

## **Different Time-Scales, Common Mechanisms: Toward an Eco-Cognitive Account of Language Dynamics**

No scholar of any theoretical persuasion would ever deny that language develops and evolves over time. Nevertheless, there is no consensus on the nature of language dynamics; in particular, there is a striking contrast between advocates of formal vs functional approaches to the study of language change (e.g. Lightfoot 1991; Fischer et al. 2000; Bybee 2003; Hopper and Traugott 2003). The present paper will tackle the issue of how language changes at two different levels of inquiry: ontogenesis and phylogenesis. I will propose that, while these two dimensions may not completely overlap in regard to the evolution paths they follow, it seems sensible to posit that the mechanisms which underpin these patterns are basically the same. Adopting an empiricist approach which is firmly grounded in the Cognitive Linguistics tradition (Langacker 1987; Goldberg 1995; Croft 2001; Tomasello 2003) and driven by the principles of Dynamic Systems Theory (e.g. Thelen and Smith 1994; Kelso 1995; Spivey 2007; Rączaszek-Leonardi and Kelso 2008), I will argue for an integrated, unified account of both ontogenetic development and phylogenetic evolution of the linguistic system. Accordingly, I will draw the conclusion that the dynamics of language can be seen as the same at both time-scales, thus arguing that the linguistic system may be seen as showing a fractal architecture, with each dimension resembling each other and the structure of the entire system. As language is seen, in an ecological perspective, as constantly interacting with other cognitive systems, this conclusion may be extended to the nature of cognition as whole.

### References

- Bybee, Joan L. (2003). Cognitive Processes in Grammaticalization. In M. Tomasello (ed.), *The New Psychology of Language. Cognitive and Functional Approaches to Language Structure*, vol. 2. Mahwah, NJ: Lawrence Erlbaum Associates. 145-168.
- Croft, William. 2001. *Radical Construction Grammar. Syntactic Theory in Typological Perspective*. New York: Oxford University Press.
- Golberg, Adele E. 1995. *Constructions. A Construction Grammar Approach to Argument Structure*. Chicago: University of Chicago Press.
- Fischer, Olga, Ans van Kemenade, Willem Koopman, and Wim van der Wurff. 2000. *The Syntax of Early English*. Cambridge, UK: Cambridge University Press.
- Hopper, Paul J., and Elizabeth C. Traugott. 2003 (2<sup>nd</sup> ed.). *Grammaticalization*. Cambridge, UK: Cambridge University Press.
- Kelso, J.A. Scott. 1995. *Dynamic Patterns. The Self-Organization of Brain and Behavior*. Cambridge, MA: MIT Press.
- Langacker, Ronald W. 1987. *Foundations of Cognitive Grammar*, vol 1. *Theoretical Prerequisites*. Stanford, CA: Stanford University Press.
- Lightfoot, David. 1991. *How to Set Parameters. Arguments from Language Change*. Cambridge, MA: MIT Press.
- Rączaszek-Leonardi, Joanna, and J.A. Scott Kelso. (2008). Reconciling Symbolic and Dynamic Aspects of Language. *Toward a Dynamic Psycholinguistics. New Ideas in Psychology* 26 (2): 193-207
- Spivey, Michael J. 2007. *The Continuity of Mind*. New York: Oxford University Press.
- Thelen, Esther, and Linda B. Smith. 1994. *A Dynamic Systems Approach to the Development of Cognition and Action*. Cambridge, MA: MIT Press.
- Tomasello, Michael. 2003. *Constructing a Language. A Usage-Based Theory of Language Acquisition*. Cambridge, MA: Harvard University Press.