

## **A NEW HOPE (FOR COMMON GROUND)? CONVERGENCES BETWEEN BIOLINGUISTIC AND USAGE-BASED APPROACHES TO LANGUAGE AND ITS EVOLUTION**

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Approaches to the study of language and its evolution are often conceptualized as belonging to one of two general theoretical frameworks: that of generative biolinguistics on the one hand (e.g. Boeckx & Grohmann 2013), and usage-based and emergentist approaches on the other (e.g. MacWhinney & O'Grady 2015). Biolinguistics traditionally stresses the language-specific genetic foundation of language and tends to adopt the theoretical commitments of generativism and the minimalist program. Usage-based and emergentist approaches, on the other hand, stress the importance of domain-general cognitive capacities, cultural factors, and interaction. For this reason they are often seen as two opposing, and seemingly irreconcilable 'camps.' In this paper, however, we argue that there have been a number of recent developments in both paradigms which suggest that biolinguistic and usage-based and emergentist approaches are actually converging on a number of key issues (also see Pleyer & Hartmann 2019). As we argue, these developments offer the potential for establishing common ground between the two approaches and offer an important step in opening up a productive dialogue on the nature of language and the factors that shape it. The fact that there are convergent trends in biolinguistics and usage-based and emergentist approaches therefore brings us closer to working towards an integrated view of language evolution, acquisition, and processing (cf. Christiansen & Chater 2016).

The convergences we observe relate to three domains specifically: a) the brain mechanisms involved in language and the degree to which the brain is specialised for processing language, b) the dynamic relationship of biology,

experience and culture in the acquisition of language, and c) the interaction of cultural and biological factors in the evolution of language.

Regarding the first point, the issue of modularity and domain-specificity, many proponents of the two approaches have come to appreciate the fact that domain-general mechanisms play an important role in language. The neural systems involved in language overlap to a significant degree with other functions and tasks, and non-linguistic and linguistic activities often recruit the same neural systems. In addition, cognitive science as a whole has moved beyond simplistic conceptions of encapsulated modules, stressing instead the distributed and overlapping nature of neural and cognitive activity. As a consequence, both biolinguistics and usage-based and emergentist approaches are not asking how the modular ‘language organ’ (Anderson & Lightfoot 2002) came into existence but instead are taking a ‘mosaic’ view of the evolution of the different components that make up the language ready brain (e.g. Benítez-Burraco & Boeckx 2014).

Secondly, both approaches are beginning to integrate more sophisticated and complex views of the process of language emergence into their frameworks. Both approaches have recently been influenced by the complex adaptive systems view of language (e.g. Beckner et al. 2009, Steels 2011), *evo-devo* (e.g. Benítez-Burraco & Boeckx 2014; Balari & Lorenzo 2016) and niche construction theory (Laland et al., 2008; Sinha 2009), as well as developmental systems and dynamic systems theory (e.g. Overton 2015). These frameworks all stress the dynamic interplay of biology, environment, culture and interaction in ontogeny and evolution. Both biolinguistics and usage-based and emergentist approaches have therefore moved away from simplistic views of ‘innateness’ and towards characterizing the complex, dynamic developmental and co-evolutionary web of language evolution.

This also has direct implications for discussions of the role and relationship of biological and cultural evolution in the evolution of language. Experimental and modelling research in evolutionary linguistics has shown the importance of cultural and ‘glossogenetic’ factors (e.g. Steels 2011; Kirby 2017), a fact also increasingly appreciated in the biolinguistic literature (Boeckx 2017; Adger 2017). Such work can be seen as the foundation for more fruitful and focused dialogue regarding the biologically evolved aspects of language-readiness and the aspects of language shapes through processes of cultural transmission and change.

Of course, it has to be acknowledged that more traditional views of these issues still persist in certain strands of biolinguistics (e.g. Crain et al. 2016). Conversely, in usage-based and emergentist approaches, there are more radical

strands much less amenable to finding common ground (e.g. Ambridge 2019). However, overall, we argue that in both paradigms, many researchers have come to embrace more complex views of these issues, enabling a more focused and productive debate over ‘the evolved phenotype of language’ (Balari & Lorenzo 2016) and the evolution of the language-ready brain and the interplay of cultural and biological evolution.

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