The psychological reality of local syntactic coherences

Most current psycholinguistic models of sentence comprehension rest on the assumption that each new word is integrated into a fully connected structural representation in a strictly incremental fashion. The assumption is grounded in principles of economy and rationality: Immediate integration narrows down processing alternatives and keeps processing and memory burdens low. I will present experimental results indicating that locally coherent but ungrammatical word sequences in spoken sentences interfere with the global interpretation. The results suggest that local syntactic coherences are not only processed at a syntactic level but also interpreted on-line. Despite their apparent indication of irrationality, I will demonstrate how these results are predicted by dynamical systems accounts. I will argue that local coherence processing can be considered a natural side-effect of language acquisition and still functional as fast and frugal heuristics.