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Title: Syntactic Shapes

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By analyzing language as a network of words with links corresponding to transitional probabilities, this paper will establish that English syntax forms a small world network whose properties derive from the optimization of link cost and word connectivity (Mathias & Gopal 2001). As such, the distributional patterns of syntax are not language-specific but are found in other small world systems. In agreement with Croft (2001), constructions, not categories, form the syntactic primitives of language. Moreover, language-particular constructions are represented in the language network by recurrent link pathways, creating basic abstract shapes known as “network motifs” (Milo, Shen-Orr, Itzkovitz, Kashtan, Chklovskii & Alon 2002). The same network motifs that represent English constructions are also found in other information processing systems (Milo *et al* 2002). Consequently, the abstract nature of syntax is not categorial but rather non-reductionist; syntax being represented by the overlapping pathways of shapes that extend throughout the language network. In respect to child language, I will demonstrate that the shapes that sweep through an adult’s language network are also found in a child’s language network; the disparity between a child and an adult utterance being due to factors such as vocabulary size.

References:

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