Monolingual Language Acquisition in a Mixed Language Community: A Case Study of Northern East Cree

by

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Abstract

This thesis examines the effects of English language contact on the acquisition of Northern East Cree. Specifically, I examine the productions of one child, code-named Billy, whose language development was documented longitudinally (between the ages of 04;06 and 06;00) as part of the Chisasibi Child Language Acquisition Study. Billy's language productions are of particular interest because he was raised in a largely monolingual Cree-language household, with minimal contact with English language speakers.

I describe both qualitatively and quantitatively the distribution of English-origin forms in Billy's productions. Billy produces English-origin word forms within his Cree-language utterances, which are characterized by both a majority of Cree morphology and a minority of English morphological markers. Billy also produces "bare" English-origin forms without inflectional morphology. Overall, Billy appears to have acquired a grammar for the Cree language that is largely devoid of English rules or structures. Although Billy produces English-origin nouns, verbs, adjectives, and nominal morphology, there is little evidence in the dataset that he has acquired a productive grammatical system for English.

This case study provides insight into how language contact phenomena can impact the language acquisition of an Indigenous language. It also suggests that, in Billy's case, his language has developed into a grammatical system that essentially corresponds to that of Cree, with minor insertions of English lexical forms and grammatical markers.

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Dedication

To those who came before, and the ones who will come after.

To my friends and family, who never gave up on me. And to the incredible people who have dedicated their lives to the revitalization and strengthening of Indigenous languages worldwide.

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Chapter 1: Introduction

1. Scope and Objectives

This research was conducted within the context of the fact that, in North America, children who acquire an Indigenous language typically do so in a mixed language environment. This is to say, children who are learning an Indigenous language typically also encounter other languages, including non-Indigenous languages (such as English, French or Spanish), spoken within their community. However, it is unknown to what extent this mixed language setting impacts the acquisition process. The general objective of this thesis is to examine the effects of English language contact on the acquisition of Northern East Cree (henceforth NE Cree) in one child's speech productions, based on a longitudinal case study.

This child (code-name Billy), was a participant in the Chisasibi Child Language Acquisition Study (CCLAS). CCLAS is a long-term research project which aims at documenting and analyzing longitudinal naturalistic data on the first language acquisition of NE Cree. Concretely, the goals of this project are to detail the milestones of typical language development for NE Cree speakers, and study their implications in light of theories of language and language acquisition. At the onset of the study (fall 2003), the investigators knew of no substantive research examining the acquisition of an Algonquian language. In addition to the empirical knowledge assembled within this study since its inception, CCLAS also aims to use these findings to inform current practices in Speech-Language Pathology for the diagnosis and treatment of linguistic delays in Cree-speaking children. This is particularly relevant in that the only testing available at the onset of this project was based on children's performance in their second language (English or French; Brittain et al. 2007:2–3).

Billy's recordings were made in Chisasibi, Quebec from September 2005 to April 2007. Billy was part of the older of two cohorts of children, and was between the ages of 04;06 – 06;00 during the data recording period. I discuss the methodology of this study in more detail in Section 1 of Chapter 3 below. I also describe Billy's language learning environment in Section 3.3 of Chapter 2.

The specific questions that I address in my research are as follows:

1. Does Billy predominately speak one language over the other and, if so, what fluency does he display in his dominant and subordinate languages?

2. What types of English-origin parts of speech and constructions does Billy use, and to what extent are these forms interacting with (or being incorporated into) his Cree grammar?

In this thesis, I describe both qualitatively and quantitatively the distribution of English forms in Billy's productions. While I am looking at the behaviour of these English-origin parts of speech across all of the morpho-syntactic environments in which they are attested, I do not engage in a formal morpho-syntactic analysis of these productions.

2. Thesis Structure

This thesis is organized as follows. In Chapter 2, I review the relevant literature on bilingualism, language contact, and the acquisition of polysynthetic languages. I then provide a brief overview of the structure of NE Cree, and discuss Billy's general language learning environment. In Chapter 3, I present the methodology of the current study, including the classification of mixed utterances and words with ambiguous source languages. In Chapter 4, I provide an overview of Billy's Cree, English, and mixed language utterances. In Chapter 5, I present a detailed description of the different types of English-origin parts of speech and constructions that Billy uses, and explore Billy's incorporation of these into his Cree grammar. Finally, in Chapter 6, I summarize and discuss my findings.

Chapter 2: Background

1. Introduction

In this chapter, I begin with a brief introduction to the central concepts of bilingualism and language dominance, followed by a review of code mixing and borrowing. I then review the relevant literature on the acquisition of polysynthetic languages both in bilingual and monolingual contexts.

1.1 Bilingualism

For the purposes of this thesis, a person who is bilingual is defined as an individual who has the ability to speak two languages (Oxford English Dictionary; www.oed.com). This includes individuals who are bilingual from birth, early and late bilinguals, bilinguals with a dominant language, or equi-dominant bilinguals (see Section 1.2). However, this definition excludes passive bilinguals, individuals who can understand a second language but not speak it. Of note, most bilingual speakers exhibit a dominant language.

1.2 Language Dominance

Dominance Theory postulates that during bilingual language acquisition, a child will often be stronger (more fluent/proficient) in one language than the other (Petersen 1988; Genesee, Nicoladis & Paradis 1995; Nicoladis & Genesee 1996). The stronger (or dominant) language is typically the language that the child has had more exposure to and uses more frequently, while the weaker (non-dominant) language is correlated with less exposure (Hoff et al. 2012).

Recent work by Hoff et al. (2012) suggests that during bilingual acquisition, a child's linguistic ability will develop as a direct function of his/her exposure to a given language. Hoff et al. (2012:22) also state that "a threshold of 20% of input [is] required for language learning" in bilingual language acquisition. This suggests that language fluency does not occur in a child's

non-dominant language without at least 20% of his/her total exposure in that language. This is known as the "20% threshold hypothesis".

1.3 Loanwords

A loanword is a single word or compound that has its own language of origin (the source language) and was introduced into a new language (the host language). The process of loanword integration is called borrowing. Poplack, Sankoff & Miller (1988:70–5) suggest that a loanword must also have a mental representation in the host language, and conform, at least on some level, to the phonotactics of the host language. I will return to these criteria in Sections 1.5 and 1.4 respectively.

Poplack, Sankoff & Miller (1988) distinguish between three types of loanwords: NONCES, IDIOSYNCRASIES, and ESTABLISHED LOANWORDS. Nonces are loanwords that are used only once by a bilingual speaker. Idiosyncrasies are loanwords that are used repeatedly by one bilingual speaker, but have not (yet) become widespread in his/her speech community. Established loanwords are used widely throughout the community by both monolingual and bilingual speakers (e.g. "sushi" in English). Notably, whether or not the speaker is aware that the loanword is from an origin other than the host language is irrelevant to this classification. The key distinction is that nonces and idiosyncrasies, unlike established loanwords, are instances of "active" borrowing (Poplack, Sankoff & Miller 1988:98).

Active borrowing is the process of consciously introducing a word from a source language into a host language. Sociolinguistic evidence indicates that active borrowings are only produced by bilingual speakers (Haugen 1950; Weinreich 1970; Bowen 1975; Lovins 1975; Grosjean & Soares 1986; Poplack, Sankoff & Miller 1988) or, in some cases, individuals who are in direct contact with the source language (Poplack, Sankoff & Miller 1988:48). Active borrowing occurs most frequently in conversations between bilingual speakers who have a shared knowledge of both languages (Grosjean 1982: Ch. 3). This follows from the understanding that a minimum level of fluency is required in both languages to be able to actively mix them together in a single utterance. When a loanword is used with high frequency, it can be acquired by monolingual

speakers of the host language, and become a recognized lexeme in that language (i.e. an established loanword). Unlike active borrowing, the use of established loanwords does not require fluency in the source language. Established loanwords can be used by both monolingual and bilingual speakers (cf. Paradis & LaCharité 1997:391–2). Based on Poplack, Sankoff & Miller's (1988) description of loanwords, we can infer that once a loanword is used by monolingual speakers, it has become an established loanword (since only bilingual speakers engage in active borrowing).[1]

Notably, Myers-Scotton (1997) distinguishes between cultural borrowings and core borrowings. Cultural borrowings are new concepts and/or lexemes coming into a host language and culture through contact with a source language and culture. Core borrowings occur when the host language already has a way of expressing a concept, yet replaces it with a loanword from the source language regardless. For example, speakers of the Labrador dialects of Inuktitut use borrowed German numbers (1-12) to tell time, while other dialects have retained the Inuktitut numbers for this purpose (Doug Wharram, p.c., 2015). Myers-Scotton (1993:5) argues that these are two separate processes. Crucially, all loanwords function as integrated syntactic units in the host language (Poplack, Sankoff & Miller 1988:70).

Part of the process of loanword integration into a host language is phonological adaptation. Paradis & LaCharité (1997) document this process at length. In essence, when a loanword is integrated into a host language, it generally goes through a systematic process of phonological adaptation to conform to the phonotactic constraints of the host language. This is often part of the process of becoming an established loanword.

Haugen (1950) suggests that the longer a loanword has been established in the community, the more phonologically integrated it becomes. Therefore loanwords that have been actively used in a community for several generations are typically more integrated than more recent loanwords. Haugen also suggests that this process is limited by the linguistic competence of the speaker (Haugen 1950; Haugen 1969). More recent studies by Poplack, Sankoff & Miller (1988) and Paradis & LaCharité (1997) suggest that even in novel loanwords, there may be some level of

1 In order to accurately confirm a loanword's status as an established loanword, we must demonstrate that the loanword is used by multiple monolingual speakers, not just one.

phonological adaptation. However, Myers-Scotton (1993:161) claims that phonological integration is an unreliable measure of loanword status.

Finally, the more fluent an individual bilingual speaker, the more tolerant he/she becomes to influences from the source language in loanword phonology (Harriott & Cichochi 1993). This follows from the fact that bilingual speakers have an understanding of the phonotactics of the source language. Paradis & LaCharité (1997:392) also suggest that "... the greater the number of bilinguals within the community and the more fluent they are, the more tolerant the community, as a whole, becomes toward imports." This is consistent with Haugen's claim that communities with a large bilingual population are more tolerant of the retention of source language phonology in their established loanwords.

1.4 Community Bilingualism and Loanword Assimilation

Paradis & LaCharité (1997) make the distinction between individual bilingualism (described in Section 1.1) and, building on Haugen (1950, 1969), community bilingualism. Community bilingualism refers to a community's overall knowledge of two languages. When a monolingual community experiences language contact, community bilingualism can occur quite rapidly (over a single generation), or over many generations.

Haugen (1950:216–217) divides community bilingualism into three stages: 1) A Pre-Bilingual Period, 2) A Period of Adult Bilingualism, and 3) A Period of Child Bilingualism. These stages are described at length in Haugen (1950) and Paradis & LaCharité (1997). Paradis & LaCharité (1997) relabel these as 1) Low Community Bilingualism, 2) Mid Community Bilingualism, and 3) High Community Bilingualism. I will be using these latter terms hereafter.

As described in Paradis & LaCharité (1997), Low Community Bilingualism is characterized by the introduction of novel loanwords by a relatively small group of bilinguals. These loanwords are assimilated into the host language's phonology with a high degree of phonetic variability. With Mid Community Bilingualism, the overall knowledge of the second language in the community is greater, and as such a larger population of bilingual speakers is able to introduce

loanwords into the host language (i.e. engage in active borrowing). Borrowings are also more systematic: loanword phonotactics have a greater semblance to the source language, in that phonemes from the source language can appear in environments that contradict the phonotactics of the host language. Finally, with High Community Bilingualism, bilingualism is so widespread that children begin to grow up bilingual. This creates a much higher tolerance for source language phonotactics in loanwords, including the integration of source language phonemes previously illicit in the host language.

Depending on social, economic, and linguistic factors, a community may stabilize at any level of bilingualism, or may experience a shift from one language to another, resulting in the decline or complete loss of the host language. This often occurs in situations when the source language is perceived to be of greater economic and/or social prestige (Grenoble & Whaley 1998; Crystal 2002).

1.5 Code Mixing

Code mixing is defined as the active use of elements from two or more languages within the same utterance. This definition is adapted from Allen et al. (2002:171), who define code mixing as "the use of elements or structures from two or more languages within the same utterance". My addition of the word "active" is to highlight the fact that code mixing requires the speaker to have some fluency in all languages being used. A monolingual speaker's use of an established loanword cannot qualify as code mixing because he/she is not "mixing" two codes: he/she is speaking one code that contains elements whose origin is from another source.[2] Using the word "active" in our definition highlights that only bilingual speakers engage in code mixing.

Allen et al. (2002) describe two types of code mixing. The first, called inter-sentential code mixing (often referred to as *code switching*), consists of the use of two or more languages within a discourse. The second, intra-sentential code mixing, refers to the use of two or more languages within a single utterance.[3] It is the latter type that I will primarily address in this thesis.

2 For the monolingual speaker, there would be no functional distinction in the lexicon between a host language lexeme and a loanword.

Code mixing is a phenomenon exhibited by bilingual speakers in language contact settings, typically while speaking to fellow bilingual speakers (due to their shared linguistic resources). This phenomenon is observed in communities at all levels of bilingualism, but is often more prominent in communities with a higher overall level of bilingualism (i.e. a community with a greater level of awareness of both languages and/or more bilingual speakers).

According to Grosjean (1982), speakers code mix for a variety of reasons, including: a change in topic (a speaker may be comfortable conversing about politics in English, but prefer to speak to his/her children in Spanish); a gap in the lexicon (a speaker may use a word or phrase from another language if they do not have an easily accessible equivalent in the language of discourse); and finally, in the case of highly fluent speakers, code mixing can be the result of either word play or speech error. In the case of children, code mixing also occurs at a much higher frequency when a speaker is using his/her non-dominant language (Champdoizeau 2006; Hoff et al. 2012).

Researchers have adopted various approaches to analyze adult code mixing, including models encoding constraints on code mixing. As reported by Allen et al. (2009:273–4), these models include: Poplack's (1980) Equivalence Constraint and Free Morpheme Constraint; Di Sciullo, Muysken & Singh's (1986) Government Constraint; Myers-Scotton's (1993) Matrix Language Framework Model; MacSwan's (1999) PF Disjunction Theorem; and Myers-Scotton & Jake's (2000) 4-M Model. These models all share the assumption that code mixing is not an arbitrary phenomenon: it is both predictable and systematic, and adheres to a number of constraints. Allen et al. (2009) adopt another model, proposed in Muysken (2000), as the basis for their analysis. In the subsequent sections, I explore models proposed by Poplack (1980), Myers-Scotton (1993), Myers-Scotton (1997), Muysken (2000), and Myers-Scotton (2002).

3 Allen et al. (2002) use the terms INTRA-SENTENTIAL and INTER-SENTENTIAL synonymously with Nicoladis & Genesee's (1996) terms INTRA-UTTERANCE and INTER-UTTERANCE.

1.5.1 Poplack's Equivalence and Free Morpheme Constraints

One of the first studies to propose descriptive grammatical code mixing constraints was Poplack (1980). Poplack examined code mixing data between English-Spanish bilingual adults. She proposed the following constraints:

(1) Free Morpheme Constraint (Poplack 1980:585)
Codes may be switched after any constituent in discourse provided that constituent is not a bound morpheme.

(2) Equivalence Constraint (Poplack 1980:586)
Code switches will tend to occur at points in discourse where juxtaposition of L1 and L2 elements does not violate a syntactic rule of either language, i.e. at points around which the surface structure of the two languages map onto each other.[4]

As these constraints were based on her Spanish-English corpus, Poplack was dealing with two typologically similar languages. Myers-Scotton (1993) notes that counter-examples can be found in code mixing between languages with fewer structural similarities (cf. Bentahila & Davies 1983).

1.5.2 Myers-Scotton's Matrix Language Framework Model

A prominent production-based model of code mixing is Myers-Scotton's (1993) Matrix Language Framework (MLF), further developed in Myers-Scotton (1997) and Myers-Scotton (2002). In this model, the MATRIX LANGUAGE (ML) is the dominant language of the conversation, while the EMBEDDED LANGUAGE (EL) is the subordinate (or non-dominant) language. The matrix language is determined based on the total number of morphemes of each language in the conversation (excluding cultural borrowings). This is termed the MORPHEME FREQUENCY CRITERION. Myers-Scotton suggests that this is more reliable than a criterion based on sociolinguistic data, although she notes that the ML will often correspond to the speaker's first language (1993:67). Note that this criterion is not based on phonology. Crucially, the morpheme count is taken from the entirety of

4 In this context, L1 is the speakers first language, and L2 is the speaker's second language.

the conversation and is not based on any individual utterance. In this context, should a speaker produce an entire utterance in the EL, it would be an example of intrasentential code mixing.[5]

The MLF model postulates three types of constituents: ML (containing only elements from the ML), ML+EL (containing elements from both the ML and EL) and EL islands (containing elements from only the EL). The ML provides the grammatical framework for both the ML and ML+EL (henceforth "mixed") constituents, while the EL provides the grammatical framework for the EL islands.

1.5.2.1 Mixed Constituents

In mixed constituents, the matrix language provides the grammatical framework into which one of more elements from the embedded language can be inserted. In a mixed constituent, the ML constrains, for example, word order and inflectional morphology. In the following example, Inuktitut is the matrix language and English (in bold) is the embedded language. This example is taken from Allen et al. (2009), one of the few studies to systematically examine code mixing between a polysynthetic language (Inuktitut) and English.[6]

(3) *Elephantli panik?* (Allen et al. 2009:285)
elephant -li panik
-where daughter?
Where is the elephant daughter?

Myers-Scotton (1997) differentiates between two types of morphemes in her MLF: system morphemes and content morphemes. Essentially, content morphemes are involved in the process of theta role assignment (nouns, verbs, etc.), while system morphemes are independent of this process. In a later model (the 4-M model), Myers-Scotton further classifies system morphemes into three sub-classes (Myers-Scotton & Jake 2000), but these distinctions are not relevant here.

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5 Myers-Scotton (2002:112) clarifies that the ML can also occasionally switch during a conversation, but that this is very rare.

6 Abbreviations for the Inuktitut Gloss: 2sS=2nd person singular subject; 3sS=3rd person singular subject; ALL=allative case; CTG=contingent verbal modality; EMPH=emphatic; FUT=future tense; IMP=imperfective verbal modality; NEG=negative; PAR=participial; POL=politeness marker; sg=singular.

Myers-Scotton (1993) postulates several restrictions as to which types of EL morphemes can occur in a mixed constituent without triggering an EL island (discussed below). These restrictions are outlined through the two principles listed in (4) and (5) below:

(4) Morpheme-Order Principle (Myers-Scotton 1993:83)
In ML+EL constituents consisting of singly-occurring EL lexemes and any number of ML morphemes, surface morpheme order (reflecting surface syntactic relations) will be that of ML.

(5) System Morpheme Principle (Myers-Scotton 1993:83)
In ML+EL constituents, all system morphemes which have grammatical relations external to their head constituent (i.e. which participate in the sentence's thematic role grid) will come from the ML.

The Morpheme Order Principle (MOP) states that, regardless of the structure of the EL, the morpheme order of a mixed constituent will be constrained by the ML. The System Morpheme Principle (SMP) states that no EL system morphemes may occur in a mixed constituent: only EL content morphemes are permissible. EL content morphemes can be inserted into the ML framework, replacing congruent (i.e. compatible) ML content morphemes (see the Blocking Hypothesis below). Should an EL system morpheme occur in a mixed utterance, this would trigger an EL island, which must be completed as an EL constituent. Myers-Scotton (2002:112) further clarifies the Morpheme Order Principle, indicating that a small number of violations to the MOP are permitted, though that they are typically pragmatically driven.

Myers-Scotton further qualifies her System Morpheme Principle constraint with the Blocking Hypothesis:

(6) Blocking Hypothesis (Myers-Scotton 1993:120)
In ML+EL constituents, a blocking filter blocks any EL content morpheme which is not congruent with the ML with respect to three levels of abstraction regarding sub-categorization.

The Blocking Hypothesis stipulates that the blocking filter will prevent the realization of EL content morphemes in a mixed constituent in three situations: if the EL content morpheme is not

also a content morpheme in the ML (i.e. if it is a system morpheme in the ML but a content morpheme in the EL), if the EL content morpheme is not congruent to the ML counterpart with respect to theta role assignment, and if the EL content morpheme is not congruent to the ML counterpart with respect to discourse or pragmatic functions (Myers-Scotton 1993:121). In other words, the Blocking Hypothesis specifies that, to be inserted into the ML framework, an individual EL content morpheme needs to be a content morpheme in both languages (it cannot be a system morpheme in the ML), and have comparable theta role assignment and discourse or pragmatic functions with the ML morpheme it is replacing.

One way for a speaker to avoid violating the blocking hypothesis in a mixed constituent is through the insertion of bare EL forms (i.e. appearing without inflectional morphology in either language). These can appear at the beginning or end of a phrase, even if they would never appear in isolation in the EL. Inserted EL content morphemes can also receive ML inflectional morphology. Recall the English noun *elephant* appearing with the ML inflectional morphology in example (3) above (elephant-*li*).

Myers-Scotton (1997) also notes that one way for an EL system morphemes to appear in a mixed constituent is through double morphology. Double morphology occurs when something (for example, plurality) is marked through inflectional morphology in both the EL and ML (see, for example, (7)). Myers-Scotton (1993) asserts that this system of double marking is redundant, and is the result of EL morphology being embedded or otherwise accompanying the EL lexeme into the ML framework. Myers-Scotton (1993:111) uses an example of double marked plural morphology from code mixing between Shona (a Bantu language) and English.[7]

(7) *But madays ano aya handisi kumu.* (Crawhall 1990)

But	ma-	**day**	**-s**	a-no	a-ya	handisi	kumu
	CL 6-	day	-pl	CL 6-DEM	CL 6-DEM		

Myers-Scotton argues that any agreement within the constituent occurs with the ML system morpheme, as opposed to the double marked EL counterpart. In the case of (7), the English plural morpheme '-s' is grammatically inactive, and any agreement and structural relations are with the

7 Abbreviations for the Shona gloss: CL 6=class 6, DEM=demonstrative

Shona class 6 plural morpheme 'ma-'. Myers-Scotton however concedes that this assumption is not easily verifiable for an individual utterance. As such, the appearance of EL system morphemes in a mixed constituent in the case of double morphology does not inherently violate the MLF model. The MLF therefore predicts that EL system morphemes will rarely have a structural relationship with an ML framework.[8]

1.5.2.2 EL Islands

When the Morpheme-Order Principle, the System Morpheme Principle, or the Blocking Hypothesis are violated (i.e. with the appearance of an EL system morpheme in a mixed constituent, etc.), an EL island emerges. An EL island is characterized by the following (Myers-Scotton 1993:97, 122, 139):

- An EL island must be a complete constituent in the EL (i.e. show no ML system morphemes)
- EL material must be well formed by EL specifications (i.e. adhere to the word order of the EL)
- The EL morphemes must show internal structural dependencies (i.e. can be a minimum of two morphemes)

Myers-Scotton (1993:139) points out that EL islands are essentially recognized counter-examples to the Matrix Language Framework. Adherence to the EL morpheme order is a violation of the Morpheme-Order Principle, and the inclusion of syntactically relevant EL system morphemes (as well as their internal hierarchical structure) is a violation of the System Morpheme Principle and the Blocking Hypothesis. EL islands can also result from speech errors. Crucially, if an EL system morpheme appears in a mixed constituent (or in the case of any other EL island triggering environment), the constituent must be completed as a fully formed EL island (Myers-Scotton 1993:122). In essence, this model predicts that there should be no counterexamples to the Morpheme-Order Principle, the System Morpheme Principle, or the Blocking Hypothesis which are not also complete EL constituents. Myers-Scotton (2002) further notes that the occurrence of

8 See Myers-Scotton (2002) for examples of system morphemes having a structural relationship with the ML framework.

minimal EL islands is not wholly unexpected. However, these are generally a rare occurrence in a given dataset.

Recent studies indicate that these principles may also be fully operational in child speech as well as adult speech. Meisel (1994) suggests that child code mixing is largely unconstrained until the acquisition of sufficient morphology in both languages. However, more recently, Paradis, Nicoladis & Genesee (2000) examined the code mixing of 15 French-English bilingual children aged 2;0 to 3;6. They found that adherence to Myers-Scotton's (1993) Morpheme-Order Principle was consistent across sessions with only marginal violations. The participants also adhered to the System Morpheme Principle, although this adherence appears to become stronger as the child's language developed. Paradis, Nicoladis & Genesee (2000:259) suggest that these children generally show an adult-like adherence to the Morpheme-Order Principle and System Morpheme Principle, but that this adherence is limited by their level of morpho-syntactic development.

Finally, Myers-Scotton (1993:8) states that a speaker does not need to be completely fluent in a language in order to code switch in that language. The speaker does need to be fluent enough in the matrix language in order to form complete complementizer phrases. However, he/she could be in the process of learning this language, possessing what Myers-Scotton, after (Selinker 1972), calls INTERLANGUAGE. For the embedded language, the speaker only needs to be fluent enough to use the elements that they are incorporating into the matrix language.

The MLF model served as a baseline for several other influential models of code mixing, including Muysken (2000). As I will later discuss, Muysken's (2000) model of code mixing served as the framework for Allen et al.'s (2009) study of child and child-directed code mixing between Inuktitut (a polysynthetic language) and English.

1.5.3 Muysken's Analysis of Code Mixing

In an attempt to create a universal model for the analysis of adult code mixing, Muysken (2000) builds on Myers-Scotton's (1997) Matrix Language Framework. Muysken (2000) recognizes three types of code mixing: INSERTION MIXING (the insertion of a single word),

ALTERNATION MIXING (a complete switch between languages), and CONGRUENT LEXICALIZATION (the random mixing of elements in a constituent). He suggests that the frequency of these three types of mixing can be predicted based on the linguistic characteristics of the contributing languages, as well as specific sociolinguistic factors in the community.

According to Muysken (2000), insertion mixing occurs when an element (usually lexical) from an EL is inserted into the framework of a ML. Refer again to example (3), repeated below as (8).

(8) *Elephantli panik?* (Allen et al. 2009:285)
elephant -li panik
-where daughter?
Where is the elephant daughter?

According to Allen et al. (2009), the inserted element ('elephant') is masquerading as its grammatical equivalent in the host language, or ML (Inuktitut), without activating the grammatical framework of the EL (English). This is similar to Myers-Scotton (1997) description of the insertion of an EL content morpheme into a mixed constituent.

Alternation mixing is characterized by a complete switch from one grammatical framework to another mid-way through the utterance (recall Myers-Scotton's (1993) description of EL islands). According to Muysken (2000), alternations must occur at a morpho-syntactically constrained SWITCH-POINT allowed in both languages.[9] This can be seen in (9), where the prepositional phrase 'on your pants' avoids the violation of constraints in Inuktitut as well as English.

(9) *Kuvilangajuti on your pants.* (Allen et al. 2009:298)
kuvi -langa -juti **on your pants**
Spill -FUT -PAR.2sS
You're going to spill on your pants.

Example (9) is what Allen et al. (2009) call TRUE ALTERNATION. Allen et al. also describe three other types of alternation mixing: TRANSLATIONS (when a segment is repeated in first one language, then

9 The idea of code mixing occurring at switch-points in the two languages is also discussed in Poplack, Sankoff & Miller (1988).

another), TAGS (social words, such as "bye"), and QUOTATIONS (when one speaker quotes another, and the quoted text is in a different language than the rest of the utterance).

Finally, Muysken's third type of mixing, congruent lexicalization, typically occurs only between languages with highly similar grammatical structures. These will often be dialects of the same language or members of a post-creole continuum. Since English and Inuktitut have very different grammatical structures (Inuktitut is polysynthetic while English is isolating), it is not surprising that no examples of congruent lexicalization appear in Allen et al.'s (2009) English-Inuktitut database.

Muysken (2000) further proposes that the extent to which a speaker uses each of these three types of mixing is predicted by both the linguistic and sociological characteristics of the language community. As summarized in Allen et al. (2009), Muysken (2000) asserts that insertion mixing is predicted as the predominant type of mixing for a language community in cases where at least one of the languages is polysynthetic, and the two languages' grammatical structures are of different types (i.e., polysynthetic or isolating). Muysken (2000) also predicts that insertion mixing will be the predominant type of mixing in colonial or recent migrant settings of intense contact, where speakers have a considerable proficiency difference between the two languages, and/or where speakers have no strong attitudinal barriers to mixing.

In contrast to insertion mixing, Muysken (2000) predicts a predominance of alternation mixing in cases where the two languages have similar structural properties (i.e. typologies or surface orders). Muysken further predicts a dominance of alternation mixing in a stable bilingual community or a second-generation migrant community with a tradition of language separation (i.e. attitudinal barriers), and when speakers have a similar level of proficiency between the two languages.

Finally, Muysken suggests that congruent lexicalization typically dominates in situations where speakers have no attitudinal barriers to code mixing, and, importantly, where the two languages are dialects or part of a post-creole continuum of the same language. These closely related

languages must also have relatively equal prestige and be in a situation of intense contact to serve as a predictor for congruent lexicalization.

In summary, this section compared three prominent models of code mixing, including how they account for the insertion of a single embedded language word into a matrix language utterance. While Poplack, Sankoff & Miller (1988) suggests that this is borrowing, Myers-Scotton (1993) and Muysken (2000) describe this as single-word code mixing and insertion mixing, respectively. In the following section, I address the implications of these differing interpretations with respect to my own analysis.

1.6 Single-Word Code Mixing vs. Nonce Borrowing

Thus far I have described borrowing and code mixing as two distinct phenomena. However, these two phenomena overlap within the literature, particularly with respect to the distinction between single-word code mixing and active borrowing. According to Myers-Scotton (1993), single-word mixes and loanwords have different statuses in the mental lexicon, and it is unproductive to distinguish them based on "the standpoint of the morphosyntactic processes they undergo" (Myers-Scotton 1993:5). Since code mixes are inserted into the ML framework from a separate framework (the EL) they do not have a fully established mental representation in the ML (or host language). Poplack, Sankoff & Miller (1988), on the other hand, describe all single-word insertions from the source language into the host language as instances of borrowing. Their classification of code mixing does not include single-word insertions, and mandates the activation of two (or more) coherent grammars.[10]

> "Evidence [...] strongly suggests that code switching and borrowing remain distinct processes, even at the level of the single word. Whereas in code switching, the speaker alternates between one coherent grammar (and lexicon) and another, according to certain predictable syntactic constraints on switch points, in borrowing only one grammatical system is brought into play" (Poplack, Sankoff & Miller 1988:93)

10 According to Myers-Scotton (1993), Poplack et al. did acknowledge some single-word code mixes in previous work.

Crucially, even though these two competing approaches (active borrowing vs. single-word insertion mixing) entail different interpretations of this phenomenon with respect to representation in the lexicon, they both involve an EL (or source language) morpheme being actively inserted into the ML (or host language) frame by a bilingual speaker. On the surface, these processes appear to be very similar. Therefore, particularly for the purpose of describing the language of a monolingual speaker, this distinction is moot.

In Sections 1.1-1.6, I outlined relevant literature regarding bilingualism, code mixing, and other language contact phenomena. In the next sections, I more closely examine these phenomena within the context of polysynthetic language acquisition.

1.7 L1 Acquisition of Polysynthetic Languages

The acquisition of a polysynthetic language as an L1 is a topic that has received relatively little thorough documentation, with most of the work centring on Inuktitut (e.g. Fortescue 1985; Allen & Crago 1989; Fortescue & Olsen 1992; Allen 1996; Allen & Crago 1996; Allen 1998; Crago & Allen 1998; Allen 2000; Parkinson 2000; Crago & Allen 2001; Skarabela & Allen 2002; Swift & Allen 2002a; Swift & Allen 2002b; Allen & Schröder 2003; Skarabela & Allen 2004; Skarabela 2007; Allen 2009; Skarabela & Allen 2010), Quechua and other Mayan languages (e.g. Pye 1983; Pye & Poz 1988; Pye & Poz. 1989; Pye 1991a; Pye 1991b; Brown 1997; Pfeiler & Briceno 1997; Brown 1998a; Brown 1998b; Brown 1998c; Brown 1998d; Pfeiler & Briceno 1998; Brown 2000; Pye 2001; Pye et al. 2007; Mateo Pedro 2011; Shneidman & Goldin-Meadow 2012), and, more recently, NE Cree, through the CCLAS project (e.g. Swain 2008; Rose et al. 2010; Terry 2010; Rose & Brittain 2011; Johansson 2012; Knee 2012; Bryant 2013). The acquisition of other polysynthetic languages has also been documented, but not to the same extent: Dene (Cook 2006), Mohawk (Mithun 1989), Navajo (Feuer 1980; Saville-Troike 1996; Courtney & Saville-Troike 2002) and, finally, Oji-Cree[11] (Upper & McKay 1987; Upper & McKay 1988; Hack & Mellow 2007).

11 Although Oji-Cree is an Algonquian language, most of the research on Oji-Cree acquisition draws upon data collected as part of a small case study. The data were recorded using written syllabics only, with no media component. These studies are therefore of limited use for the present study.

However, most phenomena observed across studies of language acquisition based on isolating languages do apply to the acquisition of polysynthetic languages. For example, Courtney & Saville-Troike (2002) demonstrate that children who are acquiring both Navajo and Quechua (polysynthetic languages) as their L1, regularly produce amalgams, or grammatically unanalysed units of meaning. Courtney & Saville-Troike suggest that this can be due either to incomplete analysis or to performance difficulty. Amalgams have been described at length in MacWhinney (1978) and Peters (1983) with respect to languages such as German, French, English, Spanish, and Hungarian. Amalgams have also been described in polysynthetic language acquisition by Mithun (1989) with respect to Mohawk. In the acquisition of English, children can also produce telegraphic speech (Yule 2010). This usually occurs in the one- to two-word stage, and is often characterized by the absence of functional words. This could be for example a noun and a verb, with the copula dropped (Akmajian 2001).

One significant difference however is that children who are learning a polysynthetic language do not necessarily acquire different types of morpho-syntactic structures at the same age as children learning isolating languages. For example, Allen & Crago (1996) noted that children learning Inuktitut (a polysynthetic language) as their L1 acquired the passive construction earlier than what would be expected for children learning English as their L1. Johansson (2012) also shows that by age 4;06 Billy (the subject of this study) was already producing passive constructions in NE Cree (also a polysynthetic language) as his L1.

While some studies detailing code mixing between a polysynthetic and an isolating language do exist (e.g. Sánchez 2012 [Quechua-Spanish]), these studies focus on adult bilingual code mixing. With the exception of the studies described in Section 1.8 below, only a minority of the work done on the acquisition of a polysynthetic language focuses on code mixing in child speech or child-directed speech.

1.8 Code Mixing in the Acquisition of a Polysynthetic Language

I have identified three studies that examine code mixing in polysynthetic language development: Drapeau (1993), Drapeau (1995) and Allen et al. (2002). Drapeau (1993) and Drapeau (1995)

examined the code mixing and lexical knowledge of Innu-French bilingual children from Betsiamites, Quebec, as well as that of their caregivers. Drapeau found that both the children and their caregivers were inserting French words into Innu utterances for which a Innu word already existed (i.e. apple, mother). Drapeau also administered vocabulary tests in French and Innu. She found the children's Innu lexicon to be largely supplemented or, at times, substituted, by French lexical entries. She suggested that frequent exposure to code mixing in child-directed speech was a major contributing factor in these children's tendency to use French lexical items.

Allen et al. (2002) examined the code mixing of Inuktitut-English bilingual children aged 1;8-2;11 and compared it to that of their caregivers (i.e. child and child-directed speech). Although this first study was only preliminary, Allen et al. (2009) later used the same data as Allen et al. (2002) to provide a more detailed analysis of the child-directed code mixing data. They found that Muysken's (2000) predictions of the frequency of code mixing types (insertion, alternation, etc.) were borne out. This research is particularly relevant because it examines mixed speech produced by, and directed to, children who had not yet entered the school system. These children were therefore in a language environment relatively comparable to that of Billy, whose production patterns are at the centre of the analysis proposed in the next chapters. One significant difference between Allen et al.'s (2002) study and the current work is that, while all participants were raised in a bilingual community, Allen et al.'s (2002) participants were raised in bilingual households while Billy was raised in a largely monolingual household.

Although Allen et al. (2009) examined only child-directed code mixing, the methodology used in their analysis is also applicable to child code mixing (Shanley Allen, p.c., Jan. 2013).[12] It should be noted, however, that Allen et al. (2009) did not distinguish between single-word insertions and loanwords: all single-word occurrences of an English-origin lexical item were considered code mixing. This follows from the fact that her participants were bilingual speakers, making this distinction methodologically difficult.

12 Dr. Allen has also generously provided her personal insights into the original design of the methodology for the current study.

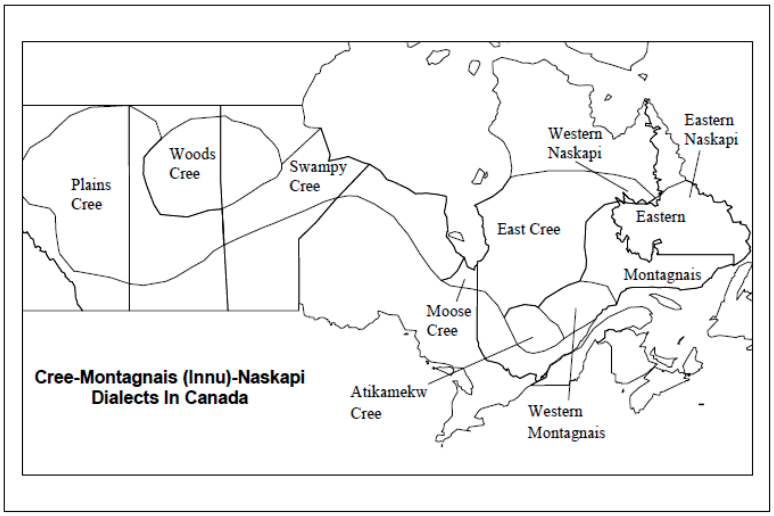
Having completed an overview of the relevant literature on bilingualism, language contact phenomena, and polysynthetic language acquisition, I now discuss the relevant linguistic properties of NE Cree.

2. Cree

In this section, I discuss NE Cree in relation to the Cree-Montagnais-Naskapi dialect continuum, indicate where NE Cree is spoken, provide an overview of the structure of the language, and highlight NE Cree's verbal and nominal morphology.

NE Cree is part of the Cree-Montagnais-Naskapi dialect continuum (MacKenzie 1982), which is spoken in Canada from Alberta to Labrador.

Figure 1: Distribution of Cree-Montagnais-Naskapi Dialects

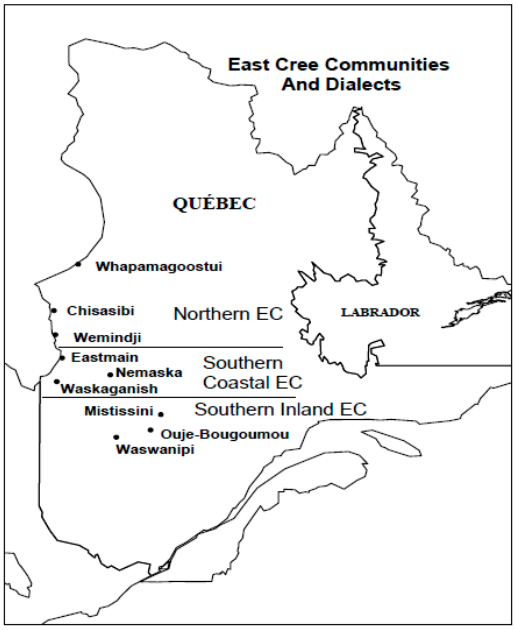


(Junker, Mackenzie & Brittain 2012:6)

East Cree, one of the languages within the Cree-Montagnais-Naskapi dialect continuum, is spoken in the James Bay area of Quebec by approximately 14,000 people (Brittain & Mackenzie 2010). This language is divided into Southern East Cree (henceforth SE Cree) and NE Cree. SE Cree is further divided into Coastal and Inland East Cree, and is spoken in the communities of

Eastmain, Nemaska, Waskaganish, Mistissini, Ouje-Bougoumou, and Waswanipi. NE Cree is spoken in the communities of Wemindji, Chisasibi, and Whapmagoostui (Junker, Mackenzie & Brittain 2012) (see Figure 2). This study focuses on the NE Cree spoken in Chisasibi, Quebec. As of 2007, Chisasibi (population ~4000) was still largely Cree speaking with NE Cree being acquired as a first language (L1) (Brittain et al. 2007:32).

Figure 2: East Cree Communities and Dialects in Quebec



(Junker, Mackenzie & Brittain 2012:8)

2.1 The Structure of NE Cree

NE Cree, like other Algonquian languages, is polysynthetic and has a more or less free word order. NE Cree displays words with a relatively high morpheme count, and allows these words to be subject to a flexible word order (governed largely by pragmatics) (Oxford 2008). According to a traditional view, Cree has three parts of speech: NOUNS, VERBS, and PARTICLES (Bloomfield 1946) with PARTICLES being a catch-all category for uninflected words. This has however been contested in Oxford's (2008) investigation of particles in Innu-aimun. Oxford shows that the class PARTICLES can be further categorized into familiar parts of speech, some of which can take inflection. Adjectives are not recognized as part of Algonquian syntax (Bloomfield 1946), with prenouns

and verbs fulfilling this grammatical function. Oxford (2008) however documents a small class of functional adjectives in Innu-aimun.

2.2 Verbal Morphology

Verb stems in NE Cree are comprised of up to three principal components: INITIALS, MEDIALS (optional), and FINALS. Initials carry the main lexical information, and are generally assumed to be the root of the verb (Bloomfield 1946; Wolfart 1973). Medials are subdivided into CLASSIFIERS and GENERIC MEDIALS (incorporated nouns, cf. Drapeau 2008; Vaughan 2010). Finals (or VERBALIZERS) encode information about arguments (e.g. animacy). Finals are followed by inflectional morphology. Three basic inflectional orders are recognized in the verbal paradigms: CONJUNCT, INDEPENDENT, and IMPERATIVE (Bloomfield 1946) with independent arguably being the default order (Brittain 2001; Rose & Brittain 2011). Finally, the verb can be preceded by pronominal clitics (person prefixes) and preverbs. The Cree verb template is represented in (10). The NE Cree verb classes are represented in Table 1 (see also Goddard 1979:37).

(10) Cree verb template
(pronominal clitic) + (preverb) + initial + (medial) + final + inflection

Table 1: NE Cree Verb Classes

<table>
<tr><th></th><th>Animate Argument</th><th>Inanimate Argument</th></tr>
<tr><td>Intransitive</td><td>Animate Intransitive (VAI)
subject is animate</td><td>Inanimate Intransitive (VII)
subject is inanimate</td></tr>
<tr><td rowspan="2">Transitive</td><td colspan="2">Transitivized Animate Intransitive (VAI+O)
object is animate/inanimate</td></tr>
<tr><td>Transitive Animate (VTA)
object is animate</td><td>Transitive Inanimate (VTI)
object is inanimate</td></tr>
</table>

There is a second class of TI verbs (TI class 2, or TI2 – first identified in Bloomfield (1962) as "pseudo-TI") that have TA counterparts and take inanimate objects only. These are distinct from transitivized animate intransitive (AI+O) verbs, which do not generally have TA counterparts and can take objects from either gender.

Given that initials encode the principal lexical content of the verb, it follows that this would be a salient access point for English roots. Indeed, in Billy's corpus, I found no examples within the verb-complex of the replacement of a medial or final with English; I have observed only the initial position to be affected by code-switching. This can be seen in example (11), in which a Cree verb-initial has been replaced with the English verb root TO BORROW. This example will be discussed in detail in Section 2 of Chapter 5, as example (118).[13]

(11) *Nikichîh borrowun â aniyâ?* (Billy, 05;10:06)

ni-	ki-	chîh	**borrow**	-u	-n	â	ani	-yâ
1-	fut.1/2-	ability		-vai.fin	-1/2	p,quest	that	-obv
1-	pvb-	pvb	initial	-vai.fin	-IIN	p,quest	p,dem.dst	-obv

Can I borrow that one?

Target: [nɪkɪʧi pɔɹowʌn a nija]
Actual: [nɪkʤi bɔɹowʌn ə nijɑ]

2.3 Nominal Morphology

Cree noun inflection encodes a variety of features, including: number, person, gender (animate or inanimate), obviative, locative, vocative, diminutive, and simulative (to indicate likeness). The majority of English lexical items (either loanwords or code mixes) observed to date in this corpus have been nominal (English nouns replacing Cree nouns). This includes the use of bare English nouns (i.e. without morphological inflection) as well as the use of English nouns with NE Cree inflectional morphology (see Section 1 of Chapter 5 for further discussion).

Building on the structure and properties of NE Cree, I now return to Billy's language community and language learning environment.

13 See Appendix I: Abbreviations for Cree Gloss.

3. Billy's Language Learning Environment

3.1 The Bilingual Community

As stated in Section 2, the population of Chisasibi, Quebec, Canada, is largely bilingual in English and NE Cree. Individuals over the age of 60 (referred to here as elders) are largely monolingual in NE Cree. According to Alice Duff, a consultant from Chisasibi (p.c. 2013),[14] when elders are present, the language of communication is Cree. Cree was also the primary language of communication in the community in most social contexts at the time of this study (Brittain et al. 2007; Rose et al. 2010). According to Alice Duff, the ambient Cree language includes established English-origin loanwords (such as "remote"). However, when a monolingual English speaker is present (such as a visitor to the community), the language of discourse switches to English. As such, Cree is the dominant language of communication in Chisasibi.

As already discussed in Sections 1.3 and 1.4, the literature suggests that phonological assimilation is involved in borrowing (although Myers-Scotton 1993 notes this not always a reliable measure of loanword status). Established loanwords that have been integrated into the host language for some time can also be integrated into the host language's grammar. As cited above (see Section 1.5), the process of active borrowing is produced by bilingual speakers. Once a loanword becomes more widely used in the community, it can become an established loanword used by both bilingual and monolingual speakers. As discussed in Section 1.3, cross-linguistically loanwords can be: (1) cultural borrowings, used to fill a lexical gap in the host language ("bus" is an English-origin loanword widely used in Chisasibi); or (2), core borrowings, the substitution of a source language lexeme for a pre-existing host language lexeme (i.e. the adaption of English numbers into NE Cree). Core borrowings can also be a reflection of a change in meaning of a lexeme in the host language (often also a cultural borrowing).

According to Alice Duff (p.c. 2013), a number of established loanwords have been incorporated in the community's language for several generations. These include *bus* [bus], *soap* [sup], and *teapot*. These loanwords have been assimilated into NE Cree phonology, and frequently occur with NE Cree inflectional morphology in the database. Through consultation with Duff, who is an

14 Alice Duff's involvement with the CCLAS project and this research is discussed in Section 1 of Chapter 3.

L1 speaker of NE Cree, I have also isolated many other possible established loanwords used by members of the community, a subset of which Duff suggested she had only heard used by children. This will be discussed further in Section 1 of Chapter 3.

Although it has never been formally documented, code mixing has also been observed in Chisasibi by both community members and visiting researchers. These researchers include Drs. Marguerite MacKenzie and Julie Brittain of Memorial University.

3.2 Language Acquisition in a Bilingual Community

Child-directed speech in Chisasibi (or in East Cree in general) had not been documented prior to the CCLAS project. It is therefore difficult to fully assess the properties of child-directed speech in Chisasibi. However we do know that, at the time of the study, the children of Chisasibi were being raised in a bilingual community, and often in bilingual households. (Recall that this was not the case for our current case study, as Billy was raised largely in a monolingual Cree household.) At the time of the study, Cree was the language of play for most children in Chisasibi, and the language of instruction in the Cree School Board (Brittain & Mackenzie 2010).[15]

In Chisasibi, speakers are also exposed to language originating from sources outside of the community. According to Dr. Marguerite MacKenzie, it is not uncommon for a television or radio to be playing in the background of a family home in either Cree, English, or even French. It is therefore reasonable to assume that most children in Chisasibi are exposed to a wide range of linguistic contexts (and related language contact phenomena), including: monolingual Cree; monolingual English; English loanwords within Cree utterances; and code mixing between English and Cree in which either Cree or English may be the matrix language. The children are also likely exposed to loanwords at various stages of phonological integration into the host language.

15 Classes in the Cree School Board are now instructed in English (Marguerite MacKenzie, p.c. 2013).

3.3 Billy's Monolingual Language Acquisition

At the time of the study, Billy's only known exposure to English was as follows:

- Several songs sung at the daycare
- A television in the family home (we know he was watching some amount of English programming due to his frequent references to characters in popular English shows such as *Dora the Explorer*)
- Communication with a monolingual English speaking family member who did not live in the same household

Yet Billy was raised in a bilingual community. Although he may not have been directly exposed to a significant amount of English sentences and/or conversations, there must have been some amount of English influence in the language to which he was exposed. This could have taken the form of borrowing (both active and established), code mixing, as well as other sources discussed in Section 3.2.[16]

This provides the unique opportunity to observe what happens when Cree-English bilingual parents living in a bilingual community elect to raise a child in a monolingual Cree household. Since the community is at a high level of bilingualism, I expect a significant influence of English phonology on the loanwords to which Billy is exposed. Children develop their phonotactics based on their input from the ambient language. If Billy perceived these English-origin loanwords with minimal source language phonology to be Cree lexical items, then we may see some influences from English phonology on his development of Cree phonotactics. In other words, it is not unreasonable for Billy to produce English-origin loanwords with English phonology as a monolingual speaker. In this way, we cannot use the presence of English phonology on an English-origin loanword as evidence for Billy speaking English (i.e. code mixing), or as a way of measuring his English competency.[17]

Without the phonology of English-origin words to use as an indicator of loanword status, the structure of the English words and phrases (as well as their morphosyntactic relationship with the rest of the utterance) becomes even more relevant. This includes the use of English-origin

16 For example, at one point in the CCLAS database, the adult interlocutor answers the phone and converses in English in front of Billy.

17 This assumption would also be consistent with Myers-Scotton's (1993) observation that phonology is often an unreliable measure of loanword status.

adjectives, nouns, verbs, lexical roots, inflectional morphology, and most importantly, agreement within mixed utterances. As such, this study will focus on the lexical and morpho-syntactic influences of English on Billy's Cree language acquisition.

Chapter 3: Methodology

1. The Chisasibi Child Language Acquisition Study

The Chisasibi Child Language Acquisition Study (CCLAS) is a longitudinal study conducted in Chisasibi, Quebec from September 2005 to April 2007. The data on which this thesis draws were collected in the form of video recordings. Two cohorts of children participated in the study, one younger and one older. All participants were from Chisasibi. Billy is a member of the older CCLAS cohort (04;06 – 06;00). Billy was selected for CCLAS because his family was dedicated to raising him in a monolingual Cree environment (including a Cree-speaking daycare). Darlene Bearskin, a community member and a first-language speaker of NE Cree, was the CCLAS project manager during this time. Ms. Bearskin recorded Billy in her home in Chisasibi, an environment familiar to Billy.[18] Recordings were made once or twice a month, where possible. Each recording session is approximately 30-45 minutes long.

The corpus consists of 20 video recordings of interactions between Billy and the adult. Ten of these sessions are the focus of the current study. These ten sessions constitute approximately 6 hours and 30 minutes of recording time, sampling Billy's speech productions over a period of approximately 18 months. This is the second study to draw upon Billy's corpus (after Johansson, 2012). Billy's corpus provides us with a unique opportunity to examine the language acquisition of a monolingual Cree speaker growing up in a Cree-English bilingual community.[19] This study examines the influence of English in Billy's child speech and also draw minimally from the adult's child-directed speech.

The ten sessions included in this study are as follows:

18 Ms. Bearskin is henceforth referred to as the adult interlocutor, the source of all child-directed speech in the corpus.

19 Child A1, the other CCLAS child whose data has been analyzed thus far (Swain 2008; Terry 2010), also uses English lexical items, although this has not been the focus of any study to date.

Table 2: CCLAS Database Sessions for the Current Study

Session #	Billy's Age
1	04;06.08
2	04;07.26
3	04;09.14
4	05;00.13
5	05;02.12
6	05;05.00
7	05;05.22
8	05;06.27
9	05;10.06
10	06;00.17

No formal tests were administered to determine Billy's proficiency either in Cree or English: at the time of this study, no formal language proficiency test existed for Cree, and Billy's English proficiency was not the focus of the CCLAS project. Billy also shows no evidence of language delay, and he has no known history of hearing disorders.

Of particular interest for the current study, Billy's corpus contains a significant amount of English lexical items. This outcome was unexpected, not only given his language environment, but also given the Cree-language context of the video recordings. No attempts were made to elicit English utterances during the recording sessions, and Billy was discouraged from switching to English throughout the sessions. If Billy did switch his language of communication to English, the adult interlocutor would immediately switch the conversation back to Cree. Throughout the database, this was done through asking a new question in Cree, providing a Cree translation of his English utterance, or continuing their current conversation in Cree. However, no instructions were given to systematically avoid using English. It is therefore notable that both Billy and the adult interlocutor use individual English lexical items, while they generally avoid English phrases throughout the recorded dataset.

Once these sessions were populated into a database, a fluent Cree speaker (henceforth referred to as "the translator") listened to each utterance (separated into records in the database) and proceeded in the following manner for child-directed speech and child speech: for all child-directed speech, the translator transcribed the adult speech in roman orthography (for the "Orthography" tier), and provided an English translation for the "Translation" tier. (No IPA transcription was made of the child-directed speech.)

The child speech underwent a more intensive process. The translator determined the target form (what the child was saying/attempting to say), transcribed it in roman orthography for the Orthography tier, and recorded an audio model of the child's production (the target). The translator also provided an English translation for the Translation tier. The audio models of the targets were subsequently transcribed into IPA by students in the Department of Linguistics at Memorial University who had received training in NE Cree transcription but were not fluent in the language. These transcriptions are listed in the "IPA Target" tier of each record. The same students then transcribed the corresponding child speech into IPA in the "IPA Actual" tier. This work was done under double-blind conditions, and verified through consensus between the transcribers.

The Orthography and IPA Target tiers are model forms in the sense that each word is inputted in these tiers in its grammatical form – all the obligatory morphology is represented in the target forms. However, these tiers also maximally represent the child's production, even if those productions does not correspond to the prescribed norm. At the syntactic level, an utterance may or may not be prescriptively accurate: there may be features of a child utterance that depart from the adult norm. These include issues related to lexical choice, word order, grammatical function marking, and so on. Mismatches at the syntactic level are not discussed here, as they lie outside the scope of this thesis. For analyses of Cree syntactic development, see Brittain (2001), Terry (2010), and Johansson (2012).

IPA Target /Actual mismatches at the word level that can be attributed to immature phonological development are also outside the scope of this work (on these, see Swain 2008 and Bryant 2013). If the child's production of a given morpheme differs from the target in terms of phonetic detail,

but remains recognizable, the details of the mismatch are ignored: the morpheme is considered to be present in the child's production.

For the purposes of this thesis, I take a word to be a free-standing linguistic unit, comprised of one or more morphemes, which is bounded on either edge by a space in writing. The bound morphemes that appear in the Cree and English data I discuss are affixes, clitics, or bound (Cree) roots.[20] Cree preverbs, although part of the verb-complex, are also considered to be individual words, as shown in (12), where the three-word verb-complex in (1) functions as a single syntactic unit.[21]

(12) C*hiih wiih muwiiwaau.*

chiih	wiih	muwiiwaa	-u
pvb	pvb	verb.stem	-IIN.inflection
past	want	eat(vta)	-3>3’

S/he wanted to eat it (an).

Note also that the database contains cases where we have Orthographic transcription and IPA target, but no corresponding IPA Actual. This happens for utterances that were difficult to hear because of background noise: the translator was able to discern the speech but the transcribers could not represent it in IPA with a high enough level of confidence. In these instances, if the missing segment of the IPA Actual is crucial to interpreting the example, the utterance was discarded altogether. If the missing segment of the IPA Actual is not crucial to interpreting the example, the missing speech is represented as '...'.

The word-final aspiration that signals (homophonously) inanimate plural or animate obviative, represented in the orthography as <h> (i.e., /h/#), is often difficult to perceive for non-Cree speakers (e.g. Rose et al. 2010, Rose & Brittain 2011 and references therein), and affects several examples in this thesis. We also know that /h/# can bring about stress shift to the final syllable of a word, although not in every instance where it is (Knee 2012). As we will see in the discussions below, these methodological problems will be reflected in the data as they arise from the data descriptions.

20 The distinction between affixes and clitics is not relevant to the present study.
21 Example (12) provided by Julie Brittain (p.c. November 19th 2015).

These data were also supplemented by fieldwork I conducted in an associated project with Drs. Julie Brittain and Marguerite MacKenzie. This fieldwork was conducted at Memorial University during the summer of 2013. I interviewed one of the CCLAS project's lead language consultants, Alice Duff. Duff is a bilingual speaker of NE Cree and English, and is from Chisasibi, Quebec. Between July 30th and August 1st 2013, we conducted three one-hour sessions. I was interested in her first language speaker's intuitions regarding how different demographics of speakers in Chisasibi incorporate English-origin words into spoken Cree. I had two main areas of inquiry. The first was to determine whether the English words that Billy uses throughout the CCLAS corpus are common English loanwords in the community. The second related to my observation that Billy uses Cree morphology on some of his English-origin nouns, and English morphology on others (discussed further in Section 1 of Chapter 5). Specifically, I was interested to know whether the entire community followed a particular pattern when selecting from which language to draw their nominal morphology; whether the choice was based on the age demographic, or depended more on the individual speaker.

Results from this fieldwork have not been formally analyzed, but impressionistically the school-aged children appear to be more likely to use English-origin loanwords than adults. Children are also more likely to select English morphology over Cree morphology for these loanwords, whereas adults and older generations are more likely to use Cree morphology on the same words. Often, however, the decision of which language's morphology to use for a given English-origin noun appears to be consistent across demographics. This study has limitations, particularly the fact that it is based on a unique speaker's intuitions, as opposed to drawing upon the knowledge and intuitions of the entire community. However, Alice Duff's speaker intuitions do indicate that the choice of how to incorporate a loanword into a Cree grammatical structure may be more sociolinguistically driven than based on individual choice. These tentative results will be referenced only in a minor way throughout this work.

All data analysis was conducted primarily using Phon (Rose et al. 2006; Rose & MacWhinney 2014). Phon is a software program that enables the analysis of transcript-based and acoustically-measured speech data. The program is designed primarily for research in phonological development (including babbling), second language acquisition, and phonological disorders.

However Phon is also an effective tool for morphological analysis. Some of the many tools for data analysis include query methods for phonology, user-defined tiers, and syllable segments.[22]

A first glance of Billy's corpus reveals both English- and Cree-origin elements (morphemes, words, interjections, etc.), both in child and child-directed speech. This is significant because Billy's family was striving to raise him in a monolingual environment.

2. Utterance Selection

To begin my compilation of these data, I first isolated all of Billy's intelligible utterances into a separate sub-corpus. I excluded utterances that contained child speech that could not be understood by a fluent Cree speaker, or were non-linguistic (composed solely of play sounds or other environmental noises). Table 3 below indicates the number of included and excluded utterances for each of the ten sessions.

Table 3: Included and Excluded Utterances in the Database

Session #. B3 Age	All B3 Utterances	# Included in Analysis	# Excluded from Analysis
1. 04;06.08	307	290	17
2. 04;07.26	234	217	17
3. 04;09.14	254	245	9
4. 05;00.13	390	365	25
5. 05;02.12	240	220	20
6. 05;05.00	320	267	53
7. 05;05.22	381	355	26
8. 05;06.27	304	249	55
9. 05;10.06	388	349	39
10. 06;00.17	233	199	34
Total	3051	2756	295
Percent	100.0%	90.3%	9.7%

22 Summarized from the Phon website: www.phon.ca/phontrac

As reported in Table 3, 295 (or 9.7%) of Billy's 3,051 data records were excluded from further analysis. Throughout the remainder of this research, I ignore these excluded utterances, and base all figures on the 2,756 utterances retained for analysis.

3. Basic Coding

I began my coding by classifying Billy's utterances into three groups based on the language(s) present in each utterance. These are: CREE-ONLY UTTERANCES, ENGLISH-ONLY UTTERANCES, and MIXED LANGUAGE UTTERANCES. Cree-only utterances contain exclusively Cree-origin elements. English-only utterances contain exclusively English-origin elements. Mixed language utterances contain both Cree-origin and English-origin elements. In this case, an element refers to a morpheme, word (if the word is of a single language of origin) or other part of speech, and does not take into account the phonology.

All of Billy's mixed language utterances were coded by Dr. Julie Brittain for morphological and syntactic information. The goal of this basic level of coding was to determine the distribution of Cree, English, and mixed utterances in the database. At this level of description, I make no attempts to further categorize these mixed language utterances, for example whether these mixed language utterances contain an established loanword, nonce borrowing, or code mixing.

3.1 Elements of Ambiguous Origin

For many elements in the database, the language of origin is ambiguous or difficult to determine. These elements are coded as LANGUAGE-NEUTRAL (see Sections 3.1.1-3.1.4 for a complete listing of these elements). Language-neutral elements include morphemes, words, and interjections that either have an ambiguous language of origin (such as a person's name) or are non-linguistic (such as the interjection "um"). The production of a language-neutral element within an utterance does not affect the classification of that utterance. For example, if a language-neutral element is produced in an otherwise English-only utterance, the utterance is classified as English-only.

3.1.1 Proper Nouns

The first category of elements of ambiguous origin is proper nouns. In English, proper nouns include the names of people, fictional characters, sports teams, movies, places, holidays, months, days of the week, and brands. Many of these proper nouns are clearly of English origin, for example holidays such as *Christmas* and month names such as *June*. These proper nouns cannot be categorized as language-neutral. However, other proper nouns – predominately individuals' names – are ambiguous with respect to language of origin. Because of this, I separate proper nouns into two categories: the first as language-neutral proper nouns with an ambiguous language of origin, and the second as language-specific proper nouns, with an unambiguous language of origin. Along with any first, last, or full name of a living (or non-fictional) individual, I also include the names of fictional characters for which a Cree equivalent does not occur in the database. Example (13) presents a complete list of all language-neutral proper nouns:

(13) Language-neutral proper nouns:
   a. Any first, last, or full name of a living individual[23]
   b. Fictional Characters: Backyardigans, Bago, Bambi, Boots, Curious George, Dash Incredible, Diego, DoodooBob, Dora, King Kong, Lala, Power Ranger, Princess, Spiderman, Superman

As shown in Table 4, out of a total of 2,756 utterances, 178 (or 6.5%) of Billy's utterances contain language-neutral proper nouns, or names, for a total of 186 tokens. This sizeable number of names in the database motivates the need to distinguish language-neutral elements from language-specific ones, as these names could otherwise have a skewing effect on the data.

23 A complete list of these names will not be included to protect the anonymity of Billy, as well as that of his family and friends.

Table 4: Distribution of Utterances with Language-Neutral Proper Nouns

Session #. B3 Age	Language-Neutral Names (tokens)	Utterances with Language-Neutral Names	Total B3 Utterances	% Utterances with Language-Neutral Names
1. 04;06.08	19	18	290	6.2%
2. 04;07.26	3	3	217	1.4%
3. 04;09.14	19	19	245	7.8%
4. 05;00.13	37	35	365	9.6%
5. 05;02.12	4	4	220	1.8%
6. 05;05.00	16	15	267	5.6%
7. 05;05.22	40	39	355	11.0%
8. 05;06.27	16	16	249	6.4%
9. 05;10.06	17	15	349	4.3%
10. 06;00.17	15	14	199	7.0%
Total	186	178	2756	6.5%

The second category of proper nouns all have a clear language of origin, and are classified as language-specific. Unlike language-neutral proper nouns (such as the proper names listed in (13)), these names (both fiction or non-fiction) often have translation equivalents in other languages. Below is a complete list of all language-specific proper nouns, with the number of tokens of each attested in the database. In this case, these are all of English-origin:

(14) Language-specific proper nouns

a. Proper names with Cree equivalencies attested in the database: Devil, Jesus, Santa Claus (17 tokens)
b. Titles used as proper names: Dad, Mom, Mommy (3 tokens)
c. Holidays: Christmas, Easter, Halloween (4 tokens)
d. Days of the month: June (5 tokens in 4 utterances)
e. Days of the week: Saturday, Sunday (4 tokens)
f. Team names: Montreal Canadiens (1 token)
g. Titles of literary works (movie titles, etc.): Soldier (2 tokens)
h. Place names: Canada, LG1, LG2, Montreal, Ottawa, Toronto, Val-d'or (32 tokens in 29 utterances)
i. Bus Name: Number One (1 token)

The category in (14b) excludes possessive noun phrases such as *my mom*. In fact, it includes only occurrences of the noun being used as a proper name (e.g. "Mom ate supper"). Note as well that English titles are used as proper names in only three instances, and two of these are elicited by the adult. The Cree equivalents for both *mom* and *dad* also occur in the database. I included place names in this classification because Cree names for these geographic locations do often exist. Billy refers to a bus name once in the database, this bus *Number One* takes him to school. I also found eight tokens of brand names, including *Rice Krispy*, *Kraft Dinner* and *Xbox 360,* which I have classified as English nouns.

As shown in Table 5, out of the 2,756 child speech utterances retained for analysis, only 64 (2.3%) contain language-specific proper nouns, for a total of 69 tokens. While the corpus contains relatively few language-specific proper nouns, it is still important to distinguish these elements from language-neutral elements.

Table 5: Distribution of Utterances with Language-Specific Proper Nouns

Session #. B3 Age	Language-Specific Proper Nouns (tokens)	Utterances with Language-Specific Proper Nouns	Total B3 Utterances	% of Utterances with Language-Specific Proper Nouns
1. 04;06.08	23	21	290	7.2%
2. 04;07.26	6	6	217	2.8%
3. 04;09.14	2	2	245	0.8%
4. 05;00.13	4	4	365	1.1%
5. 05;02.12	0	0	220	0.0%
6. 05;05.00	7	5	267	1.9%
7. 05;05.22	20	20	355	5.6%
8. 05;06.27	3	3	249	1.2%
9. 05;10.06	4	3	349	0.9%
10. 06;00.17	0	0	199	0.0%
Total	69	64	2756	2.3%

For the most part, Billy does not produce more than one proper name in a single utterance. However, on the rare occasion, he can produce two or three proper names in a single utterance (see Session 1 and 6).

In Table 6 below, I contrast the number of language-specific proper noun tokens with the number of language-neutral proper noun tokens across the entire database.

Table 6: Frequency of Language-Specific vs. Language-Neutral Proper Nouns

Session #. B3 Age	Language-Specific	Language-Neutral	Total
1. 04;06.08	23	19	42
2. 04;07.26	6	3	9
3. 04;09.14	2	19	21
4. 05;00.13	4	37	41
5. 05;02.12	0	4	4
6. 05;05.00	7	16	23
7. 05;05.22	20	40	60
8. 05;06.27	3	16	19
9. 05;10.06	4	17	21
10. 06;00.17	0	15	15
Total	69	186	255

Table 6 shows that Billy produces almost three times as many language-neutral proper names compared to language-specific proper names. Sessions 1 and 2 are the only individual sessions that have more language-specific proper names than language-neutral proper names.

3.1.2 Language-Neutral Interjections

As mentioned in Section 3.1, I classify interjections and play sounds as language-neutral. These include the following forms:

(15) Language-Neutral Interjections

a. Interjections: ah, aw, ha, hm, hmm, huh, m, mh, mhm, mhm mhm, oh, ooh, ow, ow ow, uh, uh uh, uhu, uhuh, um
b. Play-sounds: boing

As shown in Table 7, 114 out of 2,756 utterances (4.1%) of Billy's utterances contain language-neutral interjections.

Table 7: Distribution of Interjections in the Database

Session #. B3 Age	No. of Interjection Tokens	No. Utterances Containing Interjections	Total Utterances	% of Utterances with Interjections
1. 04;06.08	48	46	290	15.9%
2. 04;07.26	4	4	217	1.8%
3. 04;09.14	0	0	245	0.0%
4. 05;00.13	3	3	365	0.8%
5. 05;02.12	2	2	220	0.9%
6. 05;05.00	4	4	267	1.5%
7. 05;05.22	29	29	355	8.2%
8. 05;06.27	9	9	249	3.6%
9. 05;10.06	14	14	349	4.0%
10. 06;00.17	3	3	199	1.5%
Total	116	114	2756	4.1%

Session 1 by far contains the most interjections. Session 7 is the second highest, with 29 tokens. Although I classify the interjections listed in (15) as language-neutral, I classify other types of interjections as Cree language-specific.

3.1.3 Cree Interjections

While most interjections in English lie outside the formal grammatical system in the sense of being uncategorizable (e.g. "uh", "ha"), a number of Cree interjections are part of Cree grammar, as they can take inflection. One example of this is the hesitation particle "*âi*". Consequently, I classify these NE Cree particles as Cree language-specific. However, as I do not aim to analyze the Cree utterances in detail, I leave their formal description for future research.

3.1.4 Single-Word Utterances

Finally, I classify single-word utterances following the same criterion as multi-word utterances. Single-word utterances can be either Cree-only or English-only, depending of the source language of the individual word. For example, I classify 'îhî' (Billy, 05;10.19) as a Cree-only utterance. In cases where Billy produces elements from both Cree and English on a single word, I classify these as mixed language single-word utterances. Finally, I classify single-word utterances containing only a language-neutral word as Cree-only, since Cree is Billy's first language.

3.2 Borrowed Words and Code Mixing

Throughout the database, Billy produces English-origin words in a variety of different grammatical environments. In some cases, Billy produces English-origin words with English morphology, while in other cases he inflects these words with Cree morphology. In multiple cases, Billy uses English-origin lexemes as Cree verb-initials. A few English-origin words also occur in their bare form, with neither Cree or English morphology. We also find some cases of Cree equivalencies for these English-origin words occurring in the database. Through my fieldwork with Alice Duff (discussed in Section 1 above), I learned that some of the English-origin words that Billy produces do not have common Cree equivalencies in the community. Several of the English-origin words in the database (which are also used as Cree verb-initials) also exhibit phonological integration into Cree.

Of particular interest is how Billy assigns Cree gender to English-origin words within mixed language utterances. We might expect to see Billy assigning the same gender to all English-origin nouns, or for gender assignment to be inconsistent. Instead, Billy often assigns English-origin nouns the same gender as their Cree-origin equivalents, suggesting that he is incorporating these nouns into the Cree gender system.

These observations suggest that Billy may produce both code mixing and borrowing within the database. However, I restrict my descriptions to Billy's actual uses of English-origin parts of speech (nouns, adjectives, etc.), and how he incorporates these into his Cree grammatical system.

Chapter 4: Overview of the Data

In this chapter, I provide a summary of Billy's productions in each language (Cree and English), and then a summary of his mixed language utterances.

1. Utterances in Cree

In this section, I outline the utterances that I have identified as being Cree only (i.e. no English elements). I stipulate no minimum length for an utterance. Single-word utterances comprised solely of a language-neutral element (defined above in Chapter 3, Section 3.1.4), including a proper name or a language-neutral interjection, are counted as a Cree utterance. Cree utterances that contain no English element(s) but do contain a language-neutral element are also coded as Cree-only.

Table 8: Table of all Cree Utterances vs. Total B3 Utterances

Session #. B3 Age	No. Cree Utterances	Total Utterances	Percent
1. 04;06.08	226	290	77.9%
2. 04;07.26	187	217	86.2%
3. 04;09.14	222	245	90.6%
4. 05;00.13	268	365	73.4%
5. 05;02.12	185	220	84.1%
6. 05;05.00	209	267	78.3%
7. 05;05.22	277	355	78.0%
8. 05;06.27	213	249	85.5%
9. 05;10.06	279	349	79.9%
10. 06;00.17	142	199	71.4%
Total	2208	2756	80.1%

Table 8 shows that a significant proportion of Billy's utterances – just over 80% – contain absolutely no English-origin elements. In the series of examples below, I show that not only do

these utterances contain no English, they also consist of morpho-syntactic Cree-language constructions.

Example (16) shows Billy's use of the verb-complex LIKE in first person subjunctive, and plural agreement throughout the utterance (with THIS and the verb PLAY). Note that the ending /-ân/ on the transitive inanimate verb in (16) is glossed as conjunct subjunctive /-â/ followed by independent 1/2 /-n/. In fact, /-an/ is simply the first person singular conjunct agreement suffix.[24]

(16) *mâuhî miywâyihtimân â mâtiwâyâhch* (Billy, 05;00.13)

mâu	-hî	miyw	-ây	-iht	-im	-â	-n
this	-pl	happy	-by.mind	-by.head	-vti.thm	-subjunctive	-1/2
p,dem+G.pxl	-pl	initial	-medial	-vti.fin	-vti.thm	-subjunctive	-IIN

â	mâtiw	-â	-yâhch
pvb,conj	play	-vai.fin	-1.pl
pvb,conj	initial	-vai.fin	-CIN

I like it when we play with these.

IPA Target: [mawˈhi meoet^{h}man ə mədwʌzajɛʧ]
IPA Actual: [mawəkamə miotəmən ə məbɑʤʌjʌd]

Example (17) illustrates Billy's use of a polar question construction in Cree, with a transitive animate verb, the most complex type of verb in Cree.

24 The verb stem */miywâyiht-/* is analyzed as containing a medial */-ây-/* "by mind" and a final */-iht/* "by head". According to one reviewer, Bloomfield (1946:113) analyzes the entire sequence */-âyiht/* as a TI final, as does Wolfart (1973:74), along with the partner TA final */-âyim/*. Bloomfield and Wolfart both describe the */-âyi/* portion as a prefinal, as opposed to a medial. However, this is not the convention I will be using for my examples.

(17) *Wâpimâw â mânh?* (Billy, 05;00.13)

wâp	-im	-â	-w	â	mânh
light	-by.head	-thm.dir	-3	p,quest	normally
initial	-vta.fin	-thm.dir	-IIN	p,quest	p,time

Does she see him usually?

IPA Target: [wapˀˈmaw ə mɛn]
IPA Actual: [wɑbmaw ə mɑn]

Example (18) shows Billy's use of a Cree verb conjugated in the first person with the past tense preverb /*-chîh/*.

(18) *Châkât nichîh wâpâshin.* (Billy, 05;05.22)

châkât	ni-	chîh	wâpâsh	-i	-n
almost	1-	past	blow	-vai.fin	-1/2
p,manner	1-	pvb	initial	-vai.fin	-IIN

I almost blew away.

IPA Target: [tʃakat ɳtʃi wapaʃɪn]
IPA Actual: [t̪ʰɪkʰad ɳdɪju wabaʃɛntˀ]

Example (19) shows Billy's use of the preverb WANT.

(19) *Nâshtâpwâh niwî wiyiwîn.* (Billy, 06;00.17)

nâshtâpwâh	ni-	wî	wiyiw	-î	-n
very.much	1-	want	outside	-vai.fin	-1/2
p,emph	1-	pvb	initial	-vai.fin	-IIN

I really want to go outside.

IPA Target: [næʃˀtabwa nəwi wiwin]
IPA Actual: [hækʰtʰʌ ŋwi wəwin]

Example (20) shows Billy's use of a reflexive construction in Cree.

(20) *Niwî wâpimîsun wâsh.* (Billy, 04;06.08)

ni-	wî	wâp	-im	-îsu	-n	wâsh
1-	want	light	-by.head	-refl	-1/2	emph
1-	pvb	initial	-vta.fin	-vai.fin	-IIN	p,discourse

I want to see myself.

IPA Target: [nɪwih wapmisʊn waʃ]
IPA Actual: [nɪwi jʌbmisən aʃ]

Example (21) shows Billy's use of the third person singular, passive construction in Cree, with a causative verb-final.

(21) *Mâutâh âspiyihâkiniwit.* (Billy, 04;06.08)

mâutâh	âs	-piyi	-h	-âkiniwi	-t
here	thusly	-inch	-caus	-passive.3	-3.s
p,dem.location	initial.IC	-vintr.fin	-vta.fin	-passive	-CIN

This is how it is moved.

IPA Target: [mawt ahspihakɪnəwɪt^{h}]
IPA Actual: [mʌn asɪpihagənʌ]

Examples (16)-(21) show that Billy has a sophisticated understanding of Cree grammatical structures, which he used productively during his recorded interactions. Although it is difficult to compare the grammatical complexity of utterances in Cree and English, Billy's Cree-only utterances are generally longer and more morphologically and syntactically rich and varied than his English-only utterances. This, along with the fact that just over 80% of his utterances are entirely in Cree, strongly suggests that Billy's grammar is that of a Cree speaker, in spite of his use of many English-origin forms. I return to this topic below, in light of my analysis of Billy's productions.

2. Utterances in English

In this section, I describe the utterances identified as being English-only. Single-word utterances comprised solely of a language-neutral element (defined in Chapter 2, Section 3) were excluded, as I categorized these as Cree utterances. However, in the event that a language-neutral element

occurred within an otherwise English-only utterance, the utterance was coded as an English utterance.

Table 9: Table of All English Utterances vs. Total B3 Utterances

Session #. B3 Age	No. English Utterances	Total Utterances	Percent
1. 04;06.08	28	290	9.7%
2. 04;07.26	11	217	5.1%
3. 04;09.14	4	245	1.6%
4. 05;00.13	52	365	14.2%
5. 05;02.12	11	220	5.0%
6. 05;05.00	22	267	8.2%
7. 05;05.22	33	355	9.3%
8. 05;06.27	4	249	1.6%
9. 05;10.06	20	349	5.7%
10. 06;00.17	19	199	9.5%
Total	204	2756	7.4%

As shown in Table 9, only 7.4% of Billy's utterances are comprised solely of English-origin elements. Notably, all of Billy's English-only utterances are grammatical, although most of them are individual words or phrases, and do not consist of a complete English sentence. English-only utterances can be divided into six types of utterances. These are listed in (22):

(22) Types of English Utterances

a) Type 1: A single word without morphology

b) Type 2: A noun with morphology

c) Type 3: A noun phrase (NP)

d) Type 4: A prepositional phrase (PP)

e) Type 5: A verb phrase (VP)

f) Type 6: Other constructions

In this section I provide examples of each of these six types of English-only utterances. Note that in coding Types 1-6, I ignored any language-neutral elements, including words of ambiguous origin (proper names, etc.). I also identified several instances of Billy producing a string of individual words not connected syntactically (for example, a list of numbers or places). I coded these as Type 1.

Table 10: Frequency of each Type of English-Origin Utterance

English-Only Utterance Type	**No. Occurrences of each Type**	**Percent**
Type 1 – Single Word	169	82.8%
Type 2 – Word & Morph	12	5.9%
Type 3 – Noun Phrase	9	4.4%
Type 4 – Prep Phrase	5	2.5%
Type 5 – Verb Phrase	2	1.0%
Type 6 – Other	7	3.4%
Total	204	100.0%

As shown in Table 10 above, Type 1 is the most common of these six constructions, while Type 5 is the least common. I will now discuss each of these types more thoroughly.

As stated above, Type 1 consists of a single word without morphology. This can include an English-origin noun, a proper name, a social construction (*I mean*, *eh*, *bye* etc.), an adjective, a

preposition, a verb, a number, or any other single-word utterance. This is by far the most common type of English-only utterance. Of the 204 English-only utterances, 82.8% are single-word utterances. Below are three examples of a Type 1 English-only utterance. Examples (23) and (24) are nouns, and (25) is a social construction.

(23) *summer* (Billy, 05;10.06)
summer
n
Summer.

IPA Target: [sʌməɹ]
IPA Actual: [sʌməɹ]

(24) *rainbow* (Billy, 05;02.12)
rainbow
n
Rainbow.

IPA Target: [ɹejnˈbo]
IPA Actual: [ʔɹenbho]

(25) *bye* (Billy, 04;06.08)
bye
soc
Bye!

IPA Target: [paj]
IPA Actual: [ba̰]

Type 2 consists of a noun with morphology. The most common example of this is a noun occurring with English plural morphology, as in example (26). This is the second most common English-only utterance construction, comprising 5.9%, or 12 utterances in the database.

(26) *meatballs* (Billy, 04;07.26)

meatball	**-s**
n	-pl

Meatballs.

IPA Target: [mit bɑɬz]
IPA Actual: [bitʰbɒs]

Type 3 consists of a noun phrase, including a noun co-occurring with a possessive pronoun, as in example (27), or a time construction, as in example (28). This type of construction represents 4.4% of the English-utterances in the database, or nine of the 204 English utterances.

(27) *my mom* (Billy, 04;06.08)

my	**mom**
poss.pron.1	n

My mom.

IPA Target: [maj mʌm]
IPA Actual: [maj mʌm]

(28) *eleven o'clock* (Billy, 05;05.22)

eleven	**o'clock**
p,num	adv

Eleven o'clock.

IPA Target: [ilɛvɪn ʌklɑk]
IPA Actual: [lɛvən ɪklɑk]

Type 4 consists of a prepositional phrase, and represents only 5 utterances, or 2.5% of the total English-only utterances. Example (29) is a common construction within the database. In his mixed utterances, Billy also uses the English preposition IN with a variety of other English nouns, including *in the bush* and *in the morning*.

(29) *in the back* (Billy, 04;07.26)

in **the** **back**
prep artcl n
In the back.

IPA Target: [ɪn ðə bækʰ]
IPA Actual: [ɪn dəˈ bɑkʰ]

Type 5 consists of a simple verb phrase, as in example (30) below. As I have shown in Table 9, with only two instances of Type 5 in the database, this is the rarest English-only utterance construction. This example is repeated as example (120) in Section 2 of Chapter 5.

(30) *Go car!* (Billy, 05;05.22)

go **car**
v n
Go car!

IPA Target: [ko kaɹ]
IPA Actual: [ko kʰɑ]

Type 6 consists of all other constructions, which present as more complex phrases. This is only a slightly more common construction than the prepositional phrases. However, even this 3.7% figure is high. All seven of these utterances consist of unique structures, and could just as easily be grouped as seven separate types with one instance of each. One such construction is example (31) below. This example consists of two adjectives joined with an English-origin conjunction. Over half of the phrases in this type include the conjunction AND. This type also includes one complementizer phrase (CP) containing a wh-word, as shown in example (32) below. Example (32) represents one of the more syntactically complex fully grammatical English sentences that Billy produces. Notably, (32) could also be considered as an amalgam, as described in MacWhinney (1978), Peters (1983), Mithun (1989) and Courtney & Saville-Troike (2002), as this single attestation constitutes no solid proof that the child has a fully productive analysis of this construction.

(31) *yellow and red* (Billy, 05;05.00)

yellow and red
adj conj adj
Yellow and red.

IPA Target: [jɛlo ænd ɹɛd]
IPA Actual: [gɛlo nə̃ ɹɛtʰ]

(32) *Who said that?* (Billy, 05;10.06)

who said that
wh-phrase v,past dem
who said that

IPA Target: [hu sɛt ðat]
IPA Actual: [hu sɪd dætʰhʌ]

In summary, English-only utterances are attested to have these properties: they are short (generally one to three words), and syntactically and morphologically simple. Longer English-only utterances are rare, and are grouped together as Type 6. Finally, while all of these English-only utterances appear to be grammatical, it is very difficult to determine their status as either amalgams or analyzed constructions.

It is thus difficult to conclusively state whether or not Billy has an English grammar. Billy has clearly acquired some amount of lexical knowledge of English, but whether these are loanwords or code mixes is also difficult to determine. However, since he produces only a small number of multi-word English-only utterances, the majority of his English may be acquired by rote from loanwords and code switches present in the ambient speech of his bilingual community, despite his family's focus on raising him in a monolingual household.

To more conclusively determine whether his English productive abilities were acquired by rote outside of an English grammar, or whether he has an actual (albeit limited) English grammar, I further examine whether he has productive knowledge of the English morphological and syntactic constructions he is using (e.g. English plural /-s/, prepositional phrases, the determiner "my", etc.). This will be explored in Chapter 5, Section 1.2.

3. Mixed Utterances

In this section, I outline the utterances that I have identified as mixed (i.e. containing both Cree and English elements). By definition, a mixed utterance must be comprised of at least two morphemes, as it must minimally contain an element from each of the two languages. Recall that mixed utterances do not necessarily contain code mixing, but only elements of both Cree and English origin.

In Table 11 below I outline the frequency of mixed language utterances in the database, which comprise 12.5% of the total child utterances. This indicates that Billy produces more mixed language utterances than English-only utterances (7.4%), while Cree-only utterances (80.1%) are by far the most common type of utterances in the database.

Table 11: Table of All Mixed Utterances vs. Total B3 Utterances

Session #. B3 Age	No. Mixed Utterances	Total Utterances	Percent
1. 04;06.08	36	290	12.4%
2. 04;07.26	19	217	8.8%
3. 04;09.14	19	245	7.8%
4. 05;00.13	45	365	12.3%
5. 05;02.12	24	220	10.9%
6. 05;05.00	36	267	13.5%
7. 05;05.22	45	355	12.7%
8. 05;06.27	32	249	12.9%
9. 05;10.06	50	349	14.3%
10. 06;00.17	38	199	19.1%
Total	344	2756	12.5%

As stated in Chapter 2, my research examines only the child utterances in this database. However, I have identified a comparable amount of mixed language utterances in the adult data. For example, the adult produces the utterance in (33) in Session 7, with the English-origin plural

noun *toys* occurring as the object in an otherwise Cree-only utterance. However, an in-depth analysis of the adult productions is beyond the scope of my thesis.

(33) *Chimiywâyihtân â toys?* (Adult, Session 7)

chi-	miyw	-ây	-iht	-â	-n	â	**toy**	**-s**
2-	happy	-by.mind	-by.head	-thm	-1/2	p,quest		
2-	initial	-medial	-vti.fin	-thm	-IIN	p,quest	n	-pl

Do you like toys?

Although 12.5% of the dataset is comprised of mixed utterances, I have identified no evidence to suggest that the English-origin words and structures found within the mixed utterances are any way different from the English-origin words and structures found within the English-only utterances. In fact, many of the English-origin structures shown in examples (23)-(31) above also appear at the beginning, middle, or end of mixed utterances. Therefore, in order to analyze the English-origin words and structures attested in the data, the remainder of this analysis will focus on English-only and mixed language utterances.

Chapter 5: Data Description

In this chapter, I discuss Billy's production of English-origin parts of speech. As I stated in Chapter 3, my focus is on Billy's use of English forms in his speech only; a complete morpho-syntactic or phonological analysis is beyond the scope of this work. I begin with Billy's production of English-origin nouns, which are his most frequent English-origin part of speech. I then discuss Billy's production of English-origin verbs, lexical roots,[25] adjectives and adverbs, and a number of residual issues.

This chapter draws upon both Billy's English-only and mixed language utterances. As shown in Table 12 below, these utterances make up 19.9% of the database. As I noted in Section 1 of Chapter 3, the remaining 80.1% of his utterances are Cree-only.

Table 12: Number of Utterances Containing English-Origin Parts of Speech

Session #. B3 Age	No. Utterances Containing Eng-Origin Parts of Speech	Total Utterances	Percent
1. 04;06.08	64	290	22.1%
2. 04;07.26	30	217	13.8%
3. 04;09.14	23	245	9.4%
4. 05;00.13	97	365	26.6%
5. 05;02.12	35	220	15.9%
6. 05;05.00	58	267	21.7%
7. 05;05.22	78	355	22.0%
8. 05;06.27	36	249	14.5%
9. 05;10.06	70	349	20.1%
10. 06;00.17	57	199	28.6%
Total	548	2756	19.9%

Some of Billy's mixed language utterances contain multiple English-origin elements, or tokens. To facilitate a more in-depth description, I include a breakdown of these tokens by session in

25 I distinguish between verbs and lexical roots in Section 2 of Chapter 5.

Table 13. While Billy produces 548 utterances containing English-origin parts of speech, the database contains 681 English-origin tokens.

Table 13: All English-Origin Tokens

Session #. B3 Age	**No. of English Tokens**	**No. Utterances Containing Eng-Origin Words**
1. 04;06.08	73	64
2. 04;07.26	38	30
3. 04;09.14	28	23
4. 05;00.13	107	97
5. 05;02.12	37	35
6. 05;05.00	71	58
7. 05;05.22	106	78
8. 05;06.27	44	36
9. 05;10.06	104	70
10. 06;00.17	73	57
Total	681	548

To obtain Table 13, I coded each instance of an English-origin word within the database as a single token. For example, I coded the prepositional phrase *in the back* as three tokens, and the noun phrase *my room* as two tokens. It is noteworthy that, in Session 4, 46 of the 107 tokens are of the single word *what*. This is the highest number of *what* tokens in a single session. For comparison, Session 6 has the second highest number of *what* token, with only five. Finally, in Sessions 7 and 9, I identified many strings of numbers (for example when Billy was reciting a phone number). In these instances I coded each individual number as a single token.

In Table 14, I provide a breakdown of all of the different English-origin parts of speech.

Table 14: All English-Origin Parts of Speech

English-Origin Parts of Speech	# Tokens	Percent
Nouns	323	47.43%
Proper Names	69	10.13%
Verbs	18	2.64%
Lexical Roots	16	2.35%
Adjectives	17	2.50%
Adverbs	8	1.17%
Wh-Words	57	8.37%
Time Constructions	13	1.91%
Numerals	74	10.87%
Social Words	19	2.79%
Pronouns	15	2.20%
Determiners	14	2.06%
Prepositions	24	3.52%
Conjunctions	11	1.62%
Demonstratives	3	0.44%
Total	681	100.00%

I describe Billy's use of English-origin nouns, verbs, lexical roots, adjectives, adverbs, wh-words, time constructions, and numerals in Sections 1-5 below. Before I move to these, I first briefly describe the English-origin parts of speech that I do not explore in detail in this work. These are social words, pronouns, determiners, prepositions, conjunctions, and demonstratives.

Social Words: For the purpose of this thesis, social words and expressions are defined as words or phrases used in conversation, which are not necessarily morphologically parsed. I have listed the social words that Billy produces in (34) and (35) below. These are generally used in isolation (or, as the only word(s) in an utterance), although *I mean* and *eh* both occur utterance initial in mixed or otherwise Cree-only utterances.

(34) Single words: EH, BYE, HELLO, YES, YEAH, OOPS, NO

(35) Expressions: HO HO HO MERRY CHRISTMAS, EXCUSE ME, I MEAN

Pronouns: Billy only produces one English-origin pronoun, MY. This pronoun is always accompanied by an English-origin noun, and often occurs in mixed utterances such as (36)[26]. The pronoun *my* can also occur with an English-origin noun as an English-only utterance. Billy's use of English genitive forms will be discussed in greater detail in Section 1.2 below.

(36) *Ishkutâuish my classroom.* (Billy, 05;00.13)

ishkutâu	-ish	**my**	**classroom**
fire	-dim		
ni	-dim	poss.pron.1	n

My classroom is on fire.

IPA Target: [iʃˈkʌdəwəʃ maj klæsɹʊm]
IPA Actual: [ɪʃgʌdɑʃ mʌj klæsɹʌm]

Determiners: Billy also produces only one English-origin determiner within the database, which is the determiner THE. This is always accompanied by an English-origin noun and an English-origin preposition as part of an English prepositional phrase. These phrases can occur in isolation, or as part of a mixed utterance. See (37) for an example of a determiner as part of an English prepositional phrase in a mixed language utterance.

26 In example (36), Billy is recounting a fictional story about a dragon. This example is repeated as (74).

(37) *In the back nichîh apiwânân.* (Billy, 06;00.17)

in	**the**	**back**	ni-	chîh	ap	-i	-w	-â	-nân
			1-	past	sit	-vai.fin	-relational	-vai.fin	-1.pl
prep	artcl	n	1-	pvb	initial	-vai.fin	-relational	-vai.fin	-IIN

We sat in the back.

IPA Target: [ˈɪn ðə ˈbæk ən ˈʤi əbəwʌnæn]
IPA Actual: [ən də bakʰ ɪn ʤi abuwʊnæn]

Prepositions: The most common preposition is IN. Billy produces a prepositional phrase headed by IN 13 times, either as a single-word utterance or as part of a mixed utterance as in (37). Billy also produces the prepositions UNDER, OFF, DOWN, and UP.

Conjunctions: Billy uses the conjunctions AND and OR within the database. He most commonly uses them to connect two English-origin nouns or adjectives, but he also uses them to connect Cree words.

Demonstratives: Billy uses only one English-origin demonstrative, THAT. He produces THAT three times, all in mixed language constructions.

The six parts of speech described in this section occur infrequently, and often with another English-origin part of speech (usually a noun). For the remainder of this work, I refer to these only as they relate to the more frequently occurring parts of speech in the database.

I now move into a more detailed investigation of Billy's productions of English-origin nouns. I begin this section with an overview of Billy's English-origin nouns grouped by session. I then list the different types of Cree and English functional nominal morphology attested in the child speech within the database, and then provide examples of Billy's use of each type.

1. English-Origin Nouns

Nouns are by far the most common English-origin part of speech that Billy produces, making up 47.4% of his English-origin tokens. This total excludes both language-neutral and language-

specific proper nouns. Recall from Table 4 and Table 5 above that I have identified 255 proper nouns in the database, 69 of which are language-specific, and 186 of which are language-neutral (see Chapter 2 Section 3.1.1 for a complete listing of all proper nouns). These proper nouns are not included in the analysis below. I provide Table 15 below for a summary of the frequency with which Billy produces English-origin nouns.

Table 15: Number of English-Origin Noun Tokens

Session #. B3 Age	**No. of English Noun Tokens**	**No. of English Tokens**	**Percent**
1. 04;06.08	40	73	54.8%
2. 04;07.26	26	38	68.4%
3. 04;09.14	10	28	35.7%
4. 05;00.13	44	107	41.1%
5. 05;02.12	32	37	86.5%
6. 05;05.00	39	71	54.9%
7. 05;05.22	28	106	26.4%
8. 05;06.27	28	44	63.6%
9. 05;10.06	44	104	42.3%
10. 06;00.17	32	73	43.8%
Total	323	681	47.4%

As the largest category in the database, Billy's English-origin nouns provided a unique challenge to categorize. Billy uses English-origin nouns in a variety of ways. They can occur in isolation, as part of an otherwise Cree-only utterance, as part of an English-only utterance, or as part of a larger mixed utterance. In mixed utterances, nouns are attested in sentence-initial, -medial, and -final positions. They can display Cree morphology, English morphology, and, on rare occasions, a combination of both Cree and English morphology. Billy also produces the Cree equivalent for a number of these English-origin nouns within the database.

In the absence of any readily apparent patterns in this nominal data, I sorted the nouns into semantic categories. I used these categories to explore any correlation between the environment in which Billy could have encountered the nouns, and the source-language of the morphology. I list these semantic categories in (38).

(38) Semantic categories used to classify English nouns:
animals, biblical, body parts, fantasy, food, general, holiday, household, locations, outside, people, play, school, sports, time, town, vehicle

The largest semantic category was household items, with the second largest category being food. However, I found no correlation between these categories and the language choice of Billy's morphology (i.e. Cree or English). Billy's productions do not follow any obvious thematic pattern. His linguistic behaviours also seem to transcend semantic fields. Instead, I present these nouns based on the source language of their morphology, and the different types of morphology that they exhibit.

As I described above, Billy produces English-origin nouns in four different ways: (1) with Cree morphology, (2) with English morphology, (3) with both Cree and English morphology, and finally (4) without morphology. Each English-origin noun token in the database is attested in one of these four ways. I provide this breakdown in Table 16 below.

Table 16: Different Types of Morphology Occurring on English-Origin Noun Tokens

Type of Morphology	**# Noun Tokens**
Cree Morphology	43
English Morphology	72
Both Cree and English Morphology	3
No Morphology	200
Total	323

As we can see, by far the most common way for an English-origin noun to occur is without morphology. This could be because the context does not call for morphology or, more likely, this could represent linguistic forms that Myers-Scotton (1997) considers to be "bare inserts" as described in Chapter 2 Section 1.5.2.1 above.

However, a large number of these English-origin nouns occur in the database multiple times. To better describe the characteristics of different English-origin nouns, I have grouped these together based on their lexeme. For example *friend*, *friends*, and *my friend* are all classified as the lexeme FRIEND. In some cases, only one grammatical form of a lexeme is attested (for example, Billy only ever produces CARTOON as the plural form *cartoons*[27]). In other cases, lexemes surface in a variety of grammatical forms (e.g. FRIEND is attested as both *friend* and *friends*). In total, I have identified 149 nominal lexemes in the database.

I group Billy's nominal lexemes into four categories, based on the morphology attested on their grammatical forms. These grammatical forms are attested with English morphology (EngMorph), Cree morphology (CreeMorph), both English and Cree morphology (BothMorph), or no morphology (NoMorph). EngMorph comprises lexemes whose grammatical forms occur only with English morphology, as well as lexemes whose grammatical forms occur with both English morphology and no morphology. For example, the lexeme DOOR occurs as both *door* and the plural *doors*. Even if Billy produces only one token of a lexeme attested with English morphology (with all others occurring without morphology), I still categorize the lexeme as "EngMorph". Similarly, CreeMorph encompasses lexemes whose grammatical forms occur with only Cree morphology, as well as lexemes that occur with both Cree or no morphology. It follows that NoMorph encompasses lexemes whose grammatical forms never occur with morphology from either language.

The fourth category BothMorph is reserved for lexemes whose grammatical forms are attested with both Cree and English morphology. This includes lexemes like TOY, whose grammatical forms include both *toys* and *toyiyiw*, and well as the lexeme ROOM, whose grammatical forms include *my roomihch*. These conditions are summarized in Table 17 below.

27 This is not unexpected, considering that Billy is more likely to encounter the plural *cartoons* than the singular *cartoon*.

Table 17: Conditions for Types of Morphology

Type of Morphology	Condition
CreeMorph	Lexemes with at least one instance of Cree morphology, and no instances of English morphology
EngMorph	Lexemes with at least one instance of English morphology, and no instances of Cree morphology
BothMorph	Lexemes that occur with both English and Cree morphology – either simultaneously or on two separate tokens
NoMorph	Lexemes with no instances of either Cree or English morphology

I have sorted all 149 of the English-origin nominal lexemes attested in the database into these four categories. Recall that language-neutral proper nouns are excluded from this analysis. The results can be seen in Table 18 below.

Table 18: Distribution of English-Origin Noun Lexemes

Type of Morphology	# Lexemes
CreeMorph	21
EngMorph	36
BothMorph	7
NoMorph	85
Total	149

In Table 18, Billy produces English morphology on nearly twice as many English-origin lexemes compared with Cree morphology. The largest category by far however is NoMorph, in that Billy uses no overt nominal morphology on 85 different lexemes. Finally, Billy produces both Cree and English morphology with seven different lexemes. Table 18, however, does not show with what frequency he produces these lexemes. Many of these lexemes may occur only once in the database. I include Table 19 below to show the total number of tokens associated with each lexeme. Note that if a lexeme is categorized as "CreeMorph", "EngMorph", or "BothMorph", all tokens of this lexeme (including any without morphology) are included in the respective total.

Table 19: Distribution of English-Origin Noun Lexemes and Tokens

Type of Morphology	**# Lexemes**	**# Tokens (by Lexeme)**
CreeMorph	21	71
EngMorph	36	73
BothMorph	7	26
NoMorph	85	153
Total	149	323

In Table 19, Billy uses a higher number of unique EngMorph lexemes than CreeMorph lexemes, but his frequency of producing tokens of these two categories of lexemes is relatively similar. This could indicate that Billy is generally producing a higher number of instances in this category, or that he is disproportionately using one or two lexemes repeatedly. Billy also typically produces only one token of each NoMorph lexeme, and multiple tokens of each BothMorph lexeme.

While grouping Billy's English-origin nouns by lexeme has advantages for this analysis, this grouping does not comprehensively describe Billy's productions. I include Table 20 to highlight the difference in token count when grouping Billy's English-origin nouns by lexeme, as opposed to classifying the tokens individually. The centre column is repeated from Table 16 above. This column shows the number of tokens that display each of the four types of morphology, when the tokens are sorted individually (i.e. not grouped into lexemes). The far right column of Table 20 is repeated from Table 19 above. This column shows the number of tokens of each types of morphology, when the tokens are grouped by lexeme.

Table 20: Comparison of Tokens Grouped by Lexeme and Not by Lexeme

Type of Morphology	# Tokens (Grouped Individually)	# Tokens (Grouped by Lexeme)
CreeMorph	43	71
EngMorph	72	73
BothMorph	3	26
NoMorph	200	153
Total	323	323

The most striking difference between these two types of token groupings (individually and by lexeme) are the frequencies of Billy's BothMorph and NoMorph tokens. This difference follows from the methodology. The NoMorph category has significantly fewer tokens when they are grouped by lexeme because (as described above) many of the lexemes represented in this category also have grammatical forms that appear elsewhere in the database with Cree and/or English morphology. Likewise, the BothMorph category is significantly larger when tokens are grouped by lexeme. Grouping by lexemes causes the BothMorph category to include the tokens of all lexemes attested with both Cree and English morphology, as opposed to just the few individual tokens attested with both Cree and English morphology.

Grouping Billy's tokens by lexeme however facilitates a more global overview of Billy's production of English-origin nominal lexemes. Therefore, I have organized my analysis based on groupings by lexeme, but I have included a description of the total count of tokens that are attested with each type of morphology in the relevant sections.

1.1 English-Origin Nouns with Cree Morphology

The first class of nouns that I describe in detail are the English-origin nouns that Billy produces with Cree morphology. Billy produces five different types of Cree morphology with his English-origin nouns. These are: locative, genitive, plural, diminutive, and obviative.

Cree morphology occurs uniquely on 21 different English-origin lexemes in the database. See (39) for a complete listing of these nouns:

(39) BROTHER, BUS, CAMERA, CARD, CASTLE, CHIMNEY, COLOUR, COMPUTER ROOM, FLOOR, GHOST, GOALIE STICK, HEART, KITCHEN, MACARONI, MONKEY, PUPPY, PUZZLE, RADIO, RAIN, SKIDOO, WINDOW

In Table 21, I show the distribution of Cree morphology attested on the tokens (or the grammatical forms) of the lexemes listed in (39). Of the 71 tokens within the CreeMorph category, 41 are attested with Cree morphology, while 30 are attested without morphology. Locative morphology is the most common type of Cree morphology attested on English-origin nouns, while Cree plural morphology is the least common type.

Table 21: Types of Cree Morphology Attested on English-Origin Nouns (Grouped by Lexeme)

Type of Cree Morphology	**# Tokens: CreeMorph**
With Cree Morphology	41
Locative	14
Genitive	5
Plural	1
Diminutive	11
Obviative	8
Obviative & Genitive	2
No Morphology	30
Total	71

Of note, Table 21 does not include the tokens of lexemes attested with both Cree and English morphology, only those for which Cree morphology is the only morphology attested. Cree morphology also occurs on seven other English-origin nominal lexemes: BICYCLE, CAR, FRIEND, ROOM, SLED, TREE, and TOY. These lexemes are attested with both Cree and English morphology, and will be discussed more formally in Section 1.3 below.

In Table 22, I provide an overview of Billy's productions of Cree morphology on all English-origin nouns in the database, including those attested on the tokens of BothMorph lexemes (lexemes attested with both Cree and English morphology). In this table, tokens can be counted in multiple categories if they are attested with multiple types of Cree morphology. The inclusion of all English-origin nominal lexemes provides a broader perspective of Billy's use of Cree nominal morphology on English-origin nouns. When taking into account all of Billy's English-origin nouns, locative morphology remains the most common type of Cree morphology attested, while Cree plural morphology remains the least common.

Table 22: Complete Token Count for each Type of Cree Nominal Morphology Attested

Type of Cree Morphology	**# Tokens: All Lexemes**
Locative	17
Genitive	14
Plural	1
Diminutive	11
Obviative	12

Typically, Billy only produces one type of Cree morphology with an English-origin lexeme. However, for six of the lexemes outlined in (39), Billy produces up to three types of Cree morphology on different tokens of the same lexeme. These six lexemes are BROTHER, CAMERA, CHIMNEY, GOALIE STICK, SKIDOO, and WINDOW. For example, Billy produces two tokens of the lexeme WINDOW with locative morphology, and one token of WINDOW with genitive morphology. These six lexemes also have the highest token count of the CreeMorph lexemes.

I will now describe and provide examples of each of the five types of Cree morphology that Billy produces with his English-origin nouns. I will then discuss Billy's use of multiple types of Cree morphology on a single lexeme or token.

Locative: Billy produces Cree locative morphology on a total of 17 tokens and 12 lexemes in the database. These lexemes are BUS, CAMERA, CASTLE, CHIMNEY, COMPUTER ROOM, FLOOR, KITCHEN, PUZZLE, RADIO, ROOM, SKIDOO, and WINDOW.

For seven of these 12 lexemes, the only morphology that appears on these lexemes is Cree locative morphology. For all of the other lexemes listed above, Billy may produce other tokens with different types of morphology or, in some cases, multiple different types of morphology on the same token. In total, 14 of these tokens are from the seven lexemes for which Cree locative morphology is the only morphology attested, and three of these tokens are from lexemes that are attested with locative morphology along with another type of Cree or English morphology.

The seven lexemes for which the only morphology attested on the tokens is Cree locative morphology are: BUS, CASTLE, COMPUTER ROOM, FLOOR, KITCHEN, PUZZLE, and RADIO. The five lexemes that are attested with Cree locative morphology as well as other types of morphology are: CAMERA, CHIMNEY, ROOM, SKIDOO, and WINDOW.

See Table 23 for a breakdown of the sessions in which Billy produces Cree locative morphology within the database. In the first column, I provide the total number of tokens that are attested with Cree morphology within the CreeMorph lexeme category. In the second column, I provide the total number of English-origin noun tokens that Billy produces with Cree morphology within the database.

Table 23: Tokens of Cree Locative Morphology

Session #. B3 Age	No. Tokens with Cree Locative Morphology (CreeMorph Lexemes)	No. Token with Cree Locative Morphology (All Lexemes)
1. 04;06.08	2	2
2. 04;07.26	0	0
3. 04;09.14	0	0
4. 05;00.13	8	11
5. 05;02.12	0	0
6. 05;05.00	2	2
7. 05;05.22	1	1
8. 05;06.27	0	0
9. 05;10.06	0	0
10. 06;00.17	1	1
Total	14	17

Cree locative morphology is the most common type of Cree nominal morphology present on English-origin nouns. In example (40), Billy uses the English-origin noun FLOOR with Cree locative morphology within an otherwise Cree-only utterance.

(40) *Chikimuyiw floorhch, îhî.* (Billy, 05;00.13)

chikimu	-yiw	**floor**	-hch	îhî
attach	-obv		-loc	yes
initial	-obv	n	-loc	p,aff

Yes, it is stuck to the floor.

IPA Target: [ʤɪˈgəmio flɔɹʧ eˈhe]
IPA Actual: [ʦɪgʌmijo fəlʌʧ ʔɛhe]

For comparison, Billy also uses Cree locative morphology on English-origin nouns in isolation – that is to say, without any other words in the utterance. In example (41), the utterance is simply BUS with Cree locative morphology. Billy produces two tokens of BUS with Cree locative

morphology, and four tokens without morphology. Billy also produces BUS as a lexical root, as discussed in Section 3.

(41) *busihch* (Billy, 05;05.00)

bus	-ihch
	-loc
n	-loc

On the bus.

IPA Target: [ˈbasɪʧ]
IPA Actual: [bɑsɪʧ]

In example (42) Billy produces Cree locative morphology on the lexeme COMPUTER ROOM. Notice the locative agreement morphology on *âihch*. Billy produces one other token of COMPUTER ROOM without morphology earlier in the same session.

(42) *Âihch kiyâh computer roomihch.* (Billy, 05;00.13)

âi	-hch	kiyâh	**computer room**	-ihch
pro,hes	-loc	and		-loc
pro,hes	-loc	p,conjn	n	-loc

I also hear the noises from the computer room.

IPA Target: [ajʧ gjɛ ˈkʰʌmpʰjutəɹʊmʧ]
IPA Actual: [ajʧ gɛ kæmpjudəɹɹʊmʧ]

I have also identified an utterance in the database where, according to the translator, we would expect to see Cree locative morphology, but do not. In (43) we would expect to see Cree locative morphology on the English-origin *chimney*, but Billy does not produce any, even if he does produce locative morphology on *chimney* later in the same session.

(43) *Chimneyhch ashinwâhâwich Santa Claus-h.* (Billy, 04;06.08)

chimney	-hch	ashinw	-âh	-â	-wich	**Santa Claus**	-h
	-loc	wait	-caus	-thm	-3.pl	name	-obv
n	-loc	initial	-vta.fin	-thm	-IIN	n	-obv

They are waiting for Santa Claus to come down the chimney.

IPA Target: [ʧɪmənihʧ ʃnwahawʦ sanəklɑs^{h}]
IPA Actual: [ʧɪmənɪɪ ʃnəhaw santəklʌs^{h}]

Genitive: In Cree, inanimate possessed nouns are generally marked with the possessive suffix /-im/ and both possessor number and person are also marked on the noun: respectively, first, second and third are marked by /ni-/, /chi-/ and /u-/, and plural possessor suffixes follow the /-im/ suffix. In rare cases, animate possessed nouns can also be marked with the possessive suffix /-im/. Inalienably possessed nouns, whether animate or inanimate, do not take the /-im/ suffix (Dr. Julie Brittain, p.c. 2016; Dr. Will Oxford, p.c. 2018).

For one of these lexemes, CARD, Cree genitive morphology is the only morphology attested. Billy produces only one token of CARD with Cree genitive morphology, in Session 7. Billy produces 13 tokens of Cree genitive morphology on 10 other lexemes in the database, which are also attested with other Cree and English morphology. The lexemes are BICYCLE, BROTHER, CAR, CHIMNEY, FRIEND, GOALIE STICK, ROOM, SLED, TREE, and WINDOW. Including the lexeme CARD, Billy produces 14 tokens of Cree genitive morphology on 11 lexemes.

See Table 24 for a breakdown of the sessions in which Billy produces Cree genitive morphology within the database.

Table 24: Tokens of Cree Genitive Morphology

Session #. B3 Age	No. Tokens with Cree Genitive Morphology (CreeMorph Lexemes)	No. Token with Cree Genitive Morphology (All Lexemes)
1. 04;06.08	1	2
2. 04;07.26	0	0
3. 04;09.14	0	0
4. 05;00.13	2	6
5. 05;02.12	0	1
6. 05;05.00	0	0
7. 05;05.22	1	1
8. 05;06.27	0	1
9. 05;10.06	3	3
10. 06;00.17	0	0
Total	7	14

With the exception of the lexeme FRIEND, Billy uses the possessive suffix /-im/ on all English-origin words in a genitive grammatical context. He also uses the allomorph /-m/ on two tokens of the same lexeme. Further investigation reveals that Billy selects the genitive suffix /-im/ for his English-origin genitive nouns regardless of (a) the grammatical gender of the English-origin noun in the utterance (indicated by his selection of the verb-stem or verb-final), and (b) the grammatical gender of the Cree equivalent. (None of the Cree equivalents for the lexemes that Billy produces with Cree genitive morphology are inalienable animate nouns in Cree.)

Conversely, Billy produces the lexeme FRIEND in a genitive grammatical context, with other Cree genitive morphology, but does not use the Cree possessive suffix /-im/. This will be discussed as examples (85)-(88) in Section 1.3, along with the other English-origin nouns that are attested with both Cree and English morphology.

Example (44) below illustrates Billy's use of genitive morphology with *chimney*. In this example, the genitive morphology is third person singular.

(44) *Apishâshiyiw wîyi uchimneyim.* (Billy, 04;06.08)

apishâsh	-i	-yiw	wîyi	u-	**chimney**	-im
little	-vii.fin	-obv	3	3-		-poss
initial	-vii.fin	-obv.IIN	pro	3-	n	-poss

His chimney is small.

IPA Target: [əpʃɪʃʃiu wij uʧɪmənim]
IPA Actual: [ɛpʃaʃʃo wi ɔʧɪmɪniəm]

In (44) Billy selects the inanimate intransitive verb-final /-i/, indicating that he is treating *chimney* as inanimate. As the equivalent for *chimney* is animate, this is an example of Billy selecting a grammatical gender that is different from the Cree equivalent. Note also that Billy uses the /-im/ genitive suffix.

Example (45) is another example of third person genitive morphology, but this time on the English-origin compound noun GOALIE STICK. In both the target and actual forms, both *goalie* and *stick* carry the third person prefix /u-/, and *stick* carries the genitive /-im/. In other utterances, Billy also uses *goalie stick* with Cree obviative morphology (55), as well as without morphology.

(45) *Awân mâk aniyâ ugoalie ustickim?* (Billy, 05;10.06)

awân	mâk	ani	-yâ	u-	**goalie**	u-	**stick**	-im
who	so	that	-obv	3-		3-		-poss
pro,wh	p,conjn	p,dem.dst	-obv	3-	n	3-	n	-poss

But whose goalie stick is that?

IPA Target: [uwɑn mak ɪnija okoli wstɪkɪm]
IPA Actual: [əwɑn mag ənijɑ ogoli estɪkɪm]

Example (46) illustrates Billy's use of the genitive suffix /-m/ (an allomorph of /-im/) followed by the first person plural inanimate suffix /-inân/. This is one of only two cases of Billy producing the allomorph /-m/ with an English-origin noun, with both cases occurring on the lexeme WINDOW. Billy assigns inanimate gender for *window*, selecting the inanimate intransitive verb-final /-â/ in both cases. The Cree equivalent for *window* (wâsânihtâkin) is also inanimate.

(46) *Tâpâ nuhchi pâhtânân âh miskiwâch niwindowminân.* (Billy, 05;00.13)

tâpâ	n-	uhchi-	pâht	-â	-nân	âh	miskiw	-â	-ch
not	1-	past.neg-	hear	-thm	-1.pl	pvb,conj	strong	-vii.fin	-0.s
p,neg	1-	pvb-	initial	-thm	-IIN	pvb,conj	initial	-vii.fin	-CIN

ni-	**window**	-m	-inân
1-		-poss	-1.pl
1-	n	-poss	-IIN

We didn't hear it because our window was hard.

IPA Target: [dəbə nɔʧbɛˈtɛnən ə mʃkɔjʧ nəwɪndəmɪnæn]
IPA Actual: [pa nɔʧbʌtanan ʌ mʃəgɔʧ ... tanomnã]

The English-origin noun BICYCLE is discussed as part of Section 1.3 with his other productions of BothMorph lexemes, but I include (47) here for a more complete picture of Billy's use of Cree genitive morphology. In example (47), Billy uses *bicycle* with first person genitive morphology. *Bicycle* also occurs in the database with English morphology, as well as without any morphology. Billy's choice of the inanimate intransitive /-â/ verb-final indicates that he assigns *bicycle* inanimate gender. The Southern East Cree equivalent for *bicycle* (tihtipiwepuhûsuwâkan) is also inanimate.[28]

(47) *Nibicycleim âshtâw.* (Billy, 05;00.13)

ni-	**bicycle**	-im	âsht	-â	-w
1-		-poss	sit.there	-vii.fin	-0
1-	n	-poss	initial.IC	-vii.fin	-IIN

My bicycle is there.

IPA Target: [nəˈbajsɪklɪn aʃtaw]
IPA Actual: [majsɪkəlim ɑʃdaw]

To summarize, Billy produces Cree genitive morphology on English-origin nouns for first person singular and plural, as well as third person singular. I also highlighted that these are not fixed forms – for example, the lexeme BROTHER is attested both with or without genitive morphology. This suggests that Billy's use of Cree genitive morphology on English-origin nouns is productive.

28 The author did not have access to the NE Cree equivalent at the time of publication.

Plural: Billy produces Cree plural morphology on only one English-origin lexeme in the recorded dataset. This occurs in Session 6 on the noun GHOST. In example (48), Billy repeats the lexeme three times, but only has plural morphology on the final token. The IPA Target form is missing from the database for this example, but given that the orthography and the IPA Actual forms match, I take the orthography to reliably represent Billy's target utterance in this case.

(48) *ghost ghost ghostich* (Billy, 05;05.00)
ghost ghost ghost -ich
-an.pl
n n n -an.pl
Ghost ghost ghosts.

IPA Target:
IPA Actual: [gost gost gostɪʤ]

Diminutive: Billy produces Cree diminutive morphology on four lexemes in the database. These are: MACARONI, MONKEY, PUPPY, and SKIDOO. For three of these four lexemes, Cree diminutive morphology is the only morphology attested. The fourth lexeme SKIDOO is attested with Cree diminutive, locative, and obviative morphology in the corpus. In total, Billy produces 11 tokens of English-origin nouns with Cree diminutive morphology.

See Table 25 for a breakdown of the sessions in which Billy produces Cree diminutive morphology within the database. In the first column, I provide the total number of tokens that are attested with Cree diminutive morphology within the CreeMorph lexeme category. In the second column, I provide the total number of English-origin noun tokens that Billy produces with Cree diminutive morphology within the database. Note that these two columns have the same set of values, as none of the lexemes attested with diminutive morphology is also attested with English nominal morphology.

Table 25: Tokens of Cree Diminutive Morphology

Session #. B3 Age	No. Tokens with Cree Diminutive Morphology (CreeMorph Lexemes)	No. Tokens with Cree Diminutive Morphology (All Lexemes)
1. 04;06.08	0	0
2. 04;07.26	2	2
3. 04;09.14	0	0
4. 05;00.13	0	0
5. 05;02.12	0	0
6. 05;05.00	1	1
7. 05;05.22	4	4
8. 05;06.27	3	3
9. 05;10.06	0	0
10. 06;00.17	1	1
Total	11	11

Example (49) below illustrates Billy's use of diminutive morphology on the noun MONKEY. This is the only instance of the English-origin lexeme MONKEY in the database. Billy uses the lexeme with diminutive morphology at the end of a longer Cree utterance. Note however that instead of the target [ʃ] for his diminutive morpheme, Billy uses [s]. Monkey is animate here, as indicated by Billy's selection of a AI verb-final.

(49) *Mâuch anitâh Curious George isinâkusiw monkeysh.* (Billy, 05;05.00)

mâuch	ani	-tâh	**Curious George**	isi	-nâkusi	-w	**monkey**	-sh
most	that	-loc	name	thusly	-appear	-3		-dim
p,manner	p,dem.dst	-loc	n	initial	-vai.fin	-IIN	n	-dim

This little monkey looks like Curious George.

IPA Target:	[ˈmɔʧ	əndaj	kəɹiəs	ʤɔɹʤ	isnʌkso:	mʌŋkiʃ]	
IPA Actual:	[muʧ	inɑ	kɛɹiəs	ʤɔɹʤ	isnagʊʃu	mʌnkis]	

Billy uses the lexeme MACARONI four times in the corpus. Two of these tokens Billy produces with Cree diminutive morphology, and two tokens without. Example (50) illustrates Billy's use of Cree

diminutive morphology on the lexeme MACARONI. Note that Billy produces *macaroni* as something closer to /roni/ than /macaroni/, although the full word *macaroni* is represented in the target forms. When Billy produces *macaroni* as a single-word utterance, Billy produces more of the full target /macaroni/. Billy assigns inanimate grammatical gender to *macaroni*.

(50) *Nichîh miyikw âsh macaronish âi Santa Claus.* (Billy, 04;07.26)

ni-	chîh	miy	-ikw	âsh	**macaroni**	-sh	âi	**Santa Claus**
1-	past	give	-thm.inv	p,emph		-dim	pro,hes	name
1-	pvb	vta	-thm.inv	p,emph	n	-dim	pro,hes	n

Santa Claus gave me some macaroni.

IPA Target: [ɪndʒi	ˈmikʷ	aʃ	mækəˈɹonis	ˈsænta	ˈklas]		
IPA Actual: [əndʒɪ	mikʷ	ɑʃ	ɹɐwnis	sandɪ	klɔx]		

Example (51) below highlights Billy's use of Cree diminutive morphology on the lexeme SKIDOO. The diminutive morphology is not obligatory on *skidoo* in this case, and the presence of the diminutive morphology in the orthography and IPA Target indicates Billy's productive use of the morpheme.[29] Notice that the adjective *yellowish* is also marked with diminutive, agreeing with the noun. This utterance is the only example of Billy using diminutive agreement morphology on an English-origin adjective. The lexeme YELLOW also occurs repeatedly within the database without diminutive morphology. This example is repeated as (144) in Section 4.2 of this chapter.

29 In the video recording, Billy is playing with a small toy skidoo when he produces this utterance.

(51) *Wâshkich iskîtûsh mikw yellowish kâ ishinâkushit.* (Billy, 06;00.17)

wâshkich	**iskîtû**	-sh	mikw	**yellow**	-ish
long.ago	skidoo	-dim	just		-dim
p,time	na	-dim	p,manner	adj	-dim

kâ	ishi	-nâku	-shi	-t
pvb,conj	thusly	-appear	-dim	-3.s
pvb,conj	initial	-vai.fin	-dim	-CIN

A long time ago, (I had) just a little yellow skidoo.

IPA Target:	[ˈwaʃgɪʧ	ˈʃkidoʃ	mʊkʷ	jæləweʃ	ge	ʃnʌgwəʃɪtʰ]
IPA Actual:	[...	ʃgɪduʃ	mokʰ	jɛloeʃ	...	]

SKIDOO is also the best example in the database of Billy producing a lexeme both with and without diminutive morphology. I provide (52) as an example of *skidoo* occurring without diminutive morphology. Here, Billy assigns animate grammatical gender to *skidoo*.

(52) *Misinâpiskihwâkiniww â iskîtû utâh.* (Billy, 06;00.17)

Misin	-âpisk	-ihw	-âkiniw	-w	â	**iskîtû**	utâh
write	-metal,mineral	-vta.fin	-passive.3	-3	p,quest	skidoo	here
initial	-medial	-vta.fin	-passive	-IIN	p,quest	na	p,dem.location

Is the skidoo going to be filmed like this?

IPA Target:	[psnʌbˈskwagəno	a	skidu	ˈʊta]		
IPA Actual:	[ɪpsnɑpskʰɑgənol	ɑ	sgido	ɪdæ]		

I have also identified cases of an English-origin noun occurring in isolation with Cree diminutive morphology. See (53) below for an example of this. The lexeme PUPPY occurs four times in the database, and is marked with diminutive morphology for all four of those instances. Note also that unlike MONKEY, Billy correctly uses the phoneme [ʃ] in the actual production. The noun *puppy* is inherently diminutive (being the diminutive form for dog in English), which could explain why Billy never produces *puppy* without Cree diminutive morphology.

(53) *puppyish* (Billy, 05;05.22)

puppy -ish
-dim
n -dim
little puppy

IPA Target: [pʰʌpʰiʃ]
IPA Actual: [pʊpiʃ]

This use of "double" morphology in this case suggests that Billy is not analyzing the English diminutive marker as such; rather *puppy* appears to be analyzed as mono-morphemic. However, the Cree equivalent for *puppy* (*achimu<u>shish</u>*) is also realized with double diminutive markings on the Cree word for *dog* (*atim*): this could also explain Billy's double marking.

In summary, Billy uses diminutive morphology on a variety of English-origin nouns. Some of these occur within the database both with and without diminutive morphology, while for others, Cree diminutive morphology is the only morphology attested.

Obviative: Billy produces Cree obviative morphology on a total of 12 tokens and seven lexemes in the database. These lexemes are BROTHER, CAMERA, COLOUR, GOALIE STICK, HEART, RAIN, and SKIDOO. For three of these seven lexemes, Cree obviative morphology is the only morphology attested: COLOUR, HEART, and RAIN.

The other four lexemes are attested with a variety of morphology. In addition to Cree obviative morphology, the lexeme CAMERA is attested with Cree locative morphology, GOALIE STICK is attested with genitive Cree morphology, and SKIDOO is attested with locative and diminutive morphology. The lexeme BROTHER is the only lexeme in the database to be attested with multiple types of Cree morphology on a single token, and will be discussed subsequently in examples (57) and (58). Of the 12 tokens in this category, five tokens are from the three lexemes for which Cree obviative morphology is the only morphology attested.

In Table 23, I provide a breakdown of the sessions in which Billy produces Cree obviative morphology throughout the dataset. In the first column I provide, the total number of tokens that

are attested with Cree obviative morphology within the CreeMorph lexeme category. In the second column, I provide the total number of English-origin noun tokens that Billy produces with Cree obviative morphology within the database.

Table 26: Tokens of Cree Obviative Morphology

Session #. B3 Age	**No. Tokens with Cree Obviative Morphology (CreeMorph Lexemes)**	**No. Tokens with Cree Obviative Morphology (All Lexemes)**
1. 04;06.08	0	1
2. 04;07.26	1	1
3. 04;09.14	2	2
4. 05;00.13	0	0
5. 05;02.12	0	1
6. 05;05.00	0	0
7. 05;05.22	0	0
8. 05;06.27	1	1
9. 05;10.06	3	3
10. 06;00.17	3	3
Total	10	12

Example (54) below illustrates Billy's use of obviative morphology on the English-origin noun *colour*. In this example, most of the IPA Actual is missing due to poor sound quality, but Billy does clearly produce the obviative morpheme /-iyiw/ on *colour* in this utterance. I have not identified any tokens of the lexemes COLOUR or RAIN occurring without Cree obviative morphology.

(54) *... kutichiyiu colouriyiw.* (Billy, 06;00.17)

... kutich -iyiu **colour** -iyiw
... other -obv -obv
... pro,alt -obv n -obv
(You are using) a different colour.[30]

IPA Target: [... kədɪʤijo kʰʌləɹijo]
IPA Actual: [... kʰaləɹijo]

Cree obviative morphology is also attested on English-origin nouns in single-word utterances. For example, in (55) below I provide the compound word *goalie stick* with Cree inanimate obviative morphology as a single-word utterance. Recall that Billy also produces Cree genitive morphology on other tokens of this same lexeme.

(55) *goalie stickiyiw* (Billy, 05;10.06)

goalie stick -iyiw
-obv
n -obv
Goalie stick.

IPA Target: [koli stɪkju]
IPA Actual: [goli stɪkjo]

I have only identified one instance in the database where Billy does not produce the obviative morphology outlined in a target form. In example (56), the verb BE displays agreement morphology between the subject *fireiyiw* and the verb *tikuniyiw*. However, Billy does not produce the expected /-iyiw/ obviative on the subject. Billy does produce the obviative agreement morphology on the verb, so he is classifying *fire* as obviative without marking it. This could be due to a production error.

30 The beginning of the utterance is unintelligible.

(56) Fireiyiw tikuniyiw. (Billy, 05;00.13)

fire	-iyiw	tikun	-iyiw
	-obv	be	-obv
n	-obv.inan(n)	initial.vii	-obv.inan(n)

There's a fire.

IPA Target: [ˈfajəɹio təgʊniə]
IPA Actual: [fajəɹ dəgʊnju]

Billy assigns inanimate gender to *fire*, as evidence by the inanimate intransitive verb-stem. Most uses of the Cree equivalent for *fire* in Cree are also inanimate (i.e. open fire, hell fire). Billy does use the Cree equivalent for *small fire* (ishkutâuish) in the same session (shown as (74) in Section 1.2), without obvious gender assignment.

In summary, Billy produces Cree obviative morphology on a variety of English-origin nominal lexemes. The majority of these lexemes also have tokens attested with other types of Cree morphology within the database. I have identified only three lexemes for which Cree obviative morphology is the only morphology attested, indicating some degree of grammatical productivity on his part.

Genitive & Obviative (BROTHER**)**: The English-origin lexeme BROTHER occurs twice in the database, and provides insight into how Billy is incorporating these English-origin lexemes into his lexicon. Examples (57) and (58) suggest that Billy has two different semantic categories of the English and Cree equivalents for BROTHER. First, example (57) provides a basic snapshot of how Billy uses the English-origin BROTHER. *Brother* occurs with Cree third person genitive morphology, as well as Cree obviative morphology. Note that the transcriber did not hear Billy produce the genitive prefix /u-/ on *ubrotherimh*. This prefix is obligatory in Cree, so the translator included it in the orthography and the IPA Target regardless.[31]

31 Note that although *brother* is shown in the target form to be the only English-origin word in this utterance, the IPA Actual could also be interpreted as "That's her brother-im na?" [haʒ əɹ bɹʌðəɹɪmh na].

(57) *Âyukw an ubrotherimh, nimâh?* (Billy, 05;10.06)

âyukw	an	u-	**brother**	-im	-h	nimâh
that's.the.one.who	that	3-		-poss	-obv	no
pro,focus	p,dem.dst	3-	n	-poss	-obv	p,neg

That's her brother, isn't it?

IPA Target:	[ajo̞k	ɪn	opɹʌðəɹɪmh	nɪmæ]
IPA Actual:	[haʒəɹ		bɹʌðəɹɪmh	na]

In example (58), Billy uses the Cree and English equivalencies for *brother* together. In the translation, we can see that Billy indicates that a male relative used to be his mother's *ushîmish-h* (younger sibling), and is now instead her *ubrotherimh* (brother). This utterance thus suggests some level of semantic association between the Cree and English forms.

Of particular interest, Billy uses the genitive possessive suffix /-im/ with the English-origin *ubrotherimh* in both (57) and (58), as he does for all English-origin nouns marked with genitive morphology, indicated by the /-u/ prefix. However, the genitive possessive suffix /-im/ would be ungrammatical on the Cree equivalent of the word. In (58), Billy correctly produces the Cree equivalent *ushîmish-h* with the genitive prefix /u-/ and without the /-im/ suffix.

(58) *Nimui shâsh ushîmish-h û aniyâh shâsh ubrotherim-h û aniyâh.* (Billy, 05;10.06)

nimui	shâsh	u-	shîm	-ish	-h	û	ani	-yâh
not	already	3-	younger.sibling	-dim	-obv	this	that	-obv
p,neg	p,time	3-	nad	-dim	-obv	p,dem.pxl	p,dem.dst	-obv

shâsh	u-	**brother**	-im	-h	û	ani	-yâh
already	3-		-poss	-obv	here	that	-obv(an)
p,time	3-	n	-poss	-obv	p,dem	p,dem.dst	-obv(an)

He's not her "ushîmish-h" [younger sibling] anymore, he's her "ubrotherimh" [brother] now.

IPA Target:	[nəmuj	ʃaʃ	oʃimʃ	u̟nija	ʃaʃ	o̟pɹʌðəɹɪmh	ənijah]
IPA Actual:	[mwi	ʃæʃ	oʃimʃ	ɪnja	has	obɹɛðəɹəmh	ɪnjɑ]

In (58), the transcribers did not detect the obviative /-h/ on the IPA Target or the IPA Actual for *ushîmish-h*. The obviative /-h/ preceded by [ʃ] is difficult for non-speakers of Cree to discern. As obviative /-h/ is missing from both the transcribed tiers but included in the orthography, it is

possible that Billy did produce the suffix. The transcribers were able to discern the suffix when preceded by the nasal [m] on *ubrotherimh*.

Examples (57) and (58) are not the only time that Billy indicates he has a different semantic meaning for the English term compared to its Cree equivalent. For example, the English-origin nominal lexeme ROCK is used in both Cree and English in the same utterance. In (59), he uses diminutive morphology on the Cree term for ROCK (*asini*) for *small rocks* or *pebbles* (producing *asinish-h*), and uses the English-origin word *rock* for larger rocks. For an adult speaker, the Cree and English terms for ROCK are synonymous. Of note, Billy is electing to use diminutive morphology on the Cree-origin term, but avoiding it on the English-origin equivalent.

(59) *Rocks, asinish-h âh ihtikuhch-h.* (Billy, 05;10.06)

rock	**-s**	asini	-sh	-h	âh	ihtikuh	-ch	-h
		rock	-dim	-inan.pl	pvb,conj	be	-0.s	-obv
n	-pl	ni	-dim	-inan.pl	pvb,conj	initial.vii	-CIN	-obv

Rocks, when there are pebbles.

IPA Target: [ɹɒks əniʃ jah tʰkʷʧ]
IPA Actual: [ɑks ənih ɑ dʊkʰʧ]

As in (58), the transcriber of (59) did not detect the obviative /-h/ on the IPA Target or the IPA Actual *asinish-h* (the /-h/ again being preceded by [ʃ]), but the translator included the obviative in the orthography. As the marker is also obligatory here, we cannot conclusively determine whether Billy produced the obviative morphology.

In summary, I have outlined Billy's productions of Cree morphology on English-origin nominal lexemes, namely locative, genitive, plural, diminutive, and obviative morphology. I have shown that Billy's production are varied, and that he will often employ more than one type of Cree morphology on a single English-origin lexeme. He appears to be applying Cree morphology to English-origin nouns productively, often electing to employ Cree morphology to some but not all tokens of a single lexeme. I now turn to Billy's use of English nominal morphology.

1.2 English-Origin Nouns with English Morphology

In this section, I examine Billy's productions of English nominal morphology on his productions of English-origin nominal lexemes. I have identified 36 different English-origin nominal lexemes in the database for which English morphology is the only morphology attested. See (60) for a complete listing:

(60) AFTERNOON, ANGEL, ANIMAL, BACK, BUSH, CANDY CANE, CARTOON, CHOPPER, CHRISTMAS LIGHT, CLASS, CLASSROOM, CRACKER, DAD, DIRTBIKE, DOOR, DROP, EGG, EYE, FACE, FRUIT LOOPS, HEAD, HOCKEY PLAYER, MEATBALL, MIDDLE, MOM, MORNING, NAME, NECK, PIRATE, RAINBOW, REINDEER, ROCK, SKATE, THING, TIME, TIRE

English morphology also occurs on seven other English-origin nouns: BICYCLE, CAR, FRIEND, ROOM, SLED, TREE, and TOY. As I indicated in Section 1.1, these lexemes will be discussed in greater detail in Section 1.3 below.

Billy produces three different types of English morphology on English-origin nouns. These are: locative, genitive, and plural. This list is a proper subset of the Cree nominal morphology attested in the database. The two Cree types of morphology that do not appear on this list either do not occur in English (obviative), or are less commonly used (diminutive). I also include an additional "catch-all" type of morphology in this classification: phrasal morphology. I will describe each of these in turn. Of note, Table 27 does not include the tokens of lexemes attested with both Cree and English morphology, only those for which English morphology is the only morphology attested.

Table 27: Types of English Morphology Attested on EngMorph Lexemes

Type of Eng Morphology	**# Tokens**
With English Morphology	61
Plural	35
Genitive	9
Plural & Genitive	1
Locative (Prepositional Phrase)	13
Other Phrasal	3
Without Morphology	12
Total	73

In Table 28, I provide an overview of Billy's productions of English morphology on all English-origin nouns in the database, including those attested on the tokens of BothMorph lexemes. In this table, tokens can be counted in multiple categories if they are attested with multiple types of English morphology. As in Section 1.1, the inclusion of all English-origin nominal lexemes provides a broader perspective of Billy's use of English nominal morphology on English-origin nouns. When taking into account all of Billy's English-origin nouns, plural morphology remains the most common type of English morphology attested, while locative morphology remains the least common. Recall that in Section 1.1, plural morphology was the least common type of Cree morphology, and locative was the most common type. The three tokens of phrasal morphology will be discussed separately at the end of this section.

Table 28: Complete Token Count for each Type of Cree Nominal Morphology Attested

Type of English Morphology	**# Tokens: All Lexemes**
Plural	45
Genitive	15
Locative	13
Other Phrasal	3

Plural: English plural morphology is the most common type of English nominal morphology to occur on English-origin nouns in the database. Billy produces English plural morphology on a total of 45 tokens and 27 lexemes. These lexemes are listed in (61).

(61) ANGEL, ANIMAL, BICYCLE, CANDY CANE, CAR, CARTOON, CHOPPER, CHRISTMAS LIGHT, CLASS, CRACKER, DIRTBIKE, DOOR, DROP, EGG, EYE, FACE, FRUIT LOOPS, HOCKEY PLAYER, MEATBALL, PIRATE, REINDEER, ROCK, SKATE, TIME, TIRE, TOY, TREE

Of these 27 lexemes, only five are attested with other types of Cree or English nominal morphology within the database. These five lexemes are: BICYCLE, CAR, EYE, TOY and TREE. For the other 22 lexemes, English plural morphology is the only morphology attested. The lexeme EYE is attested with English genitive morphology, while BICYCLE, CAR, TOY and TREE are attested with both Cree and English morphology. Of the 45 tokens in this category, 35 tokens are from the 22 lexemes for which English plural morphology is the only morphology attested.

In Table 29 I provide a breakdown of the sessions in which Billy produces English plural morphology within the database. In the first column I provide the total number of tokens that are attested with English plural morphology within the EngMorph lexeme category. In the second column, I provide the total number of English-origin nominal tokens that Billy produces with English plural morphology within the database.

Table 29: Tokens of English Plural Morphology

Session #. B3 Age	No. Tokens with English Plural Morphology (EngMorph Lexemes)	No. Tokens with English Plural Morphology (All Lexemes)
1. 04;06.08	5	7
2. 04;07.26	2	3
3. 04;09.14	2	2
4. 05;00.13	3	10
5. 05;02.12	9	2
6. 05;05.00	2	2
7. 05;05.22	1	2
8. 05;06.27	4	4
9. 05;10.06	6	7
10. 06;00.17	2	2
Total	36	45

Example (62) illustrates a production with English plural morphology on the English-origin noun CARTOON. Although the preverb was not transcribed in the IPA Actual due to background noise, Billy does clearly produce the English morpheme /-s/ on *cartoon*. As the object of a TI class 2 verb, Billy assigns *cartoons* inanimate gender (*/-ihtâ/* is misanalyzed as an AI+O final in (62)).

(62) *Cartoons niwîh nânâkichihtân.* (Billy, 05;06.27)

cartoon	**-s**	ni-	wîh	nânâkich	-ihtâ	-n
		1-	want	see	-vai+o	-1/2
n	-pl	1-	pvb	initial	-vai+o	-IIN

I want to watch cartoons.

IPA Target: [kɑɹˈtuːns nuih nænægʊʧstæ]
IPA Actual: [kʰaɹtos ... nənɪmɪʧda]

In example (63), the English-origin noun TIRE is attested with English plural morphology. Billy assigns TIRE inanimate gender, as indicated by his choice of an inanimate intransitive verb-stem. The Cree equivalent (*kâtihtipiyich*) also carries inanimate gender.

(63) *Nimwâch ihtikunh utih tires.* (Billy, 05;02.12)

nimwâch	ihtikun	-h	utih	**tire**	**-s**
p,neg.emph	be	-0.pl	here		
p,neg.emph	initial.vii	-IIN	p,dem.location	n	-pl

There are no tires here.

IPA Target: [ˈmɔːtʃ dɪkonh otʰ ˈtajəɹs]
IPA Actual: [mʊʧ dəgʌn ʊtʰ tajəɹs]

In the target form of (63), the Cree inanimate intransitive verb *ihtikun* (*be* with locative morphology) is inflected for inanimate plural agreement (/-h/ suffix), in spite of the fact that the token's plural morphology is in English, not Cree. Note however that the plural inanimate subject agreement /-h/ doesn't appear in the actual form. Recall that while the word-final suffix /-h/ (inanimate plural or animate obviative) is represented orthographically by <h>, it represents aspiration so subtle that it is notoriously hard to hear.[32] For this reason, in cases like (63) where either the inanimate plural or animate obviative should appear as /-h/, but is missing from one or both IPA transcriptions, we cannot take this as reliable evidence of the Billy's failure to produce it. As discussed in Section 1 of Chapter 3, the inanimate plural marker /-h/ can also cause stress-shift, but it does not appear to do so here.

Example (64) highlights another instance of Billy producing /-h/ as inanimate plural agreement morphology with an English argument. Billy produces the English-origin *drop* with the English plural morpheme /-s/. He assigns *drops* inanimate grammatical gender as shown by his use of inanimate intransitive verb-finals.

The Cree translator has again included the /-h/ marker in the orthography of the passive verb-complex *chîh pichistinikiniw-h*. In this case however, the transcriber has not included the marker in the IPA Actual or the IPA Target. Again, we cannot ascertain with certainty if Billy did not produce the inanimate plural agreement morphology, or if the transcriber was unable to hear it. Note also Billy's use of the singular noun *eye*.

32 See Section 1 of Chapter 3 for more information on /-h/# and stress shift.

(64) *Drops wâsh chîh pichistinikiniw-h my eye.* (Billy, 04;09.14)

drop	**-s**	wâsh	chîh	pichist	-in	-ikiniw	-h
		emph	past	release	-by.hand	-passive.3	-0.pl
n	-pl	p,discourse	pvb	initial	-vtr.fin	-passive(II)	-IIN

my **eye**

poss.pron.1 n

Drops were put in my eye.

IPA Target: [ˈdɹɑps waʃ gʌ bɪtsnɪgəno maj aj]
IPA Actual: [ʤɹɑps ɑʃ gə bɪtsdigənano maj ʌj]

In other productions of Cree verb-complexes with English-origin nouns attested with source-language morphology, Billy does produce Cree agreement morphology on the verb, despite the fact that the morphology on the noun is of English-origin.

I provide (65) below as a more typical example of Billy's production of Cree verbal agreement morphology with an English-origin argument. Here, Billy produces the English-origin lexeme EYE with English plural and genitive morphology. Billy uses the plural verbal suffix /-ch/ (represented in the IPA Actual as [-s]) in the Cree verb-complex to agree with this English-origin noun. This agreement occurs despite the fact that *eyes* is attested with English plural morphology as opposed to Cree plural morphology. Billy assigns inanimate grammatical gender to *eyes* with his selection of the inanimate intransitive verb-final /-nâkuh/.

(65) *Âi red kâ ishinâkuhch my eyes.* (Billy, 04;06.08)

âi	**red**	kâ	ishi	-nâkuh	-ch	**my**	**eye**	**-s**
pro,hes		pvb,conj	thusly	-appear	-3.pl			
pro,hes	adj	pvb,conj	initial	-vii.fin	-CIN	poss.pron.1	n	-pl

My eyes were red.

IPA Target:	[aj	ɹɛt	kej	ɪʃnahkʷʧ	maj	ajs]	
IPA Actual:	[aj	ɹɛd	ga	jʃnʌks	maj	ajs]	

Notably, Billy uses the singular *eye* in example (64), while he produces the plural *eyes* in (65). Of the 27 lexemes that occur in the database with English plural morphology, 11 lexemes are attested with both plural and singular forms. These lexemes are BICYCLE, CANDY CANE, CAR, DOOR, EYE, HOCKEY PLAYER, PIRATE, REINDEER, TIME, TOY, and TREE. The remaining lexemes do not have any attested tokens in the database without English plural morphology, and are never produced as singular nouns.

For some of these consistently plural nouns, we can infer that Billy would be more likely to encounter them exclusively in their plural form (like *cartoons*, example (62)). For other plural nouns, I have identified no pattern as to why he might elect to use these English-origin nouns exclusively as plural nouns. However, many of these lexemes only occur once in the database. It is possible that with more tokens of these lexemes, we would see greater morphological variation in Billy's productions. Example (65) is repeated as (76) and (140) for further discussion.

Examples (66)-(67) illustrate Billy's use of the singular and plural forms of the lexeme DOOR. Billy uses the plural *doors* once in Session 4 (example (66) below), and the singular *door* once in each of Sessions 4 and 5 (his use in Session 5 is represented in (67) below). In (66), Billy's production of *doors* with English plural morphology is represented in the IPA Actual, but most of the recording contains too much noise interference for transcription. The translator includes the Cree plural agreement morphology on the verb *âh ihtâch*, either because she heard Billy produce the marker, or because it would be required in this grammatical context. According to the translator's orthographic representation of the utterance, Billy assigns inanimate gender to *doors* as the object of the TI verb *wâpihtim*. The Cree equivalent for *doors* (*chishtuhkin*) is also inanimate.

(66) *Âh ihtât wâpihtim mâ, doors âh ihtâch!* (Billy, 05;00.13)

âh	iht	-â	-t	wâp	-iht	-im	mâ
pvb,conj	be	-vai.fin	-3.s	light	-by.head	-vti.thm	emph
pvb,conj	initial	-vai.fin	-CIN	initial	-vti.fin	-vti.thm	p,discourse

door	**-s**	âh	iht	-â	-ch	
		pvb,conj	be	-vai.fin	-3.pl	
n	-pl	pvb,conj	initial	-vai.fin	-CIN	

Look at it, where the doors are!

IPA Target:	[ˈaj	tɛtʰ	ˈwʌpʰtʰm	ma	dɔɹˈs	aj	tɛʧ]
IPA Actual:	[haj	tʌt	...		dɔɹˈs	...	]

By contrast, (67) shows Billy using the lexeme DOOR without English plural nominal morphology.

(67) *Mâutih door, nâ?* (Billy, 05;02.12)

mâu	-tih	**door**	nâ
this	-loc		p,quest
p,dem+G.pxl	-loc	n	p,quest

The door is here, right?

IPA Target:	[ˈmawətʰ	ˈdɔɹ	ˈna]
IPA Actual:	[mawɪθ	dɔɹ	na]

Taken together, Billy's direct contrast of *eye* and *eyes* in (64)-(65), *doors* and *door* in (66)-(67), as will as his use of Cree agreement morphology in (65) suggest that he has productive use of the plural English morpheme /-s/, and that he can intertwine it fluently with his Cree grammar.[33]

Billy also produces several clear examples of verbal agreement. I give these in (65), (68), (69), and (70). In (68), Billy produces the English-origin noun *eggs* with English plural morphology. The Cree verb *âh pâtikiniwich-h* (they are brought) agrees with the noun with the inanimate plural suffix /-h/. The Cree equivalent for EGG is inanimate.

33 It could be hypothesized that that Billy has acquired /-s/ as a Cree plural morpheme. This hypothesis is however unlikely, since I have identified no examples of Billy using English morphology on a Cree-origin word.

(68) *Eggs âh pâtikiniwich-h.* (Billy, 05;10.06)

egg	**-s**	âh	pât	-ikiniwi	-ch	-h
		pvb,conj	bring	-passive.3	-3.s	-0.pl
n	-pl	pvb,conj	initial	-passive	-CIN	-CIN

When eggs are brought.

IPA Target: [eks a patɛkanoʧ]
IPA Actual: [egs ɑ bɑdɑgənoʧ]

In (69), Billy produces the English-origin noun *hockey players* with English plural morphology. The Cree verb *ihtich* (they do) agrees with the noun by carrying the third person plural verbal suffix /-ch/.

(69) *Hockey players âh ihtich.* (Billy, 06;00.17)

hockey	**player**	**-s**	âh	ihti	-ch
			pvb,conj	do	-3.pl
n	n	-pl	pvb,conj	initial	-CIN

The hockey players do it.

IPA Target: [hɑkʰi ˈpʰlejərz a jtʰɛʧ]
IPA Actual: [hakʰə plejəɹs ɛ tʰɛʧ]

In (70), Billy produces third person plural agreement morphology multiple times in the utterance, agreeing with the English-origin noun *angels*, which is attested with English plural morphology. He produces the third person plural verbal suffix /-ch/ on the verb-complex, and also produces the third person plural pronoun *wîyiwâu*. He assigns animate grammatical gender to the English-origin noun, as indicated by his selection of the animate intransitive verb-final /-u/.

(70) *Apishîsh wâsh late kiwishimuch wîyiwâu angels nimâh.* (Billy, 05;10.06)

apishîsh	wâsh	**late**	kiwishim	-u	-ch
little	emph		go.to.bed	-vai.fin	-3.pl
p,quant	p,discourse	adv	initial	-vai.fin	-CIN

wîyi	-wâu	**angel**	**-s**	nimâh
3	-pl			no
pro	-pl	n	-pl	p,neg

The angels go to bed a little later, don't they?

IPA Target:	[ɪpʃiʃ	waʃ	lejtʰ	kuʃəmuʧ	wijwɑw	enʧəls	nɪmæ]
IPA Actual:	[pe̯ʃiʃ	ɑʃə	led	goʃumwuʃ	uijɑ	nendʒəls	na]

As a final observation, while children acquire productive use of a morpheme, often they will produce over-generalization errors (Bellugi & Brown 1964; Slobin 1971; Brown 1973; Bybee & Slobin 1982; Marcus et al. 1992). I can find only one possible example of Billy producing an over-generalization error with English plural morphology. In example (71), Billy uses a plural form of the noun REINDEER.

(71) *reindeers* (Billy, 04;06.08)

reindeer	**-s**
n	-pl

Reindeers.

IPA Target: [ɹentirs]
IPA Actual: [ɹendɪɾəɹs]

In English, the plural of REINDEER is *reindeer* not *reindeers*. This however is not a strong example because *reindeers* is a common over-generalization error in English. It is likely that Billy acquired *reindeers* from his parents and caregivers in this form. This example thus provides further evidence that Billy has productive use of the English plural morpheme /-s/, as he produces *reindeer* both with and without plural morphology within the database.

Genitive: English genitive morphology is the second most common type of English nominal morphology to occur on English-origin nouns in the database. Unlike Cree genitive morphology,

English possessive morphology appears either on the possessor noun (e.g., Anne's car) or integral to the features of a (possessor) pronoun (e.g., my/your/her car). I have identified significantly fewer tokens of English genitive morphology than of English plural morphology.

Billy produces English genitive morphology on a total of 15 tokens and nine lexemes. These lexemes are listed in (72).

(72) CLASSROOM, DAD, EYE, FRIEND, MOM, NAME, NECK, ROOM, SLED

For five of these nine lexemes, English genitive morphology is the only morphology attested in the database. These five lexemes are: CLASSROOM, DAD, MOM, NAME, and NECK. The other four lexemes are attested with other types of Cree or English nominal morphology within the database. The lexeme EYE is also attested with English plural morphology, while ROOM, SLED, and FRIEND are attested with both Cree and English morphology within the database. Of the 15 tokens in the category, nine tokens are from the five lexemes for which English genitive morphology is the only morphology attested.

In Table 30, I provide a breakdown of the sessions in which Billy produces English genitive morphology. In the first column, I provide the total number of tokens that are attested with English genitive morphology within the EngMorph lexeme category (including those lexemes with tokens attested with other types of English morphology). In the second column, I provide the total number of English-origin noun tokens that Billy produces with English genitive morphology.

Table 30: Tokens of English Genitive Morphology

Session #. B3 Age	No. Tokens with English Genitive Morphology (EngMorph Lexemes)	No. Tokens with English Genitive Morphology (All Lexemes)
1. 04;06.08	2	2
2. 04;07.26	2	2
3. 04;09.14	1	2
4. 05;00.13	1	4
5. 05;02.12	0	0
6. 05;05.00	2	3
7. 05;05.22	0	0
8. 05;06.27	0	0
9. 05;10.06	2	2
10. 06;00.17	0	0
Total	10	15

The only English genitive pronoun that Billy produces is the first person singular pronoun MY. This is in direct contrast with his use of Cree genitive morphology, of which he produces first person singular and plural, as well as third person singular on his English-origin nouns. Billy also generally produces English genitive structures in relatively simple constructions, similar to those I give in examples (73)-(75). I also found no evidence of genitive verbal agreement with an English noun carrying either Cree or English nominal morphology, which is consistent with both Cree and English grammar.

The lexemes MOM, NAME, and NECK each occur twice in the database, always with English genitive morphology. The lexemes DAD and EYE occur with English genitive morphology once each in the database. The lexeme EYE occurs a second time in the database with both English genitive and plural morphology.[34]

34 The lexeme EYE will be discussed further in the section entitled "Plural & Genitive" below.

Example (73) illustrates Billy's use of genitive morphology on the English-origin noun *neck*. In this example, he treats *my neck* as animate, selecting a AI verb-stem. The Cree equivalents for "his/her/its neck" are all inanimate in Cree.

(73) *My neck âshin.* (Billy, 04;07.26)

my	**neck**	âshin
		be
poss.pron.1	n	initial.vai

That's my neck.

IPA Target: [maj nɛk ˈwɑʃɪn]
IPA Actual: [mæ ˈnɪk wʌʃɪn]

Of the nine lexemes discussed in this section, three are attested both with and without English genitive morphology. These lexemes are CLASSROOM, FRIEND, and SLED. In examples (74) (repeated from (36)) and (75), I provide two tokens of the lexeme CLASSROOM both with and without English genitive morphology. Note that these two utterances are attested within the same session, and are part of the same conversation.

(74) *Ishkutâuish, my classroom.* (Billy, 05;00.13)

ishkutâu	-ish	**my**	**classroom**
fire	-dim		
ni	-dim	poss.pron.1	n

My classroom is on fire.

IPA Target: [iʃˈkʌdəwəʃ maj klæsɹʊm]
IPA Actual: [ɪʃgʌdɑʃ mʌj klæsɹʌm]

(75) *Anitâh classroom.* (Billy, 05;00.13)

ani	-tâh	**classroom**	
that	-loc		
p,dem.dst	-loc	n	

In the classroom.

IPA Target: [ˈəndə ˈklæsɹʊm]
IPA Actual: [da klæsdʌm]

Although Billy does produce some genitive constructions in English, he does not produce them with the same variety of genitive morphology that he displays in Cree. Billy produces only the lexeme CLASSROOM both with and without English genitive morphology. This suggests that Billy's use of Cree first person genitive morphology on English-origin nouns may be productive, although there is no evidence that he has acquired productive use of any other English-origin genitive forms, such as first person plural or second person singular.

Plural & Genitive: Billy produces only one lexeme that is attested with two different types of English nominal morphology on the same token. The lexeme EYE is attested with both English plural and English genitive morphology on a single token in Session 1. Billy later produces the same lexeme without English plural morphology (albeit with English genitive morphology) in Session 3. In example (76) (repeated from (65) above), we can see both the English plural and genitive morphology of *my eyes* represented in the IPA Actual. The third person plural verbal agreement morpheme /-ch/ (represented as [s] in the IPA Actual) indicates agreement between the Cree verb *kâ ishinâkuhch* and the English plural object *eyes*. This example is repeated again as (140) to discuss Billy's use of the English-origin RED.

(76) *Âi red kâ ishinâkuhch my eyes.* (Billy, 04;06.08)

âi	**red**	kâ	ishi	-nâkuh	-ch	**my**	**eye**	**-s**
pro,hes		pvb,conj	thusly	-appear	-3.pl			
pro,hes	adj	pvb,conj	initial	-vii.fin	-CIN	poss.pron.1	n	-pl

My eyes were red.

IPA Target:	[aj	ɹɛt	kej	ɪʃnahkʷʧ	maj	ajs]
IPA Actual:	[aj	ɹɛd	ga	jʃnʌks	maj	ajs]

I have found no evidence of Billy using English genitive morphology productively with the lexeme EYE. Billy produces *my eye* both with and without plural morphology (see (77) repeated from example (64) for comparison), but does not produce *my eye* without genitive morphology (as *eye*) in the database.

(77) *Drops wâsh chîh pichistinikiniw-h my eye.* (Billy, 04;09.14)

drop	**-s**	wâsh	chîh	pichist	-in	-ikiniw	-h
		emph	past	release	-by.hand	-passive.3	-0.pl
n	-pl	p,discourse	pvb	initial	-vtr.fin	-passive(II)	-IIN

my **eye**

poss.pron.1 **n**

Drops were put in my eye.

IPA Target: [ˈdɹɑps waʃ gʌ bɪtsnɪgəno maj aj]
IPA Actual: [ʤɹɑps ɑʃ gə bɪtsdigənanod mʌj aj]

In both (76) and (77), Billy assigns EYE inanimate gender, selecting an inanimate intransitive verb-final in each case. In both utterances, *my eye(s)* is also the subject of an inanimate intransitive verb. The Cree equivalent to *his/her/its eye* (*ushchîshikw*) is also inanimate, so here Billy selects the same grammatical gender for a body part as its Cree equivalent. Notably, in (73) Billy produced another body part whose Cree equivalent is inanimate – the lexeme NECK – but assigned *neck* animate gender. We might not expect Billy to treat two English nouns that are both inanimate body parts in Cree differently in terms of their gender assignment. We might instead expect him to assign both of these English-origin nouns the same grammatical gender. The reason for Billy's differing gender assignment for these two nouns remains unknown.

Locative: English locative morphology is the least common type of English nominal morphology to occur on English-origin nouns in the database. In Cree, locative case is expressed as a bound morpheme. In English, prepositional phrases are the functional equivalent of Cree locative case (for example, *in the bush*). I have classified *in the bush* as three English-origin tokens, with the noun token *bush* carrying locative morphology.

Following this classification, I have identified English locative morphology on a total of 13 tokens and five lexemes. These lexemes are listed in (78).

(78) AFTERNOON, BACK, BUSH, MIDDLE, MORNING

Of note, Billy produces locative morphology all tokens of these five lexemes for which English locative morphology is the only morphology attested. None of these five lexemes are attested with any other type of morphology in the database, and none of the tokens are attested without English locative morphology. This suggests that English locative case is not productive for Billy, and is more likely a memorized form of the word. I have also found no evidence of Cree verbal agreement with an English noun carrying either Cree or English locative morphology. Recall that in (42), Billy produced agreement morphology with the Cree locative *computer roomihch*.

In Table 31, I provide a breakdown of the sessions in which Billy produces English locative morphology within the database. I only include one column here, as lexemes with English locative morphology are not attested with any other type of morphology.

Table 31: Tokens of English Locative Morphology

Session #. B3 Age	**No. Tokens with English Locative Morphology (All Lexemes)**
1. 04;06.08	0
2. 04;07.26	1
3. 04;09.14	0
4. 05;00.13	3
5. 05;02.12	0
6. 05;05.00	0
7. 05;05.22	4
8. 05;06.27	0
9. 05;10.06	1
10. 06;00.17	4
Total	13

Example (79) illustrates Billy's use of an English locative construction on the English-origin noun BACK. In this example, *in the back* appears utterance-initial, in the same phrasal location that you might expect a Cree locative noun to occur.

(79) *In the back nichîh apiwânân.* (Billy, 06;00.17)

in	**the**	**back**	ni-	chîh	ap	-i	-w	-â	-nân
			1-	past	sit	-vai.fin	-relational	-vai.fin	-1.pl
prep	artcl	n	1-	pvb	initial	-vai.fin	-relational	-vai.fin	-IIN

We sat in the back.

IPA Target: [ˈɪn ðə ˈbæk ənˈʤi əbəwʌnæn]
IPA Actual: [ən də bakʰ ɪnʤi abuwʊnæn]

Billy also uses this same construction in isolation, as repeated in (80).

(80) *in the back* (Billy, 04;07.26)

in	**the**	**back**
prep	artcl	n

In the back.

IPA Target: [ɪn ðə bækʰ]
IPA Actual: [ɪn də ˈbɑkʰ]

Examples (79) and (80) are representative of the two ways that Billy uses English locative morphology on English-origin nouns in the database. As stated above, the five lexemes that Billy produces in a locative construction never appear in the database without this locative morphology. From the limited quantity of examples of these particular forms, it seems likely that these locative forms are memorized amalgams, as described by MacWhinney (1978), Peters (1983), Mithun (1989) and Courtney & Saville-Troike (2002).

Phrasal: Billy produces three English-origin nouns attested with various other types of English phrasal morphology. These three tokens represent three lexemes: RAINBOW, HEAD, and THING.

In example (81) below, I illustrate Billy's use of a determiner with the English-origin noun *rainbow*. The translator indicated that this determiner was *the* in the orthography and IPA Target,

but the transcriber heard the determiner *a* [ə] in Billy's production. *Rainbow* also occurs without morphology in the same session, as shown previously in (24).

(81) *Utâh akutâw the rainbow?* (Billy, 05;02.12)

utâh	akut	-â	-w	**the**	**rainbow**
here	hang	-vii.fin	-0		
p,dem.location	initial	-vii.fin	-IIN	artcl	n

Is there a rainbow (hanging) there?

IPA Target: [oˈtʰ aːgʊdaw ðə ˈrejnbo]
IPA Actual: [ə kˌɪ awgʊdaw ə ɹenbo]

Billy's choice of an inanimate intransitive verb-stem indicates that he is treating rainbow as inanimate. The Cree equivalent *wîkupîshâkin* is also inanimate.

Billy only produces the lexemes HEAD and THING once each in the database. Billy produces THING in Session 9, and HEAD in Session 10. In example (82), I provide Billy's production of *head*, with the numeral determiner *three*. Note the lack of agreement morphology between *three* and the singular noun *head* in both the target and actual forms. This could suggest a lack of grammatical agreement when assessed using English (the source language) grammar.

(82) *Three head ihtikun?* (Billy, 06;00.17)

three	**head**	ihtikun
		be
p,num	n	initial.vii

There are three head(s)?

IPA Target: [θɹiˈ hɛd təgʊn]
IPA Actual: [gɹi hæd ogʷʊn]

Billy assigns inanimate gender to *head* as indicated by his choice of a inanimate intransitive verb-stem. The Cree equivalent for *his/her/its head* (*ushtikwân*) is also inanimate.

In summary, Billy uses a range of both English and Cree nominal morphology on his English-origin lexemes. Billy produces nominal lexemes with Cree plural, genitive, locative, diminutive,

and obviative morphology, as well as English plural, genitive, and locative morphology. Note that his attested types of English nominal morphology are a subset of his attested types of Cree nominal morphology. Additionally, the obviative person is not a grammatical feature of English, and diminutive case is uncommon in English. I have also provided evidence throughout this section that Billy has productive use of English plural morphology, and possibly productive use of English first person genitive morphology. In comparison, Billy would appear to have productive use of the majority of the Cree morphology that he produces on English-origin nouns.

I have also noted a greater morphological variety in Billy's productions of Cree morphology compared with that of his English morphology. This may reflect the observation that Cree is morphologically much richer than English. However, I have identified more tokens of English-origin nouns with English morphology (75 tokens) than with Cree morphology (53 tokens). Billy also produces a greater variety of lexemes with English morphology than with Cree morphology.

In Sections 1.1 and 1.2, I have described and provided examples of Billy's use of English and Cree nominal morphology on English-origin nouns. In Section 1.3 I will more closely examine the relatively rare examples of Billy producing both Cree and English morphology on the same lexeme, and in some cases, the same token.

1.3 English-Origin Nouns with Cree and English Morphology

This section explores the English-origin nominal lexemes attested with both Cree and English nominal morphology. This can occur in one of two ways. By far the most common scenario occurs when Billy produces Cree nominal morphology on one token of a given lexeme, and then elsewhere in the database produces English nominal morphology on another token of the same lexeme. Individual tokens of these lexemes may also be attested without morphology. I have identified one lexeme in the database on which Billy produces both Cree and English morphology on the same tokens. This is the lexeme ROOM, whose analysis will complete this section.

In total, Billy uses both Cree and English morphology on seven lexemes. These are: TREE, FRIEND, SLED, BICYCLE, CAR, TOY, and ROOM. As I report in Table 32, 22 tokens of these BothMorph lexemes are attested in the database. Seven tokens are attested with only Cree nominal morphology, seven tokens are attested with only English nominal morphology, three tokens are attested with both Cree and English morphology, and five tokens of these lexemes are attested without morphology.

Table 32: Distribution of Tokens of Lexemes Attested with both Cree and English Morphology

Session #. B3 Age	**No. Tokens with Cree Nominal Morphology**	**No. Tokens with English Nominal Morphology**	**No. Tokens with Cree and English Nominal Morphology**	**No. Tokens without Nominal Morphology**
1. 04;06.08	2	1	0	1
2. 04;07.26	0	1	0	0
3. 04;09.14	0	1	0	0
4. 05;00.13	3	4	3	0
5. 05;02.12	1	0	0	2
6. 05;05.00	0	0	0	0
7. 05;05.22	0	0	0	2
8. 05;06.27	1	0	0	0
9. 05;10.06	0	0	0	0
10. 06;00.17	0	0	0	0
Total	7	7	3	5

In this section I exemplify and discuss each of these seven lexemes individually and provide examples. I present these lexemes separately due to their unique nature, and relative rarity in the database.

Tree: Billy uses the English-origin noun TREE twice in the database. The first instance occurs in Session 1, and is attested with Cree nominal genitive morphology. I show this in example (83) below. In this utterance, Billy is inquiring about the home of the Berenstain Bears (characters from a children's novel), who live in a house in a tree. In this case, the lexeme TREE occurs in an

otherwise Cree-only utterance. Here, Billy partially omits the plural possessive suffix /-iwâu/, reducing it from [uwa] to [aw]. He does produce the genitive suffix /-im/.

(83) *Uyâh utreeimiwâu wîchiwâu?* (Billy, 04;06.08)

u	-yâh	u-	**tree**	-im	-iwâu	wîch	-iwâu
this	-an.obv~inan.pl	3-		-poss	-pl	dwelling	-pl
p,dem.pxl	-an.obv~inan.pl	3-	initial	-poss	-pl	nid	-pl

Is this their tree, their house?

IPA Target: [uja otʰɹijɪmuwa witsəwaw]
IPA Actual: [oja: otɹɪmaw wɪʤwɔ]

The second instance of the lexeme TREE occurs in Session 4, and is attested with English plural morphology. I show this in example (84) below. *Tree* occurs alone as a single-word English utterance. The plural morphology is represented in the IPA Actual, though notice that Billy uses the voiceless [-s] as opposed to the target [-z].

(84) *trees* (Billy, 05;00.13)

tree	**-s**
n	-pl

Trees.

IPA Target: [ˈtʰɹiz]
IPA Actual: [ʧɹis]

TREE is consistently treated as a noun in both languages. Billy produces *tree* as plural with English morphology, but singular with Cree morphology. It is difficult to speculate on the productivity of these examples given the lack of tokens, and his lack of clear grammatical gender assignment.

Friend: Billy uses the English-origin noun FRIEND three times in the database. The first two tokens are produced in Session 4 and are attested with Cree genitive morphology. The third token is produced in Session 6, and is attested with English genitive morphology.

In example (85), *friend* is attested with Cree genitive morphology in an otherwise Cree-only utterance. While Billy does use the Cree genitive prefix /u-/ to denote a third person possessor, Billy does not produce the /-im/ possessive suffix on *friend*. The /-im/ suffix is also not marked in the orthography, or the IPA Target. This can be attributed to the fact that the Cree equivalent *wîchâwâkin* is animate, and does not require the /-im/ suffix. This is the only example in the database in which Billy does not produce the /-im/ suffix on an English-origin noun marked with Cree genitive morphology.

(85) *U-friend mâk wîyi, âi?* (Billy, 05;00.13)

3-	**friend**	mâk	wîyi	âi
3-		and	3	pro,hes
3-		p,conjn	pro	pro,hes

What about his/her friend?

IPA Target: [ˈʊfɹɛnə mæg wi aj]
IPA Actual: [ʊfɹɪnək mæg we haj]

In Session 4, Billy produces a Cree utterance where he uses the Cree equivalent for *friend*, *wîchâwâkin*. In example (86), Billy correctly does not produce the suffix /-im/ on the animate noun *wîchâwâkin* as well.[35]

(86) *Ûtih niwîchâwâkin wâsh kiyâh an name.* (Billy, 05;00.13)

û	-tih	ni-	wîchâwâkin	wâsh	kiyâh	an	name
this	-loc	1-	friend	emph	and	that	name
p,dem.pxl	-loc	1-	initial	p,discourse	p,conjn	p,dem.dst	name

What, Name is also my friend.

IPA Target: [ˈwʌtʰ n wiˈʤawgən ɔʃ gjɛh ɛn ...]
IPA Actual: [ha ɪn ʤagən aʃ kəh ɛn ...]

In the second instance of FRIEND, Billy does produce the /-im/ possessive suffix on the animate English-origin noun. I show this in example (87) below. The suffix is not represented in the orthography or the IPA Actual, because it is not grammatically appropriate in Cree. However, **ufriendim* is represented in the IPA Actual as [ofɹɛˈnɪm]. Billy selects an AI verb-stem,

35 In (86), Billy produces the name of one of his friends. To protect this individual's anonymity, I have replaced this name with *name* and substituted an ellipsis in the IPA Target and Actual.

indicating that he is treating friend as animate, matching the grammatical gender of the Cree equivalent. This is likely an over-generalization error, as Billy omits the /-im/ suffix correctly elsewhere on both the English and Cree equivalent of the noun in the same session. Of note, (57), (85), and (87) are all examples of Billy produces Cree genitive morphology on an English-origin noun whose Cree equivalent does not carry the /-im/ possessive suffix.

(87) *Tân âshinihkâsuch ufriend* (Billy, 05;00.13)

tân	âshi	-nihkâ	-su	-ch	u-	**friend**
p,wh	thusly	-name	-vai.fin	-3.pl	3-	
p,wh	IC.initial	-medial	-vai.fin	-CIN	3-	n

What is the name of her friend.

IPA Target: [tæn ɛsəngaˈsiʧ ofɹɪɛn]
IPA Actual: [tæn sɪnəngasɔjʧ ofɹɛˈn ɪm]

The third and final instance of the lexeme FRIEND occurs in Session 6, and is attested with English first person genitive morphology. Like both (85) and (87), *friend* occurs in an otherwise Cree-only utterance. Billy produces the English possessor *my* in the IPA Actual. He does not produce a verb in this utterance, so there is no verbal agreement.

(88) *Nimui kiyâh my friend.* (Billy, 05;05.00)

nimui	kiyâh	**my**	**friend**
not	and		
p,neg	p,conjn	poss.pron.1	n

My friend doesn't [go there] either.

IPA Target: [ˈmɔj gja maj fɹɛnd]
IPA Actual: [maj ga maj fɹɛnd]

The lexeme FRIEND always occurs in an otherwise Cree-only utterance, regardless of the source language of its associated morphology. Billy produces all three tokens of this lexeme with genitive morphology. Billy uses third person genitive morphology twice in Cree, and first person genitive morphology once in English. Recall that I have only identified examples of Billy producing first person singular genitive morphology in English (*my*). He appears to use the Cree genitive in any other construction (third person singular genitive, etc.). This could be an indicator

that Billy has not fully acquired genitive case in English, although he may have productive use of first person singular genitive morphology in English.

Billy does appear to use Cree first person genitive productively, so it is interesting that he chooses to use English genitive morphology in (88). Billy produces the Cree *wîchâwâkin* (my friend) with first person genitive morphology in Session 4, and then in Session 6, produces the English equivalent *my friend*. Both of these occur in otherwise Cree-only utterances, and are used grammatically in the source language of the morphology. Billy uses third person genitive Cree morphology on the English friend correctly in (85), and incorrectly in the same session in (87). The lexeme FRIEND provides a good intersection of Billy's use of genitive morphology in both Cree and English.

Sled: Billy uses the English-origin noun SLED twice in the database. As with the lexeme FRIEND, Billy produces one token of SLED with English genitive morphology, and another token with Cree genitive morphology.

The first token of SLED occurs in Session 3, with English first person genitive morphology. In (89), the mixed segment *my sled* occurs in an otherwise Cree-only utterance. Part of the utterance was not transcribed due to background noise, but the translator identified the key nominal morphology. Although the various Cree equivalents for SLED are largely grammatically animate, it would appear that Billy assigns inanimate gender to *my sled* as indicated by the intransitive verb-final /-n/ (*-by.hand*) and the agreement suffix /-n/ (if the verb were a TA form, the agreement suffix would instead be /-w/).

However, the orthography line shows *niki tikunâw* (a TA form) while the IPA target shows *niki tikunân* (a TI form). Billy's actually IPA shows [...konʌ], which is consistent with either TA *tikunâw* or TI *tikunân*, so there remains some ambiguity as to the gender assigned to SLED.

(89) *Îhî, my sled wâsh niki tikunâw.* (Billy, 04;09.14)

îhî	**my**	**sled**	wâsh	ni-	ki	tiku	-n	-â	-n
yes			emph	1-	fut.1/2	join	-by.hand	-thm	-1/2
p,aff	poss.pron.1	n	p,discourse	1-	pvb	initial	-vtr.fin	-thm	-IIN

Yes, I'm taking my sled.

IPA Target:	[eˈhej	ˈmaj	slɛdə	wɑʃ	nɪgə	tʌkʷʌnan]
IPA Actual:	[ʌhʌ	maj	sləg	wɑʃ	...konʌ	]

The second instance of the lexeme SLED occurs in Session 8, with Cree third person genitive morphology. As we might expect from Billy's assignment of inanimate gender in (89), the /-im/ suffix is present in both the IPA Target and Actual in (90). The mixed segment *usledim* occurs in an otherwise Cree-only utterance.

(90) *Usledim û Dora.* (Billy, 05;06.27)

u-	**sled**	-im	û	Dora
3-		-poss	this	name
3-	n	-poss	p,dem.pxl	n

This is Dora's sled.

IPA Target:	[uslɛtɪm	u	toɹah]
IPA Actual:	[ʌfwedəm	ow	ɔɹa]

Bicycle: Billy produces the English-origin lexeme BICYCLE five times in the database. Three of these instances occur without morphology in an otherwise Cree-only utterance. The only Cree morphology that is attested on BICYCLE is first person genitive morphology. I show this in example (91) below, repeated from example (47) above. The Cree equivalent for bicycle is grammatically animate, but Billy assigns inanimate gender here with the selection of an inanimate intransitive verb-final. The /-im/ suffix is present in both the IPA Target and Actual.

(91) *Nibicycleim wâsh âshtâw.* (Billy, 05;00.13)

ni-	**bicycle**	-im	wâsh	âsht	-â	-w
1-		-poss	emph	sit.there	-vii.fin	-0
1	-n	-poss	p,discourse	initial.IC	-vii.fin	-IIN

My bicycle is there.

IPA Target: [nəˈbajsıklın waʃ aʃtaw]
IPA Actual: [majsıkəlim waʃ ɑʃdaw]

The lexeme BICYCLE also occurs once in the database with English plural morphology as part of an otherwise Cree-only utterance. The transcriber did not provide an IPA Target for (92), but I take the orthography as the target form. Here, Billy assigns animate gender to *bicycles*, selecting the animate plural agreement suffix /-wich/.

(92) *Tâpâ ihtâwich utih bicycles nâ.* (Billy, 05;02.12)

tâpâ	iht	-â	-wich	utih	**bicycle**	**-s**	nâ
not	be	-vai.fin	-3.pl	here			p,quest
p,neg	initial	-vai.fin	-IIN	p,dem.location	n	-pl	p,quest

There are no bicycles here, right?

IPA Actual: [bə doʧ of bʌjsəkəłs na]

Car: Billy produces four tokens of the English-origin nominal lexeme CAR, with a variety of Cree and English morphology. He produces *car* once without morphology in an otherwise Cree utterance, once with Cree third person genitive morphology (93), once with English plural morphology (94) and finally once as part of a simple English verb phrase (30).

In (93), Billy does not produce the required possessor prefix /u-/ on *car*, nor is it clear if he produces the /-iyiw/ obviative suffix. Both of these are grammatically required in Cree for this utterance, so the translator would have included them in the orthography regardless of whether Billy produced them. Billy does produce the /-im/ possessive suffix on *car*. Billy selects an animate plural suffix for *who* (*awânichî*), and uses the /-im/ possessive suffix generally reserved for inanimate. The Cree equivalent for *car* (*utâpânâsku*) is animate.

(93) *Awânichî uyâh, ucarimiyiw?* (Billy, 05;02.12)

awân	-ichî	uyâh	u-	**car**	-im	-iyiw
who	-an.pl	these	3-		-poss	-obv
pro,wh	dem.inan.pl	p,dem.dst	3-	n	-poss	-obv

Whose cars are these?

IPA Target: [ˈwɑndʒi ojæ hoˈkaɹəmwo]
IPA Actual: [wanuw ijo kaɹmə]

In (94), Billy produces *cars* with English plural morphology. The translator indicates in the orthography and IPA Target that Billy selects an animate verb-final and animate plural morphology on *that* (*anichî*). *Anichî* is represented in the IPA Actual, but the verb was not transcribed due to noise interference. We cannot be certain that Billy produced the verb-complex as represented in the orthography, as the translator could have included this because it is the grammatical form.

(94) *Niwîh nitiwâpimâwich anichî cars.* (Billy, 05;10.06)

ni-	wîh	nitiwâp	-im	-â	-wich	an	-ichî	**car**	**-s**
1-	want	go.get	-by.head	-thm.dir	-3.pl	that	-an.pl		
1-	pvb	initial	-vta.fin	-thm.dir	-IIN	p,dem.dst	-an.pl	n	-pl

I want to go and get the cars.

IPA Target: [nəwi ntwapmawʧ ɪnʧi kaɹs]
IPA Actual: [... ɪʧ kɹajs]

Billy also uses the Cree equivalent for *car* (*utâpânâsku*) twice in the database (see example (95) below). He uses Cree diminutive morphology on both instances of *utâpânâsku* (*car*). However, Billy never uses the English-origin noun *car* with Cree diminutive morphology.

(95) *Nîyi utâpânâskush.* (Billy, 05;05.00)

nîyi	utâpânâsku	-sh
1	car	-dim
pro	ni	-dim

This is my little car.

IPA Target: [ˈnij odəbənəʃkʃ]
IPA Actual: [nj odʌmnɛskʰs]

Toy: Billy produces seven tokens of the English-origin nominal lexeme TOY. Five of these tokens are attested with English plural morphology and occur in an otherwise Cree-only utterance, one token is also attested with English plural morphology but occurs as a single-word utterance, and one token is attested with Cree genitive morphology and occurs in an otherwise Cree-only utterance. Billy does not produce TOY without morphology.

Billy produces the Cree equivalent of TOY at least twice, both of which are attested with Cree morphology in a single-word utterance. TOY is one of the few lexemes for which Billy appears to switch freely between the Cree and English equivalents, often within the same conversation.

In example (96) I provide one of the six tokens attested with English plural morphology. I selected (96) to show the clear Cree plural agreement with the English *toys*. In fact, Billy produces plural agreement on three of the five tokens of *toys* with English plural morphology in an otherwise Cree-only utterance. Here, Billy assigns inanimate grammatical gender to toys, with the selection of the inanimate plural suffix /-hî/ on *many*. The Cree equivalent for *toy* is also inanimate.

(96) *Mishtîhî toys.* (Billy, 05;00.13)

mishtî	-hî	**toy**	**-s**
many	-pl		
p,quant	-inan.pl	n	-pl

Lots of toys.

IPA Target: [mɪʃˈtiha tɔjs]
IPA Actual: [mɪʃdiə tɔjs]

As stated above, Billy produces one token of the English-origin lexeme TOY with Cree obviative morphology. In (97), Billy produces *toyiyiw* with inanimate suffix /-iyiw/. This example is crucial to our understanding of the lexeme TOY. Should we assume that Billy is using *toys* as a memorized amalgam, and then hypothesize how he might combine this plural noun with Cree obviative morphology, we might expect to see something like **toys-iyiw*. Instead, Billy produces *toy-iyiw*, correctly omitting the English plural morphology. Even though Billy never uses *toy* in a singular form in the database, we can ascertain from both (96) and (97), that he is correctly segmenting *toys* as a plural noun.

(97) *Mânitâh toyiyiw.* (Billy, 04;06.08)

mânitâh	**toy**	-iyiw
there		-obv
p,dem.location	n	-obv.inan(n)

There is the toy (obv).

IPA Target: [mantah toju]
IPA Actual: [ɑnda tʰojɔ]

Billy also produces both *toys* and *toyiyiw* during Session 1, decreasing the likelihood that he is using either of these forms as an unanalyzed segment. These forms are both grammatical with the required agreement morphology. I provide these two utterances in (97) and (98).

(98) *Aniyâh toys.* (Billy, 04;06.08)

ani	-yâh	**toy**	**-s**
that	-inan.pl		
p,dem.dst	-an.obv~inan.pl	n	-pl

Those toys.

IPA Target: [njah tojs]
IPA Actual: [ənja t^{h}ojs]

Billy also produces the Cree equivalent for TOY (*mâtiwâkin-*) twice in the database, including in Session 1. He produces *mâtiwâkinh* with Cree plural morphology in example (99), and *mâtiwâkinish* with Cree diminutive morphology in example (100). The adult also produces *mâtiwâkin-* throughout the database.

(99) *mâtiwâkinh* (Billy, 04;06.08)

mâtiwâkin	-h
toy	-inan.pl
ni	-inan.pl

Toys.

IPA Actual: [madwɑgɪn]

(100) *mâtiwâkinish* (Billy, 05;05.00)

mâtiwâkin	-ish
toy	-dim
ni	-dim

Small toy.

IPA Target: [mæˈtwagɪnʧ]
IPA Actual: [matɑgɛːʧ]

Note that in (99) Billy selects inanimate gender for *mâtiwâkinh* as is grammatical in Cree. Billy consistently assigns inanimate gender to both TOY and its Cree equivalent.

Room: Finally, Billy produces ROOM three times in the database. The first two tokens of ROOM are attested with both English first person genitive morphology and Cree locative morphology on the same token. This specific structure occurs twice in the database because Billy repeats it in succession. I provide this structure in example (101).

(101) *Nimui wîyi my roomihch.* (Billy, 05;00.13)

nimui	wîyi	**my**	**room**	-ihch
not	3			-loc
p,neg	pro	poss.pron.1	n	-loc

Not in my room.

IPA Target: [ˈmwi wi maj ɹʊmʧ]
IPA Actual: [mwe wej maj ɹomʧ]

The third instance of ROOM consitutes the only example in the database of what Myers-Scotton (1997) calls "Double Morphology". Double morphology, she suggests, is redundant, and occurs when a morpheme from the embedded language (English) accompanies a lexeme from the embedded language into the framework of the matrix language (Cree). According to Myers-Scotton (1997), the genitive possessive pronoun *my* in (102) would have accompanied *room* as a grammatically inactive morpheme, with any agreement occurring with the Cree genitive prefix /ni-/ instead.

(102) *Nipâhtân wâsh nimyroomihch.* (Billy, 05;00.13)

ni-	pâht	-â	-n	wâsh	ni-	**my-**	**room**	-ihch
1-	hear	-thm	-1/2	emph	1-			-loc
1-	initial	-thm	-IIN	p,discourse	1-	poss.pron.1-	n	-loc

I hear it in my room.

IPA Target: [nəˈbætæn waʃ nimajɹʊmʧ]
IPA Actual: [nəbatan ʌʃ nimajɹomʧ]

Myers-Scotton's (1997) explanation of (102) seems appropriate, except when you compare (102) with example (101) above. It does not seem plausible that the same English-origin morpheme used with the same English-origin lexeme produced in a very similar context would be grammatical in one instance, but grammatically inactive in another. Billy appears to use both Cree and English morphemes for first person genitive in a grammatical way within the database. I have also given multiple examples in which Cree nominal agreement morphology occurs on Cree verbs as a result of grammatical agreement with English-origin nominal morphology. These data seem to indicate that something else is occurring, besides simple code switching. It is likely that a number of processes are working simultaneously to create this variation in data.

1.4 English-Origin Nouns with No Morphology

Now that I have described the different types of nouns that occur in the database with morphology (whether of Cree or English origin), I turn to the English-origin nouns which consistently occur in the database without morphology. In order to be included in this classification, none of the tokens of a noun in the database can be attested with either Cree or English morphology. All lexemes described in Sections 1.1-1.3 which may also occasionally occur without morphology have been excluded from this inventory.

I have identified three different classifications of English-origin nouns that occur without morphology. These are: (1) nouns that occur only once in the database and do not carry morphology, (2) nouns that occur multiple times in the database and consistently do not carry morphology, and (3) nouns that represent ambiguous place names and occur any number of times in the database. Table 33 provides a breakdown of the distribution of these three different classifications.

Table 33: Distribution of the Different Types of NoMorph Nouns

Category	# Tokens
Single Occurrence	46
Multiple Occurrences	71
Ambiguous Place Names	36
Total	153

I discuss each of these classifications in turn.

Single Occurrence: The first and most common classification are lexemes with only one instance in the database. This lack of morphology could either come from a performance error, or a result of occurring in an environment that would not normally trigger morphology. See (103) for a complete list of these 46 lexemes, which includes a wide range of nouns thematically, for example nouns associated with the household, play, school, the outdoors, holidays, and food.

(103) APPLE, BALONEY, BASEBALL, BOX, CHAIR, CHRISTMAS TREE, CLOCK, DOLLHOUSE, EASTER EGG, FOUR-WHEELER, GAS, HAMMER, HELMET, JUICE, JUNGLE, KEY, KRAFTDINNER, LADDER, LEGO, LIGHT, MILK, MOON, OFFICE KEY, PENCIL, POLICEMAN, PRESENT, PUMPKIN, REINDEER NOSE, REMOTE, SKELETON, SKIDOO PANTS, SKIPPING ROPE, SNOW, SOAP, SOCK, SOUP, SPACEMAN ROBOT, SPOON, STOP, TEDDY BEAR, TRAILER, TREASURE, UPSTAIRS, WATER, WEEKEND, WITCH

See Table 34 for a breakdown Billy's productions of single occurrence English-origin NoMorph nouns by session. 30.1% of these productions come from a lexeme that occurs only once within the recorded data.

Table 34: Single Occurrence NoMorph Nouns by Session

Session #. B3 Age	**No. of Single Occurrence NoMorph Tokens**	**No. of NoMorph Tokens**	**Percent**
1. 04;06.08	12	19	63.2%
2. 04;07.26	3	15	20.0%
3. 04;09.14	1	3	33.3%
4. 05;00.13	1	13	7.7%
5. 05;02.12	5	15	33.3%
6. 05;05.00	6	28	21.4%
7. 05;05.22	6	13	46.2%
8. 05;06.27	5	14	35.7%
9. 05;10.06	4	25	16.0%
10. 06;00.17	3	8	37.5%
Total	46	153	30.1%

In example (104), I show the English-origin noun SNOW. *Snow* occurs only once, and as a single-word utterance. Conversely, the Cree equivalent *kûn* is attested five times in the database, both before and after the production of the English lexeme. The Cree equivalent also usually appears as part of a Cree-only utterance, as opposed to as a single-word utterance.

(104) *snow* (Billy, 05;05.22)

snow
n
Snow.

IPA Target: [snɔ]
IPA Actual: [ʃno]

In example (105) I provide Billy's only production of the English-origin noun WATER. Billy produces *water* as part of a mixed language utterance. This utterance includes both *water* and the Cree equivalent *nipîiyiw* (*water* with obviative morphology). Both *water* and *nipîiyiw* are represented in the IPA Actual form, but the English *water* is not included in the IPA Target. With *nipîiyiw*, Billy is referring to summer time ("when there is water"). Note also that the verb-complex *âh ihtikuniyich* is produced with obviative agreement morphology, indicating agreement with *nipîiyiw*. This morphology is represented in the IPA Actual. Billy produces the Cree word for *water* (*nipî*) five times in the database. In (105), *nipî* occurs with Cree obviative morphology. *Nipî* also occurs with locative morphology, and once without morphology.

(105) *Water nipîiyiw an âh ihtikuniyich, nimâh?* (Billy, 05;10.06)

water	nipî	-iyiw	âh	ihtikun	-iyi	-ch	nimâh
	water	-obv	pvb,conj	be	-obv	-0.s	no
n	ni	-obv	pvb,conj	initial.vii	-obv	-CIN	p,neg

Water, when there is water, right?

IPA Target: [nɪpiju ah təkɔniʧ nɪmæ]
IPA Actual: [wɑdəɹ nɛbijo ə dəgəniʧ nɑ]

Example (106) shows the English-origin noun REMOTE. According to Alice Duff (one of the project's language consultants, as described in Section 1 of Chapter 3), none of the age demographics of Cree speakers use the Cree equivalent for *remote* in Chisasibi. The English-origin noun REMOTE is therefore a likely candidate for an established borrowing. If Billy produced more examples of this lexeme in the database, I would expect these occurrences to be attested with Cree morphology in the appropriate contexts. Note that the verb-complex here was indecipherable to transcribers.

(106) *Chitiyân â remote?* (Billy, 05;06.27)

chit-	iy	-â	-n	â	**remote**
2-	have	-vai+o.fin	-1/2	p,quest	
2-	initial	-vai+o.fin	-IIN	p,quest	n

Do you have a remote?

IPA Target: [ʃtijanaw ɑ ɹimowt^{h}]
IPA Actual: [... a wɪmɔt^{h}]

I have identified no discernible patterns in Billy's use of single occurrence English-origin nouns that occur without morphology. Some, like SNOW and WATER, have Cree equivalents within the database, while others like REMOTE do not.

Multiple Occurrences: The second classification includes lexemes that occur multiple times in the database. Some of these consistently occur in environments that do not trigger morphology. Others, if they do occur in an environment that would normally trigger morphology, consistently fail to exhibit the target morphology. I have identified only one example of a lexeme for which the second of these possibilities is true: FIRE. I have outlined this in Section 1.1 above as example (56), which I will not repeat here.

See Table 35 for a breakdown of the English-origin nominal lexemes that occur multiple times in the database, consistently without morphology.

Table 35: Tokens of Multiple Occurrence NoMorph Nouns

Session #. B3 Age	No. of Multi Occurrence NoMorph Tokens	No. of NoMorph Tokens	Percent
1. 04;06.08	2	19	10.5%
2. 04;07.26	9	15	60.0%
3. 04;09.14	0	3	0.0%
4. 05;00.13	8	13	61.5%
5. 05;02.12	5	15	33.3%
6. 05;05.00	11	28	39.3%
7. 05;05.22	7	13	53.8%
8. 05;06.27	9	14	64.3%
9. 05;10.06	17	25	68.0%
10. 06;00.17	3	8	37.5%
Total	71	153	46.4%

I have identified 27 lexemes that occur multiple times in the database, and are consistently produced without morphology. Billy produces 71 tokens of these 27 lexemes collectively. See (107) for a complete listing of these lexemes. Like the first classification of single occurrence nouns, this list includes a wide range of themes. However, this classification contains proportionately more brand names than our first classification. It is possible that Billy is producing some of these nouns as proper names.

(107) BATTERY, BOAT, BUTTERFLY, CAKE, CANDY, CHAMPION, CHEESE, DRAGON, DVD, FIRE, GOALIE, GRASS, HELICOPTER, HOCKEY, HOCKEY STICK, PLANE, RACING CAR, RESCUE-PACK, RICE KRISPY, SPAGHETTI, SPIDER, SUMMER, THUNDERSTORM, TOILET, VAMPIRE, XBOX 360, YOGHURT

In examples (108) and (109) below I provide two of Billy's productions of English-origin nouns that occur multiple times in the database in environments without Cree or English nominal morphology. In example (108), DRAGON occurs as the subject of an otherwise Cree-only utterance.

This English-origin noun serves as a transitive subject in this example. The first plural object is not overt but rather is represented on the verb *niwîchihikunân* as agreement morphology. This formation is typical in Cree, where speech act participants are only encoded by pronouns if emphasized.

(108) *Âi, wâsh, âi, wâsh, dragon wâsh kiyâh niwîchihikunân.* (Billy, 05;00.13)

âi	wâsh	âi	wâsh	**dragon**	wâsh	kiyâh
pro,hes	emph	pro,hes	emph		emph	and
pro,hes	p,discourse	pro,hes	p,discourse	n	p,discourse	p,conjn

ni-	wîchi	-h	-iku	-nân
1-	help	-caus	-thm.inv	-1.pl
1-	initial	-vta.fin	-thm.inv	-IIN

The dragon also helps us.

IPA Target:	[aj	waʃ	aj	waʃ	dɹagən	ɔʃ	gjɛ	nəwiˈʧɪgənæn]
IPA Actual:	[aj	wʌʔ	aj	wɔʃ	ʤegɪn	aʃ	gə	nɔjɪʧɪgəna]

I include (109) below as an example of Billy producing a noun that is also a brand name. As I suggested above, Billy could be classifying some brand names as proper nouns. It is equally possible that the brand name XBOX 360 is simply a borrowed word that Billy is using (like SKIDOO). Unfortunately, teasing these two possibilities apart is not feasible given the available data.

(109) *Âi mîn xbox.360 kiyâh skidoosh.* (Billy, 05;06.27)

âi	mîn	**xbox.360**	kiyâh	**skidoo**	-sh
pro,hes	again		and		-dim
pro,hes	p,quant	n	p,conjn	n	-dim

I mean Xbox 360 and a little skidoo.

IPA Target:	[aj	min	ɛkspɑks	θɹisɪksti	kija	ʃskituʃ]
IPA Actual:	[a	mi	ɛkəwʌks	tɹusəks	diə	ʧkɪdʌʃ]

Like with the single occurrence English-origin nouns, I can identify no discernible patterns in Billy's use of multi-occurrence English-origin nouns attested without morphology. Again, some

have Cree equivalents within the database, while others do not. Billy could be treating some of these lexemes (particularly brand names) as proper names. It is also possible that Billy might produce these same lexemes with Cree or English morphology in different grammatical contexts.

Ambiguous Place Names: This classification represents a sizable subset of the NoMorph nouns in this section. These lexemes refer to a specific place or building, but were not included in the classification of language-specific proper nouns. While these nouns are not grammatically proper nouns, Billy could be treating them as if they were. With few exceptions, Billy produces proper nouns without morphology (Cree or English) in this database. Billy also consistently produces these place names without morphology.

See Table 36 for a breakdown of the ambiguous English-origin place names that occur without morphology.

Table 36: Ambiguous Place Name English-Origin Nouns

Session #. B3 Age	No. of Ambiguous Place Name Tokens	No. of NoMorph Tokens	Percent
1. 04;06.08	5	19	26.3%
2. 04;07.26	3	15	20.0%
3. 04;09.14	2	3	66.7%
4. 05;00.13	4	13	30.8%
5. 05;02.12	5	15	33.3%
6. 05;05.00	11	28	39.3%
7. 05;05.22	0	13	0.0%
8. 05;06.27	0	14	0.0%
9. 05;10.06	4	25	16.0%
10. 06;00.17	2	8	25.0%
Total	36	153	23.5%

These 36 tokens are productions of 12 lexemes that denote place names, listed in (110) below. Note that lexemes that represent rooms in Billy's house (such as KITCHEN and ROOM) can occur with

both Cree or English morphology. I have therefore excluded all household rooms from this classification. Note as well that SCHOOL is included in this list but, in Section 3 below, I will describe how SCHOOL is also often used as a Cree verb-initial. I distinguish between Billy's production of SCHOOL as an English-origin noun and as an English-origin verb-initial based on differences in their phonology, suggesting that Billy has two different lexical entries for this English-origin noun. The translator also used different orthographic representations for Billy's use of SCHOOL as a noun and as a verb-initial.

(110) AFTER SCHOOL PROGRAM, BAND OFFICE, CO-OP, DAYCARE, GENERAL STORE, GRADE ONE, GYM, HOSPITAL, HOUSE, SCHOOL, SKATING RINK, STORE

By far the most common noun in this third classification (and the second most common English-origin noun in the database) is DAYCARE. I have identified 11 tokens of *daycare* in the database, all attested without morphology. Of all the nouns listed in (110), DAYCARE is the mostly likely to be a proper name. *Daycare* occurs both in otherwise Cree-only utterances, and as a single-word utterance. Although Billy produces utterances referring to *daycare* as a location, he never produces *daycare* with locative morphology. In utterances where *daycare* occurs at the beginning or end of an utterance, *daycare* is often preceded or followed by an emphatic discourse particle. Example (111) shows the emphatic discourse particle *wâsh* preceding *daycare* at the end of the utterance.

(111) *Nichîh mîchisun û wâsh daycare.* (Billy, 04;07.26)

ni-	chîh	mîch	-isu	-n	û	wâsh	**daycare**
1-	past	eat	-vai.fin	-1/2	this	emph	
1-	pvb	initial	-vai.fin	-IIN	p,dem.pxl	p,discourse	n

I eat this at the daycare.

IPA Target: [ɪndʒi ˈmitson o waʃ ˈdekɛɪ]
IPA Actual: [ɪndʒi misuŋ aʃ dejkɛɪ]

GYM is another English-origin noun listed as part of (110) that does not exhibit Cree locative morphology, even when used as a location as in example (112). *Gym* occurs once in Session 5,

and twice in Session 6. No Cree equivalent is attested in the database. GYM is never preceded or followed by a Cree emphatic discourse particle.

(112) *Nimui nuhchi îtuhtânân gym.* (Billy, 05;05.00)

nimui	n-	uhchi	îtuht	-â	-nân	**gym**
not	1-	past.neg	go	-vai.fin	-1.pl	
p,neg	1-	pvb	initial	-vai.fin	-IIN	n

We didn't go to the gym.

IPA Target: [ˈmwe noʧi tʰtanan ʤɪm]
IPA Actual: [bwi noʧi tsdənɑ ʤɛm]

The connection between these ambiguous place names is speculative, but the consistent lack of morphology on these nouns is consistent with Billy's treatment of most proper names in the database.

In summary, Billy's production of English-origin nouns is a major part of this study, since nouns make up approximately half of his English-origin tokens. Billy produces 149 distinct English-origin nominal lexemes in the database, which can occur with Cree morphology, English morphology, both Cree and English morphology, no morphology, or some combination thereof. Of the different types of English morphology attested in the database, Billy primarily demonstrates productive use of English plural morphology. His English genitive morphology shows some indication of productive use with the first person, and also some indication of being recognized by the Cree grammar. His English locative constructions could be memorized amalgams, but there are very few tokens to compare. Billy's production of Cree morphology on English-origin nouns also seems to be productive, and incorporated into his Cree grammar.

Generally, Billy selects morphology from either Cree or English (and not both) for a given lexeme. However, I have provided seven lexemes for which Billy can select either Cree or English morphology on a given noun token. In all but one lexeme, Billy will only select morphology from one language at a time for a single English noun token. I have described the three exceptions to this through examples (101) and (102), in which Billy produces both Cree and English morphology on the same token of ROOM.

Finally, many of the nouns that exhibit neither Cree nor English morphology are produced only once in the database. For bare nouns that occur multiple times in the database, I hypothesize that Billy may be treating a subset of these as proper nouns, such as brand names or place names. This could explain their lack of morphology, since Billy very rarely produces morphology on proper names. This is true of both language-neutral and language-specific proper names. In conclusion, Billy is largely incorporating English-origin nouns into his Cree productions with a variety of Cree and English nominal morphology, as opposed to producing distinct Cree and English utterances.

This completes the examination of English-origin nouns. We now turn our attention to other parts of speech, beginning with English-origin verbs in Section 2.

2. English-Origin Verbs

In this thesis, I distinguish between English-origin verbs and English-origin lexical roots. English-origin verbs are unambiguously used as verbs in English. Billy produces these either in their bare form, without overt morphology, or as Cree verb-initials. Conversely, English-origin lexical roots can either be nouns or ambiguous verbs in English. Crucially, lexical roots must be used as a Cree verb-initial. For example, Billy uses the English-origin lexeme SKATE as a Cree verb-initial. This lexeme could either have been taken from the English noun "a skate" or the verb "to skate". Therefore, I categorize SKATE as a lexical root when it is produced as a Cree verb-initial. For less ambiguous lexemes such as PASS, where an English noun does exist, but the verb is impressionistically more common, a judgment call was made. In this particular case, I classified PASS as a verb. All English-origin verbs that Billy produced without morphology are also included in this verb classification. Lexical roots are described further in Section 3.

As we can see in Table 37, relatively few English-origin verbs are attested within the database. English-origin verbs make up only 2.6% of all English tokens. Only half of the 10 sessions contain English-origin verb tokens. Session 7 has the highest number of English-origin verbs, with ten tokens. As I discuss below, six of these ten tokens are of the verb GO.

Table 37: Number of English-Origin Verb Tokens

Session #. B3 Age	No. of English Verb Tokens	No. of English Tokens	Percent
1. 04;06.08	0	73	0.0%
2. 04;07.26	0	38	0.0%
3. 04;09.14	0	28	0.0%
4. 05;00.13	0	107	0.0%
5. 05;02.12	1	37	2.7%
6. 05;05.00	2	71	2.8%
7. 05;05.22	10	106	9.4%
8. 05;06.27	2	44	4.5%
9. 05;10.06	3	104	2.9%
10. 06;00.17	0	73	0.0%
Total	18	681	2.6%

The verbs attested in the database are BE, BORROW, CHECK, GO, GRADUATE, JUMP, MOVE, PASS, PLAY, and SAY. I discuss each of these verbs in turn below.

Graduate: Billy produces only one instance of the verb GRADUATE. This occurs in Session 5, and is also the first English-origin verb produced in the database. In spite of the existence of the English noun "a graduate" (a homograph of the verb "to graduate"), these two English words are phonologically distinct. Billy clearly pronounces this word as a verb (see the IPA Actual in example (113) below). This is consistent with the context of the English translation of the utterance, which is "when I graduate." The English-origin verb *graduate* is used as a Cree verb-initial, with Cree verbal morphology. This Cree verb-complex is marked as an animate intransitive verb (VAI), and is conjugated as first person singular in the subjunctive mode. Dr. Marguerite MacKenzie suggested that the VAI verb-final /-u/ is the default verb-final for English-origin roots, and possibly all borrowed roots (p.c. Dec, 2014). This example illustrates Billy's ability to incorporate English-origin verbs into a Cree verb-complex.

(113) *Graduateuyânâ.* (Billy, 05;02.12)

graduate	-u	-yân	-â
	-vai.fin	-1.s	-subjunctive
initial	-vai.fin	-CIN	-subjunctive

When I graduate.

IPA Target: [gɹɛdʒˈwetʰuwijæna]
IPA Actual: [gɹadʒəlʌjtˀdʌjɛna]

Pass: Billy uses the English-origin verb PASS three times in the database. All of these examples occur in Session 7. I show two of these utterances below in examples (114) and (115). For both of these utterances, Billy uses *pass* as a Cree verb-initial incorporated into a full Cree verb-complex. Although the English-origin verb PASS does not change, these two verb tokens are conjugated differently in Cree.

In example (114), Billy uses *pass* as the verb-initial of a Cree verb-complex. Although the stem /passu-/ is animate intransitive (as indicated by the /-u/ VAI verb final), it is then followed by the animate transitive final /-h/, so the verb as a whole is marked as animate transitive. The verb is also negative, and in the independent inflectional order.

(114) *Tâpâ nipassuhîtunân mân.* (Billy, 05;05.22)

tâpâ	ni-	**pass**	-u	-h	-îtu	-nân	mân
not	1-		-vai.fin	-caus	-each.other	-1.pl	that
p,neg	1-	initial	-vai.fin	-vta.fin	-reciprocal	-IIN	p,dem+G.dst

We do not usually pass to each other.

IPA Target: [tapa nəpasohijtʊnan man]
IPA Actual: [pa npahsohejtn̩an man]

In example (115), Billy also uses *pass* as the verb-initial of a Cree verb-complex. Like in (114), the animate intransitive stem /passu-/ is followed by the animate transitive final /-h/, marking the verb as a whole as animate transitive. The verb also includes causative morphology, and as indicated, carries the /-u/ verb-final. However, unlike (114), (115) is third person to first person (3>1, or "he does something to me"), has the conjunctive preverb /âh/, and is in the conjunct inflectional order. Example (115) is also not negative.

(115) *Âh passuhît mânh.* (Billy, 05;05.22)

âh	**pass**	-u	-h	-ît	mânh
pvb,conj		-vai.fin	-caus	-3>1	normally
pvb,conj	initial	-vai.fin	-vta.fin	-CIN	p,time

He usually passes it to me.

IPA Target:	[a	pasohɪtʰ	man]
IPA Actual:	[ə̯h	əpasʊjɪk	man]

Billy successfully produces *pass* as a Cree verb-initial in both the first person plural (114) as well as the 3>1 person singular (115). These examples also put into contrast the independent and conjunct inflections for this verb. These examples suggest that Billy has productive use of this mixed language verb.

Jump: Billy produces the English-origin verb JUMP twice in the database. In both of these instances, *jump* is used as a Cree verb-initial. The first instance of JUMP in example (116) below occurs in Session 6. Billy incorporates *jump* as a Cree verb-initial, although he does not produce the verb-final /-u/ and suffix /-n/. This could be due to the fact that the adult interrupts Billy part way through his utterance. The target form is conjugated in the first person past-tense and carries the /-u/ verb-final, indicating that the verb is animate transitive.

(116) *Nâshtâpwâh nâush nichîh jumpun.* (Billy, 05;05.00)

nâshtâpwâh	nâush	ni-	chîh	**jump**	-u	-n
very.much	long	1-	past		-vai.fin	-1/2
p,emph	p,time	1-	pvb	initial	-vai.fin	-IIN

I jumped for a long time.

IPA Target:	[nəˈʃtabwa	nawʃ	əndʒidʒʌmpʊn]	
IPA Actual:	[	dɑ naws	ɪndʒitʌmpʰ	]

Conversely, example (117) from Session 7 shows *jump* incorporated as a Cree verb-initial, with Billy producing the verb-final and verbal suffix. The verb is marked as animate intransitive with the /-u/ VAI verb-final. It has a conjunctive preverb, and an impersonal suffix, all of which Billy produces. Note that Billy omits the demonstrative particle /an/. These examples suggest that Billy also has productive use of this mixed Cree verb.

(117) *Tân an â jumpunâniwich?* (Billy, 05;05.22)

tân	an	â	**jump**	-u	-nâniwich
p,wh	that	pvb,conj		-vai.fin	-impers
p,wh	p,dem.dst	pvb,conj	initial	-vai.fin	-impers

Which one do you press to jump?

IPA Target: [tan ɪn a ʧʌmpʊnanʷoʧ]
IPA Actual: [tan a ʧʌmpunanownʧ]
Which one do you press to jump?

Borrow: Billy produces the English-origin verb BORROW only once, and this occurs in Session 9. As I show in example (118), Billy uses *borrow* as a Cree verb-initial. The verb is marked as animate intransitive with the /-u/ verb-final. The verb is also marked as future tense and first person singular. Here, Billy does produce the morphology represented in the target form. This example is repeated from example (11) in Chapter 2 above.

(118) *Nikichîh borrowun â aniyâ?* *(Billy, 05;10:06)*

ni-	ki-	chîh	**borrow**	-u	-n	â	ani	-yâ
1-	fut.1/2-	ability		-vai.fin	-1/2	p,quest	that	-obv
1-	pvb-	pvb	initial	-vai.fin	-IIN	p,quest	p,dem.dst	-obv

Can I borrow that one?

Target: [nɪkɪʧi pɔɹowʌn a nija]
Actual: [nɪkʤi bɔɹowʌn ə nijɑ]

Move: Billy produces the English-origin verb MOVE only once in the database, and this occurs in Session 9. As I show in example (119), Billy uses *move* as a Cree verb-initial. Like in (114) and (115) the stem /borrowu-/ is animate intransitive (as indicated by the /-u/ VAI final). Again, the stem is followed by the animate transitive final /-h/, marking the verb as a whole as animate transitive. The verb is also marked as first person singular, past tense, causative, and it agrees with a third person singular object. However, note that the first person prefix /n-/ is missing from the child's actual production.

(119) *Nichîh moveuhâw.* (Billy, 05;10.06)

ni-	chîh	**move**	-u	-h	-â	-w
1-	past		-vai.fin	-caus	-thm	-3
1-	pvb	initial	-vai.fin	-vta.fin	-thm	-IIN

I moved it.

IPA Target: [ntʃi mufuhaw]
IPA Actual: [ʤi muvuhaw]

As discussed in Chapter 2 Section 2.2, Cree verb-initials encode the main lexical content of the verb. Unlike other parts of the verb, verb-initials are not a closed grammatical category. Therefore, Cree verb-initials are a logical place for a loanword to be incorporated into the Cree verb-complex. However, not all English-origin verbs are incorporated into the Cree verb-complex, as we can see in the examples I next discuss.

Go: Billy uses the English-origin verb GO six times in the database, all of which occur in Session 7. Of these six verb tokens, two occur as a single-word utterance in English. I will not provide examples of these. Billy also produces one instance of GO with an object, as shown in example (120). Finally, I identify three instances of GO occurring with a subject (specifically, a proper name – see example (121) below). I have identified no instances of Billy incorporating *go* into a Cree verb-complex. In all six instances, GO occurs without Cree morphology.

In example (120) (repeated from example (30) above), the English origin verb GO is realized in a simple English-only utterance in the English imperative mode. Billy produces this while at play with a toy car. This utterance contains no Cree morphology and would be grammatically correct in English.

(120) *Go car!* (Billy, 05;05.22)

go **car**
Go car!

IPA Target: [ko kaɹ]
IPA Actual: [ko kʰɑ]

Example (121) illustrates the English origin verb GO in a different context. Here, this verb is used mid-way through an otherwise Cree-only utterance (recall that Diego is a proper name[36] and therefore language-neutral). Again, *go* is not incorporated as a Cree verb-initial, and instead occurs in isolation in its bare form. Note that *wîchiwâu* could also be segmented as the possessed noun (*w-wîch-iwâu* 3-house-3pl), rather than an AI verb form. This would fit with the translation of "their house".

(121) *Diego go aniyâh wîchiwâu.* (Billy, 05;05.22)

Diego	**go**	ani	-yâh	wîch	-i	-wâu
name		that	-obv	dwelling	-vai.fin	-pl
n	v	p,dem.dst	-obv	initial	-vai.fin	-pl

Diego, go, that's their house.

IPA Target: [tieko ko ɪnija witsəwɑ]
IPA Actual: [tʲeko ko hənijo wɪtswa]

The English-origin verb GO is therefore one example of an English-origin verb that is consistently not incorporated into a Cree verb-initial. I provide several other examples of this below, such as PLAY and CHECK.

Play: Billy produces the English-origin verb PLAY only once in the database, and this occurs in Session 8. Like the verb GO in example (121), PLAY occurs in an otherwise Cree-only utterance. As illustrated in example (122), this verb occurs without Cree morphology.

36 In this case, "Diego" refers to a fictional character in "Dora the Explorer", a popular children's television series.

(122) *Mâutih, mâutih, play.* (Billy, 05;06.27)

mâu	-tih	mâu	-tih	**play**
this	-loc	this	-loc	
p,dem+G.pxl	-loc	p,dem+G.pxl	-loc	v

Here, here, play.

IPA Target: [mawtʰ mawtʰ pʰlej]
IPA Actual: [mawtʃ maw pʰlʌj]

Check: Billy produces the English-origin verb CHECK only once in the dataset, and this occurs in Session 6. Like *go* and *play* in (121) and (122), *check* in (123) is not incorporated into a Cree verb-complex and is attested without Cree morphology. However this example differs significantly from examples (121) and (122) in that the verb occurs in isolation as an English-only utterance.

(123) *check* (Billy, 05;05.00)

check
Check.

IPA Target: [ˈʧɛkʰ]
IPA Actual: [ʧak]

Say: Billy produces the English-origin verb SAY only once in the database, in Session 9. Like examples (120) and (123), this English-origin verb occurs in an English-only utterance with no Cree verbal morphology. In this example, SAY is conjugated as *said* in the English past tense. Like (120) and (123), example (124) is grammatically correct in English.

(124) *Who said that?* (Billy, 05;10.06)
who said that
Who said that?

IPA Target: [hu sɛt ðat]
IPA Actual: [hu sɪd dæt^{h}]

Example (124) is repeated as (150), in Section 5.1 below, and is part of a larger discussion Billy's use of wh- words and phrases.

In the next section, I expand upon English-origin lexical roots. As stated earlier in Section 2, these are English-origin lexemes incorporated into a Cree verb-initial, which are either nouns or of ambiguous parts of speech (either a verb or a noun) in the source language.

3. English-Origin Lexical Roots

In this section, I discuss Billy's productions of English-origin lexical roots. For the purposes of this work, lexical roots are English-origin lexemes incorporated into a Cree verb-initial, which are either (1) of an ambiguous part of speech (either a verb or a noun) in the source language, or (2) an unambiguous noun in the source language. Lexical roots are distinct from English-origin verbs in that (as stated in Section 2) English-origin verbs are unambiguously used as verbs in the source language. In Section 2, I used the example of SKATE, which can be used both as a noun and as a verb in English. It would be difficult to determine with certainty whether the word that Billy is using was originally borrowed from the noun or verb in English. SKATE therefore represents our first type of lexical root. The second type of lexical root occurs when an English-origin noun is incorporated into a Cree verb-initial. For example, Billy uses the English-origin noun SCHOOL throughout the database as a Cree verb-initial. As I will discuss below, in NE Cree this is a common verb, meaning roughly "to attend school".

Table 38 below provides the distribution of Billy's lexical root productions within the database. All but two of the sessions contain lexical roots, with a maximum of four lexical roots in an individual session. Note that many of these roots also have associated nouns attested in the

database. For example, Billy produces SCHOOL both as a Cree verb-initial and as a bare noun. Although Billy produces a smaller variety of lexical root lexemes, these are the most frequent parts of speech that Billy produces as a Cree verb-initial.

Table 38: Number of English-Origin Root Tokens

Session #. B3 Age	No. of English Root tokens	No. of English Tokens	Percent
1. 04;06.08	4	73	5.5%
2. 04;07.26	0	38	0.0%
3. 04;09.14	1	28	3.6%
4. 05;00.13	1	107	0.9%
5. 05;02.12	0	37	0.0%
6. 05;05.00	1	71	1.4%
7. 05;05.22	1	106	0.9%
8. 05;06.27	4	44	9.1%
9. 05;10.06	1	104	1.0%
10. 06;00.17	3	73	4.1%
Total	16	681	2.3%

For comparison, in Table 39 I provide a breakdown of Billy's productions of Cree verb-initials. Billy produces 24 English-origin verb and root tokens as Cree verb-initials, two thirds of which are lexical roots. In other words, only one third of the English-origin lexemes that Billy incorporates into Cree verb-initials are unambiguous verbs in English.

Table 39: Breakdown of English-Origin Words used as Cree Verb-Initials

Session #. B3 Age	No. of Eng-Origin Verbs as Cree Verb-initials	No. of Eng-Origin Roots as Cree Verb-initials	Total Eng-Origin Verb and Root Cree Verb-initials
1. 04;06.08	0	4	4
2. 04;07.26	0	0	0
3. 04;09.14	0	1	1
4. 05;00.13	0	1	1
5. 05;02.12	1	0	1
6. 05;05.00	1	1	2
7. 05;05.22	4	1	5
8. 05;06.27	0	4	4
9. 05;10.06	2	1	3
10. 06;00.17	0	3	3
Total	8	16	24

Billy produces five lexemes that I have classified as lexical roots. These are three ambiguous English verb/nouns: LOCK, RACE, and SKATE, and as well as two English nouns: BUS and SCHOOL. Recall that all of these tokens are used as Cree verb-initials. I discuss these lexemes in turn below.

Skate: Billy uses the word SKATE as a lexical root three times in the database. These all occur in Session 1. The utterance depicted in (125) is one example of this. In this case, the first person plural agreement morphology /-nân/ is missing at the end of the verb-initial *skate* in the actual form. The prefix /ni-/ was not included in the transcription of the target form, but Billy does produce it in the actual utterance. The translator also included the prefix /ni-/ in the orthography.

(125) *Niskateunân mân mâk skates â pushchishkimâhch.* (Billy, 04;06.08)

ni-	**skate**	-u	-nân	mân	mâk	**skate**	-s
1-		-vai.fin	-1.pl	that	so		
1-	initial	-vai.fin	-IIN	p,dem+G.dst	p,conjn	n	-pl

â	pushchishk	-im	-âhch
pvb,conj	wear	-vti.thm	-1.pl
pvb,conj	initial	-vti.thm	-CIN

We go skating and we wear skates.

IPA Target:	[skejtunan	man	mak^{h}	skejts	a	puʃʧɪʃkɪmaʧ]
IPA Actual:	[ɛnɪskedo	man	mɑk	skets	lə	boʧəmɑʧ]

Example (125) is particularly interesting because Billy uses *skate* both as a Cree verb-initial and as a plural English noun in the same utterance. Billy assigns inanimate grammatical gender to the noun *skates*, as indicated by his choice of a transitive inanimate verb.

Race: Billy produces two tokens of RACE in Session 1, and one token in Session 8. Like SKATE in (125), Billy produces *race* as a Cree verb-initial. In example (126), Billy produces *race* with the /-u/ animate intransitive verb-final, a past-tense prefix, and a third person plural suffix. The verb also displays agreement morphology with the third person plural subject *awânich* ("someone, plural").

(126) *Uhuh chîh raceuwich â awânich?* (Billy, 04;06.08)

uhuh	chîh	**race**	-u	-wich	â	awân	-ich
p,intj	past		-vai.fin	-3.pl	p,quest	someone	-an.pl
p,intj	pvb	initial	-vai.fin	-IIN	p,quest	pro,indef	-an.pl

Did some people race?

IPA Target:	[	ʧi	ɹesuwʊʃw	a	wʌnʧi]
IPA Actual:	[ʌhʌ	ʃə	ɹwesudʒ	a	wɑndʒɪ]

Another example of Billy producing RACE as a Cree verb-initial is provided below in (127). Here, Billy produces *raceuwich* ("they are racing") in isolation, with the /-u/ animate intransitive verb-final.

(127) *Raceuwich.* (Billy, 05;06.27)

race	-u	-w	-ich
	-vai.fin	-3	-3p/4
initial	-vai.fin	-IIN	-IIN

They are racing.

IPA Target: [ɹesuwɪʧ]
IPA Actual: [wɛsowʌʤ]

Lock: Billy produces only one instance of the lexical root LOCK in the database. This occurs in Session 4. I show this below in example (128). Billy uses *lock* as the verb-initial of *chîh lockunâniwiyu* ("they locked it"), with the /-u/ animate intransitive verb-final.

(128) *Chîh lockunâniwiyu wâsh.* (Billy, 05;00.13)

chîh	**lock**	-u	-nâniwiyu	wâsh
past		-vai.fin	-impers	emph
pvb	initial	-vai.fin	-impers	p,discourse

They locked it.

IPA Target: [ʤi lɑkonæˈno waʃ]
IPA Actual: [ʤi lɑkɒnæno waʃ]

As I stated above, Billy also produces two examples of English-origin nouns as verb-initials in Cree verb-complexes. These are SCHOOL and BUS.

School: The lexical root SCHOOL represents an example of borrowing. According to Alice Duff (p.c. 2013), Dr. Marguerite MacKenzie (p.c. 2013), and Dr. Julie Brittain (p.c. 2013), the Cree verb *â skûlu* or *îskûlu* (meaning "going to school" or "being taught at school") has been used in the community for a number of generations. The verb-initial *school* has been phonologically integrated into NE Cree to create the loan verb-initial /-skûl-/. Billy uses this Cree verb-initial seven times in the database. The initial *skûl* occurs once each in Sessions 3, 6, 7, 9, and three times again in Session 10. I provide two of these instances below, which represent typical examples of Billy's use of this verb. These are examples (129) and (130).

In example (129), Billy produces an utterance with the verb-initial *skûl*. This initial is marked with the /-u/ animate intransitive verb-final, as well as first person morphology. The utterance is otherwise Cree-only. Billy does not produce the preverb /âh/ on *âh châchishâpâyich*, the first verb in the utterance.

(129) *Âh châchishâpâyich nimâh niskûlun.* (Billy, 04;09.14)

âh	châchishâp	-â	-yi	-ch	nimâh	ni-	**skûl**	-u	-n
pvb,conj	morning	-vii.fin	-obv	-0.s	no	1-	school	-vai.fin	-1/2
pvb,conj	p,time	-vii.fin	-obv	-CIN	p,neg	1-	initial	-vai.fin	-IIN

We don't go to school in the morning.

IPA Target: [ˈaj tʃɪtʃʌbajɛdʒ nəmæ nˈskolonən]
IPA Actual: [... ʧʊbʊjʌʧɔʃ nəmæ nɪskʊɹʊna]

In example (130), Billy produces the verb-initial *skûl* again, this time conjugated in third person. The contrast between this example and example (129) above suggests productive use of this verb. In this example Billy also uses the /-u/ animate intransitive verb-final.

(130) *Anitâh âh skûlut.* (Billy, 05;10.06)

ani	-tâh	âh	**skûl**	-u	-t
that	-loc	pvb,conj	school	-vai.fin	-3.s
p,dem.dst	-loc	pvb,conj	IC.initial	-vai.fin	-CIN

Where he goes to school.

IPA Target: [n̥tah a skulotʰ]
IPA Actual: [da a skʰə̥lʊtʰ]

The verb-initial *skûl* also occurs throughout the database in the adult's productions. For comparison, I provide (131) as an adult production of the same verb. Note the presence of the /-u/ animate intransitive verb-final, as well as agreement morphology.

(131) *Nuwich kischihuw âh iskuluwit.* (Adult, Session 6)

nuwich	kischih	-u	-w	âh	**iskul**	-u	-wi	-t
a.lot	capable	-vai.fin	-3	pvb,conj	school	-vai.fin	-3(?)	-3.s
p,manner	initial	-vai.fin	-IIN	pvb,conj	initial	-vai.fin	-3(?)	-CIN

He's good in school.

Bus: Billy also produces the English-origin noun BUS as a verb-initial. I provide Billy's two productions of *bus* as a verb-initial in examples (132) and (133). Both of these occur in Session 8.

In example (132), Billy produces the lexeme BUS both as a noun and then as a Cree verb-initial. Recall that in example (125) Billy also produces *skate* as a noun and a Cree verb-initial in the same utterance. As a verb-initial, *bus* is conjugated to the first person singular, and occurs with the /-u/ animate intransitive verb-final. Note also that Billy selects the /-i/ animate intransitive verb-final, as opposed to the /-u/ animate intransitive verb-final that we have seen on most of his borrowed verb-initials. However in this case, the verb is AI because the subject is "I" ("I am bussing"). Any verb with a first-person subject should be assigned animate intransitive rather than inanimate intransitive, regardless of what gender of noun the verb is derived from.

(132) *Bus niki busin number one.* (Billy, 05;06.27)

bus	ni-	ki	**bus**	-i	-n	**number one**
	1-	fut.1/2		-vai.fin	-1/2	
n	1-	pvb	n	-vai.fin	-IIN	n

I am I going in the number one bus.

IPA Target: [pasa nɪkə pusən nʌmpəɹ wʌn]
IPA Actual: [basa nɪg busən nʌmbəɹ wʌn]

In example (133), *bus* is conjugated to the third person future tense. In the orthography, the translator again calls for the /-i/ animate intransitive verb-final, but this is not represented in the transcription of the translator's target form. Billy instead produces the vowel [o] at the end of *bus*, which Billy has used in the past to represent the /-u/ animate intransitive verb-final (see (127) for one such example).

(133) *After â chiki busiw?* (Billy, 05;06.27)

after	â	chiki	**bus**	-i	-w
	p,quest	fut.3		-vai.fin	-3
prep	p,quest	pvb	n	-vai.fin	-IIN

Is she going on the bus afterwards?

IPA Target: [aftəɹ æʔ ʧɪkɪ pus]
IPA Actual: [æftəɹ a ʤɪgə boso]

Now that we have examined how Billy uses English-origin nouns, verbs, and lexical roots, we will next examine Billy's use of English-origin adjectives and adverbs.

4. English-Origin Adjectives and Adverbs

4.1 English-Origin Adjectives

Billy's use of English-origin adjectives is of particular interest because, as discussed in Section 2.1 of Chapter 2, adjectives are not a grammatical category in Cree. Instead, speakers use Cree prenouns and verbs to express these same concepts. To demonstrate this difference between English and Cree, I provide example (134) below. This example, repeated from (131), is taken from the adult productions in the CCLAS database. In this example, the adult uses the verb *kischihuw*, meaning "s/he is good or capable". The Cree verb-initial *kischih-* (or "capable") is produced with the /-u/ verb-final animate intransitive marker, and is third person singular. The second verb *âh iskuluwit* (or "school") also agrees as third person singular. Note that the entire sentence is comprised of two Cree verb-complexes and one manner particle.

(134) *Nuwich kischihuw âh iskuluwit.* (Adult, Session 6)

nuwich	kischih	-u	-w	âh	**iskul**	-u	-wi	-t
a.lot	capable	-vai.fin	-3	pvb,conj	school	-vai.fin	-3(?)	-3.s
p,manner	initial	-vai.fin	-IIN	pvb,conj	initial	-vai.fin	-3(?)	-CIN

He's good in school.

I have identified a number of English-origin adjectives produced by Billy in the database. I provide the distribution of these English-origin adjectives in Table 40.

Table 40: English-origin Adjectives

Session #. B3 Age	No. of English Adjective Tokens	No. of English Tokens	Percent
1. 04;06.08	1	73	1.4%
2. 04;07.26	0	38	0.0%
3. 04;09.14	0	28	0.0%
4. 05;00.13	1	107	0.9%
5. 05;02.12	0	37	0.0%
6. 05;05.00	8	71	11.3%
7. 05;05.22	0	106	0.0%
8. 05;06.27	0	44	0.0%
9. 05;10.06	3	104	2.9%
10. 06;00.17	4	73	5.5%
Total	17	681	2.5%

In Table 40, I show that only 17 (2.5%) of Billy's English-origin tokens are adjectives. Of these 17 tokens, only two occur with Cree morphology. This is unexpected, in that many of these adjectives can already be expressed in Cree using existing Cree verbs. Billy could have incorporated these English adjectives into established Cree verb-complexes as English-origin verb-initials, like we observed for English-origin verbs and lexical roots. Instead, he produces these adjectives largely as bare adjectival forms, which is not a grammatical category in Cree.

I divide Billy's English-origin adjectives into two groups: colour adjectives, and miscellaneous adjectives. In Table 41 I provide a breakdown of these two types.

Table 41: Types of English-Origin Adjectives

Session #. B3 Age	No. of English Colour Tokens	No. of Other English Adjective Tokens	Total No. of English Adjective Tokens
1. 04;06.08	1	0	1
2. 04;07.26	0	0	0
3. 04;09.14	0	0	0
4. 05;00.13	1	0	1
5. 05;02.12	0	0	0
6. 05;05.00	5	3	8
7. 05;05.22	0	0	0
8. 05;06.27	0	0	0
9. 05;10.06	2	1	3
10. 06;00.17	1	3	4
Total	10	7	17

In Table 41, I illustrate that 10 out of the 17 English adjectival tokens attested in the database are colours. The remaining tokens consist of miscellaneous adjectives. I discuss these adjectives first, and return to Billy's use of colour adjectives in Section 4.2 below. The non-colour miscellaneous adjectives attested in the database are FIRST, GOOD, ROUND, and STICKY. I discuss each of these in turn.

Sticky: Billy produces two instances of STICKY in the database, and both of these are in Session 6. Both tokens occur as part of the same utterance, which I provide in example (135) below. Similarly to *bus* in (132), Billy produces one instance of *sticky* as a verb-initial, and one instance as a bare adjective. The verb-initial *sticky* is attested with Cree morphology in the form of the /-u/ animate intransitive verb-final, which is also represented in the IPA transcription of Billy's utterance. The bare adjective *sticky* carries no morphology. *Sticky* is the only example in the database of Billy using an English-origin adjective as a Cree verb-initial.

Note that in the transcription, the verb *nitiwâyihtân* could also be interpreted as *nitiwâyihtim* ("s/he wants it"), in the first person singular form *ninitiwâyihtân (ni-nitiw-âyiht-â-n*

I-try-by.mind-TI.thm-I), with the word-initial /ninit-/ sequence contracted to [n'â] in the pronunciation.

(135) *Tâpâ stickyu nitiwâyihtân châkwân sticky.* (Billy, 05;05.00)

tâpâ	**sticky**	-u	n-	itiw	-âyi	-ht	-â	-n
not		-vai.fin	1-	like	-by.mind	-by.head	-thm	-1/2
p,neg	adj	-vai.fin	1-	initial	-medial	-vti.fin	-thm	-IIN

châkwân	**sticky**
something	
pro,indef	adj

This is very sticky, I don't like anything to be sticky.

IPA Target: [daba stɪkiyu nˈdɔjtan zagʷʊn stɪki]
IPA Actual: [dɑn stɪkʰiyu ndajtən sgʌn stɪki]

Good: I have identified one instance of Billy producing the adjective GOOD in the database, and this occurs as an English-only utterance in Session 6. I provide this utterance as example (136), where we can see that Billy uses *good* as a bare adjective, with no target morphology indicated in the orthography.[37]

(136) *Mhm good!* (Billy, 05;05.00)

mhm	**good**
p,intj	adj

Mhm good!

IPA Actual: [əmhəm gʊd]

First: I have also only identified one example of the adjective FIRST in the database, and this occurs in Session 9. Billy uses this bare adjective to begin his recitation of a phone number. I have omitted part of Billy's utterance to protect his anonymity. This utterances is repeated later as (155) as part of a discussion of Billy's use of English numerals.

37 A transcription for the target form of the utterance was not provided; I took the orthography as representative of the target form.

(137) *Mâutâh first eight one nine...* (Billy, 05;10.06)

mâu	-tâh	**first**	**eight**	**one**	**nine**
this	-loc				
p,dem.pxl	-loc	adj	p,num	p,num	p,num

This way first 819...

IPA Target:	[mawtah	fəɹst	et	wʌ	najn...]
IPA Actual:	[məda	fiɹstʰ	ed	o	najn...]

Round: Billy uses the adjective ROUND three times in Session 10, but with two different meanings. In example (138) I provide Billy's first use of ROUND. In this context, Billy uses *round* as a bare adjective, referring to the way that an object moves. A Cree verb-complex does exist for "it goes around". However, Billy elects to produce *round* as a bare English adjective, instead of using the traditional Cree form. It remains unknown whether Billy is producing this structure as a novel construction, or if he has acquired it from his ambient language environment.

(138) *Mikw kiyâh round ispiyishiw.* (Billy, 06;00.17)

mikw	kiyâh	**round**	is	-piyi	-shi	-w
just	and		thusly	-inch	-dim	-3
p,manner	p,conjn	adj	initial	-vintr.fin	-dim	-IIN

It only goes around.

IPA Target:	[ˈmʊg	jɛ	ɹawnd	ɪʃbiʃo]
IPA Actual:	[mʌj	kʰe	ɹɑnd	ʌjspiʃo]

In (139), I provide an example of Billy's second meaning of ROUND. Billy again produces the English-origin *round* as a bare adjective, without Cree or English morphology. As noted by a CCLAS researcher, Billy incorrectly produces [ɹawnd asɪsbikʰə] "it is round in size" instead of "it is round in shape" when referring to the shape of a snowman. In other words, Billy is using the wrong verb for his intended meaning in example (139).

(139) *Round îsinâkusiw.* (Billy, 06;00.17)

round	îsi	-nâkusi	-w
	thusly	-appear	-3
adj	initial	-vai.fin	-IIN

He looks round.

IPA Target: [ɹawnd ɪsˈnʌksɔ]
IPA Actual: [ɹawnd asɪsbikʰə]

In summary, Billy uses English-origin adjectives in a variety of ways. Although he does produce one instance of an English-origin adjective as a Cree verb-initial, the majority of his adjectives are expressed in their bare form, without morphology. This is unexpected, given that adjectives do not represent a documented grammatical category in Cree.

4.2 English-Origin Colours

As I illustrated in Table 41 above, 10 out of 17 tokens (or 58.8%) of the English-origin adjectives attested in the database are colours. These colours are BROWN, RED, YELLOW, and WHITE. I discuss each of these in turn below. Recall from Section 4 above that adjectives (including colours) in Cree are normally expressed as a verb-complex by an adult speaker.

Red: Billy uses the colour RED three times in the database. He produces RED once in Session 1, and twice in Session 6. Like with the other adjectives represented in Section 4.1, colours would normally be expressed in Cree as a verb-complex. However, in all three cases, Billy uses *red* as a bare adjective, with no Cree verbal morphology. I provide Billy's production from Session 1 as example (140) (repeated from example (76) and (65) above). *My eyes* is treated as inanimate in this utterance.

(140) *Âi, red kâ ishinâkuhch my eyes.* (Billy, 04;06.08)

âi	**red**	kâ	ishi	-nâkuh	-ch	**my**	**eye**	**-s**
pro,hes		pvb,conj	thusly	-appear	-3.pl			
pro,hes	adj	pvb,conj	initial	-vii.fin	-CIN	poss.pron.1	n	-pl

My eyes were red.

IPA Target:	[aj	ɹɛt	kej	ɪʃnahkʷʧ	maj	ajs]	
IPA Actual:	[aj	ɹɛd	ga	jʃnʌks	maj	ajs]	

To create the concept of "redness", Billy uses the English-origin adjective *red* in combination with the Cree verb *kâ ishinâkuhch* (meaning, "they appear" or "they look like"). However, this is not a grammatically correct use of the Cree verb *kâ ishinâkuhch*.

It remains unconfirmed whether Billy is producing this combination of an English-origin colour term, and a Cree verb as a novel construction, or if he has acquired it from his ambient language environment. However, the utterance provided in (141) produced by the adult speaker in Session 4 suggests that this Cree verb is used at least some of the time in his ambient language environment for colours. Here, the adult uses this same verb *îsinâkusichichâ,* preceded by the inanimate intransitive verb that is the Cree equivalent for "it is red": *mihkwâu*. *Nânitiu* is an evaluative particle that roughly corresponds to the English "maybe".

(141) *Mihkwâu nânitiu îsinâkusichichâ.* (2006-05-27)
I think he is red.

Billy also uses this construction with the colours *white* in (142) and *yellow* in (144).

White: Billy only uses the colour WHITE once in the database in Session 4. Like example (140) above, *white* is used as a bare adjective without Cree verbal morphology. In (142), Billy again accompanies this adjective with the Cree verb *ishinâkushiw* ("s/he appears"). Here, Billy is asking if the devil is white.

(142) *Âi âi ishinâkushiw âi white?* (Billy, 05;00.13)

âi	âi	ishi	-nâku	-shi	-w	âi	**white**
pro,hes	pro,hes	thusly	-appear	-dim	-3	pro,hes	
pro,hes	pro,hes	initial	-vai.fin	-dim	-IIN	pro,hes	adj

Is he white?

IPA Target: [aj aj ˈsnʌkso aj wajtʰ]
IPA Actual: [aj aj snæksoʔ aj wajtʰ]

Brown: Billy uses the colour BROWN once in the database, in Session 6. In this context, he is describing a bruise turning the colour of brown. Like in example (142), in (143) Billy uses *brown* as a bare adjective, as opposed to as a Cree verb-initial. In this case, he does not produce the accompanying Cree verb *kâ ishinâkuhch* (or *ishinâkushiw*) that we observe in example (140) and (142) above. (I discuss Billy's use of the adverb AFTER in Section 4.3).

(143) *Châk mîn after brown.* (Billy, 05;05.00)

châk	mîn	**after**	**brown**
finally	again		
p,time	p,quan	adv	adj

And then after it is brown.

IPA Target: [ˈʤæg min aftəɹ bɹawn]
IPA Actual: [ʧɛk wɪn ɑftəɹ bɹʌʔ]

Yellow: Finally, Billy uses the colour YELLOW five times in the database. He uses this adjective twice in Session 6, twice in Session 8, and once in Session 10. For all five of these instances, Billy does not use *yellow* as a Cree verb-initial. Four of these tokens occur as bare adjectives, and are not produced with the Cree verb *kâ ishinâkuhch*. I have not included these examples here.

However, the fifth instance of *yellow* represents an exception to this, as it occurs both alongside the Cree verb *kâ ishinâkuhch* (produced as *kâ ishinâkushit* here), as well as with Cree nominal agreement morphology. The nominal morphology is the diminutive marker /-ish/, and represents an agreement with the noun *iskîtû* (skidoo). The verb *kâ ishinâkushit* also displays the diminutive agreement morpheme /-shi/. Unfortunately, Billy's utterance was not transcribed in full, but this example is still representative of a target production with the unique use of the English-origin

adjective. Listening to the recording of Billy's utterance, Billy does appear to produce the target diminutive morphology on both *yellowish* and *iskîtûsh,* so I have represented this in the IPA Actual. This example is repeated from (51) above.

(144) *Wâshkich iskîtûsh mikw yellowish kâ ishinâkushit.* (Billy, 06;00.17)

wâshkich	iskîtû	-sh	mikw	**yellow**	-ish
long.ago	skidoo	-dim	just		-dim
p,time	na	-dim	p,manner	adj	-dim

kâ	ishi	-nâku	-shi	-t
pvb,conj	thusly	-appear	-dim	-3.s
pvb,conj	initial	-vai.fin	-dim	-CIN

A long time ago only a little skidoo which was just the colour yellow.

IPA Target: [ˈwaʃgɪʧ ˈʃkidoʃ mʊkʷ jæləweʃ ge ʃnʌgwəʃɪtʰ]
IPA Actual: [... ʃgɪduʃ mokʰ jɛloeʃ ...]

Like with the majority of his other adjectives, Billy does not incorporate English-origin colours into Cree verb-initials. Instead, he largely produces these colours as bare forms without morphology, often using a variation of the Cree verb *kâ ishinâkuhch*, meaning "they appear".

4.3 English-Origin Adverbs

I have identified very few instances of English-origin adverbs in the database, as can be seen in Table 42 below. Out of Billy's 681 English-origin tokens, only eight of these are adverbial tokens. Adverbs therefore represent only 1.2% of all of Billy's English-origin tokens.

Table 42: English-origin Adverbs

Session #. B3 Age	No. of English Adverb Tokens	No. of English Tokens	Percent
1. 04;06.08	0	73	0.0%
2. 04;07.26	1	38	2.6%
3. 04;09.14	1	28	3.6%
4. 05;00.13	0	107	0.0%
5. 05;02.12	1	37	2.7%
6. 05;05.00	1	71	1.4%
7. 05;05.22	0	106	0.0%
8. 05;06.27	1	44	2.3%
9. 05;10.06	3	104	2.9%
10. 06;00.17	0	73	0.0%
Total	8	681	1.2%

Billy produces four different English-origin adverbs in this database. These adverbs are AFTER, HERE, LATE, and THERE. AFTER is always used an adverb, meaning "later",[38] with the exception of when it occurs as part of the noun phrase *after school program*. AFTER is attested only once in each of Sessions 2, 3, 6, and 8. LATE is always used in the context of "going to bed late".[39] It appears twice, both times in Session 9. These two adverbs display similar properties: they are both produced without Cree or English morphology, and they can both be found at the beginning, middle, or end of an utterance. They can also occur as the only English-origin word in a complex and otherwise Cree-only utterance. For example, in (145) below I illustrate Billy's use of *after* followed by Cree subjunctive.

38 Oxford Dictionary defines this use of AFTER as an adverb (www.oxforddictionaries.com)
39 Oxford Dictionary also defines this use of LATE as an adverb (www.oxforddictionaries.com)

(145) *After misichihtiyânâ.* (Billy, 04;07.26)

After	mis	-ichiht	-i	-yân	-â
	big	-medial	-vai.fin	-1.s	-subjunctive
adv	initial	-medial	-vai.fin	-CIN	-subjunctive

After when I get big.

IPA Target: [ˈæfdəɹ mɪsədstiˈæna]
IPA Actual: [aftəɹ ʊstɪdstijana]

HERE appears only once in the database (Session 5), in the context of *up here*.[40] Since it only appears once and in isolation, it is difficult to determine if it shares the same properties as AFTER and LATE. The same applies to the adverb THERE, which also only occurs once, but as an English-only utterance in Session 9.

(146) *Utihâ mikw ihtâw up here.* (Billy, 05;02.12)

utih	-â	mikw	iht	-â	-w	**up**	**here**
here	-p,emph	just	be	-vai.fin	-3		
p,dem.location	-p,emph	p,manner	initial	-vai.fin	-IIN	prep	adv

He stays only here up here.

IPA Target: [otʰa mogʊˈdaw ʌpʰ hiɹ]
IP Actual: [otʰa mogə dɑ ʌpkʰ jəɹ]

In summary, Billy uses English-origin adverbs only as bare forms. This is consistent with Billy's use of both colour and miscellaneous adjectives, which he also produces largely without morphology. I have not identified any adverbial tokens in the database attested with Cree morphology. This is not consistent with documented Cree grammar, as most of these concepts would normally be expressed as Cree verb-complexes. Further research would be required to determine whether these constructions are novel, or if Billy has acquired them from his ambient language environment. Finally, I briefly address some of the residual issues that came up during this study, beginning with Billy's use of wh-phrases.

40 Merriam-Webster Dictionary defines this use of "here" as an adverb (www.merriam-webster.com)

5. Residual Issues

In this section I address a small set of additional observations. These relate to the following: English-origin wh- constructions, time constructions, and Billy's productions of numbers and counting. I also briefly address several instances of the adult interlocutor teaching Billy new Cree words.

5.1 English-Origin Wh-Words and Phrases

In this section, I describe Billy's use of wh-words, both as single-word utterances and as part of multi-word utterances. Wh-words incorporated into English multi-word utterances are of particular interest, as these are one of the few construction for which Billy produces a full English complementizer phrase (CP). However, as we will see, these could also be memorized amalgams, as described by MacWhinney (1978), Peters (1983), and Courtney & Saville-Troike (2002). As I report in Table 43, Billy generally produces very few wh-words, with Session 4 being the only session to exceed five wh- tokens.

Table 43: English-origin Wh-Phrases

Session #. B3 Age	No. of English Wh Tokens	No. of English Tokens	Percent
1. 04;06.08	0	73	0.0%
2. 04;07.26	0	38	0.0%
3. 04;09.14	0	28	0.0%
4. 05;00.13	46	107	43.0%
5. 05;02.12	0	37	0.0%
6. 05;05.00	5	71	7.0%
7. 05;05.22	1	106	0.9%
8. 05;06.27	1	44	2.3%
9. 05;10.06	1	104	1.0%
10. 06;00.17	3	73	4.1%
Total	57	681	8.4%

Of Billy's 57 wh- tokens, all but one are the lexeme WHAT. Billy's only other wh- token is the lexeme WHO, which is produced as part of a larger phrase. I begin this section with two examples of Billy using the lexeme WHAT as a single-word utterance. Following this, I examine Billy's use of wh-words within multi-word utterances. The Cree equivalent for WHAT *châkwân* occurs throughout the database, both as *châkwân* and as the obviative *châkwâiyiw*. *What* is also largely used as an interjection particle, giving it a meaning closer to "eh" in Canadian English.

Billy produces *what* as a single-word utterance 50 times in the database, as illustrated in (147).

(147) *What?* (Billy, 05;00.13)
what
wh-phrase
What?

IPA Target: [ˈwʌtʰ]
IPA Actual: [ˈʔa]

Billy also produces *what* as part of an otherwise Cree-only utterance four times. I show one such occurrence in example (148) below.

(148) *What? Tâpâ nichischâyimâw kiyipwâ.* (Billy, 05;00.13)

what	tâpâ	ni-	chisch	-âyi	-m	-â	-w	kiyipwâ
	not	1-	know	-by.mind	-by.head	-thm	-3	of.course
p,intj	p,neg	1-	initial	-medial	-vta.fin	-thm	-IIN	p,aff

What, I don't know, really.

IPA Target: [ˈwʌtʰ dəbə nˈsemaw ˈgibʌ]
IPA Actual: [ˈʔa ɑ nsʊtə kjɔ]

Finally, Billy produces both *what* and *who* as part of multi-word utterances three times in the database. I show this in Table 44, as well as through examples (149) and (150) below. With only three occurrences in the database, wh-words and phrases within multi-word utterances comprise only 5.3% of Billy's wh- tokens.

Table 44: English-Origin Wh-Phrases

Session #. B3 Age	No. of wh- Tokens in Multi-Word Utterances	No. of wh- Tokens as Single-Word Utterances	Percent
1. 04;06.08	0	0	0.0%
2. 04;07.26	0	0	0.0%
3. 04;09.14	0	0	0.0%
4. 05;00.13	0	46	0.0%
5. 05;02.12	0	0	0.0%
6. 05;05.00	0	5	0.0%
7. 05;05.22	1	1	100.0%
8. 05;06.27	1	1	100.0%
9. 05;10.06	1	1	100.0%
10. 06;00.17	0	3	0.0%
Total	3	57	5.3%

In the mixed utterance depicted in example (149) below, the English-origin phrase appears to be grammatically separate from the Cree verb-complex, suggesting that Billy was fluently switching between the two languages within a single utterance. Example (149) is therefore also the most likely candidate for intra-sentential code-switching (or the switching between languages within an utterance) in the database, as defined by Myers-Scotton (1997). However, it could also represent an amalgam as described by MacWhinney (1978), Peters (1983), Courtney & Saville-Troike (2002). Notably, English multi-word phrases containing wh-words do not occur until the later sessions.

(149) *What time châ chîwâyân?* (Billy, 05;05.22)

what	**time**	châ	chîw	-â	-yân
		fut	return.home	-vai.fin	-1.s
wh-phrase	n	pvb,conj	initial	-vai.fin	-CIN

What time will I return home?

IPA Target: [wɑt tajm ʧa ʧiwajan]
IPA Actual: [wʌt tajəm ʧ^{j}a ʧijojɪn]

Example (150) (repeated from example (124) above) is also of particular interest, as this is one of the few grammatical multi-word utterance that Billy produces in English. Not unlike example (149), this could represent inter-sentential code-switching (the switching of languages at the sentence level within a single conversation). This example could alternatively consist of an amalgam, as there is not enough evidence available from the database to conclusively interpret these data.

(150) *Who said that?* (Billy, 05;10.06)

who said that

Who said that?

IPA Target: [hu sɛt ðat]
IPA Actual: [hu sɪd dæt^{h}]

In summary, Billy's multi-word phrases containing wh-words are unusually complicated considering the rest of his English-origin productions. The utterance *Who said that?* depicted in (150) above is one of the few examples of Billy producing a multi-word English-only sentence. Furthermore, (149) is one of the few possible examples of Billy producing intra-sentential code-switching in the database. However, further analysis would be required to determine if these utterances are instead amalgams.

5.2 Time Constructions

Billy produces time-telling constructions in both English and Cree, although these constructions are quite rare. Billy does not produce a full English time-telling construction until Session 7 (see (151) and (152) as examples of full English time-telling constructions). I have identified very few

instances of this construction in English, and it comprises only 1.9% of all of Billy's English-origin tokens (see Table 45). However, these time-telling constructions are worth discussing, as they do display some intriguing properties.

Table 45: Number of English-Origin Time Constructions

Session #. B3 Age	No. of English Time Tokens	No. of English Tokens	Percent
1. 04;06.08	0	73	0.0%
2. 04;07.26	0	38	0.0%
3. 04;09.14	0	28	0.0%
4. 05;00.13	0	107	0.0%
5. 05;02.12	0	37	0.0%
6. 05;05.00	0	71	0.0%
7. 05;05.22	3	106	2.8%
8. 05;06.27	0	44	0.0%
9. 05;10.06	0	104	0.0%
10. 06;00.17	10	73	13.7%
Total	13	681	1.9%

As I show in Table 45, Billy only produces 13 time-telling constructions in English. Three of these are in Session 7, while the other 10 are attested in Session 10. Billy's three English time-telling constructions in Session 7 are all produced as isolated utterances. For example, *six o'clock* comprises Billy's entire utterance in (151).

(151) *six o'clock* (Billy, 05;05.22)

six	**o'clock**
p,num	adv

Six o'clock.

IPA Target: [sɪks ʌklɑk]
IPA Actual: [sɪks əklɔk]

What makes Billy's time-telling constructions so notable it the variety of ways in which he expresses them. Particularly, the time construction FOUR O'CLOCK is unique in the database, in that Billy expresses this idea in English, in Cree, and as a mixed language construction – all in the same session. I provide these utterances in examples (152)-(154) below.

In example (152), Billy produces FOUR O'CLOCK as a full English construction, which is part of an otherwise Cree-only utterance. Of note, Billy's production of the verb *chiwâpihtân* as [ʧɪma] instead of the target [ʤwapʰˈtʰæna] is a common reduction of this verb in the database.

(152) *Shâsh four o'clock chiwâpihtân â?* (Billy, 06;00.17)

shâsh	**four**	**o'clock**	chi-	wâp	-iht	-â	-n	â
already			2-	light	-by.head	-thm	-1/2	p,quest
p,time	p,num	adv	2-	initial	-vti.fin	-thm	-IIN	p,quest

It is now four o'clock, do you see?

IPA Target: [ˈʃæʃ fɔɹ əklɑkʰ ʤwapʰˈtʰæna]
IPA Actual: [haʃ fɔɹ əklʌg ʧɪma]

In example (153), Billy produces FOUR O'CLOCK as a full Cree construction. Billy uses the Cree-origin number *nâu* ("four") and the Cree-origin time-telling verb construction *chîh ishpishipiyiw*. The object of (153) is the English-origin noun *clock*. In (153), the Cree time-telling verb agrees with *clock*, and assigns inanimate grammatical gender. The Cree equivalent for *clock* is the noun *pîsimuhkân*, which is also grammatically inanimate.

(153) *Shâsh wâsh nâu chîh ishpishipiyiw clock.* (Billy, 06;00.17)

shâsh	wâsh	nâu	chîh	ishpish	-ipiyi	-w	**clock**
already	emph	four	past	amount	-inch	-0	
p,time	p,discourse	p,num	pvb	p,quantity	-vintr.fin	-IIN	n

The clock already said four o'clock.

IPA Target: [ˈʃæʃ ˈwaʃ ˈnaw ʤi ˈspijo ˈklɑkʰ]
IPA Actual: [haʃ aʃə naw ʤi spijo kʌkʰ]

Finally, in example (154) Billy produces FOUR O'CLOCK as a mixed language construction. Here, Billy uses the English-origin number *four* followed by the Cree-origin time-telling verb, *ishpishipiyiw*. Notice the similarity in meaning between this utterance and that of (152).

(154) *Chiwâpihtân â shâsh four ishpishipiyiw.* (Billy, 06;00.17)

chi-	wâp	-iht	-â	-n	â	shâsh	**four**	ishpish	-ipiyi	-w
2-	light	-by.head	-thm	-1/2	p,quest	already		amount	-inch	-3
2-	initial	-vti.fin	-thm	-IIN	p,quest	p,time	p,num	p,quantity	-vintr.fin	-IIN

Do you see it is now four o'clock?

IPA Target: [ʤwaptænə ʃæʃ fɔɹ əklɑkʰ ɪʃpʰʃɪbijo]
IPA Actual: [ʧʃɪma haʃ fɔɹ əklɑg iʃɪbijo]

As I have demonstrated in examples (151)-(154), Billy has full command of the ability to tell time in English, Cree, or to use a combination of the two languages. In particular, the fact that Billy produces the construction FOUR O'CLOCK in Cree, English, and as a mixed language construction in the same session is a strong indication of Billy's productive use of time-telling constructions in both languages.

5.3 English-Origin Numerals

Billy produces English-origin numerals throughout the database. Billy also produces several nouns that contain numerals, including FOUR-WHEELER, NUMBER ONE BUS, and GRADE ONE, as well as the place names LG1 and LG2. As these nouns were discussed as part of Section 1, I have not included them in this section. Most of the numbers that Billy produces are his recitation of local phone numbers. I indicate several exceptions to this, primarily in cases where he is using a

number as an adjective or a determiner. I have also identified instances throughout the sessions where the adult appears to be instructing Billy in using Cree numerals.

Table 46: Frequency of English-Origin Numerals

Session #. B3 Age	No. of English Number Tokens	No. of English Tokens	Percent
1. 04;06.08	0	73	0.0%
2. 04;07.26	0	38	0.0%
3. 04;09.14	9	28	32.1%
4. 05;00.13	0	107	0.0%
5. 05;02.12	0	37	0.0%
6. 05;05.00	1	71	1.4%
7. 05;05.22	33	106	31.1%
8. 05;06.27	0	44	0.0%
9. 05;10.06	21	104	20.2%
10. 06;00.17	10	73	13.7%
Total	74	681	10.9%

As I report in Table 46, Billy produces 74 tokens of English-origin numerals, which represent 10.9% of his English-origin tokens. As I indicated above, Billy's most common use of English-origin numerals are as part of his recitation of a phone number. For these, I coded each numeral within the phone number as a separate token. All of the numeral in Sessions 9, and all but two of the numerals in Session 7, are part of phone numbers. This explains the disproportionately higher instances of numeral tokens in these sessions. During the recitation of these phone numbers, Billy would often pause his speech, playing with a toy, creating sometimes substantial periods of silence between the numerals. In such cases, the numerals were coded as separate utterances. Example (155) repeated from (137) is one instance of Billy producing numerals as part of a phone number.

(155) *Mâutâh first eight one nine...* (Billy, 05;10.06)

mâu	-tâh	**first**	**eight**	**one**	**nine**
this	-loc				
p,dem.pxl	-loc	adj	p,num	p,num	p,num

This way first 819...

IPA Target:	[mawtah	fəɹst	et	wʌ	najn...]
IPA Actual:	[məda	fiɹstʰ	ed	o	najn...]

Billy also uses English-origin numbers to count in two utterances in the database. Both of these are in Session 10, and part of the same conversation with the adult interlocutor. The mixed language utterance provided in (156) is one such example of Billy counting in English.

(156) *Wâpihtimâ one two three.* (Billy, 06;00.17)

wâp	-iht	-im	-â	**one**	**two**	**three**
light	-by.head	-by.head	-2.s			
initial	-vti.fin	-vta.fin	-Imp	p,num	p,num	p,num

Look at it one two three.

IPA Target:	[ˈwɑpʰtʰma	ˈwʌn	ˈtʰu	ˈθɹi]	
IPA Actual:	[	ʤəma	wan	tʰu	θɹi]

I have also identified a total of 14 English numerals that are not part of a phone number or counting, but are part of mixed language utterances. These include Billy using a numeral as a determiner, to represent his age, as well as other miscellaneous uses. I have identified eight of these numeral tokens in Session 3, one in Session 6, two in Session 2, and three in Session 10. I provide one such utterance in example (157).

(157) *Nimui mikw three nichî ihtishinân.* (Billy, 06;00.17)

nimui	mikw	**three**	ni-	chî	iht	-ishi	-nân
not	just		1-	past	be	-vai.fin	1.pl
p,neg	p,manner	p,num	1-	pvb	initial	-vai.fin	-IIN

No, there was only three of us.

IPA Target: [nəˈ mwi mʊkʷ θɹi ənˈʤɪʧɪnæn]
IPA Actual: [mʌj mokʰ dɾih ændʒɪʧɪnæn]

Billy uses an English-origin numeral as a determiner in Sessions 3 and 10. Note that in (158) below, Billy produces *head* as a singular noun, whereas we might otherwise expect plural agreement with the determiner *three*. In (159), Billy does produce the plural agreement morphology for the determiner *five* on the noun *times*.

(158) *Three head ihtikun.* (Billy, 06;00.17)

three	**head**	ihtikun
		be
p,num	n	initial.vii

There are three head(s).

IPA Target: [θɹi ˈhɛdt əgʊn]
IPA Actual: [gɹi hæd ogʷʊn]

(159) *Five times after nichîh itikw.* (Billy, 04;09.14)

five	**time**	**-s**	**after**	ni-	chîh	it	-ikw
				1-	past	tell	-thm.inv
p,num	n	-pl	prep	1-	pvb	initial	-thm.inv

Then she told me after five times.

IPA Target: [ˈfajv ˈtʰajmz ˈæftəɹ nˈʤi dʌkʰ]
IPA Actual: [fʌjf tajms hæftəɹ ndʒi dʊk]

I have identified one example of Billy using an English-origin number to describe his age. This I include as example (160) below. Note that the segmentation of the verb *tipishkimânâ* is incorrect. The verb is *tipishkim* "s/he has a birthday" (an objectless TI), and it is inflected in the conjunct here. The correct segmentation is /*tipishk-im-ân-â/* (be.old-TI.thm-lsg.CIN-subjunctive).

(160) *Pâtish tipishkimânâ six îhtupunwâsiyânâ.* (Billy, 05;05.00)

pâtish	tipishkim	-â	-n	-â	**six**
later	be.old	-thm	-1/2	-subjunctive	
p,time	initial	-thm	-IIN	-subjunctive	p,num

îhtupunwâ	-si	-yân	-â
be.birthday	-vai.fin	-1.s	-subjunctive
initial	-vai.fin	-CIN	-subjunctive

When I have my birthday when I am six years old.

IPA Target: [aˈbaʧtəpʃkamana asəks idopənosiˈænə]
IPA Actual: [bɑʃdɪbskəmanə sɪks igənɑsɛːnə]

Finally, Billy also uses Cree-origin numerals in the database. Although I have limited my examination of his Cree-only utterances, I do present one example of a Cree-origin numeral in (161) for the sake of comparison. In this example, Billy produces *nîsh-*, the Cree equivalent for "two", as a verb-initial. In fact, the database contains evidence suggesting that Billy has Cree equivalents for most of the English-origin numerals that he uses, while he sometimes elects to produce the English numerals as well.

(161) *Toronto â nîshiwich.* (Billy, 04;07.26)

Toronto	â	nîsh	-i	-wich
name	p,quest	two	-vai.fin	-3.pl
n	p,quest	initial	-vai.fin	-IIN

There are two of Toronto.

IPA Target: [tɻɑntoˈw æː ˈniʃutʃ]
IPA Actual: [ʧwanto ˈa niʃuʧ]

In (162), the adult interlocutor makes some effort to correct Billy's language choice. In this case, when Billy produces an English-origin numeral, she repeats the Cree equivalent back to him. In the few utterances following this particular example, Billy and the adult count together up to nine in Cree. He appears to be playing with a toy with a number pad.

(162) *Oh pâyikw nîshu nishtu nâu niyâyu.* (Adult, Session 3)

Oh	pâyikw	nîshu	nishtu	nâu	niyâyu
oh	one	two	three	four	five
p,intj	p,num	p,num	p,num	p,num	p,num

Oh! One, two, three, four, five.

Billy's demonstration of the ability to produce both Cree- and English-origin numerals relatively interchangeably is further evidence that he has some level of lexical knowledge of English as a separate language from Cree. This observation is supported though several instances in the database in which the adult interlocutor provides direct instructions for discriminating between these two languages. I briefly discuss this behaviour in Section 5.4 below.

5.4 Language Teaching

On several occasions within the database, the adult interlocutor actively redirects Billy's speech from English back to Cree. The adult achieves this using several different tactics. Occasionally, Billy will use a word in English, and the adult will respond using the Cree equivalent. Sometimes Billy recognizes the Cree equivalent, and the conversation is uninterrupted. However, on a few occasions (particularly in the earlier sessions), Billy does not recognize the Cree word, and the adult then indicates that this is the Cree equivalent for the word he just used.

Examples (163) and (164) illustrate the adult correcting Billy's language choice, and providing him with a Cree equivalent. In (163), Billy uses the English-origin noun *helicopter*. Shortly thereafter in (164), the adult corrects Billy, and provides him with the Cree equivalent *kâwâpikitûshiwipiyich*.

(163) *Helicopter helicopter û.* (Billy, 04;07.26)

helicopter	helicopter	û
		this
n	n	p,dem.pxl

Helicopter, this helicopter.

IPA Actual: [hɛləˈkɔptəɹ hɛləˈkɔptəɹ ˈo]

(164) *Oh âi îshinihkâtâu û â kâwâpikitûshiwipiyich îshinihkâtikiniw.* (Adult, Session 2)

oh	âi	îshinihkât	-â	-u	û	â
oh	pro,hes	name	-vii.fin	-0	this	p,emph
p,intj	pro,hes	initial	-vii.fin	-0	p,dem.pxl	p,emph

kâwâpikitûshiwipiyich	îshinihkât	-ikiniw
helicopter	name	-passive.3
nip	initial	-passive

Oh, we call this a helicopter.

In (165), the adult also makes a point of directly differentiating between Cree and English vocabulary. In this case, Billy is asking about different objects and animals shown in a picture book. The adult cannot recall the Cree equivalent for the object in the book, so she tells Billy that she does not know the Cree word for this object. Following this, she describes the properties of the object in Cree. In this case, she describes the object as something very small that we can see only with a microscope.

(165) *Tâpâ nichischâyihtân âshinihkâtikiniwich-h* (Adult, Session 2)
âh îyiyiunihkâtikiniwich-h.

tâpâ	ni-	chisch	-ây	-iht	-â	-n	âshinihkât	-ikiniwich	-h
not	1-	know	-by.mind	-by.head	-thm	-1/2	name	-passive.3	-3.pl
p,neg	1-	initial	-medial	-vti.fin	-thm	-IIN	initial.IC	-passive	-IIN

âh	îyiyiunihkât	-ikiniwich	-h
pvb,conj	Cree.name	-passive.3	-3.pl
pvb,conj	initial	-passive	-IIN

I don't know what they are called in Cree.

While it is not possible to ascertain whether or not Billy has acquired a firm distinction between Cree and English, his productions are consistent with a basic lexical knowledge of English that he is fluently able to incorporate into his Cree grammar. Billy's incorporation behaviours are also indicative of a high level of fluency in Cree.

Chapter 6: Conclusion

1. Summary of Thesis

In this thesis, I have presented a case study of Billy's use of English-origin constructions between the ages of 4;06 and 6;00 using data from the CCLAS database.

The questions that I have addressed in my research are as follows:

1. Is Billy predominately speaking one language over the other, and what fluency does he display in his dominant and subordinate languages?

2. What types of English-origin parts of speech and constructions is Billy using, and to what extent are these forms interacting with (or being incorporated into) his Cree grammar?

As stated in Chapter 1, Billy was raised in Chisasibi, a multilingual community in the James Bay region of Quebec. Although his parents sought to raise him in a monolingual NE Cree environment, Billy produces English-origin words in 19.9% of his utterances. This suggests that Billy was instead exposed to a mixed language environment. Drapeau (1995) claims that language contact phenomena such as code switching and the use of borrowed words are often unconsciously employed by caregivers in child-directed speech. Drapeau's claim is supported by the child-directed speech in the CCLAS database, in which the adult speaker occasionally uses English-origin forms. It is unknown what proportion of the English that Billy was exposed to was true code-switching, and what proportion has been fully integrated into NE Cree as established borrowings (either lexical or morpho-syntactic). It is with this context in mind that I return to my two research questions.

2. Addressing Research Question 1

I have shown throughout this thesis that Billy fluently produces grammatically complex utterances in Cree. As stated above, 80.1% of his utterances display no English-origin parts of

speech. Billy's subordinate language is English. Although he uses English-origin parts of speech in 19.9% of his utterances, most of these are in fact mixed utterances (12.5% of his total utterances), leaving only 7.4% of his total utterances to contain exclusively English words. Further, most of these English-only utterances are also single-word utterances. In fact, out of 2,756 utterances, Billy only produces a handful of multi-word grammatical sentences in English.

However, it was not possible to determine Billy's actual level of fluency in English from this dataset: this corpus was gathered with the intention of eliciting Cree utterances, and minimizing the production of English utterances. As Champdoizeau (2006) points out, a child is much less likely to use his or her subordinate language when given the option to use his or her dominant language. We therefore cannot conclusively take Billy's lack of complex English utterances as an indicator of his English language fluency. The overall picture painted by the available data is that of a child who speaks Cree fluently, and peppers his Cree grammar with borrowed English lexical items.

3. Addressing Research Question 2

In order to address this question, I have grouped my observations by parts of speech. I present these observations in subsection 3.1-3.3 below.

3.1 Nouns

Nouns constitute by far the most common English-origin part of speech that Billy uses in the database. Nouns (including language-specific proper nouns) make up 57.6% of Billy's English-origin tokens. This makes sense, given that nouns are labels for things that exist in the world. Many of the English-origin nouns in the database may also be integrated into everyday Cree, given the mixed language setting in Chisasibi. Nouns are also a relatively easy access point into Cree grammar: the noun-complex is much simpler than the verb-complex (see section 2.2-2.3 of Chapter 2). It therefore stands to reason that nouns would be more frequently incorporated in Billy's mixed language productions than verbs, which is what we have observed.

As I discussed in Section 1 of Chapter 5, most of Billy's nominal lexemes were attested with either no morphology at all, or either Cree or English morphology. It was quite rare for a lexeme to occur in the database with both Cree and English morphology. Only seven of Billy's 149 different lexemes were attested with both Cree or English morphology, and only one of these lexemes was attested with the morphology of both Cree and English on a single token. Generally, Billy selected either Cree or English morphology for a given lexeme, and was consistent with this selection throughout the database. This observation is also consistent with my findings from my study with Alice Duff (described in Section 1 of Chapter 3). Duff's speaker's intuition also indicated that most English-origin nouns were being consistently used with English morphology, while others were being consistently used with Cree (p.c. 2013).

As stated in Section 1.2 of Chapter 5, the types of English nominal morphology that Billy produces are a proper subset of his Cree nominal morphology. From Cree, Billy produces plural, genitive, locative, diminutive, and obviative nominal morphology, while from English he produces only plural, genitive, and locative nominal morphology. This follows from the observation that diminutive and obviative morphology are not used to the same extent (if at all) in English as they are in Cree.

Billy's English-origin genitive and locative constructions do not appear to be productive. From English, Billy only produces the first person singular genitive marker (*my*), while from Cree he produces the first person singular and plural, as well as third person genitive markers. Billy uses the English *my* on nine different lexemes, only one of which is attested both with and without English genitive morphology in the database. His English locative marker is restricted to the phrase *in the*, which he uses alongside five different lexemes, which also never appear in the database without this locative morphology. From the limited quantity of examples of these particular forms, it seems unlikely that Billy has productive use of English-origin locative or genitive nominal morphology. He may however have productive use of English first person genitive, as he produces one lexeme both with and without this morphology.

English plural morphology is the strongest candidate for productivity or incorporation into his Cree grammar. Billy uses the plural morpheme /-s/ on an English-origin noun 45 times within the

database on 27 different English-origin nominal lexemes. Many of these lexemes also have tokens attested without English plural morphology. Conversely, Billy only produces Cree plural morphology on an English-origin noun once in the database. As I discussed in Section 1.2 of Chapter 5, some of Billy's Cree verbs show evidence of agreeing with these English-origin nouns in plurality, even without the presence of any Cree morphology on the English nouns. Finally, the fact that Billy's Cree verbs display evidence of agreement with English plural morphology suggests that this plural /-s/ morphology is, at least for Billy, incorporated into his Cree grammar.

3.2 Verbs and Lexical Roots

Billy produces English-origin verbs much less frequently than English-origin nouns. In fact, English-origin verbs and lexical roots combined make up only 5% of Billy's total English tokens. Furthermore, many of the English-origin lexical roots are also nouns. Billy only uses 10 different English-origin unambiguous verbs in the database. However, these verbs and lexical roots are of special interest, as they can be incorporated into the Cree verb-complex. As I have discussed in Section 2.2 of Chapter 2, these borrowed words are only ever inserted into the Cree verb-initial, which is where the verb's lexical information is expressed.

It is not possible to determine from this dataset whether Billy is creating novel mixed verbal constructions, or if he has acquired these mixed verb-complexes from his environment. Regardless, these forms give us a unique insight into the creation of novel verb constructions in Cree, and set the groundwork for further research on this topic.

3.3 Adjectives, Adverbs, and Colours

Adjectives and adverbs are inherently interesting forms in that they do not exist in Cree. Instead, adjectives and adverbial meanings are generally expressed through verbs and particles in Cree. Billy consistently uses both adjectives and adverbs in their bare English form, without morphology. The clearest example of this is Billy's use of colours (as discussed in Section 4.2 of Chapter 5). Instead of using the Cree verb-complex for a given colour, Billy produces the colour as a bare adjective in English, followed by the Cree verb *kâishinâkuhch* ("thusly appear"). This is

an ungrammatical use of the verb *kâishinâkuhch*. However, Billy uses this format for colours in multiple utterances. As with his use of verbs and lexical roots, it is not possible to determine whether Billy is using this as a novel structure or has acquired this from his ambient language environment.

4. Limitations of the Current Study

As is the case with any study of a single child's language acquisition, this research has inherent limitations. This thesis offers an overview of Billy's English-origin constructions, and how these interact with his Cree grammar. I make no claims that these finding are applicable beyond Billy's own language development, except for future comparisons with other speakers. This study also only examines 10 out of the 20 sessions in the database, and does not take into account the adult data.

As discussed in Chapter 3, the data were gathered with the goal of eliciting a maximum number of utterances using the Cree language. For this reason, it is difficult to discern Billy's level of fluency in English, or the productivity of his English morphology. I have therefore been cautious about drawing definitive conclusions regarding his lower production rates of English utterances. This study would thus benefit from further investigation, for example aimed specifically at eliciting English-origin morphology in mixed and English-only constructions.

5. Discussion

Perhaps the most central observation of this thesis is that Billy appears to have acquired a grammar for the Cree language that is largely devoid of English rules or structures. Even in his mixed constructions, Billy's complex Cree morpho-syntax continues to be expressed. Billy does display some grammatical shifts (such as his use of colours), although it is unknown if these represent novel mixes, or constructions acquired from the ambient language. While Billy produces English morphology on 75 English-origin noun tokens, he also produces Cree morphology on 53 English-origin noun tokens. Of these 53 tokens carrying Cree morphology, I was unable to identify any Cree morphology that was incorrectly applied. The vast majority of

the English-origin verbs and lexical roots that Billy produces within a Cree verb-complex are also properly incorporated into the verb-complex.

In summary, Billy was raised in a largely monolingual Cree language learning environment, despite living in a mixed language community. Within the context of this dataset, Billy consistently produces fluent Cree utterances with much more frequency, reliability, and morpho-syntactic complexity than his English productions. The English words that he does produce are also most often incorporated in his Cree grammar. The viability of any language depends on the ability of that language to evolve and grow, adapting to the needs of its speakers (Crystal 2002). Billy is part of a new generation of NE Cree speakers who grew up in a mixed language environment. This work provides insight into how language contact phenomena can manifest in one child learning NE Cree as a first language.

Appendix I: Abbreviations for Cree Gloss

0	third person inanimate
0.pl	third person inanimate plural
0.s	third person inanimate singular
1	first person
1.s	first person singular
1/2	first or second person (speech act participant)
1>3.PL	first person subject; third person plural object
2	second person
2.s	second person singular
3	third person animate
3P/4	3rd animate plural / animate obviative
3.s	third person animate singular
3>3	third person subject; third person object
ADJ	adjective
ADV	adverb
AN.OBV~INAN.PL	animate obviative or inanimate plural
AN.PL	animate plural
ARTCL	article
CAUS	causative
CIN	Conjunct Indicative Neutral
CONJN	conjunction
DEM	demonstrative
DIM	diminutive
EMPH	emphatic
ENG	English
FIN	verb final
FUT	future
FUT.1/2	first or second person future
IC	initial change

IIN	Independent Indicative Neutral
IMP	imperative
IMPERS	impersonal
INAN	inanimate
INITIAL	verb initial
INITIAL.VAI	animate intransitive verb initial
INITIAL.VII	inanimate intransitive verb initial
INITIAL.VTA	animate transitive verb initial
INITIAL.VTI	inanimate transitive verb initial
LOC	locative
N	noun
NA	animate noun
NEG	negative
NI	inanimate noun
NID	noun inanimate dependent
OBV	obviative
OBV(AN)	obviative animate
OBV.INAN(N)	obviative inanimate
P,AFF	affirmative particle
P,CONJN	conjunction particle
P,DEM	demonstrative particle
P,DEM.DST	distal demonstrative
P,DEM.FOC.LOCATION	focused location demonstrative
P,DEM.LOCATION	location demonstrative
P,DEM.PXL	proximal demonstrative
P,DEM+G.PXL	proximal gestured demonstrative
P,DISC	discourse particle
P,EMPH	emphatic particle
P,INTJ	interjection
P,MANNER	manner particle
P,NEG	negative particle

P,NEG.EMPH	negative emphatic particle
P,NUM	number particle
P,QUANT	quantity particle
P,QUEST	question particle
P,TIME	time particle
P,WH	wh-particle
PASSIVE.1/2	first or second person passive
PASSIVE.3	third person passive
PASSIVE(II)	inanimate intransitive passive
PAST.NEG	negative past tense
PL	plural
POSS.PRON	possessive pronoun
POSS.PRON.1	first person possessive pronoun
PREP	preposition
PRO	pronoun
PRO,ALT	pronoun alternant
PRO,FOC	focus pronoun
PRO,HES	hesitation pronoun
PRO,INDEF	indefinite pronoun
PRO,WH	wh-pronoun
PVB	preverb
PVB,CONJ	conjunct preverb
S	singular
SOC	social word
THM	theme
THM.DIR	direct theme
THM.INV	inverse theme
V	verb
V,PAST	past tense verb
VAI	animate intransitive verb
VAI.FIN	animate intransitive verb final

VAI+O	transitivized animate intransitive verb
VII	inanimate intransitive verb
VII.FIN	inanimate intransitive verb final
VINTR.FIN	intransitive verb final
VERB.STEM	verb stem
VTA	transitive animate verb
VTA.FIN	transitive animate verb final
VTI	transitive inanimate verb
VTI.FIN	transitive inanimate verb final
VTI.THM	transitive inanimate verb theme
VTR.FIN	transitive verb final

Appendix II: List of Abbreviations

BothMorph	Lexemes that occur with both English and Cree morphology – either simultaneously or on two separate tokens
CCLAS	Chisasibi Child Language Acquisition Study
CDS	child-directed speech
CP	complementizer phrase
CreeMorph	Lexemes with at least one instance of Cree morphology, and no instances of English morphology
CS	child speech
EL	embedded language
EngMorph	Lexemes with at least one instance of English morphology, and no instances of Cree morphology
IPA	International Phonetic Alphabet
L1	a speaker's first language, often their primary language
L2	a speaker's second language, often their subordinate language
ML	matrix language
MLF	Matrix Language Framework
MOP	Morpheme Order Principle
NE Cree	Northern East Cree
NoMorph	Lexemes with no instances of either Cree or English morphology
NP	noun phrase
PP	prepositional phrase
SE Cree	Southern East Cree
SMP	System Morpheme Principle
VP	verb phrase

References

Akmajian, Adrian. 2001. *Linguistics: An Introduction to Language and Communication*. MIT Press.

Allen, Shanley. 1996. Aspects of Argument Structure Acquisition in Inuktitut. *Language Acquisition and Language Disorders 13*.

Allen, Shanley. 1998. Categories Within the Verb Category: Learning the Causative in Inuktitut. *Linguistics* 36(3). 483–521.

Allen, Shanley. 2000. A Discourse-Pragmatic Explanation for Argument Representation in Child Inuktitut. *Linguistics* 38(3). 483–521.

Allen, Shanley. 2009. Verb Argument Structure. In Edith Bavin (ed.), *Cambridge Handbook of Child Language*, 217–236. Cambridge, UK: Cambridge University Press.

Allen, Shanley & Martha Crago. 1989. Acquisition of Noun Incorporation in Inuktitut. *Papers and Reports on Child Language Development 28: Proceedings of the Stanford Child Language Research Forum*, 49–56. Stanford: Stanford University.

Allen, Shanley & Martha Crago. 1996. Early Passive Acquisition in Inuktitut. *Journal of Child Language* 23(1). 129–155.

Allen, Shanley, Fred Genesee, Sarah Fish & Martha Crago. 2002. Patterns of Code Mixing in English-Inuktitut Bilinguals. In Mary Andronis, Christopher Ball, Heidi Elston & Sylvain Neuvel (eds.), *Proceedings of the 37th Annual Meeting of the Chicago Linguistic Society*, vol. 28, 515–536. Chicago, IL: Chicago Linguistic Society.

Allen, Shanley, Fred Genesee, Sarah Fish & Martha Crago. 2009. Typological Constraints on Code Mixing in Inuktitut-English Bilingual Adults. In Nicole Tersis & Marc-Antoine Mahieu (eds.), *Variations on Polysynthesis: The Eskaleut Languages*, vol. 27, 273–306. Amsterdam: Benjamins.

Allen, Shanley & Heike Schröder. 2003. Preferred Argument Structure in Early Inuktitut Spontaneous Speech Data. In John W. Du Bois, Lorraine E. Kumpf & William J. Ashby (eds.), *Preferred Argument Structure: Grammar as Architecture for Function*, 301–338. Amsterdam: John Benjamins.

Bellugi, Ursula & Roger Brown. 1964. The Acquisition of Language. *Monographs of the Society for Research in Child Development* 29. 1–192.

Bentahila, Abdelali & Eirlys E. Davies. 1983. The Syntax of Arabic-French Code-Switching. *Lingua* 59(4). 301–330.

Bloomfield, Leonard. 1946. Algonquian. In Harry Hoijer et al. (ed.), *Linguistic Structures of Native America*, vol. 6, 85–129. New York: Viking Fund Publications in Anthropology, 6.

Bloomfield, Leonard. 1962. *The Menomini Language*. New Haven, Connecticut: Yale University Press.

Bowen, Donald. 1975. Adaptation of English Borrowing. In Eduardo Hernández-Chavez, Andrew Cohen & Anthony Beltramo (eds.), *El Lenguaje de los Chicanos*, 115–121. Arlington, Va: Center for Applied Linguistics.

Brittain, Julie. 2001. *The Morphosyntax of the Algonquian Verb: A Minimalist Approach*. New York: Garland Publishing Inc.

Brittain, Julie, Carrie Dyck, Yvan Rose & Marguerite MacKenzie. 2007. The Chisasibi Child Language Acquisition Study. In Hans Christoph Wolfart (ed.), *Papers of the Thirty-Eighth Algonquian Conference*, 29–45. Winnipeg: University of Manitoba.

Brittain, Julie & Marguerite Mackenzie. 2010. The Future of Cree. In Emily Faries, Marguerite Mackenzie, Julie Brittain, Lori Morris, Serge Demers, Marie-Odile Junker, Elizabeth Chiskamish, Nadine Dostaler & Susan Runnels (eds.), *Research Report: Cree School Board Language of Instruction Evaluation*. Chisasibi, QC: Cree School Board of Quebec.
Brown, Penelope. 1997. Isolating the CVC Root in Tzeltal Mayan: A Study of Children's First Verbs. In Eve V. Clark (ed.), *The Proceedings of the Twenty-Eighth Annual Child Language Research Forum*, 41–52. Stanford, CA: Center Study Language & Information.
Brown, Penelope. 1998a. Children's First Verbs in Tzeltal: Evidence for an Early Verb Category. *Linguistics* 36(4). 713–753.
Brown, Penelope. 1998b. The Identification of Verb Roots in Tzeltal [Maya]: How Do Children Do It? *Function*(December edition). 121–146.
Brown, Penelope. 1998c. Conversational Structure and Language Acquisition: The Role of Repetition in Tzeltal. *Journal of Linguistic Anthropology* 8(2). 197–221.
Brown, Penelope. 1998d. Children's First Verbs in Tzeltal: Evidence for an Early Verb Category. *Linguistics* 36(4). 713–753.
Brown, Penelope. 2000. Conversational Structure and Language Acquisition: The Role of Repetition in Tzeltal. *Journal of Linguistic Anthropology* 8(2). 197–221.
Brown, Roger. 1973. *A First Language: The Early Stages*. Cambridge, MA: Harvard University Press.
Bryant, Kayla. 2013. The Development of Segmental Phonology in a Mixed Language Environment: A Case Study from Northern East Cree. Memorial University of Newfoundland M.A. Thesis.
Bybee, Joan L. & Dan I. Slobin. 1982. Rules and Schemas in the Development and Use of the English Past Tense. *Language* 58(2). 265–289.
Champdoizeau, Christine. 2006. Issues in Bilingual Acquisition: A Case Study. Memorial University Master of Arts.
Cook, Eung-Do. 2006. The Patterns of Consonantal Acquisition and Change in Chipewyan (Dene Suline). *International Journal of American Linguistics* 72(2). 236–263.
Courtney, Ellen H. & Muriel Saville-Troike. 2002. Learning to Construct Verbs in Navajo and Quechua. *Journal of Child Language* 29(3). 623–654.
Crago, Martha & Shanley Allen. 1998. Acquiring Inuktitut. In Orlando L. Taylor & Laurence Leonard (eds.), *Language Acquisition Across North America: Cross-Cultural and Cross-Linguistic Perspectives*, 245–279. San Diego, CA: Singular Publishing Group.
Crago, Martha & Shanley Allen. 2001. Early Finiteness in Inuktitut: The Role of Language Structure and Input. *Language Acquisition* 9(1). 59–111.
Crawhall, Nigel. 1990. Shona/English Data. *Unpublished*.
Crystal, David. 2002. *Language Death*. Cambridge, UK: Cambridge University Press.
Di Sciullo, Anne-Marie, Pieter Muysken & Rajendra Singh. 1986. Government and Code-Mixing. *Journal of Linguistics* 22. 1–24.
Drapeau, Lynn. 1993. Bilinguisme et érosion lexicale dans une communauté montagnaise. In Pierre Martel & Jacques Maurais (eds.), *Langues et sociétés en contact. Mélanges en l'honneur de J.-C. Corbeil*, vol. 8, 363–76. Tübingen: Niemeyer.
Drapeau, Lynn. 1995. Small Languages and Small Language Communities. *International Journal of the Sociology of Language* 113. 157–164.
Drapeau, Lynn. 2008. *L'analyse de la position médiane en innu: hypothèses et paramètres d'analyse*. Montréal: Université du Québec à Montréal.

Feuer, Hanny. 1980. Morphological Development in Mohawk. *Papers and Reports on Child Language Development 18*, 25–42. Stanford: Stanford University.
Fortescue, Michael. 1985. Learning to Speak Greenlandic: A Case Study of a Two-Year Old's Morphology in a Polysynthetic Language. *First Language* 2. 101–114.
Fortescue, Michael & Lise Lennert Olsen. 1992. The Acquisition of West Greenlandic. In Dan I. Slobin (ed.), *The Crosslinguistic Study of Language Acquisition. Vol. 3*, 111–220. Hillsdale, NJ: Lawrence Erlbaum Associates.
Genesee, Fred, Elena Nicoladis & Johanne Paradis. 1995. Language Differentiation in Early Bilingual Development. *Journal of Child Language* 22(3). 611–31.
Goddard, Ives. 1979. *Delaware Verbal Morphology: A Descriptive and Comparative Study*. New York: Garland.
Grenoble, Lenore A. & Lindsay J. Whaley. 1998. *Endangered Languages: Language Loss and Community Response*. Cambridge, UK: Cambridge University Press.
Grosjean, François. 1982. *Life with Two Languages: An Introduction to Bilingualism*. Cambridge, MA: Harvard University Press.
Grosjean, François & Carlos Soares. 1986. Processing Mixed Languages: Some preliminary Findings. In Joytsna Vaid (ed.), *Language Processing in Bilinguals: Psycholinguistic and Neuropsychological Perspectives*, 145–179. Hillsdale, NJ: Lawrence Erlbaum Associates.
Hack, Jamie & J. Dean Mellow. 2007. A Functional Analysis of the Acquisition of Oji-Cree (Severn Ojibwe). In Hans Christoph Wolfart (ed.), *Papers of the Thirty-Eighth Algonquian Conference*, 272–288. Winnipeg, MB: University of Manitoba.
Harriott, Phillip & Wladyslaw Cichochi. 1993. Accentedness Ratings of English Loanwords by Acadian French Listeners. *Revue québécoise de linguistique* 22. 93–106.
Haugen, Einar. 1950. The Analysis of Linguistic Borrowings. *Language* 26. 210–231.
Haugen, Einar. 1969. *The Norwegian Language in America*. Bloomington: University of Indiana Press.
Hoff, Erika, Cynthia Core, Silvia Place, Rosario Rumiche, Melissa Señor & Marisol Parra. 2012. Dual Language Exposure and Early Bilingual Development. *Journal of Child Language* 39(1). 1–27.
Johansson, Sara. 2012. Learning Words Before Learning Grammar: A Case Study of Passives and Unaccusativity in Northern East Cree First Language Acquisition. Memorial University M.A. Thesis.
Junker, Marie-Odile, Marguerite Mackenzie & Julie Brittain. 2012. Comparative Structures of East Cree and English. Online Document. http://www.eastcree.org/cree/en/resources/teachers-corner/.
Knee, Sarah. 2012. Vowel devocalization in Northern East Cree. St John's, NL, ms.
Lovins, Julie. 1975. *Loanwords and the Phonological Structure of Japanese*. Bloomington, Indiana: Indiana University Linguistics Club.
MacKenzie, Marguerite. 1982. Towards a Dialectology of Cree-Montagnais-Neskapi. University of Toronto Ph.D. Dissertaion.
MacSwan, Jeff. 1999. *A Minimalist Approach to Intrasentential Code Switching*. New York: Garland Press.
MacWhinney, Brian. 1978. *The Acquisition of Morphophonology*. Chicago: University of Chicago Press.
Marcus, Gary F., Steven Pinker, Michael Ullman, Michelle Hollander, T. John Rosen, Fei Xu & Harald Clahsen. 1992. Overregularization in Language Acquisition. *Monographs of the Society for Research in Child Development* 57(4). 1–178.

Mateo Pedro, Pedro. 2011. The Acquisition of Verb Inflection in Q'anjob'al Maya: A Longitudinal Study. University of Kansas Ph.D. Dissertation.
Meisel, Jürgen M. 1994. Code-switching in young bilingual children: the acquisition of grammatical constraints. *Studies in Second Language Acquisition* 16. 413–441.
Mithun, Marianne. 1989. The Acquisition of Polysynthesis. *Journal of Child Language* 16. 285–312.
Muysken, Pieter. 2000. *Bilingual Speech: a Typology of Code-Mixing*. Cambridge, England: Cambridge University Press.
Myers-Scotton, Carol. 1993. *Duelling Languages: Grammatical Structure in Codeswitching*. Oxford: Clarendon Press.
Myers-Scotton, Carol. 1997. *Duelling Languages: Grammatical Structure in Codeswitching*. 2nd ed. Oxford: Clarendon Press.
Myers-Scotton, Carol. 2002. *Contact Linguistics: Bilingual Encounters and Grammatical Outcomes*. Oxford: Oxford University Press.
Myers-Scotton, Carol & Janice L. Jake. 2000. Four Types of Morpheme: Evidence from Aphasia, Codeswitching, and Second Language Acquisition. *Linguistics* 38. 1053–1100.
Nicoladis, Elena & Fred Genesee. 1996. Bilingual Communication Strategies and Language Dominance. *Proceedings from the 20st Annual Boston University Conference on Language Development* 2. 576–584.
Oxford, Will. 2008. *A Grammatical Study of Innu-Aimun Particles* (Algonquian and Iroquoian Linguistics Memoir 20). Winnipeg, MB.
Paradis, Carole & Darlene LaCharité. 1997. Preservation and Minimality in Loanword Adaptation. *Journal of Linguistics* 33. 379–430.
Paradis, Johanne, Elena Nicoladis & Fred Genesee. 2000. Early Emergence of Structural Constraints on Code Mixing: Evidence from French–English Bilingual Children. *Bilingualism: Language and Cognition* 3(03). 245–261.
Parkinson, David John. 2000. The Interaction of Syntax and Morphology in the Acquisition of Noun Incorporation in Inuktitut. Ithaca, NY: Cornell University Ph.D. Dissertation.
Peters, Ann M. 1983. *The Units of Language Acquisition*. Cambridge, UK: Cambridge University Press.
Petersen, Jennifer. 1988. Word-Internal Code-Switching Constraints in a Bilingual Child's Grammar. *Linguistics* 18. 41–58.
Pfeiler, Barbara & Enrique Martin Briceno. 1997. Early Verb Inflection in Yucatec Maya. *Papers and Studies in Contrastive Linguistics* 33. 117–125.
Pfeiler, Barbara & Enrique Martin Briceno. 1998. The Acquisition of Transitive Verbs in Yucatec Maya. *Funcion* 17–18. 97–120.
Poplack, Shana. 1980. Sometimes I'll Start a Sentence in Spanish Y TERMINO EN ESPANOL: Toward a Typology of Code-Switching. *Linguistics* 18(7–8). 581–618.
Poplack, Shana, David Sankoff & Christopher Miller. 1988. The Social Correlates and Linguistic Processes of Lexical Borrowing and Assimilation. *Linguistics* 26. 47–104.
Pye, Clifton. 1983. Mayan Telegraphese: Intonational Determinants of Inflectional Development in Quiché Mayan. *Language* 59(3). 583–604.
Pye, Clifton. 1991a. The Acquisition of K'iche' (Maya). In Dan I. Slobin (ed.), *The Crosslinguistic Study of Language Acquisition. Vol. 3*, 221–308. Hillsdale, NJ: Erlbaum.
Pye, Clifton. 1991b. Acquiring Lexical Constraints on Causatives in K'iche' Maya. *Papers and Reports on Child Language Development* 30. 96–103.

Pye, Clifton. 2001. The Acquisition of Finiteness in K'iche' Maya. In Anna H.-J. Do, Laura Domínguez & Aimee Johansen (eds.), *Proceedings of the 25th Annual Boston University Conference on Language Development*, 645–656. Somerville, MA: Cascadilla Press.
Pye, Clifton, Barbara Pfeiler, Lourdes de Leon, Penelope Brown & Pedro Mateo. 2007. Roots or Edges? Explaining Variation in Children's Early Verb Forms Across Five Mayan Languages. In Barbara Pfeiler (ed.), *Learning Indigenous Languages: Child Language Acquisition in Mesoamerica*. Berlin: Walter de Gruyter.
Pye, Clifton & Pedro Quixtan Poz. 1988. Precocious Passives (and Antipassives) in Quiche Mayan. *Papers and Reports on Child Language Development 27*, 71–80. Stanford, CA: Stanford University Department of Linguistics.
Pye, Clifton & Pedro Quixtan Poz. 1989. Why Functionalism won't Function: The Acquisition of Passives and Antipassives in K'iche' Mayan. *Working Papers in Language Development* 4(4). 39–53.
Rose, Yvan & Julie Brittain. 2011. Grammar Matters: Evidence from Phonological and Morphological Development in Northern East Cree. In Mihaela Pirvulescu, María Cristina Cuervo, Ana T. Pérez-Leroux, Jeffrey Steele & Nelleke Strik (eds.), *Selected Proceedings of the 4th Conference on Generative Approaches to Language Acquisition North America (GALANA 2010)*, 193–208. Somerville, MA: Cascadilla Proceedings Project.
Rose, Yvan, Julie Brittain, Carrie Dyck & Erin Swain. 2010. The Acquisition of Metrical Opacity: A Longitudinal Case Study from Northern East Cree. In Katie Franich, Kate M. Iserman & Lauren L. Keil. Somerville (eds.), *Proceedings of the 34th Annual Boston University Conference on Language Development (volume 2)*, 339–350. MA: Cascadilla Press.
Rose, Yvan & Brian MacWhinney. 2014. The PhonBank Project: Data and Software-Assisted Methods for the Study of Phonology and Phonological Development. In Jacques Durand, Ulrike Gut & Gjert Kristoffersen (eds.), *The Oxford Handbook of Corpus Phonology*, 308–401. Oxford: Oxford University Press.
Rose, Yvan, Brian MacWhinney, Rodrigue Byrne, Gregory Hedlund, Keith Maddocks, Philip O'Brien & Todd Wareham. 2006. Introducing Phon: A Software Solution for the Study of Phonological Acquisition. In David Bamman, Tatiana Magnitskaia & Colleen Zaller (eds.), *Proceedings of the 30th Annual Boston University Conference on Language Development*, 489–500. Somerville, MA: Cascadilla Press.
Sánchez, Liliana. 2012. Convergence in Syntax/Morphology Mapping Strategies: Evidence from Quechua–Spanish Code Mixing. *Lingua* 122(5). 511–528.
Saville-Troike, Muriel. 1996. Development of the Inflected Verb in Navajo Child Language. In Eloise Jelinek, Sally Midgette, Keren Rice & Leslie Saxon (eds.), *Athapaskan Language Studies: Essays in Honor of Robert W. Young*, 137–192. Albuquerque: The University of New Mexico Press.
Selinker, Larry. 1972. Interlanguage. *International Journal of American Linguistics* 10. 209–241.
Shneidman, Laura A. & Susan Goldin-Meadow. 2012. Language Input and Acquisition in a Mayan Village: How Important is Directed Speech? *Developmental Science* 15(5). 659–673.
Skarabela, Barbora. 2007. Signs of Early Social Cognition in Children's Syntax: The Case of Joint Attention in Argument Realization in Child Inuktitut. *Lingua* 117(11). 1837–1857.
Skarabela, Barbora & Shanley Allen. 2002. The Role of Joint Attention in Argument Realization in Child Inuktitut. In Barbora Skarabela, Sarah Fish & Anna H.-J. Do (eds.), *Proceedings*

of the 26th Annual Boston University Conference on Language Development, 620–630. Somerville, MA: Cascadilla Press.
Skarabela, Barbora & Shanley Allen. 2004. The Contexts of Non-Affixal Verb Forms in Child Inuktitut. In Alejna Brugos, Linnea Micciulla & Christine E. Smith (eds.), *Proceedings of the 28th Annual Boston University Conference on Language Development*, 532–542. Somerville, MA: Cascadilla Press.
Skarabela, Barbora & Shanley Allen. 2010. How Newness and Joint Attention Work Together in Child Inuktitut: Assessing Discourse-Pragmatic Models of Early Argument Realization. In Katie Franich, Kate M. Iserman & Lauren L. Keil (eds.), *Proceedings of the 34th Annual Boston University Conference on Language Development*, 385–396. Somerville, MA: Cascadilla Press.
Slobin, Dan I. 1971. On the Learning of Morphological Rules: A Reply to Palermo and Eberhart. *The Ontogenesis of Grammar*, 215–223. New York: Academic Press.
Swain, Erin. 2008. The Acquisition of Stress in Northern East Cree: A Case Study. Memorial University M.A. Thesis.
Swift, Mary D. & Shanley Allen. 2002a. Contexts of Verbal Inflection Dropping in Inuktitut Child Speech. *Proceedings of the Annual Boston University Conference on Language Development* 26(2). 689–700.
Swift, Mary D. & Shanley Allen. 2002b. Verb Base Ellipsis in Inuktitut Conversational Discourse. *International Journal of American Linguistics* 68(2). 133–156.
Terry, Kevin. 2010. The Emergence of Intransitive Verb Inflection in Northern East Cree: A Case Study. Memorial University M.A. Thesis.
Upper, Mary & Modina McKay. 1987. The Acquisition of Oji-Cree as a First language: A Preliminary Study. In Freda Ahenakew & Shirley Fredeen (eds.), *Seventh Annual Native American Languages Institute: Our languages: Our survival: Proceedings*, 169–196. Saskatoon: Saskatchewan Indian Languages Institute.
Upper, Mary & Modina McKay. 1988. *Acquisition of Oji-Cree as a First Language: A Preliminary Study of Children's Language Development, Phase 1 Supplementary Report*. Toronto, ON: Ontario Ministry of Education.
Vaughan, Nicholas. 2010. Les médianes classificatoires en Innu: Analyse morphosyntaxique et sémantique. Université du Québec à Montréal.
Weinreich, Uriel. 1970. *Languages in Contact: Findings and Problems*. The Hague: Mouton.
Wolfart, Hans Christoph. 1973. Plains Cree: A Grammatical Study. *Transactions of the American Philosophical Society, New Series 63, Part 5*. Philadelphia: American Philosophical Society.
Yule, George. 2010. *The Study of Language*. Cambridge, UK: Cambridge University Press.