

Language in the brain as a dynamic, information theoretic system

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Numerous advances have been made in recent years in understanding language systems at different levels of biological abstraction. Dynamical systems theory is a powerful, relatively new branch of mathematics which has revolutionized scientific understanding in a range of disciplines. This talk highlights the work of countless others who have shown the usefulness of this branch of mathematics, and theoretical frameworks derived from it, for understanding natural and cognitive phenomena. While some researchers have been pioneers in applying dynamical systems approaches to language systems, it is argued that there is considerable untapped potential for insights to be gained by applying such methods in various subdisciplines within linguistics. Moreover, exciting avenues for future advances appear to be emerging at the intersection of dynamical systems, information theory, and neuroscience; this crossroads appears to hold potential for insights spanning the gamut from linguistic abstractions on the one hand, to how language is processed at the level of neurons on the other.