Modelling the relation between gesture and speech in aphasia.

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Data from speakers with aphasia are an invaluable source of information for evaluating models of gesture and speech. In my talk, I will discuss four influential models of gesture and speech that were originally formulated for healthy speakers, and evaluate them for their ability to accommodate some central findings from research about iconic gestures and speech in Broca's type aphasia. The most important finding of these is that although the general speech and gesture rate in speakers with nonfluent aphasia is notably lower, the people with aphasia produce more iconic gestures *per word*. The models I will discuss are a) McNeill's (1992) "Growth Point" (GP) Theory, b) The "Lexical Access Model" by Krauss, Chen & Gottesmann (2000), c) the "Sketch Model" by De Ruiter (2000), and the "Interface Model" by Kita & Özyurek (2003). Close inspection of the processing assumptions of these four models reveals that they can be reduced to two: one is the Lexical Access Model, and the other the GP/Sketch/Interface Model. Both these models can accommodate the basic gesture and speech findings from Broca's type aphasia, but do so in a different way. The Lexical Access model assumes that gestures are made to compensate for word finding problems by facilitating lexical access, while the GP/Sketch/Interface model can explain the findings by assuming that speakers with nonfluent aphasia adapt to problems in their morphosyntactic processing by producing smaller speech units. I will argue that both accounts can adequately accommodate the aphasia findings, but that the account of the GP/Sketch/Interface model is preferable on the basis of the available evidence so far.