

# Not all acquisition entails attrition: The persistence of syntax in the teeth of lexical breakdown

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[journals.sagepub.com/home/slrl](https://journals.sagepub.com/home/slrl)**David Stringer** 

Indiana University, Bloomington, IN, USA

It has long been recognized that there is a need to go beyond descriptive accounts of linguistic representations at particular stages of second language (L2) development in order to develop a model of how a language changes over time in the mind of the learner: that is, a property theory must be accompanied by a transition theory (Gregg, 1996). As discussed insightfully by White (2003, 151–75), many attempts to develop such a model have invoked the role of the parser, as breakdowns in processing following new input may motivate restructuring. Over the last two decades, several parsing-based models of L2 acquisition have been proposed (e.g. Carroll, 2001; Dekydtspotter and Renaud, 2014; O’Grady, 2005; Truscott and Sharwood Smith, 2011), but there remains considerable polemic as to what a transition theory should look like and how it might be supported by empirical evidence. In this context, Hicks and Domínguez (2020, henceforth H&D) build on work by Lidz and Gagliardi (2015) to propose a parsing-based, generative model of both first language (L1) and L2 acquisition that also incorporates L1 attrition. That is, it tries to capture transition both in terms of gain and loss. This approach is ambitious and timely, given recent, broad recognition of L2 influence on L1 grammar (see the papers in Schmid and Köpke, 2019), and the authors make an engaging case both for their proposed model and for its ability to account for observed crosslinguistic influence of the L2 in the processing of L1 pronominals. However, while several aspects of this proposal are well-construed, and the articulation of a formal model of acquisition and attrition is welcome, the possibility of successful bilingualism with lack of L1 attrition seems to necessitate multiple processing pathways, rather than a single computational input sequence. In addition, this most recent account rests on an assumption that is ultimately unconvincing, namely, that there is evidence for syntactic attrition beyond lexical

**Corresponding author:**

David Stringer, Department of Second Language Studies, Indiana University, Morrison Hall 233, Bloomington, IN 47405, USA

Email: [ds6@indiana.edu](mailto:ds6@indiana.edu)

breakdown, necessitating a formal syntactic account. An alternative explanation of the relevant phenomena is suggested by Bardovi-Harlig and Stringer (2019), involving, in many instances, crosslinguistic influence on processing that does not implicate any dissolution of syntactic principles, and in more extreme cases, the breakdown of correspondences between modules in the mental lexicon.

The model proposed by H&D advances the debate on transition theories and the malleability of mature grammars in several ways. While several previous parameter-based models invoked the notion of triggers in the input leading to systemic shifts in the grammar, H&D adopt the more current view of acquisition as the assembly of morphosyntactic features on lexical items. Thus feature assembly on functional items is the locus of most syntactic change in both developing L2s and attriting L1s. They highlight the traditional distinction between input and intake (Corder, 1967), and equate perceptual intake with linguistic representations. When such representations differ from the existing grammar, the inference engine is activated, whose function is to examine acquisitional intake in the light of possible analyses delimited by Universal Grammar. This distinction between parsing for comprehension and parsing for acquisition via activation of the inference engine is an intriguing feature of this formal model, and the authors arguably articulate a conceptual necessity for any model of acquisition. However, the acquisition model of Lidz and Gagliardi (2015) was explicitly formulated to capture monolingual child L1 acquisition, and its extension to bilingual acquisition is less than straightforward.

All language input is assumed to go through the same processing model, which in the case of bilingualism requires ‘initial identification of the input language’ as acknowledged by the authors (p. 152), yet at the same time ‘all languages that a speaker has acquired . . . must be active within the inference engine’ (p. 153), to allow for crosslinguistic influence. This makes possible the Attrition via Acquisition model, according to which acquiring an L2 implies a stream of acquisitional intake affecting the grammar of the L1. However, absent from this model is the notion of inhibition. Presumably, following the stage of initial identification, at least in the case of functional bilinguals (i.e. most human beings in the world), a speaker/hearer is able to process one language (say, verb-final, postpositional, syllable-timed, CVCV), without significant interference from the other (say, verb-object, prepositional, stress-timed, with consonant clusters). To the extent that successful bilinguals may continue to distinguish the input language, it is not clear why perceptual input from one language should begin to serve as acquisitional input for the other. The inference machine must in some sense be able to distinguish between languages. Just as children growing up bilingually seem to require multiple processing pathways, as they can entertain contradictory grammars simultaneously, adult learners may acquire an L2 without dismantling their L1.

The adherence of the original model to an idealized speaker/hearer acquiring a single dialect in a homogenous speech community is clear from the conceptualization of the activation of the inference engine over time. H&D maintain that the inference engine is activated as long as there are perceived differences between adult input and child representations, but then becomes ‘redundant’ at the end of the L1 acquisition process, once the target language has been completely acquired (p. 150). At some point, the learning period is over and the machine shuts down. However, if new input incompatible with the

native grammar is detected, the inference engine may be ‘reactivated’, though it may not deal with input in the same manner as in L1 acquisition (p. 150). Given that speech communities in the real world are never homogenous, given the reality of multiple registers, given the fact that speakers move between speech communities in the course of their lives, and given that bilingualism or bidialectalism is in any case the norm in most speech communities, it is worth considering the other possibility mentioned by the authors: that ‘the interference engine simply remains active in monitoring input (mediated by perceptual intake) as a component of natural language processing’ (p. 161, Note 14). The only drawback to this approach noted by H&D is that it seems to require an additional account of what distinguishes child from adult acquisition. I return to this question below.

What H&D appear to be advancing more specifically is an account of attrition following a shift in dominance, very much in line with recent, influential work in the field of attrition. In this vein, Schmid and Köpke (2017) advocate a very broad definition of attrition, subsuming any change in the L1 as a result of co-activation, cross-linguistic influence, or disuse. In contrast, Bardovi-Harlig and Stringer (2017) argue that it seems desirable to distinguish temporary processing effects across two highly activated languages from more permanent loss of linguistic knowledge. It is also important to separate cases in which speakers are able to label the input languages as separable from cases in which the languages or dialects are closely related, in which change (rather than loss) may result in a single hybrid system (Iverson, 2012; Putnam and Sanchez, 2013). In the examples presented here as evidence for attrition, Spanish speakers are shown to exhibit adaptation in use of overt pronouns on exposure to other dialects, but it is hard to construe this as loss, or forgetting, rather than simply change or switching. Moreover, differences in rates of use are distinct from grammaticality, and are likely to be discourse-conditioned rather than determined by fixed featural configurations on functional heads. This is, in fact, in line with Dominguez and Hicks’ (2016) conclusion that speakers may add dialectal variations without losing their L1 possibilities. On a narrower definition, such cases do not involve language attrition.

Similarly, even when the two languages are fully differentiated, L2 forms may interfere with L1 forms without entirely replacing them. As noted by the authors, Gürel and Yılmaz (2011) investigated L2 Dutch and L2 English effects on L1 Turkish patterns of pronominal binding, and found that with reduced L1 input, Turkish speakers loosened the L1 requirement of disjoint reference for the pronominal *o* ‘he/she’ in embedded clauses. They appear to be able to alternate in associating either the L1 or the L2 feature bundle with the analogous pronominal element. Fluctuation between competing grammars is not equivalent to language loss, as the selection of one option does not entail the elimination of the other. Such fluctuation could plausibly disappear if speakers were re-immersed in an L1 environment. Thus for the above two cases, the current proposal is very much in tune with the broad conception of attrition laid out in Schmid and Köpke (2017), but falls outside of the more conventional scope of attrition as involving actual language loss.

H&D admit that there is a striking lack of evidence in the literature for attrition in core syntax, as previously observed by Montrul (2008), Schmid (2011), and Tsimpli (2017), among many others. Nevertheless, they consider it ‘crucial’ to develop a model of syntactic attrition to account for the kind of variability seen in pronominal systems in the context of *pro*-drop and binding phenomena. In recent work, Bardovi-Harlig and Stringer

(2019) consider precisely the claimed resilience of modular aspects of syntax and phonology in both L1 and L2 attrition. They observe that extra-lexical aspects of syntax (that is, grammatical principles not tied to specific lexical items) may in fact be impervious to attrition. Thus in Schmid's (2002) seminal study of L1 attrition in German Jews who had fled the Nazi regime, the person with the most severe attrition had left age 13, had not used German in sixty years, was judged to be a foreigner by all thirteen native-speaker raters, yet maintained accuracy rates of 99% for case assignment and 95% for verb phrase phenomena including V2. Hopp and Putnam (2015) found a similar pattern in speakers of a heritage German dialect in the USA. Montrul's (2008) review of heritage Spanish speakers reveals similar resilience in the areas of grammar such as the syntax of unaccusativity. Bardovi-Harlig and Stringer (2019) make the case that the kind of changes observed in pro-drop and binding phenomena involve the association of syntactic features with lexical items, and suggest 'the kind of interplay between language systems typical in bilingualism, rather than the erasure of syntactic knowledge from the brain due to disuse' (p. 368). Moreover, if L1 effects on the L2 and L2 effects on the L1 are of the same ilk, then they should be treated as cross-linguistic influence rather than attrition. Whether prolonged cross-linguistic influence from a dominant L2 could ultimately lead to attrition in such cases, as argued by Schmid and Köpke (2017) and, as implied by H&D, remains an empirical issue.

As to the question of continual engagement of the inference engine throughout the lifespan, the fact that this does not delineate a critical period is not necessarily problematic; there are, of course, alternative accounts of what makes language acquisition and loss in childhood somewhat special. Bardovi-Harlig and Stringer (2019) consider cases of catastrophic language loss observed following a cessation of input before 8–10 years old (Montrul, 2008; Pallier et al., 2003), and present a novel perspective on the notion of critical period. They draw on evidence from L1 and L2 attrition to propose network stabilization of the mental lexicon at this juncture, before which childhood languages remain vulnerable to extreme dissolution, and after which cross-linguistic influence is persistent.

If, as assumed by H&D, the lexicon is the locus of most cross-linguistic syntactic variation, if acquisitional intake mainly involves the assembly of features on lexical heads, and if (as argued by Bardovi-Harlig and Stringer, 2019) evidence for grammatical attrition points to the unravelling of links between representational modules in the mental lexicon, then there is no obvious need for a separate generative theory of attrition of syntax. A more pressing question might be how to account for the striking resilience of syntactic knowledge in contexts of lexical fragmentation. The relation between acquisition and attrition in the bilingual mind remains one of the great linguistic puzzles of our time and is an inspiration for exciting contemporary research. H&D elaborate an original and provocative model of this relation, and their article constitutes a thought-provoking contribution to this ongoing debate.


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## ORCID iD

David Stringer  <https://orcid.org/0000-0003-0006-0823>

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