

WHEN DOES SECOND LANGUAGE LEARNING LEAD TO FIRST LANGUAGE ATTRITION?

Norbert Francis

Abstract

Nowhere is the discussion on the relationship between competence and performance more interesting than in the research on bilingualism. Fortuitously, it is in this field of language acquisition and language learning where proponents of both Universal Grammar and Usage-Based approaches have found space for discussion on a number of language contact phenomena. This dialogue parallels a similar coincidence in the study of literacy learning. On this point, a new proposal for research on second language learning and first language attrition appears to fundamentally redefine basic concepts in the field. This response counters that future research will be best served by continuing to apply current conceptions until the discussion of research findings presents a new framework. In addition, a better understanding of language attrition will benefit from an exchange among researchers who work within the framework of different theoretical models. In the end, the exchange will contribute to better understanding the concept of Language Faculty, beginning with an open-ended discussion.

Key words

Language attrition, mental grammar, replacing language, second language learning, Universal Grammar

Introduction

In a major theoretical paper appearing in *Linguistic Approaches to Bilingualism*, a proposal to re-conceptualize second language (L2) learning and bilingualism was presented for discussion (Schmid &

Köpke, 2017). It takes the field of first language (L1) attrition as a starting point for a good reason: that only until recently has attrition been given sufficient attention in understanding the interaction in development between L1 and L2, or between the two language subsystems of early bilingual development (L_a and L_b). This reply to the authors follows and expands upon the commentaries of Kupisch et al. (2017), Meisel (2017) and Tsimpli (2017), selected because their critique points us in the direction of sorting out most clearly the issues raised in the keynote article.

Schmid & Köpke propose a deep-going reconceptualization: “Attrition effects begin as soon as L2 development sets in, in the first instance as online phenomena of co-activation where production and processing is to some extent affected...They may or may not eventually lead to apparent changes to or restructuring of knowledge, processing or production as a result of long-term crosslinguistic interference.” According to the authors, “...every bilingual is an L1 attriter” (p. 641). Thus, the Every-Bilingual-Is-L1-Attriter hypothesis follows from the proposal that in all L2 learning we can potentially identify the onset of L1 attrition, from the earliest beginner-level stages of bilingual development.

This assessment will take the unusual liberty of recasting the authors’ argument, presenting a more defensible version of Every-Bilingual-Is-L1-Attriter: that L1 attrition should strictly apply to underlying representation (competence, linguistic knowledge corresponding to the mental grammar), not to observed performance manifestly traced entirely to factors of processing, access and co-activation. Thus, two alternative hypotheses for framing new research are suggested for this discussion:

(1) online/transient $L2 \rightarrow L1$ Cross Language Interaction (CLI) inexorably leads to L1 attrition in all variants of bilingualism (the more defensible version of Every-Bilingual-Is-L1-Attriter)

(2) $L2 \rightarrow L1$ CLI *often* results in L1 attrition. L1 attrition, which implies a diminished competence in L1, should not be conflated with online/transient CLI, which does not inevitably lead to diminished L1 competence (the present counter-proposal).

A future, revised, version of the keynote paper could correct the ambiguity of the cited passage above by incorporating the suggestion of (1). The authors repeatedly make reference to the idea of “underlying representation” and devote an entire sub-section (4.2) to the consideration of a Universal Grammar (UG) approach that could make a contribution toward integrating findings for the model that the authors favor (pp. 647–653). However, this is an impossible proposal without clearly distinguishing between the effects of online/transient CLI and L1 competence. The alternative proposals (1) and (2) should help us sort out the relevant concepts under consideration. Nevertheless, as will be argued, even the more cautious version of the Every-Bilingual-Is-L1-Attriter hypothesis, (1), will in the end contribute little clarity to the task of framing future research.

That said, CLI effects, linked evidently to broader input factors, cannot be easily dismissed in their effect on L1 competence. The processing-knowledge (performance-competence) distinction, as central as it is to the larger debate, is not a get-out-of-jail-free card in the evaluation of the impact of CLI and input factors on competence, even subsequent to the consolidation of mother-tongue competence in middle childhood.

What are “languages”?

Two related controversies are relevant to our topic as growing understanding in each case spans across the above-mentioned theoretical frameworks:

- the theory of semilingualism, and
- denial of the validity of the idea of separate language systems and subsystems.

Both include conceptualizations that minimize the dependability, stability and autonomy (not absolute and fixed inviolability) of first language or dominant language competence.

The theory of semilingualism emerged in the 1970s from observations of school achievement associated with descriptions of imbalanced bilingualism. Never a language learning phenomenon supported by systematic and controlled assessment, but rather by impression and conjecture, in the scientific literature the idea eventually fell by the wayside. Researchers in the field rarely even attempted to test it, the dismissal generally based on theoretical grounds, again coinciding to a degree, and in an interesting way, among diametrically opposing models. One line of reasoning, which we should apply to the present discussion as well, points out that the vague notion of deficient (i.e., non-native) ability in both L1 and L2 (or in both L_a and L_b) fails to distinguish between knowledge and use of knowledge:

- grammatical competence—the mental grammar of L1, L2, etc.—that is *revealed* most reliably in face-to-face conversational comprehension and expression and,
- language use associated with the suite of general cognitive abilities tied, for example, to literacy-related academic discourse abilities.

In an updated and more nuanced version of the semilingualism theory, Toukoma (2000) attempted to address this confusion. Nevertheless, mainly among school-based practitioners, the theory of semilingualism has survived in the informal concepts and evaluation procedures of educators and therapists, thriving particularly in school settings that serve language minority children. Perhaps related to a certain language policy preference, independent of language assessment best practice, the attraction to the idea of semilingualism appeared to focus attention mainly on the imbalanced bilingual condition, potential prelude to consolidation of an emerging dominant language driving the progressive erosion of the non-dominant language. In its strongest formulation, the semilingual outcome itself, i.e., aside from actual Specific Language Impairment (SLI), is characterized by a defective language competence specific to bilingual speakers, purportedly observable in both languages.¹

For the purpose of understanding the research findings on L1 attrition, we will also restrict our purview strictly to *linguistic knowledge*, the competence that emerges from language development *per se*, its corresponding processing mechanisms and other System 1-type general learning resources in both L1 and L2. It is important to take care, as the keynote article also does, not to confound this category with language abilities, for example, tied to advanced literacy-related *uses of language*, as in schooling, that call upon higher-order, System 2-type, cognitive-general capabilities. The evidence for and against the bilingualism-is-L1-attrition proposal, and the different versions of semilingualism theory, must keep the focus on the linguistic competence of bilinguals, the mental grammar of each language subsystem. Questions of deficient ability causally linked to realms of higher-order secondary discourse-related capabilities, and other System 2-type language skill are interesting and of far-reaching practical importance; see Stanovich & Toplak, (2012) for a survey of the research. The research questions are difficult to sort out, but they will remain forever confused if the bilingual competence problem is not set aside for independent consideration. This requirement imposes a high bar on the design of assessment and on the interpretation of results because it is not always obvious from the start that performance on language tasks only measures linguistic competence. For example, items that result in variation among individuals in a relevant comparison involving monolingual native speakers pose one potential question, among others, of validity. The interpretation of results from expressive tasks, or ethnographic recording of language samples, even extensive and comprehensive, involving preschool children presents a similar question because of the wide natural variation on this dimension of performance because of non-relevant maturational factors and the intervention of non-linguistic factors.

The second controversy, corollate in some ways to the semilingualism problem, appears in currently popular theorizing associated with post-modernist approaches to the study of language, centered around lines of speculation that broadly relativize categories and distinctions of cognitive science. Knowledge of language, according to these approaches, is entirely socially constructed, thus fluid and permanently unstable. The radical constructivist denial of inherited foundations of human nature views all aspects of cognition as highly

malleable; input conditions of socialization imprint habits and behavior without constraint of biology. A prominent approach to the study of multilingualism that is pertinent here is the rejection of the notion of the knowledge of separate languages and language subsystems understood cognitively. For example, the distinction between L1 native-language competence and non-native, or learner-language L2, is portrayed as broadly relative. Ideological and sociological explanation presents itself as sufficient, overriding the findings of psychological science. Similar questioning of categories singles out the concept deceptively labelled as “named languages”: knowledge of French and knowledge of German, Hopi, Mandarin, etc. (Pennycook, 2006). Currents within the recent approach to studying bilingualism known as *translanguaging* are sometimes associated with this array of theories (Otheguy et al., 2015). The general approach is characterized by recourse to the idea of continuum applied broadly so as to reject in principle distinctions based on empirical findings of research. Understanding the semilingualism error and other research problems in applied linguistics that rely on concepts of competence and ability in one language or another, and psycholinguistic differences between knowledge of L1 and L2 in effect become incoherent or simply beside the point.

The Every-Bilingual-Is-L1-Attriter hypothesis does not subscribe to the semilingualism theory and makes no reference to it, much less to postmodern philosophy of language. Rather, the connection is indirect: among other down-stream effects for outstanding questions in the study of dual-language development, Every-Bilingual-Is-L1-Attriter makes it more difficult to clearly show how incorrect theories and unscientific challenges to foundational concepts of basic research have distracted students of the field. While the commentaries on the keynote article and related discussion on research-based problems in applied linguistics generally ignore, also for good reason, the two currents of thinking mentioned above, a moment’s reflection suggests that they are not irrelevant. On one point, the research on language separation in bilingual development, there might be a substantive connection.

Taking a step back from the details of UG in L2

One perspective on bilingualism from the UG point of view could be the following. Far from agreement with it being necessary in this discussion, for the purpose of the dialogue proposed in section 4.2, it can serve to get a view of the bigger picture.

The main idea of what is often termed the “nativist” approach² is that there are different kinds and different levels of linguistic competence. The nucleus of dedicated components of the Faculty of Language (FL), also known as FL-narrow, anchored by domain-specific knowledge structures, is different from the level of knowledge structure and processing that is subject to erosion caused by decreased use, exposure, or lack of practice. The former could be considered as Language (upper-case “L”), the latter, language (lower-case “l”). The specialized modules of the FL, altogether, form a cognitive domain that is *Language*-specific. In contrast, attrition of L1 *or* L2 corresponds to *language*-specific competence—to *one* of the instantiations of the FL (to one of its subsystems). Barring trauma or SLI, attrition does not proceed in both L1 and L2, or L_a and L_b. Again, unless the FL itself suffers impairment, decreased use, exposure or lack of practice affects one or the other realization of Language, not both, because the core components of the FL remain intact. The possible effects of the hypothetical desert-island isolation condition would only apply to the central mechanisms of the FL if it could be shown that the mature language-endowed isolate could be prevented somehow from engaging inner speech.

First language competence, the primary realization of the acquisition mechanisms of the FL, that emerges in early childhood, is not always the same as other kinds of linguistic knowledge, one reason for our attempts over the many years to find a term (always inadequate: “native,” “mother tongue,” etc.) that captures the idea of its essential properties. The definitive evidence for its special status, while highly suggestive in previous case studies of late L1 acquisition involving deprivation/abuse, only came forward recently in the studies of maturational constraint in the natural experiment of child sign language creation. The Nicaraguan Sign Language (NSL) project was able to compare late L1 acquisition (resulting from inadequate input to the language acquisition mechanisms during the critical period: deprivation

in the absence of abuse) with the normal input condition for child language acquisition: L1 creolization (Kegl et al., 1999). The findings of the NSL project were compatible with previous research on Sign Language development comparing late acquisition and exposure to usable primary linguistic data during the critical period (Goldin-Meadow, 2005; Mayberry & Kluender, 2018). Adequate-enough input presents the acquisition mechanisms with the required information for the spontaneous creation of a fully formed language. Acquisition is automatic and proceeds normally depending solely on active exposure to primary linguistic data (Pettito & Kovelman, 2003). Exceeding the resources of cognitive-general learning procedures applied to primary input in the construction of a mental grammar, achieved within a time-sensitive developmental window, is one of the hallmarks of specialization (Becker & Deen, 2020; Curtiss, 2013).

To reiterate, one of the purposes of the keynote paper should be taken as commendable. More attention needs to be called to the phenomenon of L1 erosion; that under different bilingual learning scenarios of language development, how the shift in dominance from the L1 subsystem to another can occur. This objective of research in fact contradicts commonly held belief regarding the balanced nature of 2L1 development (two first languages) as the strongly expected outcome given functionally equivalent input in both languages. The account of why this expectation is incorrect, however, is not new: readers can consult the relevant studies of previous work cited in Francis (2012 and 2013), in addition to descriptions of how under certain conditions of speech community language contact, the incidence of L1 erosion—better understood as Replacing Language (RL) development—can be high, and replacement by a robustly developing L2 shown to be demographically widespread and rapid (Francis, 2016). The pivotal studies reviewed in support of the RL development hypothesis involved bilingual input conditions in which children received input in the language that (in hindsight) came to be cognitively disfavored, to then undergo replacement, more than sufficient to assure (hypothetically) balanced 2L1 development (de Houwer, 2011). That is, if the eventual disfavored language had received the same amount of input in a condition of monolingual development, nothing would have impeded normal and typical L1 acquisition. The determining intervening factor then would be

the “competing” activation within the acquisition mechanisms of the language faculty of another (more robustly developing, again revealed in hindsight) linguistic subsystem. We know that other contextual factors (minority-majority language status, persistent discrimination directed against speakers of the former, normal variation of total language exposure from caregivers, etc.) do not cause children to develop defective or non-native monolingual mental grammars in their mother tongue. These and other language use variables may affect culturally related discourse *abilities* of different kinds, academic proficiency dependent on literacy, and so forth, but not the defining properties of the native-speaker mental grammar.

The idea here that is relevant to the problems of bilingualism and attrition is that the language subsystem that attains completeness, the one that fully implements the acquisition mechanisms of the FL, is special in that it resists being degraded or dismantled. Trauma aside, only the displacing force of a RL is capable of degrading it because the RL comes to occupy the privileged cognitive domain of the replaced L1 with a new completeness.

Language subsystems as cognitive domains

The debate on separation of the mental grammars in early child bilingualism is noteworthy because in reality neither side presented an implausible or extreme position. Volterra & Taeschner (1978), arguing for a “fused” system, conceived of it as temporary and restricted to the earliest stage of language development, prior to the migrating, so to speak, of structures toward autonomous representations by age three or four. Given the research available at the time, we could characterize their position fairly as an early separation hypothesis effected by the second semester of age three. The position that largely prevailed in the end had argued for an earlier separation, the seemingly strong hypothesis at the time, which surprisingly came to be favored in the field. The growing convergence on this problem is directly relevant to the central concepts of the present debate. The process of bilingual differentiation begins as soon as infants, exposed to two languages, discriminate between the phonotactic patterns of L_a and L_b , setting the stage for the systematic division of the lexicon and the formation of independent, but interacting,

mental grammars (Sebastián-Gallés & Bosch, 2001; Werker, 2012; Byers-Heinlein et al., 2017). In hindsight it is fair to say that both hypotheses correspond to early separation of the language subsystems of child bilingualism, the “later separation” hypothesis marking the final stage of differentiation at around age four. Importantly, separate development in no way denies the varied effects of cross-subsystem interaction (Müller, 2017), some of which can result in altered competence.

The evidence from studies of mature bilinguals of double dissociation and selective impairment and recovery (Paradis, 2004; Cargnelutti, et al., 2019). confirms the bilingual subsystems model, describing a neurolinguistic mutual autonomy. Aside from directly contradicting claims of the extreme holistic versions of *translanguaging*, the bilingual subsystems model also argues against conceptions of the L1-L2 interaction that are excessively porous and unstable, which in effect would allow for the possibility (impairment aside) of two L2-type competencies.

Comparing observations from different points of view

In a review of the research years ago, Köpke (2004) and Köpke and Schmid (2004) presented a wide-ranging account from different theoretical models showing how a converging discussion on explaining attrition could be possible. In fact, this is a feasible prospect given that common ground arises from the also growing acceptance of the idea among a number of generative-oriented researchers that both L2 *and* L1 development call upon domain-general capacities, in the case of L2 to a greater degree. This view presents an opening for research exchange in the consideration of interpretations of findings from seemingly opposing theoretical perspectives. In the 2004 papers the discussion of one line of theorizing in particular presented a promising way forward in this regard: the proposal for attrition research of Sharwood Smith and van Buren (1991) was compared to that of Usage-Based approaches associated with the Activation Threshold Hypothesis, compatible as it is with MacWhinney’s (2005) Competition Model. No suggestion is being made here in favor of a unification of generative and Usage-Based theories. But in this side-by-side comparison, similar predictions on some points

have been made from both sides, brought to our attention by Köpke and Schmid, making the assessment of findings more interesting. We can not only agree on some of the facts of the matter, but also find overlapping observations from which to sketch out the preliminary outlines of explanation.

The Competition Model (MacWhinney, 2005) attempts to explain the various aspects of CLI based on a completely different set of assumptions about the architecture of bilingual competence from that of Sharwood-Smith and van Buren, or so it would seem. Interestingly, we take note of a number of observations that appear to coincide. For example, it suggests that for L2 learning, age-related factors are not determinative as they are for L1 acquisition, emphasizing in turn the importance of transfer in bilingualism (CLI). What is notable here is that for UG models age-related (critical period) effects apply for all researchers to the case of L1, but not for all to L2. For MacWhinney, the L1-L2 difference is also "fundamental" (p. 69), describing it from a Usage-Based perspective that differs from UG approaches, but not differing in every way. According to his theory the L1-L2 attainment difference cannot be accounted for by a "critical-age" factor, *per se* (that age-related factors, *per se*, place a limit on L2 attainment). This proposal coincides with the RL development hypothesis. Another coinciding observation involves the role of CLI. In second language learning, the L2 is initially parasitic on L1, and "the learner's goal is to reduce this parasitism by building up L2 representations as a separate system" (p. 77).

Then in the case of L1 replacement by L2, CLI, or transfer, is the key mechanism. This idea and the use of the concepts of "interference" and "resisting interference" in bilingual development as a way of explaining the shift in dominance from a soon-to-be former L1 to a new primary language, previously the L2, is also parallel in some ways to the idea of RL development (based on UG assumptions). Even in the absence of significant L1 attrition, "minor shifts in language dominance in childhood can lead to the introduction of strong transfer effects" (MacWhinney, 2005: 77). For their part, Sharwood Smith and van Buren also placed the emphasis on CLI; and in contrast to other UG hypotheses of L1-L2 interaction, proposed a scenario for L1 attrition in which performance and competence are not viewed as airtightly sealed off one

from the other. Especially in child RL development (e.g. in early 2LI acquisition), a first stage could be characterized by processing imbalances perhaps accompanied, *but not necessarily*, by a slight imbalance in input conditions, both leaning “in the same direction.” The activation threshold comes to be lowered more often for the more robustly developing language subsystem,³ and raised more often for what will turn out to be the disfavored subsystem. In this initial stage, according to Sharwood Smith and van Buren, the difference is not one of competence. But with time the performance/processing differential begins to affect actual competence. Evidently, in early childhood 2L1 there is no way to distinguish empirically during the early stages which of the two outcomes:

- balanced bilingualism, or
- one subsystem undergoing competence attrition

will prevail. But within a population of the second outcome in middle childhood we can logically work backward and infer, or with reliable retrospective data even identify, the RL developmental stages of performance/processing imbalance → competence attrition. In the population of the first outcome we can assume that a diminished competence, attrition, did not obtain. For obvious reasons, the above unfolds most clearly during early bilingualism; and in later childhood, then in adolescent and young adult bilingualism/L2 learning the L1 “resists interference” from adverse input conditions, considering the Competition Model, with greater and greater force. Here we can also suggest a parallel between the UG-oriented approaches of Sharwood Smith and van Buren and that of RL development, in the study of attrition, as these are compatible with the Full Transfer/Full Access (FTFA) hypothesis, in the study of L2 learning of White (2015).

As Köpke and Schmid’s current paper posits, the same stages of performance/processing imbalance → competence attrition unfold. The difference between Sharwood-Smith and van Buren, RL development, and the logic of FTFA on the one hand, and bilingualism-is-L1-attrition, on the other, is that for the former the transition to an eroded L1, with time, becomes more and more exceptional. For the latter, erosion of L1

follows from the performance/processing imbalance without exception, a proposal not contemplated by Köpke & Schmid in 2004. The (2004) papers contributed to an interesting comparison of observations and interpretations. While perhaps not its intention, the keynote article in effect now diminishes the possibility of a productive comparison, or sets it aside for another opportunity.

When does L2 learning lead to L1 attrition?

The burden of empirical evidence for permanent malleability rests with the (2017) Every-Bilingual-Is-L1-Attriter position: that the vulnerability of the dominant language subsystem persists after early language acquisition in all cases. Accordingly, the dominant subsystem does not tend to retain a characteristically stable status of completeness, not developing toward consolidation, and straining to inhibit the emergence of a RL, indefinitely for all L2 learners. The alternative hypothesis that would have to be shown to be false is that the L1 does become vulnerable, its competence components do become porous, eroding completeness, only when the emergence of a RL cannot be inhibited. Field research in bilingual speech communities marked by rapid cultural change has in fact shown that rapid RL shift ensues within a broad layer of school-age children, adolescents and young adults. Within the same time frame, L1 competence is also fully preserved by many individuals of each cohort. Evidence from different language contact situations suggests that replacement is reliably inhibited. Among the former, in some cases as much as a majority of bilinguals belonging to the generation of most precipitous shift come to be affected; in the latter, only a small minority undergoes the transition from one dominant language to another (or from 2L1 to L1+L2-type weaker language).

We can see now that the Sharwood-Smith and van Buren proposal on how input factors and processing can come to alter linguistic knowledge in L1, or the L_a -or- L_b of early bilingualism, is entirely consistent with the standard view in UG of how performance and competence are distinguished conceptually. The details of the research question about how input and processing affect competence is not exactly the same for *each* of the two subsystems of bilingualism as they are for the *sole* instantiation of the FL in monolingual competence. For

the latter, mature mother-tongue competence, trauma aside, is impervious to effects of exposure, practice, motivation, etc. In bilingualism or multilingualism the hard limit on attrition is the boundary of the last dominant subsystem left standing. This kind of “encapsulation” does not categorically apply to all the language subsystems, just one.

To reemphasize a point of agreement, CLI can not only affect L1 performance but also enduring properties of competence itself, with L2 features incorporated into the underlying representation of L1. But RL development should be excluded if underlying competence of the L1 subsystem remains complete. Here, the standard (all parties agree) isn't the grammar manual version or dictionary version corresponding to the bilingual's L1 knowledge. Then what evidence in performance (tasks of comprehension and expression) allows us to infer diminished knowledge of L1? Recall the assessment criteria from the section “What are languages?” for judging incomplete linguistic knowledge of a potentially attrited L1.

To this point, the keynote article devotes extensive attention to what kind of evidence suggests L1 replacement (i.e., loss of its status as dominant language subsystem), and to the input and processing factors that drive the shift in competence. The cited research is not only thorough but also compelling, in all the subsections of pages 641 – 659:

- online effects of co-activation;
- the mechanisms underlying attrition,
- entrenchment and competence (Usage-Based perspective),
- interfaces and feature reassembly (UG),
- crosslinguistic similarity,
- exposure and co-activation, and
- the role of age of acquisition.

In particular it is as a counter-argument to implicit views or assumptions that the effect of these factors on competence is always exceptional or marginal. In regard to CLI in general, readers will find the results of the referenced empirical studies as applicable and the theoretical speculations of both Usage-Based and UG inclination as plausible. The problem for the keynote article is that while they are all consistent with alternative proposal (2), they all fall short of supporting the specific claim of (1), the Every-Bilingual-Is-L1-Attriter hypothesis (pp. 637–638, 640–641).

It is correct to point out, as the keynote article authors have, that the research on L1 attrition has shown that native-language competence is not forever fixed and permanent. At the same time, it is important to avoid the temptation to relativize the idea of stability. Once instantiated as a natural language during the critical period, linguistic competence resists the most adverse input conditions imaginable. In a way, “attrition,” “erosion” and “loss” are misnomers. Barring brain trauma, linguistic competence is highly stable. The effect of RL development on the balance between two sub-systems of the FL is not one of “Language loss” but rather of displacement or shift (more adequate terms borrowed from the field of sociolinguistics), replacement/shift from one instantiation of linguistic competence to another (a previous, now rapidly developing, L2). Just as the nucleus of the Faculty of Language (narrow) is robust and stable, so is the dominant language sub-system that has been “selected” for completeness. In the cases of demonstrated balanced bilingualism, two complete fully formed language subsystems coexist. In cases of the ongoing imbalance and progressive displacement, one subsystem becomes the RL. Again, what might be objectively diagnosed as a kind of semilingualism is a manifestation of language disability, a cognitive impairment affecting Language (van der Lely, 2005), measurable among bilinguals in both of its subsystems. It appears in superficial observation among normally developing individuals as a result of the incorrect assumptions of informal assessment.

The bilingualism-is-L1-attrition model, in which erosion sets in from the beginner-level stages of L2 learning, suggests a permanently unstable condition of completeness/dominance. For example in progressively advancing imbalance, where the weaker language (WL) subsystem undergoes attrition to then “stabilize” at a L2-like stage of

development (a common outcome), there would be nothing to prevent the relentlessly permeable competence modules of the ascendant RL from resisting erosion under any scenario. In the same way, a balanced 2L1 would be unsustainable, each subsystem porous to an even greater degree, plausibly, given that interference of attrition-effecting CLI would be more difficult to inhibit than in the case of WL interference upon a dominant language. Kupisch (2017) alluded to this conceptual problem. According to assumptions of bilingualism-is-L1-attrition, only monolingualism could shield itself from the mental grammar eroding effects of CLI, and count on completeness.

Conclusion

The concluding theme of the keynote article that “...all of the bilingual’s languages are in a constant state of flux...” (p. 660) takes the idea of continuum too far. Against the view of a *translanguage*-type linear array, at no point one instance differentiated from the next in any qualitative way, the current consensus on understanding first and second language is still useful for informing new research. Returning to the ambiguity of Section 2, attrition should not be redefined as the effect of L1-L2 interaction along a continuum in constant flux without distinctions and categories. In this way we can explain even the example of an altered, but demonstrably complete, L1 competence (result of CLI from a language that the speaker in fact may longer fully command) without suggesting that the sole remaining L1, or equivalent RL, has also undergone attrition. It should mean shift/displacement of language competence in line with both common usage and scientific description, including in the authors’ previously published work. The Continuum-In-Constant-Flux approach makes it difficult to explain the related errors of both the *translanguaging* theory of no separate language subsystems and the semilingualism theory for non-SLI bilinguals. The two challenges to advances in the field of bilingualism highlighted in this review are only the most visible in recent years. The Every-Bilingual-Is-L1-Attriter hypothesis is an opportunity to hold up the contrasting models to scrutiny.

Notes

(1) SLI in bilingual development, in fact, does imply (virtually by definition) deficient, non-native, competence in both languages. School-based assessment has often incorrectly diagnosed child second language learners, with inappropriate referral to special education, on the basis of performance on items in only one language.

(2) UG-oriented authors are largely responsible for the misleading term “nativist.” There is no serious theory of language development that denies the exceptional cognitive capacity for language in humans (e.g., comparing this capacity to that of other species of the mammalian lineage); and that this capacity is subserved by a genetic endowment of some kind. Rather, the differences in explaining language development lie (simplifying) in how to understand the mechanisms of acquisition and learning regarding: domain-specific and domain-general capabilities.

(3) The term “subsystems,” referring to the separate realizations in bilingualism of the Language system, is taken from Paradis (2004). In regard to the proposed system-subsystem distinction (that other languages, for example in Romance, attempt to indicate – “lenguaje/linguagem/langage” and “lengua/língua/langue”), there are two levels of autonomy: The *Language system* as autonomous from conceptual structure, visual cognition, etc., and how in development the *language subsystems* of bilingualism attain early separation of the two competence representations. As Paradis summarizes the evidence from selective impairment, both levels of autonomy are neuropsychologically real. Genesee (2002) does the same from performance data involving bilingual child codeswitching. Evidence from codeswitching, in addition to supporting the separation of the language subsystems, also suggests how RL development proceeds, revealed in the analysis of examples of Matrix Language Turnover (Myers-Scotton, 2006) in bilingual speech.

References

Becker, M., & Deen, K. (2020). *Language acquisition and development: A generative introduction*. MIT Press.

Byers-Heinlein, K., Morin-Lessard, E., & Lew-Williams, C. (2017). Bilingual infants control their languages as they listen. *PNAS*, *114*(34), 9032—9037.

Cargnelutti, E., Tomasino, B., & Fabbro, F. (2019). Aphasia in the multilingual population. In J. Schwieter (Ed.), *The handbook of the neuroscience of multilingualism* (pp. 533—552). Hoboken: John Wiley & Sons.

Curtiss, S. (2013). Revisiting modularity: Using language as a window to the mind. In M. Piatelli-Palmieri & R. Berwick (Eds.), *Rich languages from poor inputs* (pp. 68—90). Oxford University Press.

De Houwer, A. (2011). Language input environments and language development in bilingual development. *Applied Linguistics Review*, *2*, 221—240.

Francis, N. (2012). *Bilingual competence and bilingual proficiency in child development*. Cambridge: MIT Press.

Francis, N. (2013). *Bilingual development and literacy learning: East Asian and international perspectives*. Hong Kong: City University of Hong Kong Press.

Francis, N. (2016). Prospects for indigenous language bilingualism in Mexico: A reassessment. *Language Problems and Language Planning*, *40*, 284-301.

Genesee, F. (2002). Portrait of the bilingual child. In V. Cook (Ed.), *Portraits of the L2 user* (pp. 170—196). Multilingual Matters.

Goldin-Meadow, S. (2005). What language creation in the manual modality tells us about the foundations of language. *The Linguistic Review*, *22*, 199—225.

- Kegl, J., Senghas, A., & Coppola, M. (1999). Creation through contact: Sign language emergence and sign language change in Nicaragua. In M. DeGraff (Ed.), *Language creation and language change* (pp. 179–237). MIT Press.
- Köpke, B. (2004). Neurolinguistic aspects of attrition. *Journal of Neurolinguistics*, 17, 3-30.
- Köpke, B., & Schmid, M. (2004). Language attrition: The next phase. In M. Schmid, B. Köpke, M. Keijzer & L. Weilemar (Eds.), *First language attrition: Interdisciplinary perspectives on methodological issues* (pp. 1–43). John Benjamins.
- Kupisch, T., Bayram, F., & Rothman, J. (2017). Terminology matters!: Early bilinguals show crosslinguistic influence but they are not attriters. *Linguistic Approaches to Bilingualism*, 7, 719–724.
- MacWhinney, B. (2005). Extending the competition model. *International Journal of Bilingualism*, 9, 69–84.
- Mayberry, R. & Kluender, R. (2018). Rethinking the critical period for language: New insights into an old question from American Sign Language. *Bilingualism: Language and Cognition*, 21, 938–944.
- Meisel, J. (2017). On first language attrition in second language learners, *Linguistic Approaches to Bilingualism*, 7, 734–738.
- Müller, N. (2017). Different sources of delay and acceleration in early child bilingualism. *Zeitschrift für Sprachwissenschaft*, 36, 7–30.
- Myers-Scotton, C. (2006). *Multiple voices: An introduction to bilingualism*. Blackwell.
- Otheguy, R.; García, O., & Reid. W. (2015). Clarifying translanguaging and deconstructing named languages: A perspective from linguistics. *Applied Linguistics Review*, 6, 281–307.

Paradis, J., Crago, M., & Genesee, F. (2005). Domain-general versus domain-specific accounts of specific language impairment: Evidence from bilingual children's acquisition of object pronouns. *Language Acquisition*, 13, 33–62.

Paradis, M. (2004). *A Neurolinguistic Theory of Bilingualism*. John Benjamins.

Pennycook, A. (2006). Postmodernism and language policy. In T. Ricento (Ed.), *An introduction to language policy: Theory and method* (pp. 60–76). Blackwell.

Pettito, L., & Kovelman, I. (2003). The bilingual paradox: How signing-speaking bilingual children help us resolve bilingual issues and teach us about the brain's mechanisms underlying all language acquisition. *Learning Languages*, 8, 5–18.

Schmid, M., & Köpcke, B. (2017). The relevance of first language attrition to theories of bilingual development. *Linguistic Approaches to Bilingualism*, 7, 637–667.

Sebastián-Gallés, N., & Bosch, L. (2001). On becoming and being bilingual. In E. Dupoux (Ed.), *Language, brain, and cognitive development: Essays in honor of Jacques Mehler* (pp. 379–393). MIT Press.

Sharwood-Smith, M., & van Buren, P. (1991). First language attrition and the parameter setting model. In H. Seliger & R. Vago (Eds.), *First language attrition* (pp. 17–30). Cambridge University Press

Stanovich, K., & Toplak, M. E. (2012). Defining features versus incidental correlates of Type 1 and Type 2 processing. *Mind & Society*, 11, 3–13.

Toukomaa, P. (2000). The linguistic problem child has many names. In R. Phillipson (Ed.), *Rights to language, equity, power, and education* (pp. 214–218). Lawrence Erlbaum Associates.

Tsimpili, I. M. (2017). Crosslinguistic influence is not necessarily attrition. *Linguistic Approaches to Bilingualism*, 7, 759–762.

Van der Lely, H. (2005). Domain-specific cognitive systems: insight from grammatical-SLI. *Trends in Cognitive Science*, 9, 53–59.

Volterra, V., & Taeschner, T. (1978). The acquisition and development of language by bilingual children. *Journal of Child Language*, 5, 311–326.

Werker, J. (2012). Perceptual foundations of bilingual acquisition in infancy. *Annals of the New York Academy of Sciences*, 1251, 50–61.

White, L. (2015). Linguistic theory, universal grammar, and second language acquisition. In B. VanPatten & J. Williams (Eds.), *Theories in second language acquisition* (pp. 34–53).
Routledge.

About the author

Norbert Francis, Northern Arizona University

E-mail: norbert.francis@nau.edu