

Apraxia: a gestural or a cognitive disorder?

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R sum  en
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Sir, We read with great interest the article by Buxbaum et al. (2014) about the critical brain regions for tool-related and imitative actions. The authors performed voxel-based lesion-symptom mapping with data from 71 left brain-damaged patients. Three types of actions were examined: (i) pantomime to sight of tools (GestTool); (ii) pantomime on imitation (ImTool); and (iii) imitation of meaningless gestures (ImNov). Impairments in all three of the gesture tasks were associated with lesions in left middle and inferior temporal and inferior parietal regions. Moreover, tool-related actions (both GestTool and ImTool) were dependent on left middle and inferior temporal lobe, whereas imitation of meaningless gestures (ImNov) was dependent on left inferior parietal regions. From these findings, the authors drew two conclusions. First, the left inferior parietal lobe might be the basis for the kinematic component of the praxis system, useful for planning movement trajectories in terms of extent, direction and timing. Second, middle and inferior temporal regions might support representational components of the praxis system (e.g. the arm and hand posture associated with the use of a hammer). Note that these conclusions lead to a profound revision of Buxbaum's initial (2001) model. In this model, the left inferior parietal lobe was viewed ...

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