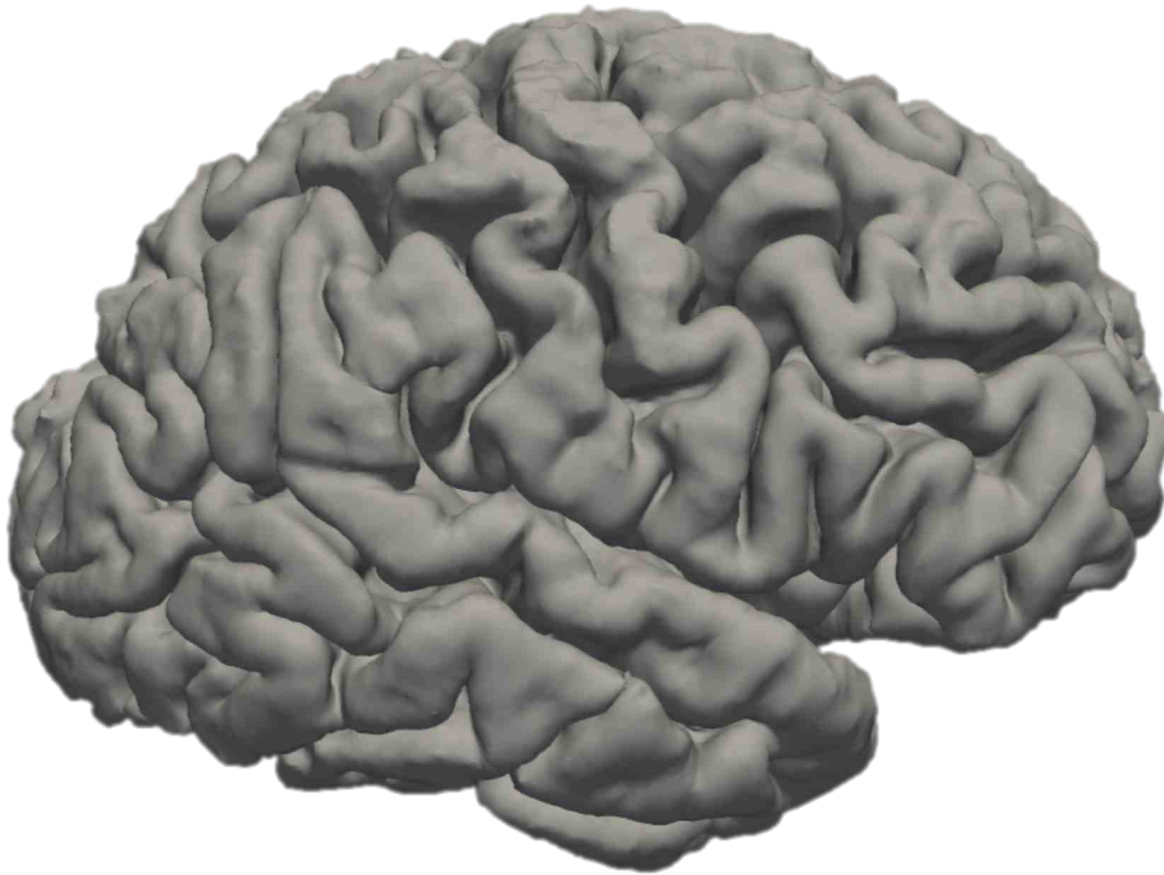


Surface anatomy of the brain and landmarks

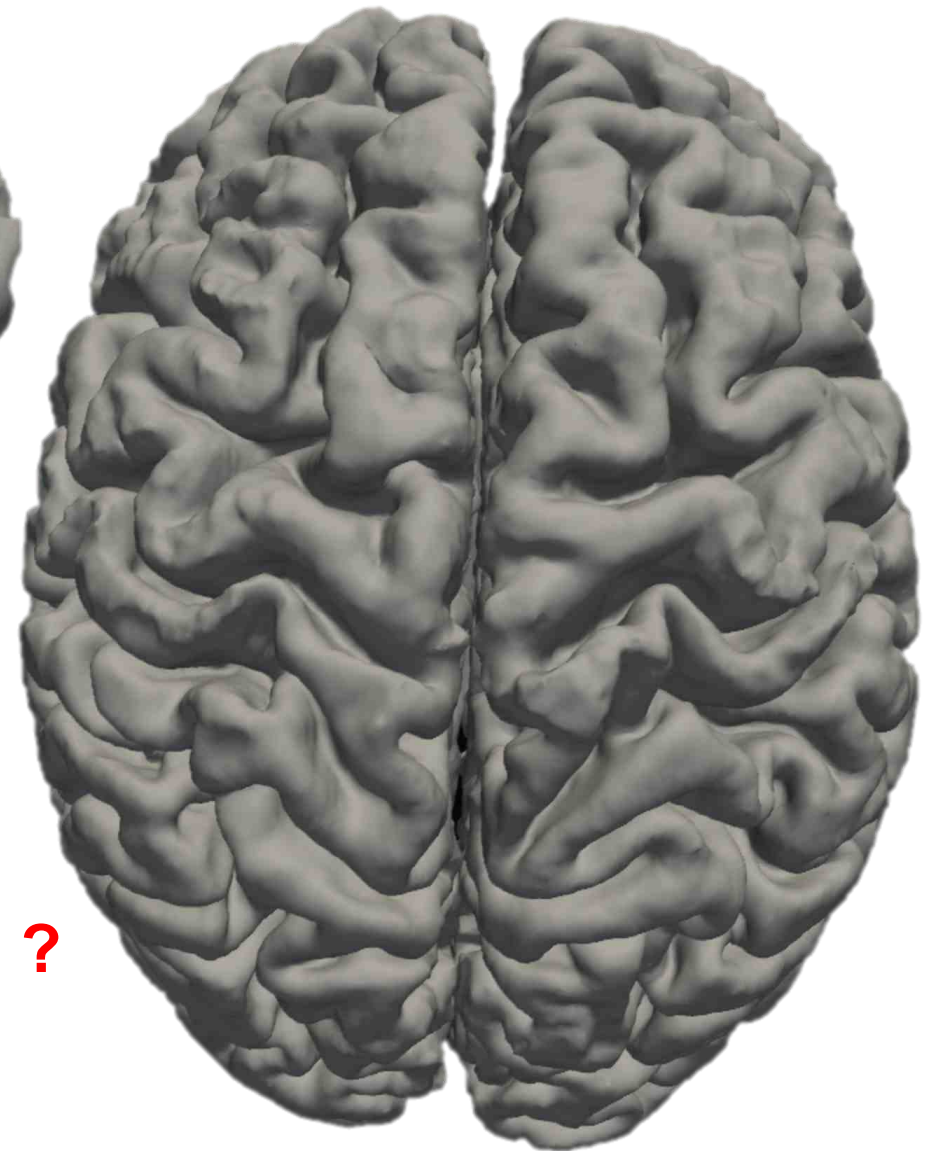
Svenja Caspers, *MD, PhD*

Institute of Neuroscience and Medicine (INM-1), Research Centre Jülich

The surface of the brain



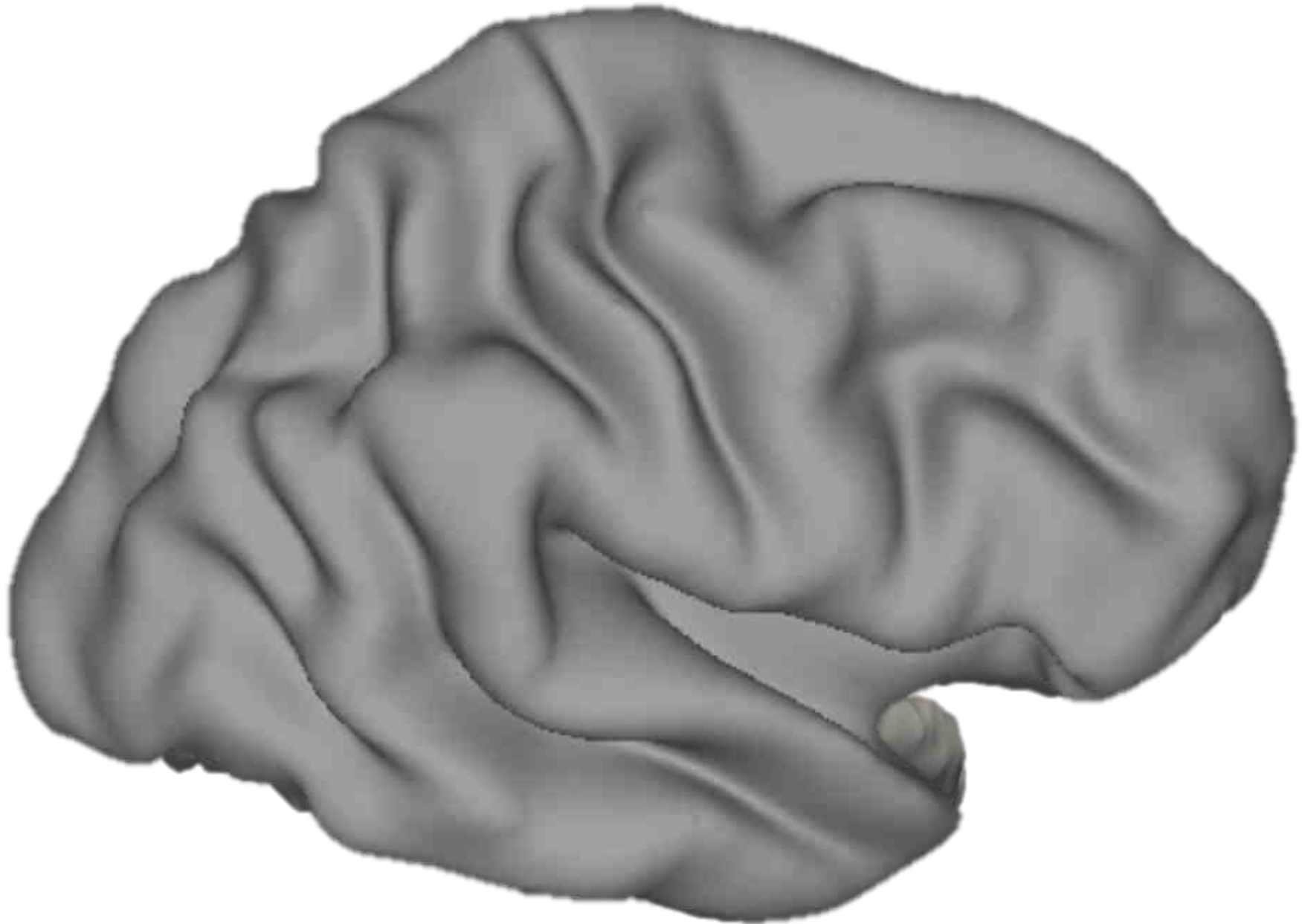
- highly folded
- folding: high interindividual variability



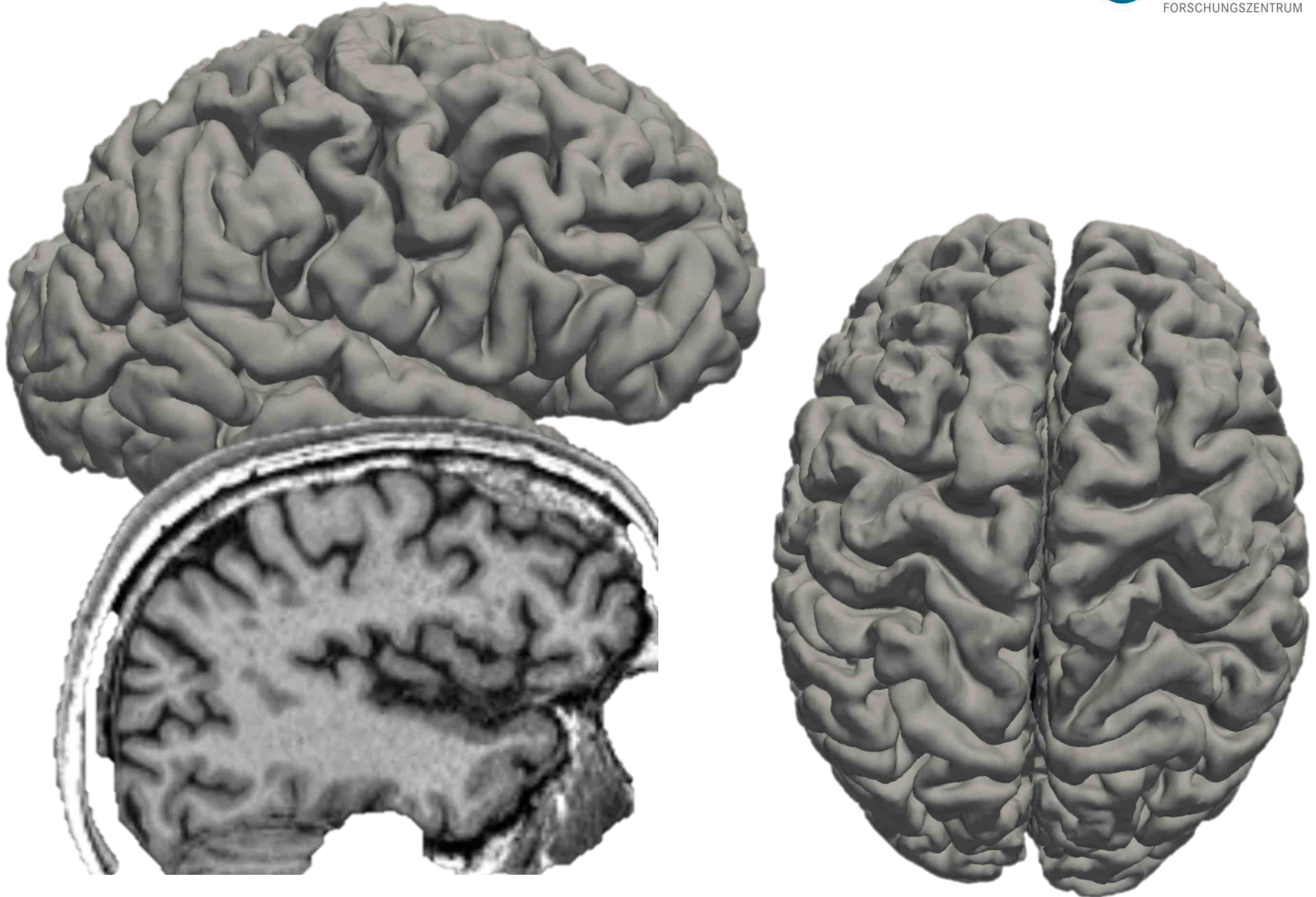
Any overall organizational principle ?

Any landmarks for orientation ?

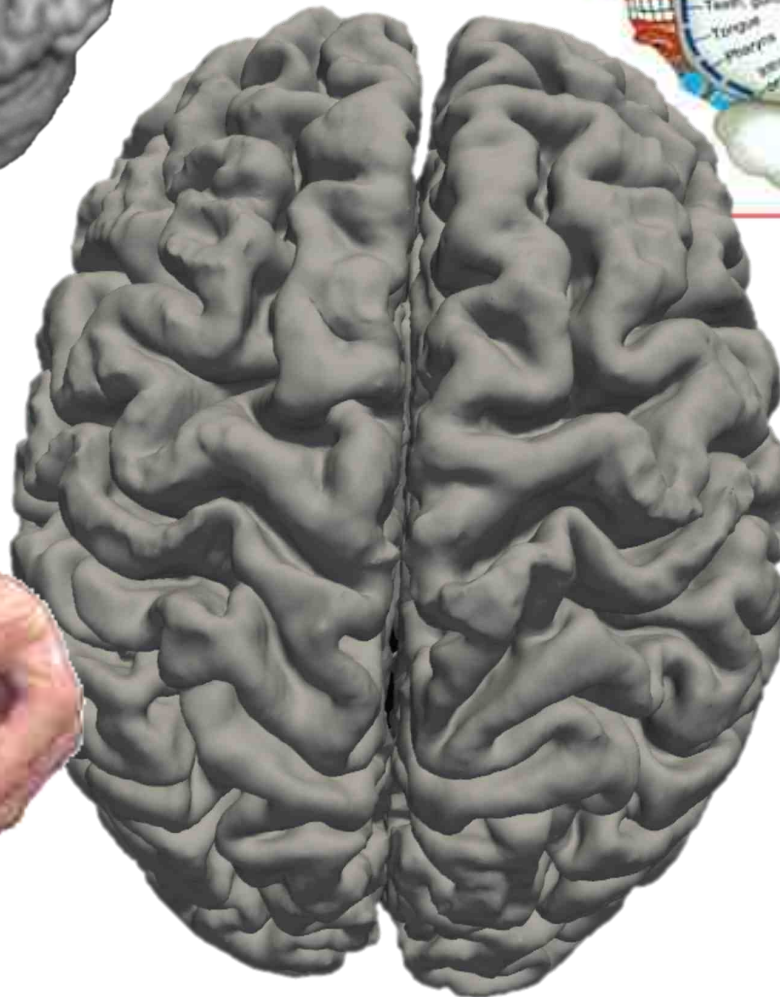
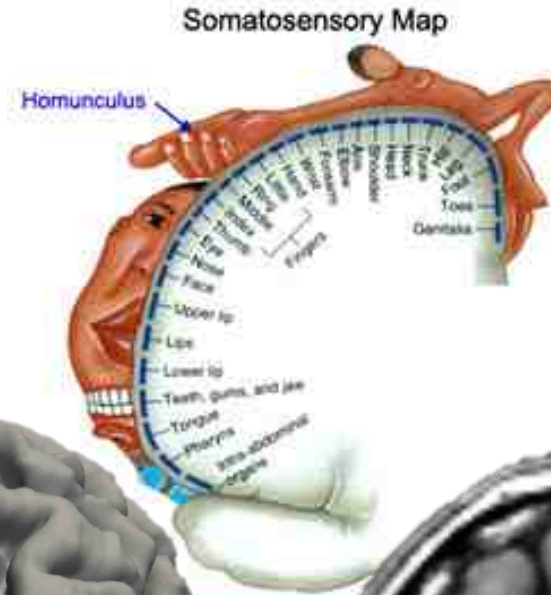
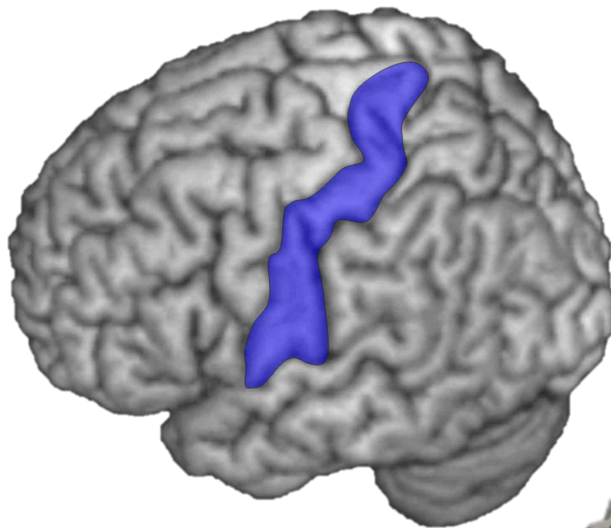
Just inflate it...



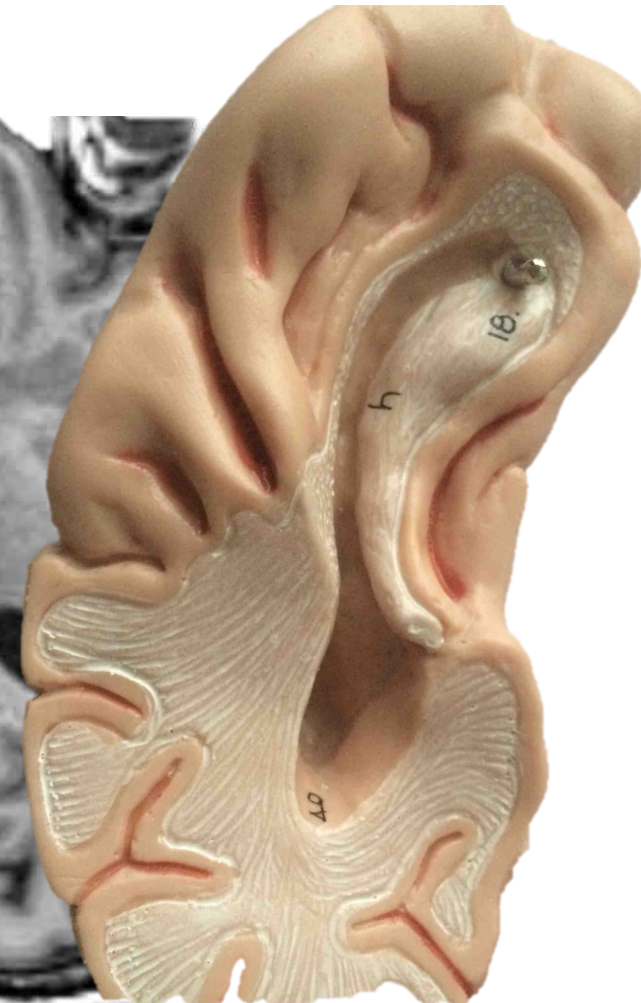
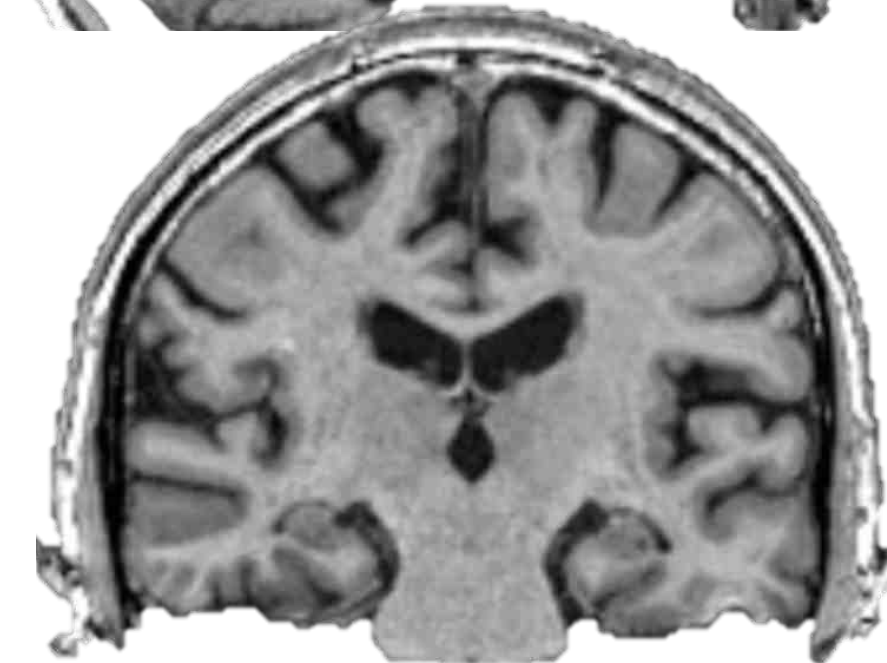
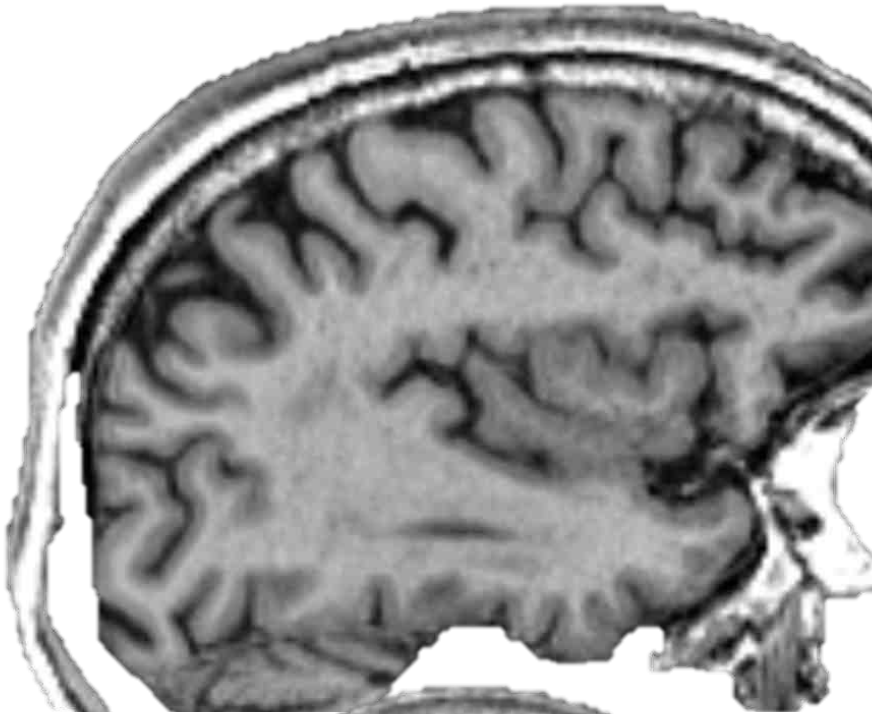
The central sulcus region



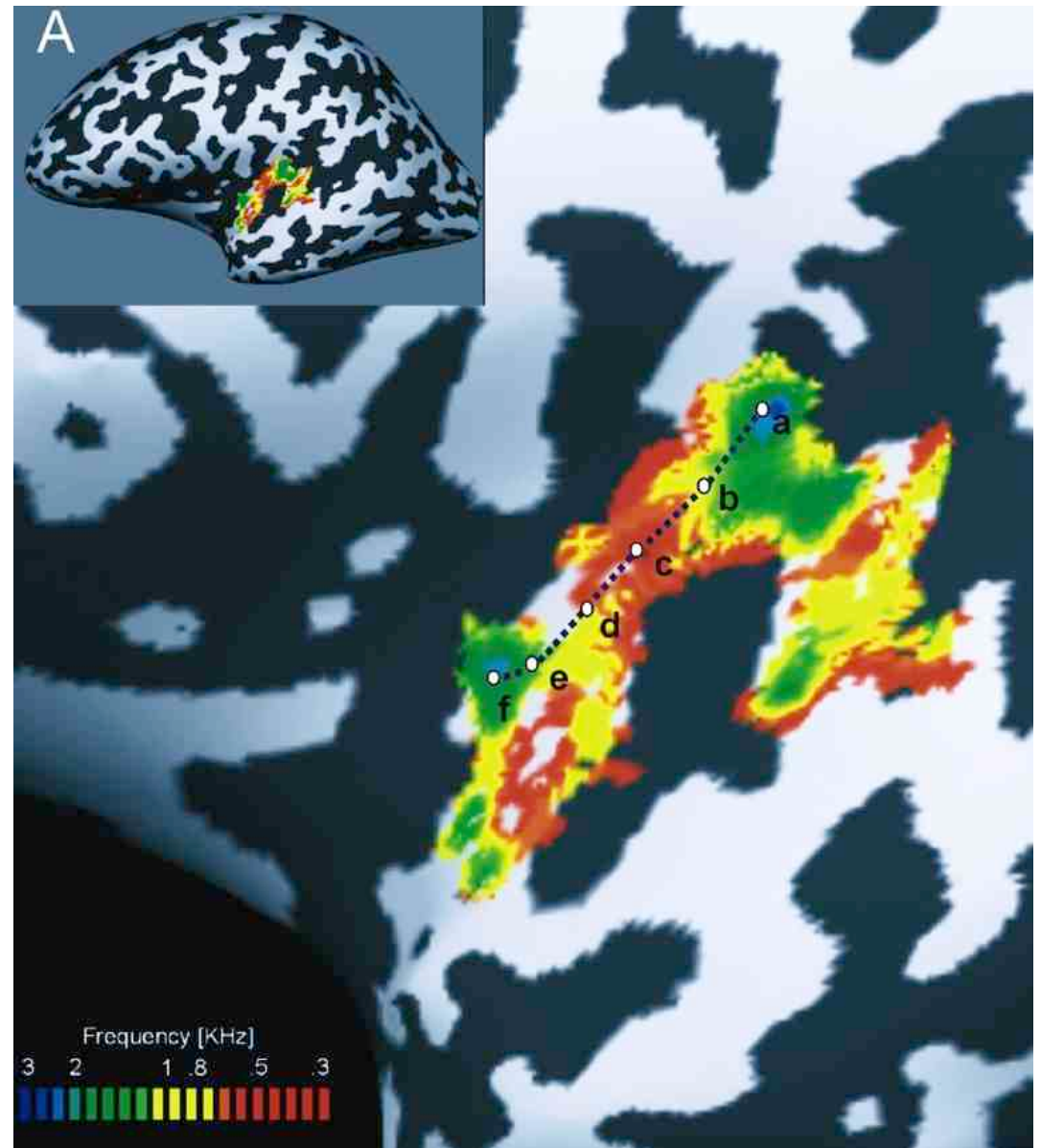
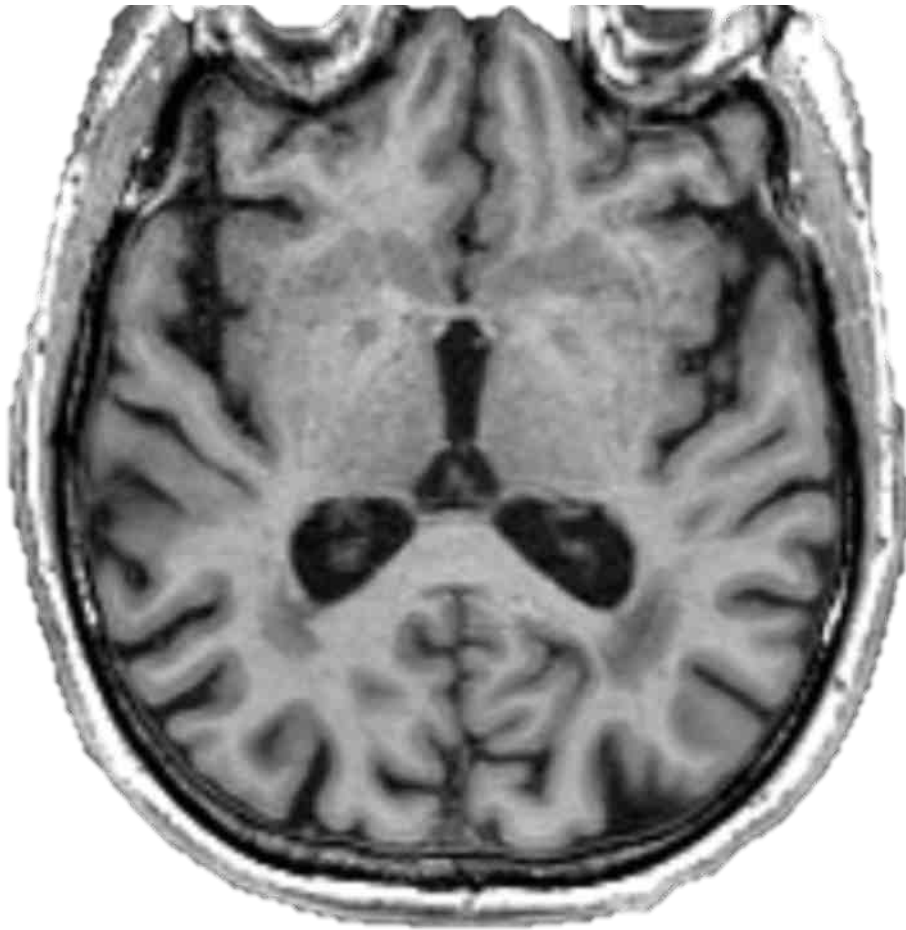
Pre-/postcentral gyrus - somatotopy



Talking about „knob“-like structures...

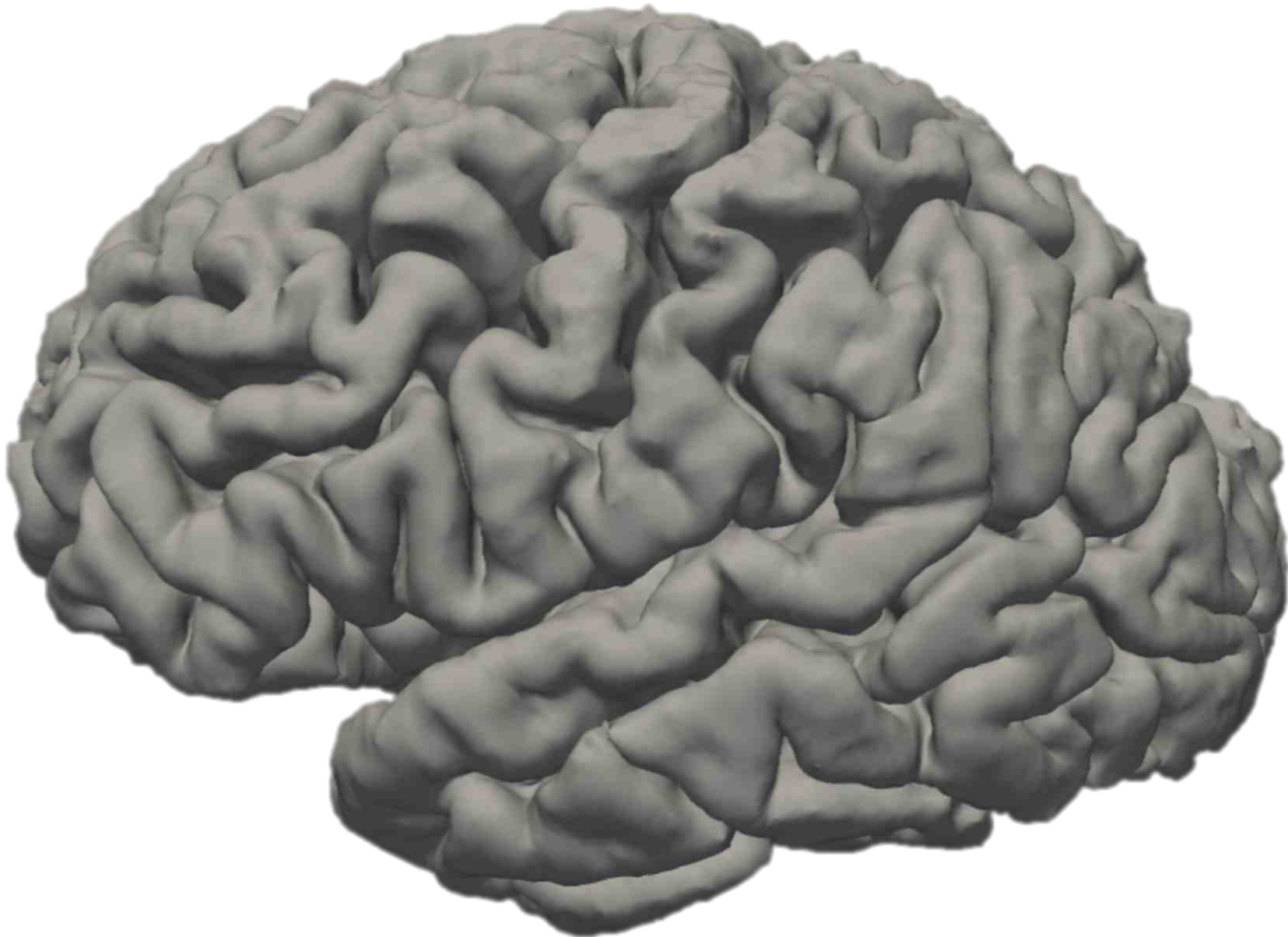


Heschl's gyrus

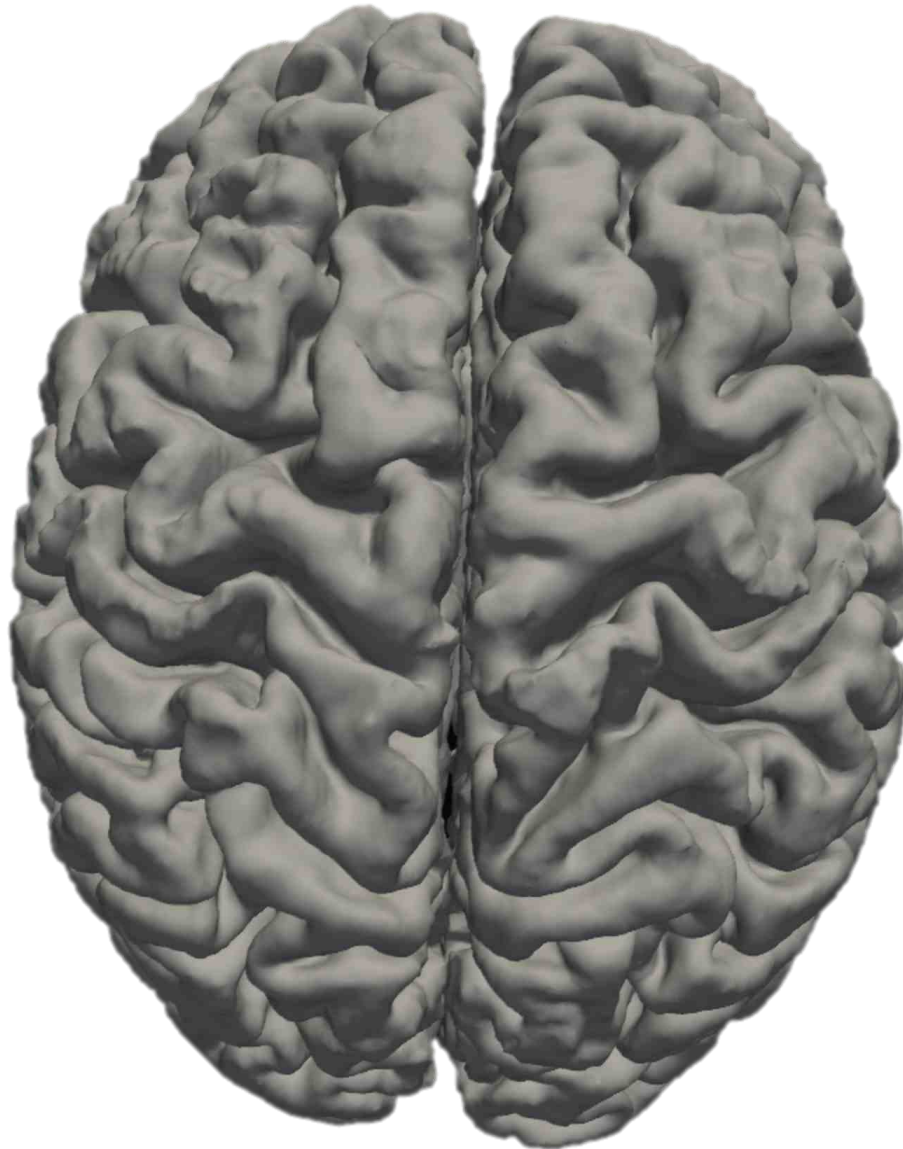


Formisano et al. 2003, Neuron

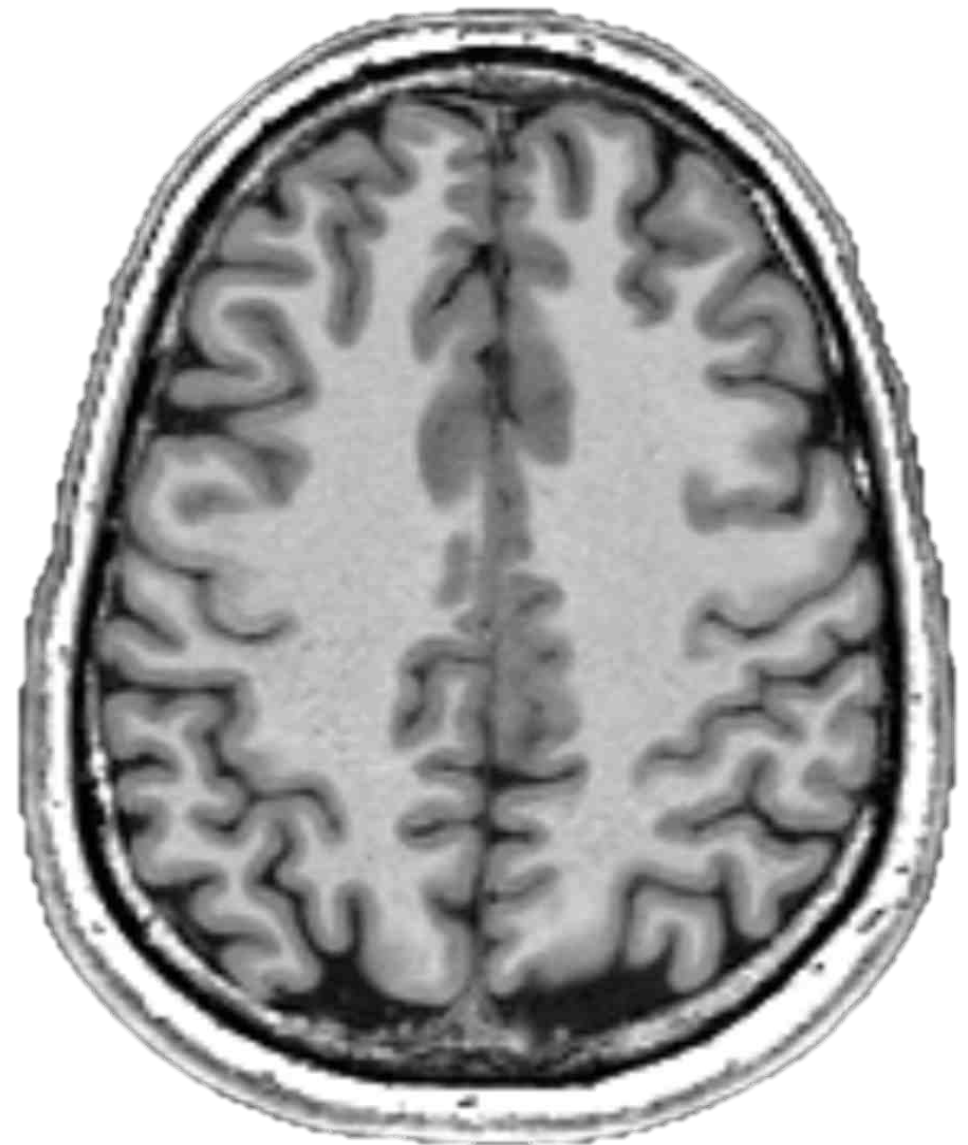
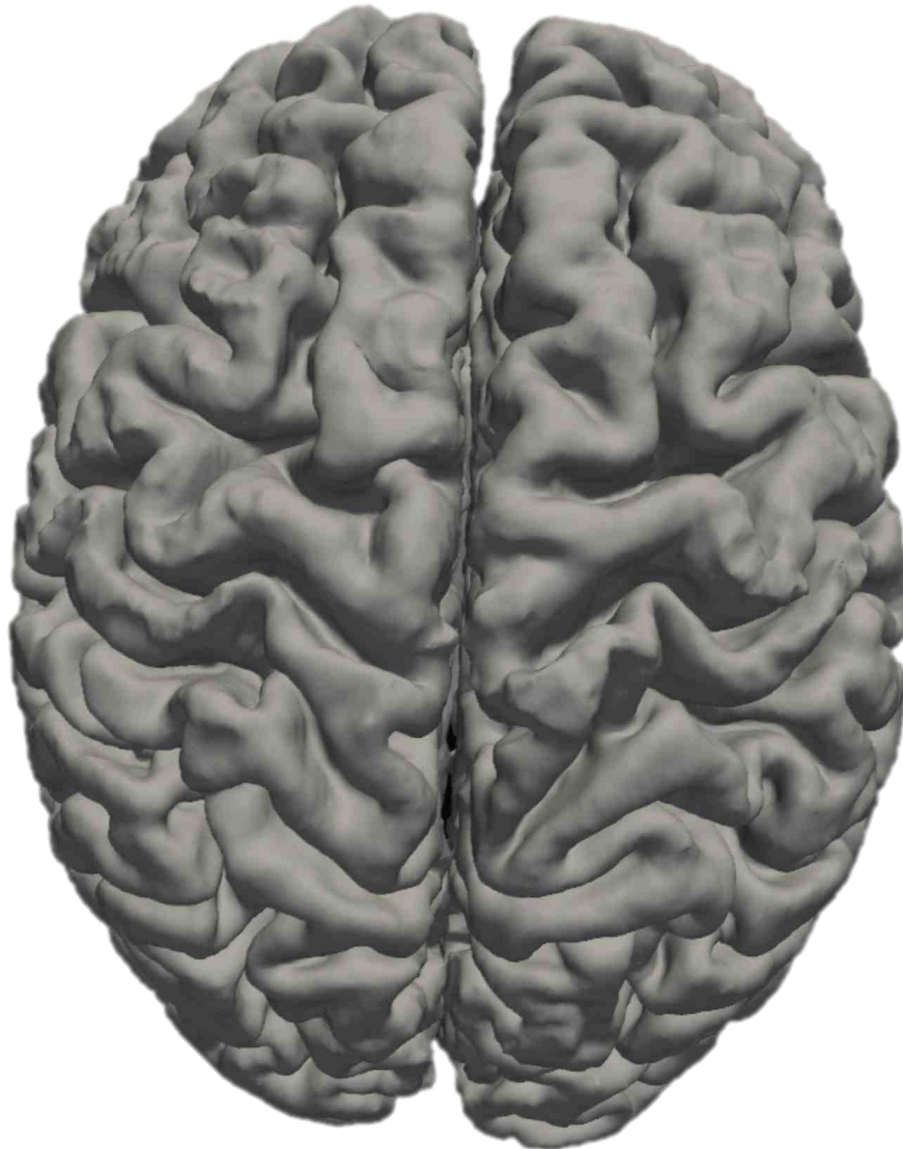
...and other geometrical figures



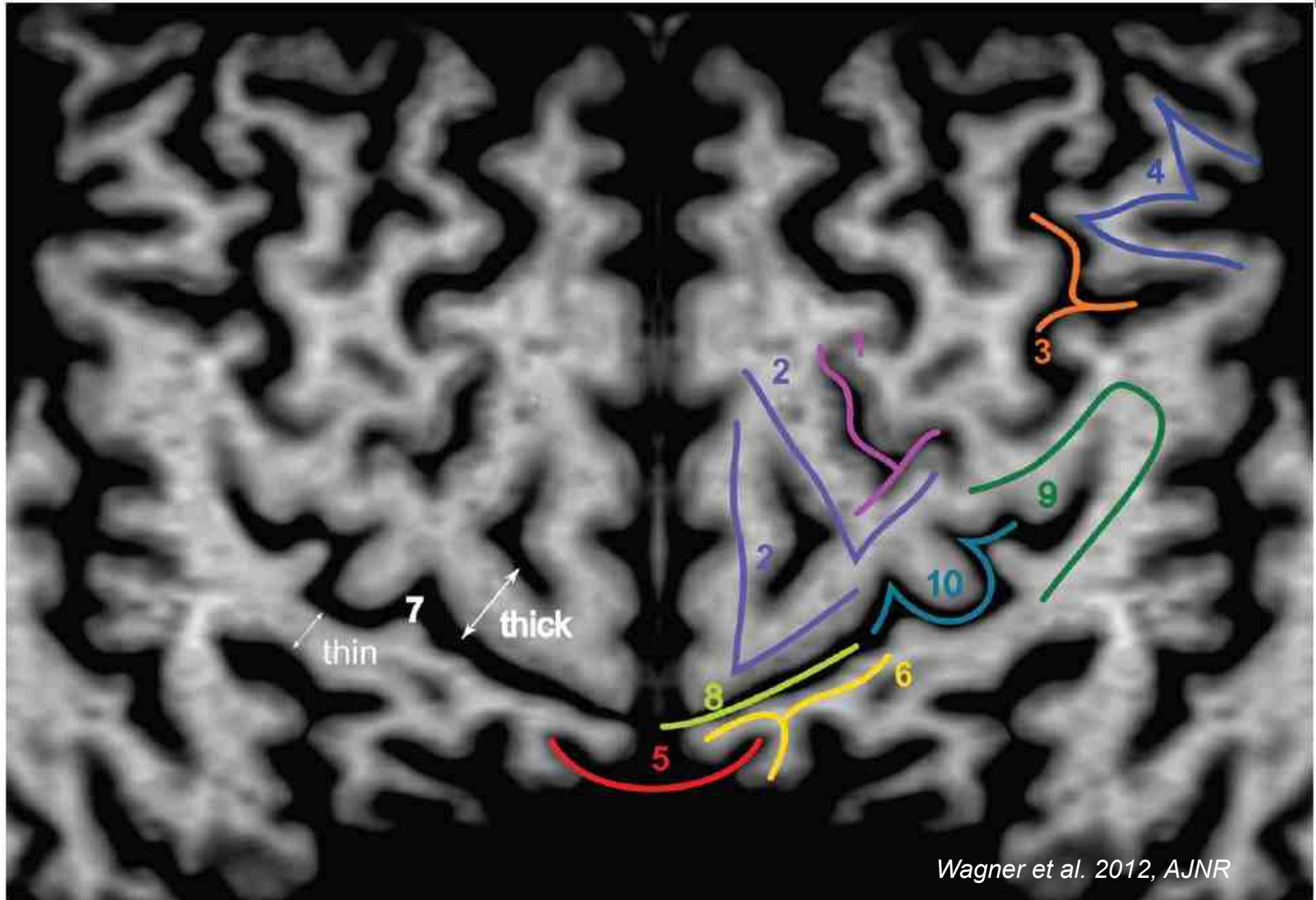
The view from the top – frontal cortex



The view from the top – parietal cortex



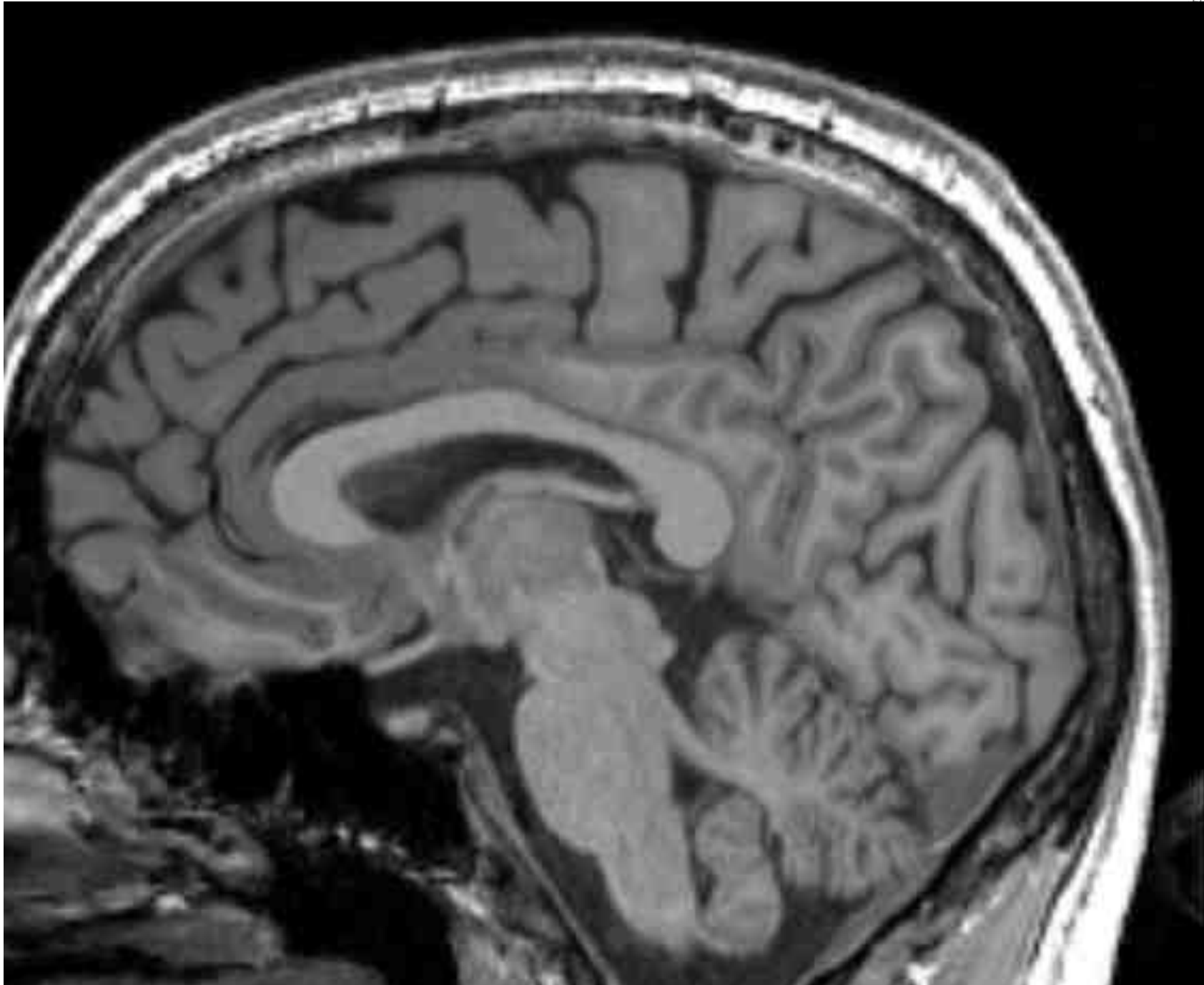
Wrap-up of the central region



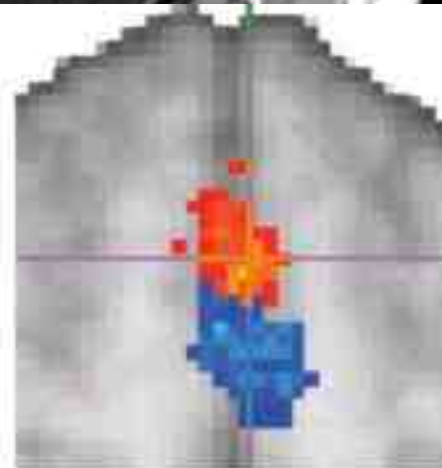
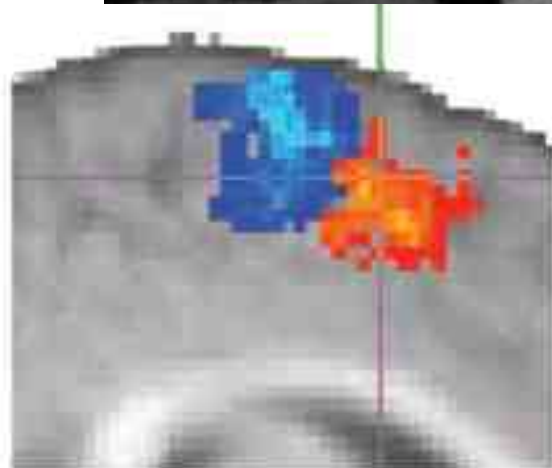
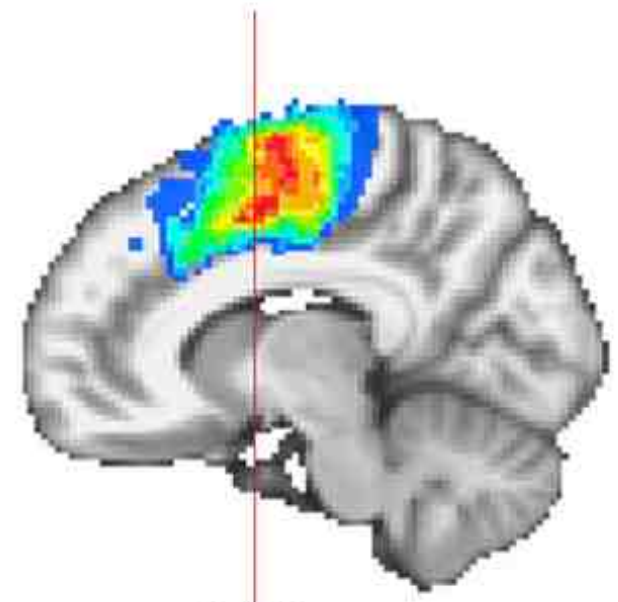
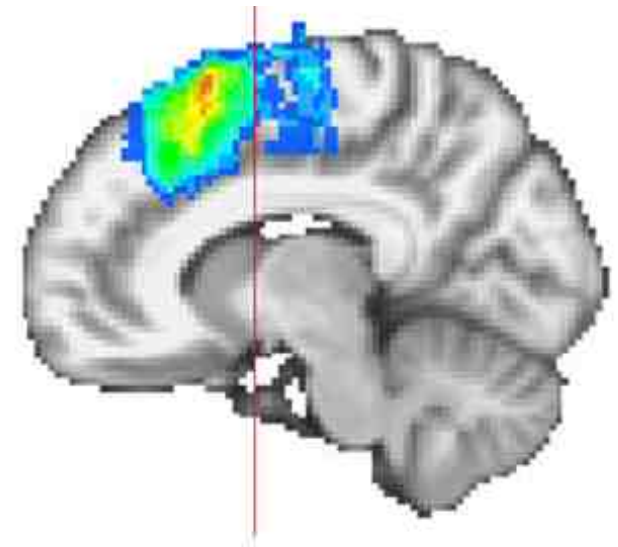
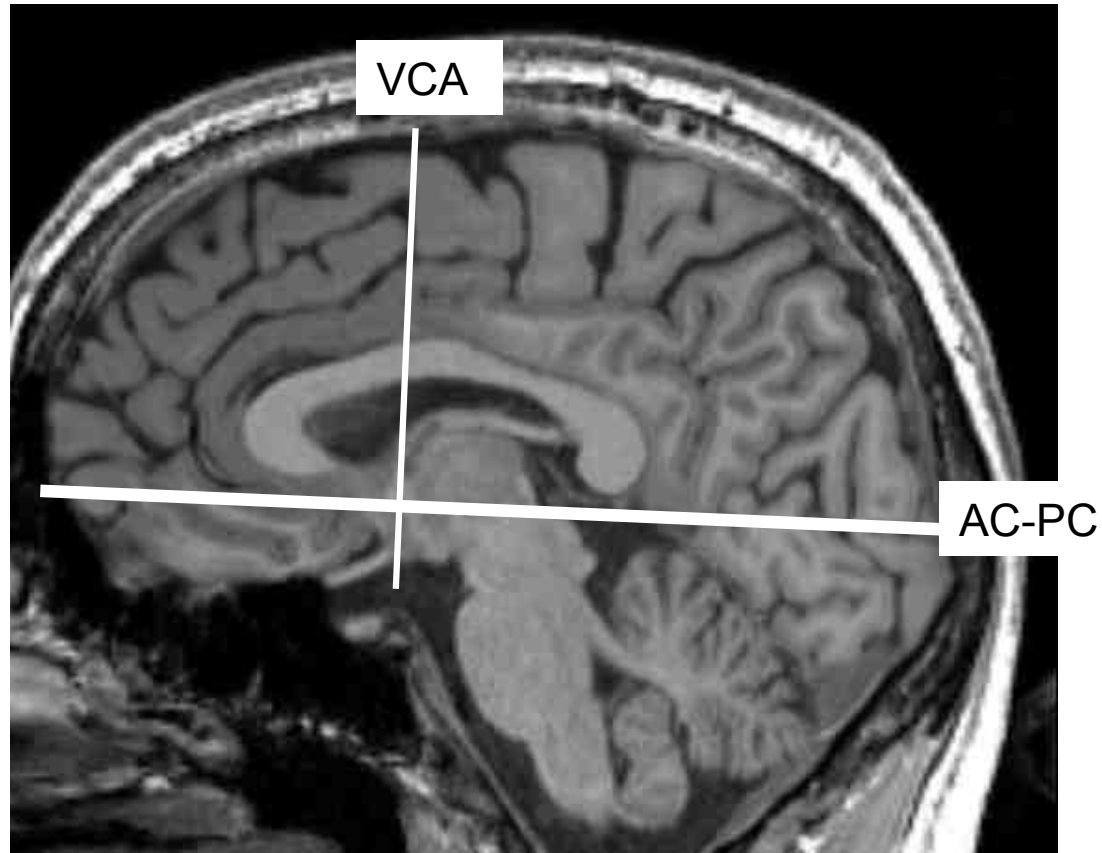
The midline view



The midline view



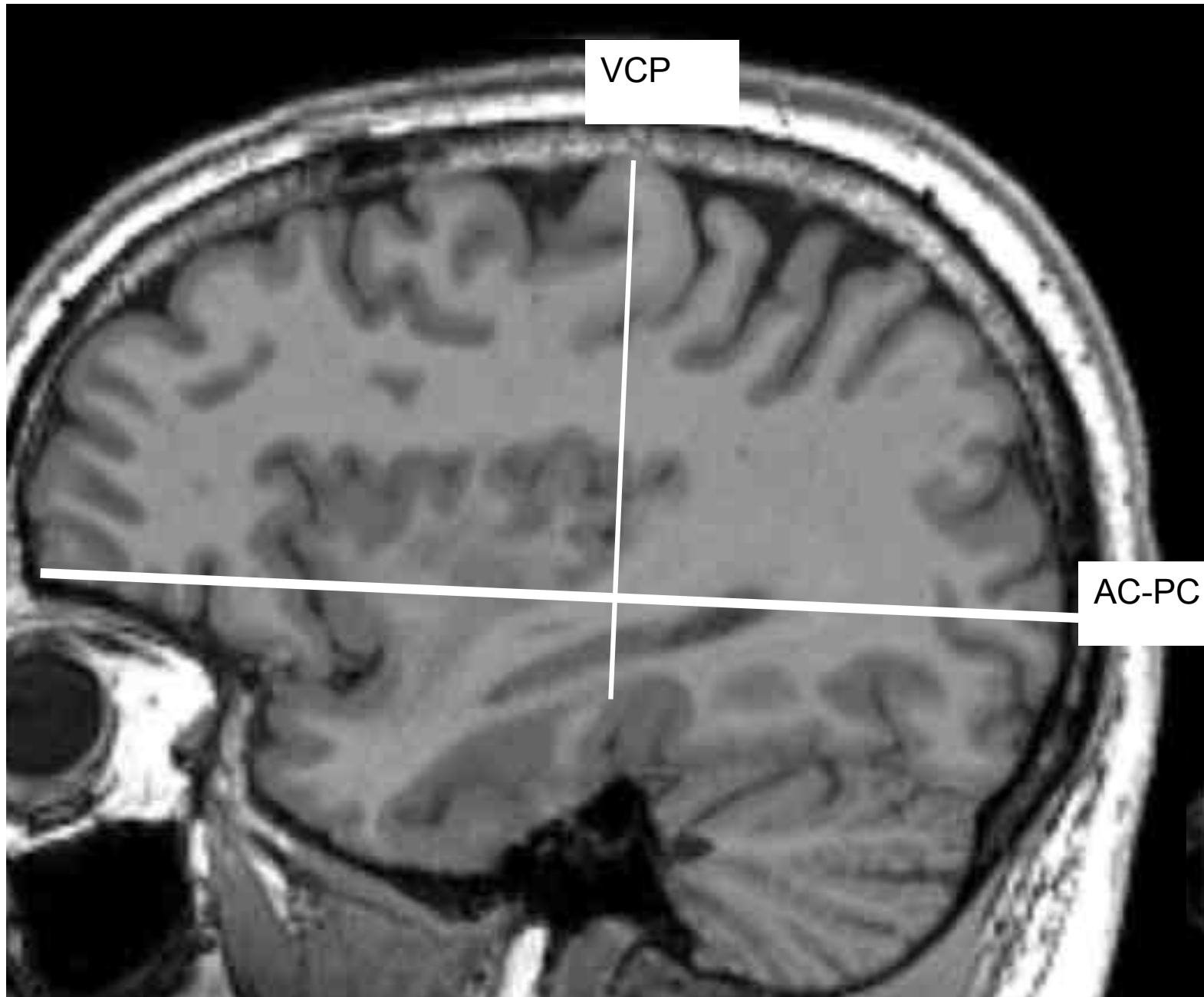
Two relevant lines – VCA



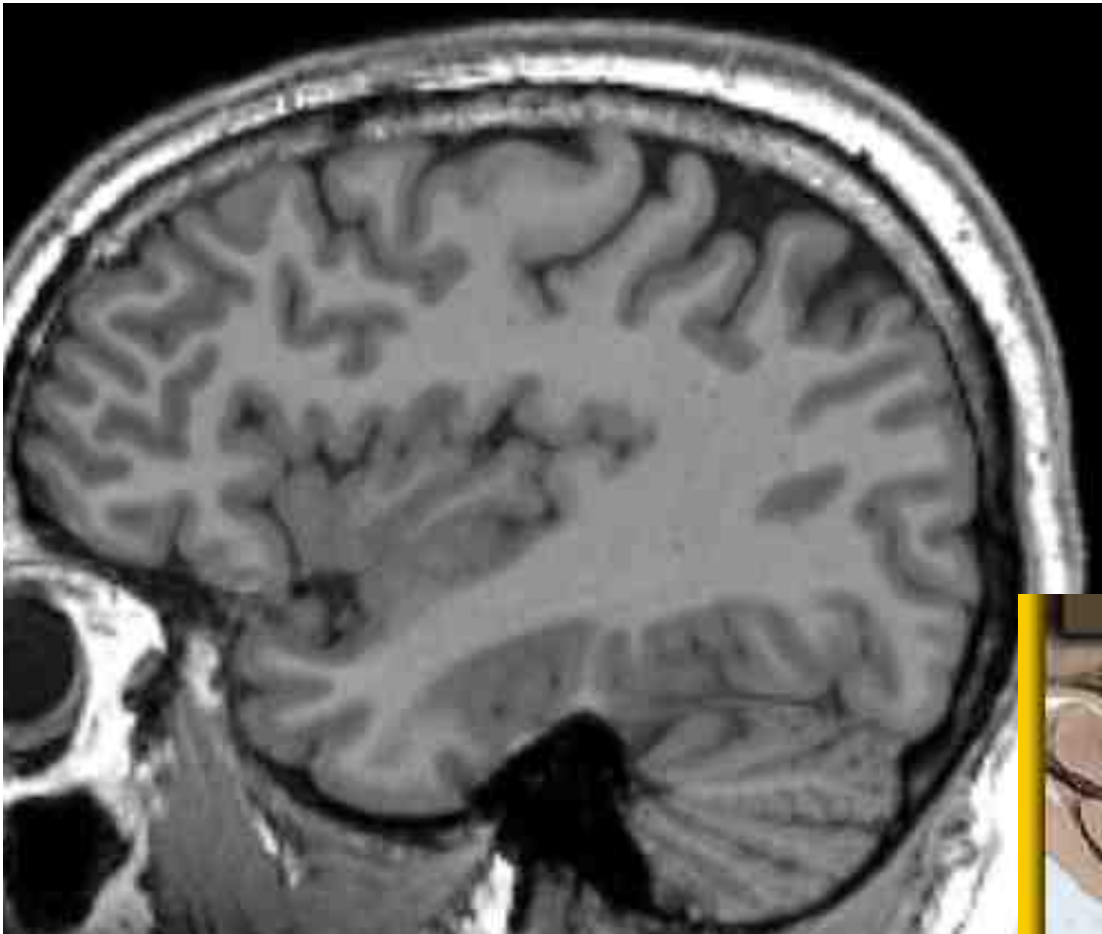
Johansen-Berg et al. 2004, PNAS

Kim et al. 2010, NeuroImage

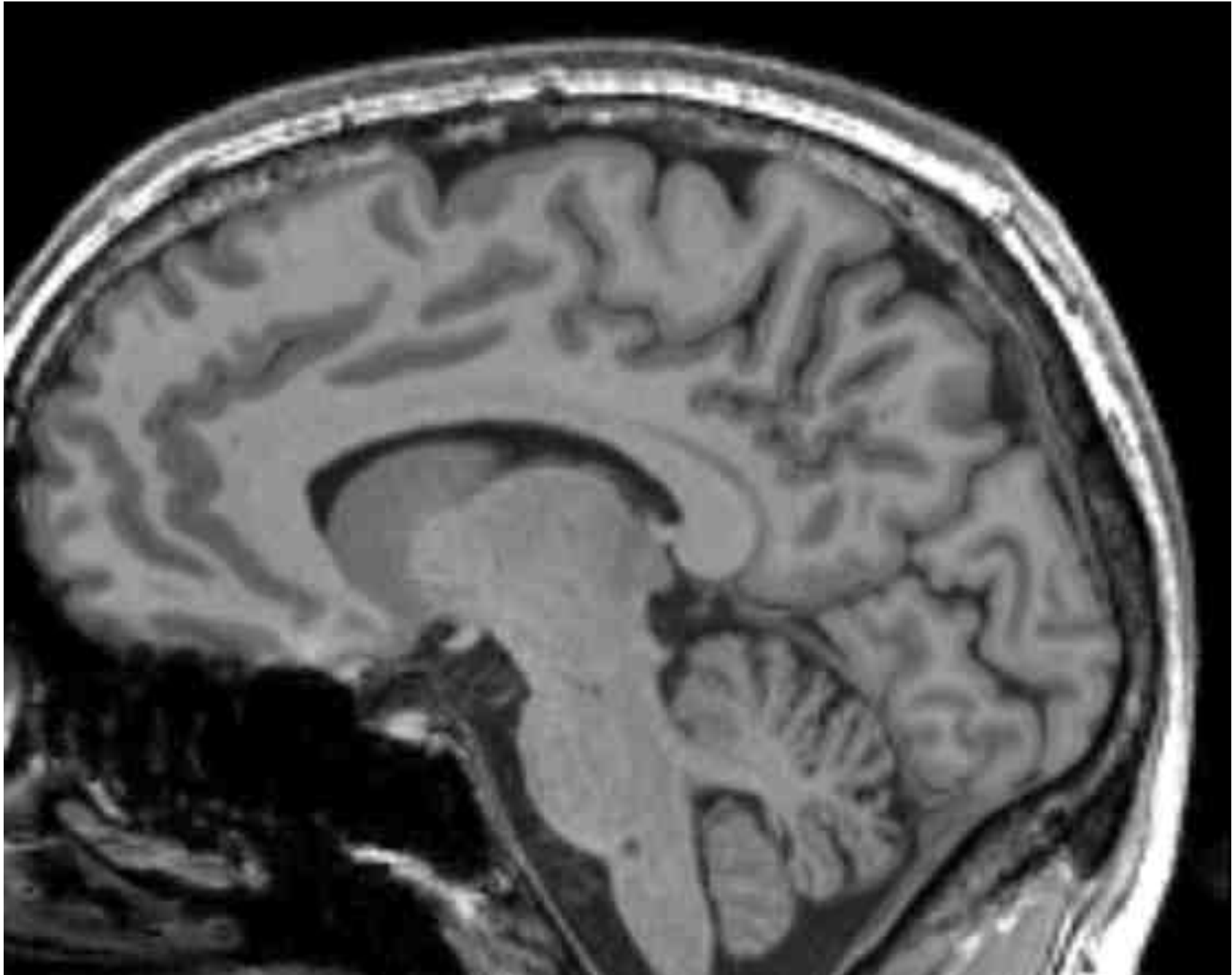
Two relevant lines – VCP



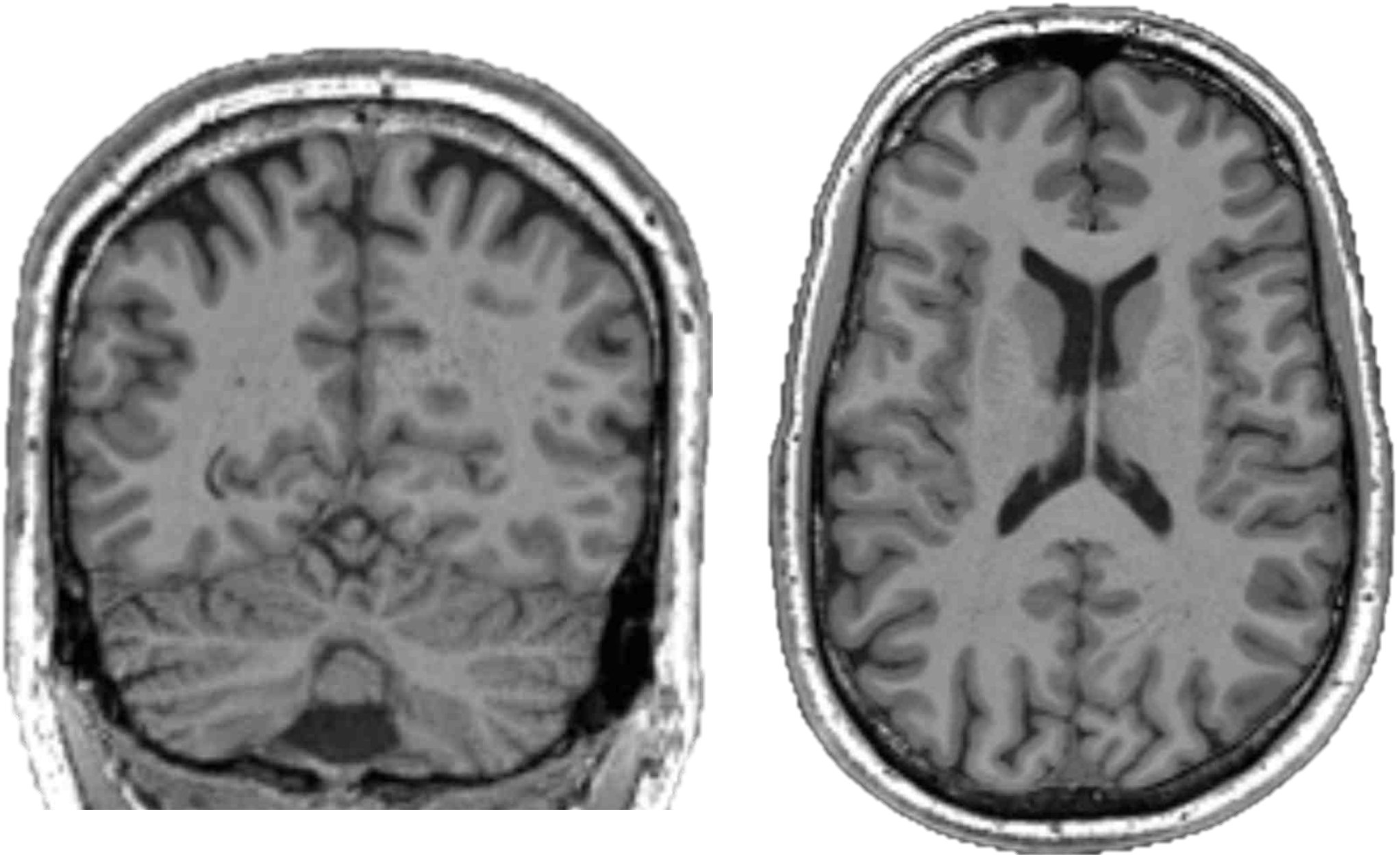
The insular cortex



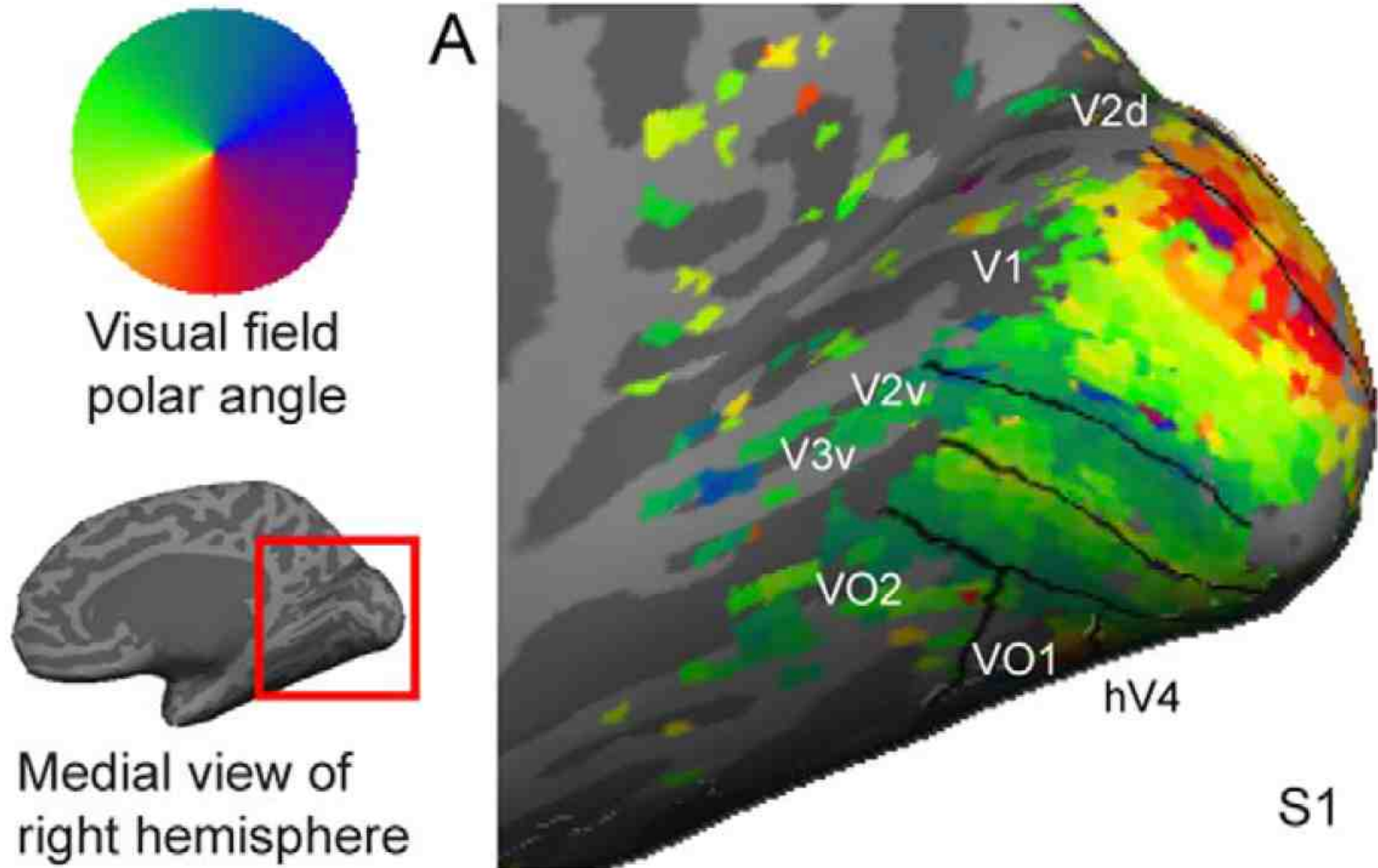
Landmarks in visual system



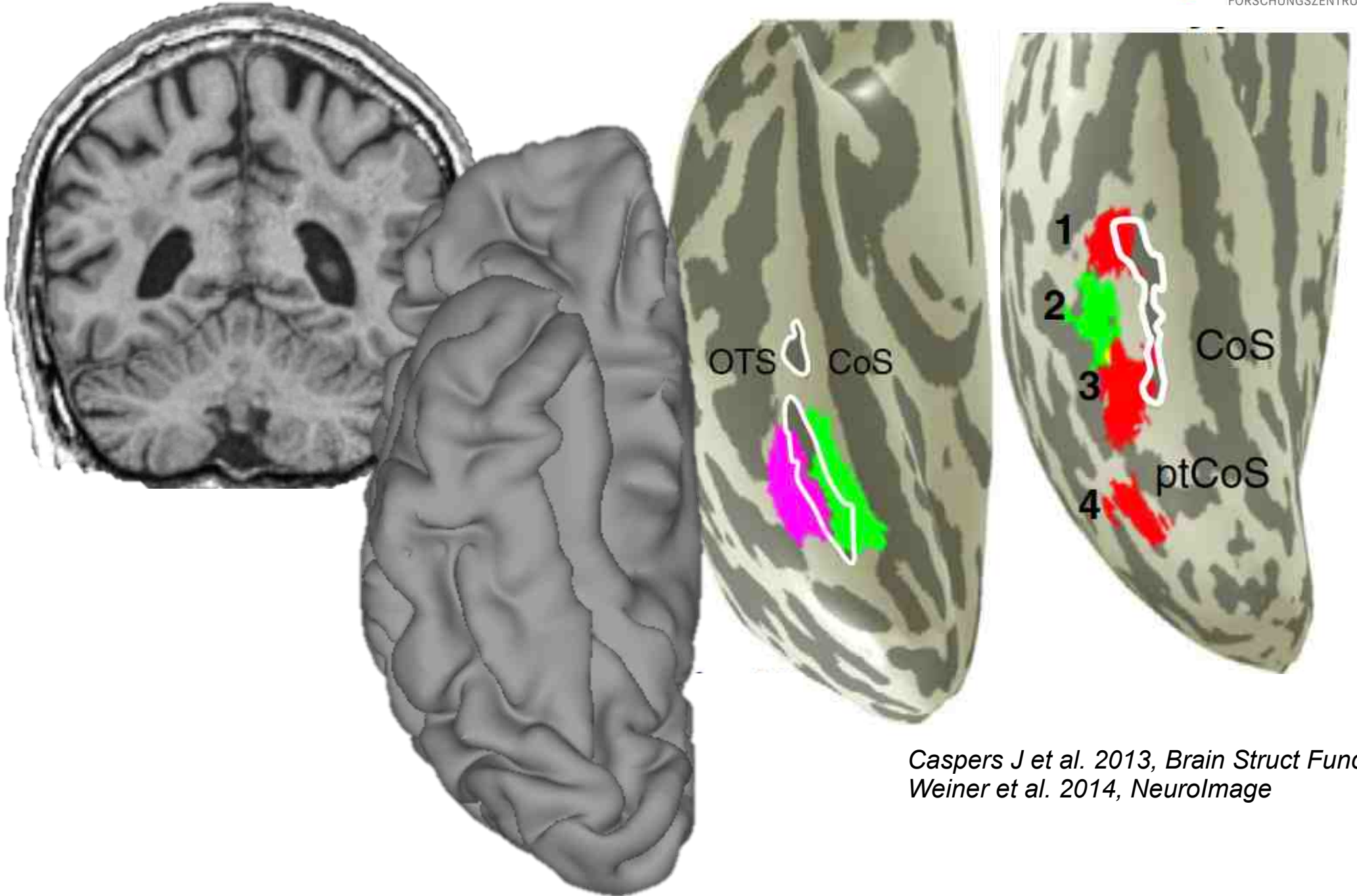
Landmarks in visual system



Landmarks in visual system



...and also a quite new one



Caspers J et al. 2013, *Brain Struct Funct*
Weiner et al. 2014, *NeuroImage*