

Are Grammatical Morphemes Hard or Soft?

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For the past few decades, one of the most persistent criticisms against second language acquisition (SLA) research has been the derivative nature of its origin in establishing its theoretical and methodological foundation. That being the case, the phenomenon of fossilization, i.e., the cessation of learning in a second language (L2), has been a central interest of study unique to the field of SLA, to which most, if not all, hypotheses and research on adult L2 learning are ultimately linked. In this connection, the Selective Fossilization Hypothesis (SFH) proposed by Han (2009) demonstrates its potential to account for a wide spectrum of issues related to fossilization, thus deepening our understanding of SLA in general and fossilization in particular. Simply put, the SFH is promising in that it not only accounts for the previous research findings *a posteriori*, but also predicts selectively fossilizable features *a priori* on the basis of the interaction of first language (L1) markedness and L2 input robustness.

One strength of the SFH is its capacity to factor in L1 conceptual transfer as a source of influence leading to selective fossilization. As aptly noted by Han (2008), the L1-based conceptual system can be a source of even greater difficulty in acquiring an L2 than structural disparities between the L1 and the L2. In other words, the so-called “soft” properties (Sorace, 2005), which pertain to the grammar-external interface between syntax and other domains such as lexis, semantics, and pragmatics (White, 2007), may be considerably more difficult to acquire than “hard” properties, which are characterized by purely structural constraints (i.e., grammar-internal interface).

As an example of such soft properties, Han (2009) cites grammatical morphemes, which have oftentimes been categorized as hard properties and thus considered largely learnable. In reality, however, grammatical morphemes are notoriously difficult for most adult L2 learners. Even highly proficient L2 learners persistently show difficulty in using grammatical morphemes correctly (Jiang, 2004). With respect to this phenomenon, Han (2008) proposes that grammatical morphemes abstracting conceptual notions are susceptible to L1-based semantic conceptual transfer and that this grammar-external interface hinders target-like form-meaning mapping.

Indirect evidence of grammatical morphemes as soft properties can be found in recent neurological research using event-related brain potentials (ERPs). The fundamental assumption of ERP studies is that different sorts of linguistic processing (e.g., syntactic vs. lexical-semantic) are assigned to different neural systems and thus can be detected from different patterns in the electroencephalogram, a waveform with a positive or negative polarity. It is now generally accepted that a waveform of N400 (i.e., a negative wave whose peak amplitude is at 400 milliseconds after stimulus onset) signifies lexical-semantic processing, whereas a waveform of P600 (a positive wave with a peak at 600 milliseconds) indicates syntactic processing. For example, when processing syntactic anomalies such as erroneous relative clauses or filler-gap dependencies, native speakers typically show P600 responses. By contrast, when L2 learners encounter syntactically violated sentences, they usually exhibit N400 responses with delayed or absent P600 responses. In other words, L2 learners engage in relatively shallow structural processing and rely more on lexical-semantic processing (Clahsen & Felser, 2006).

Interestingly, ERP studies of on-line processing of morphologically violated sentences reveal no significant differences between native speakers and near-native L2 learners (Hahne, 2001; Hahne, Müller, & Clahsen, 2006; Weber-Fox & Neville, 1996). That is to say, as long as the L2 learners were highly proficient in the L2, they employed the same syntactic processing for morphological anomalies as native speakers. For example, Hahne et al. (2006) suggest that the necessary structural mechanism seems to be available to adult L2 learners when processing inflectional morphemes for participle formation and noun plural marking. That being the case, the notion of grammatical morphemes as a purely functional category within the grammar-internal interface can hardly explain the notorious difficulty most adult L2 learners have in acquiring grammatical morphemes.

Admittedly, no substantive conclusions can be drawn at this point due to the limited number of relevant ERP studies. Yet, findings on spontaneous L2 sentence processing do seem to lend further support to the SFH in the sense that grammatical morphemes are soft properties within a grammar-external interface. According to Han (2009), conceptual restructuring from the L1 to the L2 might be necessary if the difficulty of acquiring grammatical morphemes does not arise from inadequacies in the grammar-internal mechanism *per se*. Last but not least, the idea of what constitutes complexity in terms of linguistic features may also need to be redefined to take into account the semantic-conceptual dimensions of L2 form-meaning mapping, on which the L1-based conceptual system appears to have an overriding influence.

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