. There is
some suggestion that his acquisition of the syntax of secondary derivation (morphological causatives, passives...) is U-shaped across his grammar, which forms an interesting question for future work.

Taken together, these findings show that Billy is an active learner, analyzing his language. This stands in contrast with predictions made by nativist hypotheses like the Maturation Hypothesis (Borer & Wexler 1987), which predicts that Billy's acquisition of the passive and of unaccusativity will be linear. Rather, my findings are in line with other studies of non-Indo-European, polysynthetic languages. As is the case with Sesotho, Zulu, Quiche Mayan and Inuktitut, the structure of Cree plays a role in the acquisition of grammar, as does input frequency (Suzman 1985; Pye & Quixtan Poz 1988; Demuth 1989; 1990; Allen & Crago 1996).
References


2012).


Clark, Eve V. 1987. The principle of contrast: A constraint on language acquisition. In


http://works.bepress.com/cgi/viewcontent.cgi?article=1010&context=ellenhcourtney.


Hanson, Rebecca. 2003. Why can't we all just agree? Animacy and the Person Case Constraint. MA Thesis, University of Calgary.


structure, 325–361. 2nd ed. Cambridge, UK: Cambridge University Press.


León, Lourdes de. 1999a. Verb roots and caregiver speech in early Tzotzil (Mayan) acquisition.. In Barbara A. Fox, Dan Jurafsky, & Laura A. Michaelis (eds.), Cognition and Function in Language. Stanford, CA: Center for the Study of Language and Information.


Maratsos, Michael. 1985. Spontaneous use of the passive: Some preliminary findings. Unpublished manuscript, University of Minnesota, Minneapolis, MN.


Marcus, Gary, Steven Pinker, Michael Ullman, Michelle Hollander, T. John Rosen & Fei


Department of Linguistics and Philosophy, MIT.


O’Neill, Kate. In prep. Northern East Cree word-final [h]: Investigation at the phonetics-phonology interface. Ms., Department of Linguistics, Memorial University.


Pinker, Steven. 1984. *Language learnability and language development*. Cambridge, MA:
Harvard University Press.


Pye, Clifton. 1990b. The acquisition of V⁰ movement. Papers and Reports on Child


Pye, Clifton & Pedro Quixtan Poz. 1989. Why functionalism won’t function: The


Oxford University Press.


Skarabela, Barbora & Shanley EM Allen. 2004. The context of non-affixal arguments in


Terry, Kevin. 2010. The emergence of intransitive verb inflection in Northern East Cree: A case study. MA Thesis, Department of Linguistics, Memorial University of Newfoundland.


Upper, Mary. 1993. Lessons from language acquisition: Reports on a study of Oji-Cree
first language learning in the home. *Selected papers from the 1998 and 1990 Mokakit Conferences*, [no pagination].


191


Appendix I: Passive utterances (Billy's speech)

Billy's passive utterances are listed by session with Cree syllabics, orthography, and a morphological analysis together with a translation. For each utterance, the target morphology (in IPA) is given, as well as his actual morphology (in IPA). Missing morphemes are represented by '_'. Passive utterances are placed in their surrounding context. All names have been changed.72

1. Session 1 – Age 4;06.08  (Total passive tokens: 2)

1.1. Conversation 1

Adult: \( \Gamma^\rightarrow \rightarrow \Lambda^\circ \) \( < \hat{\Delta}^\rightarrow \hat{<} \Delta \ldots \)

Miywâyimâu ã wîyi âï... 'Does ... like those ...?'

(1) Billy: \( \hat{L}^\rightarrow \hat{C}^\circ \) \( \hat{<} \hat{\Delta}^\rightarrow \hat{<} \Delta^\circ \)

Mâù-tâh âs-pi-yâh-âkiniwi-t.

this-Loc thusly-DYN-CAUS-PASSIVE.3-3.S

PDEM+G.PX1-LOC ROOT.VI.VBZ-VTA.VBZ-PASSIVE-CIN

'This is how you make it go / You move it this way.'

Target: [maw-tah s-pi-h-akiniwi-t]  
Actual: [ma-na s-pi-h-agəna-]  

(B3-2005-11-22#210)

72 Many thanks to Luci Bobbish-Salt, whose commentary on these examples was invaluable. Any errors are my own.
1.2. Conversation 2

(2) Billy: $\sigma^\text{h}$ $\Gamma^\prime \sigma^\text{a}$ $\Delta^\ast$

Ni-chiǐh misin-ihu-kuwi-n.

1-PAST write-by.instrument-PASSIVE.1/2-1/2

1-PVB ROOT-VTR.VBZ-PASSIVE-1IN

'They wrote my name down (lit: I was written down).'

Target: [ni-gi-msin-ihu-kuwi-n]

Actual: [ana n-dgi-msan-o-gwa-n]  

(B3-2005-11-22#241)

Adult: $\phi^\prime \sigma^\text{a}$ $\Delta^\ast$

Awân kâ misinihusk.

'Who wrote your name on it for you?"
Billy:

<d6 Jamesx
Ai

James.

'Umm, James.'

Adult:
Pill ichishtau

nima.

'It is written Billy, eh?'

2.

Session 2- Age 4;07.26

(Total passive tokens: 6)

2.1. Conversation 3

Billy:

L·b~o

Chakwayiu

wl

uya.

'What is this?'

Adult:
Ah

chistapawi ah

chistapawi.

'To wash ... to wash .. .'

196


(3) Billy:

\[ \text{U-täh áhtut-ikiniwi-ch kiyipwá.} \]

\[ \text{this-LOC do-PASSIVE.3.O.S of course} \]

\[ \text{Target: [o-`dæ tot-ekənowi-tʃ kiba]} \]

\[ \text{Actual: [o-da: dod-anuwi-tʃ kə:]} \]

Translator comment: Correct verb composition but strange sentence structure.

(B3-2006-01-10#139)

Adult:

\[ \text{Tápå nichischâyimåu.} \]

'I don't know.'

Adult:

\[ \text{Chishtápåwitåkiníu anitih åi...} \]

'It is washed there ummm...' 

Adult:

\[ \text{Âh chishtápåwichichánìwiyich å.} \]

'When laundry is done?"
2.2. Conversation 4

(4) Billy: \( \varepsilon \sigma \hat{c}^{\prime} \hat{c}^{\prime} \Delta^{\prime} \cap \rho \sigma \Delta^{\prime} \hat{b} \)
Tanitâh áh ihtut-ikiñiwi-ch ú.
how PVB.CJ do-PASSIVE.3-O.S this
P,WH PVB.CJ ROOT.VTI-PASSIVE-CIN P,DEM.PXL

'How do you do this?'

Target: [dæn'd æ tot-ikínawo-tʃ oː]
Actual: [dand æ dod-owanno-t oː]

Translator comment: Sounds like he begins to say the passive morpheme -âkiniv but then changes his mind mid-way through.

(B3-2006-01-10#238)

Adult: ·<ï"v
Wäh.
'What?'

Billy: ·<ï"v
Wäh.
'What?'

Adult: \( \hat{\varepsilon} \sigma <\hat{\Delta}\hat{\rho}^{\prime} \hat{\rho} \sigma \hat{\Delta}^{\prime} \hat{b} \)
Chistwâwâpiyihâkinîù.
'It is started (lit: you make it, e.g., a skidoo, make a noise).'

198
(5) Billy:  \( \zeta \sigma \wedge \eta \)  \( \delta \)  \( \Delta^\eta \zeta \rho \sigma \Delta^\eta \)

Tänitih åh ihtut-ǎkinivi-ch.
where PVB,CJ do-PASSIVE.3-0.S
P,WH PVB,CJ ROOT.VTI-PASSIVE-CIN

'Where do you do it?'

Target: [dænˈd e tot-akino-tʃ]
Actual: [dænd a jɪdɒ-ɪgægəno:-_]

(B3-2006-01-10#242)

Adult:  \( \langle \sigma \zeta \rangle \)  \( \langle \eta \rangle \)

Anitāh áiyihch.

'Somewhere there.'

Adult:  \( \langle \lambda \eta \zeta \rho \sigma \rangle \)  \( \zeta \zeta \)  \( \zeta \sigma \zeta \zeta \zeta \zeta \zeta \)

Âpichihtākiniu chākwân, tąpą nichischāyimâu áyihutihk

James,  \( \langle \rangle \)  \( \zeta \zeta \)  \( \zeta \)

James, wāsh yāyitâ chîh winihtâchichâ.

'We use something, I don't know what James did with it, of course, he must have lost it.'
(6) Bill y:  
\[
\text{James,}
\]
Tânitih āh ihtut-ākiniwi-ch James.
where p\text{VB, CJ} do-PASSIVE.3-0.S name
p,\text{WH} p\text{VB, CJ} ROOT.VTI-PASSIVE-CIN N

'Where do you do it (name)?'

Target: [daen’d æ tot-agino-tʃ] (name)]
Actual: [dʒugon a dod-æno-tʃá] (name)

(B3-2006-01-10#245)

Billy: ·<i\text{u}>
Wāh.
'What?'

Adult:  
\[
\text{Tápâ nichischâyihtân anitâh āh ihtikuniyich.}
\]
'I don’t know where it is.'

2.3. Conversation 5

(7) Bill y:  
\[
\text{Chip-ih-ikiniwi-ch.}
\]
Tânitâh āh ihtut-iikiniwi-ch āh chip-ih-ikiniwi-ch.
how p\text{VB, CJ} do-PASSIVE.3-0.S p\text{VB, CJ} close-VTI.VBZ-PASSIVE.3-0.S
p,\text{WH} p\text{VB, CJ} ROOT.VTI-PASSIVE-CIN p\text{VB, CJ} ROOT-VTI.VBZ-PASSIVE-CIN N

'How is this closed?'

Target: [daen’d a tʰot-ikʰ’no-dʒ ɛ tsp-h-iga’no-tʃ]
Actual: [daen’d a dɔd-ano-dʒ a dʒap-h-a’no-ʃ]

(B3-2006-01-10#650)
3. Session 3 – Age 4;09.14 (Total passive tokens: 2)

3.1. Conversation 6

Billy: <d, σ₃ ولوΔ∩ρ₅Δ₄> ... James σ₋₃.₄₁
‘James hit me at our house.’

Adult: <σ₃₋₄₁> Δ∩ρ₅Δ₄
Aw náshch âh mihkwałych.
‘Aw, it's very red.’

Adult: Ṯ₋₄₁ b₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋₄₋Vert: 91.5 91.5
Billy: ĄwĄx
Îhî.
'Yes.'

Adult: ńrń, <1\n<σ \n<Про-
Châkwaayiu, umâtiwânish â.
'What? With his toy?'

Billy: ĄwĄx
Îhî.
'Yes.'

3.2. Conversation 7

(9) Billy: Drops ńw ńw \n<σ \n<Про-
Drops wâsh chîh pîchischit-in-ikiniu-u-h my eye.
Eng EMPH PAST release-by.hand-PASSIVE.3-3-0.PL Eng Eng
Eng P,DISCI PVB ROOT-vTR.VBZ-PASSIVE-IIN-IIN POSS,Pron.1 N
'They’re gonna put drops in my eye.'

Target: [\d3aps waf g\ a bits-n-1g\âno-o- m aj]
Actual: [d3aps a\ tiga bits-d-iganano-o- dm aj]

(B3-2006-02-28#599)

Billy: σ-τ ňdũx
Nishchîshikuhch.
'In my eye.'
4. Session 4 – Age 5;00.13 (Total passive tokens: 1)

4.1. Conversation 8

Adult: \( \text{\textcopyright \textregistered} \) \( ^d\text{\textcopyright \textregistered} \), \( \Delta \)

'Chichishchishikuhch á.

'In your eye?'

Billy: \( \ddot{h} \text{\textcopyright \textregistered} \), \( \dot{h} \text{\textcopyright \textregistered} \), \( \sigma \text{\textcopyright \textregistered} \)

'Násh’étápwaḥ násh’étápwaḥ nitáhkuhikán mánh.

'It hurts lots usually.'

Adult: \( \text{\textcopyright \textregistered} \text{\textcopyright \textregistered} \)

'Chimâtun.

'Are you crying?'

Billy: \( \Delta \text{\textcopyright \textregistered} \), \( \dot{h} \text{\textcopyright \textregistered} \), \( \dot{h} \text{\textcopyright \textregistered} \), \( \dot{h} \text{\textcopyright \textregistered} \), \( \sigma \text{\textcopyright \textregistered} \)

'Ihí, níshwáu wásh û máñ níchih itikw níkáwî.

'Yes, my mother said twice (e.g., drops twice a day).'</n
Billy:  $\Delta^u \phi \Sigma^v \xi_{x}$  
$\Delta^u \phi \Sigma^v \xi_{x}$  
'When it's hot those right?'

Adult:  $\Delta^u \Delta_x$  
'Ihi.'  
'Yes.'

(10) Billy:  $\Delta^u \Gamma \sigma \Delta \Delta^u$  
$\Delta^u \Gamma \sigma \Delta \Delta^u$  
'You take these off, right?'

Target:  ['a  man- _ -igana-wi-ʧ- _  w-iajo- _  namι]  
Actual:  [ _  mn- _ -igonegonɔ- j-ʧ- _  ojejə-ʧ  na]  
(B3-2006-05-27#57)

Adult:  $\Delta^u \Delta_x$  
'Ihi.'  
'Yes.'
5. Session 5 – Age 5;02.12  (Total passive tokens: 2)

5.1. Conversation 9

(11) Billy: \[\text{Chih tipi-hi-ikini-u } \text{wåsh.} \]
\[\text{PAST measure-by.instrument-PASSIVE.3-3 P,EMPH} \]
\[\text{PVB ROOT-VTL.VBE-PASSIVE-IIIN P,EMPH} \]
'It was paid.'

Target: [dʒi dəp-i-ge'no:-_ waf]
Actual: [dʒi təp-hi-təno- _ waf]

(B3-2006-07-26#265)

Adult: \[\text{Chih tipihícháníũ } â. \]
'Was it already paid?'

Billy: \[\text{Íhí chiki tipihícháníũ } \text{wåsh.} \]
'Yes, it will be paid.'
5.2. Conversation 10

Adult: ƛ·<Ɂƛ· ṣ·<ɁM· ƛ·<Ɂγ·č· ṣ·<Ɂγ·č·b ṣ·<Ɂ·č,
Chiwáyíná kiyipwá chá wápimit nitiwápimiská kiyipwá,

ƛ·<Ɂγ·č·, ƛ·
chá wápimit, á.
'You will see her when you go home, you will see her when she comes to get you, ok?'

Adult: ɬ·<Ɂn·ɭ·<Ɂp·<Ɂn·ʃw· ɬ·<Ɂ·<Ɂ· ɬ·<Ɂn·ɭ·<Ɂp·<Ɂn·ʃw·
Chiskutimuwağiniwíchichá wash,aw, chiskutimuwağiniwíchichá,

ɬ·<Ɂn·ɭ·<Ɂn·ʃw· ɬ·<Ɂ·,
ápitisíchichá wash.
'She must be in class, aw she must be in class, she must be working.'

(12) Billy: ṣ·ʃɑ· ɬ·<Ɂn·ɭ·<Ɂp·<Ɂn·ʃw·o· [??]*
Nimui chiskutim-uw-âkinwi-yi-u-h [??].
not teach-VTA.VBZ-PASSIVE.3-OBV-3-OBV
P,NEG ROOT-VTA.VBZ-PASSIVE-OBV-1IN-OBV
'His [indecipherable] is not going to school.'

Target: [na·mtj t'skudəm-w-əguna-y-o- _ *]
Actual: [mtj skudom- _-ənaw- _-u- _ *]

(B3-2006-07-26#377)
6. Session 6 – Age 5:05.00  (Total passive tokens: 7)

6.1. Conversation 11

Billy: ewire  eof
Chàkwàn  úiu.
'What is this?'

Adult: 电线 带
Àh  mâtìwâniwich.
'it's a game.'

(13) Billy: 电线 带 电线 带
Tânitâh  àh  ihtut-ikiniwi-ch.
how  PVB,CJ  do-PASSIVE.3-0.S
P,WH  PVB,CJ  ROOT.VTI-PASSIVE-CIN
'How do you use this?'

Target: ['danda  a  'tot-igono-yf]
Actual: [tand  a  tan-ano-top]

(B3-2006-10-14#311)

Adult: 电线 带 电线 带
Àh  âpìhìkìniwich  à.
'To open it?'

207
6.2. Conversation 12

Adult: ða'x, ða'x
Chitiyân á an chíyi ká ishinâku.  
'Do you have one that looks like this?'

Adult: σ—Δ ða'x,  
Nimui á chitiyân.  
'You don't have one?'

(14) Billy: ða'x ða'x ða'x ða'x  
Shâsh chîh wâp-ikt-ikini-u.  
already past light-by.head-passive.3-3  
P,TIME PVB ROOT-VT1.VBZ-PASSIVE-I1N  
'It's already been seen.'

Target: [ˈʃaʃ ˈʤɪ wap-ikt-itkʌn-o]  
Actual: [ha ˈʤɪ jup-ˌt-əgən-əp]

Adult: ða'x ða'x ða'x  
Chichîh iyun á mân.  
'Did you have one before?'
(15) Billy:

\[ \text{Shāsh} \text{ chīh wáp-in-ikiniu-u.} \]
\[ \text{already PAST throw.out-by.hand-PASSIVE.3-3} \]
\[ \text{P,TIME PVB ROOT-VTR.VBZ-PASSIVE-IIN} \]

'It was already thrown out.'

Target: [’Jaʃ dʒi wab-ən-ιɡən-o]
Actual: [haʃ dʒi wab-ιɡən-o?]

(B3-2006-10-14#447)

Adult:

\[ \text{Awān kā wápinihk.} \]

'Who threw it away?'

(16) Billy

\[ \text{N-óhtáwi, chīh iskwā-s-ikiniu-u.} \]
\[ \text{1-father PAST burn-VTI.VBZ-PASSIVE.3-3} \]
\[ \text{1-NAD PVB ROOT-VTI.VBZ-PASSIVE-IIN} \]

'My father; it was burned.'

Target: [n-ə’tawi? ɨdʒ iskə-s-əɡən-o]
Actual: [m-ədawt dʒi ʃka-s-əɡn-ʊp']

(B3-2006-10-14#449)

Billy:

\[ \text{Îhi.} \]

'Yes.'

209
Adult: \[ \Delta^b\rho \sigma \bar{b}^\prime \triangleleft L^a \land \neg \neg \rho \sigma \neg \neg \bar{n}^x \]
Iskwásikiniüh ā mān chimátìwákinish-h.
'Are your toys burned sometimes?'

Adult: \[ \Delta^a \land \rho \bar{n} \rho \bar{u}^\prime \triangleleft \bar{x} \]
Ah pikupiıyih-ch á.
'Those that were broken? / When they are broken?'

Billy: Mhm good
'Mhm good.'

6.3. **Conversation 13**

Adult: \[ \bar{b} \sigma \bar{c} \rho \bar{a} \rho \cap \alpha \triangleleft \bar{r} \bar{L}^x \]
Chā nikwátáyin kiyipwá pişim.
'You will catch the sun with your snare.'

Adult: \[ \Delta b \cap \bar{c}^\alpha, \bar{b} \sigma \bar{c} \rho \bar{a} \rho \cap \alpha \triangleleft \bar{r} \bar{L}^x \]
Akwátiân ū, chā nikwátáyin kiyipwá pişim.
'I said, "You will catch the sun with your snare".'
(17) Billy: に入った “入” σ^1-b.CPσ−Δτ"x
Châkwán an “åh nikiwâ-t-âkinwi-t.”
what that PVB,CJ snare-VTA.VBZ-PASSIVE.3-3.S
PRO,WH P,DEM.DST PVB,CJ ROOT-VTA.VBZ-PASSIVE-CIN
'What is the meaning of “åh nikiwâtâkiniwit”?'

Target: [ʼdاغwan ən a nəgo-t-əgano-th]
Actual: [θəgan _ ə ga-b-əgəmə-ff]
(2006-10-14#516)

Adult: に入った “入” であな。
Chichischâyihtân å an.
'Do you know that...?'

(18) Billy: に入った “入” σ^1-b.CPσ−Δτ"x
Châkwán an “åh nikiwâ-t-âkinwi-t.”
what that PVB,CJ snare-VTA.VBZ-PASSIVE.3-3.S
PRO,WH P,DEM.DST PVB,CJ ROOT-VTA.VBZ-PASSIVE-CIN
'What is the meaning of “åh nikiwâtâkiniwit”?'

Target: [ʼdاغwan ən a nəgo-t-əgano-th]
Actual: [ʃəgan _ ə ga-d-əgəna-ff]
(2006-10-14#518)
Billy: Ɂ-bə Ɂə "Ɂə Ɂ-iʔə-C Ɂ-qə-Δɛ×.
Châkwân an "âh nikwâ-t-âkinini-t."
what that PVB,CJ snare-VTA.VBZ-PASSIVE.3-3.S
PRO,WH P,DEM,DST PVB,CJ ROOT-VTA.VBZ-PASSIVE-CIN

'What is the meaning of "âh nikwâtâkininiwit"?'

Target: ['dʒagwan ən a nəgo-t-əgano-ʔh]
Actual: [dʒagən Ɂ i nəgo-d-əgano-ʧ]

(2006-10-14#519)

Adult: Ɂə Ɂ-iʔə-C Ɂ-qə-Δɛ× Ɂə Ɂ-bə×
Âh nikwâtâkininiwich â châkwân.
'To catch something in a snare?'

Billy: Ɂ "Ɂx
Ɂhî.
'Yes.'

Adult: ɁΔ, Ɂɨ-Ɂ, Ɂ>ə, Ɂwithdrawn Ɂx,
Ɂî, kiyipwâ, wâpush, chichischâyihtân,

Ɂ>ə Ɂə Ɂ-iʔə-C Ɂ-qə-Δɛ×
wâpush âh nikwâtâkininiwit.
Hmm, yes, rabbit, do you know, to snare a rabbit?'

Billy: Ɂ "Ɂx
Ɂhî.
'Yes.'
Adult:  

Åh tāpikwâniwich.  
'To set snares.'

Billy:  

Nimimâh, niki pâschiswâupisim, à.  
'No, I will shoot at the sun, okay?'

---

7.  Session 7 – Age 5;05.22  (Total passive tokens: 4)

7.1. Conversation 14

(20)  Billy:  

Tân âi... tânitäh âh ihtut-ikiniwi-ch.  
P,WH PRO,HES... how PVB,CJ do-PASSIVE.3-0.S  
P,WH PRO,HES... P,WH PVB,CJ ROOT.VTI-PASSIVE-CIN  

'How is it done?'

Target:  [tan aji tant a htot-ikiniwi-ʃ]  
Actual:  [tan aj tan a wtt-ikino-ʃ]  

(B3-2006-11-06#249)

Adult:  

Tâpâ nikischihun kiyâh niyi, chihin à.  
'I don't know how to do it either, is it working?'

Billy:  

Nimimâh.  
'No.'
7.2. Conversation 15

Adult:  Liču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δuču
Δu
(22) Billy: \( \zeta \zeta' \zeta'' \zeta''' \zeta'''' \zeta''''' \zeta''''' \zeta'''''' \zeta''''''' \zeta'''''''' \zeta''''''''' \zeta''''''''' \zeta'''''''''' \zeta'''''''''' \zeta''''''''''' \zeta''''''''''' \zeta'''''''''''' \zeta'''''''''''' \zeta''''''''''''' \zeta'''''''''''''' \zeta'''''''''''''' \zeta''''''''''''''' \zeta'''''''''''''''' \zeta'''''''''''''''' \zeta''''''''''''''''' \zeta'''''''''''''''''' \zeta''''''''''''''''''' \zeta''''''''''''''''''''' \zeta''''''''''''''''''''' \zeta''''''''''''''''''''''' \zeta'''''''''''''''''''''''' \zeta''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''' \zet ADULT: 

'Target: [tamp] actual: [tan]

(B3-2006-11-06#344)

7.3. Conversation 16

(23) Billy: 

Susie: \( \zeta'' \zeta'''' \zeta''''' \zeta'''''' \zeta''''''' \zeta'''''''' \zeta''''''''' \zeta'''''''''' \zeta''''''''''' \zeta'''''''''''' \zeta''''''''''''' \zeta'''''''''''''' \zeta'''''''''''''' \zeta''''''''''''''''' \zeta'''''''''''''''''' \zeta''''''''''''''''''' \zeta'''''''''''''''''''' \zeta''''''''''''''''''''' \zeta'''''''''''''''''''''' \zeta'''''''''''''''''''''''' \zeta'''''''''''''''''''''''' \zeta''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''' \zeta'''''''''''''''''''''''''''''''''' \zeta''''''''''''''''''''''''''''''''''' \zet

Target: [(name) a] actual: [(name) o]

(B3-2006-11-06#628)
Billy: $\sigma \left< \text{"r} \right>$

Nipâschichâshin.
'I (little me) shoot/I shoot a little bit.'

Billy: $\left< \text{"r} \right>$

Åh pâschichâshiyân chiwâpihtân.
'When I (little me) shoot, do you see?'

8. Session 9 – Age 5;10.06  (Total passive tokens: 7)

8.1. Conversation 17

(24) Billy: $\left< \text{"r} \right>$

Tânitâh âhtut-ikiniwi-ch.
how do-PASSIVE.3-0.s
p,wh IC.ROOT.VTI-PASSIVE-CIN

'How is it done? (How do you do this?)'

Target: [tant ahtut-ikano-ʃ]
Actual: [bôh adod-ono-ʃ]

(B3-2007-03-19#6)

8.2. Conversation 18

Adult: $\left< \text{"r} \right>$

Ashkw nimui iskulû anitâh mîn kutik awâshish.
'No other child is going to school there yet.'

216
(25) Billy: Chih itùth-ākini-u wāsh ani-tāh awāshish. PAST take-PASSIVE.3-3 EMPH that-LOC child PVB ROOT:VTA-PASSIVE-IIIN P,DISC P,DEM.DST-LOC NA 'They took the child over there.'

Target: [tší tůuth-a-kíno wájí m-tah áwájí] Actual: [dži doboth-a-gán a köz m-da wájí]

(B3-2007-03-19#201)

Adult: Tānitāh. 'Where?'

Billy: Anitāh āh áskūluwit. 'Where he goes to school.'

8.3. Conversation 19

Adult: Chipikwāyihṭán ā chiṭyí Easter. 'Are you anxious for Easter to come?'

Adult: Chichischāyihṭán ā chākuwān Easter. 'Do you know what's Easter?'
(26) Billy: Eggs ẖa .EventHandler\(\sigma \Lambda^u_s \wedge \hat{\sigma}^\Gamma^t b^o\),
Egg-s åh pât-iñiniwi-ch-h.
ENG-ENG PVBCJ bring-PASSIVE.3-3.S-0.PL
N-PL PVBCJ ROOT-PASSIVE-CIN-CIN
'When eggs are brought (e.g., Easter).'

Target: [ek-s a-pat-čkano-ʧ-ʃ]  
Actual: [eg-s a-bad-aŋano-ʧ-ʃ]  

(83-2007-03-19#350)

Adult: Chishayimihâuchishikâu, nimâ.  
'It's Easter, right?'

Billy: ẖa ynı.  
'What?'

Adult: Chishayimihâuchishikâu înâniū.  
'We say Easter.'

Lit. 'It is said Great Sunday.'

8.4. Conversation 20

Adult: Chichischayimâwich å angels.  
'You know angels?'
Billy: Δ"Δ₄
İhî.
'Yes.'

(27) Billy: σ^₄₅
Δ₄Δ₅
<Δ₄Δ₅ₕ>
Ni-chih wiht-im-å-kiwi-n apishish...
I-PAST tell-by.head-APPLIC-PASSIVE.1-1/2 little
I-PVB ROOT-VTA.VBZ-VTA.VBZ-PASSIVE-IN P,QUANT
'I was told a little about (angels)...'

Target: [n-ʃi wiht-im-a-kωw-n ʃjʃʃ]
Actual: [m̥-dʒi -tʰəm-a-gə-n ʃjʃʃ əweda] (B3-2007-03-19#370)

Adult: "<Δ₄₉
Wâh.
'What?'
(28) Billy: o-r" II n
Ni-chih wiht-im-á-kiwi-n
I-PAST tell-by.head-APPLIC-PASSIVE.1-1/2 little ENG
I-PVB ROOT-VTA.VBZ-VTA.VBZ-PASSIVE-IIN P,QUANT ADV

ah kiwishim-u-ch.
PVB,CJ go.to.bed-VAL.VBZ-3.PL
PVB,CJ ROOT-VAL.VBZ-CIN
'I was told they go to bed a little too late.'

Target: [n-ʧi wiht-im-a-kow-n ipjʧ lejʧ a kowʧim-u-ʧ]
Actual: [æn-dʒidgi wet-am-a-gu-n ipjʧ ledaŋ a gajum-i-ʧ]
(B3-2007-03-19#372)

Adult: o-<a " Δ"n \L̂PΔ a <oʌʌ,ɫʌʌ late
Awân kâh wihtimâsk.
'Who told you?'

Billy: o<a a
Wâh.
'What?'

Billy: <Δ James a
Ai James.
'Umm, James.'
8.5. Conversation 21

(29) Billy: Ni-chih misin-apsk-hu-ki-wi-n wásh shásh.
1-PAST write-metal,mineral-by.instrument-PASSIVE.1/2-1/2 EMPH already
1-PVB ROOT-MEDIAL-VBZ-PASSIVE-IIIN P,DISC P,TIME
'I was already videotaped / I already had my picture taken.'

Target: [n-+
Actual: [–d33] msn-apsk-o-ko-n af af amiaj]

Billy: Tápá nichischáyihtán.
'I don't know.'

Adult: Táisp.
'When?'

Billy: Wáshkich.
'Long ago.'
8.6. Conversation 22

(30) Billy: $<$d$^4$ $<$ $<$d$^a$ up and down
    Ŷukw â an up and down
    that.one P,QST that ENG ENG ENG
    PRO,FOC P,QST P,DEM.DST ENG ENG ENG

$<$d$^n$ $\Delta^'\wedge^''\wedge^''\wedge $$\wedge^'\wedge $$\wedge $\wedge $\wedge $

âh is-piyi-ht-âkiníwí-ch.

PVB,CJ thus-y-DYN-CAUS-PASSIVE.3-0.S

PVB,CJ ROOT-\*V\*BZ-\*V\*BZ-PASSIVE-CIN

'Is this what is used to make it go up and down?'

Target: [aw a n âp an tawn a js-pi-ht-akanow-$f$]
Actual: [awg a n ab ð dînt aw is-pi-td-agono-$f$]

(B3-2007-03-19#617)

Adult: $\Delta^''\wedge$

Îhî.

'Yes.'

Adult: $\sigma^\wedge \wedge $ $<\wedge $$<\wedge $ $\wedge $$\wedge $$\wedge $ $\wedge $ $\wedge $ $\wedge $ $\wedge $ $\wedge $ $\wedge $ $\wedge $

Nimi wâwâch nûhchi chipihchinâhtâkupin.

'It looks like I didn't even turn it off.'
9. Session 10 – Age 5;10.18  (Total passive tokens: 4)

9.1. Conversation 23

Billy:
James  \[\tilde{\Gamma}^{\prime\prime} \land \tilde{\Gamma} \land \tilde{\alpha}, \quad \tilde{\sigma} \tilde{\nu}\]
on the back  \[\tilde{\sigma}^{\prime\prime}\]
James  chih pimipi, niy on the back  nichih  ihtawan.
'James was driving and I sat in the back.'

(31) Billy:
\[\tilde{\Gamma}^{\prime\prime} \land \tilde{\alpha} \land \tilde{\alpha}^{\prime} \land \tilde{\sigma} \cdot \Delta_{x}\]
Susie:
Min  kâh  pim-ipi, h-âkiwi-t  Susie.
again  PVB,CJ  move-DYN-CAUS-PASSIVE.3-3.S  name
P,QUAN T  PVB,CJ  ROOT-VI.VBZ-VTA.VBZ-PASSIVE-CIN  N
'Then it was Susie's turn, (name) had a ride.'

Target:  ['min  ga  bam-bi-h-agano-t  (name)]
Actual:  [min  ga  vim-bi-h-agano-d  (name)]

(B3-2007-04-02#63)

Billy:
\[\tilde{\Gamma}^{\prime} \land \tilde{\alpha} \land \tilde{\alpha}^{\prime} \land \tilde{\sigma}^{\prime} \land \tilde{\nu}\]
Mîn  âi  kâpihchichâyâhch  utih.
'Then, hmm, we came in(side) here.'

Adult:
\[\tilde{\Gamma}^{\prime}\]
Oh.
'Oh!'
9.2. Conversation 24

Adult: Daycare <\n\nDaycare á ihtâshiyyuh.
'Is she at the daycare?'

Billy: \n
'Yes.'

(32) Billy: \n
Tâpâ chip-ih-ikiniiu-u anûhch daycare.
not close-\textit{vti.vbz-passive.3-3} today \textit{eng}
p,\textit{neg vpb-\textit{vti.vbz-passive-lln}} p,\textit{time} \textit{eng}
'The daycare's not closed today.'

Target: [daba tsa'p-\textit{b}-igano ajna'f dek\textit{b}e\textit{j}]
Actual: [ba džōb-\textit{b}-ignu anof dik\textit{b}e\textit{ji}]

(B3-2007-04-02#193)

9.3. Conversation 25

Billy: \n
Wâpim mâ.
'Look at him/it.'

Adult: \n
'What?'

224
(33) Billy:

\[ \Gamma' \Delta \Lambda \Gamma \Delta \Psi \Delta \varphi \varphi \Gamma \Delta \varphi \Delta \varphi \]

Âukw an châ misin-âpisk-ihw-âkiníwi-t.

that one that FUT write-metal, mineral-VTA.VBZ=PASSIVE.3-3.S

PRO, FOC P, DEM. DST PB, CJ ROOT = MEDIAL = VTA. VBZ = PASSIVE = CIN

'It will be the one that is filmed.'

Target: [awk * an dʒə msn-am'sk-k-w-agōnw-th]
Actual: [awg an dʒə nbisn-ask-w-odnu-tb]

(B3-2007-04-02 #306)

(34) Billy:

\[ \Gamma' \Delta \Lambda \Gamma \Delta \Psi \Delta \varphi \varphi \Gamma \Delta \varphi \Delta \varphi \]

Misin-âpisk-ihw-âkiníu-u â iskitū utâh.

write-metal, mineral-VTA.VBZ=PASSIVE.3-3 P, QST skidoo here

ROOT = MEDIAL = VTA. VBZ = PASSIVE = IIN P, QST NA P, DEM. LOCATION

'Is the skidoo going to be filmed like this?'

Target: [psn-'b-sk-w-agān-o a skidu 'tata]
Actual: [ipsn-âpsk-k-agān-ol a.sgido 'tâe]

(B3-2007-04-02 #307)

Adult:

\[ \Gamma' \Delta \Lambda \]

Kwâshtâh mâ 'tîh.

'Place it on the other side.'

Billy: \[ \Gamma' \Delta \Lambda \]

Utâh.

'This way?'
Adult: Δ"Δ.
İhî.
'Yes.'
### Session Analysis

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Morphological form</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic</td>
<td>7</td>
<td>12</td>
<td>6</td>
<td>2</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>55</td>
<td>64.0%</td>
<td></td>
</tr>
<tr>
<td>Causative</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>4.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do-passive</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2.3%</td>
<td></td>
</tr>
<tr>
<td>Medial</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>20</td>
<td>23.3%</td>
<td></td>
</tr>
<tr>
<td>Applicative</td>
<td>0</td>
<td>6</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>5.8%</td>
<td></td>
</tr>
<tr>
<td><strong>Additional morphology</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oblique</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3.5%</td>
</tr>
<tr>
<td>Phrasal</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>16</td>
<td>18.6%</td>
<td></td>
</tr>
<tr>
<td>Locative phrase</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1.2%</td>
<td></td>
</tr>
<tr>
<td>Habitual</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1.2%</td>
<td></td>
</tr>
<tr>
<td>Prepositional</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>3.5%</td>
</tr>
<tr>
<td>Denominative</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2.3%</td>
</tr>
<tr>
<td>Subordinate</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3.5%</td>
</tr>
<tr>
<td>Adverbial</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3.5%</td>
</tr>
<tr>
<td><strong>Person</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAP</td>
<td>2</td>
<td>9</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>29</td>
<td>33.3%</td>
</tr>
<tr>
<td>non-SAP</td>
<td>8</td>
<td>9</td>
<td>7</td>
<td>2</td>
<td>8</td>
<td>7</td>
<td>7</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>58</td>
<td>67.7%</td>
</tr>
<tr>
<td><strong>Verb type</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actional</td>
<td>5</td>
<td>10</td>
<td>8</td>
<td>3</td>
<td>7</td>
<td>8</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>60</td>
<td>69.8%</td>
</tr>
<tr>
<td>Non-actional</td>
<td>4</td>
<td>8</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>26</td>
<td>30.2%</td>
</tr>
<tr>
<td><strong>Verb class</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VTI</td>
<td>5</td>
<td>6</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>27</td>
<td>31.4%</td>
</tr>
<tr>
<td>VTA</td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>3</td>
<td>6</td>
<td>4</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>39</td>
<td>45.3%</td>
</tr>
<tr>
<td>transitive AI</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>6</td>
<td>7.0%</td>
</tr>
<tr>
<td>co-VTA</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>14</td>
<td>15.9%</td>
</tr>
<tr>
<td><strong>Inflexion</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>1</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>36</td>
<td>41.9%</td>
</tr>
<tr>
<td>CN</td>
<td>5</td>
<td>4</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>46</td>
<td>53.5%</td>
</tr>
<tr>
<td>IDP</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>4.7%</td>
</tr>
</tbody>
</table>

- **Actional verbs**: attach (2), bring, burn, buy, close (3), do (3), drive (2), give (9), go (2), go to, handout, lock, make (4), open (4), prevent (2), put (2), say (5), snare (2), speak, take care of (4), teach (2), tell (2)
- **Non-actional verbs**: allow (4), be named (5), hear, know (2), look (2), make sound, notice, see (4), want
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>morphological form</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>16</td>
<td>45.7%</td>
</tr>
<tr>
<td>Causative</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>8.6%</td>
</tr>
<tr>
<td>Do-passive</td>
<td>0</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>11</td>
<td>31.4%</td>
</tr>
<tr>
<td>Medial</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>8.6%</td>
</tr>
<tr>
<td>Applicative</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>5.7%</td>
</tr>
<tr>
<td>Additional morphology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oblique</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>5.7%</td>
</tr>
<tr>
<td>Plural</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>8.6%</td>
</tr>
<tr>
<td>Locative phrase</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2.9%</td>
</tr>
<tr>
<td>Habitual</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Patient NP</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Diminutive</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Subjunctive</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Adverbial</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Person</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>5</td>
<td>14.3%</td>
<td>41.7%</td>
</tr>
<tr>
<td>SAP</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>30</td>
<td>86.7%</td>
<td>100%</td>
</tr>
<tr>
<td>non-SAP</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>7</td>
<td>3</td>
<td>4</td>
<td>34</td>
<td>97.1%</td>
<td>100%</td>
</tr>
<tr>
<td>Verb type</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actional</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>4</td>
<td>7</td>
<td>4</td>
<td>34</td>
<td>97.1%</td>
</tr>
<tr>
<td>Non-actional</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2.9%</td>
<td>8.6%</td>
</tr>
<tr>
<td>Verb class</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VTI</td>
<td>0</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>21</td>
<td>60.0%</td>
</tr>
<tr>
<td>VTA</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>34.3%</td>
</tr>
<tr>
<td>transitive A1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>di-VTA</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>5.7%</td>
</tr>
<tr>
<td>Inflection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INN</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>14</td>
<td>40.0%</td>
</tr>
<tr>
<td>CIN</td>
<td>1</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>21</td>
<td>60.0%</td>
</tr>
<tr>
<td>IDP</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Actional verbs
bring, bum, close (2), do (11), drive, move (2), pay, release, snake (3), take, teach, tell (2), throw out, video-record (3), write

Non-actional verbs
see
Appendix IV – Unergative Misanalysis Hypothesis

This appendix consists of an overview of four experimental studies of the acquisition of split intransitivity, beginning with two studies of Russian acquisition that support the unergative misanalysis hypothesis (Borer & Wexler 1992).

Babyonyshev et al. (2001) find support for the unergative misanalysis in their study of the acquisition of the Russian genitive-of-negation (GoN) construction. The GoN construction is one in which an underlying direct object (Pesetsky 1982) may be marked with genitive case if it is both nonspecific and indefinite and the sentence is negative, as in example (1b) below. 73

(1) **Russian Genitive-of-Negation**

a. *Ja ne polučil pis'ma.*
   
   I not received letter-ACC.PL
   
   'I didn't receive the/some letters.'

b. *Ja ne polučil (nikakix) pism.*
   
   I not received (NEG-kind-GEN.PL)letter-GEN.PL
   
   'I didn't receive any letters.'

73 Levin & Rappaport Hovav (1995) note that Pesetsky's (1982) characterization of the GoN construction as a diagnostic for unaccusativity in Russian does not account for the (small number of) unergative verbs that participate in this construction, as pointed out by Babby (1978; 1980). They suggest that discourse factors may provide a better explanation for this construction, in line with their analysis of the locative inversion construction (see ft. 74, below). Given this consideration, it is interesting that the children tested in Babyonyshev et. al.'s (2001) experiment never produce GoN constructions with unergative verbs. One wonders what the acquisition of this subset of GoN verbs would look like in Russian.
As the GoN is found on underlying arguments (Pesetsky 1982), it occurs both on direct objects of transitive verbs (as we saw above) and on derived subjects of unaccusative verbs. Compare this with subjects of unergative verbs, which do not permit GoN. We see this below (2).

(2) \textbf{Genitive-of-Negative permitted on derived subjects of unaccusative verbs}

\begin{enumerate}
\item a. Ne rasstajalo \textit{ni odnoj snežinki}. \textbf{Unaccusative}
\begin{itemize}
\item not melted-\textit{neu.sg} \quad \textit{neg single-gen.sg snowflake-gen.sg}
\end{itemize}
'Not a single snowflake melted.'

\item b. *Nikakix \textit{devoček} ne tancevalo. \textbf{Unergative}
\begin{itemize}
\item neg-kind-gen.pl \quad \textit{girl-gen.pl} \quad not danced-\textit{neu.sg}
\end{itemize}
'No girls danced.'
\end{enumerate}

One sub-set of Russian unaccusative verbs, called “bleached” unaccusatives, require genitive case in negative constructions.

(3) \textbf{“Bleached” Unaccusative}

\begin{enumerate}
\item a. V \textit{gorode} ne bylo \textit{vrača}. \textbf{Unaccusative}
\begin{itemize}
\item in town \quad not was-\textit{neu.sg} \quad doctor-gen.sg
\end{itemize}
'There was no doctor in town / The doctor was not in town.'
\end{enumerate}
b. \*V gorode ne byl \textit{vrač}.

\begin{tabular}{llll}
  in & town & not & \textit{was-MASC.SG} & \textit{doctor-NOM.SG} \\
\end{tabular}

Intended: 'There was no doctor in town / The doctor was not in town.'

(Babyonyshev et al. 2001:13, ex. 13)

Derived subjects of unaccusative verbs remain \textit{in situ} in Russian, that is, in post-verbal position. Babyonyshev et. al. argue that there is covert movement in Russian, and thus unaccusative verbs require the formation of an A-chain (Babyonyshev et al. 2001:14-18). Thus, the prediction of the Maturation Hypothesis is that children will produce GoN constructions on the objects of transitive verbs, but they will analyze all intransitive verbs as unergative and will not permit GoN constructions on the derived subjects of unaccusative verbs, even bleached unaccusatives.

To test this, the researchers used a sentence completion task, where 30 children (3;0-6;6) were prompted to finish a sentence, providing the argument of a transitive, unergative, unaccusative or bleached unaccusative verb. The Maturation Hypothesis makes the prediction that pre-mature children will only produce arguments bearing nominative case for all intransitive verbs, even for (common) bleached intransitives, ignoring the fact that these verbs require GoN on their arguments. The results of the experiment are as follows (4).

(4) \textbf{RUSSIAN GENITIVE-OF-NEGATION SENTENCE COMPLETION TASK RESULTS}
Children produce genitive case-marked nominals to complete transitive sentences at a rate significantly higher than they do with unaccusative verbs. This result supports the Maturation Hypothesis, which predicts that children will have difficulty with intransitives. The authors argue that the rate of genitive responses to unaccusative verbs is partly a result of the age of each child: with respect to A-chain formation, some of the respondents are pre-mature, while others are mature. Overall, the researchers found seven different patterns of responses, most easily accounted for by the Maturation Hypothesis.

One set of respondents gave genitive responses to regular unaccusative verbs but nominative responses to bleached unaccusative verbs, which is a marginal case for the Maturation Hypothesis, and the researchers speculate that these children are in flux, or that they fail to treat unaccusative verbs consistently, or that there is some interaction with the Uniformity of Theta Assignment Hypothesis (UTAH) (Baker 1988).

Another paper in support of maturation considers the acquisition of defective $v$ in Russian locative inversion constructions (Kallestinova 2007). The locative inversion construction refers to a word order variation possible only with unaccusative verbs in Russian (Babyonyshchev 1996).\footnote{Levin & Rappaport Hovav (1995) argue that, at least in English, the locative inversion is not a diagnostic for unaccusativity, showing that both unaccusative and unergative verbs may participate in}
English example below (5a).

(5) **Locative inversion in English**

a. In the distance appeared the towers and spires of a town which greatly resembled Oxford.  
   [L. Bromfield, *The Farm*, 124]

b. The towers and spires of a town which greatly resembled Oxford appeared in the distance.
   
   (Levin & Rappaport Hovav 1995:218, ex. 1.2)

In Russian, the locative inversion may appear with either VS or PP VS word order, as below (6a).

(6) **Locative inversion in Russian**

a. **Unaccusative verb**

   (Nakuxne) svistit chainik.
   
   In kitchen whistles-PRES.3sg kettle-NOM.SG
   
   In the kitchen whistles the kettle.'

b. **Unergative verb**

   ??(Sebe pod nos) svistit Vanya.
   
   self-DAT undernose whistles-PRES.3sg Vanya-NOM
   
   'To himself whistles Vanya.'
   
   (Babynyshev 1996:27)

---

this construction, which is triggered by discourse factors. See also, e.g., Birner & Ward (1998).

233
To account for the various word orders available for unaccusative verbs, Kallestinova (2007) proposes that unaccusative verbs project a defective $v$, as in the following structure (7).

(7) **Unaccusative verb structure in Russian**

```
  νP  
   ν  VP
     NP  V'
        V  (PP)
```

(Kallestinova 2007:336, ex. 7)

The above structure yields all possible unaccusative word orders: SV(PP) and (PP)VS, with some additional complications with respect to optional adjunct phrases that are ignored here. As there is no intervening agent argument projected in Spec-$v$P, the NP and (optionally null) PP are within the same minimal domain and either phrase could raise to check the strong EPP feature (Chomsky 1995). On the other hand, unergative verbs project Spec-$v$P, meaning that the agent NP Merged in Spec-$v$P is the only NP available to check the EPP feature, following the Minimal Link Condition (Miyagawa 1993; Chomsky 1995). Thus, given this structure, the only possible word order for unergative sentences is SV(PP) (8).
Following the UPH and the unergative misanalysis, children acquiring Russian unaccusative verbs are expected to treat the defective v-projection in the unaccusative verb structure in (7) as though it were a full vP as in (8).

Kallestinova (2007) finds experimental evidence for the unergative misanalysis with a picture-description task. Unaccusative word order was analyzed in the productions of 30 monolingual Russian-speaking 3-year-olds, 31 6-year-olds, and 47 adults. The results are as follows (9).

(9) **Experimental results: Russian locative inversion**

<table>
<thead>
<tr>
<th>Word Order</th>
<th>Unaccusative sentences</th>
<th>Unergative sentences</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3-y-o</td>
<td>6-y-o</td>
</tr>
<tr>
<td><strong>SV</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>113</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>82.5%</td>
<td>75.2%</td>
</tr>
<tr>
<td><strong>Locative inversion</strong></td>
<td>24</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>17.5%</td>
<td>24.8%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>137</td>
<td>145</td>
</tr>
</tbody>
</table>

(Kallestinova 2007:340)
The key finding of this experiment is that there is no significant difference between the productions of unaccusative and unergative word order by 3-year-old children, and all productions utilize the word order typical of unergative verbs. On the other hand, word order productions of the two types of sentences are significantly different in the speech of 6-year-old children and adults.

Kallestinova (2007) observes that children first acquire the locative inversion with prototypical unaccusatives such as verbs of change of location, change of state and appearance (Sorace 2004), then extend this word order to other classes of unaccusatives. This observation seems to be more consistent with theories of emergent grammar than with maturation. If maturation is correct, we would expect children to begin to produce all types of unaccusative verbs with the locative inversion order at the same time. Instead, it seems that Russian-speaking children first acquire the most “basic” unaccusative verbs and then gradually master the more abstract or ambiguous verbs. This type of gradual mastery is not consistent with a maturational view (see Rose & Brittain 2011 for similar findings in the acquisition in Cree).

Two studies of Japanese acquisition, a study of “full” unaccusatives (Sano, Endo, & Yamakoshi 2001) and a study of te-iru aspect constructions (Shimada & Sano 2007), do not support the Unergative Misanalysis or the Maturation Hypothesis.

Sano, Endo & Yamakoshi (2001) demonstrate that Japanese unaccusative require the formation of an A-chain. They show that, by age 3 (n=8, mean age 3;6), Japanese children are able to distinguish between the thematic roles of the subjects of null-object transitive verbs (agent) and the subjects of unaccusative verbs (theme) in a
comprehension task (40/46 correct responses = 87%), as in the following stimulus sentences (10).\textsuperscript{75}

(10) **null-object transitive verbs and unaccusative verbs in Japanese**

\begin{itemize}
\item[a.] **Transitive**

\begin{align*}
\text{Zou-san ga } & \text{(buta-san o) umeta ka na?} & \text{AGENT} \\
\text{elephant Nom } & \text{(pig acc) buried Q}
\end{align*}

'Did the elephant bury (pro)?'

\item[b.] **Unaccusative**

\begin{align*}
\text{Buta-san ga } & \text{umatta ka na?} & \text{THEME} \\
\text{pig Nom } & \text{buried.unacc Q}
\end{align*}

'Was the pig buried?'

(Sano, Endo, & Yamakoshi 2001:674, ex. 19)
\end{itemize}

This finding, taken together with the previous finding that Japanese treat the subjects of unergative and unaccusative verbs differently (e.g., Miyata 1992), leads Sano, Endo & Yamakoshi (2001) to conclude that Japanese children are able to form A-chains by age 3.

The researchers further test children's comprehension of "full" unaccusatives (that is, unaccusatives with a by-phrase) as compared to comprehension of full passives (passives with a by-phrase). These are exemplified below (11).

---

\textsuperscript{75} Note that the children tested have more difficulty understanding the null-object transitive verbs than the unaccusative verbs, with 3-year-olds responding correctly to the transitive stimulus sentences only 68.1% of the time (32/47). 4- and 5-year-olds perform excellently with both unaccusative and transitive verbs.

237
(11) JAPANESE FULL UNACCUSATIVES AND FULL PASSIVE VERBS

a. FULL UNACCUSATIVE

Buta-san ga zou-san ni tsukamat-ta ka na?

pig NOM elephant by catch.UNACC-PAST Q

'Was the pig caught by the elephant?'

b. FULL PASSIVE

Buta-san ga zou-san ni tsukamae-rare-ta ka na?

pig NOM elephant by catch-PASSIVE-PAST Q

'Was the pig caught by the elephant?'

(Sano, Endo, & Yamakoshi 2001:677, ex. 24b,c)

Sano, Endo & Yamakoshi found that children comprehend full unaccusatives earlier than full passives, which is shown by the rates of correct responses to the above stimulus questions (12).

(12) CORRECT RESPONSE RATES: UNACCUSATIVES VS. PASSIVES (SANO, ENDO, & YAMAKOSHI 2001)

<table>
<thead>
<tr>
<th>VERB TYPE</th>
<th>3-YEAR-OLDS</th>
<th>4-YEAR-OLDS</th>
<th>5-YEAR-OLDS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FULL UNACCUSATIVE</strong></td>
<td>14/30</td>
<td>21/28</td>
<td>27/30</td>
</tr>
<tr>
<td></td>
<td>46.7%</td>
<td>75.1%</td>
<td>90.0%</td>
</tr>
<tr>
<td><strong>FULL PASSIVE</strong></td>
<td>13/28</td>
<td>15/29</td>
<td>17/31</td>
</tr>
<tr>
<td></td>
<td>46.4%</td>
<td>51.7%</td>
<td>54.8%</td>
</tr>
</tbody>
</table>

Note that by age 5 children answer full unaccusative prompts correctly 90% of the time, but still only 54.8% of the time with full passive prompts. Sano, Endo & Yamakoshi interpret this finding as evidence against the Maturation Hypothesis. If the ability to form
A-chains matures, both full unaccusatives and full passives should be acquired at the same time, which is not what they find. However, Machida, Miyagawa & Wexler (2004) reinterpret these findings using the Unergative Misanalysis hypothesis, claiming that Japanese children interpret full unaccusative verbs as though they are unergatives and do not require an A-chain, which results in better performance with full unaccusatives than full passives.

Shimada & Sano (2007) undertake a study of the Japanese te-iru aspect construction. Te-iru is always compatible with a progressive reading, but passive and unaccusative verbs in the te-iru construction are additionally compatible with a resultative reading, because this reading requires an A-binding relationship (e.g., A-chain formation) between the subject and object (Takezawa 1991). This is exemplified below (13).

(13) **japanese te-iru constructions**

a. **Unergative**

   Buta-san-ga hasit-te-iru.

   pig-NOM run-TE.IRU-PRES

   'The pig is running'

b. **Unaccusative**

   Buta-san-ga agat-te-iru.

   pig-NOM rise-TE.IRU-PRES

   'The pig has risen. / The pig is rising.'
c. **DIRECT PASSIVE**

\[
\begin{align*}
\text{Buta-san-ga} & \quad \text{ager-arare-teiru.} \\
\text{pig-NOM} & \quad \text{rise-PASSIVE-TE.IRU}
\end{align*}
\]

' The pig has been raised. / The pig is being raised.'

(Shimada & Sano 2007:390, ex. 13)

The unergative misanalysis hypothesis therefore predicts that pre-mature children will disallow the resultative reading in inaccusative verbs in the *te-iru* construction.

Shimado & Sano (2007) tested this prediction with a Truth-Value-Judgment-Task (Crain & McKee 1985; Crain & Thornton 1998). A situation was acted out with puppets, and then the puppets were hidden behind a curtain. When the curtain was removed, the action was either continuing (e.g., the pig puppet was still running), or the action had stopped (e.g., the pig puppet had stopped running and was trying to catch his breath). One of the two experimenters played the role of a puppet named Wanchan, who described the situation after the curtain was lifted with sentences such as the following.

(14) **STIMULUS SENTENCES (SHIMADA & SANO 2007)**

a. **UNERGATIVE**

\[
\begin{align*}
\text{Buta-san-ga} & \quad \text{ima hasit-teiru-yo.} \\
\text{pig-NOM} & \quad \text{now run-TE.IRU-PRES}
\end{align*}
\]

'The pig is now running.'

**Correct answer**

- Progressive: The pig is still running ✓ (accept)
- Resultative: The pig has stopped running ✗ (reject)
b. **Unaccusative**

Kae-ru-san-ga ima umat-te-iru-yo.

frog-NOM now bury-TE-IRU-PRES

'The frog is (has been) buried now.'

Correct answer

Progressive: The frog is still being buried ✓ (accept)

Resultative: The frog is completely buried ✓ (accept)

(Shimada & Sano 2007:390-391, ex. 17)

The unergative misanalysis hypothesis predicts that children will treat all intransitive verbs as unergative verbs, therefore rejecting all instances of te-iru constructions describing resulting states. This is not what the researchers find. Even the youngest participants at 3 years old (n=6, mean age 3;8) correctly differentiate between unergatives and unaccusative verbs with respect to the resultative reading. The rates of correct responses to the stimulus questions (e.g., correctly accepting/rejecting) are given below (15).

(15) **Correct responses to Truth-Value-Judgment-Task** (Shimada & Sano 2007:392)

<table>
<thead>
<tr>
<th></th>
<th>3-Year-Olds</th>
<th>4-Year-Olds</th>
<th>5-Year-Olds</th>
<th>6-Year-Olds</th>
<th>Adults</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unergative</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Progressive</td>
<td>18/18</td>
<td>29/30</td>
<td>30/30</td>
<td>9/9</td>
<td>33/33</td>
</tr>
<tr>
<td>✓</td>
<td>100.0%</td>
<td>96.7%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Resultative</td>
<td>16/18</td>
<td>30/30</td>
<td>29/30</td>
<td>9/9</td>
<td>33/33</td>
</tr>
<tr>
<td>×</td>
<td>88.9%</td>
<td>100.0%</td>
<td>96.7%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td><strong>Unaccusative</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Progressive</td>
<td>16/18</td>
<td>24/30</td>
<td>24/30</td>
<td>6/9</td>
<td>29/33</td>
</tr>
<tr>
<td>✓</td>
<td>88.9%</td>
<td>80.0%</td>
<td>80.0%</td>
<td>66.7%</td>
<td>87.9%</td>
</tr>
<tr>
<td>Resultative</td>
<td>18/18</td>
<td>29/30</td>
<td>30/30</td>
<td>9/9</td>
<td>33/33</td>
</tr>
<tr>
<td>✓</td>
<td>100.0%</td>
<td>96.7%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
Shimada & Sano (2007) interpret the results of their experiment as evidence against the unergative misanalysis hypothesis and the Maturation Hypothesis. They show that Japanese-speaking children differentiate between unergative and unaccusative verbs already at 3 years of age. This finding, they argue, is felicitous because if children really do misanalyze unaccusative verbs as unergative verbs, they are able to violate UTAH, which leaves theta assignment unrestricted in child grammar.
Appendix V – Piyi-derived utterances (Billy's speech)

Billy's intransitive -piyi verbs are listed by session with Cree syllabics, orthography, and a morphological analysis together with a translation, and an identification of the sub-class of -piyi verb (Unaccusative, Vehicle, Emission, Relative Root, Manner). For each utterance, the target morphology (in IPA) is given, as well as his actual morphology (in IPA). Missing morphemes are represented by '_'. Each -piyi verb is placed in its surrounding context, and all names have been changed. When an utterance cannot be transcribed because of recording quality, the utterance is represented as '---'.

1. Session 1 – Age 4;06.08  (Total -piyi tokens: 13)

1.1. Conversation 1

Context: Billy and his caregiver are discussing Billy's team, and a trip that the team will take. They can't go on the trip before they fundraise.

Adult: Chichih chihchipiyin chiyi. 'Did you leave by vehicle?'

Adult: Chichih chihchipiyinàuwâ chiyiwâu ài chikâwi. 'Did you and your mother leave by vehicle?'

---

76 Many thanks to Luci Bobbish-Salt, whose commentary on these examples was invaluable. Any errors in the text are my own.
Billy: σγˈL"x
Nimimâh.
'No.'

Billy: σγˈL"x
Nimimâh.
'No.'

Adult: σ·ζΔ d\(\equiv\)\(\sim\) kuχchiiχhiχchipiyin\-\(\tilde{a}\)uwâ.
'No, you didn't go?'

(1) Billy: ɛ<ι "(f VEHICLE
Tāpâ n-uhchi chihchi-piyi-nān.
not 1-PAST.NEG leave-DYN-1.PL
p,NEG 1-PVB ROOT-VL.VBZ-IIN
'No, we (excl.) did not go.'

Target: [tapa n-oʃə ʧi-piji-nan]
Actual: [ba n-oʃ dʒi-bi-na]

(B3-2005-11-22#20)

Billy: <i"x
Wāh.
'What?'
Adult:  ḣa  ḥ Çünkü g ḥ b
Tan ká iyhtiýa kw mák.
'What did you do then?'

Adult:  ḣa  ḥ Çünkü g ḥ b
Tan ká iyhtiýiyn.
'What did you do?'

Billy:  ḣΔ...
Ai...
'Uh...'

Billy:  ḥ b ḥ ḥ níniin...
Mákwách nichíh...
'During, I was/we were...'

Billy:  ḣΔ b ḥ ḥ ḥ ḥ ḥ ḥ ḥ...
Shuwiyan nikiushihánán pitimá.
'We have to make money first.'
(2) Billy: òï

\[ \text{\textit{VEHICLE}} \]

Ah chihchi-pi-yähch.

\( \text{PVB,CJ leave-DYN-1.pl} \)

\( \text{PVB,CJ ROOT-VI.VBZ-CIN} \)

'When we go.'

Target: [a \hbar{h}f\hbar{a}-pi-jahf]

Actual: [a \hbar{f}f\hbar{a}-bi-egf]

(B3-2005-11-22#27)

1.2. Conversation 2

(3) Billy: òï ò ì

\[ \Delta'\Delta x \quad \text{\textit{RELATIVE ROOT}} \]

Anna à kâ js-pi-yî-t.

\( \text{name P,QST PVB,CJ thusly-DYN-3.s} \)

\( \text{N P,QST PVB,CJ ROOT-VI.VBZ-CIN} \)

'Anna goes this way?'

Target: [(name) a ka js-p'î-t\(h\)]

Actual: [(name) a ge s-p'i-t\(h\)]

(B3-2005-11-22#88)

Adult: òïòï

Îhî.

'Yes.'

Billy: òïòï

Îhî.

'Yes.'

246
1.3. Conversation 3

(4) Billy: Mhm $\triangleleft \triangledown \triangleleft \triangleleft \triangleleft$ \textgreater x $\triangledown \triangleleft \triangleleft$
Mhm $\triangleleft \triangledown \triangleleft \triangleleft \triangleleft$
$\triangleleft \triangledown \triangleleft \triangleleft \triangleleft$
Adult: ù.
$\triangleleft \triangledown \triangleleft \triangleleft \triangleleft$
$\triangleleft \triangledown \triangleleft \triangleleft \triangleleft$
Adult: This.
$\triangleleft \triangledown \triangleleft \triangleleft \triangleleft$
$\triangleleft \triangledown \triangleleft \triangleleft \triangleleft$
Adult: 'This opens.'
$\triangleleft \triangledown \triangleleft \triangleleft \triangleleft$
$\triangleleft \triangledown \triangleleft \triangleleft \triangleleft$
Target: [ti? $\text{ap}^{\text{h}}\text{ah-pij-}w\text{ aw}]
Actual: [shè $\text{ap}^{\text{h}}\text{a-pi-}w\text{ aw}]
(B3-2005-11-22#198)
$\triangleleft \triangledown \triangleleft \triangleleft \triangleleft$
$\triangleleft \triangledown \triangleleft \triangleleft \triangleleft$
Adult: Wâh.
$\triangleleft \triangledown \triangleleft \triangleleft \triangleleft$
' Eh?'
$\triangleleft \triangledown \triangleleft \triangleleft \triangleleft$
$\triangleleft \triangledown \triangleleft \triangleleft \triangleleft$
Adult: $\text{P} \& \triangleleft$,
$\text{P} \& \triangleleft$
$\text{Kiyipwâ, chîhin á, nitihâ.}$
$\text{P} \& \triangleleft$
Yes, is it working? Let me see.'
$\text{P} \& \triangleleft$
$\text{Niyi mâ niki âpihât.}$
$\text{P} \& \triangleleft$
'Let me open it.'
$\text{P} \& \triangleleft$
$\text{Niki kuchihtân á.}$
$\text{P} \& \triangleleft$
'I will try it, okay?'
$\text{P} \& \triangleleft$
1.4. Conversation 4

Adult:  
Wâhchi chihich, màu utih, wâhchi

\[ \text{âpihikiniwishich ishpimihch, } \text{chiwâpihtánh.} \]

'It works. It (something small) can be opened from the top. Do you see?'

(5) Billy:  
Màu-ñàh  \[ \text{àś-piyi-h-âkinwi-t.} \]
this-LOC this-\text{\textdoublespace DYN-CRUS-PASSIVE.3-3.s}

\[ \text{This is how you make it go / You move it this way} \]

Target: [maw-tah s-pi-h-ākinωi-tb]
Actual: [mā-na s-pi-h-āgənə-\_]

(B3-2005-11-22#210)

Billy:  
Uyāh.

'This one?'
Adult:  Mätiwâchâu á mân chichishìmish aniyâh

'Does your little brother play with those sometimes?'

1.5. Conversation 5

Adult:  Āshkw à nìmi chipîmiskupiyin.

'You don't skate yet?'

Billy:  'Uhh...

Adult:  Wâh.

'Eh?'
(6) Billy: \( \sigma \Delta \), \( \sigma \hat{\Delta} \) \( \vee \sigma \hat{\Delta} \times \) [Vehicle

Nimui ni-chih chishi-piyi-n.
not 1-PAST fast-DYN-1/2
P,NEG 1-PVB ROOT-VL.VBZ-IIN
'I can't go fast.'

Target: [nimuji n-\( \tilde{\jmath} \) \( \tilde{\jmath} \-)pi-n]
Actual: [mojo _-d\( \tilde{\jmath} \) \( \tilde{\jmath} \-)pi-]  

(B3-2005-11-22#272)

Adult: Daycare \( \tilde{\jmath} \) \( \tilde{\jmath} \) chitituhtanaw m\( \tilde{\jmath} \) arena.
'Daycare \( \tilde{\jmath} \) ituhtayakw chitituhtanaw m\( \tilde{\jmath} \) arena.
'When you're at the daycare, do you go at the arena?'

Billy: Mhm
Mhm.
'Yes.'

250
1.6. Conversation 6

(7) Billy: ]\<\^"∩"\]  \L  \<\^\^\^\^\] RELATIVE ROOT
    Wâp-iht-ih   må  âs-pi-yi-ch.
    light-by.head-VTI.THM.IMP EMPH the-sly-DYN-0.s
    ROOT-VTI.VBZ-VTI.THM.IMP P,DISC ROOT.IC-VI.VBZ-CIN
    'Look how it goes.'

    Target: [wap-ht-h ma aj-s-pi-y]
    Actual: [u:o_-_-] ma aj-s-pi-y]

      (B3-2005-11-22#306)

Adult:  \>\" , σ-Δ\u03c4  \<\^\^\^\^\] σ-\L_x
    Oh niwich miyu-piyi-shiu nimâ.
    'Oh it (diminutive) runs well eh?'

Billy:  σ-Ρ\^\]^"\>^\^\^\^\^\]  σ-Ρ\^\]^"\>^\^\^\^\]  \<\  \<\^\^\^\^\]
    Nikischihun. Nikischihun å shâsh.
    'Am I doing it the right way? Am I doing it the right way now?'

Translator comment:  Billy uses English-style intonation for the first
    question, instead of the question word å.

Adult:  \P\-\L_x
    Kiyipwâ.
    'Of course.'
1.7. Conversation 7

Billy: Shâsh wâsh nitiyânân niyân.
'We already have that.'

Adult: Awân âyât.
'Who has it?'

Billy: Nûhtawî.
'My father.'

Adult: Ayiwâ iyâpichihtât mân âh mitwâhtât.
'That's what he uses to call?'

Billy: Mhm.
'Mhm.
'Yes.'
(8) Billy: \( \Delta \) \( \Delta \) \( \Delta \) \( \Delta \) \( \Delta \) \( \Delta \) \( \Delta \) VEHICLE
\( \text{PRO,HES} \) \( \text{PRO,HES} \) leave-DYN-1.PL
\( \text{PRO,HES} \) \( \text{PVB,CJ} \) ROOT-VL.VBZ-CIN

'When we leave / When we go on a trip.'

Target: [ a ḥ�탏이- pij-ahf]
Actual: [aj a ḥdʒi- bi-εf]

(B3-2005-11-22#371)

Adult: \( \Delta \) \( \Delta \) \( \Delta \) \( \Delta \) \( \Delta \) \( \Delta \) \( \Delta \)

Aw ḥah chihchi-piyi-yāhw-ā.

'Aw when you go out of town?'

1.8. Conversation 8

(9) Billy: \( \Delta \) \( \Delta \) \( \Delta \) \( \Delta \) \( \Delta \) \( \Delta \) \( \Delta \) UNACCUSATIVE
\( \text{PVB,CJ} \) \( \text{break-DYN-0.s} \) \( \text{this-OBV} \)
\( \text{PVB,CJ} \) \( \text{ROOT-VL.VBZ-CIN} \) \( \text{pDEM,PXL-OBV} \)

'It's broken, this one.'

Target: [ah piko-pyi-f u-ja]
Actual: [a biəo-bio-dʒ o-ja]

(B3-2005-11-22#453)

Adult: \( \Delta \) \( \Delta \) \( \Delta \) \( \Delta \) \( \Delta \) \( \Delta \) \( \Delta \)

Oh.

'Oh.'
1.9. Conversation 9

Adult: Ouch b  \(\Delta^*\cap\mathbf{b}^*\times\)  
      Ouch kā ihtiyān.  
      'I did ouch!'

Adult: b  \(\mathbf{b}^{\prime}{\prime}\mathbf{b}\mathbf{\triangleright}\mathbf{b}^*\times\)  
      Kā kāsīhkwauyān.  
      'I wiped my face.'

(10) Billy: \(\cap\mathbf{b}^*\)  \(\llcorner\mathbf{b}\\wedge\mathbf{\pi}^*\times\)  
      Chi-chīh pāhkā-piyi-n.  
      2-PAST bleed-DYN-1/2  
      2-PVB ROOT-VLBZ-IIN  
      'Did you bleed?'

Target: [f-fih pahka-pi-n]  
Actual: [-f bi bajga-br-]  

(B3-2005-11-22#512)

Adult: b  \(\cap\mathbf{b}\mathbf{\triangleright}\mathbf{b}^*\times\)  
      Kā chikimushich utih chākwān.  
      'There was something (diminutive) stuck here.'

Adult: \(\Delta^\prime\Delta\llcorner\mathbf{b}\mathbf{\triangleleft}\mathbf{b}^\prime\mathbf{\wedge}\mathbf{\pi}^\prime\times\)  \(\mathbf{\sigma}^\prime\mathbf{\Delta}\)  \(\mathbf{\Pi}^\prime\mathbf{\pi}^\prime\mathbf{\wedge}\mathbf{\pi}^\prime\times\)  
      Êhī apishīsh nichīh pāhkāpiyishin nimui kiyipwā nāshch mishtih.  
      'Yes, I was bleeding a little, not too much.'
1.10. Conversation 10

**Adult:**  $\sigma^\Delta v$  $\Gamma^\downarrow \phi^\circ \Gamma^\uparrow \phi^\circ $  $\sigma^\Delta l$  
Niwich  miywâshiux  misinihiikin nimâ.  
'It's a nice book, eh?'

**Billy:**  $\sigma^\Delta v$  $\dot{\text{a}}^\Lambda > n_x$  
Niwich  nâush.  
'It's taking a long time.'

**Adult:**  $\omega^\sigma$  $\dot{\Delta}^\Lambda v$  $\hat{\zeta}_x$  
Shâsh  wîpich  â.  
'Very soon, ok?'

(11) **Billy:**  $\text{Châkwân}$  chishch-ippiy-ch-â.  
what  leave-DYN-0.S-SUBJUNCTIVE  
PRO,WH  ROOT-VI.VEZ-CIN-SUBJUNCTIVE  
'What (thing) will start?'

Target:  [fakon]  [f[p]-ipi-ff-a]  
Actual:  [dẕogə]  [ts[ə]-bi-ff-a]  

(B3-2005-11-22#619)
1.11. Conversation 11

(12) Billy: ict "
Ú-tâh chimney kâ is-pi-yi-ch.
this-LOC Eng PBV,CJ thusly-DYN-3.PL
p,DEM.PXL-LOC N PBV,CJ ROOT-VL.VBZ-CIN
'This is how the chimney went (e.g., from gesture, crumbled).

Target: [u-ta ʃiməni a js-pi-ʃ]
Actual: [əhə ənda ʃiməni a js-pi-ʃ] (B3-2005-11-22#655)

Billy: ict >"\nTâpâ uhchi ...
'No...'

Billy: ChimneyΔ "u
Chimneyihch Santa Claus nîmâ.
'In the chimney Santa Claus, eh?'

Adult: Δ " Δ
îhî.
'Yes.'

1.12. Conversation 12

Adult: James b ʃ ʃ ʃ ʃ ʃ ʃ c
James kâ pimi-piyihât nîmâ.
'James drove it, eh?'

256
Adult: James.
James.
'James.'

Billy: Wâh.
'What?'

(13) Billy: \( \sigma \downarrow \Delta \land \Gamma \land \Lambda^\mu \downarrow \sigma ^o \Delta \wedge \times \)
Nimui pimi-pi-iyi-h-â-u wiyi.
not move-DYN-CAUS-THM-3 3
P,NEG ROOT-VI.VBZ-VTA.VBZ-THM-IIN PRO
'He doesn't drive it himself (dirt bike).'

Target: [nmiwi pim-pi-h-a-w wi]
Actual: [mwi bm-bi-h-a-w wi]

(B3-2005-11-22#778)

Adult: \( \downarrow \Delta^o \gg \sigma \writes \Gamma \wedge \Lambda^d, \Delta^\mu \Lambda^L \sigma L \)
ski-doo
Âiyiyiuh ski-doo kiypwâ mikw, ìhi nimâ ski-doo
'A ski-doo only, oh yea, a ski-doo only. Yes, right?'

257
2. Session 2 – Age 4;07.26  (Total -piyi tokens: 1)

2.1. Conversation 13

(14) Billy:  ķa  ì"  Δ"∧å  ìx  RELATIVE ROOT
Tän âh  is-piyî-ch  ú
P,WH PVB,CJ thusly-DYN-0.S this
P,WH PVB,CJ ROOT,IC-VI.VBZ-CIN  p,DEM.PXL
'Why is this going this way (in this manner),'

Target:  [daen'd  a  s-pi-d3  ò]
Actual:  [wan  a  js-pi-d3  ò]

Adult:  ìb"∧å  ìv,x
Akwáspiyich  wash
'It does that / That's how it goes.'

3. Session 3 – Age 4;09.14  (Total -piyi tokens: 4)

3.1. Conversation 14

Adult:  r<ï∧å  ì  <ïσ"^  ì  b  LL"^v<ï∧å,Π''u''
Chiwâpihtân  â  anihi  kâ  mâmâhchishinâkuhch-h

kâ  pimâpâkimushihch-h  anitâh  pitikimihch  pîhch  âkutih  anitih.
'Do you see those fancy things (decorations) that are strung inside? Inside there, that is where they are.'
Billy: \( \zeta \sigma^n \Delta \times \)  
Tânîhî.  
'Where are they?'

(15) Billy: \( \zeta^a < \wedge \wedge b > \wedge > n'' \times \)  
Tân ås-piî-ch mák u-tîh.  
p,WH thusly-DYN-0.S so here-LOC  
p,WH IC.ROOT-VL.VBZ-CIN p,CONJN p,DEM-LOC  
'What about here? What happens if I touch this?'

Target: ['den ef-bi-tʃ mæg ə-tb)]  
Actual: [ajn ɪs-pi-ʃə mak u-tʃ]  

(B3-2006-02-28#337)

Adult: \( <d^c <d^c <d \wedge ^c <p \wedge \wedge p \wedge > n' <d^c \sigma^n \Delta \wedge v \sigma^n \Delta \times \)  
Åkutâh anitâh åti iyitâpâkimuishich anîhî châkwânihî.  
'That's where those things (diminutive) are strung along.'

Billy: \( \Ld \times \)  
Ú.  
'This.'

Billy: \( \Delta^n \Delta \times \)  
Îhî.  
'Yes.'

259
3.2. Conversation 15

Adult: 〈d”  Δ”<b “ç’  ç’b '''<d”  Δ”<b “ç’  ç’b '''

‘Are you going to school in the afternoon?’

(16) Billy: σ-P  Ꞟ-ç’  <d”  Δ”<b “ç’  ç’b '''  L  ⬤ EMISSION
Ni-ki  chishwâwâ-piyi-htâ-n  mà  â.
1-FUT.1/2  noise-DYN-CAUS-1/2  EMPH  P,QST
1-PVB  ROOT-VL.VBZ-VAI+O.VBZ-1IN  P,DISC  P,QST

‘I am going to turn up the sound, okay?’

Target: [ni-ç’iwiwâ-bi-tâ-a-n  ma  ?a]
Actual: [TEMPLATE-bi-tâ-a-n  mëh  æ]

(B3-2006-02-28#345)

Adult: 〈d”
Wäh.
‘Eh?’

Billy:  Δ”Δ”
 Ihî.
‘Yes.’

Adult: 〈d”  î<ç’  ç’<ç’  ç’  ç’  ç’  ç’  ç’

‘You go to the school in the morning?’

260
(17) Billy:  
σP  γ'ω·δ\(\land\)ω′ζ\(\ast\)

Ni-ki  chishwâwâ-piyi-htà-sî-n  mîn,  kwâ.
1-FUT.1/2  noise-DYN-CAUS-INTENS-1/2  again  of course
1-PVB  ROOT=VI.VBZ-VAI+O.VBZ-INTENS-II

'I am going to turn this up a bit, okay?'

Target: [ni-gríjíwo-bi-taâ-sî-n  min  ɡə]
Actual: [s-  ŋa-bi-tda-ša-n  en  ɡə]

(B3-2006-02-28#349)

Adult:  \(\dot{\Delta}\)  
\(\tilde{I}\)  'Ok.'

3.3. Conversation 16

Adult:  Ča  ñ\(\dot{J}\)Č\(\land\)ja\(\ast\)a  ŋ\(\ast\)b  ñ\(\dot{J}\)Č\(\land\)ja\(\ast\)

Tân  àtwâwâmuchâyin  châkân  châstu  hchâyin.

'What kind of music are you playing? What are you playing?'

(18) Billy:  Bambi  ðČ''  b  ∆\(\ast\)â\(\ast\)

Bambi  u-táh  kã  is-piâ-yi-ch  rain-iyyiu.

name  here-LOC  PVB,CJ  thusly-DYN-OBV-0.S  ENG-OBV

N  P,DEM-LOC  PVB,CJ  ROOT-VI.VBZ-OBV-CIN  N-OBV

'In Bambi (e.g., movie) when the rain came down.'

Target:  [  o'-da  ka  js-piâ-dʒ  'ren-i-o]
Actual:  [bambi  ɡə-da  ɡə  dʒis-pi-ʧ̬  ḷen-i-ja]

(B3-2006-02-28#529)

261
Billy: \(\text{Utah.} \quad \text{'Like this.'} \)

Adult: Bambi.

'Bambi (e.g., movie).'

Adult: \(\text{Tânitâh âspiïiyich.} \quad \text{'How does it move?'} \)

Adult: \(\text{Châkwâyiïu.} \quad \text{'A what?'} \)

Billy: \(\text{Rain, when it was raining.'} \)
4. Session 4 – Age 5;00.13  (Total -p’yí tokens: 8)

4.1. Conversation 17

(19) Billy: Δ"ΔΔΔΔΔΔ<Δ ριηω ρ>Цιω RELATIVE ROOT
Is-p’yí-yi-wich wásh kiyáh utáh.
thusly-DYN-OBV-3.PL EMPH and here
ROOT-V1.VBZ-OBV-IIN p,DISC p,CONJN p,DEM,LOCATION
'They go this way, then this way.'

Target: [is-b-j̄-dʒ] əf gicalə utal
Actual: [ʔisis-k̚i-ju-dʒ] əf dawda kôle sda] (B3-2006-05-27#1)

Adult: Δ"Δx
İhî.
'Yes.'

Billy: Δ"Δ Δ"Δx
İhî ɨhî.
'Yes yes.'

Adult: ɾıɾınΔɖũ ɾ̄ ɾ̄ ɾ̄ σ-ɾ̄ b Δɾ̄.dɾ̄.o -Çιω
Chimúchihíkuchah chiyí anichi ká isinákusich wáh.
'Do you have fun with those kinds, eh?'

263
4.2. Conversation 18

Billy: चिमियूय फ्लोर घुँघरे है।
Chikimuyiu floorhch ihê.
'Yes, it is stuck to the floor.'

Adult: अनिताह अ अस्तायु।
Anitâh â ashtâyiu.
'It is sitting there?'

Billy: चिमियूय फ्लोर घुँघरे है।
Chikimuyiu.
'It is stuck.'

Billy: चिमियूय फ्लोर घुँघरे है।
Chikimuyiu.
'It is stuck.'
(20) Billy: Chiki ihtut-im ù-tāh chā piku-piyi-ch.
FUT.3 do-DIR this-LOC FUT break-DYN-0.S
PVB ROOT:VTI-THM P,DEM,PXL-LOC PVB,CJ ROOT-VI:VBZ=CIN

<σ-<n floor.
ani-tāh floor.
that-LOC ENG
P,DEM.DST-LOC N

'If I do it like this the floor will break'

Target: [dʒig øtøm o-‘da: dʒa pʰeke-bajɛ-y s flœ]
Actual: [imdʒi m dʒik ødød-ob ø-tø dʒæ bido-bi-di is flœ]

(B3-2006-05-27#163)

Adult: Tāpwâh à.
'Really?'

4.3. Conversation 19

Billy: Tāpā ninipânnân wâsh.
'We don't sleep.'

Billy: Mân̈h daycare.
'At the daycare.'
Tâpâ ninipânân shâsh.
'Ve don't sleep anymore.'

Aw nimui â shâsh chinipânâwâu.
'Aw! You don't nap anymore.'

Nimimâh thunderstorm wâsh mânh is-pi-yi-u.
'No, there's a thunderstorm happening.'

Target: [nâ'ma 'ðandaistâm 'wâf man is-'pi-û]
Actual: [âs-bij-û]

Châkwân â.
'A what?'

Thunderstorm.
Thunderstorm.
'Thunderstorm.'
Adult: Thunderstorm.
'Thunderstorm.'

4.4. Conversation 20

Adult: Chichih kushtâchin å.
'Were you scared?'

Billy: Ñhë.
'Yes.'

Billy: Kitchenhch wîyi åi...
'In the kitchen, he umm...'

Consultant comment: This verb is usually tâpwâ, but in current language tâpwâsiu is also said.

Billy: Sûhk chih tâpwâsiu.
'It was loud.'

Adult: Tâpwâh å.
'Really?'

267
Billy: ---

Billy: 💩 🏖️.↳paragraph.([$\vec{x}$,$\vec{x}$,[$\vec{x}$,$\vec{x}$])
Chih miskiwaû ayâpich.
'They were still hard.'

(22) Billy: 💩 🏖️.--> paragraph.([$\vec{x}$,$\vec{x}$,[$\vec{x}$,$\vec{x}$])
Sûhk chih chishwâwâ-piyi-u.
hard PAST noise-DYN-3
P,INTJ PVB ROOT-VI.VBZ-IIN
'It made a loud noise.'

Target: [dʒi ʃ³w-`a-bi-o]
Actual: [sukʰ dʒe dam-ˌbįj-o]

Billy: ɓ ɓ paragraph.([$\vec{x}$])
Kâ tikushihch-h pwâchikîshich.
The little boogeymen came.'
4.5. Conversation 21

(23) Bill y: .bill y:  
Ah pimi-piyi-h-ichihch ū.  
PVB,CJ move-DYN-CAUS-1.PL this  
PVB,CJ ROOT-VL.VBZ-VTA.VBZ-CIN P,DEM,PXI.  
'We when drive this one.'

Target: [æ pʰam-bi-'hi-dʒɪlʰ o]  
Actual: [ajæ bını-bı-ha-jæʧ o]  

Billy: ʃɪ̃ ʃɪ̃  
Nichih akushimuhänän.  
'We (excl.) hid him.'

Adult: ʃɪ̃  
Oh.  
'Oh!'  

Billy: ʃɪ̃ ʃɪ̃  
Ah nituhuyahch nitapichihänän.  
'We use it when we went hunting.'

4.6. Conversation 22

Billy: ʃɪ̃ ʃɪ̃  
Nåshätpwäh náush.  
'It's very long.'
Billy: 

\[ \text{Wáp-iht-h må áshpishi-piyi-ch.} \]

\[ \text{light-by.head-2s EMPH amount-DYN-0.s} \]

\[ \text{ROOT-VTL.VBZ-IMP P,DISC IC,P,QUANT-VI.VBZ-CIN} \]

'Look at the time.'

Target: [o-t\textsuperscript{h}-\textsuperscript{a} m æ[pʰj]-bi-g]

Actual: [anl-e n j]-bi-g]

\[ \text{(B3-2006-05-27#533)} \]

Billy: 

\[ \text{Let me see.'} \]

\[ \text{Anitāh.} \]

'Billy: <l><u>\text{C}_x \]

Anitāh.

'Let me see.'
4.7. Conversation 23


"When the bus gets here you can go outside."

Target: ["ba-bi-dja bas u-t'h 'nada j'le t'h-a-jek' wiw-idam-šf]
Actual: [ba-bi-da bas A-t' nogøj gøj tst-æ-g ñjwidip-jf]

(B3-2006-05-27#598)

Adult: ñ C" ñ ñ C" C" "
Nátäh à chà ituhtâyäkw.
"When the bus comes you go over there?"

Adult: ñ C" ñ ñ C" C" "
Chichih ñtikiwinäu à.
"You were told?"

Billy: ñ " ñ
"Yes!"
5. Session 5 – Age 5;02.12  (Total -PHYI tokens: 7)

5.1. Conversation 24

Adult:  

\( \text{Wâpihth mā âspiych nā chimischisin.} \)

'Look at how your shoe is (e.g., she notices something wrong with it).'

Adult:  

Chimischisin.

'Your shoe.'

(27) Billy:  

\( \text{Piku-piyi-u âi...} \)

break-\text{\textit{DY}} \text{-3 PRO,HES} \)

\( \text{ROOT-VI.VBZ-IIN PRO,HES} \)

'It's broken, umm.'

Target:  

[bigu-‘bi-ọ aj]

Actual:  

[bikà-b-u ?aj?]  

(B3-2006-07-26#122)
(28) Billy: Grass $\triangleleft$ $\Delta^n \cap d^{il^h}, \ nP \ \downarrow d \downarrow \wedge^o_x, \ \text{Unaccusative}$ Grassâh ihtikuh-ch chiki piku-piyi-u.

ENG: PVB, CJ: be-0.5 FUT.3 break-DYN-3


'If there's grass on it, it will break.'

Context: There is grass in the velcro on his shoe, so it will not attach.

Target: [ 'gaes aj-toku-tj' aj[a:kə] bigu-bi-o]
Actual: [gaes $\triangleleft$ t'iakə- $\triangleleft$ gaes $\triangleleft$ da$\triangleleft$- $\triangleleft$ dyikə bigu-bij-o]

(B3-2006-07-26#123)

Adult: $\uparrow^n x \ \downarrow \sigma^{\Delta} \ \hat{\sigma}^{\Delta} \ \hat{\sigma}_x.$

Oh mishkuch â nimui chihën.

'Oh! So it doesn't work.'

Billy: $\downarrow^n x \ \hat{\sigma} \ \downarrow x$

Sûhk chikimuu â.

'This one really sticks.'

Adult: $\uparrow^n x.$

Oh.

'Oh.'

5.2. Conversation 25

Adult: $\Delta \chi \ \triangleleft \sigma^{\tilde{y}} \ \hat{\sigma}^{\tilde{c}} \ \hat{\sigma}^{\tilde{\sigma}} \ \hat{\sigma}_x.$

Wiyi aniya chih ushihtâu chimâniyiu.

'He made the boat himself.'
Billy: _CLUSTER_  ALT  ALT
    Wiyiwaú á ihtáwich.
    'Are they there (themselves)?)'

Billy:  Pirates.
    'Pirates.'

Adult:  ALT
    Íhí.
    'Yes.'

Billy:  Pirates.
    'Pirates.'

Adult:  ALT  ALT
    Wiyiwaú ushihtáwich.
    'They make it themselves.'

Billy:  D>∧  door  d.x
    Mautih  door  ná.
    'The door is here, right?'

Adult:  ALT
    Íhí.
    'Yes.'
(29) Billy: \[ \text{Māu-tāh āh wih pihtā-piyi-hu-nāniwich.} \]
\[ \text{This is where you go in order to get in.'} \]

Target: ['maw-daw ʒia wæ 'bidæ-bi-hu-nænotʃ']
Actual: [ma-taʔ o wi bida-bi-hu-nanɔʃ]  

(B3-2006-07-26#165)

5.3. Conversation 26

(30) Billy: \[ \text{Ātwāwā-piyi-si-yi-ch mà châkwā-yiu.} \]
\[ \text{'Something is making (a certain) noise!'} \]

Target: [æd-o-bi-ˈs-i-z mæ dʒəgo-jo]
Actual: [nɪd-o-vi-s-t-dʒ en səgə-jo]

(B3-2006-07-26#191)

Billy: \[ \text{Tāpā ihtāwich utih bicycles nà.} \]
\[ \text{'There are no bicycles here, right?'} \]

275
5.4. Conversation 27

Billy: 

Everybody likes to go to the gym.

Adult: 

Aw.

Billy: 

I really want to ride a bicycle.

Target: [af a-wi bəm-bij-en bajsəkal]

Actual: [d a-we bim-bij-aen bajsikal]

(B3-2006-07-26#426)

Billy: 

Do you have a key?

Adult: 

Where?
Billy: Bicycle

'Bicycle mikw á.

'Only a bike?'

Adult: σL ć< σ∩b < ơ keyx

Nimá tápá nitiyan níyi key.

'No, I don't have the key.'

5.5. Conversation 28

(32) Billy: r<"ć< l" b< b Δć<σ∩b< EMISSION

Chi-páht-ā-n á chákwan ká ľtwá-piyi-ch.

2-hear-val, vbz-1/2 p,qst something pvb, cj heard-dyn-0.s

2-root-val, vbz-hn p,qst pro,indef pvb, cj root-medial-vi.vbz-cin

'The one that makes that sound.'

Target: [ groûw-s-ān zagon gaj 'd-ć- bi-ʧ]
Actual: [bat d-a-man dgûw-ān di d-o-bi-ʧ]

(B3-2006-07-26#442)

Adult: rΓ<" l"< l< l" l" l" Δbc< d-ć< EMISSION

Chichih páhtān á mān chákwan.

'Do you hear something?'

Billy: Δ"Δ σ-Δ l"<l<σ-ć<

Îhí nimui anitāh.

'Yes. Is it from there?'
Billy: \( \text{Can you hear it? (Lit. Do you see it?)' } \)

6. Session 6 – Age 5;05.00 (Total -piyi tokens: 5)

6.1. Conversation 29

Adult: \( \text{Who is teaching you at gym?'} \)

Adult: \( \text{Are you doing exercises? That's what they tell you?'} \)
(33) Billy: \[ {\text{Vehicle/Relative Root}} \]
Náshtâpwâh ni-chishi-piyi-n manh niyi
very.much 1-fast-DYN-1/2 normally 1
P,EMPH 1-ROOT-VI.VBZ-IN P,TIME PRO

\[ {\text{Ah}} \]
\[ {\text{is-piyi-yân}} \]
\[ {\text{wiyâsh ani-tâh.}} \]
PVB,CJ thusly-DYN-I.s in.some.way that-LOC
PVB.CJ ROOT-VI.VBZ-CIN P,MANNER P,DEM.DST-LOC

'I usually go very fast when I go somewhere (by vehicle).

Target: [nàf taw ní-t'jó-bi-n má ni a j's-pi-an wįj' ta]
Actual: [da ní-jį'-bi-_ má ni a js-bi-jan jes _da]
(B3-2006-10-14#36)

Adult: \[ {\text{Chitâhkwashin.}} \]

'Are you good?'

6.2. Conversation 30

Adult: \[ {\text{Chitichistásunâú à mán.}} \]

'Do you count sometimes?'

Billy: \[ {\text{Kiyipwâ.}} \]

'Yes.'
Adult: 〈Δ Δ 〈Δ “Δ Δ” 〈Δ°<
Ái mák wi 'e i u a' wâh.
What about e i u a, eh? (e.g., syllabic alphabet)

Billy: 〈Δ ·<x
Kiyipwâ.
Yes.'

Billy: "Δ "x
Mikw útâh 'a'.
'Only like this (the letter) a'

Billy: "Δ "x
'e'.
'(The letter) e'

(34) Billy:
Mikw nit-itwâwâ-piyi-nân 'e i'.
just 1-heard-DYN-1.PL ENG ENG
P,MANNER l-ROOT-VL.VBZ-IIN N N
'We just make the sounds e i.'

Target: [motk' end-ødawa-bi-nan 'e i]
Actual: [mu:ɡ in-da-bi-na i: i]

(B3-2006-10-14#179)
"Δ" $\Gamma^\delta_x$

'I mikw.

'Just i.'

Adult: $\Gamma^\delta < \Delta$ $\cap \cdot \xi_\alpha: < \xi^o_x$

Mikw á 'e i' chititwánâwâu.

'You only say e, i?'

6.3. Conversation 31

Adult: $\cap \cdot \xi_{\sigma} \cdot \xi^a < b \wedge \gamma^{g_{19}} \cap \Gamma^{\mu_{\sigma}}$

Chichischâyihtân â kâpipâmihyâmikihch.

'Do you know an airplane?'

Adult: $\cdot \xi^a < \Gamma^{\mu_{\sigma}} \cdot \gamma^a \cdot \xi^a \cdot \hat{p} \cdot b \cdot \Gamma^{\psi_{\sigma}}$

Shâsh â chichih pûsin an chîyi kâ mishâch.

'Have you ever got on it on the big one?'
When we are in Montreal, we go to Montreal by vehicle.'

Target: [manu'al bæj t-a-jæj-ə ñi-bi-aæj-ə mantjajal]
Actual: [muntu'al bwaŋ d-a-jej-ə ftu-bi-jet-ə mantjja]

'BWhen are you going to be there?'

'BAre you going by plane?'

'No.'
Adult: Montreal  Woman  Montreal  à  chiki  îspiyanâwânu.  Nimuih  à.  'Are you going to Montreal? No?'

Billy: six  Pâtish  tipishkimânâ  six  ihtupunwâsiyanâ.  'When I have my birthday when I am six years old.'

6.4. Conversation 32

Billy: Dash,  Pipâkichishipihtâshi  Dash  nimâ.  'Dash (e.g., Disney character) runs fast, doesn't he?'

Adult:  Êî  'Yes.'

Billy:  Chihchipihtâshi.  'It runs very fast.'
(36) Billy: \( \sigma^{\Delta} \) straight \( \hat{\Delta}^{\omega} \hat{\Delta} \hat{\Delta} \)  
Niwich straight  
A lot  
P, MANNER  
RELATIVE ROOT  
'It goes really straight (someone's (little) something).'

Target: ['noŋ']  
Actual: [wɔd]  

Billy: \( \sigma \cap \beta \) 
Nityān  
'I have it myself.'

Adult: \( \cup \beta \)  
Chākwān.  
'What?'

Billy: \( \zeta \triangle \Delta '' \cap \delta \)  
Tāpā ihtikun.  
'It's not here.'

Billy: \( \hat{\cap} \hat{\Delta} \hat{\beta} \)  
Mātiwâkinish.  
'Little toy.'

284
7. Session 7 – Age 5;05.22  (Total -pi/y tokens: 2)

7.1. Conversation 33

Adult: \( \hat{\pi} \) \( \pi \sigma \wedge \hat{\lambda} \) \( \theta \) \( \hat{\lambda} \) \( \xi \)

Chih minipiyü â chirpît.

'Did your tooth come off?'

(37) Billy: \( \hat{\lambda} \) \( \sigma \) \( \sigma \wedge \hat{\lambda} \) \( \pi \) \( \sigma \wedge \hat{\lambda} \) \( \xi \)

Châkât kâ mini-piyyî-ch ni-chîh min-in-â-n.

almost \( \text{pVB,cJ pull.off-DYN-0.S 1-PAST pull.off-by.hand-THM-1/2} \)

\( \text{p,MANNER root-vi,vbZ-CIN 1-pVB root-vtr,vbZ-THM-INF} \)

'When it almost came off, I took it off.'

Target: [j'akatb ka mani-pi-jf -a-jî min-_-an]

Actual: [j'akat ka pit-ô-pi-jf ni-_- min-_-a]

(B3-2006-11-06#115)

7.2. Conversation 34

Adult: \( \sigma \wedge \hat{\lambda} \) \( \Delta \hat{\lambda} \) \( \delta \) \( \hat{\lambda} \) \( \beta \) \( \Delta \hat{\lambda} \) \( \psi \) \( \theta \) \( \hat{\lambda} \) \( \xi \)

Nîmîmâh iyâkw anûhch kâh ituhtât daycare Jane.

'No, Jane went to the daycare today.'
(38) Billy: Weekend ◄ Δ"Δ ∧ X \\
Weekend à chîh is-piyi-u.
Eng P,QST PAST thusly-DYN-0
ADV P,QST PVB ROOT-VL.VBZ-IIN
'Did it happen on the weekend?'

Target: [wikend a §î s-pij-u]
Actual: [mwikm â §î s-pij-o]

Adult: Δ"Δ, ◄ i-p A ◄ l-p A Jr A Δ"Δ, ◄ D A ◄ O A 0 A
Íhî wâshkîch wâsh mâhchîch chîh tûhtâu.
'Yes, she has not gone there for a while.'

8. Session 8 – Age 5;06.27  (Total-piyl tokens: 9)

8.1. Conversation 35

(39) Billy: ◄ i-l A 0 A ◄ l A Δ d x \\
Awá-iyí-h kâ pâ-piyi-h-i-ku-ch.
who-OBV-OBV PVB,CJ along-DYN-CAUS-THM.INV-3.PL
PRO,WH-OBV-OBV PVB,CJ ROOT-VL.VBZ-VTA.VBZ-THM.INV-CIN
'Who brought them by vehicle?'

Target: [we-'jù- kæ bæ-bi-h-igu-q]
Actual: [wa-e- kæ ba-bi-d-ik-o-dʒ]
Adult:  ··x

Wâh.

'Eh?'

(40) Billy:  ❍··x  ❍··x  ❍··x  ❍··x

Awâ-yiu-h kâ pâ-piyi-h-iku-t.

Who-OBV-OBV PVB,CJ along-DYN-CAUS-THM.INV-3.s

PRO,WH-OBV-OBV PVB,CJ ROOT-VL.VBZ-VTA.VBZ-THM.INV-CIN

'Who brought him/her here (by vehicle),'

Target:  [we-'ju-_ kæ bæ-bi-h-igu-t]

Actual:  [WA-?- ga bau-bi-h-igu-t]

(B3-2006-12-11#198)

Adult:  Busx

'Bus.'

Billy:  ❍··x  ❍··x

Châkwâyi u âkuh.

'Why?'

Adult:  ··x

Wâh.

'Eh?'
8.2. Conversation 36

(41) Billy:  
\[ \text{Chi-ki } \text{is-pi-yi-h-\text{-}u} \]  
\[ \text{à } \text{Jane.} \]  
\[ \text{2-FUT.1/2 } \text{thusly-DYN-CASU-THM-3} \]  
\[ \text{p,QST } \text{name} \]  
\'Are you taking Jane (by vehicle)’?

Target:  
\[ [\text{[\text{f}i-ki is-pi-h-\text{-}w} \text{ a (name)}] \]  
Actual:  
\[ [\text{h- } \text{is-bi-h-\text{-}a-} \text{ (name)]} \]  
(B3-2006-12-11#271)

Adult:  
\[ \text{\text{Ài } chiki pachi natihukw chikawi.} \]  
\'Hey, your mom will come to pick you up.’

(42) Billy:  
\[ \text{Chi-ki } \text{is-pi-yi-h-\text{-}u} \]  
\[ \text{à an.} \]  
\[ \text{2-FUT.1/2 } \text{thusly-DYN-CASU-THM-3} \]  
\[ \text{p,QST that} \]  
\'Are you driving her/him?\

Target:  
\[ [\text{[\text{f}i-ki is-pi-h-\text{-}æ-w} \text{ a un}] \]  
Actual:  
\[ [\text{f}i-\text{kah is-bi-h-\text{-}a-} \text{ mam}] \]  
(B3-2006-12-11#273)

Adult:  
\[ \text{Niki natihwa } \text{chih iyiu.} \]  
\'She said she would pick her/him up.’
Adult: \( \sigma \Gamma \hat{\Lambda}^{\prime} \) bus \( \mathcal{F} \) \( \hat{\Gamma} \hat{\gamma}^{\prime} \).
Nimimåh bus chiki útinåu.
'No, she will take the bus.'

8.3. Conversation 37

(43) Billy:

\[ \begin{array}{llll}
\hat{\epsilon}^u & \Lambda \Gamma \hat{\Lambda}^{\prime} \hat{\gamma} & d\sigma^{\prime \prime} & VEHICLE \\
Ah & pimi-pi-yâhc̱ & kûn-ihch. \\
PVB,CJ & move-DYN-1.PL & SNOW-LOC \\
PVB,CJ & ROOT-VL.VBZ-CIN & NA-LOC \\
\end{array} \]

'As we ride on the snow.'

Target: [ah pâm-pi-jaf̱ ikum-af]
Actual: [a bûn-bi-jaf̱ gôn-af]

(B3-2006-12-11#389)

Adult:

\[ \begin{array}{llll}
\hat{\epsilon}^u & \Lambda \Gamma \hat{\Lambda}^{\prime} \hat{\gamma} & \hat{\Lambda} & \hat{b}_x \\
Ah & pimipi-yâhch mân. \\
\end{array} \]

'As we go.'

Adult:

\[ \begin{array}{llll}
\hat{\epsilon}^u & \Lambda \Gamma \hat{\Lambda}^{\prime} \hat{\gamma} & d\sigma^{\prime \prime} & VEHICLE \\
Ah & pimipi-yâhch kûn-ihch. \\
\end{array} \]

'Dashing through the snow.'

Billy:

\[ d\sigma^{\prime \prime} \]
Kûnîhch.
'Through the snow.'
Adult:  

\[ \text{Going very fast, eh?} \]

'Going very fast, eh?'

(44) Billy:  

\[ \text{We went fast on the snow.} \]

Kūn-ihch āh chishi-piyi-yāhch.

snow-LOC PVB,CJ fast-DYN-1.PL

'Ve went fast on the snow.'

Target: \[ \text{[kun-} \text{ a īj}-\text{pi-jah}] \]

Actual: \[ \text{[kon-} \text{ _ ī }} \text{ə}] \]

(B3-2006-12-11#394)

Adult:  

\[ \text{We went fast in the snow using a sled (toboggan).} \]

Āh chishipiyyāhch kūnīhch tātiyākināskw āh pimipiyyāhch.

'Ve went fast in the snow using a sled (toboggan).'
We rode on the toboggan, and got to the river.

We reached the river and when we got there...

As we arrive.

We rode on the toboggan, and got to the river.

We reached the river and when we got there...
Billy: Shashawahtitâkînih. 'Bells.'

Adult: Shashawahtâkînih āh wîchihikuyâhch āh nikimuyâhch. 'The bells are helping us to sing.'

8.4. Conversation 38

Billy: Wâpiht-h mâ. 'Look at this.'

(47) Billy: Chishwâwâ-pi-yi-h-tâ-h mâ apîshish. noise-DYN-CAUS-2.s EMPH little 'Turn up the volume a little bit.'

Target: [ʃo-pi-hta-_ m apʃʃə] Actual: [ʃ-би-то-_ m apʃʃə]

(B3-2006-12-11#467)

Adult: Tâpâ ihtikun āi āh chishwâwâpiyihâtâkiniwich. 'We don't have the button to turn up the volume.'
Adult: "ΔΔ^aΔ^bΔ^l hot chocolate."
Àiyiðu minihkwâwich hot chocolate.
'They're drinking hot chocolate.'

Billy: "∩∩∩ remote."
Chitiyan â remote.
'Do you have a remote?'

Adult: "Δ^a".
Wâh.
'Eh?'

Adult: "P^a<z."
Kiyipwâ.
'Yes.'

9. Session 9 – Age 5;10.06 (Total -pijì tokens: 5)

9.1. Conversation 39

Adult: "č^a经典△<ΔJames.
Tân áyîhtik wì ài James.
Where is James?
(48) Billy: Chihchi-piyi-u Ottawa. leave-DYN-3 name

'He went to Ottawa.'

Target: [ghifi-pij-u, atawah]
Actual: [di̱fi-ji-w adowa]

Adult: Ottawa ˚°__1N

Tân ásinikasut.

'What is his/her name?'

9.2. Conversation 40

Billy: Ć<

Tân ásinikasut.

'What is his/her name?'

Adult: Tomx

'Tom.'
Billy: Wãh.
"What?"

Adult: Tom.
'Tom.'

Billy: Ái an kã màtut mãnh.
'That one who used to cry all the time.'

Billy: An â kã màtut.
'Is it the one who cried?'

Adult: Awân.
'Who?'

Billy: Tom.
'Tom.'
(49) Billy: &lt;i&gt; ah màt-u-t mành àukw aní-ýâ &lt;i&gt; PVB,CJ cry-VAI.VBZ-3.S normally that.one that-OBV

PVB,CJ ROOT-VAI.VBZ-CIN P,TIME PRO,FOC P,DEM.DST-OBV

'He cries because he wants to go (on that trip).'

Target: [a mat-u-t man awkuni-jâ a wi ḣhị-pi-i t]
Actual: [a mæd-o-t manh awkh in-jaw ia wi ḣdʒo-bi-t]

(B3-2007-03-19#194)

9.3. Conversation 41

(50) Billy: Ḥdʌʌ̂u'x. | Û-yâh, Û-yâh.

Piku-piś-yiu-h a Û-yâh. break-DYN-OBV-OBV P,QST this-OBV

ROOT-VI.VBZ-OBV-OBV P,QST P,DEM.PXL-OBV

'Is this (belonging to someone else) broken?'

Target: [piku-piś-h a o-jâh]
Actual: [bọgo-bi-jô-h a wi-ja]

(B3-2007-03-19#483)
Adult: Apishīsh kiyipwā mikw.
'Just a little bit.'

Billy: Utih.
'Here.'

Billy: Nimui.
'No.'

Billy: Mikw wāsh niyi kuiskw nitihtutiwāwich.
'It's only me that treats them right.'

Billy: Kā apishīshishiyān nimui kuiskw nūhchi nitihtutiwāwich.
'When I was little, I did not treat them properly.'

Adult: Tāpwāh å.
'Really?'

Billy: Nichih pikupitāshiwich.
'I used to break them (diminutive).'
9.4. Conversation 42

Billy: \( \check{\xi} ^{\circ} \Delta^{\xi} \cap {^\Phi^{\theta}} \)
Tan a iyhtiiny.
'What are you doing?'

Adult: \( \check{\zeta} ^{\circ} \Delta^{\beta} \), \( \sigma^{\varphi^{\gamma^{\beta}}} \)
Tapi wiyash nikischikwasun.
'Nothing, I'm sewing.'

Billy: \( \check{\eta} ^{\circ} \Delta^{\beta} \)
Chåkwåyiu åkuh.
'Why?'

Adult: \( \Gamma^{\delta^{\alpha}} \)
Mikw.
'Only.'

Adult: \( j^{\varphi} \), \( \sigma^{\varphi^{\gamma^{\beta}}} \)
Mushwash nikischikwasun.
'I always sew.'
`"When something is torn/broken?"'

Target: [ah piku-pi-ʃ a tsakwan]
Actual: [a pika-bi-ʃ a: ʃikʰa]

(51) Billy: копетед лонак я хьу а

Âh piku-piyi-ch â châkwân.

`'When something is broken, I fix it.'``

(83-2007-03-19 # 592)

Adult: копетед лонак я хьу а

Âh piku-piyich wash châkwân nu yashtután.

`'When something is broken, I fix it.'``

Adult копетед лонак я хьу а

Mûsh wash nûyashtimwän uchâkwânimiwâuh awânîchî.

`'I always fix other people's things.'``
9.5. Conversation 43

(52) Billy: ∙<i>d</i> ∙<i></i> ∙<i>a</i> up and down
åukw å an up and down
that.one P,QST that ENG ENG ENG
PRO,FOC P,QST P,DEM,DST prep CONJN prep

∆"ΛΛ"^CΨσΔ^v.x
åh is-piyi-ht-åkinwi-ch.
PVB,CI thusly-DYN-CAUS-PASSIVE.3-3,PL
PVB,CI ROOT-VL.VBLZ-VTL.VBLZ-PASSIVE-CIN
'Is this what is used to make it go up and down?'

Target: [aw an åp an tawn a js-pi-ht-akanow-ʃ]
Actual: [awg a n ab ə dind aw is-pi-td-agono-ʃ]
(B3-2007-03-19#617)

Adult: ∆"^v.x
 lhí.
'Yes.'

Adult: σΓ ∙<i>d</i> ∙<i></i> ∙<i>a</i> ∙<i>n</i> "ΛΛ":Γ "dΛ^v.x
Ními wâwâch nûhchi chipihchinâhtâkupin.
'It looks like I didn't even turn it off.'
10. Session 10 – Age 5;10.18  (Total -piyi tokens: 14)

10.1. Conversation 44

Billy: Round ñ Round [wâsh ìsinâkusiu. 'Round in shape.'

Adult: 10.1. Conversation 44

(53) Billy: RELATIVE ROOT

Kiyipwâ utâh âh is-piyi-shi-ch.
of.course here PVB,CJ thusly-DYN-DIM-0.s
P,AFF P,DEM,LOCATION PVB,CJ ROOT-V1.VB2-DIM-CIN

'It goes like this.'

Target: ['giba 'ut a if-`bi-fi-f]
Actual: [d̄gwa jog a ro-bi-fi-f]

301
(54) **Billy:** \( \gamma' \delta \rho \gamma'' \) round \( \Delta' \Lambda \rho \Delta'' \) \( \text{RELATIVE ROOT} \)
Mikw kiyåh round is-pi-yi-shi-u.
just and \( \text{ENG} \) thusly-DYN-DIM-3
\( \text{P,MANNER} \ \text{P,CONJ} \ \text{ADJ} \ \text{ROOT-V1.VBZ-DIM-IIN} \)
'It only goes around.'

Target: [\'mu gje jawnd \[f-bi-\text{-}f-o] 
Actual: [mAj k\'e jand \[j-s-pi-\text{-}f-o] 
(B3-2007-04-02#29)

Adult: \( \hat{\Delta} \)
\( \hat{\i} \)
'Ok.'

10.2. Conversation 45

Adult: \( \zeta' \delta' \) \( \phi'' \Lambda' \phi'' \)
Tåñ kåh åyihti-yin anåhch.
'What did you do today?'

(55) **Billy:** \( \sigma' \delta'' \) \( \Lambda' \Lambda \delta'' \) \( \text{VEHICLE} \)
ni-chîh pim-pi-yi-h-iku-nån.
1-PAST move-DYN-CAUS-THM.INV-1.PL.
1-PVB ROOT-V1.VBZ-VTA.VBZ-THM.INV-IIN
'Someone was driving us.'

Target: [\text{-}dʒi bim-bi-\text{'}h-iga-\text{-}nån] 
Actual: [an-\text{-}dʒi bøm-br-f-igu-\text{-}nån] 
(B3-2007-04-02#46)

302
Billy: <i>Δ Δ <i>Δ James.

Ai āi James.

'Uhh, uhh... James.'

Adult: <i>a â:i âí James <i>a "u

Awâń James â chichih pipâmipiyiyihkw.

'Who? James was driving you around?'

Billy: āō

Ihî.

'Yes.'

Billy: s<Δ Δ d trailer.

Nimui mikw trailer.

'Not in the trailer.'

Adult: <i>â <i>b<Δ b' <i>a<Δ"<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<â<a
Adult:  At the back.
   'At the back?'

Billy:  ᖃ ᖃ
   ᖃ
   'Yes.'

Adult:  ᑭ ᑭ
   ᖃ ᖃ
   ᖃ ᖃ ᖃ
   Tāpwāh  â.
   'Oh yea?'

Billy:  ᖃ ᖃ
   ᖃ
   'Yes.'

Billy:  ᖃ ᖃ
   ᖃ ᖃ ᖃ ᖃ ᖃ ᖃ ᖃ
   Nimui mikw three nichih ihtishinân.
   'No, there was only three of us.'

Adult:  ᑭ ᑭ
   ᖃ ᖃ
   ᖃ ᖃ ᖃ
   Tāpwāh  â.
   'Oh yea?'

Billy:  ᖃ ᖃ
   ᖃ ᖃ ᖃ ᖃ ᖃ ᖃ
   Mikw mikw  âi  mikw.
   'Only, only, only...'

304
(56) Billy: James $\hat{\wedge} \Gamma \wedge \hat{\Lambda}^\circ \hat{\sigma}\hat{\Delta} $ in the back VEHICLE
James chih pim-ipi-yi-u niyi in the back
name PAST move-DYN-3 I ENG ENG ENG
N PV BN ROOT-VL.VBZ-IIN PREP ARTCL N

\sigma \hat{\Delta}^\circ \hat{\Lambda}^\circ \hat{\Lambda}^\circ \hat{\Delta}^\circ
ni-chih iht-ä-w-ā-n.
1-PAST be-VL.VBZ-RELATIONAL-VL.VBZ-1/2
1-PV BN ROOT-VL.VBZ-RELATIONAL-VL.VBZ-IIN

'James was driving and I sat in the back.'

Target: [*dji bim-bij-o 'ni 'in òe 'bæk\textsuperscript{h} an-dji 't\textsuperscript{h}-a-w-a-n]
Actual: [*dji bim-bij-o ni n do bæk\textsuperscript{h} an-dji t\textsuperscript{h}-a-\_\_\_n]

(B3-2007-04-02#62)

(57) Billy: \r\u02c7\textsuperscript{a} b\textsuperscript{u} $\Lambda \Gamma \Lambda \Lambda \Lambda \hat{\sigma}\hat{\Delta}^\circ$
Jane$\textsuperscript{e}$ VEHICLE
Min kāh pim-ipi-yi-h-ākiniwi-t Jane.
again PVBN,CJ move-DYN-CAUS-PASSIVE.3-3s name
P,QUANT PVBN,CJ ROOT-VL.VBZ-VTA.VBZ-PASSIVE-CIN N

'Then it was Jane's turn, Jane had a ride.'

Target: [*min ga bäm-bi-h-a-gāno-t (name)]
Actual: [min ga vim-bi-h-a-gāno-d (name)]

(B3-2007-04-02#63)

Billy: \r\u02c7\textsuperscript{a} d\textsuperscript{Δ} b $\Lambda \wedge \Gamma \wedge \Lambda^\circ \wedge\hat{\sigma}\wedge\hat{\Delta}^\circ$
Min ñi kā pihchichâyâhch uih.

'Then, hmm, we came in(side) here.'
Adult:  "x
Oh.
'Oh!'

10.3. Conversation 46

Billy:  ȧ.°  t<s"  ȧⱼ一切都是
Nāshtāpůwah niwîh wiyiwîn.
'I really want to go outside.'

Adult:  n-scal
c.°  t<s"
Chipikwâyihtânh.
'Are you anxious?'

Adult:  ȧ. w IndexPath  ȯ.c
Shâsh wâsh châkât.
'It's almost done.'

Adult:  ȧ. w  IndexPath  ȯ.c  ȧ. ȧ  ȧ. ȧ  ȧ. t<s"  n-scal
Shâsh châkât chîchîh misinâpiskihutîn.
'I'm almost done videotaping you.'
(58) Billy: 
\[ \text{At what time, two o'clock?} \]

Target: [tæn uf bi-ðə klakʰ]
Actual: [ant uf bi-d-a kwakʰ]

(B3-2007-04-02#77)

Adult: \[ \text{Nimimáh.} \]

'No!'

Adult: [\text{Nimui kwashwán áshkw two.}]

'Maybe not even at two.'

Adult: \[ \text{Ok?} \]

'Billy: 
\[ \text{It's now four o'clock, do you see?} \]

10.4. Conversation 47
Billy: \[ \text{ch}} \quad \text{D_x}
\]
Chiwāpihtān á.
'Do you see?'

Adult: \[ \text{D^*}_x \]
Wāh.
'What?'

(59) Billy: \[ \text{ch}} \quad \text{D}_{4\text{}} \quad \text{D}_{\text{o}} \quad \text{MANNER} \]
Chi-wāp-ih-tá-n á shāsh four ishpish-ipyi-u.
2-light-by.head-thm-1/2 p,qst already eng amount-dyn-3
2-root-vt1.vbz-thm-IIIN p,qst p,time p,num p,quant-vi.vbz-IIIN
'Do you see it is now four o'clock?'

Target: \[ [\text{ch}} \quad \text{D}_{3\text{}} \quad \text{D}_{\text{ae}} \quad \text{for} \quad \text{oklakh} \quad \text{fij-pij-o}] \]
Actual: \[ [\text{ch}} \quad \text{D}_{\text{f}} \quad \text{D}_{\text{ae}} \quad \text{for} \quad \text{oklag} \quad \text{fij-pij-o}] \]

(B3-2007-04-02#143)

Adult: \[ \text{D^*}_x \]
Oh.
'Oh!'
(60) Billy: Five o'clock ̃ϕ ˂̈ϕ ̄α ̃ϕ ̄α VEHICLE
Five o'clock chiki pâ-piyi-u n-ûhtâwî.
ENG ENG FUT.3 along-DYN-3 1-father
P,NUM ADV PV B ROOT-VI.VEZ-IIN 1-NAD
'My father is coming at five o'clock by vehicle.'

Target: [fajv əklak³ dʒiŋə ʃa-bi-j-o n-otəawi]
Actual: [ofə klaq dʒiŋə ba-bj-o ən-əndawe]

(B3-2007-04-02#145)

Adult:  What time ̃ϕ.
  What time â.
  'At what time?'

Billy:  Five o'clock.
  'Five o'clock.'

10.5. Conversation 48

Billy:  Four o'clock.
  'Four o'clock.'

Adult:  four o'clock.
  'It will be four o'clock.'
(61) Billy: One o'clock \(\triangleq\) \(\Delta^{\text{ENG}}\) \(\Delta^{\text{P,NUM}}\) MANNER
One o'clock â ishpish-piyi-u.
ENG ENG P,OST amount-DYN-3
P,NUM ADV P,OST P,QUANT-V1.VBZ-IIN
'Is it one o'clock?'

Target: [wan ə'klakʰ a? ]\(\{\text{p}^{3}\text{-ipi}j\text{-o}\}\)
Actual: [wan əklak a ]\(\{\text{j}^{3}\text{-bij}\text{-o}\}\)

(B3-2007-04-02#161)

Adult: One o'clock \(\Delta^{\text{ENG}}\) \(\Delta^{\text{P,NUM}}\)
One o'clock ishpishipiyiu.
'It is one o'clock.'

Billy: \(\sigma\Delta\times\)
Nimui.
'No.'

Adult: One twenty \(\Delta^{\text{ENG}}\) \(\Delta^{\text{P,NUM}}\)
One twenty ishpishipiyiu.
'It is one twenty.'

10.6. Conversation 49

Billy: \(\text{Māutāh kā iyit awān.}\)
'Māutāh kā iyit awān.
'This is what someone said (on the radio).'

310
Billy: Radio"u" b ðzç
Radiohch ká iyt.
'He said on the radio.'

(62) Billy: ì ñòâûçr, ðò ðû ñòâûço busx VEHICLE
Châ wâp-iht-amin tâpâ kiti pâ-pi-yi-u bus.
fut light-by.head-2.s not fut.3 along-dyn-3 eng
pYB,cj root-vtl.vbZ-CIN f,NEG pYB root-vtl.vbZ-IIIN N
'You'll see, the bus won't be coming.'

Target: [ðìa 'wâp-h-t-imn 'daba 'getå 'ba-bij-o 'bas]
Actual: [ðìa f-_ _ dibæ dʒɪɡa ba-bij-o bas]
(B3-2007-04-02#205)

Adult: ðòù ñì.
Tâpwâh â.
'Really?'

Billy: ðòù ðì
Ìhì.
'Yes.'
(63) Billy: Shâsh wâsh nau chîh ishi-pi-yi-u clock. \\
already EMPH four PAST thusly-DYN-3 ENG \\
P,TIME P,DISC P,NUM PVB ROOT-VI.VBZ-IIN N \\
The clock already said four o'clock.'

Target: [ʃæf waf naw dʒi 's-pi-y o klâkʰ] \\
Actual: [haf aʃ anaw dʒi s-pi-y o kâkʰ] \\

(B3-2007-04-02#208)

Adult: Oh. 'Oh!' 

(64) Billy: Ŧutâh chi-pi-chîh pâ-pi-yi-u shâsh. \\
right.there should-PAST along-DYN-3 already \\
P,DEM.FOC.LOCATION PVB-PVB ROOT-VI.VBZ-IIN P,TIME \\
'It should have already been here (bus?)'

Target: [a'gutʰ dʒi-pʃi 'ba-bi-y o ʃæʃ] \\
Actual: [agok jum-pʃiạ bà-bi-o ʃaʃ] \\

(B3-2007-04-02#210)

10.7. Conversation 50 

Billy: Iskitûh âh misichihti-yi-ch-h. 'A big skidoo?'
Adult:  σΓ unauthorized

Nimimāh apishishiyuh.

'No, it is a small one.'

(65) Billy:  j‘w  ə  rσ yat‘k‘x

Mūsh  ā  chi-nitiw-áyi-m-á-u
always  p,qst  2-want-by.mind-by.head-thm-3
p,time  p,qst  2-root-medial-vta.vbe-thm-hin

 tô  ãΓ ãk‘x

chá  pimi-piyi-t.

FUT  move-dyn-3,s

PVB,CJ  root-vl.vbe-cin

'Do you always let him drive?'

Target:  [ˈmoʃ  æ  d3i-ndw-aj-m-a-w  d3a  ʰbm-bi-tb]
Actual:  [mwaʃaj  o  ˈʃ-nd-oj-m-w-o  d3a  ɡin-di-tb]  

(B3-2007-04-02#295)

Adult:  σΓ unauthorized

Nimimāh.

'No.'

Adult:  c‘c  σΓ unauthorized  əθσ‘s  ãΓx

Tāpā nimiyâyiuh aniyâh wiyī.

'That's not his.'

313
10.8. Conversation 51

Adult: \[\langle \alpha \rangle \quad \land \quad \langle \alpha \rangle \quad \land \quad \langle \alpha \rangle \quad \land \quad \langle \alpha \rangle \quad \langle \alpha \rangle \]

An mā pichistinh anitāh.
'Put that there.'

Adult: \[\langle \alpha \rangle \quad \land \quad \langle \alpha \rangle \quad \land \quad \langle \alpha \rangle \quad \land \quad \langle \alpha \rangle \quad \langle \alpha \rangle \]
Pâtāh mā an chiki pikuhtin.
'Bring that, it will break.'

Billy: ---

Adult: \[\langle \alpha \rangle \quad \land \quad \langle \alpha \rangle \quad \land \quad \langle \alpha \rangle \quad \land \quad \langle \alpha \rangle \quad \land \quad \langle \alpha \rangle \quad \langle \alpha \rangle \]

Atitiwīsh mā anitāh īspit-h.
'Move it more over there.'

Billy: \[\langle \alpha \rangle \quad \land \quad \langle \alpha \rangle \quad \land \quad \langle \alpha \rangle \quad \land \quad \langle \alpha \rangle \quad \langle \alpha \rangle \quad \langle \alpha \rangle \quad \langle \alpha \rangle \]

Niwāpihtān.
'I can see it.'

Adult: \[\langle \alpha \rangle \quad \land \quad \langle \alpha \rangle \quad \land \quad \langle \alpha \rangle \quad \land \quad \langle \alpha \rangle \quad \langle \alpha \rangle \quad \langle \alpha \rangle \quad \langle \alpha \rangle \]

Wāsā mātwāhtiniwiwich.
'Oh, no! The phone is ringing.'

Billy: \[\langle \alpha \rangle \quad \land \quad \langle \alpha \rangle \quad \land \quad \langle \alpha \rangle \quad \land \quad \langle \alpha \rangle \quad \langle \alpha \rangle \quad \langle \alpha \rangle \quad \langle \alpha \rangle \quad \langle \alpha \rangle \]

Chiwāpihtān ā.
'Do you see it?'

314
Billy: ᐃ·Advisor'x  
Chiwâpihtân à.
'Do you see it?'

Adult: Upside down ᐃ'advisor'x
Upside down ᐅshinâkun.
'It looks upside down.'

Billy: —

(66) Billy: ᐃ’Advisor’x ᐃ’advisor’x ᐃ’Advisor’x ᐃ’Advisor’x ᐃ’Advisor’x ᐃ’Advisor’x ᐃ’Advisor’x ᐃ’Advisor’x  
Ákutâh châ isi-nâku-si-t pîku-pîyi-ch-â.  
OK fut thusly-appear-valvbz-3.s break-dyn-0.s-subjunctive  
P,DEM PVB,CJ ROOT-VAL.VBZ-VAL.VBZ-CIN ROOT-VI.VBZ-CIN-SUBJUNCTIVE  
'This is what it will look like if it's broken.'

Target: [ak’à’la jfa jso-nâk’x-si-tb bikâ-bi-d3-o]  
Actual: [ak’à’la d3 if’-ne-k’al_ bigo-bi-d3-a?]  
(B3-2007-04-02#431)

Adult: ᐃ’x  
î.  
'Okay.'
Morphological inventory of *piyi*-derived verbs by session

<table>
<thead>
<tr>
<th>Orthography</th>
<th>Meaning</th>
<th>Type</th>
<th>Session 1</th>
<th>Session 2</th>
<th>Session 3</th>
<th>Session 4</th>
<th>Session 5</th>
<th>Session 6</th>
<th>Session 7</th>
<th>Session 8</th>
<th>Session 9</th>
<th>Session 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-</td>
<td>1</td>
<td>1</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ni-</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>nil-</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cht</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-ch</td>
<td>0.s</td>
<td>CIN</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-ch</td>
<td>3.s</td>
<td>CIN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-nihihch</td>
<td>1.pl</td>
<td>CIN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>t</td>
<td>3.s</td>
<td>CIN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-u</td>
<td>0</td>
<td>CIN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>yihihch</td>
<td>1.pl</td>
<td>CIN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-an</td>
<td>1.s</td>
<td>CIN</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>shi</td>
<td>dim</td>
<td>dim</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>nh</td>
<td>1/3</td>
<td>LIN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-nähn</td>
<td>1.pl</td>
<td>LIN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-u</td>
<td>3</td>
<td>LIN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-wich</td>
<td>3.pl</td>
<td>LIN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-h</td>
<td>2.s</td>
<td>imp</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-näniwich</td>
<td>impers</td>
<td>impers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-si</td>
<td>intens</td>
<td>intens</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-h</td>
<td>obv</td>
<td>obv</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-yi</td>
<td>obv</td>
<td>obv</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-ytu</td>
<td>obv</td>
<td>obv</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>-dihiwi</td>
<td>passive 3</td>
<td>passive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-nihiwi</td>
<td>passive 3</td>
<td>passive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>chh</td>
<td>fut.3</td>
<td>pvb</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>chhh</td>
<td>past</td>
<td>pvb</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>-chpì</td>
<td>should</td>
<td>pvb</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>kr</td>
<td>fut.1Z</td>
<td>pvb</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>kdi</td>
<td>fut.3</td>
<td>pvb</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>wih</td>
<td>dead</td>
<td>pvb</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>xh</td>
<td>pvb,conj</td>
<td>pvb,conj</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>chh</td>
<td>fut</td>
<td>pvb,conj</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>kh</td>
<td>pvb,conj</td>
<td>pvb,conj</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>-ä</td>
<td>subj.ach</td>
<td>subj.ach</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>åh</td>
<td>thm.dr</td>
<td>thm.dr</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>fhu</td>
<td>thm.inv</td>
<td>thm.inv</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>-hu</td>
<td>medio.fmv</td>
<td>vai.fin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>-htìa</td>
<td>caus</td>
<td>vai+fin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>-h</td>
<td>caus</td>
<td>vta.fin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>