University of Groningen

The relevance of L1 attrition to usage-based theories of language development

Keijzer, Merel

Published in:
Linguistic Approaches to Bilingualism

DOI:
[10.1075/lab.00011.kei](https://doi.org/10.1075/lab.00011.kei)

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
2017

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):
Keijzer, M. (2017). The relevance of L1 attrition to usage-based theories of language development. *Linguistic Approaches to Bilingualism*, 7(6), 715-718. <https://doi.org/10.1075/lab.00011.kei>

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

The relevance of L1 attrition to usage-based theories of language development

Merel Keijzer

University of Groningen

In their keynote article, Schmid and Köpke (2017; henceforth S&K) present an interesting exploration of how L1 attrition data and insights “may be used to inform, challenge and validate theoretical approaches of bilingual development” (p. 637, abstract). Although their paper succinctly details how the theoretical rigor of especially usage-based and generative approaches to bilingualism presents testable predictions as well as theoretical explanations for attrition data, it does not explore how attrition can feed back into bilingual theorizing. In this commentary, I will focus on usage-based (henceforth UB) theories of language development. In particular, I will show how attrition can lead to a better understanding of two constructs that are central in UB theories of language development: entrenchment and preemption.

S&K’s aim is to holistically integrate L2 acquisition and L1 attrition into one bilingual development theory. Inherently, usage-based theories view language development as a single process where growth and decline naturally occur, driven by input and dependent on extralinguistic variables (Tomasello, 2003). In other words, and contrary to what S&K argue, attrition is already an integral part of UB theorizing. But what attrition can additionally do is shed unique light on constructs that form the pillars of UB theories of language development; these constructs have almost invariably been built on child first language acquisition, where frequency of the input is seen as the primary driver of changes in the child’s repertoire. Attrition presents an interesting avenue for UB theories as it incurs a sudden shift in input patterns: L1 input is reduced and L2 input increases. A question to ask is then how attrition effects on an already acquired language system can help shed new light on UB notions, beyond what S&K argue.

According to UB theories of language development, the generalizations children make greatly depend on the frequency of the input they receive. The more a child hears, for instance, a verb being used in a particular context, the less likely he or she is to use that same verb in other contexts, because it has a process known as

entrenchment (Tomasello, 2003, p. 180). However, if that same child hears adults repeatedly use alternatives for that verb in ways that are communicatively similar, the child may come to infer that the generalization he or she has made until then is inappropriate and subsequently preempts it (Tomasello, 2003, p. 178). For example, an existing (non-standard) generalization a child might have made is that the verb *disappear* is used in simple transitive constructions like *He disappeared the rabbit*. However, if the child becomes aware of adults structurally using constructions like *He made the rabbit disappear*, he or she likely infers that the generalization was inappropriate and subsequently substitutes it with the more conventional use. In other words, the child preempts an earlier entrenchment. As a result of this process, a more stable language system emerges. Collectively, entrenchment and preemption are manifestations of the single underlying process of competition (Tomasello, 2003, p. 300). The interplay between entrenchment and preemption is especially interesting to observe in a context like attrition where the language system becomes more unstable. The interplay between two language systems here adds another layer of competition, as S&K point out. Attrition work has consistently found differences in the extent to which various language domains are susceptible to attrition effects, e.g. the lexicon is more likely to attrite than more structural domains like morphology and syntax. This means that entrenchment by definition operates differently for different language domains. This in turn points to the conditions for entrenchment to occur, and reveals different levels of entrenchment. Related to that, whether, how fast, and to what extent L2-based alternatives may lead to preemption of entrenched L1 representations can elucidate the mechanism preemption is and what it does. For instance, in an L1 Dutch attrition study conducted in an L2 English context, Dutch attriters were found to come to accept subordinate word orders like **Omdat hij was ziek* under the influence of English *Because he was ill*, whereas standard Dutch places the finite verb in sentence-final positions here, the correct construction being *Omdat hij ziek was* (Keijzer, 2007). Studying different attrition settings, i.e. looking at languages that are typologically similar or dissimilar but also inspecting individual differences in attrition outcomes based on continued L1 vs. new L2 input and use, can shed light on when L1 and L2 categories are merged and when the L1 representation is preempted and replaced by the L2 category. This can shed light on the nature of the entrenchment/preemption dichotomy.

It is important to note that entrenchment and preemption can be further consolidated by existing cognitive accounts of the loss of representations upon acquiring new information. The retrieval-induced forgetting paradigm (Anderson & Spellman, 1995) but also the catastrophic interference hypothesis (McCloskey & Cohen, 1989) are exemplary in that they have been tested in and adjusted on the basis of artificial language learning experiments in which novel (L2) words that

were trained came to compete with existing (L1) lexical items (Levy, McVeigh, Marful, & Anderson, 2007; Bakker, Takashima, van Hell, & McQueen, 2015). Attrition has thus already been used to feed back into cognitive psychological theories, perhaps to a greater extent than S&K argue.

Finally, in light of such storage/retrieval, entrenchment/preemption accounts, attrition can play a central role in the recent “empty brain” hypothesis: Epstein (2016) argues that humans do not have a store of words or grammatical rules, not even (linguistic) memories. According to Radical Embodied Cognition (cf. Chemero, 2013), the idea that the human brain mirrors a computer in storing and retrieving language in whatever form is thus challenged. Instead, such intelligent behavior as changes in language skills is seen as best captured as a direct interaction between organisms and the world they live in. The latter claim also prominently features in UB theories of language development, but it is unclear how “empty brain” accounts can be brought in line with constructs like entrenchment and preemption, and attrition may well be a useful area for investigating this further.

In conclusion, S&K have opened a much needed debate about the role that attrition can play in challenging and validating bilingual development theories, most notably UB and generative theories. I argued that attrition already inherently forms a pillar of UB theorizing, but at the same time I tried to demonstrate that its explanatory power does not stop there: Attrition has the potential to not only inform bilingual models and hypothesis as demonstrated by S&K, but it can form an integral part in validating entire networks of models and hypotheses, i.e. bilingual theories.

References

- Anderson, M. C., & Spellman, B. A. (1995). On the status of inhibitory mechanisms in cognition: memory retrieval as a model case. *Psychological Review*, 102(1), 68–100.
- Bakker, I., Takashima, A., van Hell, J. G., Janzen, G., & McQueen, J. M. (2015). Tracking lexical consolidation with ERPs: lexical and semantic priming effects on N400 responses to newly learned words. *Neuropsychologia*, 79, 33–41.
- Chemero, A. (2013). Radical embodied cognitive science. *Review of General Psychology*, 17(2), 145–150.
- Epstein, R. (2016, December 5). The empty brain. Retrieved from: <https://aeon.co/essays/your-brain-does-not-process-information-and-it-is-not-a-computer>.
- Keijzer, M. (2007). *Last in First out? An investigation of the regression hypothesis in Dutch emigrants in Anglophone Canada*. Utrecht: LOT Publications.
- Levy, B. J., McVeigh, N. D., Marful, A., & Anderson, M. C. (2007). Inhibiting your native language: The role of retrieval-induced forgetting during second language acquisition. *Psychological Science*, 18(1), 29–34.

- McCloskey, M., & Cohen, N. J. (1989). Catastrophic interference in connectionist networks: the sequential learning problem. *Psychology of Learning and Motivation*, 24, 109–165.
- Schmid, M. & Köpcke, B. (2017). The relevance of first language attrition to theories of bilingual development. *Linguistic Approaches to Bilingualism*, 7(6), 637–667.
- Tomasello, M. (2003). *Constructing a Language: A usage-based theory of language acquisition*. Cambridge, MA: Harvard University Press.

Author's address

Merel Keijzer
Applied Linguistics
University of Groningen
Oude Kijk in 't Jatstraat 26
9712 EK Groningen
The Netherlands
m.c.j.keijzer@rug.nl

Copyright of Linguistic Approaches to Bilingualism is the property of John Benjamins Publishing Co. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.