# Code-switching on Facebook: Structural constraints

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ABSTRACT. This study examines the structural constraints, proposed by Poplack (1980), of Romanized Arabic-English code-switching (CS) on Facebook. The findings of the study indicate that there is a violation to Poplack's (1980) constraints. The suitability of the FREE MORPHEME CONSTRAINT to the written communications or COMPUTER-MEDIATED COMMUNICATIONS (CMC) has been invalidated due to lack of information on the phonological integration of the English lexical items to the Arabic bound morphemes. Thus, this constraint is not suitable for this sort of corpus. Similarly, the EQUIVALENCE CONSTRAINT has been violated due to the fact that the grammar of the two languages is completely different. The study concludes that the two constraints proposed by Poplack (1980) are invalid for CS on CMC, as is the case with oral CS as proposed in the literature.

*Keywords*: code-switching, bilingualism, CMC, Jordanian Arabic, Romanized Arabic

**1.** INTRODUCTION. This study examines the syntactic constraints on Jordanian Arabic-English code-switched Facebook posts. Although Arabic/English code-switching (CS) has been examined extensively in its oral from (See Al-Khatib & Sabbah 2008, Ghanem 2010, Palfreyman & Al Khalil 2003), no research to this date has looked at the syntactic constraints of this phenomenon on Facebook or in any other COMPUTER-MEDIATED COMMUNICATIONS (CMC). In this study, I aim to re-examine the hypothesized universal validity of the two syntactic constraints, i.e., Poplack's (1980) FREE MORPHEME and EQUIVALENCE CONSTRAINTS in the light of the Arabic/English CS on the social network of Facebook. Also, since Facebook posts are asynchronous, I hypothesize that Jordanian bilinguals do not violate the above-mentioned constraints when they code-switch because asynchronous communication enables them to reread their posts and edit them before sending them to the other party. I also hypothesize that Jordanian bilinguals are able to produce different types of CS.

**1.1.** WRITING SYSTEMS ON CMC. The Romanized writing system of Arabic is simply a combination of English alphabets and numbers. It emerged with the invention of mobile phones in the 1990s, when users had to use the English keypads to send text messages because at that time the keypads did not support the Arabic alphabet. Accordingly, it became habitual that people use this form of writing even after the emergence of the Arabic keypads. The Romanized writing system of Arabic uses English letters to represent the equivalent Arabic phonemes that sound the same in both English and Arabic, whereas it uses numbers to represent Arabic phonemes that do not exist in English. These numbers are used as a phonetic transcription for the Arabic phonemes (see Table 1).

| English Numerals As Used in Romanized Arabic | Equivalent Sound in Arabic | Arabic Character |
|---|---|---|
| 2 | voiceless glottal plosive | ء |
| 3 | voiced pharyngeal fricative | ع |
| 3' | voiced velar fricative | غ |
| 6 | voiceless emphatic alveolar plosive | ط |
| 6' | voiced emphatic interdental fricative | ظ |
| 7 | voiceless pharyngeal fricative | ح |
| 7'or 5 | voiceless velar fricative | خ |
| 8 | voiceless uvular plosive | ق |
| 9 | voiceless emphatic alveolar fricative | ص |
| 9' | voiced emphatic alveolar plosive | ض |

TABLE 1. English numbers and their phonetic equivalences in Romanized Arabic

The use of English numbers in Romanized Arabic, which resembles the Arabic letters, is to represent sounds that are not existent in the English language. Consequently, Arabic speakers choose the numbers above because their shape resembles the Arabic letters. For example, number '3' resembles the letter 'ع' in Arabic, even though it is in the opposite direction. Similarly, number '7 is close in shape to the letter 'ح' in Arabic.

**1.2.** LINGUISTIC STUDY OF CMC. CMC refers to the communication that is carried out among computer users. This communication can be synchronous or asynchronous. While the former refers to real time communication like chat rooms or instant messenger, the latter refers to delayed response communication like e-mails text messaging, Facebook comments, etc. Crystal (2006) views CMC as an emerging third medium of communication, a hybrid that combines oral and written language features. CS on CMC has received little attention in the literature in general as opposed to CS in face-to-face communication. This new form of hybrid writing appears only in CMC and motivates the use of (switching to) English because the two languages used are written in the same letters. This makes the use of CS on CMC the same as CS in oral

communications because bilinguals can alternate between two languages easily as long as they use the same writing system.

**1.3.** SYNTACTIC CONSTRAINTS. The constraints that I will test in this study are Poplack's (1980) FREE MORPHEME CONSTRAINT and EQUIVALENCE CONSTRAINT. The Free Morpheme Constraint forbids a code-switch between a bound morpheme and a lexical form unless the lexical form is phonologically integrated into the language of the bound morpheme. The Equivalence Constraint states that CS occurs at points where the juxtaposition of elements from the two languages does not violate a syntactic rule of either language, that is, where the surface structure of two languages coincides. The Equivalence Constraint states that CS occurs at points where the surface structures of the two languages are similar. This has to do with the word order of the two languages where the CS utterances must be grammatically possible in the two languages.

**2.** METHODOLOGY.

**2.1.** PARTICIPANTS. Participants are 10 (6 males and 4 females) Arabic/English Jordanian bilinguals whose L1 is Arabic and L2 is English. Their proficiency in L2 does not vary significantly. They are all university graduates with ages ranging between 27 and 39 years old (age mean= 31.4) and are all acquaintances of the researcher. They all studied English in schools from grade five to grade twelve and took some courses in English at the university level. At the time of collecting data, they were all living in Irbid, a city in the north of Jordan.

**2.2.** DATA COLLECTION AND CODING. A total of 200 instances of CS were collected between November 2012 and August 2013 from the ten bilinguals' profiles on Facebook. Types of postings that were scrutinized take the form of status updates, wall-to-wall comments, photo and

video posts, comments, etc. All these postings were characterized as asynchronous. The CS instances collected were written in Romanized Arabic and English. Only intra-sentential switches were tested against the Free Morpheme Constraint and the Equivalence Constraint.

**3.** RESULTS AND DISCUSSION.

**3.1.** THE FREE MORPHEME CONSTRAINT. One element of Poplack's (1980) Free Morpheme Constraint relies on phonological integration as a criterion. As the data under investigation is textual in nature, there is little phonological information available, and as such, this constraint is not suitable to be used on this type of data. For example, we cannot decide if there is a phonological integration between a bound morpheme and a lexical item as is the case with oral conversations, where it is easy to tell if any English word is phonologically integrated into Arabic. Furthermore, there is no mechanism to test if any Arabic bound morpheme is phonologically integrated into any English lexical item. That being said, the data still shows that there are many counterexamples that invalidate Poplack's constraint in my study, in which the Arabic definite article *el* is cliticized to English nouns and noun phrases. Also, some JA speakers (or Facebook users in this study) assimilate the Arabic definite article to the following English word as shown in example 1 where the users dropped the /l/ and used /s/, which already exists in the word *security*, because the two sounds are adjacent. So, in the same example, the participant was trying to write the assimilated definite article the way it is pronounced in spoken utterances without adding another /s/. This phonological process was also reported by Al-Enazi (2002). In example 1 below, the phonologically assimilated JA definite article *el* (which became /s/ after undergoing assimilation) is cliticized to the English noun *security* and none of the two words is phonologically integrated to the other language. However, since the corpus of this study is taken

from written conversations not oral ones, it is hard to predict if the lexical item *security* is phonologically integrated in the language of the bound morpheme, which is Arabic. This raises a question over the suitability of this constraint to the written communications or CMC, where one cannot tell if there is a phonological integration of English lexical items to Arabic bound morphemes like the examples below.

(1) *Bastana      esecurity    check    min    el mo5abrat*

   I-waiting    the-security check    from  the-intelligence

   'I am waiting for the security check from the intelligence.'

Other counterexamples involve Arabic prepositions along with the definite article in its contracted form (i.e *3l 'on the'*) (example 4) and pronouns '*t*' (example 3). In all these cases, they are also found to be used with English nouns and verbs without being phonologically integrated to each other.  Similarly, the definite article *el* in 2 is an example of a bound morpheme affixation to the English noun phrase *anti biotic*. Example 3 shows how the second person masculine pronoun in JA *t* is prefixed to the English verb *lose* to indicate that the verb agrees with the pronoun in gender and person.

(2) *7ata  el   anti biotic mesh   nafe3ing       kolo   3l  fa9i     allah  b3een*

   even the  aniti biotic  not    working          all   for  nothing  god   help

   'Even the antibiotic is not working. It's useless. May god help me.'

(3) *la   tlose         el forsah..      ma  btetkarar*

    no  2M-lose   the-chance        no   it-repeat

    'Don't lose the chance. It never happens again.'

Another interesting example can be seen in 4 where the JA preposition *ʔala* '*on*' and the definite article *el* are contracted into *3l* '*on the*' and attached to the English noun *wheelchair*.

(4) *Maskeen    shofto        3l       wheelchair  belmosttashfa*

    Poor     I-saw-him    on-the   wheelchair   in-the-hospital

    'Poor man! I saw him in the wheelchair in the hospital.'

The above examples show that Jordanian bilinguals violate the Free Morpheme Constraint when switching from Arabic to English on Facebook. This constraint has been violated (38%) 76 times in the 200 switches. This violation is not confined to the use of the definite article; it rather involves the use of the second person pronoun with an English verb attached to it as well as the use of the contracted form of the preposition and the definite article. This violation indicates that Poplack's (1980) constraint is not a universally suitable constraint and can be regarded as a language-specific constraint, i.e., Spanish/English or oral communication CS but not for CMC code-switching as it is hard to predict if there is a phonological integration or not. The violation of this constraint can be attributed to the fact that the structure and morphology of the two languages (JA and English) are totally different. While the definite articles, prepositions, pronouns are free morphemes that can stand alone in English, they are treated differently in Arabic. The definite article in JA is a bound morpheme that is always prefixed to nouns and

adjectives (Al-Deaibes 2015), whereas prepositions and pronouns in Arabic can be free morphemes that stand alone or bound morphemes that are affixed to other words, which is different than English. With that being said, I here claim that Poplack's constraint lacks universality in both oral as well as written communication CS, which is contrary to my hypothesis.

**3.2.** THE EQUIVALENCE CONSTRAINT. According to the Equivalence Constraint, any switch that violates the syntactic rules of Arabic and English is not permissible. This constraint can account for the CS that occurs between a pair of languages that have the same word order, which is not applicable to Arabic/English CS occurrences. For example, English and Arabic do not have the same word order. Accordingly, if this constraint is a valid one and can be postulated as universal as suggested by Poplack, then there will be no CS between Arabic and English. The data of this study refutes the universality of this constraint by violating it in different ways. The following counterexamples 5-8 show how Jordanian bilinguals switched between English and Arabic in their posts and violated the Equivalence Constraint. All the examples below as well as other examples in the data violate the Equivalence Constraint in different ways depending on the position in which they take place in the clause or phrase. In example 5, the participant violated this constraint by using the English attributive adjective *nice* after the Arabic noun *3o6la* 'vacation'. The participant here treated the Arabic noun *3o6la* as if it were an English noun just to make it fit with the English adjective *nice*, which violates the structure of Arabic where the adjective comes after the noun. In this example, again, the subject treated English as the host languages, whereas Arabic is the embedded language.

(5) *ngarir    sho   ne3mal   bel   3o6la        el nice*

    decide   what   we-do    in-the   vacation     the nice

    'Decide what to do in the nice vacation.'

Similarly, in example 6 where Arabic is the host language, as most of the data is for intra-sentential CS, the participant used the adjective *Arabic* after the English noun *class*, violating the constraint since English attributive adjectives come before nouns. Another example that violates the constraint is 7 in which the participant used the Arabic possessive second person pronoun *tab3oonak* '*your*' after the English noun *ideas* which clearly violates the English structure.

(6) *Saba7      el class        el3arabi      on a Fri morning*

    morning  the class        the-Arabic     on a Fri morning

    'What a lovely morning for the Arabic class on a Friday morning.'

(7) *Wallah   el   ideas   tab3oonak         smart…. lol*

    God     the idea     yours-2M.POSS   smart    laugh out loud

    'By god, your ideas are smart.'

Another interesting example that contradicts Poplack's constraint is given in 8. The participant in this example violated the constraint in different ways in the same post. The participant used the Arabic demonstrative pronoun *ha9'* '*this*' to modify the English noun *chapter* which is a clear violation to the English structure where the demonstrative pronoun occurs before nouns, not after them as shown in the example. Another violation in the same example is the use of the Arabic

first person plural possessive pronoun *taba3na* 'our' to modify the English word *doctor*, which is, as mentioned in example 8, a violation of the English structure and certainly Poplack's constraint.

(8) *El chapter ha9' begarif. Mesh fahim eshi wel doctor taba3na nerd*
The chapter this disgusting Not understand thing and-the doctor ours nerd
'This chapter is disgusting. I don't understand it, and our professor is a nerd.'

The data of this study shows that my hypothesis is wrong and and raises a question on the invalidity and non-universality of the Equivalence Constraint since it cannot prevent the occurrence of CS between Arabic and English at points where there is a difference between the structures of the two languages. My findings support previous research findings on oral conversations CS that Poplack's constraint is not universal even on CMC code-switching. Alenezi (2001), Al-Mansour (1999), Al-Qudhai'een (2003), Bentahila and Davies (1983), Berk-Seligson (1986) reported that Poplack's constraint was violated in their studies and showed that it lacks universality.

**4.** CONCLUSION. In this paper, I have examined the sociolinguistic phenomenon of CS with special focus on the intra-sentential instances because of their syntactic complexity. I have critically scrutinized the empirical predictions and tested the validity of two controversial syntactic constraints proposed by Poplack (1980), i.e., the Equivalence Constraint and the Free Morpheme Constraint. The results obviously show that there is a violation to the two constraints. The suitability of the Free Morpheme Constraint to the written communications or CMC has

been invalidated due to lack of information on the phonological integration of an English lexical item to an Arabic bound morpheme. Thus, this constraint was never designed for this sort of use.

The above-mentioned violations are against my hypothesis and led me to propose that Poplack's two constraints need be modified or re-evaluated to fit other pairs of languages and written communications; otherwise, they are considered as English/Spanish-specific constraints. With that being said, these two constraints are not universal as they have been violated by the JA/English bilinguals as well as other pairs of languages bilinguals. The violation of the three constraints can be attributed to the fact that the grammar of the two languages is completely different. For example, the word order of Arabic is different from that of English. Further, the attributive adjectives in Arabic occur after nouns, whereas in English they are positioned before nouns.  Moreover, the definite article in English is a free morpheme, while the Arabic definite article is a bound morpheme.

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