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The Parasitic Model: Lexical acquisition and its impact on morphosyntactic transfer

Given that the mental lexicon and "comparative lexis" have become a crucial component of the Typological Primacy Model (TPM) (Rothman, González Alonso & Puig-Mayenco, 2019), the model favored in Schwartz and Sprouse (2021) (henceforth S&S), our comments will focus on the presumed role of lexical cues in triggering full transfer during the initial stage of L3 acquisition. Our own work has focused on cross-linguistic influence/effects (including transfer) in the multilingual lexicon.

The most recent version of the TPM appears to share important attributes with the Parasitic Model of L2 and L3 Vocabulary Acquisition (PM) (Ecke & Hall, 2014; Hall & Ecke, 2003). These relate to the important question of how the "parser" makes the "Big Decision" about which grammar will be transferred (in its entirety) during the initial stage of L3 acquisition. In section 7 of their paper, S&S point out that the TPM assumes a hierarchy of cues that the parser uses to decide which language is the typologically closest and which grammar will be copied. The lexicon (playing a special role) is at the top of this hierarchy, followed by phonological cues, functional morphology, and syntax. In Rothman et al. (2019) the processing of these cues is explained in detail. Essentially, we believe, Rothman et al. envision processes that are similar or comparable to what we have described and studied as (form-based) cross-lexical influence based on the detection and use of similarity (or "parasitic connections" between new and known information) in our model.

With the Parasitic Model, we have assumed for some time that it is the learner's (mostly unconscious) detection of (formal) similarity between newly encountered vocabulary and already represented lexis (Ecke, 2001; González Alonso, 2012) which affects not only the new item's phonological form and meaning, but also its morphosyntactic specification and consequently performance, for example, in speech production (Ecke & Hall, 2000; Hall & Ecke, 2003) or choices in grammaticality judgement tasks, i.e. comprehension (Hall, 2002;

Hall, Newbrand, Ecke, Sperr, Marchand & Hayes, 2009). Upon recognition of phonological or orthographic similarity (e.g., cognateness) or other cues taken to indicate meaning, lexical connections are formed with an assumed known equivalent whose syntactic frame (Hall et al. 2009) and meaning (Hall, 2002) will be adopted. This can lead to both positive and negative transfer depending on the extent of overlap in phonological and morphosyntactic form and meaning between the connected items. For us, this kind of lexical processing, based on similarity recognition, has always occurred through (piecemeal) individual learning events.

Rothman et al.'s proposal is bolder in that it assumes that a complete grammar can ultimately be selected and transferred based on such usage-based analytic processes. The relation between the use of lexical/phonological cues and wholesale grammar transfer could, in principle, be investigated empirically in studies like the one proposed by McGill and sketched out by S&S. We conducted a (somewhat similar) study that investigated cognate effects on L3 learners' initial assumptions about the syntactic frames (idiosyncratic grammatical properties) of recently encountered L3 words (Hall et al., 2009). L3 learners had L1-Spanish, L2-English, and either L3-French or L3-German. They were exposed to new L3 words that were cognate with L1, with L2, or with neither. We found evidence that cognateness, reinforced by (psycho)typology, does affect assumptions about a word's syntactic properties (in this case, verb reflexivity and prepositional complement selection). It is conceivable that such piecemeal adoption of syntactic frames from L1 or L2 translation equivalents might trigger preferential adoption of grammatical patterns/principles from one of the prior languages over the other, where lexical tokens reinforce broader grammatical types. But such cues seem unlikely to promote wholesale transfer, due to the gradual nature of the process: it works one word at a time, and although reliance on parasitic connections diminishes as general proficiency increases, it is still detectable for new lexical items

acquired at later stages of the learning trajectory (as Hall and Reyes Durán, 2009, show for frames in advanced L2 learners).

Investigating cognate effects of new L3 lexis on the transfer of multiple syntactic structures, such as word order, will be a challenging endeavor, especially if it involves L3 learners at an extremely early stage who are asked to "produce" quite complex sentences. Rothman and colleagues might actually discard such findings because, according to Schwartz & Sprouse, they will be based on production data, and because learners may already be beyond the initial stage - able to produce full sentences including modal verbs and infinitives. This brings us to some methodological issues.

TPM proponents, including S&S, have praised the TPM for its straightforward predictions, its testability, falsifiability, and methodological rigor compared to other models. TPM researchers, for example, have used the mirror image design more frequently and more consistently than others (Puig-Mayenco, González Alonso & Rothman, 2020). We agree that assuming wholesale transfer has the methodological advantage in that it makes strong and clear predictions (S&S); but we also note an ever-increasing set of provisions within the TPM that make it easy for TPM advocates to discard data that do not fit TPM predictions and that make it hard to falsify the model itself. These concern for example:

- The fuzziness of the "initial stage" or "initial state". How "early", "very early", "very, very early", or "extremely early" is it when full transfer happens and how long does it last? And is it "the onset of a cognitive *state*, not an ongoing process" even if one allows for "a little time for the mind to make the Big Decision in L3 acquisition" (S&S), or is it a *stage* of intense (lexical) processing (or parsing) of similarity cues that gradually leads to the Big Decision?
- The acknowledgement that there can be "surface-level influence from the other language early on and throughout or indeed secondary transfer (representational) at

later stages from the language not originally selected" which can be property-by-property transfer (Rothman et al., 2019, p. 155) to explain data inconsistent with TPM. On the other hand, if data from later stages are consistent with TPM predictions, "remnant transfer from the initial stages" can be assumed because this domain is particularly difficult to unlearn (p. 182).

- The claim that only transfer matters in generative research and that other kinds of CLI are discarded as less relevant. Apart from the difficulty of distinguishing CLI types methodologically, we wonder if such a distinction is still appropriate given the move to neuro- and psycholinguistic modeling of language activation levels and the recognition that language acquisition, maintenance, and attrition are highly dynamic (e.g., Ecke & Hall, 2013)?

- The assumption that only complete grammars can be transferred wholesale. This would require a fully developed grammar, and very high or native-like L2 competence, in other words, a stage at which the second language may lose its L2 status (Bardel & Falk, 2007) and with it its detectability.

- The full transfer assumption itself and the question: How full is full transfer if parts of the grammar do not transfer systematically (Parodi, Schwartz & Clahsen, 2004)?

In this commentary, we have highlighted and explored TPM's reliance on the processing of lexical and phonological cues in order to make the Big Decision and how this use of cues may relate to some of the lexical processing that we have described in the PM. We wondered if S&S and Rothman et al. (2019) differed in their views of the initial phase in that the former assume an initial "state" (not an ongoing process) and the latter postulate an initial "stage" of intense (lexical or parser) processing. We endorsed the latter (albeit in piecemeal fashion) because of the lexical CLI effects on lexico-grammatical properties that

we found in our work. Finally, we pointed out some TPM assumptions that, we believe, make it difficult to falsify the model.

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