Lessons from a ‘damaged brain’: Language without Executive Functions

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In the literature, the term code-mixing/switching refers to examples such as (1) in which the speaker merges different grammatical systems into one sentence.

(1) Dáwè lɔ̀ nɔ̀ flín mì ðɔ̀ la vie est un combat. [Gungbe/French]
   man DET HAB remind 1SG that DET life is DET struggle
   ‘The man reminds me that life is a struggle.’

While example (1), is produced by a neuro-typical brain (i.e., that of this author), Fabbro (1999: 153-5) reports example (2) produced by an aphasic polyglot suffering from pathological code-mixing.

(2) In Canada? Co facevo la via? I was working with ce faccio coi …. […] e dopo di note lavoravo for I martesi. [Italian/English]

One cannot distinguish between these two examples formally: the cognitive process that selects the relevant linguistic components of code-mixing appears to be undamaged in this aphasic speaker. The switching points as well as the resulting morphosyntax converge in the minds of speakers of both examples. What is impaired in the aphasic patient (2) seems to be the inhibitory mechanisms responsible for deactivating lexical selection from the competing languages (cf. Abutalebi, Miozzo and Cappa 2000: 54).

Many studies on code-mixing focus on its form and cross-linguistic commonalities. Not many studies investigate how this knowledge comes about. How come any speaker having access to more than one externalization channel acquires code-switching even if s/he was not exposed to such a mixed input? Likewise, why do speakers produce structurally similar utterances even though they operate on formally different languages (Gungbe/French vs. Italian/English in 1 and 2), and evolve in different speech communities?

In answering these questions, I argue that the fact that the cognitive process underlying code-mixing in (1) is so entrenched in speakers, and prevails in absence of relevant executive functions (2), suggests that it is a basic property of the human learning device. I show that this process, recombination, is present in all learners (monolinguals and bilinguals alike). During acquisition, recombination allows learners to select relevant linguistic features from heterogeneous inputs and recombine them into a mental grammar whose extensions represent individual idiolects, which Aboh (2015) characterizes as hybrid grammars. In supposedly ‘monolingual’ settings, outcomes of recombination are less noticeable because learners develop closely related variants. Yet, studies on the Flemish regiolect, the so-called tussentaal (De Caluwe 2007, Ghyselen 2015, 2016), as well as on ethnolects indicate that such mixes become apparent once the variants combined are more contrastive or involve typologically and genetically different languages. Monoglots operate on closely related variants (e.g., registers or dialects of the same language), while polyglots operate on more contrastive variants (i.e., typologically and genetically different languages). I conclude that learners develop an array of grammars that are combined during communication.

Based on this analysis, I further propose a view of the Human Language Capacity in which recombination is fully automated while selection of a relevant vocabulary for spell-out purposes is mediated through Executive Functions.

References

