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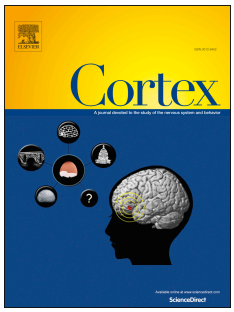

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Neural Networks Supporting Audiovisual Integration for Speech: A Large-Scale Lesion Study

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Significance Statement: The physical environment is perceived through different sensory channels that must be integrated into a single coherent percept. An everyday example of such integration is speech, where auditory and visual ("lip reading") cues are integrated to yield a substantially enhance percept. Using both matching and mismatching audiovisual speech cues (the later resulting in an illusory percept) we studied the neural basis of multisensory integration in 100 stroke patients--the first such study--thus revealing the brain networks responsible. We find surprisingly that not all multisensory tasks tap into the same brain circuits but identify a core network responsible for stitching together our sensory experience.

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