

## Maturation: For better or for worse?

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Meisel has argued in favour of the Fundamental Difference Hypothesis (FDH), a version of the Critical Period Hypothesis, for L2 acquisition. Most particularly, he has proposed that maturational changes in domain-specific, language learning mechanisms are in evidence as young as four years of age. In a nutshell, the proposal is that for certain domains of morphosyntactic acquisition, if exposure to a language does not begin before 4;0, the developmental sequences will be different from (2)L1, and more like adult L2. Thus, even early child L2 (cL2) can be characterized as fundamentally different from (2)L1 because the configuration of internal learning mechanisms used to develop certain linguistic domains differs between these populations.

The FDH, like all critical period hypotheses, casts maturation of the language making capacity (LMC – to adopt the same terminology as Meisel) in a negative light. In other words, the system is not only changing, it is changing for the worse: what was once possible is no longer possible, such as mastery of a gender system or alleged error-free acquisition of gender. However, neuro-cognitive maturation need not be considered synonymous with a decline in the LMC in all respects. What I focus on in this commentary is the research evidence supporting a maturational perspective that points to how some domains of the system can change for the better. I would like to argue in agreement with Meisel that neuro-cognitive maturation could result in fundamental differences between cL2 and (2)L1 learners. But, at the same time, I would like to highlight reasons why “difference” should not be treated as a euphemism for “deficit”.

Maturational proposals are, of course, not restricted to L2 acquisition, but have also been put forward for L1 acquisition (e.g. Rizzi 1993/1994, Wexler 1998, 2003). Given that in the first five years of life, infants/children are undergoing extensive neuro-cognitive development, it seems only logical to consider that innate linguistic knowledge, together with domain-specific and domain-general learning mechanisms, might be un-

dergoing changes as well. One example of an L1 maturational proposal is the (Extended) Optional Infinitive (EOI) model, which attempts to explain the relatively late acquisition of English tense marking morphology in typically-developing children, and the very protracted acquisition of tense marking morphology in children with specific language impairment (SLI) (e.g. Rice 2003; Rice et al. 1998, Wexler 2003). What is interesting about the EOI model with respect to Meisel's proposal is that neuro-cognitive maturation is assumed to result in the development of better capacities, not in the decline of them. Essentially, Wexler's (1998, 2003) account of the EOI stage is that the early computational system is constrained by principles that make the obligatory use of the tense-marking morphemes in English difficult, and once these constraints fade, children gain the ability to produce sentences with tense-marking morphemes reliably. If the acquisition of tense in languages like English is guided by maturation of the LMC, this would be the case no matter how many languages are being learned by a child, and so it would impact L1, (2)L1 and early cL2. Therefore, a FDH that includes very early retraction of acquisition abilities for certain domains might also need to include the possibility that other abilities could be emergent at the same time.

Let us now consider research on rates of cL2 acquisition, as compared to L1 acquisition, and how this might inform the FDH. Paradis et al. (2008) compared the acquisition of English tense-marking morphemes, both inflections and auxiliaries, in L1, SLI and cL2 acquisition. All groups of children were matched for level of language development through mean length of utterance. The SLI group was the same age as the L2 group, 5;7, and the L1 group had a mean age of 3;0. Regarding the auxiliaries, the L2 children performed similarly in expressive and receptive abilities to the younger L1 peers, and to the SLI age peers, even though they had only, on average, 9.5 months of exposure to English. (Our analyses ruled out potentially enhancing effects of L1 transfer.) In a longitudinal study, Paradis (2008) found that English L2 children, with and without delay/SLI, achieved mean scores of over 90% accuracy with non-tense marking grammatical morphemes in under three years of exposure, possibly more quickly than in L1 acquisition. (But see Jia & Fuse 2007, for evidence that older cL2 learners might take longer.) Golberg et al. (2008) examined receptive vocabulary size in English L2 children over time and found that they nearly caught up to their native-speaker age peers in three years of exposure to English. This finding is remarkable in the sense that vocabulary size is a "moving target" domain for L2 children because monolingual children's vocabularies are increasing throughout the elementary school years. Note that in all these studies, the cL2 learners were only getting part-time exposure

to English, unlike the monolinguals we compared them with. What this suggests is that cL2 acquisition could be faster, or more efficient, than L1 acquisition. More efficient acquisition, in turn, suggests that their LMC could be different. But, difference, in this case, has a positive connotation.

It is important to ask what kind of maturational changes in the LMC could result in faster acquisition rates. A full answer to this question is beyond the scope of this commentary, and is also beyond what the research can definitively tell us at this point. But, I would like to speculate on how greater cognitive and linguistic maturity at the outset of acquisition could be advantageous, even in three- to four-year-old children. Linguistic maturity could be construed narrowly in terms of direct transfer of L1 structures to the L2, but could also be construed broadly in the sense that having an existing linguistic system alters the representational knowledge and procedural mechanisms used to acquire another one. In addition, domain-general, cognitive learning mechanisms might operate more efficiently as a result of both neurological development and experience with primary linguistic input. If this proposal is on the right track, cL2 learners should have a particular advantage over their younger counterparts in acquiring linguistic domains where knowledge can be shared between the two languages, and/or where superior cognitive abilities are required (see also Cummins 1991). Paradis & Schneider (2008) offer evidence that L2 children might be able to pool their resources between their two languages at the cognitive-linguistic interface. We compared cL2 learners, with 9.5 months and 34 months of exposure to English, with groups of monolingual children matched for age. The linguistic variables we examined were story grammar, e.g., children's ability to introduce characters, sequence events, etc., and mean length of communicative unit, a measure of global morphosyntactic acquisition, both from a narrative task. The L2 children easily approached monolingual, age-appropriate norms for story grammar by 34 months, and even came close to approaching them at 9.5 months of exposure. (Note that like vocabulary size, story grammar is a moving target structure in terms of L2 children catching up to their monolingual age peers). In contrast, the L2 children lagged behind their monolingual age peers for mean length of communicative unit at both time intervals. This study suggests that older age of onset might mean more rapid acquisition in the cognitive-linguistic interface domain because knowledge and learning procedures can be shared with, or carried over from, the L1. The L2 children may have lagged behind for mean length of communicative unit because more English language specific morphosyntax is involved, and thus, carry-over from L1 to L2 would have been more limited.

This distinction between the children's acquisition of story grammar on the one hand, and mean length of communicative unit on the other, represents a difference between cL2 and L1 acquisition patterns or profiles. Meisel focuses mainly on patterns in early cL2 acquisition to support his version of the FDH. Let us further explore L1-cL2 comparisons of acquisition patterns/profiles, to understand more about whether maturation causes changes for the better, the worse, or both. Oller et al. (2007) found that when Spanish-English bilingual children were compared to monolinguals in each language, they caught up to the monolinguals for basic phonics skills before catching up for vocabulary size. Consistent with what is described above from Paradis & Schneider (2008), Pearson (2002) found that the story quality scores of narratives produced by Spanish-English bilingual children were more likely to be close to those of their monolingual peers than their morphosyntactic accuracy scores. Paradis et al. (2008), Ionin & Wexler (2002), among others, have found that BE morphemes are acquired much in advance of inflectional morphemes in English L2 but not L1 acquisition. For example, I stated above that the cL2 learners in Paradis et al. (2008) had acquired auxiliaries to a similar level as the L1 control groups, but this was not the case for the inflectional morphemes. Finally, Meisel focuses not only on acquisition patterns generally, but also specifically on whether distinct error types, i. e., gender errors, might be a hallmark characteristic of cL2 versus (2)L1 acquisition. Paradis (2005) and Paradis et al. (2008) found that the relative proportion of omission versus substitution errors was different between the L1 and cL2 acquisition of English tense morphemes. Taken together, these findings provide support for Meisel's proposal that there are differences in the developmental patterns/profiles between (2)L1 and early cL2 acquisition. Also consistent with Meisel's proposal, these findings indicate that not all linguistic domains would be affected in the same way by differences in age of acquisition onset. Indeed, these findings point to inflectional morphology as being relatively more difficult than other linguistic domains for cL2 learners. However, these findings do not support a straightforward maturation-as-deficit model because unique error patterns with certain inflectional morphemes come along with superior acquisition abilities in other respects.

In conclusion, this brief research survey suggests to me that maturation could be for the better and for the worse: the changes in the LMC resulting from linguistic and cognitive maturity could create both enhancements and limitations at the same time. It is important not to over-emphasize the domains where cL2 learners might appear to be at a disadvantage, and place findings such as unique error patterns within a broader context of their language development as whole.

## References

- Cummins, Jim (1991). Interdependence of first- and second-language proficiency in bilingual children. In *Language processing in bilingual children*, Ellen Bialystok (ed.), 70–89. Cambridge: Cambridge University Press.
- Golberg, Heather, Johanne Paradis & Martha Crago (2008). Lexical acquisition over time in minority L1 children learning English as a L2. *Applied Psycholinguistics* 29: 1–25.
- Ionin, Tania & Kenneth Wexler (2002). Why is “is” easier than “s”? Acquisition of tense/agreement morphology by child L2-English learners. *Second Language Research* 18: 95–136.
- Jia, Gisela & Akiko Fuse (2007). Acquisition of English grammatical morphology by native Mandarin-speaking children and adolescents: Age-related differences. *Journal of Speech, Language and Hearing Research* 50: 1280–1299.
- Oller, D. Kimbrough, Barbara Z. Pearson & Alan B. Cobo-Lewis (2007). Profile effects in early bilingual language literacy. *Applied Psycholinguistics* 28: 191–230.
- Paradis, Johanne (2005). Grammatical morphology in children learning English as a second-language: Implications of similarities with Specific Language Impairment. *Language, Speech and Hearing Services in the Schools* 36: 172–187.
- Paradis, Johanne (2008). Tense as a clinical marker in English L2 acquisition with language delay/impairment. In *Current Trends in Child Second Language Acquisition: A Generative Perspective*, Elena Gavruseva & Belma Haznedar (eds.), 337–356. Amsterdam: Benjamins.
- Paradis, Johanne & Phyllis Schneider (2008). Distinguishing bilingual children from monolinguals with SLI: Profile effects on the Edmonton narrative Norms Instrument. Poster presented at the *Symposium on Research in Child language Disorders*, June 2008. University of Wisconsin, Madison, WI.
- Paradis, Johanne, Mabel Rice, Martha Crago & Janet Marquis (2008). The acquisition of tense in English: Distinguishing child L2 from L1 and SLI. *Applied Psycholinguistics* 29: 1–34.
- Pearson, Barbara Z. (2002). Narrative competence among monolingual and bilingual school children in Miami. In *Language and literacy in bilingual children*, D. Kimbrough Oller & Rebecca E. Eilers (eds.), 135–174. Clevedon, UK: Multilingual Matters.
- Rice, Mabel L. (2003). A unified model of specific and general language delay: Grammatical tense as a clinical marker of unexpected variation. In *Language competence across populations: Towards a definition of Specific Language Impairment*, Yonata Levy & Jeannette Schaeffer (eds.), 63–94. Mahwah, NJ: Erlbaum.
- Rice, Mabel L., Kenneth Wexler & Hershberger, Scott (1998). Tense over time: The longitudinal course of tense acquisition in children with specific language impairment. *Journal of Speech, Language and Hearing Research* 41: 1412–1431.
- Rizzi, Luigi (1993/1994). Some notes on linguistic theory and language development: The case of root infinitives. *Language Acquisition* 3: 371–393.
- Wexler, Kenneth (2003). Lennenberg’s dream: Learning, normal language development, and Specific Language Impairment. In *Language competence across populations: Towards a definition of Specific Language Impairment*, Yonata Levy & Jeannette Schaeffer (eds.), 11–62. Mahwah, NJ: Erlbaum.
- Wexler, Kenneth (1998). Very early parameter setting and the unique checking constraint: A new explanation of the optional infinitive stage. *Lingua* 106: 23–79.

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