A neuroconstructivist, transdiagnostic view of Developmental Language Disorder

Gert Westermann & Samuel Jones

Lancaster University, Bangor University

Developmental Language Disorder (DLD), which is characterized by delayed language acquisition profiles, lower spoken word recognition accuracy, word finding difficulties and attention deficits, affects approximately 7% of all children. Nevertheless, the origins of this developmental disorder are elusive. Here we present a mechanistic view of how DLD could arise, taking a neuroconstructivist perspective and using computational modelling to describe the path from early small deviations in auditory processing to higher level language problems. We show that low level deficits in auditory representations can lead to noisy lexical representations, and these sub-optimal representations overload working memory capacity and impair sentence processing. We extend these findings to a transdiagnostic view of how rational learners might disengage from the information sources that they find difficult to process, further exacerbating the deficits that characterise a specific disorder. Together, this approach highlights the strength of taking a neuroconstructivist approach to developmental disorders.