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On Lexical and Grammatical Language Mixing¹

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0. Introduction.

In almost all the works on intrasentential codeswitching the reader finds a preliminary warning about what constitutes a true switch and what does not (i.e. a reminder of the distinction between 'borrowing' and codeswitching in situations of language mixing). However, while the existence of codeswitching seems obvious and unquestionable, both inter- and intrasententially, the existence of synchronic 'borrowing'—a parallel lexical process—is admitted by some, vaguely suggested by others, and even put in doubt by a third group of authors.

1. The Lower Level Model of Language Mixing.

The goal of this paper is to show that 'borrowing,' henceforth labeled lexical switching to avoid any confusions with diachronic borrowing, is a plausible form of synchronic language mixing, cognitively distinct from codeswitching, and that a number of facts of language mixing described in the literature can be accounted for with respect to this distinction. Furthermore, I shall argue that lexical switching is the unmarked form of language mixing, and that the facts of language mixing presented or revisited in this paper are the reflection of the preference for lexical switching over codeswitching, since the former is a low-level lexical interaction and the latter requires a shift in the use of a whole grammar. I shall call this approach the Lower Level Model in Language Mixing.

The Lower Level Model of Language Mixing assumes that lexical switching (LEX-S) is a cognitively unmarked form of language mixing (LMIX), since it is an exclusively lexical phenomenon, independent from grammar, which does not constitute a 'violation' of any of the intervening codes. In contrast, intrasentential codeswitching (COD-S) is a cognitively marked form of LMIX, and it represents an alternation between grammatical systems, i.e. a shift from one grammar to another.² A simplistic outline is in (1), while (2) expresses the cognitive markedness condition:

(1) GRAMMAR₁ <- COD-S -> GRAMMAR₂
| |
LEXICON₁ <- LEX-S -> LEXICON₂

(2) Speakers prefer LEX-S to COD-S due to the cognitive unmarkedness of the former, eg.

- a. [-marked]: comieron [LEX-S LETTUCE]
b. [+marked]: comieron [COD-S LETTUCE]
(they) ate

2. Lexical Switching and Codeswitching

In this paper, the validity of most proposals made so far to account for the restrictions observed on intrasentential COD-S is not discussed. What we discuss is the use—or absence of use—of 'borrowing' within these particular proposals. The three approaches to the latter problem that we find in the literature are summarized in (3):

- (3) a. LMIX is explainable under a single linguistic process (Joshi 1984, Doron 1983, Woolford 1983).

- b. LMIX is analyzed as a single synchronic phenomenon—but beware of treacherous integrated diachronic borrowing (Pfaff 1979, Poplack 1981, Bentahila & Davies 1983, di Sciullo et al. 1986).
c. Yes—beware of treacherous integrated diachronic borrowing. Yet we still have two kinds of synchronic LMIX: COD-S on the one hand, and LEX-S (nonce or spontaneous borrowing) on the other (Reyes 1974, Sankoff et al. 1985, Woolford 1985).

The third approach is more akin to our assumptions. As stated above, we assume that COD-S and LEX-S are two completely different ways of interaction between languages: while COD-S involves the interaction of two grammatical systems as a whole, either by being kept separate (Pfaff 1979, Doron 1981, Woolford 1983, Joshi 1984) or by combining into a third grammar (Sankoff & Poplack 1981), LEX-S (=nonce or spontaneous borrowing) represents the interaction of two lexicons with no repercussions in the syntax.³

According to the Lower Level Model, lexical incorporation into a vocabulary is a plausible form of LMIX. In a lexicon, which is viewed as an inventory of items accessible according to frequency of use, items are accessed in order to fill in the terminal nodes created by constituent structure. Bahr 1980 describes the lexicon as based on a strict distinction between 'lexical' and 'actual' meaning of words. The former can be determined by the semantic features of the lexical paradigm to which the word in question belongs. The latter is the actualization of the word in a syntagmatic relationship in language (=subcategorization and selectional features). Most important, lexical meanings are context-free, and, therefore, 'definable without regard to their use in utterances' (1980:248). We understand, then, that the 'context-free' component of a lexical item can be easily transferrable from one language to another.⁴

The items that make up such a lexicon have to be acquired somehow. Naturally, during language acquisition, in the two-word and telegraphic stages, children enlarge their lexicons by incorporating into their inventories words used by other speakers, i.e. from other inventories, with little knowledge of the syntax. The same could be said about the first stages of second-language learning in certain situations of contact (eg., pidgins) where referents are assigned labels by deictic means. These processes can be easily considered cases of LEX-S. Therefore, we see that the concept of LEX-S—lexical interaction with no intervention of the grammar—is not restricted to situations of LMIX, and that it seems to play an important role in explaining other facts of language.

Further evidence for the acceptance of LEX-S as a low-level LMIX phenomenon can be deduced from other forms of lexical language interaction: relexification and loan translation. There is certainly no LMIX framework that claims that these phenomena are of a COD-S nature. In other words, everybody confines them to the lexicon. Muysken 1981 defines relexification, using Jackendoff's concept of lexical entry as a bundle of various types of information, as 'the process of vocabulary substitution in which the only information adopted from the target language in the lexical entry is the phonological representation' (Muysken 1981:61). In turn, loan translation (or calque) can be seen as a transfer of the semantic representation without the other information. LEX-S, then, can be seen as the sum of both processes, and considered a lexical process as well.⁵

3. Frequency and Location of Mixings.

The first empirical fact that can be accounted for by the LEX-S/COD-S distinction in light of the Lower Level Model as stated in (2) is the different mixing frequencies of

different grammatical categories and constituents. The following distributional evidence can be understood within our Model. Let us have a look at the table in (4):

(4) Language-Mixed Categories: X⁰ vs XP

	N ⁰	NP	V ⁰	VP	P ⁰	PP
Ar.-> Eng.	63	13	23	8	1	1
Sp.-> Eng.	818	69	71	5	0	36
Jap.-> Eng.	296	107	26	10	0	2

(Source: Mohamed 1983, Arab-English; Pfaff 1975, Spanish-English; Nishimura 1985, Japanese-English)

A clear pattern is immediately apparent: X⁰ categories are mixed with much more frequency than XP constituents (with the exception of PP, to which we shall return below). If a single mechanism is responsible for mixing in language contact, how do we account for this difference? To my knowledge, no interpretation of these facts is found in the literature. Using a Lower Level Model approach, the facts do make sense. We cannot be certain of the status of mixed X⁰: they could be either COD-S's or LEX-S's.⁶ However, we can be certain about the status of mixed XPs: they have to be COD-Ss. Since there is no reason to believe that codeswitching is more effective with bare constituents than with phrasal constituents, we can assume without too much risk that the difference between X⁰ and XP is caused by the intervention of LEX-S. Again we observe how COD-S is a much more restricted phenomenon than LEX-S, as one would expect from a marked, cognitively complicated operation.

In Table 4 we also see the divergent behavior of nouns and verbs when mixed, a puzzling fact that has long been observed. Remember that one of the basic differences between LEX-S and COD-S is that of the involvement of the grammar in the latter and the exclusively lexical nature of the former. If we regard verbal inflectional morphology (especially tense) as part of the grammar and nominal morphology as part of the word formation component,⁷ we can explain these facts. That tense might be relevant to the point is supported by the fact, illustrated in table (5), that only 5/71 language-mixed verbs in Pfaff's data, only 1/23 language-mixed verbs in Mohamed's corpus, and none in Nishimura's data are tensed verbs, i.e. are language-mixed along with tense.

(5) Language-Mixed Tensed and Tenseless Verbs

	V ⁰ [+tns]	V ⁰ [-tns]	
Ar.-> Eng.	1	22	= 23
Sp.-> Eng.	5	66	= 71
Jap.-> Eng.	0	26	= 26

If we bear the Lower Level Model in mind, it makes perfect sense that nouns and tenseless verbal forms show a higher rate of mixing, since they can be lexically-switched. In contrast, tensed verbs cannot be lexically switched unless additional operations are used

in order to separate the lexically-switchable lexical material from the non-lexically-switchable grammatical material. These additional strategies make the verbal LEX-S more cognitively complicated and therefore less desirable than a nominal LEX-S. Hence the difference in the amount of verbal and nominal mixes. The Lower Level Model would also predict that language-mixed tensed verbs represent actual COD-S. As we observe, the mixing rate—actually codeswitching rate—of tensed verbs is significantly lower, in accordance with our markedness condition, than the mixing rate of tenseless verbs, which can be lexically-switched.

But, what are these strategies? On the one hand, we have the periphrastic or pro-verb construction strategy described in Pfaff (1975), Joshi (1984) and others, and shown in (6):

- (6) a. [Spanish-English]
 su hija hace TEACH allá en San Jose
 do+tns
 'his daughter teaches there in San Jose' (Pfaff's #27)
- b. [Marathi-English]
 to parat jayco DECIDE karto
 he back going do+tns
 'he decides to go back' (Joshi's #3.24)
- c. [Japanese-English]
 Boston ni HIT shita toki ga
 do+tns time
 'The time when (we) hit Boston' (Nishimura's #4.14)

We see how tense is attached to a dummy verb (generally *do*) and the lexical information of the verb, i.e. the root, is then lexically switched.

A second strategy is to lexically switch the root of the verb and inflect it with the host language inflectional morphology, as illustrated by (7), resulting in a word-internal lexical switch:

- (7) a. [Spanish-English]
 los hombres me TRUSTearon
 +tns
 'the men trusted me' (Pfaff's #21a)
- b. [Arabic-English]
 ana GUESS-t-ha
 I +tns+it
 'I guessed it' (Mohamed's #1)

These strategies have generally been seen as a means of avoiding 'switching' the tense of the sentence, which is a closed class item (see below). However, both strategies are viewed by the Lower Level Model as devices to avoid COD-S in favor of LEX-S, which we have assumed is a far less complex process, following (2). Therefore, if these strategies are used to escape COD-S, the mixed verbal lexical item involved in the strategy has to be a reflection of LEX-S. In other words, tense cannot be lexically switched—it is not lexical—and therefore the mentioned strategies have to be used in order to separate the lexical material from the grammatical material and lexically switch the former.

I should mention here that Sankoff et al. (1985:6) also pay attention to the periphrastic constructions, which they call 'devices or syntactic slots which are specialized in the functions of accepting and integrating borrowed items'. However, in their approach, there is no tangible reason for which the verbal root involved in the periphrastic construction must be a lexical switch. They do predict, as the Lower Level Model does, that in a sentence like (8a) COD-S must have occurred, since 'the syntactic and morphological systems change within the sentence' (1985:5). For the example in (6a) above, they claim the analysis in (9a), rejecting (9b). The truth is that, without any further conditions on LMIX, both (9a) and (9b) are possible. Only if we assume something like the cognitive markedness condition can we affirm that (9b) is invalid, since the function of the periphrastic construction is precisely avoiding COD-S.

(8) a. su hija TEACHES allá en San Jose

(9) a. su hija hace [LEX-S TEACH] allá en S.J.
b. su hija hace [COD-S TEACH] allá en S.J.

An interesting and striking case is presented by Prince 1987. In her data all verbal inflection is realized in the language of the sentence. While in Yiddish sentences, English verbs show Yiddish inflection (10a), in English sentences, Yiddish verbs show English inflection (10b). In contrast, nouns are almost always pluralized with the morphology of the guest language, a fact that would support the lexical nature of nominal morphology, which, therefore, would not be a hindrance for the LEX-S of nouns.

(10) a. [Yiddish-English]
er WATCHt nor andere zoln arbeten
he +tns only other AUX to-work
'but he only sees to other people working'

b. [English-Yiddish]
PATSHed 'slapped' (3sg pret)
KHALISHed 'fainted' (3pl pret)
[from Prince (1987)]

In sum, if all these bare-constituent LMIX's are thought of as LEX-S's, and the theory of cognitive markedness assumed in the Lower Level Model is taken into account, the sharp distributional difference analyzed in this section can be explained.

4. The Lower Level Model and Interference.

There is a third interesting element in Table 4. The cases of P⁰ and PP. Here we should also take into account what we have already mentioned about tense, and also that, for example, in Mohamed's (1983) and Nishimura's (1985) data there are no language-mixed articles, complementizers, quantifiers, or pronouns. This leads us to the question of Closed Class Items (CCI) and Open Class Items (OCI). For some works on intrasentential codeswitching this is an important distinction: Joshi's (1984) model has as one of its two basic constraints the Closed Class Item Constraint, which states that CCI cannot be switched. Counterexamples to this constraint are readily found, as Pintzuk & Prince (1984) (P&P 1984) show. See (11):

(11) a. we go MIT the bus
with [P&P's #16c]

b. it was MAYN daughter's house
my [P&P's #16e]

Their approach to the question is to catalog all CCI LMIX as 'interference.' What encourages them to do so is the fact that all mixed CCIs are found in L2 matrix sentences, i.e. they constitute a switch from non-dominant to dominant language. Since by interference they understand the influence or intrusion of one language—the dominant one—on another—the non-dominant one—as the result of an 'incomplete model' of the latter (P&P 1984:6), their proposal makes apparent sense. Therefore, for them, interference is distinguished from COD-S.

The psycholinguistic evidence for the difference between CCIs and OCIs is strong and the Lower Level Model should incorporate it. There is, however, a loose end in both Joshi's and P&P's treatment of the CCI/OCI distinction, which we shall point out in a moment.

The evidence from language acquisition shows that, during the two-word and the telegraphic stages, children acquire lexical items which they incorporate into their OCI lexicon. It has also been claimed, although this remains controversial, that CCIs, along with syntax, come later. On the other hand, the work of several researchers in psycholinguistics (cf. P&P 1984), especially Garrett (1980), suggests not only that CCIs and OCIs are stored in two different sublexicons, but also that CCIs are much more closely related to the syntactic planning level than OCIs, which are selected at a second level.

If we regard COD-S as an alternation of two grammars, i.e. 'the interaction between two grammatical systems' (Joshi 1985:190), then we should allow the language-mixing of CCIs, due to their intimate relationship with the grammar. In other words, it is more reasonable to argue that a LMIX is a COD-S when the observable mixed item is a CCI than when it is a OCI, which has been shown to be more distant from the grammar. Similarly, in P&P 1984, it seems counterintuitive to argue for the closeness of CCIs and syntax and afterwards conclude that interference of CCI is not COD-S.

The facts, however, could be interpreted in the following way. First, since LEX-S is an interaction between two lexicons of OCI, it has no access whatsoever to the CCI set; this is why P⁰ in Table 4, tense in Table 5 above and other CCIs cannot be lexically switched. It follows from this that any language-mixed CCI represents a case of COD-S and never a case of LEX-S.

On the other hand, CCI LMIX, in the Lower Level Model, is an instance of COD-S, in which the 'incomplete' speakers of L2 switch grammars to L1 because of special difficulties they might have accessing their L2 CCIs (cf. P&P 1984:9). Therefore, 'interference' is understood as a case of COD-S with a special characteristic: it is asymmetrical (L2 → L1). The number of language-mixed CCIs is much lower than the number of language-mixed OCIs (more dramatically in balanced bilinguals than in unbalanced bilinguals), since language-mixing the former requires a marked cognitive process, COD-S, while language-mixing the latter only requires a low-level LEX-S.

5. A Sociolinguistic Argument.

As stated in the introduction to this paper, the distinction LEX-S/COD-S is useful in a number of ways. Another fact that should be considered is a sociolinguistic one. It is well-known that there are different degrees of LMIX in different bilingual communities.

Frequency of LMIX has been seen as a continuum with some speech communities at the top, others at the bottom.

It has been pointed out that French-Canadian speakers are very reluctant to use LMIX and that flagging of English elements is extremely common (Poplack 1985). Another example is the case of Catalan. In a sociolinguistic study of a neighborhood in Barcelona, Calsamiglia & Tuson 1980 report four Spanish utterances out of a total of 577 recorded utterances among a group of young Catalan-dominant bilingual speakers. There is no data regarding LEX-S, but in my own corpus of 1 1/2 hours of speech of Catalan-Spanish bilinguals the language-mixed items into Spanish amount to 16. Thirteen of the Spanish switches are single words, and the other three are direct quotes, conveniently flagged.

Scotton 1987 displays a thorough theory of sociolinguistic markedness in codeswitching seen as a status affimator and negotiator. As she says, linguistic behavior is a clear marker of collective identity. She points out that in order for codeswitching to occur 'both varieties must be indexical of social identities which are positively evaluated for the exchange' (1987:21). In other words, mixing of a code—a grammar—does not take place unless both languages are equally valued in a particular situation. This would explain why, as pointed out before, certain speech communities (francophones in Quebec, Catalan-speakers in Catalonia, etc.) do not show any—or almost any—(intrasentential) COD-S.

But, why do these speech communities show LEX-S? The answer is straightforward and it follows from the Lower Level Model of Language Mixing. Within the Lower Level Model the continuum mentioned above is reanalysed as a discrete distinction between speech communities using less marked LMIX, LEX-S (and intersentential codeswitching), and others using more marked styles of LMIX (COD-S). One reason for avoiding COD-S is to avoid violating the integrity of a code, of a grammar. However, LEX-S does not violate the code, and therefore can be used by all bilingual communities in higher or lower degree, whether both languages involved are positively valued or negatively valued.

This amounts to saying that two Catalan-dominant Catalan-Spanish bilinguals engaged in conversation will seldom codeswitch into Spanish, but will feel free to use LEX-S without feeling as if they were intruding in their Catalan grammar. Our model of cognitive markedness, given Scotton's theory of sociolinguistic markedness, is supported by the behavior of these non-codeswitching bilingual speech communities.

6. Conclusion.

The Lower Level Model of Language Mixing states that, given two cognitively different processes of LMIX, one lexical (LEX-S) and the other grammatical (COD-S), the former is the unmarked, cognitively simpler option, and that LEX-S is to be preferred by the speakers over COD-S for this reason.

When considering the Lower Level Model one might think that it does not constitute a fruitful avenue of research. It is true that the distinction COD-S/LEX-S, for the most part, cannot be made at the X⁰ level, but the Model does suggest some important conclusions:

- (13) a. Language-mixing of closed-class items (including tensed verbs, i.e. tense) is the result of COD-S (caused by interference or otherwise), but it cannot be the result of LEX-S.
i.e. *we go [LEX-S MIT] the bus.
- b. Language-mixing of other X⁰ constituents might be either COD-S or LEX-S, but the unmarked option is LEX-S (in fact, it must be LEX-S in cases of V⁰ which

are part of a periphrastic construction or carry tense in the host language morphology).

i.e. *mi hija hace [COD-S TEACH] en S.J.

Therefore, from my point of view, intra-sentential codeswitching should be studied, from a grammatical point of view, only in those cases in which more than a bare lexical category is involved. Some generalizations may be missed, but, when LEX-S is incorporated into the studies of COD-S, two completely different phenomena are subsumed under the same label and any results stemming from such an approach are flawed to a certain extent.

In sum, the theory examined in this paper calls for opening (or re-opening) a way of looking at language mixing facts, taking lexical switching and codeswitching as two different phenomena with different observable behavior. The existence of lexical switching is guaranteed by the need of the same (or a similar) process in other aspects of language and in the existence of other lexically confined contact phenomena. In addition, the Lower Level Model of Language Mixing is supported by different effects observable in areas of language contact: the behavior of different bilingual communities with respect to lexical switching and codeswitching, the different patterning of V⁰ vs. N⁰, and also X⁰ vs. XP (traditional codeswitching analyses have no account for this fact), and, finally, incorporates interference within codeswitching, thus reflecting appropriately the intimacy of the CCI sublexicon and the grammar.

Notes

¹I would like to thank Ellen Prince for drawing my attention to the study of intrasentential codeswitching, and the other members of the bilingual codeswitching seminar at the University of Pennsylvania (Spring 1987) for much helpful and stimulating discussion. I am also indebted to many other members of the Department of Linguistics at the University of Pennsylvania, especially Claudia Mazzie, who made very valuable comments on earlier drafts of this paper.

²Codeswitching above the sentence level will not be dealt with here, since it deserves attention on its own.

³Another possible approach is to think of the lexicons of bilinguals as one single inventory in which all new items are incorporated. In that case the job of LEX-S would be limited to the first time a new item is incorporated into a lexicon. This would make the lexicon less language-particular and more cosmopolitan (J.M. Fontana, p.c.). This approach is suggestive, but difficult to prove empirically. The Lower Level Model could be easily adapted to the one-lexicon theory.

⁴It can be transferred with or without its phonological representation, as shown below.

⁵Recent work in government and binding suggests that Phrase Structure Rules should be abandoned as redundant, since constituent structure could be generated on the basis of X-bar theory and structural and selectional information projected from the lexicon. If this were the case, COD-S would be the addition of subcategorization and selectional information to the features already lexically switched (phonological and semantic) from one lexicon to the other (Woolford 1985). However, other conditions would have to be met: case-theory, theta-theory, etc. Some works on codeswitching seem to have taken this route and try to constrain COD-S through general syntactic principles like government (di Sciullo et al. 1986) or projection (O. Santa Ana, p.c.).

⁶Different criteria have been used to distinguish between COD-S and LEX-S (and/or borrowing): phonological integration, frequency of use, distribution, etc. However, none of them is appropriate. See Pintzuk & Prince 1984 and Poplack & Sankoff 1984 for further detail.

⁷This has been claimed by a number of studies. Noun morphology would be located in the word-formation component in the lexicon (cf Kiparsky 1982, among others).

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