The dual language model to explain code-switching: A cognitive-pragmatic approach

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Abstract

The present paper seeks to explain code-switching produced by Spanish-English bilingual speakers from the community of Gibraltar from a cognitive-pragmatic perspective new perspective based on the dual language system developed by Kecskes (1998) and Kecskes and Papp (2000) to account for bi- and multilingual language development and language use. The reasons for code-switching in Gibraltar are provided in Moyer (1992, 1998) in terms of social and culture specific information, conversation and context creating devices used in discourse, and structural or syntactic constraints on the way the two languages are combined in a sentence.

The advantage of the dual language model (DLM) is that it integrates linguistic, conceptual, and socio-cultural information into a single model, provides a theoretical framework—from a psycholinguistic perspective—to explain the way speakers from a bilingual community such as Gibraltar combine two languages as a productive and regular communicative practice, and postulates that the primary cause for code-switching is conceptual-pragmatic rather than syntactic.

The DLM is a bilingual production model that integrates the dual language system (DLS), the language production model of Levelt (1989; 1995), and the bilingual language mode theory of Grosjean (1998, 2001). The focus of the model is on conceptualization and the manner in which conceptual knowledge is lexicalized or mapped onto linguistic forms (i.e., words, phrases, sentences, utterances) and grammatically formulated. The main contribution of the DLM is the way it enables conceptual knowledge acquired along with each language in the case of members of a bilingual community to interact by means of the dual language system consisting of the common underlying conceptual base (CUCB) and two distinct language channels. Switching is made possible by the CUCB that is responsible for the operation of both language channels (Kecskes 1998; Kecskes & Papp 2000). In this first attempt to adapt the DLM to code-switching, the
primary goal is to present an alternative model to the existing ones and
demonstrate its explanatory potential on data collected by ethnographic
fieldwork (Moyer 1992; 1998). Special emphasis is placed on the interplay
of conceptual, social, and linguistic factors in the selection of the code-
switching patterns of insertion, alternation, and congruent lexicalization
proposed by Muysken (2000).

The paper begins with the presentation of the DLM model and its key
theoretical assumptions. The adaptations of Levelt’s model and Grosjean’s
language mode theory are also discussed in the first section. The next part
gives a brief introduction to the language community of Gibraltar, which is
followed by the presentation of data relevant to the subject matter of the
paper. The main code-switching patterns in Gibraltar are introduced in
terms of Muysken’s three-way classification of code-switching (i.e., inser-
tion, alternation, and congruent lexicalization). In the following section, in-
stances from the database are used to demonstrate how the DLM accounts
for code-switching in the community of Gibraltar as well as the dynamics of
meaning creation in bilingual language use. Finally, the conclusions high-
light the main advantages of the model and suggest some lines for further
research.

1. The dual language approach

1.1. Code-switching

Code-switching is a term that is used to cover various types of bi- and
multilingual practices that are often referred to as intra-sentential switch-
ing (i.e., the mixing of two languages within a sentence) or inter-sentential
switching (i.e., the change in language between sentences or utterances of
a single speaker or between different speakers). In the present paper, the
goal is to demonstrate how the DLM can be used to explain a particular
type of code-switching consisting of content words and/or phrases (i.e.,
nouns, verbs, adjectives) from language x (Lx) inserted into a language y
(Ly) sentence/utterance unit, as well as expressions or longer segments
where Lx and Ly appear in alternation. Examples of cognate forms with
different conceptual meanings are also considered. The code-switched
items focused on here form units of meaning that are inserted or adjoined
to a sentence from a different language. Other forms of code-switching
that are not associated with a defined conceptual content (e.g., function
words or discourse markers) are excluded from the present study. The dis-

tinction between content and function morphemes is important because
many researchers assign a different psycholinguistic status to these items.
An important debate in the field of code-switching is the identification and classification of bilingual data as loans or borrowings, as nonce-borrowings or as instances of code-switching. Poplack et al. (1987) and Sankoff et al. (1990) argue from the perspective of a quantitative sociolinguistic paradigm for a distinction between borrowings, nonce-borrowings, and code-switching. Many researchers working within a generative cognitive framework for explaining intra-sentential bilingual data prefer for their models to account for all kinds of bilingual data rather than exclude instances of single word items integrated into a sentence frame from another language. The dual language model adopts the latter view regarding bilingual language contact phenomena in the present attempt to account for the various types of bilingual data appearing in the community of Gibraltar.

1.2. Description of the DLM

The dual language model draws on aspects of three psycholinguistic models proposed to explain language production. These are: first, the model of a dual language system (DLS) described in Kecskes (1998) and Kecskes and Papp (2000); second, Levelt’s (1989; 1995) proposals for a conceptualizer and the formulator based on his first monolingual speech production model; and third, the language mode theory (Grosjean 1998; 2001). In its primary version, the DLM has a moderate goal, which is to account for classical code-switching when the proficiency in either language is not an issue since speakers can use the languages freely according to their communicative needs.

Code-switching in the DLM is considered a natural consequence and product of the dual language system displayed by bilinguals. The DLS consists of two language channels (CAIS) with a common underlying conceptual base. It distinguishes between the “containers” of declarative knowledge (knowledge base and the mental lexicon) and the “processors” that operate on that knowledge as in Levelt’s monolingual speech production model. The main elements of Levelt’s system are incorporated into the dual language model to explain bilingual language production that is characterized by code-switching.

The DLM is built on two main assumptions. First, bilingual competence cannot be viewed as the sum of two monolingual competences. The dual language system contains the CUCB responsible for the operation of two language channels that are constantly available for production. These language channels are built on a different kind of competence from that of monolingual speakers. This claim relates to an observation made by Grosjean according to which a bilingual is a specific speaker-
hearer and not two monolinguals in one body (Grosjean 1985: 467). The common underlying conceptual base of bilinguals and the bidirectional transfer between L1 and L2 result in a unique dual language system in which functioning can hardly be explained by applying monolingual theories without significant modification. According to the DLM, preverbal thought is linguistically formulated and appears on the surface in the form of expressions, which may contain elements from either or both languages as well as unique structural mixes produced by the bilingual individual. Secondly, code-switching involves a cooperative rather than a competitive relationship between language channels. Languages are kept separate and they cooperate in expressing preverbal thought. The role of participating languages in bilingual production of sentences/utterances keeps changing in the course of language production, and it depends on conceptual-pragmatic factors (i.e., speaker’s intention, or topic) as well as linguistic constraints. Code-switching is the product of the bilingual language mode and the result of contributions by both language systems. English and Spanish in the case of Gibraltarians are activated to express thoughts originated in the CUCB through either language channel. These thoughts will depend on the immediate needs of the speaker, the context the speaker wants to create or in what context the speaker wants to fit his/her expressions or utterances.

1.3. Mapping concepts onto linguistic representations

The DLM is a production model that attempts to explain bilingual language production bottom-up rather than top-down. The model emphasizes the dynamism in the interplay of the conceptual and linguistic level, which is based on bidirectional movements. The figure below demonstrates how language production takes place in the DLM. The production pattern is a modified version of Levelt’s first speech production model connected to the dual language model (Kecskes & Papp 2000). The route of the development of a bilingual language unit (be it through a word, phrasal constituent, sentence or utterance not forming a clausal unit) is shown in the figure. In the DLM, production begins with the speaker’s intention, which results in the preverbal message formulated and which is pre-structured in the CUCB (conceptualizer). From the CUCB, the preverbal message gets into the language channels (formulator) where it gains its final form (articulator) by mapping conceptual representations onto linguistic representations and comes to the surface in a language mode required by the interplay of context and the speaker’s strategies.

The DLM requires the modification of Levelt’s monolingual speech production model to account for bilingual speech. The main questions...
that need to be addressed are: (a) the status of preverbal thought and whether it is language-independent, or language-specific; (b) the manner in which language assignment takes place and how DLM accounts for it; and (c) the reworking and adaptation of Levelt’s conceptualizer and formulator to account for bilingual production.

1.4. Prelinguistic conceptual level

The first two questions are irrelevant in Levelt’s monolingual model because the monolingual conceptual base is mediated by a single language and it is shaped by a relatively common socio-cultural experience. It contains knowledge and concepts based on the L1 only, as well as knowledge received or developed through the L1. It is no wonder that researchers focusing on L1 development have been convinced that in the conceptual base everything is language-independent, consisting mainly of universal concepts that are lexicalized in different ways in different languages. The most extreme view on this issue is expressed by Chomsky (1987) who sees the lexicon of a language as a set of labels to be attached to concepts that are language-independent and are determined biologically rather than culturally. Chomsky (1987: 33) further maintains that the acquisition of vocabulary is guided by a rich and invariant conceptual system which is prior to any experience. This has been the ruling monolingual view for several decades. However, this view can hardly be maintained for bilinguals because the symbiosis of two language systems and the effect of
the blending of the two cultural experiences make conceptual differences and culture-dependency articulated. In spite of this, a considerable part of the bilingual literature argues for a language-independent prelinguistic conceptual level (e.g., Paradis 1985; Perecman 1989).

Recently, some attempts have been made to change this view and seek room for language and culture specificity in the process of conceptualization. The starting point of these approaches is Levelt's system in which information about which variety to use is present in the preverbal message and linguistic forms must be selected accordingly. Green (1993) and Poulisse (1993) assume that language choice is represented as intention in the conceptualized message. Using Levelt’s macroplanning (intentions)-microplanning (further information to realize intention) dichotomy, De Bot (1992) suggests that macroplanning is language-independent, and microplanning is language-specific. He argues that although the generated message is preverbal, it is constructed bearing in mind the concrete linguistic expression. Green (1993) also comes to the conclusion that language specification is needed both at the level of concepts and at the level of word forms in the case of a dual language system. He refers to cases where the L2 does not provide a lexical concept but the L1 does, and the speaker wants to produce an utterance in the L2 that expresses the intended meaning. He maintains that in cases like this it is unavoidable to specify the language of expression at the conceptual level.

1.5. Culture-specificity of concepts

Kecskes and Papp (2000, 2003) argued that language- and especially culture-specificity are already present at the conceptual level. A significant number of concepts are language-specific in the sense that they are developed through one particular language channel. These concepts are usually culture-specific because they represent one particular culture. The CUCB contains common concepts, culture-specific concepts, and synergic concepts. In the bilingual memory, there are many common concepts that are attached to both cultures and difference occurs only at the lexical level. In the Gibraltar data there are several concepts that are lexicalized both in English and Spanish, such as “alcalde”–“mayor,” or “honeymoon”–“luna de miel.” Culture-specific concepts like “tapa,” and “flamenco” in Spanish, or “scones” and “St. Patrick” in English, have a specific socio-cultural charge attached to them. In Gibraltar, there are specific words (either borrowed or created by locals) used to denote concepts that are culture-specific in that area. These words usually come from other languages and have gone through significant changes both in...
their form and content (Cavilla 1978). They signify something unique that
is part of the everyday life of Gibraltarians. For instance:

[\textit{chama}] noun “fish stand at the market” from Arabic “alchama”
[\textit{estrochi}] adjective “broken, wrinkled” from Italian “strusuare”
[\textit{chuar}] verb “choose, select” from English “choose”

The term \textit{synergic concept} was introduced by Kecskes (2002) to denote
a unique group of bilingual concepts which are lexicalized in both lan-
guages but have a different socio-cultural load in each language. How-
ever, in the CUCB of proficient bilinguals the two different socio-cultural
loads are blended, which results in a conceptual domain that is not equal
to the content of the conceptual domain in either language. An example is
the concept denoted by the word “lunch” in English and by “comida” in
Spanish. “Lunch” for a native speaker of American-English refers to a
light meal consisting of a sandwich, soup, and salad, or something else
that is consumed in the 30- to 60-minute lunch break. “Comida” for a
Spaniard denotes the main meal of the day (usually consisting of three
courses) that s/he has between 1 and 4 p.m. (no Spanish restaurant will
serve you lunch before 1:00 p.m.). Information from both cultures is
blended in the conceptual domain that can be referred to either by the
English word “lunch” or by the Spanish word “comida.” Consequently,
for a proficient bilingual such as a Gibraltarian, neither the English word
“lunch” nor the Spanish word “comida” has exactly the same meaning
that it does for the monolingual speakers of either language. Further
examples for synergic concepts: “market”–“mercado”; “school”–
“escuela”; “wedding”–“boda.”

Culture-specific and synergic concepts need more attention as it appears
that many instances of code-switching are initiated by their processes.

1.6. \textit{Language assignment or conceptual selection}

The DLM offers an alternative approach to code-switching that are based
on cognitive-pragmatic principles. There is a significant difference be-
 tween Myers-Scotton’s MLF model and the DLM. According to Myers-
Scotton (2001: 32), Matrix Language is an abstract frame that is defined
at the “lemma level” and has specifications at three levels of grammatical
structure, including the lexical-conceptual structure. The Matrix Lan-
guage can be understood as the frame that is borne in mind when the pre-
verbal message is generated. The main difference between the MLF
model and the DLM is that while the MLF attempts to analyze the syn-
tax of code-switched sentences by reaching back to the conceptual level,
the DLM model puts the conceptual system into the center of analysis as
the originator of bilingual thought that may be expressed in a code-
switched form. Myers-Scotton’s model acknowledges that the conceptual
level is very important in shaping the grammar of code-switched sen-
tences. The MLF, however, seeks to solve this problem “top-down,”
rather than “bottom-up.” The DLM follows the sequence of processing
from its origin where preverbal thought is mapped on lexical units, which
require a certain grammatical structure.

Bilingual speakers tend to choose particular concepts or a chain of con-
cepts that map onto particular lexical units rather than language to ex-
press their preverbal thoughts. The selection of concepts and conceptual
units may determine to a certain extent the language in which the given
preverbal thought will be expressed. Selection is motivated by intention,
which is triggered by the actual context. We agree with Green (1993)
and Poulisse (1993), who assume that language choice is represented as
intention in the conceptualized message. This accords with what we said
about the nature of concepts. If the speaker intends to use a culture-
specific concept such as “scones,” the language of expression will proba-
bly be English. (Although even in this case, the interplay between the con-
ceptualizer, formulator, and actual context may result in changing the
original choice.) However, if the concept can be lexicalized in both lan-
guages, which is the case with “bebida” or “beverage,” we can speak
about neither “language assignment” nor “language choice” at the con-
ceptual level because the concept may be embodied in either lexical form
depending on the immediate need of the speaker in the actual communi-
cation setting. Jared and Kroll (2001) and Kroll and Linck (forthcoming)
argue that in language production both languages are activated, and
“there is evidence that word neighbors are activated in both of the bilin-
gual’s languages even when a word recognition task is performed in one
language alone and even when that language is the bilingual’s native lan-
guage.” This suggests that there is bottom-up activation of information
corresponding to each language in a manner that is language nonselect-
tive. Only at a relatively late stage of processing is the language of the tar-
get word hypothesized to be selected.

Lexical units selected to express a preverbal thought unit require a par-
ticular structure. Proficient bilinguals have the choice to code their ideas
into words, phrases, and utterances from two languages. This may result
in grammatical structures that demonstrate code-switching on the surface.
Our approach to mapping is supported by several experts focusing on
conceptualization. For instance, Tomlin (1997: 172) argued that an utter-
ance is formulated in part by accessing lexical items that best fit the par-
ticular parameters and relations of the current event, and it is formulated
in part through mapping relations holding between components of the
event and grammatical structures and relations.

As a result of the preverbal thought–lexical units–grammatical
structure–utterance–context bi-directional back and forth movements in
bilingual language production, thought usually undergoes several changes
as it turns into speech. In the case of Gibraltarians, the symbiosis of two
languages and cultures results in a language use that can be explained
only if attention is given to both conceptual and linguistic factors. Mono-
lingual grammatical theories, however, usually refuse any approach that
seeks explanation in the conceptual rather than the linguistic system as
pointed out by MacSwan (1999, 2000). They do not take into account
that scientific parsimony requires a different approach when there is
asymmetry between participating languages in the DLS.

1.7. Language mode

The third question posed in relation to the DLM draws on Grosjean’s
theory about language mode, which is understood as the state of activa-
tion of the bilingual’s languages and language processing mechanisms at
a given point of time (Grosjean 1998, 2001). According to Grosjean, bi-
lingual speakers or listeners switch from monolingual mode to bilingual
mode on the language mode continuum, which makes code-switching a
natural phenomenon in bilingual language production. Grosjean (2001:
6) claimed that given the high level of activation of both languages in
the bilingual mode, not only can code-switches and borrowings be pro-
duced but the base language can also be changed frequently; that is, the
slightly less activated language becomes the base language and vice versa.
Grosjean’s theory offers a compelling explanation of the operation of the
two language channels if syntax is the target of analysis. It does not ex-
plain, however, what makes it possible for the bilingual speaker to move
along the language mode continuum changing from monolingual mode
to bilingual mode. In the DLM it does not make much sense to talk
about “base language,” or to distinguish between “monolingual mode
and bilingual mode,” because the CUCB results in a unique bilingual
language mode that is usually characterized by the activities of the two
constantly available language systems that may lead to relatively fre-
quent switches of codes. As explained above, bilinguals have two lexi-
cons to embody their thoughts. Switches of codes are frequented by
choices of words, phrases, and expressions from two languages, which
results in grammatical structures that do not follow exactly the rules of
either language system but are the on-the-spot creations of the bilingual
individual.
The CUCB keeps both language channels available to meet the immediate needs of the bilingual speaker/hearer. This concurs with the claim of several models of intrasentential code-switching, including the Matrix Language Frame (MLF) model of Myers-Scotton (1993, 1995), although both languages are on during code-switching, they do not participate equally in the production process. In this respect, the main difference between the MLF model and the DLM is that in the MLF model the ML sets the relevant grammatical frames, while in the DLM the lexicalized conceptual frame (preverbal thought) requires a particular grammatical formulation. The existence of the CUCB is supported by the language performance of bilinguals in the language mode described by Grosjean as “monolingual mode.” He argues that there is considerable evidence in the literature that bilinguals make dynamic inferences (ephemeral deviations due to the influence of the other deactivated language) even in the most monolingual of situations. This is exactly why it is argued here that the bilingual is in “bilingual language mode” even if s/he utters monolingual sequences as needed by the situation. The ability of and need for switching codes is dependent upon the developmental level of the common underlying conceptual base. As a consequence there is considerable difference between switches made by a less proficient speaker and a more proficient speaker. Switches (or mixes) by a speaker at the lower end of the developmental continuum usually denote the lack of lexical or/and grammatical knowledge, while code-switching of speakers with high bilingual proficiency may be the sign of more elaborated use of the potential of the DLS, easier adjustment to the situation, and more sophisticated understanding of socio-cultural relations, as is the case with Gibraltarians.

2. The Gibraltar data

2.1. The community

The data used to illustrate the explanatory potential of the DLM in this paper were collected by Moyer (1992) in the Spanish-English bilingual community of Gibraltar over a period of five years. Gibraltar is a bilingual community where Spanish and English are spoken with a high degree of proficiency. Both languages are learned side by side in the family as well as in a variety of other community contexts. English, however, is the primary language of instruction in schools, as prescribed by local legislation. The bilingual communicative competence of Gibraltarians is manifested by a choice in language: English, Spanish or code-switching of English and Spanish. The manner in which these two languages are combined can be characterized in terms of syntactic units of different
In a code-switching mode, where switching occurs within the sentence/utterance and above the sentence/utterance unit, one must necessarily take into account the dynamics of the interaction and the linguistic strategies speakers use to create and negotiate meaning (Moyer 1998). Social meaning and information about the community, as well as grammatical and conceptual knowledge are needed in order to produce and understand code-switching. This competence is the outcome of exposure to bilingual language practices, socialization, and formal education in the community of Gibraltar. The unique linguistic and socio-cultural experience of Gibraltarians is worth underscoring since English-Spanish code-switching combines conceptual representations associated with the English from Gibraltar, which shares similarities with English as used in Great Britain, and Spanish as used in that particular Andalusian region of Spain. Local conceptual representations associated with language, and/or local social experiences make up the knowledge shared by members of the Gibraltarian community.

The bilingual linguistic practices of this community include frequent switching between Spanish and English at the sentence as well as the utterance and the conversational turn level. The data examined in the present paper represent the language use of a typical member of the community. Shared social and cultural interpretations of language permit communication and mutual understanding even when participants in verbal interactions have different levels of proficiency in their community languages.

2.2. **The oral and written corpus**

The oral corpus collected by Moyer (1992) consists of 16 extracts with an average length of 423 words and 62 utterances per extract. All the extracts are taken from longer recordings that were collected in eight different natural settings that include: teachers and students in the classroom, bank employees at work, school teachers at recess, dinner with a family, telephone conversations, doctor and patients at an emergency room, a humorous radio broadcast, and a hospital worker explaining how to carry out a task. The written extracts consist of 16 written texts, which represent conversations between two interlocutors. Each text has an average of 315 words and 21 utterances. They were taken from a weekly newspaper column with a humorous and ironic intent.

3. **Code-switching patterns**

The bilingual language competence of Gibraltarians is reflected in the various ways they code-switch when speaking or writing. Most of the
data (with a few exceptions that are pointed out) were produced by speakers with a good level of proficiency in both English and Spanish. It is important to highlight this fact since in the DLM model speakers are assumed to have acquired well-developed conceptual knowledge associated with both the English and Spanish languages. Statistical evidence by Moyer from her data shows a predominance of switching of content items (i.e., nouns, verbs, adjectives, adverbs) 58.6% and if we include prepositions as content items, the total of switched content items is 62.3%. The remaining switches (37.2%) correspond to function words such as conjunctions, discourse particles, and determiners. Switches are not just made up of single words but of larger linguistic units. Sentences (36%) and noun phrases (35%) are the most frequently switched items, prepositional phrases come next (16%), followed by adjective phrases (6.4%), verb phrases (4%) and adverbial phrases (3%). A main concern of the DLM is with those linguistic forms that contain conceptual content. It is assumed in the model that different size linguistic units require different types of structuring or linking of conceptual units in order to form larger syntactic or discourse units. While the role of switched function words is not addressed in the discussion of conceptualization in the DLM, such words do play a crucial role in the lexical and grammatical formulation of concepts. In some cases, function words appear to be linked to the lexical or linguistic realization of conceptual units. Function words may equally play a role in the grammatical or syntactic formulation of a sentence as proposed by Myers-Scotton (2001) in the 4-M model.

The description of code-switching patterns in Gibraltar in terms of grammatical categories such as noun, sentence or verb phrase does not cover all types of switching that occur. This means that there is a need to go beyond syntactic explanations that rely on traditional grammatical units of analysis. Alternative ways of characterizing code-switching units as proposed by Muysken (2000) and psycholinguistic models such as the DLM provide a new way of looking at code-switching data.

Moyer (1998) identified along the lines of Muysken’s (1995, 2000) proposals three code-switching patterns (insertion, alternation, and congruent lexicalization) in the Gibraltar data. Each one of these patterns has structural properties of its own. Insertion involves the incorporation of lexical items or entire constituents from one language into a structure of another. This is a form of unidirectional language influence. In the dual language paradigm, insertion is explained by conceptual-semantic reasons and can occur in speakers with either an underdeveloped or a highly developed DLS. The selection of a specific linguistic form may be a language channel phenomenon (sign of lack of knowledge) or a CUCB
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phenomenon when the speaker switches between language channels to express a concept, a chain of concepts, or a cluster of concepts. Mapping of concepts onto either Lx or Ly linguistic forms will depend on the meaning intended by the speaker.

*Alternations* are distinguished from insertions by the size of the unit switched. They are usually larger than a single lexical item or phrasal constituent that usually encodes a single concept associated with a given language. Alternations can involve full sentences or utterances with a subject and verb, or for example an idiom, metaphor or formulaic expression conceptualized and mapped onto a fixed set of words. The lexical mapping and grammatical encoding for each language is used in an autonomous or independent way. Conceptualization is related to linguistic forms or units larger than lexical items, and it also shows how concepts can be strung together in actual language production. Syntactic relations do not extend over the conceptual units being conjoined as in the case of insertion.

*Congruent lexicalization* is defined on a surface level as the combination of items from different lexical inventories into a shared grammatical structure. Traditional grammatical units of switching cannot often be identified. There are several possible explanations for the switching between linguistic forms that do not form a syntactic constituent. Congruent lexicalization demonstrates how the bilingual mind exploits the interplay of the conceptual and lexico-grammatical stages. The mapping of concepts onto linguistic form can often include function words that are attached to content words or expressions. This sort of phenomena can be characterized by lexical encoding or mapping of concepts rather than as a part of the grammatical formulation of the code-mixed sentence. Congruent lexicalization involves the sharing of grammatical structures and features between lexical items or expressions from different languages.

These three patterns proposed by Muysken are based on the observation of many language pairs studied in the code-switching literature (e.g., Clyne 1987; Nortier 1990; Backus 1992; Wei 1994; Halmari 1997). This three-way classification of code-switching overcomes many of the drawbacks of previous work on code-switching carried out from various syntactic and processing approaches by providing a framework for describing the way linguistic forms from different languages, which do not necessarily form a traditional structural unit, fit together in syntax (Moyer 2002). The full complexity of code-switching phenomena appearing in different language pairs is recognized and attempts are made to account for them with the data analyzed in the following section.
4. Accounting for code-switching

The dual language approach accounts for code-switching by explaining the way the conceptual level of language production, where pragmatic and social information play a prominent role, interacts with linguistic mapping where constituent items from a given language are selected and grammatically encoded. The information and knowledge associated with English and Spanish are acquired in a community-specific social setting, which is distinguished from both strictly British and strictly Spanish settings where monolingual language modes are used. In other words, the common underlying conceptual base of Gibraltarians includes conceptualizations formed in the specific social setting of Gibraltar. The language of the linguistic forms in conversation is guided by interactional and pragmatic considerations of the speaker which can only be recovered by analyzing instances in an actual context of language use. A further point to bear in mind is that concepts can be mapped onto different size units. The CUCB, which relates the lexical and grammatical components of English and Spanish language channels, accounts for the different code-switching patterns produced by bilingual speakers. Constraints on the production of code-switching are mainly syntactic and lexical. At the CUCB level, concepts are constrained by the communicative competence speakers and hearers develop as they grow up as members of the Gibraltarian community. In other words, concepts will stem from one given context and not from some social context with which Gibraltarians have not come into contact.

The examples analyzed in the present section demonstrate how the bilingual language production model maps concepts onto Muysken’s threeway classification of insertion, alternation, and congruent lexicalization. These three types of processes involve switching patterns that correspond to syntactic and non-syntactic units of different size and can be explained as a CAIS (congruent lexicalization) or a CUCB phenomenon (insertion, alternation).

4.1. Congruent lexicalization

Congruent lexicalization relates to a particular stage of the DLM model in which the two languages channels (i.e., English and Spanish) interact. The interaction between the language channels is manifested in different ways as illustrated in (1) through (3), where strong evidence for the operation of CUCB and conceptually-motivated switching is provided. In these sentences, the verbs coming from two different languages have a common conceptual domain. This fact allows a speaker to choose the
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lexical form decir or tell in (1), accuse or acusar in (2), and look forward to or esperar in (3) as both forms represent the same concept.

(1) He is going to tell a un tal Ensalada que acepte el British interpretation of the airport deal.
   [He is going to tell to a so-and-so Salad to accept the British interpretation of the airport deal.]

(2) He accused a Mister Bigote de doble lenguaje.
   [He accused to Mister Moustache of double talk.]

(3) Let’s look forward a un año más tranquilo.
   [Let’s look forward to a more tranquil year.]

The language selected for lexical realization of the verb is English in each case but the grammatical structure of the complement corresponds to the Spanish frame in the case of (1) and (2). The ditransitive English verb tell may take either an [NP NP] complement, or an [NP IP] complement while the Spanish equivalent decir takes either a [PP NP] complement or a [PP IP] complement. Evidence for both the English and Spanish language channels being activated is indicated by the way the English verb tell is related to the grammatical requirements of subcategorization of the Spanish verb decir, which takes a [PP IP] complement in this case. The English lexical item does not follow its required subcategorization frame for a PP and IP complements (i.e. * He is going to tell to a so-and-so Salad to accept the British interpretation of the airport deal). Example (3) is different in that the complement structure (i.e., to a more relaxed year) fits the English verb but the language selected for realizing this structure is Spanish. The fact that speakers in (1) and (2) select an English verb with the possible complements of the Spanish equivalent verb demonstrates how the identification of these two items at the conceptual level allows for a Spanish grammatical frame to be mapped onto an English verb form. In the CUCB, the same conceptual mechanism is responsible for the use of referentially equivalent lexical items from each language channel. There is no separate concept for tell and decir; both lexical items are tied to the same knowledge domain in the bilingual conceptual system. The speaker in this example must know the referential meaning equivalence of tell and Spanish decir. This speaker must, in addition, know the syntactic subcategorization frame associated with both the English and the Spanish verb forms. Example (3) is different from (1) and (2) in that the complement structure is lexically realized in Spanish although the grammatical encoding fits the requirements of the English verb form look forward to.
These examples demonstrate that if congruence checking at the conceptual level results in a match, content morphemes may take a grammatical assignment from either language system. Although the core of many concepts coming from various languages can be common, several aspects of the conceptual domain are different. This is where we have doubts about the Matrix Language Frame which is built on congruence checking at three levels including the conceptual level (Myers-Scotton 2001; Jake et al. 2002). These examples appear to point to a closely intertwined or combined matrix language (“Composite Matrix Language”), which was developed to explain “cases of bilingual speech for which speakers do not have sufficient access to the frame of a target matrix language to employ it consistently/completely in their code-switching” (Myers-Scotton 2001: 52–53). In our interpretation, this type of congruent lexicalization is evidence for high proficiency in both languages and a well-developed common underlying conceptual base.

Additional examples of congruent lexicalization are illustrated by the morphological and phonological adaptation into English of Spanish concepts. Poplack and Sankoff (1984) used morphological and phonological evidence for arguing that such items as illustrated in (4) and (5) were the basis for classifying the verbs molesting and pissed as borrowings rather than code-switches. In the DLM framework what is important is how such examples are produced. The context in which these sentences were uttered was on a playground of a primary school in Gibraltar. The examples were provided by the teacher who explained that students are required to speak English in the school setting but that often at recess they revert to Spanish when playing among friends. It should be added that these children, who speak Spanish with their family at home, are still in the process of acquiring English in school. The verbs in (4) and (5) are on-the-spot creations with no humorous effects intended. For the bilingual hearer and the analyst these humorous effects are produced by the conceptual content associated with the English lexical items.

(4) Teacher, Peter is molesting me.
   [Teacher, Peter is bothering me.]

(5) He pissed on the line.
   [He stepped on the line.]

The conceptual meaning of these verbs comes from English rather than Spanish i.e., bother rather than molest and step on rather than piss). The lexical realization of these concepts in the examples also corresponds in form to the Spanish verbs molestar and pisar. While the Spanish molest

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English *to piss*, they do not share common conceptual content; however, these forms from the English and Spanish language channels are related by the speaker’s CUCB, and since the conceptual level is constantly interacting with the language channels, it is possible to recuperate the English conceptual meaning, which is precisely what produces the humorous effect. Lexical realization of Spanish verb forms is encoded with English morphological verb inflection as well as English phonological realization. The interaction between lexical selection and the grammatical encoding is permitted by the CUCB.

4.2. **Insertion**

Insertion is the process by which speakers insert content items from the lexicon into a sentence from a different language. From a production point of view, a person inserts a word from a language that has no conceptual equivalent in the other language. In (6) and (7), neither *Greenpeace* nor *Partido Andalucista* has a conceptual equivalent in the other language. At present, the conceptual content of each item is only available in one language. It is for this reason that these items are inserted from a language that is different from the sentence frame.

(6) Y los del *Greenpeace* were arrested in Spain.
   [And the members of Greenpeace were arrested in Spain.]

(7) Mind you, el Saint Patrick del *Partido Andalucista* would be a good mayor
   [Mind you, the Saint Patrick of the Andalusian Party would be a good mayor.]

Another type of insertion observed in the data involves reduplication of content items. Example (8) is an interview carried out by Moyer (1992) with several employees at a local hospital. One of the informants, Speaker A, is explaining how people lived in Gibraltar when she was young. The part of the interview selected here takes place in Spanish, although Speaker A is aware that the interviewer is fluent in English. The English words *dancing, drinking*, and *sailors* are inserted in an otherwise Spanish context. This reflects that for Speaker A the concepts lexicalized by these words are associated with British culture. It is important to note that Gibraltar has always had an important military presence by the British navy, and when these sailors come into a port, the most frequent forms of entertainment found at discothèques and nightclubs are dancing and drinking.

(8)

1 A: *Y la gente también tenía, en la juventud... Hablando de la juventud,*
People also had when they were young... Speaking about young people, people then were a lot more self-conscious. They wouldn’t go into a pub like they do today to have a drink. And there weren’t all those bars on Calle Real where women came dancing no? Dancing. And drinking, drinking, with the sailors, with the sailors, sailors no? And the life of Gibraltarians was very different...

4.3. Alternation

Alternation reflects the way conceptualization is realized on units larger than a single word or phrasal constituent. In the DLM, preverbal thought accounts for the way single concepts that belong to different socio-cultural contexts are associated with the lexical realization in a particular language. Alternation implies a process of conceptualization whereby speakers choose to express meaning by selecting a given language to express their thought. Thought is represented by lexicalized concepts that are strung together to form a complete sentence. The process of conceptualization also includes considerations such as the way speakers wish to represent themselves and others in their talk. According to the DLM, the process of language production involves the constant going back and forth between the conceptual level (CUCB) and the language channels where language specific elements are selected and grammatically encoded.

The dynamic process of meaning creation requires a speaker to make choices on the basis of what was previously said. The DLM allows for this since it claims that the conceptual level constantly interacts with the language channels.

Example (9) represents a conversation between the researcher and a nurse at the local hospital in Gibraltar. Halfway through Speaker A’s
turn, she switches to English to quote the words of her British work companions. The overall conversation takes place in Spanish and there are identifiable instances of alternation into English in lines 2 and 3 (i.e., *they were going to have a baby*) and lines 6 and 7 (i.e., “*oh, I haven’t got the time now. Wait until later.*” “*Your husband can do it for you.*” They are colder. The attitude is cold).

(9)

A: *Mira, yo he trabajado con ellos en maternity. No es trabajar pero he vivido la sala y la he visto. Había dos pacientes yanitos, they were going to have a baby. Ellas prefieren que esté un nurse con ella que es de Gibraltar o que hable su lenguaje porque es más cariñoso dicen.* Porque los nurses ingleses le dicen que quiere levantar la almohada y dicen: “*Oh, I haven’t got the time now. Wait until later.*” “*Your husband can do it for you.*”. They are colder. The attitude is cold.

[Look, I’ve worked with them in maternity. Not exactly work but I’ve lived the ward and I’ve seen it. There were two Yanito patients, they were going to have baby. They preferred to have a nurse with them from Gibraltar or who speaks their language because they say they are more kind. Because if you ask an English nurse to help raise your pillows they say....]

The alternational switches in this specific interaction are what Gumperz (1992) called contextualization cues because they play an active role in the process of meaning creation. The alternational switches group together with other contextualization cues involving the English insertions *maternity*, and *nurses* (cf. Kecskes 2004). Jointly, these items express Speaker A’s socio-cultural conceptualization of the hospital world in Gibraltar. This is based on her experience of working at this particular institution and the knowledge shared with fellow-Gibraltarians about hospitals, which are connected with the use of English as the nurses and doctors are usually from Britain. In terms of the DLM, *they were going to have a baby* is not an idiomatic expression although the entire utterance and the fact that it is realized in English does account for the way Speaker A wants to represent the British socio-cultural world. Here we see that language production not only involves stringing together concepts that undergo lexical and grammatical encoding, but also that the overall conceptual representation of the British employees at the hospital has consequences for the way the concept is formulated onto a whole utterance rather than a single word and also on the language that is chosen to
represent those utterances. This is also the case in lines 6 and 7, where the
British nurse’s words are quoted in English.

Another instance of alternational switching is illustrated in (10), an ex-
cerpt from a conversation in a café between two women, Yvonne and
Nati. This is the opening exchange of a much longer humorous conversa-
tion that was broadcast over a Gibraltar radio station. In this example,
Yvonne in line 1 addresses the waiter in English, while in lines 2 and 3
Nati addresses her friend Yvonne in Spanish.

(10)
1 Y: Excuse me, could we have two coffees and some scones, please?
2 N: Yvonne, para mí no vayas a pedir scones de esos que ahora me es-
toy tratando
3 de controlar un poquito antes de Pascua.
   [Yvonne, don’t order those scones for me now that I’m trying to con-
trol my weight a little bit before Easter.]

The use of English by Yvonne in line 1 and of Spanish by Nati in lines 2
and 3 is based on the knowledge that waitresses are usually British citi-
zens who have not spent very much time in Gibraltar and thus do not
speak nor understand Spanish. Another important fact is that informal
speech between Gibraltarians is mostly carried out in Spanish or in a mix-
ture of Spanish and English. In the DLM, this socio-cultural knowledge
about addressees is relevant at the level of conceptualization and, as
Green (1986, 1993) and Poulisse (1993) pointed out, language choice at
the preverbal or conceptual level depends on the addressee.

4.4. A combination of code-switching patterns

The next instance of code-switching, (11), is taken from the Gibraltar cor-
pus of written texts. Although we have relied on oral examples while ex-
plaining congruent lexicalization, insertion, and alternation in the DLM,
we selected this excerpt because it is especially suitable to illustrate how
several different code-switching processes can operate within one text.
This example also demonstrates how conceptualization in the bilingual
person is encoded in different languages and on linguistic units of differ-
ent size. Conceptualization not only involves single concepts from Span-
ish, English, or a substratum of Gibraltarian words, but also involves
meanings or intentions that can be encoded on linguistic elements larger
than a mere word or phrasal constituent (i.e., full sentences or utterances).
The text in (11), in which two female participants pose as typical Gi-
braltarian housewives talking on the telephone, was originally produced
in written form but it reproduces a common oral style. Code-switching
can be considered here as an instrument to structure discourse. According to Auer (1998: 15), a comprehensive treatment of code-switching must be centered on the participants in a conversation. The analysis must be event-specific, because the definition of the codes used in code-switching may be an interactional achievement that is not prior to the conversation but subject to negotiation between participants.

Each numbered line in the text represents a separate turn in conversation with a different speaker in each case. The key communicative goal of (11) is to create a humorous text. This humorous intention of the writer must be present at the conceptual level in order to select the appropriate language mode, in this case, the bilingual language mode that consists of frequent switching. Humorous effects are also created by the realization of concepts closely associated with Spanish or English socio-cultural worlds in an unexpected language, as is illustrated in turn 2, where Cynthia addresses Cloti and refers to *Hispanic Day* in English, a literal translation of the Spanish *dia de la hispanidad* in line 1. In the DLM, *Hispanic Day* does not have the same conceptual content as *dia de la hispanidad* and it is precisely this absence of a common conceptual domain but an equivalent lexical realization that makes this so amusing for the bilingual reader.

(11)

1 *Caramba con el Dia de la Hispanidad*, what an invasion that was.
   [Good heavens with Columbus Day, what an invasion that was.]

2 It goes to show that the average Spaniard is not as obsessed about our Rock as some make out. Can you *imaginate*, dear Cloti, celebrating Hispanic Day in British Gibraltar!

3 Just as well, *y que sigan viniendo*, dear Cynthia. Gosh, *el Main Street parecia la Feria de La Linea con tanta gente* all over the place.
   [Just as well, and let them keep coming, dear Cynthia. Gosh, the Main Street looks like the Fair of La Linea with so many all over the place.]

4 *Como que los relations y el co-operation have never been better entre la gente de a pie.*
   [Like relations and the co-operation have never been better with the ordinary citizen.]

5 *El que anda por las nubes* is the mayor of La Linea who has broken relations with Gibraltar.
   [The person who is up in clouds is the mayor of La Linea who has broken relations with Gibraltar.]

6 Oh dear, when are ambassadors being withdrawn? If you ask my husband, he says that *El Alcalde* is out of touch, if not *que se lo pregunte a los 30,000* who came here for the Spanish feast day.
[Oh dear, when are ambassadors being withdrawn? If you ask my husband, he says that The Mayor is out of touch, if not he should ask the 30,000 who came here for the Spanish feast day.]

7 You’ve hit the clavo on the head, my dear.

[You’ve hit the nail on the head, my dear.]

8 Lo que pasa con algunos Campo politicians is that they are not in touch with international politics like we are. Of course, they are not an independent nation like we are, if you don’t believe me ask El Bigote.

[The problem with some local Campo politicians is that they are not in touch with international politics like we are. Of course, they are not an independent nation like we are, if you don’t believe me ask The Moustache.]

9 Lo que no se cree El Bigote es que el Spanish Governation has changed its mind en lo del airport. Eso no se lo cree ni mi Juan, querida mia.

[What The Moustache does not believe is that Spanish Governation has changed its mind with respect to the airport. Not even my John believes that, dear.]

10 I must admit my Spanish is not too good, but I heard the Andalusian politician who went to Madrid say on their radio que era una cuestion de forma y no de fondo.

[I must admit my Spanish is not too good, but I heard the Andalusian politician who went to Madrid say on their radio that it’s a matter of style and not substance.]

Instances of insertion are observed in the words Main Street in turn 3, and clavo in turn 7. The first linguistic unit represents a conceptualization from an English socio-cultural setting, which is lexically realized in English. The Spanish word clavo is inserted in an idiomatic expression to hit the nail on the head, which has a conceptual equivalent in Spanish (i.e., darle en el clavo) of which the writer is clearly aware. Part of this idiom can be expressed in Spanish precisely because of the constant interaction between the English and Spanish language channels but also because the DLM model postulates a common conceptual domain for each of these items.

Alternations are illustrated in (11) by el que anda por las nubes (literal English translation: he who walks around in the clouds) in turn 5 que era una cuestion de forma y no de fondo (literal English translation: that was a question of form and not of content) in turn 10. These instances of alternations represent metaphorical expressions from Spanish with a fixed lexical realization in that language. Even though equivalent concepts exist in
English, they are lexically realized in quite a different way (i.e., *to have one's head in the clouds, it's a matter of style rather than substance*). These examples of alternation illustrate how metaphorical conceptualizations present in Spanish are associated with a fixed lexical realization providing evidence for how language choice must be present at this level of language production. It also shows that units of conceptualization can be whole clauses.

Congruent lexicalization in (11) is best illustrated by como que los relaciones y el in turn 4 or lo que no se cree El Bigote es que el or en lo del in turn 9. These linguistic expressions do not form a syntactic constituent but, in fact, approximately 20% of the Gibraltar corpus consists of this type of code-switching (Moyer 1998). The bilingual language mode not only allows a speaker to string together independent concepts from Spanish or English but it also allows a person to combine concepts with linguistic forms that do not fit into a neat syntactic structure. As mentioned earlier, some of the syntactic structures may be the results of the on-the-spot creation of the individual bilingual speaker. The DLM accounts for this through the constantly interacting language channels (CAIS) where lexical and grammatical encoding take place. The grammatical interaction between the Spanish como que los relaciones y el and the English elements that immediately follow—*co-operation has never been better*—takes place at the level of the formulator.

5. Conclusions

The goal of the present paper has been to present an alternative model to explain code-switching and to demonstrate how this model can account for code-switching produced by fluent bilingual language users in Gibraltar. The DLM centers on the importance of the conceptual stage of language production for code-switching. Since conceptual knowledge can be expressed by various sizes of syntactic units as shown in the oral and written Gibraltar corpus, explanations of code-switching include sentence level switching as well as switching in conversation and texts. This implies that code-switching is not just a syntactic phenomenon that needs to be explained but that it is also the outcome of constraints from context as well as individual choices that are conceptually motivated and involve whole sentences, turns or texts.

Current syntactic approaches to intrasentential code-switching are usually limited in their explanations by surface level syntactic phenomena that are often difficult to explain from a universalist perspective. The issue of matrix or base language as well as language assignment has always...
been discussed at the surface level. The dual language model offers an alter-
native approach and explains language assignment as the result of co-
operation of two languages through the common underlying conceptual
base. The matrix or base language can always be identified by the analyst.
In the DLM, however, it is not central but rather the natural outcome
of stringing together conceptual units that are mapped onto syntactic
constituents.

The paper analyzed several instances of how the bilingual language
production model maps concepts onto Muysken’s three-way classification
of insertion, alternation, and congruent lexicalization and demonstrated
cases when more than one of these code-switching processes is present in
a text. The DLM, which is built on the dual language system with two
separate language channels and a mechanism (CUCB) that can relate
conceptual knowledge from two languages in different ways depending
on speakers’ linguistic awareness and communicative needs, provides an
alternative way to analyze code-switching data and has several advan-
tages. First, in the DLM the analysis of data focuses on the dynamism
of interplay between the conceptual and linguistic level, an interplay
based on bi-directional movements. Second, this cognitive-pragmatic
approach considers code-switching a cooperative rather than a competi-
tive relationship between two languages. Third, the model points out the
major role that conceptual motivation plays in code-switching.

This paper is just the first attempt to apply the model to bilingual data.
Further elaboration is needed on the role of the conceptual level in lan-
guage processing and the way syntactic and semantic information associ-
ated with conceptual units serves as input for further syntactic, phonolog-
ical, and morphological processing. Future research has to focus on the
application of the DLM to code-switching of typologically different lan-
guage pairs. Investigation is also needed into how the DLM can be ap-
plied to explain code-switching at different levels of bilingual proficiency
and in different types of bilingual communities.

Notes

1. I am grateful to Melissa Moyer for allowing me to use her data collected in Gibraltar.
She also participated in the production of the first draft of this paper.
2. Borrowing has been used to refer to items from a Language y inserted into a sentence
frame of Language x. Sometimes an item can be integrated into Language x through
phonological or morphological integration. Another criterion has been the recurrent
use of the item in the language as well as its distribution throughout the commu-
nity. Nonce-borrowing does not fulfill the criterion of recurrence and extensive spatial
distribution.
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3. CAIS refers to “Constantly Available Interacting Systems.” Language channel is not the same as language mode. These are different terms. Language channel is a systemic, while language mode is an operational, term.

4. Mental lexicon is understood in the DLM to include units of conceptual meaning and the properties associated with these.

5. Language-specificity and culture-specificity are not always the same thing. However, it is not our goal to discuss this issue in this paper.

6. English and Spanish can be mixed in ways that do not involve identifiable structural units. Spanish word order with all English lexical items, or an English verb selecting a Spanish subcategorization are just some examples of the way languages can mix at a level beyond the lexicon. Some of these examples are discussed here.

7. Studies on bilingual communities usually provide idealized statements regarding the level of bilingual proficiency of the individuals who make up the community. Real life accounts acknowledge that individuals have varying degrees of competency in the languages of the community. With respect to the DLM model, a continuum representing degrees of bilingual proficiency does not constitute a problem since the extent of conceptualization in the community languages can be determined through speakers’ language production.

8. This example also illustrates metaphorical switching as defined by Gumperz (1982).

References


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