

Controversy on temporal cortical terminations of the arcuate fasciculus: a reappraisal

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Current models of language function have moved from a strict Broca-Wernicke duality to a dual stream model where language function is orchestrated in a cortically-driven, sharply distinct dorsal route for action and a ventral route for meaning. In this talk, I will discuss evidence from white matter stimulation for an expansion of a dorsal stream pathway, the arcuate fasciculus, in classically-conceived ventral stream cortices. I will then use this evidence to criticise a rigid dorso-ventral cortical division in favour of a graded network distinction where a) functionally separated dorsal and ventral white matter pathways converge into cortical hubs for integration b) convergence into cortical hubs suggests a posteroanterior cortical division of labour into perception to action, reconciling the stream model with classical models of aphasiology.