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# Bilingual Aspects of the Ontogenesis Model: Parasitic Connections at all Levels of Representation?

Bordag, Gor and Opitz (2021) (henceforth BGO) deserve credit for having developed the (to-date) most comprehensive model of L2 lexical acquisition, by building on a wide range of studies on perception and comprehension of L2 lexis. However, although they cite numerous studies that point to the importance of cross-linguistic influence (CLI) for L2 lexical processing and development, they deliberately eschew the bilingual focus of other models. Since our work has focused on this aspect, here we point to research into CLI that, we believe, could help explain key concepts of the Ontogenesis Model (OM), especially the "fuzziness" of lexical representations, mappings, and networks.

Like the OM, the Parasitic Model of L2 and L3 vocabulary acquisition (PM) (Hall & Ecke, 2003) "makes assumptions about the development of individual lexical items, not the lexicon as a whole. Individual lexical items will be at different acquisition stages over time, displaying different kinds of configurations and different degrees of automatization in their processing" (Ecke & Hall, 2014, p. 362). Also like the OM, the PM focuses (in BGO's words) "primarily on the initial stages of acquisition in the phonological, orthographic and semantic domains and the corresponding mappings" (p. 2); but it includes a grammatical frame component, a representational level that the OM in its present form does not address.

The detection and use of similarity between new and known information is central to the PM. We have demonstrated that learners make use of prior representations from L1, other L2s (OM's "InterNetwork") and from within the target L2 or L3 (OM's "IntraNetwork"). We have analyzed lexical confusions in L2 and L3 production and argued that many are the result of learners using a parasitic strategy: learners detect similarity between new and already represented forms and use the latter to anchor new representations into "the existing lexical network with the least possible redundancy and as rapidly as possible in order to make them accessible for communication" (Hall & Ecke, 2003, p. 77). Like L1 word learning (Aitchison & Straf, 1981), L2 word forms are acquired incrementally; what is acquired first (and fast) are salient attributes of the new word form and those that are exploited from existing ones (Ecke, 2001). In these cases, just as BGO claim for links to existing semantic representations, "the ontogenetic curve […] steeply rises" (p. 13). But, like grammatical frames (Hall & Reyes Duran, 2009) and meaning representations (Jiang, 2000), incomplete or deviant forms and their access routes can fossilize and their refinement and revision can take as much time or longer than the development of meaning representations.

We studied lexical form confusions through errors and associations produced during extended word search in tip-of-the-tongue (TOT) states (Ecke & Garrett, 1998; Ecke, 2001) and like BGO found that most came from within the target L2 or L3 (OM's IntraNetwork). We discussed the "particular form sensitivity of speakers at early stages of vocabulary acquisition" and argued that "form-focused processing is a general temporal disposition which is necessary for the learner to integrate new words (no matter whether of L1, L2 or L3) into the phonological store of the lexicon (Ecke & Garrett, 1998, p. 171). Whereas the automatized retrieval of stable (L1) representations can be triggered by only a few salient form attributes (first letter, number of syllables), access to unstable forms requires the co-activation or sharing of host representations that are used as mediators between form-frame-meaning mappings. L2 learners rely on a greater number of form attributes, including those similar to known representations. This L1-L2 co-activation, we believe, leads to what BGO call confusions and contributes to the overall "fuzziness" of new representations and mappings. BGO do acknowledge that L1 cognates and false cognates contribute to L2 representations, but the PM claims a more central role for form similarity. In a study with pseudo-cognates, Hall (2002) demonstrated that shared form automatically leads to assumptions of shared meaning. Later we showed that it also determines assumptions about frame representations (Hall et al., 2009).

Although we have stressed the importance of CLI in lexical development, we actually appreciate that the OM goes beyond explaining lexical acquisition only in terms of L1 transfer and changes of L1-L2 mappings. We also like the idea of using ontogenetic curves to capture the degree of acquisition of specific domains. We are confident that future versions of the OM will add assumptions about the development of grammatical frame representations, given that OM authors have demonstrated important effects they have on lexical processing (Bordag, Opitz & Pechmann, 2006). But a comprehensive model of vocabulary acquisition will not get around acknowledging the pervasiveness of CLI from L1 and (other) previously acquired L2 representations. It is a main contributing factor to the fuzziness of lexical representations at form, frame, and meaning levels. BGO will in the end have to admit that their model truly IS a bilingual model of lexical development.

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