

Second language ultimate attainment: Effects of maturation, exercise, and social/psychological factors

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(Received: January 21, 2018; final revision received: January 22, 2018; accepted: January 22, 2018; first published online 10 April 2018)

Keywords: critical period, maturation effects, exercise effects, ultimate attainment

Mayberry and Kluender (2017) offer a rich review of empirical research that contributes to the understanding of age-related effects on first and second language acquisition. Their keynote article compiles current, primarily linguistic and neurolinguistic, research on the notion of a critical period for language (CPL). The authors conclude “that the putative CPL applies to L1 learning, and that L2 effects are a consequence of this prior learning” (Mayberry & Kluender, 2017: p. 6). As they propose a clear role for CPL in L1 learning, and because their exact position on its role in L2 learning is, to my mind, not as clearly articulated, I will take the opportunity to argue the following: If a CPL exists at all, it should have identifiable implications for all kinds of language acquisition (cf. Gleitman & Newport, 1995). In the case of L2 acquisition what needs to be identified is how maturational constraints (implicated by a CPL) interact with other conditions that are at hand when the second language comes onto the scene.

As a background to my argument it should be mentioned that Johnson and Newport (1989) introduced two conceptions of the critical period hypothesis, the EXERCISE HYPOTHESIS and the MATURATIONAL STATE HYPOTHESIS. The exercise hypothesis states that the capacity for language acquisition, if not exercised in early childhood, will be lost, while the maturational state hypothesis says that any type of language acquisition that does not occur during the critical period will be affected.

Mayberry and Kluender build their argument that CPL is not operative directly in second language acquisition on two major pieces of counter-evidence to the critical period hypothesis. These are (1) the lack of a NON-LINEAR negative correlation between age of onset (AO) and ultimate attainment (UA), and (2) the existence of natively-like post-childhood L2 learners. According to these authors, with respect to (1) above, the majority of studies

suggest a correlation between AO and UA that is LINEAR far beyond any theoretically motivated cut off point for a critical period. For (2), they argue that a considerable portion of post-childhood L2 learners exhibit natively-like proficiency in their L2.

Admittedly, the question of linearity contains an interpretational problem, but a number of the “linear” studies that Mayberry and Kluender draw heavily upon, for example studies based on self-assessment census data, have been convincingly criticized, among other things, for lack of reliability (see Long, 2013, p. 8) and do not therefore provide relevant evidence. On the other hand, studies showing evidence of clear discontinuities (e.g., Abrahamsson, 2012; Abrahamsson & Hyltenstam, 2009; Flege, Yeni-Komshian & Liu, 1999; Granena & Long, 2013), not all of which are included in the review, are given less weight and are not always adequately represented, resulting in biased overgeneralizations such as “all these studies also report linear relationships [...] up into the late twenties” (p. 3).

Likewise, while several studies have identified natively-like post-childhood L2 learners, a number of these studies have been challenged for type II errors: that is, for not identifying an existing difference between native and near-native proficiency, and therefore characterizing near-native L2 speakers as natively-like (see Hyltenstam & Abrahamsson, 2003, also for a definition of ‘near-native’). Unfortunately, in Mayberry and Kluender no obvious distinction is upheld between the categories ‘natively-like’ and ‘near-native’. In Abrahamsson and Hyltenstam (2009, pp. 252–258) we reviewed the incidence of natively-like L2 users that had been proposed in various studies and found that many of them ought rather to have been categorized as near-native. Among other reasons, this was found to be due to undemanding testing, testing of single linguistic features rather than testing ‘across-the-board’ etc. We concluded that “natively-like L2 learners with an AO of

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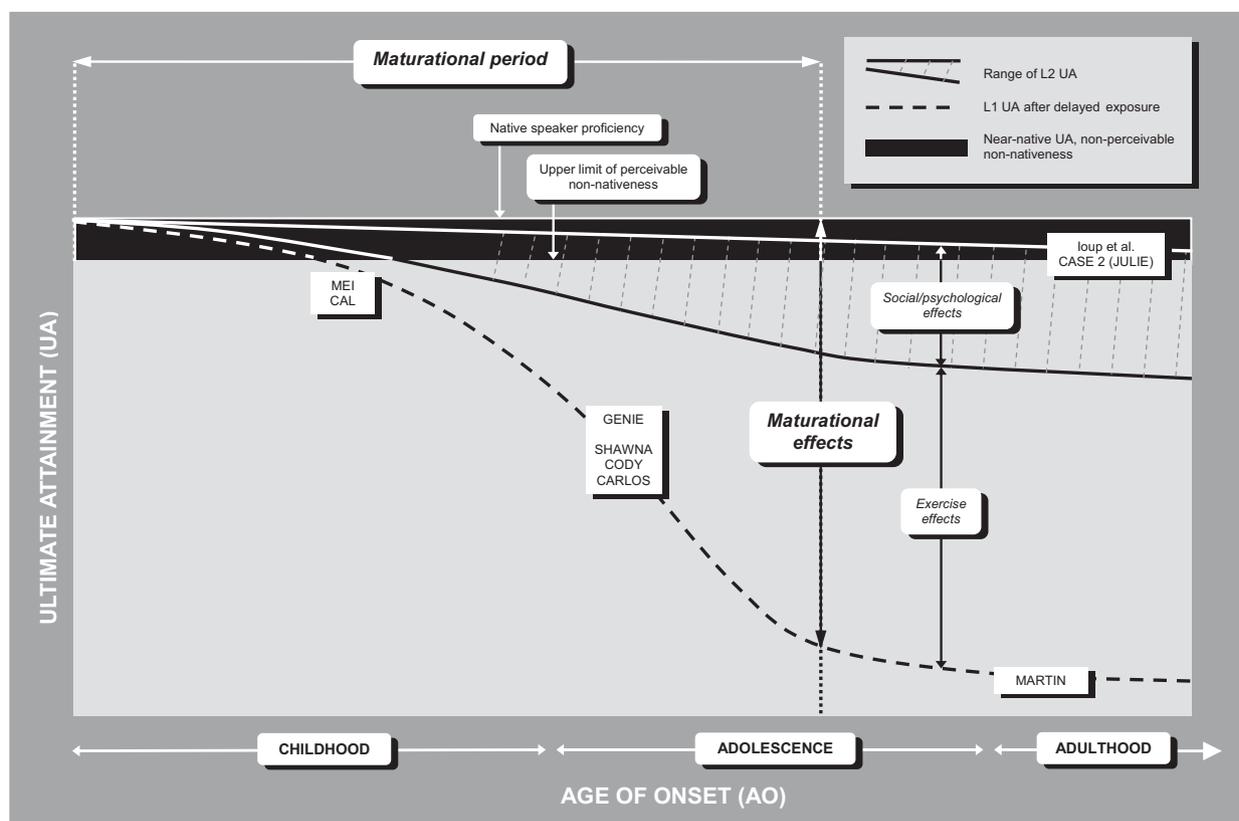


Figure 1. A model of the interplay between maturation, exercise, and social/psychological factors (adapted from Hyltenstam & Abrahamsson, 2003, p. 573). Relevant individual cases mentioned by Mayberry and Kluender are marked in the figure.

acquisition beyond puberty are extremely difficult, or even impossible, to find” (Abrahamsson & Hyltenstam, 2009, p. 257).

In order to tie this together I would like to refer to a model that specifies the interaction of maturation (or CPL) effects, exercise effects and social/psychological factors in defining L2 ultimate attainment under different circumstances (see Hyltenstam & Abrahamsson, 2003, p. 573). In this model (Figure 1), post-childhood L1 acquisition is characterized by the dramatic effects of not having experienced linguistic input during childhood. Post-childhood L2 acquisition consistently ends up at proficiency levels closer to the L1 native level due to the compensatory contribution of having experienced language acquisition during the critical (or sensitive) period. The individual variation in UA among L2 users, ranging from individuals who pass for native speakers to those stabilized at low levels of linguistic complexity, is mainly the effect of social/psychological factors. In particular, language learning aptitude, and certainly motivation to some degree, are involved in determining to what extent a L2 learner attains a near-native level of UA.

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