

BRIEF SUMMARY

Schacter, D. L., Buckner, R. L., & Koutstaal, W. (1998). Memory, consciousness and neuroimaging. *Philosophical Transactions of the Royal Society of London, B*, 353, 1861–1878.

Neuroimaging techniques that allow the assessment of memory performance in healthy human volunteers while simultaneously obtaining measurements of brain activity in vivo may offer new information on the neural correlates of particular forms of memory retrieval and their association with consciousness and intention. We consider evidence from studies with positron emission tomography and functional magnetic resonance imaging indicating that priming, a form of implicit retrieval, is associated with decreased activity in various cortical regions. We also consider evidence concerning the question of whether two components of explicit retrieval — intentional or effortful search and successful conscious recollection — are preferentially associated with increased activity in prefrontal and medial temporal regions, respectively. Last, we consider recent efforts to probe the relation between the phenomenological character of remembering and neural activity. In this instance we broaden our scope to include studies employing event-related potentials and consider evidence concerning the neural correlates of qualitatively different forms of memory, including memory that is specifically associated with a sense of self, and the recollection of particular temporal or perceptual features that might contribute to a rich and vivid experience of the past.

KEYWORDS: neuroimaging, episodic memory, memory retrieval, priming, frontal lobes, hippocampal formation
