

# **What is Code-Switching ?**

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## **1 Introduction**

For many people or communities, the use of two or more languages in a conversation is not an extraordinary phenomenon but the norm. In interactions where the interlocutors share more than one common language how does this affect their language use? If, as often happens, they mix the two languages within a single sentence or clause, how is this influenced by the two sets of grammar in use? If a child simultaneously acquires two languages, how does each influence the acquisitional process of the other?

As Milroy and Muysken (1995:1-2) note, the increasing use of international languages stimulated by modernization and globalization, the phenomenon of language revival, and the economically motivated migration of people, have led to wide spread bilingualism in the modern world. Although Bloomfield (1933) defined bilingualism as “native-like control of two languages” and Haugen (1953:7) asserted that bilinguals can give “complete meaningful utterances in the other language”, Mackey (1962/2000:26) argues that the concept of bilingualism needs to be broadened, to accommodate variations in degree, function, alternation, and interference. It is not a clear-cut phenomenon. Grosjean says: “Bilinguals are not the sum of two complete or incomplete monolinguals but have a unique and specific linguistic configuration”(1995:259). Therefore language contact phenomena have attracted the interest of many linguists. Myers-Scotton, for example, observes that “what outcomes are possible in contact phenomena are empirical windows on the structures of the language in general (2002:5 “original emphasis”)

Among the language contact phenomena —which include interference, borrowing, convergence, pidginization and so on – code switching, that is, the alternative use by bilinguals of two or more languages in the same conversation, has attracted linguists’ attention and been studied from a variety of perspectives. Weinreich (1953/1968:73) argued that “the ideal bilingual switches from one language to another according to appropriate changes in the speech situation (interlocutors, topics, etc.), but not in an unchanged speech situation and certainly not within a single sentence”. However a growing number of studies have shown evidence of proficient bilingual speakers employing code-switching at different levels (discourse, sentence, words, morpheme) and for different purposes.

This paper will give a general review of the studies of code-switching (CS hereafter) and then focus on the grammatical constraints on CS. Studies of CS can be divided into three broad fields: sociolinguistics, psycholinguistics and linguistics. . While some studies concentrate on one of the fields, others overlap in two or three areas, complementing rather than contradicting each other.

## **2 Sociolinguistic approach to code-switching**

“Why do bilinguals switch languages?” is the broad general question of sociolinguistic studies of CS. In order to answer this question, studies have been conducted from two perspectives: the macro-level and the micro-level. With macro-level studies, the language choice at community level is explored. Ferguson

(1959/2000) introduces the notion of ‘Diglossia’ where ‘High’ and ‘Low’ varieties of a language are used. Each variety has distinct functions and is used in specific situations. Fishman developed Ferguson’s concept and introduced the framework of ‘domain analysis’(1965/2000). Language choice is constrained by ‘domains’ consisting of topics, interlocutors and settings.

On the other hand micro-level analysis has been done on code-switching at an interactional level. Blom & Gumperz (1972/2000:126) introduced two patterns of CS, namely situational CS, in which the speaker switches languages according to the change of the situation and metaphorical CS in which the speaker switches languages to achieve a special communicative effect. They developed this concept and introduced another term ‘conversational CS’ (1982) which includes functions such as quotations, addressee specification, interjections, reiteration, message qualification, and personalization vs objectivization. Auer (1988) developed Gumperz’s work using a conversation analysis (CA) approach. Myers-Scotton (1993b:53) also develops Gumperz’s situational or metaphorical dichotomy and presents the “Markedness Model” from the point of view of social motivations. According to Myers-Scotton, language choice indexes an identity. If a speaker’s language choice is unexpected or ‘marked’ in the given situation, it redefines the role relations and situations. Milroy & Li (1995) propose a social-network approach which integrates two previous approaches: the macro community level language choice and micro interactional level code-switching.

### **3 Psycholinguistic approach to code-switching**

Weinreich (1953/1968) classified three types of bilingualism according to the way in which bilinguals store language in their brains. 1) Coordinate bilingualism: the person has acquired two languages in two separate contexts and the words are stored separately. 2) Compound: the person has acquired two languages in the same context. In this case, a word has a single concept but two different labels from each language. 3) Subordinate: the person has acquired a language first and another language is interpreted through the stronger language. Ervin & Osgood (1954) developed Weinreich’s distinctions. The Subordinate type is subsumed under the Coordinate type bilingualism. They put more emphasis on the context and the lexicon. Since then the question of mixing or separating language systems has been the focus of studies in bilingualism.

Green’s (1986/2000) model is meant to account for the performance of normal as well as brain-damaged monolinguals and bilinguals. Bilinguals’ languages are organized in their separate subsystems which can be activated to different levels. Green argues that if a bilingual wishes to speak one language, it must be selected and the other language should be inhibited. He supposes that each word is tagged to indicate the language it belongs to.

Adapting Levelt’s (1989) ‘speech production model’, DeBot (1992) proposed the ‘bilingual production model’. DeBot’s hypothesized that the first component, ‘the conceptualizer’ is partly language specific and partly independent. He asserts that the ‘formulator’ is language specific thus there are different formulators for different languages. He adapted Paradis’ (1987) ‘subset hypothesis’ and suggests that there is one lexicon where lexical items from different subsets are stored together. DeBot concludes that the different formulators send their speech plan to one articulator which is not language-specific.

Grosjean (1995, 1997, 2001) agrees with Paradis' subset hypothesis and proposes the language mode model which asserts that each language of bilinguals can be activated or deactivated independently or simultaneously to a certain extent. As seen in situational CS, bilinguals naturally choose which language to use according to their interlocutors. When they communicate with each other, they seem to mix more than when they communicate with monolinguals. Grosjean explains this phenomenon as follows:

(B)ilinguals find themselves in their everyday lives at various points along a situational continuum that induces different language modes. At one end of the continuum, bilinguals are in totally monolingual language mode, in that they are interacting with monolinguals of one-or the other-of the languages they know. At the other end of the continuum, bilinguals find themselves in a bilingual language mode, in that they are communicating with bilinguals who share their two (or more) languages and with whom they normally mix languages (i.e., code-switch and borrow). These are endpoints, but bilinguals also find themselves at intermediary points, depending on such factors as who the interlocutors are, the topic of conversation, the setting, the reasons for exchange, and so forth.(Grosjean, 1997:227)

## 4 Structural approach to code-switching

In the past twenty years, studies looking for universal grammatical constraints on CS have attracted linguists' attention and still haven't reached an agreement. "Research in this field has largely concentrated on finding universally applicable, predictive grammatical constraints on CS, so far without success"(Gardner-Chloros & Edwards, 2004:104). MacSwan (1997:68) summarizes the descriptive facts of the codeswitching corpora reported in the literature and indicates which code-switched patterns are in disagreement with which proposals.

In what follows, we will look in detail at three approaches to the structural description of CS. The first is one of the earliest and most influential approaches, that of Poplack and her associates,. The second is the approach to CS that is based around Chomsky's generative grammar. The third is Myer Scotton's psycholinguistically inspired structural model - the Matrix Language Frame Model.

### 4.1 Poplack's Linear order constraints

Early studies in this field looked at Spanish / English CS and proposed grammatical constraints which are descriptive rather than theoretical (Gumperz , 1982; Timm, 1975; Pfaff, 1979; Lipski, 1978; Woolford, 1983). Poplack's study on Spanish/English bilinguals (1980) was one of the most influential studies of this type. The equivalence constraint and the free morpheme constraint were proposed after a large bilingual corpus was examined.

#### The equivalence constraint

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. (Poplack, 1980: 586)

### The free morpheme constraint

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

According to the equivalence constraint, code-switching occurs where two languages share the same word order. A number of counter examples have been cited for example in French/Moroccan Arabic CS, (Bentahila and Davies, 1983), Swahili/English (Myers-Scotton, 1993a), Spanish/Hebrew (Berk-Seligson, 1986), and English/Japanese (1997, Nishimura). This equivalence constraint restricts CS between typologically distant languages such as English and Japanese more than those of close ones. The following counter-examples are cited in Nishimura (1997).

e.g.1 We never know *annakoto* (p100)  
such a thing

e.g.2 What do you call it *nihongo de* (p123)  
Japanese in

The English order of sentence elements is S+V+O, while that of Japanese is S+O+V. Therefore the occurrence of the Japanese NP as an object of the English Verb in e.g.1 violates the equivalence constraint. The other example shows the switched item of Japanese NP+ Particle which violates the word order of English PP.. As MacSwan argues, the equivalence constraint may be an “essentially correct generalization” (1997: 55), in the sense that both participating language’s syntactic rules are not violated in CS. However the model needs modification by checking for CS in other language pairs especially typologically distant languages.

The free morpheme constraint prohibits a switch between a lexical item and a bound morphemeunless the former has been integrated phonologically into the language of the latter. Myers-Scotton (1993a:30-31) points out that the free morpheme constraint was accepted more than the equivalence constraint in the 1980s. Far fewer counter-examples were cited and a number of researchers who reserve the designation of CS for the switching of phrases and clauses regard the switching of a single word or free morpheme as borrowing. However, many counter-examples can be found in agglutinative languages, for example Bantu languages (Bokamba, 1988 cited in Myers-Scotton 1993a; Scotton, 1988), Maori (Eliasson, 1989 cited in Myers-Scotton 1993a ), Turkish (Hankamer, 1989 cited in Myers-Scotton 1993a), and Japanese (Nishimura, 1997). The following example shows code-switching between English free morphemes and Japanese bound morphemes hence violating the free morpheme constraint.

e.g.3 She-wa took her a month to come home-yo

Levelt (1989) suggests that different types of languages may have different entries in a mental lexicon. While the speakers of non-agglutinative languages such as English may have a lexicon consisting of full words, the mental lexicon in the speaker of agglutinative languages consists of stems, affixes, and frequently used multimorphemic words and the speaker can create ‘new’ words by combining a root and many affixes. It is reasonable to argue that CS employs the same process in which a stem from one language is combined with an affix from another language. For example, Myers-Scotton (1993) found a number of inflected verbs form consisting of a verb stem from English and inflectional morphemes from Swahili. Poplack and her associates create a model called ‘nonce-borrowing’ to explain counter-examples to the equivalence constraint and the free morpheme constraint arguing it is not CS but a special case of borrowing. I will discuss the issue of borrowing/CS later in this chapter.

#### **4.2 Chomskyan’s Generative model**

After Poplack’s linear order constraint model, a variety of non-linear approaches especially based on Chomsky’s generative grammar were proposed, drawing on, for example, the Government and Binding (GB hereafter) framework (Woolford, 1983; Disciullo, Musyken, and Singh, 1986; Halmari, 1997), the Functional Head Constraint (Belazi, Rubin, & Toribio), the Null Hypothesis (Mahootian, 1993), the Minimalist approach (MacSwan, 1997). Based on the GB framework, Disciullo et al.(1986) claim that within a maximal projection, no switch is allowed. They predict that there will be no code-switching between verbs and objects. Romaine (1995) argues that switching between V and its NP predicate is possible in her Panjabi/English data. Myers-Scotton (1993a) also cites counter-examples in her Swahili / English corpus.

Myers-Scotton (2002:162) argues that the Chomskyan generative models focus on phrase structure as the source of constraints and cannot account for single item insertion. For instance the proposals based on GB theory are “operating at a level which is too ‘purely syntactic’, or too close to the surface”. Gardner-Chloros and Edwards (2004) also argue that pure grammar theories are too abstract to explain CS phenomena. Next we will look at a model which is not purely syntactic but constructed on psycholinguistic speech production theories.

#### **4.3 Myers-Scotton’s Matrix Language Frame model**

##### **4.3.1 Background**

Myers-Scotton (1993[1997]) examined a Swahili/English corpus consisting of recorded conversations in Nairobi and proposed the Matrix Language Frame model. This is another non-linear model, but quite different in approach from those based on the generative syntax model. Since its first proposal (Myers-Scotton, 1993a), there have been a number of modifications and it is currently one of the most

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<sup>1</sup> TOP= Topic Marker

<sup>2</sup> SFP=Sentence Final Particle

influential models to account for intra-sentential CS. The MLF model, as well as the ‘frame content hypothesis’ of Myers-Scotton’s associate Azuma (1993) is motivated by Joshi’s model (1985). He applies Garrett’s (1975) speech error study to his Marathi/English CS data and proposes the asymmetry rule in which the matrix language is formulated first and it can be switched to the embedded language. Closed class items such as determiners, quantifiers, prepositions, possessives, Aux, Tense, and helping verbs, however, cannot be switched. The concept of asymmetry and the distinction between closed and open class items are redefined and further developed in the MLF model. The concept of the MLF model is influenced by psycholinguistic theories. The most significant three are the differential activation of base language and guest language (Grosjean, 1988), as mentioned above, the different retrieval process of closed class items and open items in Garrett’s speech error study (1975), and lemmas in the mental lexicon linking conceptual information and grammatical function in Levelt’s (1989) language production model.

#### 4.3.2 The MLF model

Myers-Scotton (2002:8) distinguishes two types of intra-sentential CS: classic code-switching and composite CS. In classic CS, only one of the participating languages is the source of the morphosyntactic structure of the bilingual clause, whereas the morphosyntactic structure consists of two languages in composite code-switching. The MLF model applies to classic CS and the following principles have been proposed. (Myers-Scotton, 1993[1997], 2002).

1. The unit of analysis is bilingual **CP** (projection of complementizer) (2002:54). This stipulates that it is independent or dependent clauses rather than sentences that should be the unit of analysis.
2. A bilingual CP may consist of three types of constituents: **Mixed constituents** include morphemes from both Matrix Language and Embedded Language. **ML islands** are made of ML morphemes only and are under the control of ML grammar. They don’t have any influence from the EL. **EL islands** are also well-formed by EL grammar but they are inserted into an ML frame. Therefore EL islands are under the constraint of ML grammar. (2002:58)
3. Regarding the mixed constituent, two hierarchies are proposed: 1) Participating languages do not have the same status. The language which provides the abstract morphosyntactic frame and the frame itself is called the Matrix Language (ML) and the other participating language is called the Embedded Language (EL) (2002:66).
- 2) **The Morpheme-Order Principle** : “In ML+EL constituents consisting of singly-occurring EL lexemes and any number of ML morphemes, the surface morpheme order will be that of ML”. **The System Morpheme Principle**: “In ML+EL constituents, all system morphemes which have grammatical relations external to their head constituent will come from the ML” (Myers-Scotton, 1993:83).

The distinction between content and system morphemes is crucial in identifying the ML. Content morphemes, e.g. nouns, verbs, adjectives and some prepositions, express semantic and pragmatic aspects and assign or receive thematic roles. These are essential to convey messages in communication. System morphemes, e.g.

function words and inflections, express the relation between content morphemes and do not assign or receive thematic roles. They are essential in building grammatical frames. In bilingual CPs, system morphemes are employed only from the ML and content morphemes are taken from both the ML and EL.

4. Regarding levels of activation, both languages are “on”. (2002:156)

5. **The Uniform structure Principle:** “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”.

#### 4.3.3 The 4M model

The content-system morpheme opposition of the MLF model is refined and an extended version “4-M model” is proposed. (Myers-Scotton & Jake, 2000, 2001). The system morphemes reflect the activation stage in the mental lexicon and the formulator. As in the MLF model, content/system morphemes are distinguished according to whether they assign/receive a thematic role or not.

**Content morphemes:** Content-morphemes assign / receive a thematic role and are activated at the lemma level. They are directly selected according to the speaker’s intention. e.g. nouns, verbs.

**Early system morphemes:** If a system morpheme is activated at the lemma level, it is an early system morpheme. Although they don’t have a thematic role, they contribute to the mapping of the conceptual structure to the lemma-like content morphemes. Myers-Scotton & Jake (2000: 96) define early morphemes as follows: Early system morphemes “are always realized without going outside of the maximal projection of the content morpheme that selects them” and “their form depends on the content morpheme with which they occur”. Examples of early system morphemes in English are determiners, plural-s, some prepositions, etc.

**Late system morphemes:** Late system morphemes neither assign or receive thematic roles nor are they activated at the lemma level. They are activated at the formulator level when the lemma sends directions to construct a grammatical constituent. Late system morphemes are further categorized as two-bridges or outsiders

**Bridge late system morphemes:** Like early system morphemes, bridge system morphemes depend on information inside the maximal projection in which they occur. Unlike early morphemes, they don’t contribute to conceptual structures. They integrate content morphemes into a larger constituent, e.g. the possessive markers “of” and “s”- they link two nouns within a noun phrase.

**Outsider late system morphemes:** Outsider morphemes differ from bridge morphemes in that they “depend on grammatical information outside of their own maximal projection” (Myers-Scotton & Jake, 2000:100). They are structurally assigned at the positional/surface level. For example the 3<sup>rd</sup> person singular –s is a late outsider morpheme.

#### **4.3.4 The Abstract Level model**

The 4M model is viewed as an extension to the MLF model and both models account for ‘classic CS’. By adding the third model, the Abstract Level model, Myers-Scotton has been able to describe “what will count as ‘sufficient congruence’ in [CS] so that certain constructions are possible for certain language pairs” and how it “provides a principled explanation for the nature of the abstract morphosyntactic frame that structures bilingual clauses.”(Myers-Scotton, 2002:19)<sup>3</sup>

This model premises that language production is made through three abstract levels of the lemma.

**Lexical conceptual structure:** At this level, psycholinguistic and sociolinguistic intention in the conceptualizer activates “language specific semantic/pragmatic features bundles” (Myers-Scotton & Jake, 2001) between the conceptualizer and the mental lexicon. **Predicate-argument Structure:** At the next level, thematic structure is mapped onto grammatical relations.

e.g. AGENT → SUBJECT, BENEFICIARY → INDIRECT OBJECT. **Morphological realization pattern:** At the third level, grammatical relations are realized on the surface.

e.g. word order, agreement morphology. This completes the construction of the output form ready for input into the production processes.

When ELs appear in an ML frame, their congruence with ML counterparts must be checked at the three levels of abstract lexical structure in the mental lexicon.

**Blocking hypothesis:** 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 (1993a:120)

If the congruence is insufficient, compromise strategies will be employed, e.g. bare forms, do-verb constructions and EL islands. Bare forms are “EL content morphemes that lack the requisite ML system morphemes that would make the well-formed in a ML frame. They are often nouns.” (2002:21)

Another type of bare form “do-construction” is frequently observed in agglutinative languages such as Japanese and Turkish.

Another significant compromise strategy for incongruence is EL islands. The following example which has already been cited as a counter-example to Poplack's equivalence constraint. It can be explained in terms of an English ML frame and a Japanese EL island.

<sup>3</sup> It also explains other language contact phenomena, e.g. composite CS, lexical borrowing (MLF model doesn't distinguish lexical borrowing and CS), convergence, attrition, first second language attrition, and creole formation. (Myers-Scotton, 2002: chapter 5&6)

“*Nihongo de*” consists of a noun plus a postpositional case marker. This is well-formed in the EL (Japanese) grammar, but it doesn’t fit the morpheme order of the ML grammar. The position of the whole phrase fits well as an adverbial phrase in the ML. Adverbial phrases are a major type of EL islands (Myers-Scotton, 2002:141).

#### 4.3.5 The single-item insertion: lexical borrowings or CS

One of the controversies in the study of CS is the treatment of single-item insertion. Poplack and her associates argue that “lone other-language items” insertion is ‘borrowing’ and should be distinguished from longer stretches of switches, which they define as code-switching. They propose that if other language items are morphosyntactically integrated into the recipient language, it [unclear what ‘it’ refers to] is identified as lexical borrowing. If not, it is a case of CS. They further set a continuum of lexical borrowing. ‘Established loan words’ which “typically show full linguistic integration, native-language synonym displacement, and widespread diffusion, even among recipient-language monolinguals”(Poplack & Meechan, 1995:200) are on the one end. On the other end is ‘nonce borrowing’ which just satisfies the criterion of morphosyntactical integration.

Other researchers (Myers-Scotton, 1993; Bentahila & Davies, 1983; Treffers-Daller, 1994) do not distinguish lexical borrowing and CS as different process. Myers-Scotton (1993a) argues that “B forms<sup>4</sup> and singly occurring CS forms undergo ML morphosyntactic procedures in the same way”(p206). However, “the *lexical entries* (original emphasis) of CS and B forms must be different, since B forms become part of the mental lexicon of the ML, while CS forms do not”(p163). She further divides lexical borrowings into cultural borrowings and core borrowings. Cultural borrowings are “words for objects and concepts new to the culture”(2002:41). They often fill gaps in the recipient language (1993a: 206) and may appear in the monolingual speech of either bilinguals or monolinguals, or in the codeswitching of bilinguals (2002:41). Core borrowings are “words that more or less duplicate already existing words in the? L1”(2002:41). Myers-Scotton argues that core borrowed forms typically enter the recipient language gradually through code-switching (2002:41), whereas cultural borrowed forms appear abruptly “for the obvious reason that they are needed to fill gaps”(1993a: 206). She proposes frequency as the criterion for distinguishing between CS and lexical borrowings. She predicts that culturally borrowed forms will show high relative frequency and core borrowed forms will show high frequency compared to CS forms.

#### 4.3.6 Identification of Matrix Language

The definition of Base language or Matrix language has been criticised in the literature on grammatical constraints on CS (Gardner-Chloros, 2004:117). Nortier (1990:158) explains that the matrix language is about individual sentences and the base language is about a whole conversation. Klavans

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<sup>4</sup> Borrowed forms

(1983)<sup>5</sup> proposes that the inflection of the finite verb is the key to defining a base language. Myers-Scotton originally proposed a ‘morpheme count’ as a criterion for the definition of the ML (1993:117) but she abandoned this criterion later, e.g. in the Afterword added in the 1997 reprint of her 1993a work; see also Myers-Scotton & Jake, 1995. She also mentions that ML is different from “dominant language” in the psycholinguistic literature (Lanza, 1997) and unmarked choice in the sociolinguistic literature (Myers-Scotton, 1993b), because “dominant language refers to the language in which the speaker is most proficient and unmarked choice is a label for the variety considered most appropriate (and therefore typically most frequent) in a specific interaction type in a specific community” (page number). For her, there are two principles that define Matrix Language. One is that the ML is the language which determines the morpheme order and the system morphemes. The other principle (in the 4M model) is that the ‘outsider late system morphemes’ construct the morphosyntactic frame and thus establish that language as the ML.

## 5. Conclusion and implications

Romaine (1994) concludes the CS chapter in her book by asserting that “more collaborative work is needed between psycholinguists and sociolinguists to develop models of processing and production which can handle code-switching”(1994:180). Gardner-Chloros and Edwards (2004:126) also conclude that “although syntax plays an important role in CS, it cannot be assumed *a priori* that the constructs of syntacticians are the best means for characterising the processes of performance data such as CS”. Considering these points, we will adopt Myers-Scotton’s MLF model as our starting point rather than the Chomskyan’s generative model approaches, which concentrates on surface syntactic phrase structure. The MLF model is based on the process of speech production and CS phenomena are explained in terms of the psycholinguistic model.

With some bilinguals, for example those who grow up in a bilingual family, code-switching is often the unmarked choice (Myers-Scotton 1993b). As Lanza (1997) points out, “children’s exposure to more than one language in their primary language acquisition has for centuries been the norm in many parts of the world”. (p.1). Ronjat (cited in Baker & Prys Jones, 1998:39) and Leopold (1939-1949) established the study of children’s bilingualism, and identified two useful notions. One is the “one-parent one language” principle, in which children are encouraged to use interlocutor-specific languages in the family situation. The other is “language dominance” which means that the participating languages are not symmetrically engaged with. . Whether very young children can differentiate two languages or not has been one of the most controversial issues in this field. Some argue there is a single system in the beginning (Volterra & Taeshner,1978; Redlinger & Park, 1980; Vihman, 1985). Volterra and Taesher proposes three stage –model. At the first stage bilingual children have one lexical system. At the second stage, their lexicons are differentiated but they apply the same syntax rule to the two languages. At the third stage, they have two syntax systems. Others argue that there are dual systems from the onset of language acquisition (De Houwer, 1990, 1995; Deuchar&Quay, 2000; Genesee, 1989; Lanza, 1997; Meisel, 1989). Baker & Prys Jones (1998:37) points out that the former claim that children mix two languages because they have only one system, whereas the

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<sup>5</sup> followed by Treffers-Daller, 1994)

latter assert that the language mixing is an elementary form of code-switching. Lanza (1997:324) argues that in her study, children at the age of two can code-switch in the same way as adults. De Houwer (1995:235) suggests that in order to examine whether there is a single or dual system the observation should be done on bilingual children who are acquiring highly different languages.

A study of Japanese – English code-switching, especially from the perspective of grammatical constraints seems promising because of the typological differences between them (Nishimura, 1997:p2). However many studies on Japanese- English code-switching have focused on the socio-linguistic aspect and only a handful studies on Japanese – English code-switching can be found as far as I know (Azuma, 1993, 1996 ; Fotos, 1995, 2000; Nishimura, 1997; Takagi, 2000). Recent work in linguistics, drawing on patterns found in large corpora (Hunston & Francis, 2000; Moon, 1998; Stubbs, 1995; Sinclair, 1991), on Halliday's notion of "lexicogrammar"(1994:xiv), and on the phenomenon of formulaic language (Cowie, 1998; Nattinger & De Carrico, Pawley & Syder 1983; Peters, 1977,1983; 1992; Schmitt, 2004; Wray, 1999,2000, 2002; Wray & Perkins,2000) have begun to open up again some of the questions that might at one time have seemed settled, regarding the speakers underlying psycholinguistic modelling of grammatical structure.

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