

Prefrontal cortex



Certain cortical areas of the [frontal lobe](#) which are included in the [limbic system](#) on functional grounds and by virtue of their hypothalamic and amygdaloid connections must also be considered part of the prefrontal cortex if the latter is defined as the projection field of the mediodorsal thalamic nucleus (MD).

The prefrontal [cortex](#) (PFC) is the [cerebral cortex](#) which covers the front part of the [frontal lobe](#). The PFC contains [Brodmann areas](#) 9, 10, 11, 12, 46, and 47.

see [Ventromedial prefrontal cortex](#).

see [Medial prefrontal cortex](#).

An article of Shallice et al. reviews the effects of lesions to the [frontal cortex](#) on the ability to carry out active thought, namely, to reason, think flexibly, produce strategies, and formulate and realize plans.

They discuss how and why relevant neuropsychological studies should be carried out. The relationships between active thought and both intelligence and language are considered. The following basic processes necessary for effective active thought are reviewed: concentration, set switching, inhibiting potentiated responses, and monitoring and checking. Different forms of active thought are then addressed: abstraction, deduction, reasoning in well-structured and ill-structured problem spaces, novel strategy generation, and planning.

They conclude that neuropsychological findings are valuable for providing information on systems rather than networks, especially information concerning prefrontal lateralization of function. They present a synthesis of the respective roles of the left and right lateral prefrontal cortex in active thought. Expected final online publication date for the Annual Review of Psychology Volume 69 is January 4, 2018. Please see <http://www.annualreviews.org/page/journal/pubdates> for revised estimates ¹⁾.

Prefrontal cortex damage

[Prefrontal cortex damage](#).

¹⁾

Shallice T, Cipolotti L. Prefrontal Cortex and Neurological Impairments of Active Thought. Annu Rev Psychol. 2017 Aug 16. doi: 10.1146/annurev-psych-010416-044123. [Epub ahead of print] PubMed PMID: 28813204.

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