



Tuesday, June 24th, 15:30-16:00, room 201

Francis X. **Altomare**  
University of Miami

## **The Complexity of Influence: Semiosis, Coordination Dynamics, and the Co-Evolution of Language and Culture**

**Keywords:** coordination dynamics, semiosis, complex systems theory, cultural evolution, consilience

Language and culture have long been posited to be inextricable from one another, bound via common tectonic processes even as they diverge in structure and function; however, the fundamental process of semiosis underlying these two phenomena has tended to be discussed in vastly disparate terms. One exception can be found in the emerging paradigm of complex systems theory, which describes language as a self-organizing system rooted in an intricate network of cognitive, social, and cultural parameters. My paper explores contemporary adaptations of complex systems theory to cultural dynamics, paying particular attention to the possibility that language and culture are coupled systems operating on identical fundamental principles. Specifically, I discuss language and culture in terms of coordination dynamics, an increasingly influential paradigm in the cognitive sciences that models complex systems as synergistic feedback loops. This approach is both holistic in its attention to complete systems and reductionist in its attention to microdetails. Nevertheless, cognitive studies adopting this paradigm possess a surprising comprehensiveness, despite the technical quantitative methods involved, and data suggest that this approach might be extrapolated beyond cognition to higher-order processes such as culture. By connecting the propositions of coordination dynamics with similar ideas such as anthropologist Gregory Bateson's ecology of mind and Douglas Hofstadter's strange loop theory, I argue that language and culture are semiotic phenomena that might be explained through coordination dynamics and its concomitant theoretical frameworks. As such, both language and culture can be schematized as self-organizing, recursive, self-reinforcing feedback systems, participating in heterarchical networks of interactions to produce startlingly novel combinations from a finite symbol set. This theory builds upon earlier structural-linguistic models such as generative grammar, but adds to this the robust findings of contemporary complex systems research. My paper is thus the first to discuss the relationship between language and culture in coordination-dynamical terms, and in doing so positions this discourse at the nexus of anthropology, linguistics, and the cognitive sciences. I also propose that connecting a coordination-dynamical model of language and culture with broader theoretical models from literary theory and philosophy points the way toward the only viable path for a consilient and rigorous theory of evolving semiotic systems—without losing sight of the intrinsically human dimensions of language as both a vital social tool and a fundamental structural component of consciousness.