

## Three perspectives on non-uniform linguistic attainment

David Birdsong  
University of Texas at Austin

### The context: Present, past, and present

Dąbrowska's target article comes at a time when the study of individual differences is a more prominent "in thing" than ever in both native and non-native language studies. For example, the cover of the most recent research report of the Max Planck Institute for Psycholinguistics proclaims: "Individual differences are a hallmark of our language faculty," and an upcoming issue of *Language Learning* is devoted to individual differences in second language learning.

The variable of literacy, which Dąbrowska considers a key element of a range of language-experiential influences on grammar development and language processing, is receiving renewed attention. For example, Huettig, Singh and Mishra (2011) find that high-literate Indian participants are faster than low-literates in directing their gaze to images of objects referenced in spoken sentences. High-literates may be better able than low-literates to use grammatical and semantic information from sentence context to predict upcoming words.

The skills that might underlie language development — and individual differences in the trainability of such skills — are actively investigated these days as well. Chandrasekaran et al. (2010), looking at the L2 acquisition of Mandarin pitch tone, found that individuals who were successful in the task attended to the direction of pitch contour change, and were also more trainable in pitch direction detection than less successful participants. Individual differences in the acquisition of L2 linguistic tones appear to be related to superior neural representation of pitch patterns in the inferior colliculus (Chandrasekaran et al., 2011).<sup>1</sup>

Of course, inter-individual variability in language skills, academic achievement, intelligence, trainability, and literacy has not been ignored over the years. With respect to the literacy factor, for example, Fletcher (1981) showed in a picture

verification task that, by age 11, good readers display a comprehension accuracy of 92% for double object sentences like “he is showing her the baby pictures” versus “he is showing her baby the pictures,” whereas poor readers at this age perform at only a 76% accuracy level. (At age 5.5, the respective levels for good and poor readers are 58% and 57%; at age 8.5, the respective levels are 76% and 76%.) Nor has the connection between such inter-individual differences and grammatical theory been ignored. In fact, around this time Chomsky (in Piattelli-Palmarini, 1980, p. 176) memorably weighed in on the topic, noting there is evidence for different steady state grammars among individuals as a function of education. Chomsky went on to observe that “it is entirely conceivable that some complex structures just aren’t developed by a large number of people, perhaps because the degree of stimulation in their external environment isn’t sufficient for them to develop.”

Thirty-odd years later, scientific interest has cycled back to precisely this issue. With new evidence and thoughtful argumentation, Dąbrowska’s target article compels us to consider afresh the sources of individual differences in grammatical attainment, as well as their theoretical and methodological consequences.

### Coming clean

Dąbrowska (p. 1) pointedly references my assertion of uniform success in L1A and variability of outcomes in L2A (Birdsong, 2004, p. 83).

In this and other publications, I rhetoricized a stark contrast in L1 versus L2 attainment, mainly to lay things out in seductive, “big-issue” terms. Further, in making reference to uniform success in L1A, I gave an implicit nod toward nativist explanations for L1 attainment, whereas in referencing variable outcomes in the L2A context I left the impression that straightforward translations of L1A theory to L2A theory might not be a good fit for the phenomenon. Dąbrowska rightly observes that my characterizations of uniformity in L1 attainment were too pat, the framing of the issues oversimplified and possibly misleading.

As it turns out, however, elsewhere I’ve made a point of discussing individual variation among native speakers. For example, in Birdsong (1992) I suggested — contradicting my remarks about uniform L1A success in the opening paragraph — that “the putative ‘ultimate attainment’ of one group of native speakers may be different from that of another group of natives” (p. 707). In the same article, discussing the use of mean scalar grammaticality judgments to establish a rating norm, I expressed concern about observed intra-group variability (among both natives and non-natives): “To use a mean as a norm in such cases of great variability is to pervert the notion of norm: deviance from the mean is the ‘norm.’” (p. 723). And in Birdsong (1989, pp. 31–47; 175–176), I considered non-uniform

competence at some length, and examined the role of literacy and other experiential factors in variable native-language outcomes.

In positing opposing characterizations of ultimate attainment, my argumentation (both across and within articles) has been inconsistent. Dąbrowska's article has led me to own up to my contradictions.

### What variation in native-speaker outcome means for L2A research

If variability is to figure in any accurate characterization of L1 attainment, then comparisons of L2ers with natives must become more nuanced.

It's well known that comparisons of monolinguals and L2ers (including late and early bilinguals) can be problematic. To take one example, researchers often cite differences between the groups as supporting evidence for a critical period for L2A. Those who engage in this practice don't always take into account reciprocal L1-L2 influences that are inherent in bilingualism and that make both languages different from the language of a monolingual. This phenomenon makes it unreasonable to generalize L2ers' departures from monolingual behavior as arising from learning-mechanism deficits (Birdsong, 2005, pp. 323–324; Ortega, 2009, p. 27). In a similarly problematic way, native speaker variability poses challenges for deficit models of L2 attainment. How exactly does one incorporate variability into a theory of deficits? How does one define the native-speaker 'target' that learners are presumably aiming at, and presumably fall short of? Does it count as a deficit when L2er behavior on a given task is less variable than that of natives? From an L2 learning-theoretic perspective, in what domains of language knowledge and use do inter-individual differences (and departures from natives) matter? For example, recently-studied domains such as quantifier scope, ambiguity resolution, and knowledge of proverbs and idioms are likely to differ from one another in terms of the probability, magnitude, and sources of inter-individual differences. (Moreover, it's hard to conceive of a maturational basis for 'deficits' across varied domains. Limited knowledge of proverbs, for example, would seem to reflect limited experience within a linguistic culture, not a deficient language-learning mechanism.)

As Dąbrowska makes plain, in any number of linguistic domains we may anticipate effects of experience (particularly schooling and reading) as well as metalinguistic awareness. Along these lines, another subject variable that may be at play is the degree of L2 versus L1 dominance in bilinguals, suitably operationalized and assessed (Birdsong et al., 2011). (See Mack (1989) for early references to individual differences relating to relative L1-L2 dominance.)

## Conclusion

As the author of a target article should do, Dąbrowska plants a lightning rod amid controversial issues and potentially inconvenient truths. Beyond this, Dąbrowska prompts language researchers to consider a fundamental question: Should we skirt around tasks, structures, and populations where native-speaker variability is commonplace, or should we embrace them? Arguably, the latter is the richer way to go.

## Note

1. Expanding the scope of inquiry beyond tone acquisition, Kanai and Rees (2011) look at the broad themes of perception, motor control, and memory, and attempt to identify brain-structure correlates of inter-individual differences in these areas using voxel-based morphometry and diffusion tensor imaging. Notably, the authors are keen on pointing out the perils of discounting individual variations as noise. Of course, there's nothing novel about drawing attention to averaging effects in group data. What's different now, as one reads Kanai and Rees (2011), is the sense that neuroscience is paying serious attention not only to the brain structures and their associated behaviors that people have in common, but also to those that make us different from one another.

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*Author's address*

David Birdsong  
University of Texas at Austin  
Department of French & Italian, B7600  
Homer Rainey Hall 2.114  
AUSTIN, TX 78712  
USA

birdsong@austin.utexas.edu

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