

Emergent grammars and the dynamics of language acquisition: an application of Dynamical Systems Theory to grammar construction

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In this presentation, I advocate for a new take on grammar construction that incorporates conceptual insights from Dynamical Systems Theory (DST), a branch of mathematics describing the development of complex systems. I assume here Chomsky's (2005) Three Factors approach, as well as neo-emergentist approaches to language variation, which put forward a radically impoverished Universal Grammar (Biberauer's 2011, et seq., Maximise Minimal Means model; cf. also Ramchand and Svenonius 2014, Wiltschko 2014, 2021, for comparable approaches). Taking as a point of departure a maximally poor set of starting conditions (Universal Grammar) and the assumption that there exists a third-factor principle that aims to maximise minimal means, I then show how DST can complement these perspectives on learnability. I suggest the working hypothesis that grammar construction displays the signature properties of Complex Adaptive Systems (CASs). To support this claim, I will establish parallels between several hallmarks of CASs and the developmental picture predicted by neo-emergentist models, and I will offer one possible theoretical implementation of DST in this context. Finally, I will also discuss the acquisitional and theoretical consequences of the proposal and outline some of its predictions for syntax, phonology, and language variation.

References

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