Research Article

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# Cree-English intrasentential code-switching: Testing the morphosyntactic constraints of the Matrix Language Frame model

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**Abstract:** This study examines the morphosyntactic constraints on Cree-English intrasentential codeswitching involving mixed nominal expressions to test the Matrix Language Frame (MLF) model. The MLF model is one of the most influential frameworks in the field of contact linguistics used in the study of grammatical aspects of codeswitching and other contact-induced phenomena. The three principles associated with MLF, viz., the Matrix Language Principle, the Asymmetry Principle and the Uniform Structure Principle, were tested on data consisting of 10 video recordings (constituting of 323 tokens of English nouns in mixed utterances) collected from the speech of a Cree child, aged 04;06 - 06;00. The data is drawn from Pile's (2018) thesis which is based on the data collected from the Chisasibi Child Language Acquisition Study (CCLAS). The results of the analyses suggest general support for the three principles since, in the entire data set, not a single counter example has been recorded. The Cree- English bilingual data appears asymmetrical in structure, where the Matrix Language, namely Cree, provides morpheme order and outsider late system morphemes, and consequently, is responsible for the well-formedness and morphosyntactic frame of bilingual clauses..

**Keywords:** Cree- Intrasentential code-switching; Matrix Language Frame model; Morpheme order principle; System morpheme principle



## 1 Introduction

One of the linguistic outcomes of language contact is codeswitching, maybe defined as "the alternation of two languages within a single discourse, sentence or constituent" (Poplack 1980:583). Bullock and Toribio (2009:xii) provide a similar definition with an important addition that codeswitching involves bilingual speakers, differentiating aspects between codeswitching and borrowing. Myers-Scotton (1992:35) indicates that bilingualism and frequency are the basic criteria for distinguishing the two terms. First, codeswitching requires speakers to show some degree of bilingualism, whereas borrowing does not. Second, borrowed elements acquire gradual nativization which makes their use more frequent than codeswitched forms. They become integrated in the vocabulary as "part of a memorized list which has gained acceptance within a particular speech community" (Muysken 2000:71). While bilingualism and frequency can be considered

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as clear criteria for distinguishing codeswitching from borrowing in general, these two phenomena seem to overlap in the case of single-word insertion into the host language. Two opposing views exist in the literature. While Poplack, Sankoff and Miller (1988) and Allen et al. (2002) indicate that only a single content word mix is involved only in borrowing, Myers-Scotton (1993) and Muysken (2000) consider this phenomenon to be related to codeswitching based on the assumption that, unlike borrowed words, single-word codemixes do not have a well-established cognitive representation in the mental lexicon of the host language. Agreeing with this view, I consider borrowed words and codemixes to have different statuses in the lexicon, and single-word insertion is a case of codeswitching especially in the language of monolingual speakers.

Codeswitching has been extensively studied and covered from different fields in linguistics and other disciplines like sociology and anthropology. Researchers investigate codeswitching from two different perspectives, namely, sociocultural and linguistic frameworks. The sociocultural side of bilingual behaviour includes a "broad interdisciplinary field concerned with the intersection of language, culture, and society" to reveal the interactional and social motivations and patterns of codeswitching (Bucholtz & Hall 2005:586). Researchers interested in the purely linguistic analyses have proposed and formulated various models of syntactic or morphological constraints ( e.g., Equivalence and Free Morpheme model (Poplack 1980), Functional Head Constraint Model (Belazi, Rubin & Jacqueline Toribio 1994), Government Constraint Model (Di Sciullo, Muysken & Singh 1986), and Minimalist model (MacSwan 1999) among others). However, testing these models is not within the scope of this paper, and only the Matrix Language Frame model (Myers-Scotton 1993; 1997; 2002; 2013; Myers-Scotton & Jake 2017) is considered for the analysis of Cree-English codeswitching.

The Matrix Language Frame model (MLF) indicates that the participating languages in codeswitching do not have equal contribution. The language making the larger contribution is called the Matrix Language (ML) and the other language is called the Embedded Language (EL). According to Myers-Scotton (2002:15), more participation in codeswitching does not means more morphemes, although this is often the case. Instead, it means more abstract structure and structure of a certain type. That is to say, the ML can be identified and differentiated form the EL on the basis of two principles, namely, Morpheme Order Principle (MOP) and the System Morpheme Principle (SMP) of the MLF model (see section 3 below for more details). Generally speaking, the ML sets the morphosyntactic structure for mixed constituents, while the EL supplies content morphemes to be integrated into that structure.

Consistent with Clyne's (2003: 81) description of the MLF as ''the most comprehensive and influential current framework'' in the field of contact linguistics, a number of studies (e.g., Deuchar 2006; Ihemere 2016; Zabrodskaja 2009; Essizewa 2007; Akinremi 2016; Rahimi & Dabaghi 2013; Finlayson, Calteaux & Myers-Scotton 1998; Owens 2005; Liu 2008) have adopted and successfully applied this model to several language pairs. These studies show that the MLF is a universal model applicable not only to codeswitching but also to other contact-induced phenomena like language convergence, attrition and creole formation (cf. Fuller 1996; Gross 2004; Schmitt 2000; Braunmüller & House 2009) [1]. Therefore, the present study utilizes the MLF model to examine the grammatical structure of codeswitching between Northern East Cree (henceafter Cree), an Algonquian Native American language spoken in Northern Quebec, Canada (Junker, MacKenzie & Brittain 2012:6-7), and English. Specifically, this paper investigates the morphosyntactic structure of mixed nominal expressions produced by a bilingual Cree child in spontaneous conversations. The significance of this study is twofold. First, studies on Cree-English codeswitching are scarce. To the best knowledge of the researcher, there is only one study conducted by Bakker (1997). Second, the UNESCO Atlas of the World's Languages in Danger classifies the vitality of Cree as 'vulnerable' (Moseley 2010), hence, there is a need for more research and documentation in order to promote revitalization and maintenance of this language.



1 Despite its merits, the MLF model is argued to have some weaknesses. Empirically, some counterexamples of its primary principles are found (Macswan, 2005). Theoretically, MLF model "introduces numerous constructs and mechanisms which play no role in the theory of grammar" (Macswan, 2005:20), it is "idealizing – and hence artificially restricting – CS itself" (Gardner-Chloros & Edwards, 2004:110), and it wrongly predicts certain types of CS to be acceptable to bilingual speakers (González-Vilbazo & López, 2011:848). Nonetheless, MLF model is generally plausible and appropriate to the present study, as motivated above.

The rest of the paper is structured as follows. Section 2 describes the MLF model and its associated principles, which are tested in this paper. Section 3 contains the application of the MLF model and the analysis of mixed nominal expressions in Cree-English codeswitching. Section 4 concludes the paper.

## 2 The Matrix Language Frame model

Joshi (1985:190-191) indicates that codeswitching is not a random interference of one language with the other, but it is a systematic interaction between two grammatical systems, these systems are called the ML which "the mixed sentence is coming from" and the EL. Moreover, Joshi (1985:191) argues that "a large number of constraints can be derived from a general constraint on the switchability of the so-called closed class items (determiners, quantifiers, prepositions [...], etc.)." In contrast with open class items like nouns, verbs and adjectives, closed-class items are nonswitchable. Joshi's arguments about the asymmetry associated with Matrix/Embedded Language distribution and the closed/open-class distinction were developed into the MLF model by Mayers-Scotton (1993) in her book-length study *Duelling languages*. In the MLF model, the ML is responsible for providing the morphosyntactic frame for the mixed constituents. Inserted constituents need to be sufficiently congruent with the ML structure, that is, the features they encode should satisfy the requirements of the ML frame. The importance of feature matching is articulated within the Uniform Structure Principle (USP).

> The USP: A given constituent type in any language has a uniform abstract structure, and the requirements of well-formedness for this type must be observed whenever the constituent appears. In bilingual speech, the structures of the ML are always preferred, but some embedded structures are allowed if ML clause structure is observed (Myers-Scotton 2002: 8–9).

The USP highlights the role of the ML as the basis for checking the requirements of well-formedness of any constituent. The uniform abstract structure of any item must be compatible with the general morphosyntactic frame of the ML. Thus, the USP specifies the role of both the ML and the EL. The second notion included in this principle is that the acceptability of certain structures is governed by the well-formedness constraints of the ML, that is to say, not all constituents are acceptable. There are some types of constituents that are easily integrated in the Matrix system and others are impossible to be integrated. This differentiation between different types of constituents is illustrated in the division between content and system morphemes. Providing a more elaborated and concise analysis of Joshi's argument of the nonswitchability of closed class items, Myers-Scotton and Jake (2000) introduce the 4-M (four morpheme) model. Under this model, the content/system morphemes are similar to open/closed class constituents, but the system morphemes are further divided into three subtypes, namely, early system morphemes, bridge late system morphemes and outsider late system morphemes.

The division between content and system morphemes is based on their participation in the thematic grid of an utterance; content morphemes (e.g. nouns, adjectives, verbs and prepositions) assign or receive thematic roles, so they have the feature [+thematic role assigner/receiver] while system morphemes do not. To illustrate, verbs and some prepositions assign thematic roles, and nouns and adjectives receive thematic roles of agent, actor or direct object. In contrast, system morphemes ( e.g., function words and inflections) do not assign or receive thematic roles. Moreover, the content and system morphemes are differentiated according to their opportunities to occur in mixed constituents. Content morphemes are embedded in the ML with relative freedom while system morphemes have limited or no freedom of occurrence. Specifically, certain types of system morpheme cannot come from the EL, but must come from the ML.

The 4-M model provides further classification of content and system morphemes based on the level of activation. Content morphemes along with one type of system morpheme called an early system morpheme have the feature [+ conceptually activated], that is, they are selected or activated at the first level of what is termed the mental lexicon. According to Myers-Scotton (2002:76), the mental lexicon consists of sets of

lemmas[2] underlying different types of morphemes. Lemmas underlying content morphemes are directly selected because they carry conceptual information or 'semantic/pragmatic bundles' associated with the speaker's intentions. In turn, these lemmas point to another set of lemmas underlying early system morphemes which provide more information about content morphemes. Examples of early system morphemes include English determiners (e.g., (in)definite articles), plural marker *-s*, derivational affixes as well as satellites in phrasal verbs (e.g., *for* in *look for the dog*) (Myers-Scotton, 2008:28). As highlighted by the reviewer, such morphemes do not have the same classificatory status crosslinguistically, that is, their function as early system morphemes is language-specific (cf. the Tagalog plural marker *mga* is a content morpheme, rather than an early system morpheme (Labitigan, 2013:29), and as pointed out by Myers-Scotton (2001:48), these morphemes are also context-specific. The same form (e.g., English *the*) can be analysed as an early system morpheme in one context and as a bridge late system morpheme in another.

The other two types of system morphemes, namely, bridge late system morphemes and outsider late system morphemes, are considered 'late' because the 4-M model hypothesizes that they are only activated at the level of the Formulator, a mechanism responsible for frame-building operations. The Formulator receives instructions from lemmas underlying content morphemes about assigning late system morphemes to larger linguistic units starting with phrases such as determiner phrases (DPs) or verb phrases (VPs) and ending with full clauses. Concerning bridge late system morphemes, they integrate morphemes to make up larger constituents. Examples of bridges include possessive elements like *of* or *'s* in *the book of Jane* or *Jane's book*. Unlike bridges, outsider late system morphemes have the feature [+ refers to grammatical information outside of Maximal Projection of Head]. That is to say, the information about their form "becomes available when larger constituents (e.g. [Projections of Complementizer] (CPs) and [Projections of inflection] (IPs)) are constructed. Examples include subject-verb agreement, clitics/ affixes, and case affixes in many languages" (Mayers-scotton 2002:76). The four types of morphemes are illustrated in figure (1) below.



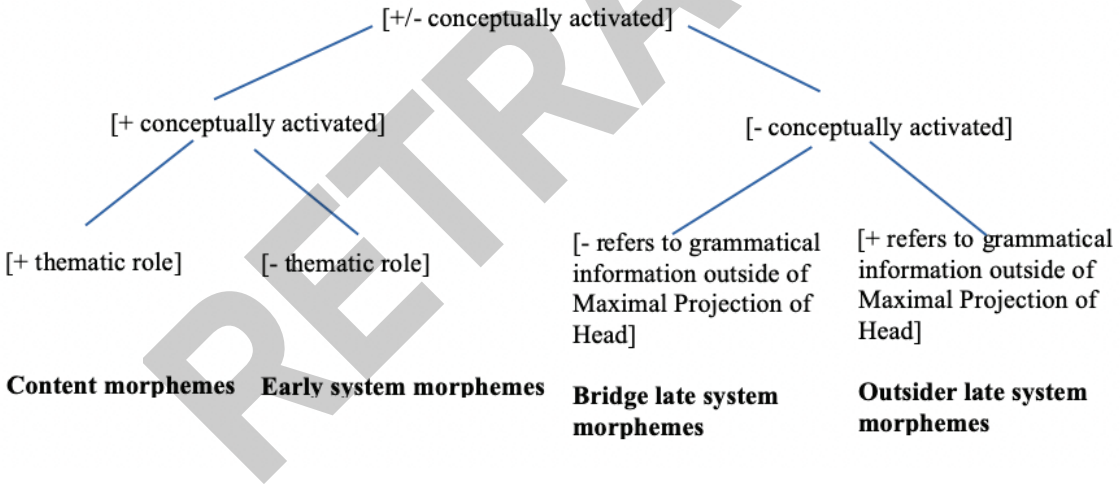


**Figure 1:** Feature-based classification of morphemes in the 4-M model

However, the 4-M model claims that an outsider late system morpheme is the only type of morpheme that must come from the ML. This theoretical notion is governed under three testable hypotheses, claimed to be universally applicable in cases involving classic codeswitching:

• **The Matrix Language Principle (henceafter MLP).** There is always an analyzable or resolvable frame structuring the morphosyntax of any CP. This frame is called the Matrix Language. In bilingual speech,

2 According to Levelt (1993:6), lemmas refer to the morphological and syntactic "aspects of a word's stored information that are relevant for the construction of the word's stored environment."

the participating languages never participate equally as the source of this Matrix Language (Myers-Scotton 2002: 8).

• **The Asymmetry Principle (henceafter AP).** Bilingual speech is characterized by asymmetry in terms of the participation of the languages concerned (Myers- Scotton 2002: 9).

• **The Uniform Structure Principle (henceafter USP).** A given constituent type in any language has a uniform abstract structure and the requirements of well-formedness for this constituent type must be observed whenever the constituent appears. In bilingual speech, the structures of the Matrix Language are always preferred, but some Embedded Language structures are allowed if certain conditions are met (Myers-Scotton 2002: 8-9).

A more detailed discussion about how these principles apply to Cree-English data is given in subsequent sections in this paper.

# 3 Application of the MLF model to the Cree-English data

In order to test the practicality of the MLF model, the three principles outlined above are applied to Cree-English data. Exemplification and illustration of the principles are provided in detail, followed by the results of the given analysis relating to each principle. Roughly speaking, the principles are applicable to a great extent as the following sections show, and they provide an adequate analysis of the Cree-English codeswitching situation. The following analysis focuses on the insertion of English nominal expressions which, in line with other studies, are the most frequently switched category. As indicated by Muysken (1995:188), "the distribution of switched noun phrases is much wider than predicted." For example, Jake, Myers-Scotton and Gross (2002) provide quantitative evidence of this situation from a Spanish-English corpus which includes 93.8% of the switched constituents to be Noun Phrases (NPs). A plethora of studies (for an overview, see e.g., Herring, Deuchar, Couto, & Quintanilla, 2010) show that nominal constructions are the most common type of insertion because they do not trigger structural conflicts or violations of syntactic rules of the host language in a variety of structures such as when the nominal element is modified by an adjective phrase (e.g., Pfaff, 1979) or headed by a determiner (e.g., Fairchild & Van Hell, 2017), a verb or other case assigners (e.g., Mahootian & Santorini, 1996).

## 3.1 Background

Northern East Cree is one of the Algonquian languages spoken by 365 people (Statistics Canada, 2017) in Canada from Alberta to Labrador, specifically in the communities of Wemindji, Chisasibi, and Whapmagoostui (Junker, Mackenzie & Brittain, 2012). Cree is polysynthetic with a free word order (see (1) below). According to Bloomfield (1946), Cree has three parts of speech: verbs, nouns, and particles. The verb morphology consists primarily of three components, traditionally referred to as 'initials', 'medials' (optional), and 'finals.' Initials form the root of the verb (Bloomfield 1946; Wolfart, 1973). Medials contain classifiers and incorporated nouns (Drapeau, 2008). Finals encode information about arguments (e.g. animacy). The verb can be preceded by pronominal clitics (person prefixes) and preverbs, and it can be followed by inflectional morphology (Goddard, 1979:37). The inflectional morphology in Cree nominals, as discussed by Pile (2018:24), includes of features that encode number, person, gender (animate or inanimate), obviative, locative, vocative, diminutive, and simulative (to indicate likeness). Most of these features are discussed in the paper.

## 3.2 The data

The data of this paper is drawn from Pile's (2018) thesis which is based on the data collected in the Chisasibi Child Language Acquisition Study (CCLAS), a longitudinal naturalistic study that documents the language of North East Cree-speaking community of Chisasibi, Quebec from September 2005 to April 2007 [3]. More specifically, this paper focuses on the speech productions of a Cree child, code-named Billy (aged 04;06 - 06;00), who was raised in a monolingual Cree environment with limited exposure to English (i.e., songs sung at the daycare, television programs, and occasional communication with a monolingual English-speaking family member). Recordings were made by a first-language speaker of Cree, Darlene Bearskin, once or twice a month for approximately 30-45 minutes each session with a total of 20 video recordings of interactions between Billy and the adult in her home, an environment familiar to Billy.

The corpus of this paper consists of 10 video recordings constituting approximately of 6 hours and 30 minutes of recording time representing Billy's speech productions over a period of approximately 18 months. The corpus obtained from CCLAS was translated by a fluent Cree speaker and transcribed into IPA by students in the Department of Linguistics at Memorial University. This paper considers only the mixed utterances containing both Cree and English elements (12.5% of the total child utterances)[4] and analyzes the English nouns in these utterances. The English nouns constitute 323 tokens (47.43% of all English-origin parts of speech (Pile, 2018:57)).

## 3.3 Testing the Matrix Language Principle

The Matrix Language Principle (MLP) states that it is possible to identify the ML in all bilingual clauses in the data. Two specific criteria will be used to identify the ML in each bilingual clause: (i) morpheme order criterion; and (ii) the system morpheme criterion. These criteria follow from the AP and the USP principles mentioned above. Generally speaking, the MLP can be refuted if the ML is unidentifiable in a number of cases, for example, if morpheme order follows the morphosyntactic structure of both languages and the late system morphemes come from the EL.

### 3.3.1 The morpheme-order criterion

This criterion is formalized as ''Morpheme Order Principle'' in Myers-Scotton (2002:59)'s book as follows:

> In Matrix Language + Embedded Language constituents consisting of singly occurring Embedded Language lexemes and any number of Matrix Language morphemes, surface morpheme order [...] will be that of the Matrix Language.

The morpheme-order criterion is applicable in the Cree-English codeswitching since the two languages involved have different morpheme orders, that is to say, English is an SVO language while Cree, according to Junker (2004:348-349), is more flexible with five possible combinations[5] of the sentence *Uu awaash miyeyimeu uyuuh atimh*. 'This child likes this dog.' as in (1):



3 In addition to Pile (2018), other studies are also based on CCLAS such as Swain (2008), Terry (2010), and Johansson (2012).

4 Compared with the percentage of English-only utterances (7.4%) and Cree-only utterances (80.1%) in the whole database, the mixed utterances indicate that Billy does not show any sign of language shift, attrition, or convergence levels of abstract lexical structure (see footnote (7) below) (for more comprehensive view of the given percentages, see Pile (2018:43-55)).

5 Wolfart (1996:292) argues that "subject and object nouns can occur in all six of the logically possible word order, and all six are grammatical sentences without any differences in referential meaning." Thus, it is assumed that Cree has a free word order governed largely by pragmatics (Oxford, 2008).

| | | | | | |
|---|---|---|---|---|---|
| 1. | **a. SVO** | [Uu awaash] | | [miyeyim-e-u] | [uyuuh atim-h] |
| | | [this-(PROX) child-(PROX)] | | [like.TA-DIR(3>3O)-3] | [this.OBV dog-OBV] |
| | | this child, he likes him, this dog | | | |
| | **b. SOV** | [Uu awaash] | [uyuuh atimh] | [miyeyimeu] | |
| | | this child, | this dog, | he likes him | |
| | **c. VSO** | [Miyeyimeu] | [uu awaash] | [uyuuh atimh] | |
| | | he likes him, | this child, | this dog | |
| | **d. VOS** | [Miyeyimeu] | [uyuuh atimh] | [uu awaash] | |
| | | he likes him, | this dog, | this child | |
| | **e. OVS** | [Uyuuh atimh] | [miyeyimeu] | [uu awaash] | |
| | | this dog, he likes him, this child | | | |

In addition to flexibility of word order, noun phrases (NPs) in Cree are constructed differently from those in English since, for example, the category of determiner does not occur obligatorily with Cree nouns (Junker, MacKenzie & Brittain 2012:24), and that explains why in the whole dataset definite and indefinite articles (i.e., *the*, *a* and *an*) are missing in mixed English NPs, and they do not precede Cree NPs. Moreover, Cree nouns have more prefixes and suffixes indicating gender (animate/inanimate), locative, obviative[6] and person (possessive) than English (ibid). Considering the morphosyntactic differences between the two languages, it becomes easier to decide which language is the ML and which one is the EL. In all the examples of Cree-English codeswitching, the ML is assumed to be Cree, and the EL is English [7]. Under the MLP, the embedded English constituents must follow the morphosyntactic structure of Cree. To be more precise, all embedded English lexemes must abide by the morpheme order of the ML, namely, Cree. For clarity's sake, codeswitched elements are classified according to their morphological structure in the following subsections, that is, the EL nominal expressions are discussed and analysed according to the different morphosyntactic structures in which they are located. The EL nominal expressions seem to follow the morpheme order of the ML, and they are semantically and morphosyntacticly restricted by the grammar of the ML. The different ML locative, genitive, demonstrative and numeral determiners, adverbial demonstrative, adjectival modifiers, question particles and diminutive morphological elements are discussed respectively below.

**Locative**: While English utilizes prepositions to express location, Cree has a number of particles (e.g. *ishpimihch* 'above,' *piihtakamihch* 'inside,' *niihtaahch* 'below,' *waaskaa* 'around') and suffixes (e.g. *-ihch* for non-humans as in astutin-*ihch* 'in a hat' or *-inaahch* for humans as in iini-*inaahch* 'in the aboriginal community') or both the particle and the suffix as in *waaska* waaskahiikan-*ihch* 'around the house' (Junker, MacKenzie & Brittain 2012:49). In the Cree-English data, locative particles are absent and only locative suffixes are utilized to form prepositional phrases. The placement of an English noun in a Cree prepositional phrase is affected by the morpheme order of the ML, viz, Cree, as sentences (2 a-c) demonstrate.

2. a. *Chikimuyiw* ***floor****hch, îhî.*

| | | |
|---|---|---|
| *chikimu-yiw* | ***floor****-hch* | *îhî* |
| attach-OBV | N-LOC | yes |

'Yes, it is stuck to the floor.' (Pile, 2018: 69)



**6** According to Sturtevant (1978:393), obviation is a grammatical system which "distinguishes between two or more third person referents, one of whom is, roughly speaking, in the foreground (proximate) while all others are relegated to the background (obviative)."

**7** Since the child was raised in a monolingual Cree environment with limited exposure to English, there is no evidence of language shift, attrition, or convergence levels of abstract lexical structure. That is, the child has sufficient access to the frame of the matrix language (i.e., Cree) that structures the whole clause (i.e., CP). All the bilingual utterances recorded in the corpus are projected by only one grammatical system, rather than two, thus, the two languages (i.e., Cree and English) do not undergo a recombination of a composite grammatical system, called a 'Composite Matrix Language' (for more details on this notion, see e.g., Myers-Scotton, 2001:52-53).

b. *Âihch kiyâh **computer room**ihch.*
*âi-hch* *kiyâh* *computer room-ihch*
PRO,HES-LOC and N-LOC
'I also hear the noises from the computer room.' (Pile, 2018: 70)

c. ***Chimney**hch ashinwâhâwich Santa Claus-h 8.*
*chimney-hch* *ashinw-âh-â-wich* *Santa Claus-h*
chimney-LOC wait-CAUS-THM-3.PL N-OBV
'They are waiting for Santa Claus to come down the chimney.' (Pile, 2018: 71)

In these sentences, the embedded nouns *floor*, *computer room* and *chimney* receive the Cree locative suffix *-ihch* in order to form a prepositional phrase. We notice that not only the surface morpheme order is from the ML as stated in the MLP, but also the choice of the locative morpheme seems sensitive to the semantics of the embedded nominals. Since all the embedded nouns are non-humans, only the suffix *-ihch* is used (the locative morpheme *-inaahch* appropriate for human referents does not surface on the structure as required by the ML grammar). All embedded words behave like Cree words and precede the locative suffix (compare ***floor**hch* with its equivalent Cree phrase ***mohc**ihch* 'to the floor'). The embedded nominals do not follow the strict word order of English, rather they are subject to the flexibility of Cree structure, and that provides further evidence of the MLP. This situation seems also to affect EL nominals in isolation, that is, when they form the only phrase in the sentence as can be seen in (3), the embedded noun receives the ML locative morpheme for non-humans:

3. ***bus**ihch.*
*bus-ihch*
'On the bus.' (Pile, 2018: 70)

However, not all EL nouns are attached to ML locative suffixes, as can be seen in (4 a and b):

4. a. *Nichîh mîchisun û wâsh **daycare**.*
*ni-chîh* *mîch-isu-n* *û* *wash* ***daycare***
1-PAST eat-VAI.FIN-1/2 this EMPH daycare
'I eat this at the daycare.' (Pile, 2018: 123)

b. *Nimui nuhchi îtuhtânân **gym**.*
*nimui* *n-uhchi* *îtuht-â-nân* ***gym***
not 1-PAST.NEG go-VAI.FIN-1.PL gym
'We didn't go to the gym.' (Pile, 2018: 124)

English nouns *daycare* and *gym* are in a syntactic position where Cree locative markers are expected to follow but are missing. At the first glance, these cases seem to deviate from Cree surface order, and consequently, they constitute a piece of evidence against the MLP. Further consideration of these cases indicates that the embedded nouns are used as compromise strategies. In other words, these nouns are 'bare forms,' defined as "EL lexemes which occur in a mixed constituent frame prepared by the ML, but the EL form is missing the required ML system morphemes" (Jake & Myers-Scotton 1997:33). The English nouns under consideration fail to receive the required locative marker because they are integrated only at one of the three levels of abstract grammatical structure, namely, the lexical-conceptual level (see, e.g., Myers-



**8** The expression *Santa Claus* is a borrowed word since it does not have a Cree equivalent, thus, its occurrence in this utterance is overlooked. For ease of exposition, only EL switched words relevant to the discussion of specific morphological inflections are in bold in the subsequent sections.

Scotton, 2001). The lack of congruence at the level of morphological realization patterns makes these nouns well-formed according to EL requirements, rather than to ML requirements.

However, if we consider the number of the occurrences of English single words without morphology, we find that they constitute only 6% of the whole corpus (169 out of 2756, as indicated by Pile, 2018:48). Although this percentage is relatively small, it triggers the question why these bare forms occur in some structures, but not others. One possible hypothesis is to assume that these bare forms occur in some contexts as a speech errors "resulting when an EL content morpheme is accessed under the command of an ML lemma [...] because the congruence between the EL form and the ML lemma is less than perfect." (Myers-Scotton 1992:34). The second hypothesis is to assume that they occur in particular structures "because the context does not call for morphology" (Pile 2018:62). Whether bare forms are the result of speech error or a requirement by the context needs to be verified and tested by larger corpora from other languages, an issue beyond the scope of the present paper. Nonetheless, although bare forms in (4a,b) are partially congruent, they are still controlled by the morphosyntactic frame of Cree; their position in the larger CP does not create a conflict to the morpheme order of the ML.

Although prepositions can be of any morpheme type, in the corpus considered in this subsection, the Cree locative particles and suffixes seem to be of only one type, namely, content morphemes since they add adjunct phrases (i.e., locative, directional, and instrumental phrases). In this case, they are equivalent to their English counterparts in the given contexts in the sense that both English and Cree locative expressions are content morphemes because they are conceptually-activated (i.e., they specify the relationship of the nominals to the remainder of the clause) and a thematic role assigners (i.e., they assign a directional or locative thematic role to their complements). However, although prepositions as content morphemes can be utilised from both EL and ML, that is, from either English or Cree, the corpus considered shows that all locative expressions are from Cree, a situation that supports the argument by Jake and Myers-Scotton (2009:219) that EL prepositions "are not as frequent as ML prepositions."

**Genitive**: Whereas English possessive determiners do not agree with the possessed noun but just with the possessor, that is, they are unchangeable if the possessed noun is animate/inanimate (e.g., his friend/my book) or dependant (i.e., expressing kinship or body parts)/independent (e.g., his grandfather/ his knife), Cree has a large set of prefixes and suffixes which vary according to the nature of the noun, that is, if the noun is animate/inanimate (e.g., *u*-masinahiikan '*his* book'/ *u*-shiishiip-*imh* '*his* duck') or dependant/ independent (e.g., *u*-mis-*h* '*his* older sister'/*u*-masinahiikan '*his* book') [9].

With regard to the morpheme type of the possessive elements, English and Cree show different types and patterns. All English possessive determiners (e.g., *my*, *his*, *your*, etc.) and particles (-*'s* and *of*) can be analysed as bridge late system morphemes because they depend on information internal to their maximal projection for their form, and they are used only to unite the possessor and the possessed in the possessive construction at both the phrasal level (e.g., *John's house*) and the clausal level (e.g., *John has a house*.) without adding any conceptual structure to the content morphemes involved. The situation in Cree is different. As exemplified above, the possessive prefixes and suffixes show agreement between the possessor and the possessed for features related to animacy and dependency, thus, their form depends on information outside, rather than inside, their maximal projection. This fact leads to the conclusion that Cree possessive affixes are outsider, rather than bridge, late system morphemes based on the understanding that Cree possessive agreement is analogous to verbal agreement in a language like English, that is, the possessor in Cree, in contrast with English, demands agreement checking with the possessed (similar to the possessive agreement in Hungarian (see, e.g., Bolonyai, 2007)). The differences between the type of possessive elements in English (as bridge morphemes) and Cree (as outsider morphemes) affects the way the embedded English nouns are attached to Cree possessive affixes in order to follow the surface morpheme order of the ML Cree. In examples (5 a-c), the embedded nouns are integrated within the morphosyntactic structure of Cree to produce possessive constructions according to Cree grammar.



9 For reason of space, the differences between possessive prefixes and suffixes are not explained in this paper. For more information consult grammar pages at www.eastcree.org and Junker et.al., (2012:24-27).

5. a. *Apishâshiyiw wîyi u**chimney**im.*
*apishâsh-i-yiw* *wîyi* *u-**chimney**-im*
little-VII.FIN-OBV 3 3-N-POSS
'His chimney is small.' (Pile, 2018: 73)

b. *Awân mâk aniyâ u**goalie** u**stick**im?*
*awân* *mâk* *ani-yâ* *u-goalie* *u- stick -im*
who so that-OBV 3-N 3-N-POSS
'But whose goalie stick is that?' (Pile, 2018: 73)

c. *Ni**bicycle**im âshtâw.*
*ni-**bicycle**-im* *âsht-â-w*
1-N-POSS sit.there-VII.FIN -0
'My bicycle is there.' (Pile, 2018: 74)

Although the previous embedded English lexemes, namely, *chimney*, *goalie stick* and *bicycle*, are inanimate nouns, they are possessed with *-im* suffix which is utilized with possessed animate nouns only (cf. *ni-*shiishiip-*im* '*my* duck' and *ni-*masinahiikan '*my* book'). This situation can be attributed to two linguistic phenomena well-attested in the literature, namely, overgeneralization and convergence. Overgeneralization is a well-documented process in the studies of language acquisition which refers to the unstable overutilization of a structure in the target language among children. Under this process, the child overgeneralizes *-im* morpheme to all possessed nouns whether they are animate or inanimate. This analysis seems plausible to some extent and applicable in other case studies. For example, Helland (2017:83) finds that Norwegian learners of French as L2 make errors involving singular possessive determiner *-s* and plural *-leur* when used reflexively. Generally speaking, *-s* tends to be generalized in plural possessives. The second possible phenomenon is language convergence which refers to "an increase in similarities between two languages at any level: lexical, phonological and typological" (Matras 2010:68). The use of *-im* suffix with inanimate nouns is assumed to be only at the surface-level due to interference from English language whose possessive determiners do not agree with the possessed words. To illustrate, according to Myers-Scotton (2002:101), "convergence is initiated in the mental lexicon when lemmas underlying content morphemes from what was the lesser dominant language achieve a level of activation more similar to that of the more dominant language." Accepting either phenomenon or both is not problematic since the embedded English nouns still follow the morpheme order of ML. However, it seems that convergence is more plausible than overgeneralization since interference from English has an undeniable impact on the possessive structure as the sentences (6 a-c) show.

6. a. ***My neck** âshin.*
***my*** ***neck*** *âshin*
1SG.POSS N be
'That's my neck.' (Pile, 2018: 97)

b. *Ishkutâuish, **my classroom**.*
*ishkutâu-ish* ***my*** ***classroom***
fire-DIM 1SG.POSS N
'My classroom is on fire.' (Pile, 2018: 58)

c. *Âi red kâ ishinâkuhch **my eyes**.*
*âi* *red* *kâ* *ishi-nâkuh-ch* *my* *eye -s*
PRO,HES red PVB,CONJ thusly-appear-3.PL 1SG.POSS N-PL
'My eyes were red.' (Pile, 2018: 91)

In these sentences, the embedded nouns have possessive determiners and plural markers from the EL instead of taking them from the ML. This type of sentences may initially appear problematic for identifying morpheme order since the NPs follow the modifier-head order normal in English. However, the nominal expressions *my neck*, *my classroom* and *my eyes* are not a problem for the MLP since all the morphemes around them follow the morpheme order of Cree. These NPs are considered as 'Embedded Language Islands.' According to Myers-Scotton (2002:139), EL islands are ''full constituents consisting only of EL morphemes occurring in a bilingual CP that is otherwise framed by the ML.'' EL Islands show structural dependency relations that make them well-formed in the EL (English). Bearing in mind that the morpheme-order criterion applies only to mixed constituents from ML and EL, the internal order of the English NPs is not taken into consideration simply because they are formed from one language, and they are internalized as part of a larger clause framed by the ML. However, the word order of the clause is compatible with the Cree language, and all the English NPs under consideration still support the MLP. The position of the predicate adjective *red* that modifies the noun phrase *my eyes* in (6c) is illuminating since this position abides by Cree grammar and this provides further evidence that the NP *my eyes* is just an EL island. Being used in an island, the English plural marker is supposed not to be productive in other utterances, and this is actually the situation with other English nouns in the plural form. (7) below shows how the embedded noun *ghost* is treated as an animate Cree noun, thus it receives the animate plural marker *-ich* instead of the inanimate plural marker *-h* (**cf.** *mischin* 'a shoe'/ *mischin**h*** 'shoes').

7. *ghost ghost ghostich*
   *ghost* *ghost* ***ghost**-ich*
   N N N-AN.PL
   'Ghost ghost ghosts.' (Pile, 2018: 75)

**Demonstrative and numeral determiners**: Demonstratives and numerals occurring with EL English nouns are discussed under this subsection since both of them are early system morphemes under the label Det (determiner). Demonstratives in Cree are numerous and intriguing (Reinholtz 1999; Junker & MacKenzie 2003; Oxford 2007). They express three degrees of distance from the speaker: proximal, distal and remote, and they also indicate movement or static position. Unlike English demonstratives, they may be discontinuous when used with nouns as in (8).

8. *Nenua* kutâueu *mishtikua*.
   that.OBV knock.down.3>OBV tree.OBV
   'He knocked down that tree.' (Oxford 2007:60)

Under the Matrix Language criterion, the embedded English constituents modified by demonstrative determiners should have the same syntactic distribution as Cree nouns, that is, they need to be preceded by Cree demonstratives or in some cases to be separated from their demonstratives as in (9 a and b).

9. a. *Aniyâh **toys**.*
   *ani-yâh* *toy -s*
   that-INAN.PL N-PL
   'Those toys.' (Pile, 2018: 114)

   b. ***Helicopter helicopter** û.*
   *helicopter* *helicopter* *û*
   N N P,DEM.PXL (this)
   'Helicopter, this helicopter.' (Pile, 2018: 163)

In (9 a) the embedded noun *toys* agrees with the Cree demonstrative form *aniyâh* 'those', that is, the plural form is used instead of its singular counterpart *an*. The same pattern occurs with (9 b) in which the singular

form *û* is used in order to agree with the singular noun *helicopter* from the EL. The agreement between the demonstrative and the embedded noun indicates that the embedded nouns are treated as Cree words. Additionally, in (9 a and b) the demonstrative occupies two positions, before or after the embedded noun, and that is triggered by the morphosyntactic frame of the ML Cree which allows more flexible structure that that of English.

Concerning the numeral demonstratives, the two examples found in the data show that English noun phrases are modified by numeral determiners from English. This case brings us back to the discussion of EL Islands detailed above. In the examples (10 a and b) below, the EL islands are *three head* and *five times*.

10. a) *Three head ihtikun?*

| *three head* | *ihtikun* |
|---|---|
| three N | be |

'There are three head(s)?' (Pile, 2018: 102)

b) *Five times after nichîh itikw.*

| *five time-s* | *after* | *ni-chîh* | *it-ikw* |
|---|---|---|---|
| five N-PL | after | 1-PAST | tell-THM.INV |

'Then she told me after five times.' (Pile, 2018: 160)

What is interesting in example (10 a) is that the word *head* is singular although it is preceded by the numeral determiner *three*. The absence of plural marker which is an early system morpheme lends further support to the 4-M model because the content morpheme *head* is activated first along with its early morpheme *three*. My ad hoc explanation is that early system morphemes under the label Det are more salient than other types of early morphemes. In other words, pre-nominal morphemes are activated earlier than post-nominal ones.[10] However, the absence of plural marker from embedded English words appears only in one case. The other sentences in the data retain the plural marker as in (10 b), (6 c) above and (11 a-c) below.

11. a. ***Cartoons*** *niwîh nânâkichihtân.*

| ***cartoon-s*** | *ni-wîh* | *nânâkich-ihtâ-n* |
|---|---|---|
| N-PL | 1-want | see-VAI+O-1/2 |

'I want to watch cartoons.' (Pile, 2018: 88)

b. *Nimwâch ihtikunh utih* ***tires****.*

| *nimwâch* | *ihtikun-h* | *utih* | ***tire -s*** |
|---|---|---|---|
| P,NEG.EMPH | be-0.PL | here | N-PL |

'There are no tires here.' (Pile, 2018: 89)

c. ***Eggs*** *âh pâtikiniwich-h.*

| ***egg-s*** | *âh* | *pât-ikiniwi-ch-h* |
|---|---|---|
| N-PL | PVB,CONJ | bring-PASSIVE.3 -3.S-0.PL |

'When eggs are brought.' (Pile, 2018: 93)

Considering the morpheme type of the given English plural forms, the plural marker *-s* is an early system morpheme because it depends on the content morphemes (i.e., *cartoon*, *tire* and *egg*) for its form, and it is conceptually-activated (i.e., it adds to the meaning of the content morphemes to be pluralised). However, Jake and Myers-Scotton (2009:219) claim that early system morphemes are more frequently utilised from the ML than EL. Contrary to this claim, the corpus shows that the plural marker from the EL (12 occurrences (Pile 2018:48)) are more frequent that that from the ML (only one occurrence, mentioned in (7) above (Pile

**10** Consistent with this hypothesis, Martin (1969:473) indicates that "left-to-right order in the base is said to correspond to the first-to-last order of choice for encoding."

2018:75)). Nonetheless, although the given plural nouns have the English plural marker *-s*, they still follow the ML frame as evidenced in the treatment of these nouns as inanimate, thus they agree with the verb which is also inanimate in accordance with the ML morphosyntactic requirements.

**Adverbial demonstratives**: In addition to their use as determiners, demonstratives in Cree are utilized as adverbials. According to Junker and MacKenzie (2003:204-205), there are six adverbial demonstratives classified into two groups. The first group includes *utah, anitah* and *netah* which occur with static verbs, and the second set includes *ute, anite, nete* which appear with verbs of movement. When used pronominally, both static and non-static demonstratives have the same syntactic distribution as full noun phrases (Oxford 2007:60) as in (12 a-d).

12. a. *Utâh akutâw* ***the rainbow****?*

| *utâh* | *akut-â-w* | ***the rainbow*** |
|---|---|---|
| here | hang-VII.FIN-0 | DET N |

'Is there a rainbow (hanging) there?' (Pile, 2018: 102)

b. *Tâpâ ihtâwich utih* ***bicycles*** *nâ.*

| *tâpâ* | *iht-â-wich* | *utih* | ***bicycle -s*** | *nâ* |
|---|---|---|---|---|
| not | be-VAI.FIN-3.PL | here | N-PL | P,QUEST |

'There are no bicycles here, right?' (Pile, 2018: 110)

c. *Âyukw an u****brother****imh, nimâh?*

| *âyukw* | *an* | *u-****brother****-im-h* | *nimâh* |
|---|---|---|---|
| that's.the.one.who | that | 3-N-POSS-OBV | no |

'That's her brother, isn't it?' (Pile, 2018: 83)

d. *Uyâh u****tree****imiwâu wîchiwâu?*

| *u-yâh* | *u-* ***tree****-im-iwâu* | *wîch-iwâu* |
|---|---|---|
| this-AN.OBV~INAN.PL | 3-N-POSS-PL | dwelling-PL |

'Is this their tree, their house?' (Pile, 2018: 105)

All demonstratives *utâh* 'here', *utih* 'here', *an* 'that' and *uyâh* 'this' are used with static verbs as the morphosyntactic structure of Cree indicates. The occurrence of embedded nouns *the rainbow*, *bicycles*, *brother* and *tree* do not change the order of morphemes in the sentences above since the syntactic distribution of the demonstratives as full NPs is unaffected. The plausibility of MLP appears clearly in the case of certain demonstratives occurring in the construction called 'nominal predication' by Dechaine (1997, cited in Oxford 2007:60), as in (13).

13. *Nishtesh an.*
*l-older-brother that*
'That's my older brother.' (Clarke 1982: 38, cited in Oxford 2007:61)

According to Clarke and MacKenzie (2007: 10, cited in Oxford 2007:61), demonstratives in nominal predication must follow the noun. The same syntactic behaviour retains for the use of *utâh* and *û* with embedded constituents from English as in (14 a and b).

14. a. *Misinâpiskihwâkiniww â* ***iskîtû*** *utâh.*

| *Misin-âpisk-ihw-âkiniw-w* | *â* | ***iskîtû*** | *utâh* |
|---|---|---|---|
| write-metal,mineral-VTA.FIN-passive.3-3 | P,QUEST | skidoo | here |

'Is the skidoo going to be filmed like this?' (Pile, 2018: 78)

b. *U**sled**im û Dora.*

| | | |
|---|---|---|
| *u-**sled**-im* | *û* | *Dora* |
| 3-sled-POSS | this | N |

'This is Dora's sled.' (Pile, 2018: 109)

The demonstratives *utâh* and *û* occupy the predicate position of EL lexemes *iskîtû* and *sled*. In contrast with English structure, the demonstratives have a predicative function in the preceding sentences, and they follow the nominal elements from the EL.

**Adjectival modifiers**: It goes without questioning that Cree, like other Algonquian languages, has no adjectives (e.g., Junker 2007; Junker, MacKenzie & Brittain 2012; Oxford 2007 among others). Concepts like BEAUTIFUL, HAPPY, EASY and BIG are not separate words in Cree, rather they are expressed through the use of verbs or nouns. Junker (2008:173) indicates that adjectival ideas are found as morphemes in more complex word formations. They take the initial position of words, either as initial morphemes of the stem or as preforms preceding a stem. In (15), SMALL is expressed as an animate intransitive embedded verb *apishiishuu*, made of the initial *apish-* and an intransitive animate final, meaning 'it is small'.

15. *Apish-aashu-u.*
small-AI.final-3
'It is small.' (Junker 2008:173)

So there are no lexical adjectives in Cree but only modifiers in the initial position of words. The syntax of these modifiers is at play when embedded English nouns are inserted as heads of Cree NPs in (16 a-c).

16. a. *Apishâshiyiw wîyi u**chimney**im.*

| | | |
|---|---|---|
| *apishâsh-i-yiw* | *wîyi* | *u-**chimney**-im* |
| little-VII.FIN-OBV | 3 | 3-N-POSS |

'His chimney is small.' (Pile, 2018: 73)

b. *Tâpâ nuhchi pâhtânân âh miskiwâch ni**window**minân.*

| | | | | |
|---|---|---|---|---|
| *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 |
| *ni-**window**-m-inân* | | | | |
| 1-N-POSS-1.PL | | | | |

'We didn't hear it because our window was hard.' (Pile, 2018: 74)

c. *Âi **red** kâ ishinâkuhch **my eyes**.*

| | | | | |
|---|---|---|---|---|
| *âi* | ***red*** | *kâ* | *ishi-nâkuh-ch* | ***my eye -s*** |
| PRO,HES | red | PVB,CONJ | thusly-appear-3.PL | 1SG.POSS |

'My eyes were red.' (Pile, 2018: 91)

In (16 a and b), the Cree modifier *apishâsh* 'little' and *miskiw* 'strong' take the initial position of words and are expressed as intransitive embedded verbs to modify the EL nouns *chimney* and *window*. This configuration is in sharp contrast with the situation in English where the order is reversed, therefore, the mixed constituents are identified as following Cree order. In (16 c), although both the nominal expression *my eyes* and the adjective *red* are from the EL, they follow the order of morphemes in Cree; the adjective *red* behaves like a Cree modifier and occurs in the initial position of the word instead of postposing *my eyes*.

**Question particles**: In this subsection, EL nouns are used in interrogative statements, and they are supposed to follow the ML interrogative structure. Unlike English, Cree forms yes/no questions by inserting the enclitic *â* as the second word of the declarative sentence without changing the order of words (Junker,

MacKenzie & Brittain 2012; Oxford 2007; Clarke 1982) as can be seen in the following examples mentioned by Oxford (2007:251):

17. a. *Ekute* *â* *anite* *inniiuiipan?*
it.LOC.IS QU the.LOC be.born.PRET.3S
'Is that where he was born?'

b. *Etuet* *â* *tshuâpamâtâu?*
Edward QU 2.see.PRET.2P>3
'Did you (pl.) see Edward?'

However, there are some exceptions to the rule above. According to Oxford (2007:253-254), it is possible for the question particle *â* to occur in the third position in cases of topicalization of initial NP as in (18 a) or sentence-finally in cases of echo questions, that is, direct questions utilized for inquiring or repeating the thought communicated in the preceding utterance, as in (18 b).

18. a. [$_{topic}$ *Pinip*] [$_{S}$ *ituutepan* ***â*** *atâuitshuâpiit*]?
Philip go-PRET-3S QU store-LOC
'Did Philip go to the store?' meaning 'What about Philip, did he go to the store?'

b. *Anite* *kâmishkuutiitâtshepanit* *takuan* *â*?
the-LOC refrigerator-LOC be-3S QU
'It's in the fridge?' meaning 'It's in the fridge, is that what you're telling me?'

Bearing in mind the different positions of the enclitic *â* to form questions, the embedded English nouns are placed according to the morphosyntactic structure of Cree, that is to say, they do not trigger any change in the order of words as shown in examples (19 a-c).

19. a. *Chimiywâyihtân â* ***toys***?
*chi-miyw-ây-iht-â-n* *â* ***toy -s***
2-happy-by.mind-by.head-THM-1/2 P,QUEST N-PL
'Do you like toys?' (Pile, 2018: 54)

b. *Misinâpiskihwâkiniww â* ***iskîtû*** *utâh.*
*Misin-âpisk-ihw-âkiniw-w* *â* ***iskîtû*** *utâh*
write-metal,mineral-VTA.FIN-PASSIVE.3-3 P,QUEST skidoo here
'Is the skidoo going to be filmed like this?' (Pile, 2018: 78)

c. *Chitiyân â* ***remote****?*
*chit-iy-â-n* *â* ***remote***
2-have-VAI+O.FIN-1/2 P,QUEST N
'Do you have a remote?' (Pile, 2018: 119)

What (19 a-c) all have in common is that the enclitic *â* is placed in the second position as expected, and the insertion of English nouns *toys*, *skidoo* and *remote* do not affect the interrogative structure of Cree sentences. Sentences (20 a-c) below exemplify how the question particle is added sentence-finally in the case of echo questions.

20. a. *Mâutih **door**, nâ*?

| *mâu-tih* | ***door*** | *nâ* | |
|---|---|---|---|
| this-LOC | N | P,QUEST | |
| 'The door is here, right?' | | | (Pile, 2018: 92) |

b. *Tâpâ ihtâwich utih **bicycles** nâ.*

| *tâpâ* | *iht-â-wich* | *utih* | ***bicycle -s*** | *nâ* | |
|---|---|---|---|---|---|
| not | be-VAI.FIN-3.PL | here | N-PL | P,QUEST | |
| 'There are no bicycles here, right?' | | | | | (Pile, 2018: 110) |

c. *Shâsh **four o'clock** chiwâpihtân â?*

| *shâsh* | ***four o'clock*** | *chi-wâp-iht-â-n* | *â* | |
|---|---|---|---|---|
| already | four N | 2-light-by.head-THM-1/2 | P,QUEST | |
| 'It is now four o'clock, do you see?' | | | | (Pile, 2018: 156) |

According to the criterion of morpheme order, Cree is identified as the ML since the placement of the question particle does not take an initial position as it would in English (i.e., there is no movement of an auxiliary to the front of the clause). Therefore, the codeswitched forms are controlled by Cree morphosyntactic frame, and that lends further support to the MLP.

**Diminutive**: To convey the smallness of an object, Cree adds the suffix *-ish* to a noun. In the example sentences below, we notice that the embedded English words receive the diminutive inflection in the same way Cree words do (cf. *muuhkumaan* 'a knife' vs. *muuhkumaan**ish*** 'a little knife'). (21 a-c) are illustrative:

21. a. *Mâuch anitâh Curious George isinâkusiw **monkey**sh.*

| *mâuch* | *ani-tâh* | *Curious George* | *isi-nâkusi-w* | ***monkey**-sh* |
|---|---|---|---|---|
| most | that-LOC | name | thusly-appear-3 | monkey-DIM |
| 'This little monkey looks like Curious George.' | | | | (Pile, 2018: 76) |

b. *Nichîh miyikw âsh **macaroni**sh âi Santa Claus.*

| *ni-chîh* | *miy-ikw* | *âsh* | ***macaroni**-sh* | *âi* | *Santa Claus* |
|---|---|---|---|---|---|
| 1-PAST | give-THM.INV | P,EMPH | N-DIM | PRO,HES | name |
| 'Santa Claus gave me some macaroni.' | | | | | (Pile, 2018: 77) |

c. *Wâshkich **iskîtû**sh mikw **yellow**ish kâ ishinâkushit.*

| *wâshkich* | ***iskîtû**-sh* | *mikw* | ***yellow**-ish* | *kâ* | *ishi-nâku-shi-t* |
|---|---|---|---|---|---|
| long.ago | skidoo-DIM | just | ADJ-DIM | PVB,CONJ | thusly-appear-DIM-3.S |
| 'A long time ago, (I had) just a little yellow skidoo.' | | | | | (Pile, 2018: 78) |

We notice that the embedded words *monkey*, *macaroni* and *iskîtû* are inflected with the diminutive suffix *-ish*, and this situation affects not only nouns, but also adjectives. In (21 c) the diminutive suffix is added to the adjective *yellow* because it has to agree with the noun *iskîtû-sh*.

To sum up, this section applies the morpheme order criterion to identify the ML in the given bilingual clauses. The first subsection shows that EL nouns receive the Cree locative suffix *-ihch* in order to form prepositional phrases. The second subsection displays the case of EL nouns with possessive determiners from Cree or English. The placement of the possessive suffix *-im* with inanimate embedded English lexemes is claimed to be attributed to two linguistic phenomena, namely, overgeneralization and convergence. EL nouns with English possessive determiners are considered 'EL Islands.' Then, the use of demonstrative and numeral determiners with EL nouns is analyzed to be controlled within the ML structure. Cree demonstratives are separated from the English nouns in the case of discontinuous noun phrases. Some EL nouns are modified by numeral determiners from English because they are 'EL Islands.' The analysis of EL

nouns with Cree adverbial demonstratives given in the fourth subsection reveals how Cree demonstratives distribute the embedded nouns according to Cree syntactic requirements. The fifth subsection explains how adjectival modifiers keep their initial position of Cree words although they are preceded by EL nouns. The sixth subsection illustrates how EL nouns in interrogative clauses receive the ML question particle *â* in the second or final position as dictated by the Cree frame. The last subsection deals with the diminutive inflection and shows how words from the EL receive the inflectional element *-ish* to indicate smallness. All in all, the application of the morpheme order criterion indicates that the ML, namely, Cree, is responsible for providing the morphosyntactic structure for the integrated EL elements.

### 3.3.2 The system morpheme agreement criterion

The second criterion for identifying the ML of a bilingual clause involves identifying the relevant system agreement morphemes and pointing out which language they come from. This criterion follows from Myers-Scotton's (2002:59) System Morpheme Principle (SMP) which predicts that "in Matrix Language + Embedded Language constituents, all system morphemes which have grammatical relations external to their head constituent [...] will come from the Matrix Language".

This principle highlights the distinction between system morphemes in terms of whether they have grammatical relations external to their heads and indicates that only one type of system morphemes, namely, an outsider late system morpheme, must come from the ML. In section 2 above, the discussion of the MLF model involves a distinction between content versus system morphemes. Content morphemes, such as nouns and verbs, can both assign or receive thematic roles, whereas system morphemes cannot. Furthermore, system morphemes are classified into early versus late system morphemes. Early morphemes, such as the Cree plural marker *-h*, are conceptually activated and directly linked to the speaker's intentions, whereas late morphemes are not. Late system morphemes are divided into 'bridge' and 'outsider' morphemes. Bridges, such as English possessive *of* and *'s*, receive information about their form within their own maximal projection, while outsider late morphemes, such as the different number-gender-person agreement affixes and case affixes are "coindexed with forms outside the head of their maximal projection" (Myers-Scotton, 2002:75). Under the System Morpheme Principle (SMP), outsider late morphemes are the only system morphemes which have grammatical relations external to their head, and therefore, will come from the ML. Other types of system morphemes can come from both the ML and the EL.

There are two basic means of identifying outsider late morphemes in Cree and English, namely, case and subject/object-verb agreement affixes. In Cree, case affixes are limited to locative marker *-ihch* since, according to Junker (2004:346), "neither the pronominal affixes, nor the full NPs bear overt case features, except for locative," as in sentences (2 a-c), repeated here as (22 a-c):

22. a) *Chikimuyiw **floor**hch, îhî.*

| *chikimu-yiw* | ***floor**-hch* | *îhî* |
|---|---|---|
| attach-OBV | N-LOC | yes |

'Yes, it is stuck to the floor.' (Pile, 2018: 69)

b) *Âihch kiyâh **computer room**ihch.*

| *âi-hch* | *kiyâh* | *computer room-ihch* |
|---|---|---|
| PRO,HES-LOC | and | N-LOC |

'I also hear the noises from the computer room.' (Pile, 2018: 70)

c) ***Chimney**hch ashinwâhâwich Santa Claus-h.*

| *chimney-hch* | *ashinw-âh-â-wich* | *Santa Claus-h* |
|---|---|---|
| N-LOC | wait-CAUS-THM-3.PL | name-OBV |

'They are waiting for Santa Claus to come down the chimney.' (Pile, 2018: 71)

In these examples, the outsider late morpheme *-ihch* marks the embedded English nouns *floor*, *computer room* and *Chimney* syntactically as expressions of location. Based on the SMP, the placement of case suffix on these nouns identifies Cree as the ML. The second means for identifying the ML is related to subject/object-verb agreement affixes. In Cree "every verb constitutes a grammatical sentence by itself and contains pronominal affixes, identified by Jelinek (1984) as syntactic arguments" (Junker 2004:346). In Cree-English codeswitching examples discussed so far, the outsider late morphemes associated with the agreement affixes come from the ML, namely, Cree, as can be seen, for example, in sentences including *-iht* (transitive inanimate verb final element) in (19 a) reproduced here as (23 a) and also in (23 b):

23. a) *Chimiywây**iht**ân â toys*?

| | | |
|---|---|---|
| *chi-miyw-ây-iht-â-n* | *â* | *toy -s* |
| 2-happy-by.mind-by.head-THM-1/2 | P,QUEST | N-PL |
| 'Do you like toys?' | | (Pile, 2018: 54) |

b) *Cartoons niwîh nânâkich**iht**ân.*

| | | |
|---|---|---|
| *cartoon-s* | *ni-wîh* | *nânâkich-ihtâ -n* |
| N-PL | 1-want | see-VAI+O-1/2 |
| 'I want to watch cartoons.' | | (Pile, 2018: 88) |

In these sentences, the agreement morpheme *-iht* (transitive inanimate verb final element) attached to the verb comes form Cree regardless of the post- or pre-nominal placement of the English nouns *toys* and *cartoons*. The different positions of the EL constituents do not affect the agreement affixes of the Cree verb. The same argument applies to other verbs in this paper. Admittedly, outsider late system morphemes (i.e., agreement and case affixes) in all the bilingual clauses examined so far come from the ML, and not a single counter example has been found in other clauses.

To conclude, two specific criteria related to the MLP, namely, the morpheme order criterion and the system morpheme criterion, are used to identify the ML in Cree-English clauses. The application of these criteria suggests that Cree is the ML since it provides the morphosyntactic structure into which the EL elements are inserted. This suggestion indicates that Cree is more activated than English, thus, it contributes more in the codeswitching situation. This notion is supported also in the following principles below.

## 3.4 Testing the Asymmetry Principle (AP)

This principle indicates that "bilingual speech is characterized by asymmetry in terms of the participation of the languages concerned" (Myers- Scotton 2002: 9). It is used to determine the relative frequency of clauses which are compatible with the MLP and those which are not. In other words, the AP predicts that the ML will be unambiguously identifiable in most clauses. While the MLP deals with morphemes (i.e., their order and their type) at the level of individual clauses, the AP deals with clauses (i.e., their frequency) at the level of the whole data. However, asymmetry relationship between the ML and the EL is evident in the previous discussion of Cree-English codeswitching and can be highlighted in the following points.

- Concerning the number of content morphemes, English (the EL) provides only nouns and their associated morphemes like plural markers, and Cree (the ML) supplies all the majority of content morphemes including verbs, prepositions, adverbs and closed class items like demonstratives, pronouns and grammatical particles. So, the asymmetry in the roles played by both languages in the Cree-English data is represented in the supply of content morphemes.
- Regarding system morphemes, the majority of early and bridge system morphemes as well as all outsider system morphemes (i.e., agreement and case affixes) come from only one of the participating languages, namely, Cree, and English plays only a very marginal role in supplying morphological inflections.
- Considering the morpheme order, all the examples discussed so far have the morphosyntactic structure

of Cree. All the English constituents are inserted according to the order of morphemes in Cree. That is to say, the order of Cree morphemes dominates that of English morphemes.

These three points support the AP as defined by Myers-Scotton (2002:9) and indicate the great influence of just one language, Cree, on the number, type and order of morphemes.

### 3.5 Testing the Uniform Structure Principle (USP)

As outlined in section 2, the Uniform Structure Principle (USP) states that "in bilingual speech, the structures of the Matrix Language are always preferred, but some Embedded Language structures are allowed if certain conditions are met" (Myers-Scotton 2002: 8-9). This principle privileges the structures of only one language, that is, the ML, in bilingual speech, therefore, most system morphemes are expected to come from it. Under the System Morpheme Principle, the type of system morpheme predicted to always come from the ML is the outsider late system morpheme, whereas other morphemes can be supplied by both the ML and the EL. The USP goes beyond this and predicts that the early system morphemes and bridge late system morphemes are drawn preferably from the ML. Consistent with this prediction, Cree as the ML provides all outsider system morphemes (i.e., agreement and case affixes) and the majority of early system morphemes (i.e., demonstratives, pronominal modifiers, pronouns and grammatical particles), whereas English as the EL supplies only three types of the early system morphemes in the form of the plural marker *-s*, possessive pronouns and numerals. Considering the marginal role that English occupies in supplying the morphosyntactic structure, it is safe to indicate that the structures of Cree are preferred in bilingual clauses discussed in this paper, hence supporting the Uniform Structure Principle.

## 4 Findings and implications

As may be clear from the preceding discussion, the MLF model is a comprehensive approach for explaining the grammatical properties of the Cree-English codeswitching. The MLF principles, namely, the MLP, the AP and the USP, explain how the two languages interact in asymmetrical, interconnected ways. The asymmetrical participation is represented in the unequal contribution of the ML and the EL in bilingual clauses discussed in this paper. Due to its status as the ML, Cree occupies the major role as it dominantly provides the morphosyntactic frame for the mixed constituents, whereas English (the EL) plays only a minor role. The application of the MLP reveals that all embedded nouns follow the grammatical requirements of Cree to reach sufficient congruence. The Morpheme Order Principle (MOP) and the System Morpheme Principle (SMP) seem to play a crucial role in maintaining the grammaticality of mixed constituents within the larger linguistic units. In other words, the occurrence of embedded English lexemes is based on two conditions, the first condition is not to change the morpheme order of Cree, and the second one is not to provide structurally-assigned morphemes (i.e., outsider late system morphemes). The application of the AP at the level of the whole data indicates the overwhelming influence of Cree on the number, type and order of morphemes. The USP is supported in the bilingual data since the well-formedness of mixed constituents is observed in accordance with the rules and constraints of the ML grammar. These findings go hand in hand with those of other studies (e.g., Deuchar 2006; Ihemere 2016; Zabrodskaja 2009; Essizewa 2007; Akinremi 2016; Rahimi & Dabaghi 2013; Finlayson, Calteaux & Myers-Scotton 1998; Owens 2005; Liu 2008) which have adopted and successfully applied MLF model to several language pairs. However, the findings presented in this study are tentative and need further research on a much larger corpus in order to reach a representative description of the Cree-English codeswitching.

With regard to the implications of this study for the MLF model, the analysis given shows that the data representing mixed constituents is compatible with the principles of MLF model to a great extent, and this indicates that Cree-English codeswitching seems to be a 'classic' case of code-switching. Further support of this conclusion can be drawn from structural linguistic factors given that "there may be a universal tendency

to select one ML when the two languages involved have different word order" (Carter, Davies, Deuchar, & Couto, 2011: 179), more specifically, when the two languages have different clause-internal structures and distinct morphosyntactic aspects at the noun phrase level, the selection of the ML and the construction of mixed nominal phrases become extremely influenced and predetermined (see, e.g., Blokzijl, Deuchar, & Parafita Couto, 2017, and Parafita Couto & Gullberg, 2019).

Additionally, the uniformity of choosing only Cree as the ML can be due to extralinguistic factors, such as proficiency and stability which affect situations when speakers "have sufficient proficiency in one of the participating languages to use it as the sole source of the morphosyntactic frame of bilingual CPs" (Myers-Scotton, 2002:110). This is clearly the case for the Cree child in this study who was fluent in Cree with minimal exposure and contact with English speakers at an early age. This suggests that social factors may be at play, and the choice of Cree as the ML may depend on extralinguistic considerations, especially when the relative prestige of the two languages is considered. That is, although English may be considered more prestigious in other communities, the situation in Chisasibi is different, as indicated by Pile (2018:25), in most social contexts, especially when elders are present, Cree is the primary language of communication in the community. This fact may help to account for the asymmetry in the Cree-English data. Moreover, this paper has implications on the study of language acquisition. As discussed in the paper, the data shows that English switched elements are mainly content morphemes and marginally early system morphemes with the absence of bridge and outsider late morphemes. This sheds light on how and which morphemes types are acquired in contact phenomena, and it goes hand in hand with Myers-Scotton and Jake's (2000:1087) argument that "content morphemes are acquired accurately before system morphemes [and] early system morphemes are expected to be more accurately produced (and acquired) before late ones."

## Abbreviations

**1** first person
**1/2** first or second person (speech act participant)
**2** second person
**3** third person animate
**3>3** third person subject; third person object
**AN.OBV~INAN.PL** animate obviative or inanimate plural
**CAUS** causative
**DIM** diminutive
**EMPH** emphatic
**FIN** verb final
**LOC** locative
**NEG** negative
**OBV** obviative
**P,DEM.PXL** proximal demonstrative
**P,EMPH** emphatic particle
**P,QUEST** question particle
**PASSIVE.3** third person passive
**PL** plural
**PRO,HES** hesitation pronoun
**PVB,CONJ** conjunct preverb
**S** singular
**THM** 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.FIN** inanimate intransitive verb final
**VTA.FIN** transitive animate verb final

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