Switching, blending … and slipping

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Switching, blending … and slipping

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Lillo-Martin, Müller de Quadros and Chen Pichler (2016; henceforth LQC) have to be applauded for their attempt to account for the sometimes intricate constructions produced by unimodal and bimodal bilinguals. The Language Synthesis model they propose (Koulidobrova, 2012; Lillo-Martin, Koulidobrova, Müller de Quadros, & Chen Pichler, 2012) is couched within the Distributed Morphology (DM) framework (Halle & Marantz, 1993), a framework which, according to LQC, is well-suited for accounting for the complex switching and blending patterns they discuss, as it assumes late insertion of phonologically specified Vocabulary items (VIs). That is, the syntax only manipulates abstract roots (√) and features, taken from List 1, and is not concerned about whether these will be spelled out by VIs from Language_x or Language_y. LQC's approach is attractive, as it aligns well with previous studies that analyze sign language phenomena within DM (e.g., Glück & Pfau, 1999; Mathur, 2000; Zwitserlood, 2003). In particular, these authors argue that the abundant use of simultaneous morphology can be accounted for in a straightforward way once one assumes that the syntax manipulates abstract elements and phonological readjustment rules apply post-syntactically.

Competition of VIs is also observed in spontaneous speech errors, but in this case, VIs come from a single language. In the following, I will offer a comparison of the characteristics of code-switching/blending with certain error types (see also Pfau 2007, 2009). Note that this should not be taken to imply that I consider code-switches and code-blends erroneous utterances; rather, I argue that they make use of the same processing resources as some speech errors do. The slip data thus have the potential to verify, complement, or challenge some of the claims made by LQC. I will first address the constraints imposed by gender features, and then possibilities for two VIs – be they from the same or different languages – to share a terminal node.

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1. Code-switching: gender issues

Harley (2014: 242), following Pfau (2009), argues that roots "must have individuation criteria that do not depend on semantic or phonological content". She therefore suggests to notate abstract roots with numerical indices rather than language-specific labels, e.g., $\sqrt{}_{279}$ instead of √HOUSE. Given the tenet of abstractness, it may thus be tempting to assume that in bilinguals, List 1 is not language-specific; rather, there is only a single $\sqrt{}_{279}$ which, at the point of Vocabulary Insertion, may be spelled out by *house, casa* (Italian, Spanish), *ev* (Turkish), or two flat hands that outline the contour of a house (as in various sign languages). Certain code-switching data, however, suggest that such a view cannot be maintained.

Code-switching involves the competition of VIs from Language_x and Language_y which are both appropriate for the terminal node in which they are inserted – where "appropriate" means that the feature specifications of the node and the VIs do not clash. At the point of Vocabulary Insertion, the English noun *house*, for instance, competes with the Spanish noun *casa*, and *house* may appear in an otherwise Spanish clause. This is exactly what happens in (1), which LQC offer as an example of mixed agreement within code-switched noun phrases. Note that the Spanish determiner is specified for feminine gender. Obviously, this gender specification cannot come from the English noun, as English nouns do not carry a gender feature; it must come from the Spanish competitor *casa* ('house').

(1) Veo las house-s [Spanish – English]
see.1SG the.F.PL house-PL
'I see the houses.'

Clearly, the Spanish root $\sqrt{}_{279}$ must be endowed with a gender feature that is copied onto D before Vocabulary Insertion. According to LQC, the fact that, subsequently, the English VI is inserted is unproblematic, as it is compatible with the root, that is, it does not carry conflicting features. By assuming a single List 1, one would thus be forced to assume that $\sqrt{}_{279}$ is always endowed with a gender feature, even when appearing in a monolingual English utterance.

A similar competition of VIs is observed in spontaneous speech errors, in particular, phonological substitutions. Such substitutions occur when the processor selects a VI that, due to phonological similarity, is close to the target VI in the form lexicon (List 2 in DM terms). Interestingly, in German form-based noun substitutions, an "identical gender effect" is observed, that is, the intruding noun tends to match the target noun with respect to gender (Marx 1999; Pfau 2009). In the Frankfurt corpus of speech errors, for instance, gender matches between target and intruder are observed in 138 out of 180 (76.6%) form-based noun substitutions, which is clearly above chance, given that German has a three-gender system

(Pfau, 2009: 116). The identical gender effect thus provides further evidence for the assumption that roots carry a gender feature and that a feature clash between root and VI tends to be avoided.

This being said, we expect an interesting pattern to emerge in the case of code-mixing between two languages that both have gender systems, a possibility that is not addressed by LQC. Imagine a German-Spanish bilingual producing an utterance like (1), but containing the noun 'sun', which is of feminine gender in German (*die Sonne*) but masculine in Spanish (*el sol*). The resulting noun phrase is given in (2).

(2) Veo el Sonne [Spanish – German; hypothetical]
see.1SG the.M.SG sun(F)
'I see the sun.'

Given the above line of reasoning, we predict that a code-switch like (2) is very unlikely to occur, as the German VI carries a gender feature that is not compatible with the gender feature associated with the root.[1] Indeed, this is what Cantone and Müller (2008) observe in DP productions of children who are bilingual in Italian and German: a gender mismatch, as in (2), was only observed in 24/149 cases (16%) in which the Italian and the German noun had different gender specifications (see also Pierantozzi, 2012). For Spanish – English mixing in adult speakers, Liceras, Fernández Fuertes, Perales, Pérez-Tattam and Spradlin (2008) argue that the determiner tends to match the gender of the translation equivalent (their "analogical criterion"), but it is not clear whether this criterion also applies to cases like (2).

DP-internal code-switches and spontaneous noun substitutions thus coincide on two counts: (i) they show that abstract roots must be specified for gender, and that gender must be copied before Vocabulary Insertion; (ii) they allow for testable predictions concerning the likelihood of specific switch and error patterns alike.

2. Code-blending: sharing a node

Sequential code-switching appears to be rare in the speech of bimodal bilinguals, quite unlike simultaneous code-blending (e.g., Emmorey et al., 2008, for English – ASL; Baker & van den Bogaerde, 2008, for Dutch – NGT; Donati & Branchini,

1. Note that the problem is not the feature mismatch between the determiner and the noun. In fact, such mismatches are sometimes observed in form-based noun substitutions that do not obey the identical gender effect. Crucially, when VIs are selected from List 2, gender features have already been copied, and it is thus too late for gender accommodation to take place (Pfau, 2009).

2012, for Italian – LIS). For the sake of illustration, consider the single-sign blend in (3), in which a root is simultaneously spelled out by an English word and an ASL sign (Emmorey et al., 2008: 48).

(3) And there's the bird. [English – ASL]
BIRD

Just as in example (1), two VIs from two languages compete for a terminal node in the syntactic structure, but in crucial contrast to (1), no decision is reached. Rather, both VIs are selected from List 2 and articulated, which is possible due to the use of different articulators.

But even in unimodal production, two roots may compete for one and the same syntactic slot, as is evident from so-called word blends. In the error in (4), two semantically related roots are selected from List 1 and enter the derivation, occupying the same terminal node. At the point of Vocabulary Insertion, the two corresponding VIs are retrieved and fused: *Platz* ('place') contributes onset and coda while the nucleus comes from *Sitz* ('seat') (Pfau, 2009: 11). In a sense, this compromise is the unimodal equivalent of code-blending; since the two forms cannot be articulated simultaneously, they combine. The difference between (3) and (4) is that in (3), the two roots come from different Lists but refer to the same concept while in (4), the two roots come from the same List but refer to semantically related concepts. Still, in both cases, both roots are spelled out (completely or partially).

(4) einen guten **Plitz** ← Platz // Sitz [German]
a.ACC good.ACC (error) ← place(M) // seat(M)
'a good seat'

This raises the question whether comparable blends are attested in the production of adult unimodal bilinguals.[2] For a Spanish – English utterance like the one in (1), a possible outcome would then be (5a). In his comprehensive survey of bilingual speech, Muysken (2000) does not address such cases, but they are mentioned in Grosjean (1982: 184), who offers the examples in (5b) which were produced by English – French bilingual children.

(5) a. Veo la **cousa** [kaʊza] ← casa // house [Spanish – English; hypothetical]
see.1SG the.F (error)
'I see the house.'
b. shot ← chaud [ʃo] // hot
pinichon ← cornichon [kɔʀniʃɔ] // pickle [English – French]

2. Crucially, we are concerned with blends of monomorphemic words, not with combinations of a stem from Language$_x$ with an affix from Language$_y$.

Hence, once again, we find interesting parallels between bilingual productions and spontaneous speech errors, the crucial difference being that unimodal blends require a compromise between phonological forms that is not called-for in bimodal blends.

Admittedly, we only considered the simplest case here, a single noun code-blend. Multi-word blends commonly occur in the speech of bimodal bilinguals (see examples in LQC), and it would be interesting to compare their properties to those of phrasal blends in spontaneous unimodal production. Of particular interest in this respect are cases in which elements from the two modalities do not align. Morphological mismatches, such as the combination of ASL COW with English *cows* (LQC's example (18b)), are probably less challenging, as the relevant feature – [+plural] in this case – is spelled out and no mismatch occurs.

Taken together, the slip data strengthen some of the points made by LQC, and they allow for predictions concerning the likelihood of certain error patterns – be it in code-switching or code-blending. A more detailed comparison, including additional and more complex error types, is expected to provide additional insights in how DM mechanisms can be put to use in bilingual productions.

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