

## COMMENTARIES

### But first, let's think again!\*

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On the basis of their review of studies, Mayberry and Kluender (2017) propose that the human language learning ability becomes severely compromised if it is not developed in tandem with brain development in early childhood, but that it functions more or less flawlessly, even in adulthood, if language acquisition had at one time proceeded according to the maturational timetable. Mayberry and Kluender therefore suggest that the CRITICAL PERIOD HYPOTHESIS (CPH) for language is unambiguously tied to the timing of L1 acquisition, but that its relevance to L2 acquisition is less clear, the implication being that the well-documented AoA effects in the SLA literature are due to non-maturational (i.e., psychological, experiential, cross-linguistic, etc.) causes.

Mayberry and Kluender's 'proposal' – that late L2 learning is 'scaffolded' by linguistic and neural structures established through prior L1 acquisition – is neither original nor very new. What they are implicitly promoting, without making reference to the literature (e.g., Johnson & Newport, 1989: 63–65), is the 'exercise' version of the CPH (as opposed to the 'maturational state' version).<sup>1</sup> In fact, the whole logic behind their position can be traced back to Lenneberg himself, when he (similarly to Mayberry and Kluender) suggested that "our ability to learn foreign languages tends to confuse the picture [since] most individuals of average intelligence are able to learn a second language after the beginning of their second decade" (1967: 176). However, Lenneberg immediately added that "this does not trouble our basic hypothesis on age limitation because we may assume that the cerebral organization for language learning as such has taken place during childhood, and since natural languages tend to resemble one another in many fundamental aspects the matrix for language skills is present" (ibid.), where 'the

matrix' mirrors Mayberry and Kluender's 'scaffolding' metaphor quite well. In other words, that adults can be quite proficient L2 learners by having at their disposal a set of ready-made linguistic and neurocognitive structures is, in fact, part and parcel of the original CPH. To my knowledge, Lenneberg never suggested that adulthood learning should be impossible – just much trickier than childhood learning. For example, he did not claim that foreign accents are impossible to overcome, only that they "cannot be overcome *easily* after puberty" (ibid., my emphasis).<sup>2</sup> The difference between Mayberry and Kluender's view and that of Lenneberg seems to be whether the post-CP L2 learner should be seen as only FORTUNATE enough (in comparison to the post-CP L1 learner) or perhaps also UNFORTUNATE enough (in comparison to the typical native L1 learner) to learn language on the basis of a fully matured linguistic and neurocognitive infrastructure.

Moreover, the review of studies from Mayberry's lab gives the impression that L2 learners not only outperform L1 learners with delayed exposure, but also consistently perform on par with native-speaker/signer controls. That their groups of L2 learners "performed at near-native levels" (Mayberry and Kluender) is a rather sweeping characterization, to say the least, and mainly for two reasons. First, even though the L2 learners in, for example, Mayberry (1993) and Mayberry and Lock (2003) did indeed (but not always) perform significantly better than the late L1 learners, they did not perform (at least not consistently) like the native controls either. One prevalent pattern (not always statistically significant, but still salient when looking at the trends in the descriptive statistics and graphs) is that the L2 group results on various accuracy and latency measures fall right in-between those of the delayed L1 and native L1 groups.

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<sup>1</sup> Or, as some would call it, the 'use it or lose it' (as opposed to the 'use it, then lose it') version.

<sup>2</sup> Lamendella (1977) even saw the whole idea that nativelike post-CP learning should be a biological impossibility as an unreasonable "strawman form" of Lenneberg's CPH. According to Lamendella, Lenneberg's formulation of the CPH was loose enough to allow for individual variation, including nativelike outcomes, "but in the retelling this fact has often been obscured" (p. 170).

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Second, these studies do not seem to have been designed primarily to discriminate between typical L1 and L2 ultimate attainment, and definitely not between typical L1 and very advanced L2 ultimate attainment. For example, the sentences used in Mayberry and Lock's (2003) grammaticality judgment test were taken from the *Rhode Island Test of Language Structure* (Engen & Engen, 1983), which is a test developed for hearing children aged 3 to 6 and hearing-impaired children aged 3 to 20 (this wider age range presumably due to the more diverse AoA histories among the hearing-impaired) that offers ungrammatical sentences like:

- \*The father an apple is giving the girl
- \*The girl is eating the man is sleeping while

Something tells me that the majority of adult L2 users of average intelligence and with a reasonable amount of experience would not be fooled by most sentences of this kind. In fact, in terms of length and complexity, these sentences are quite reminiscent of those used by Johnson and Newport (1989), whose L2 learners with the lowest AoA (3–7 years) scored at the ceiling. However, these researchers acknowledged that their youngest learners might have scored differently “on a test that included more complex aspects of syntax than our own” (p. 96). If linguistically and cognitively unchallenging language tests with unconscionably low standards for passing are deliberately used to illustrate specifically the severity of being deprived from language exposure altogether during the CP, then fine: I get it! However, using such data as evidence that native L1 and late L2 learning are the same – that L2 learners “perform at near-native levels”, and, ultimately, that the CPH has no bearing on L2 acquisition – is nothing but misguided. If we want to differentiate late L2 learners from typical native speakers or signers, especially if our L2 learners are extremely experienced, exceptionally advanced, and apparently fairly idiomatic in their language use, then the level of scrutiny needs to be turned up, not one, not two, but several notches – because if not, the many less visible signs of AoA effects that are so characteristic of advanced post-CP L2 learning will remain unresearched.

Post-CP L1 learning is clearly different from L1 or L2 learning in early childhood – but so is post-CP L2 learning. Not because the relevant linguistic and neurocognitive structures are missing (as with late L1 learning), but precisely because these are already in place! Children benefit from engaging in “automatic acquisition

from mere exposure” (Lenneberg, 1967: 176) in tandem with brain development, and primarily via a highly effective implicit/procedural memory system, whereas adults have to learn languages “through a conscious and labored effort” (ibid.) by way of an already matured neurolinguistic infrastructure, and primarily via a highly developed explicit/declarative memory system. That late L2 learning, but not late L1 learning, can be “scaffolded” by an already established neurolinguistic structure, or “matrix for language skills”, is merely circumstantial.

In fact, I'm not at all convinced that the evolutionary function of a CP is to develop language-learning skills to be utilized beyond the closure of the CP, no more than the function of a CP for birdsong is for the bird to develop skills for future birdsong learning. The function of a CP for language, more plausibly, is to allow the child to optimally and effortlessly acquire the particular language that happens to constitute his or her linguistic environment, and to do so in parallel with brain maturation. This assumption can be made without denying that scaffolding effects from prior learning may be a huge circumstantial bonus to those (humans, but probably not songbirds) who decide to engage in post-CP learning.

It is certainly true that there may be many aspects of the CPH to rethink. At this point, however, the well-documented AoA effect on L2 acquisition is not one of them.

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