Structure & content in real time:
an integrated theory of syntax

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A successful syntactic theory provides insight into the creative machinery of language. However, there is an apparent fundamental divide among current syntactic theories. Mainstream Generative Grammar uses the simplest possible building blocks and provides a theory of the nature of syntactic structure, but its connection to real-time sentence processing is entirely unclear. On the contrary, “lexicalist” grammatical theories posit structurally complex building blocks and connect well with real-time sentence processing but lack insight into the origin of these structures.

In this talk I propose an integration of these two approaches: a Minimalist Grammar as a system of conceptual-semantic combination that generates syntactic objects, and Tree-Adjoining Grammar as a system that makes efficient use of these objects during comprehension and production. I provide evidence for this integrated framework with neuroimaging experiments that localize these systems to distinct anatomical locations of the brain. I also present neuroimaging data that support the integrated approach to an important problem for syntactic theory: island phenomena. I will discuss how the integrated approach facilitates communication among syntactic theory, psycholinguistics, and neurolinguistics, and potentially allows for better understanding of language acquisition and language disorders.