Impossible Languages and the Architecture of Human Grammars

Andrea Moro

Scuola Universitaria Superiore IUSS Pavia, Italia

`andrea.moro@iusspavia.it`

Abstract

Every human language meets a set of formal principles such as recursion. Are the boundaries of Babel cultural, conventional, accidental or neurobiological? By testing the brains network activations to the acquisition of artificial "impossible languages" with neuroimaging techniques it has been possible to provide strong evidence in favor of a neurobiological explanation. Along with network activations, the first experiments at deciphering the neuronal electrophysiological code underlying language are illustrated, in particular those recording the "sound of thoughts" in inner speech.