

MAPPING HUMAN CORTEX

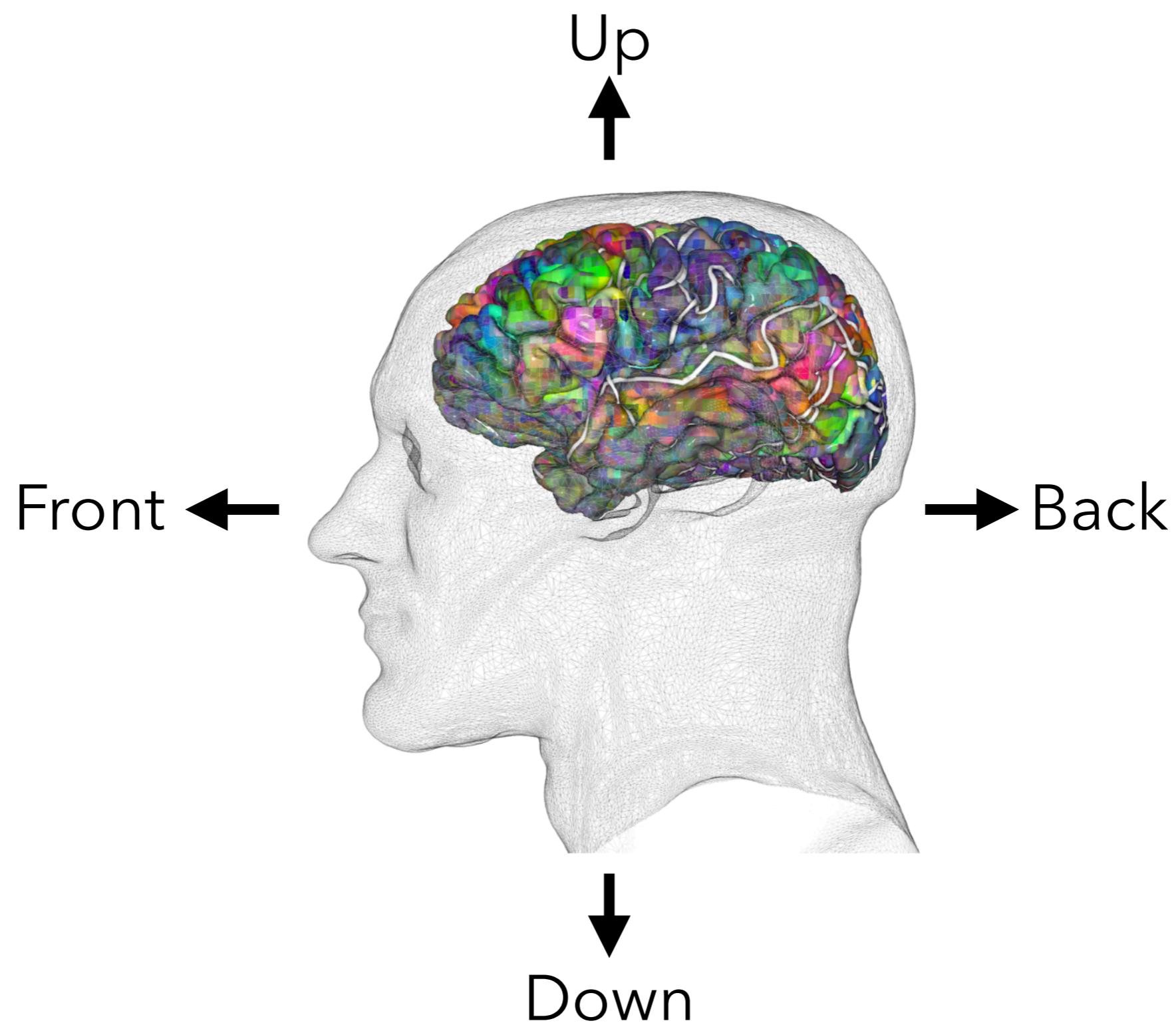
Prof. Alexander Huth

9.3.2020

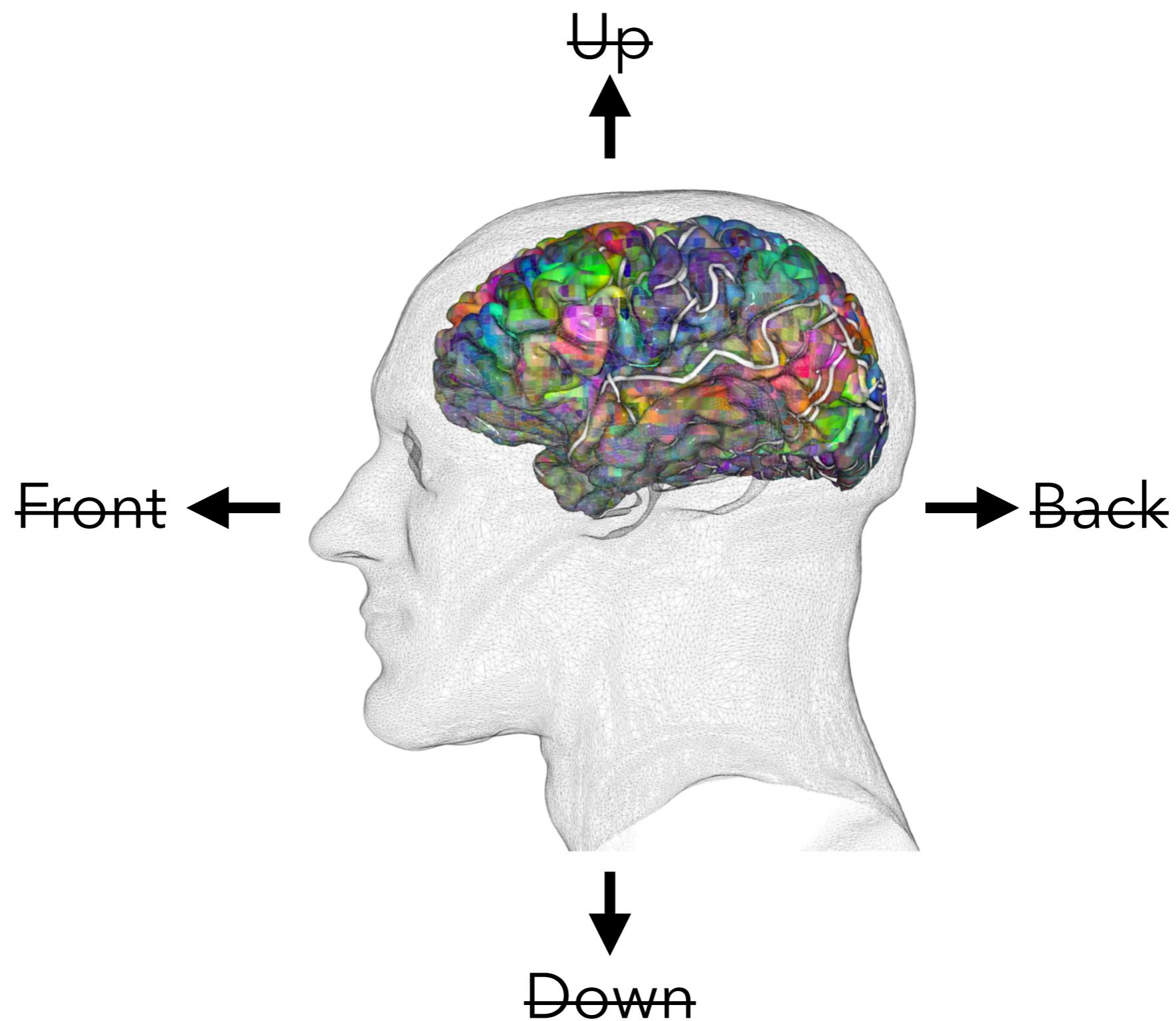
ANATOMICAL TERMS

- * Brain structures are usually named using some combination of Latin words that signify **location**, **shape**, or **function**
 - * (or the name of who discovered it)
- * So it's useful to know basic terms used for **location** and **shape**

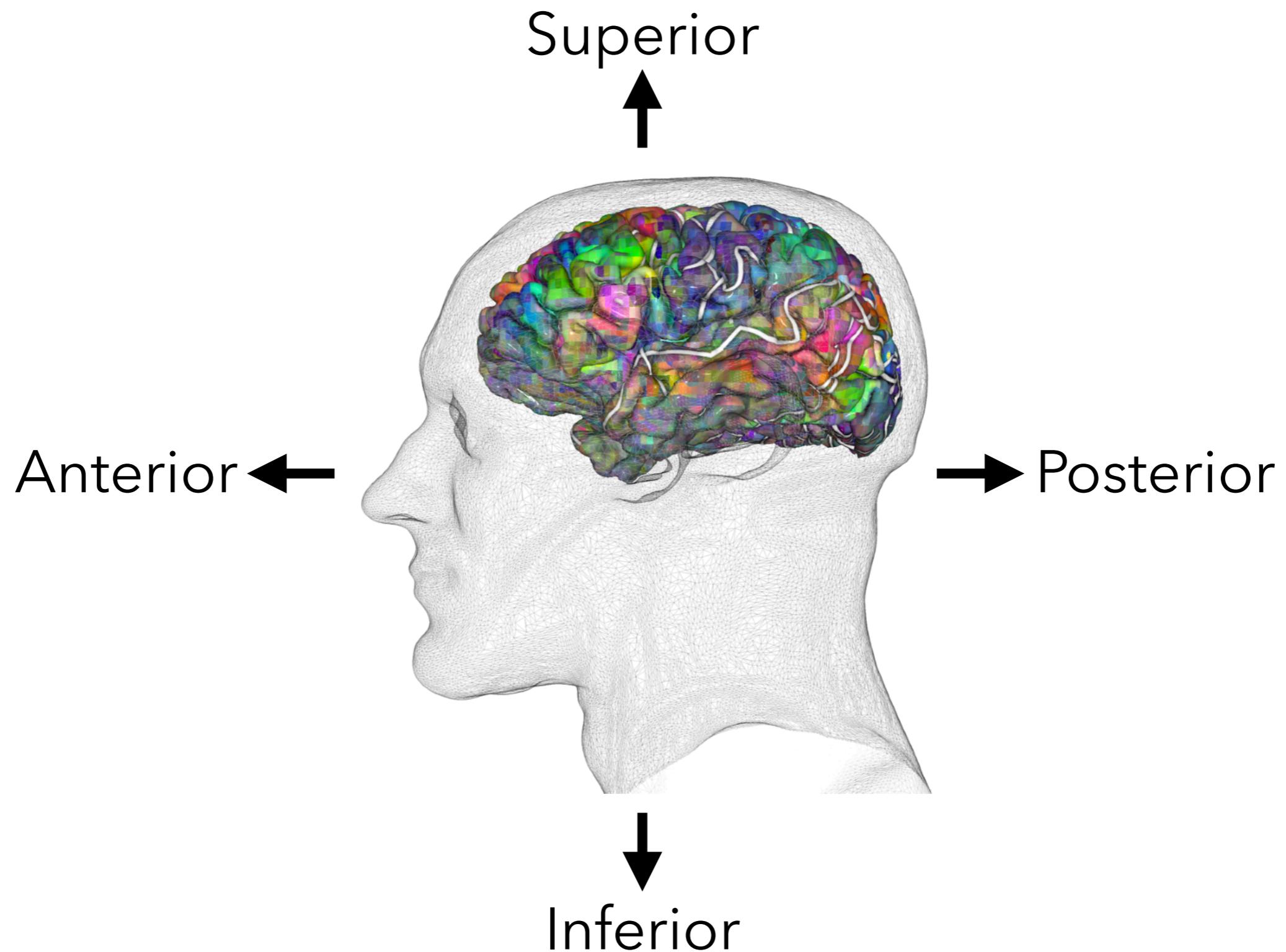
LOCATION TERMS



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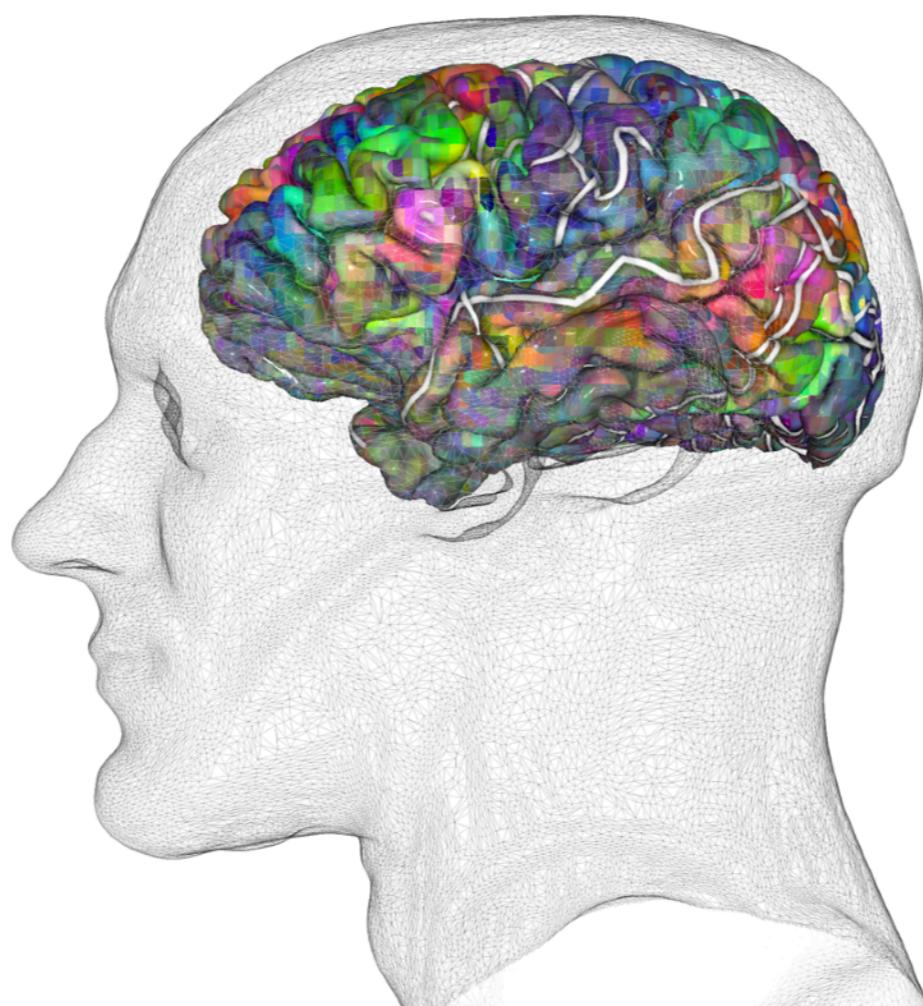
Superior / Dorsal



Anterior /
Rostral



Posterior /
Caudal



Inferior / Ventral



LOCATION TERMS

Superior / Dorsal



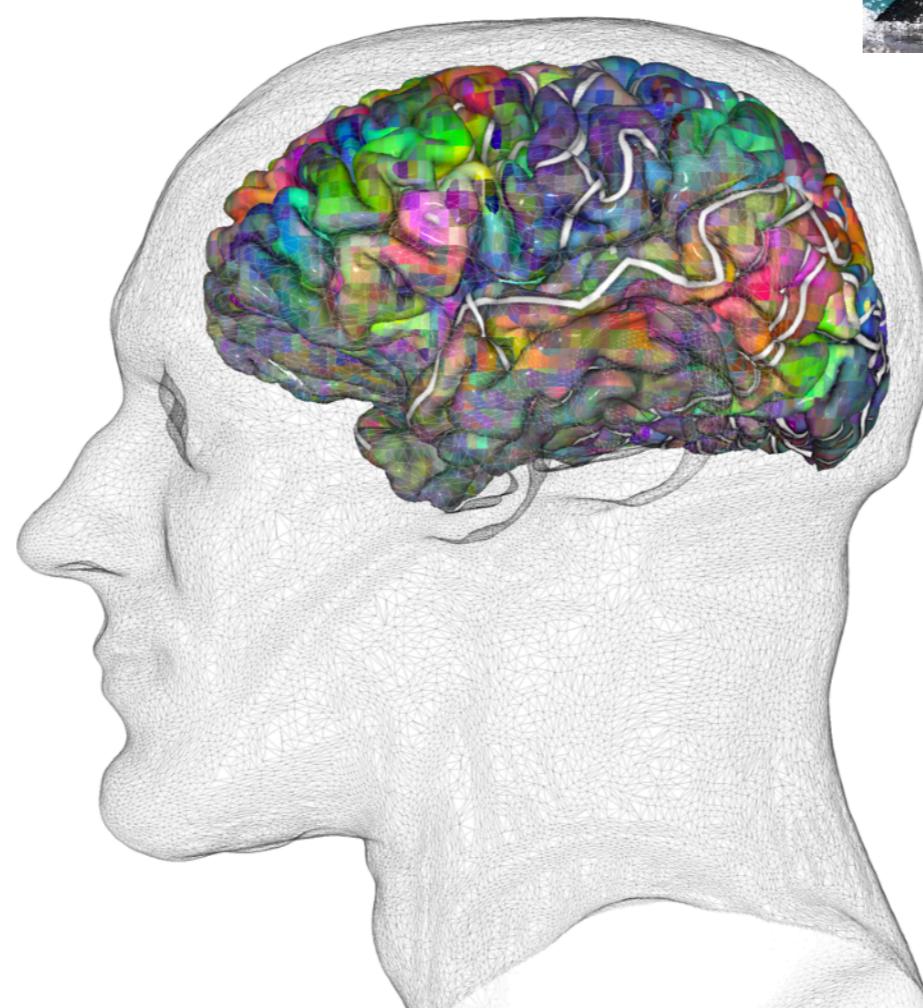
Anterior /
Rostral



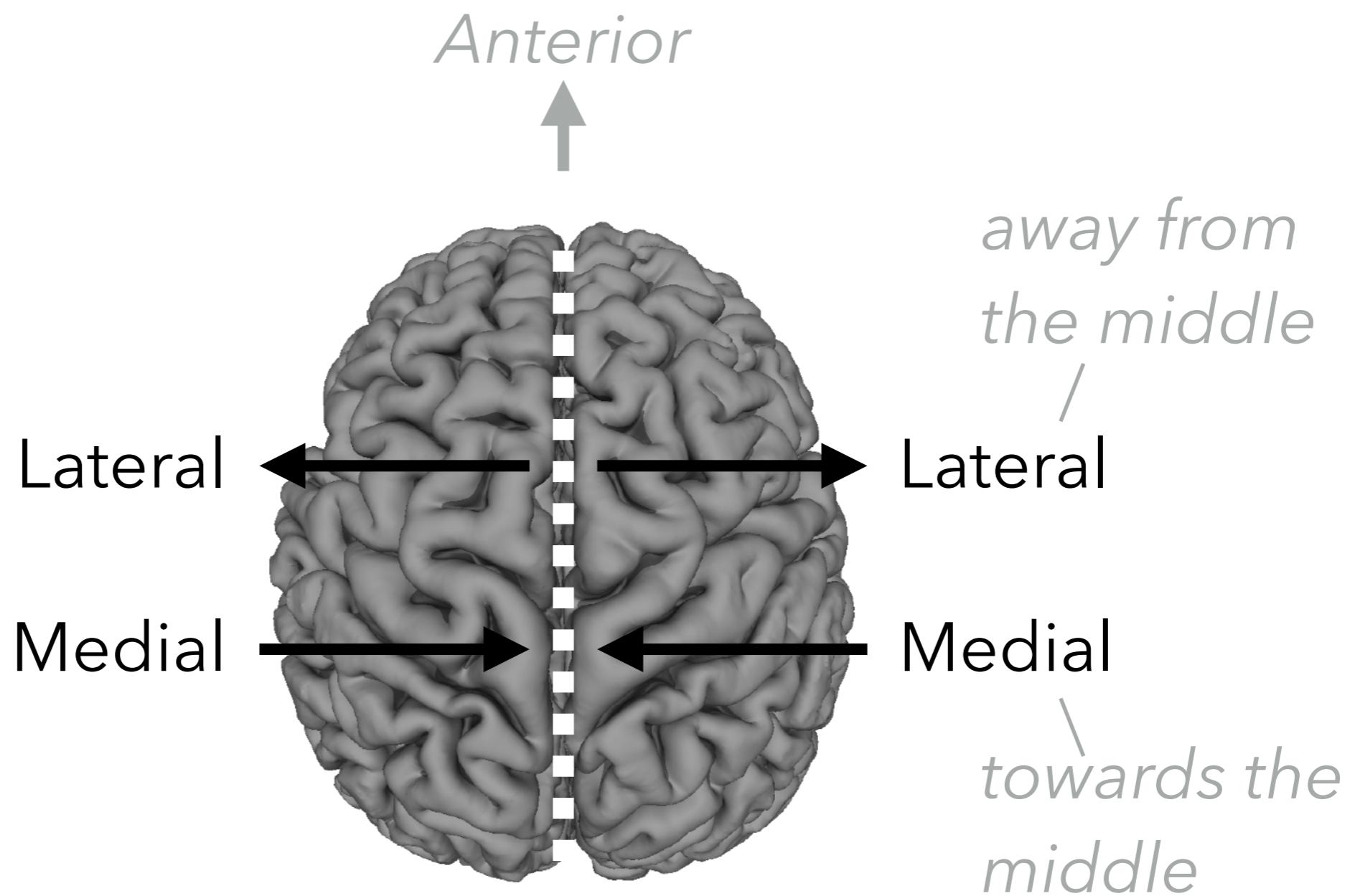
Posterior /
Caudal



Inferior / Ventral

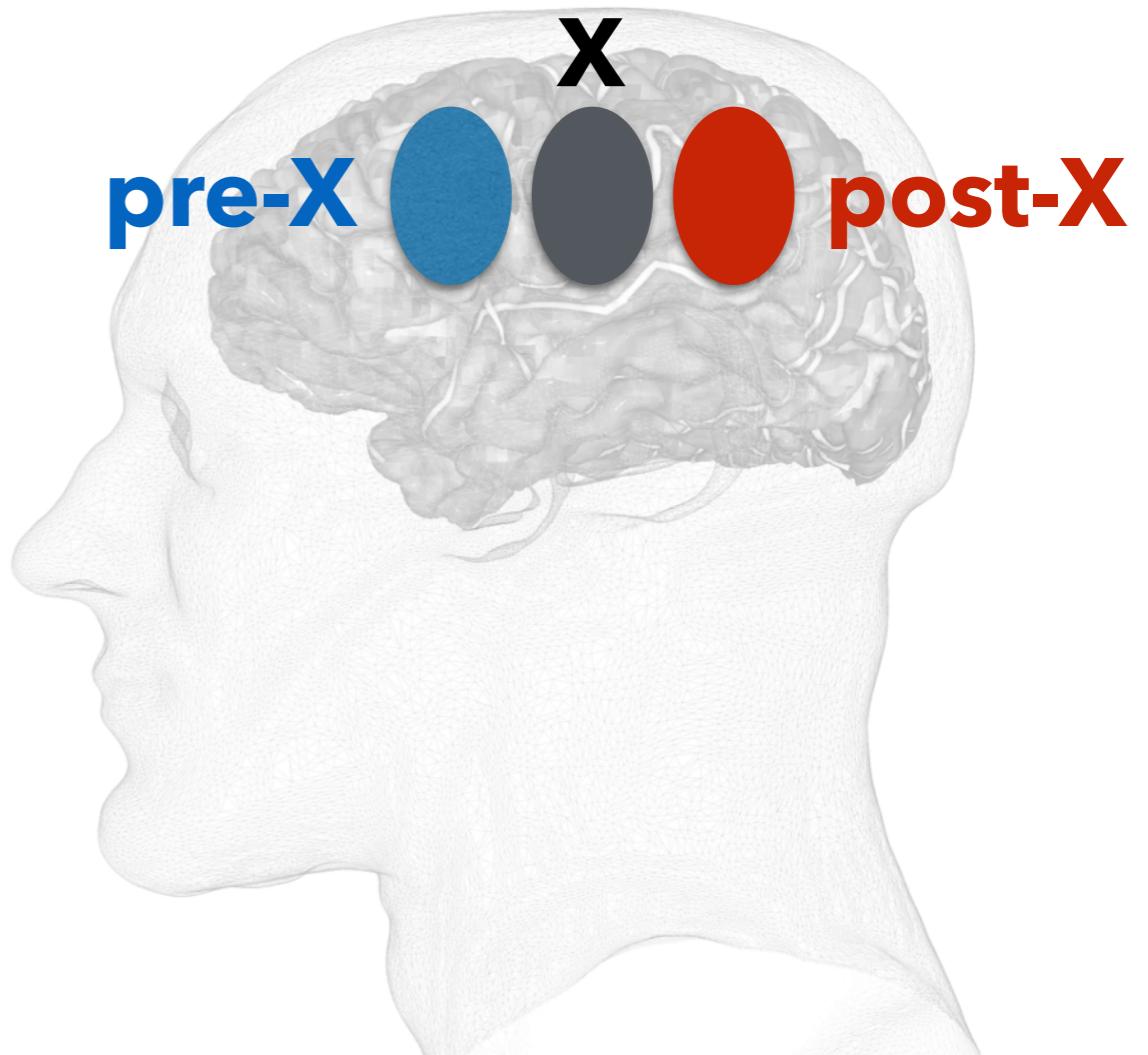


LOCATION TERMS

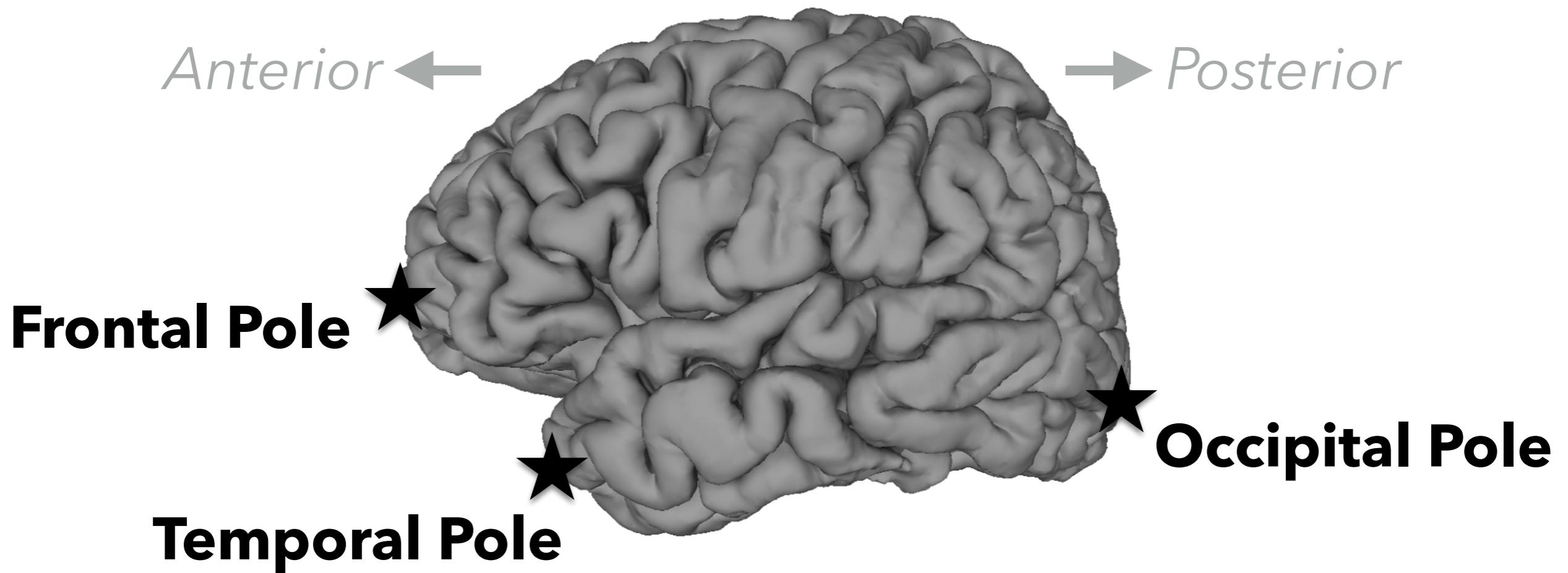


LOCATION TERMS

- * Relative locations are sometimes noted using prefixes:
 - * **pre-** (in front of)
 - * **post-** or **retro-** (behind)

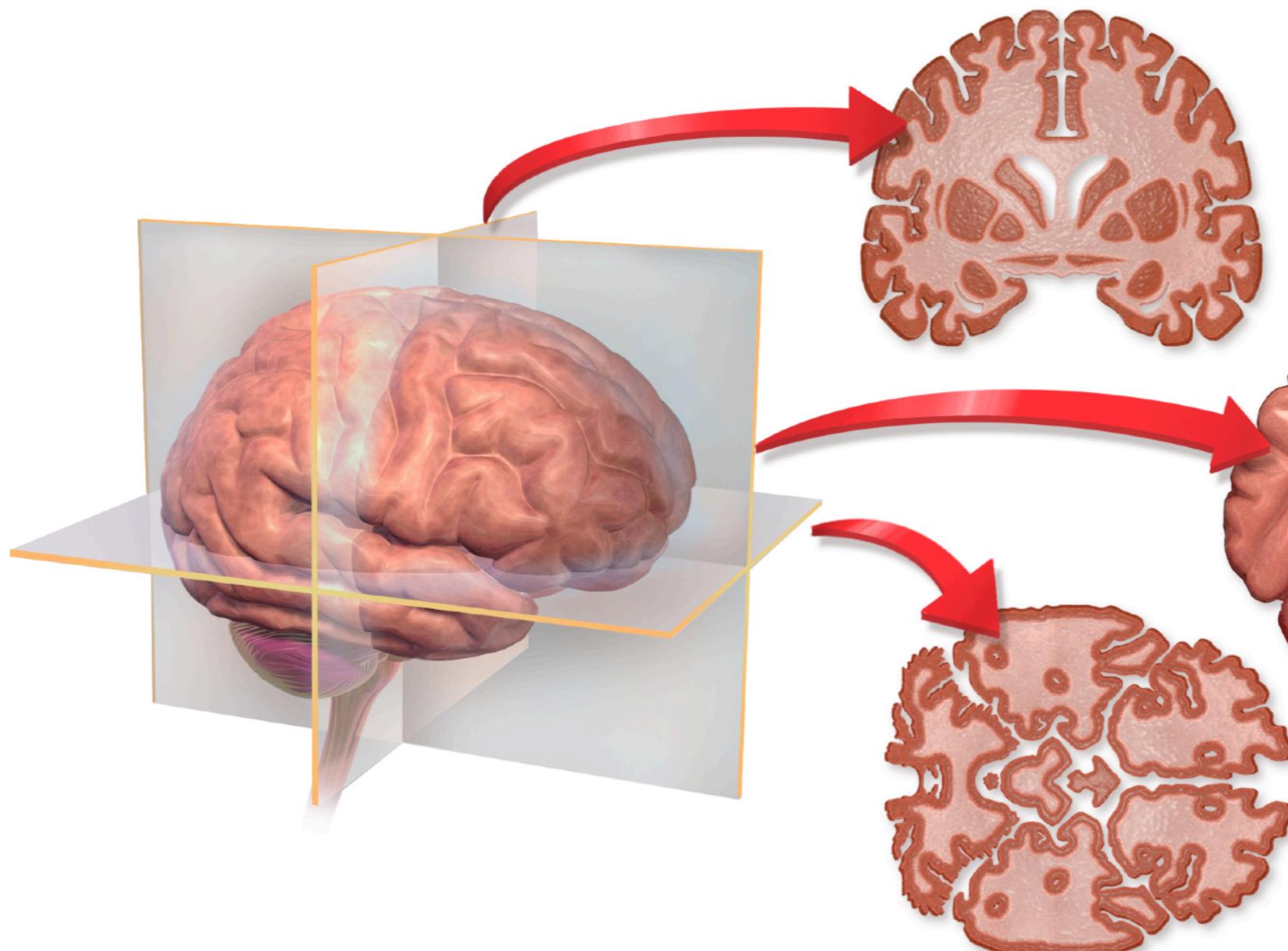


THE "POLES"



SECTIONAL PLANES

Coronal (👑) Section / View

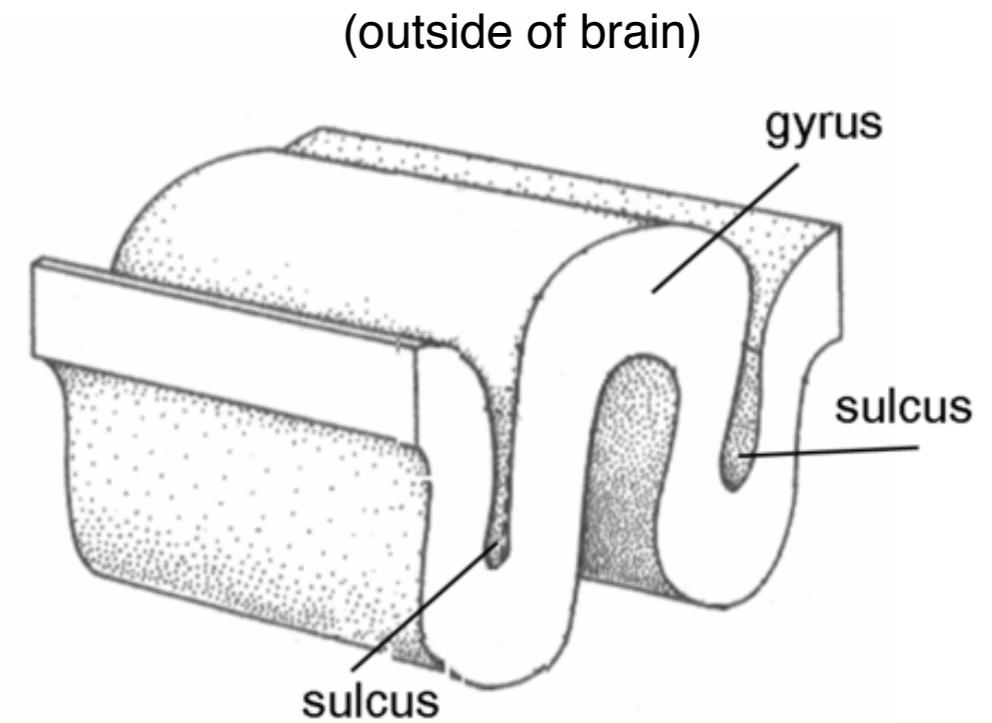


Sagittal (♂)

Axial / Transverse / Horizontal

SULCI & GYRI

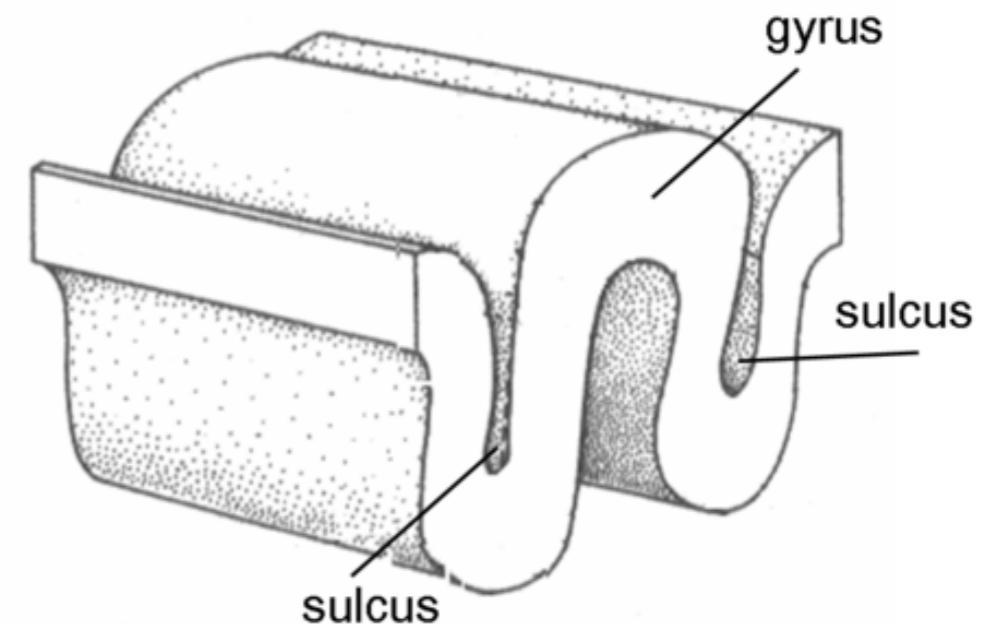
- * Cortical folds are called ***sulci*** (singular: ***sulcus***) & ***gyri*** (singular: ***gyrus***)
- * Sulci are **inward** folds, gyri are **outward** folds
- * Alt: (some) big sulci are (sometimes) called ***fissures***
- * See <https://gallantlab.org/brainviewer/sulcigyri/>



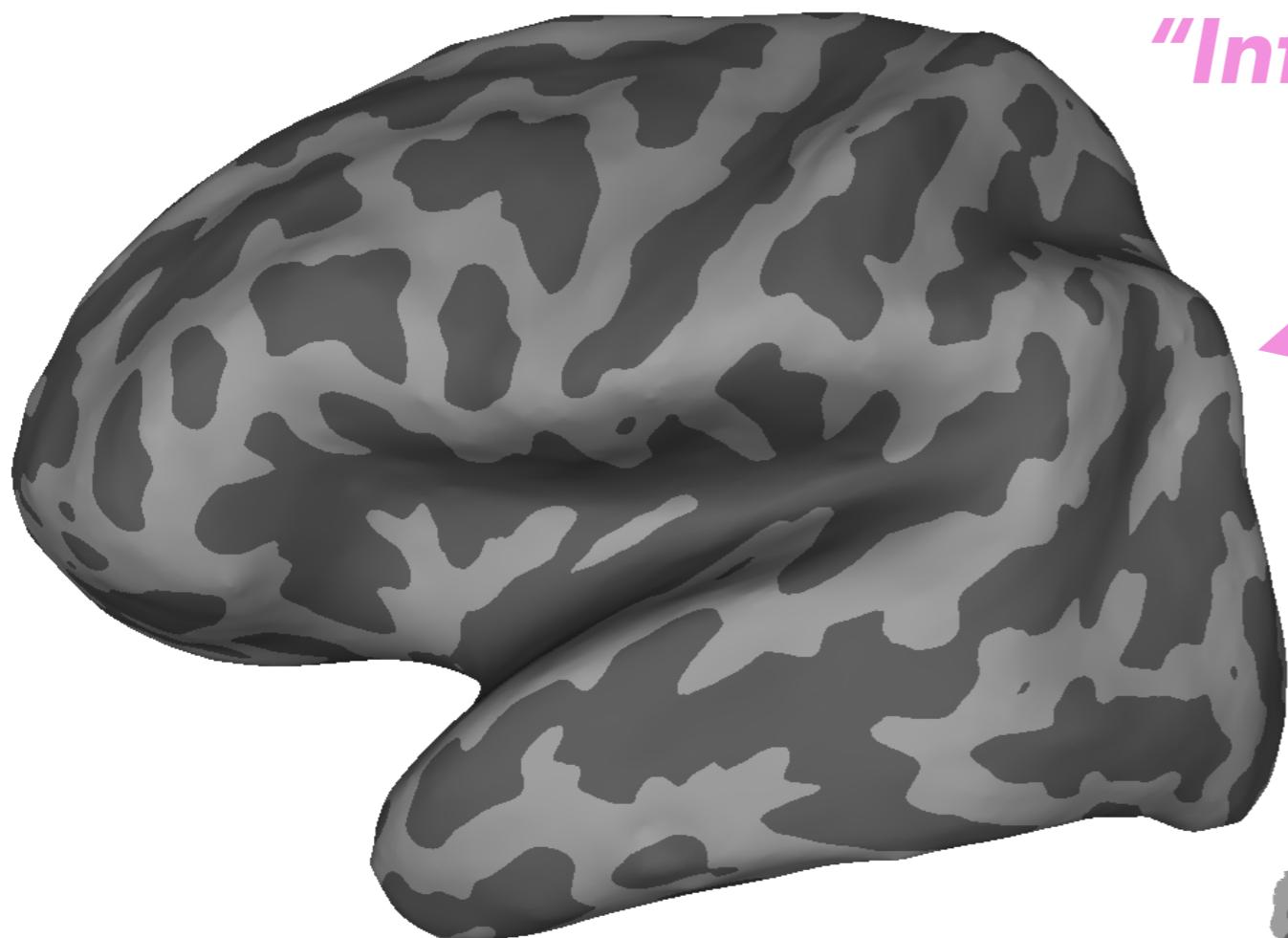
(inside of brain)

SULCI & GYRI

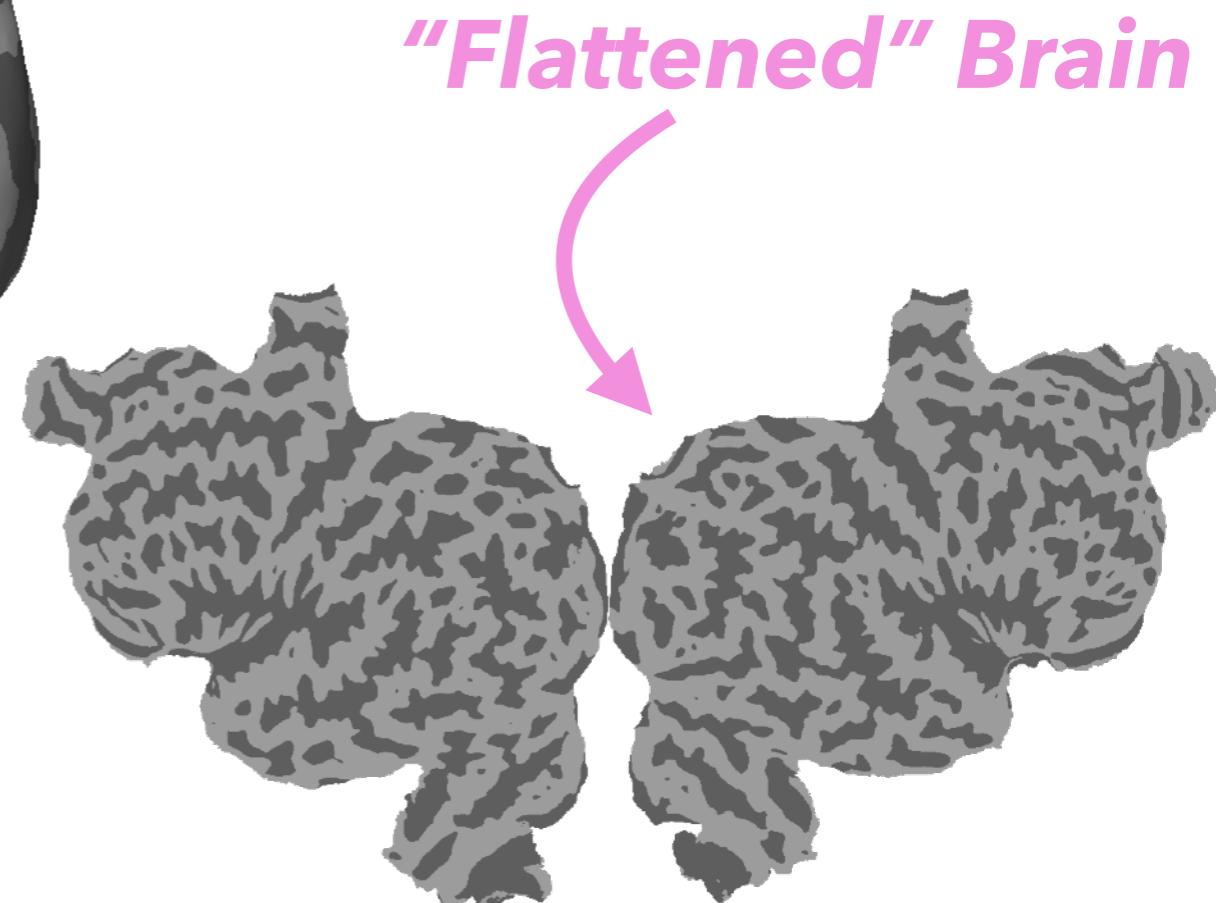
- * Major sulci:
 - * Sylvian fissure / lateral sulcus (outside of brain)
 - * Central sulcus
 - * Parietooccipital sulcus
 - * Intraparietal sulcus
 - * Calcarine sulcus (inside of brain)
 - * Superior temporal sulcus



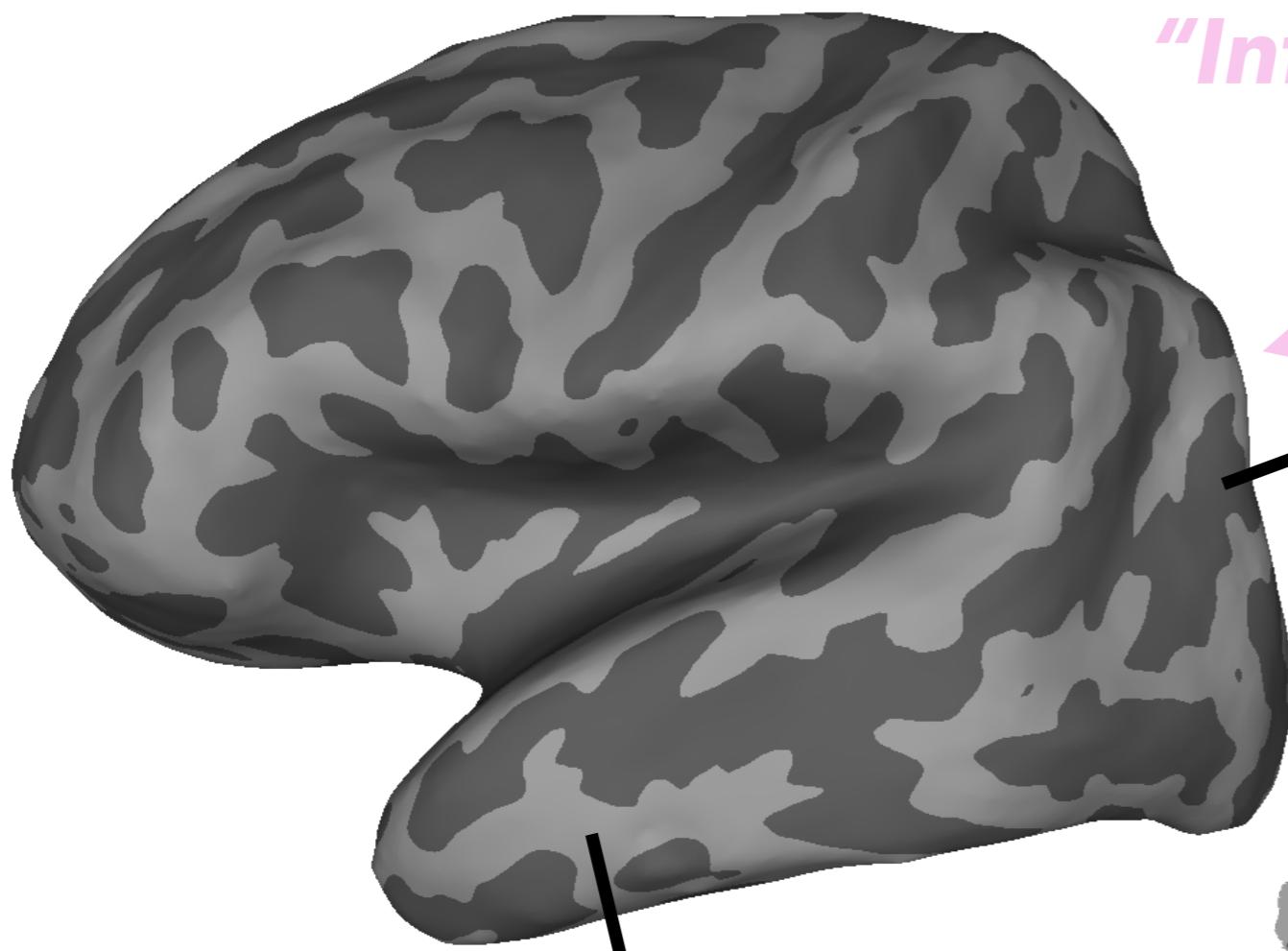
SULCI & GYRI



"Inflated" Brain



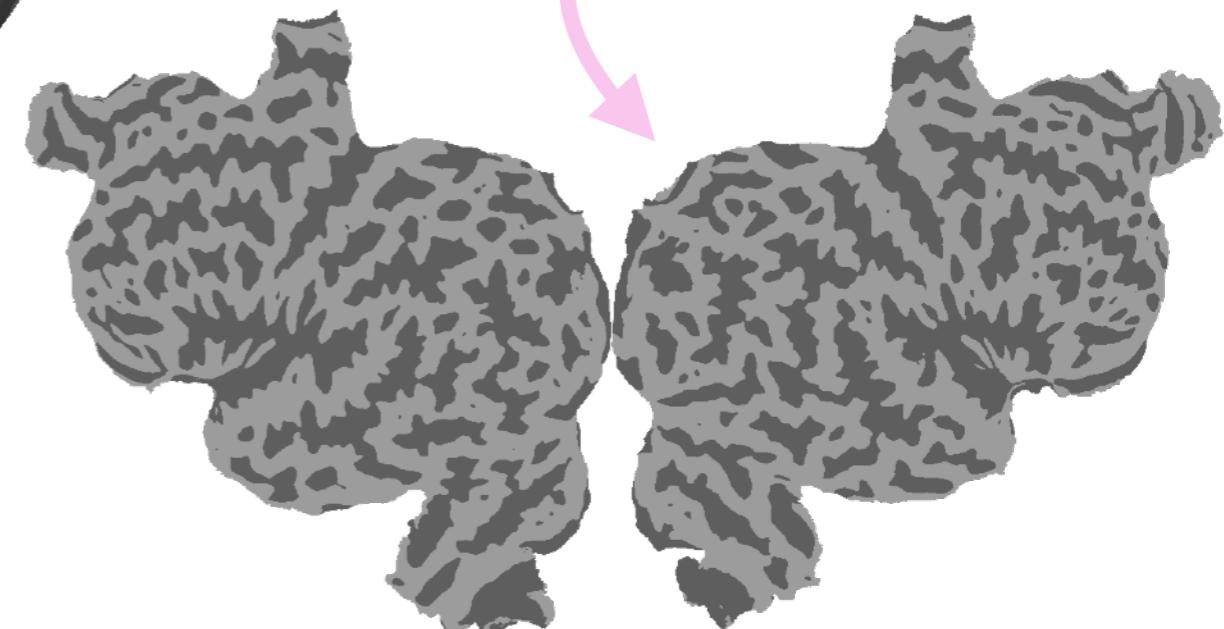
SULCI & GYRI

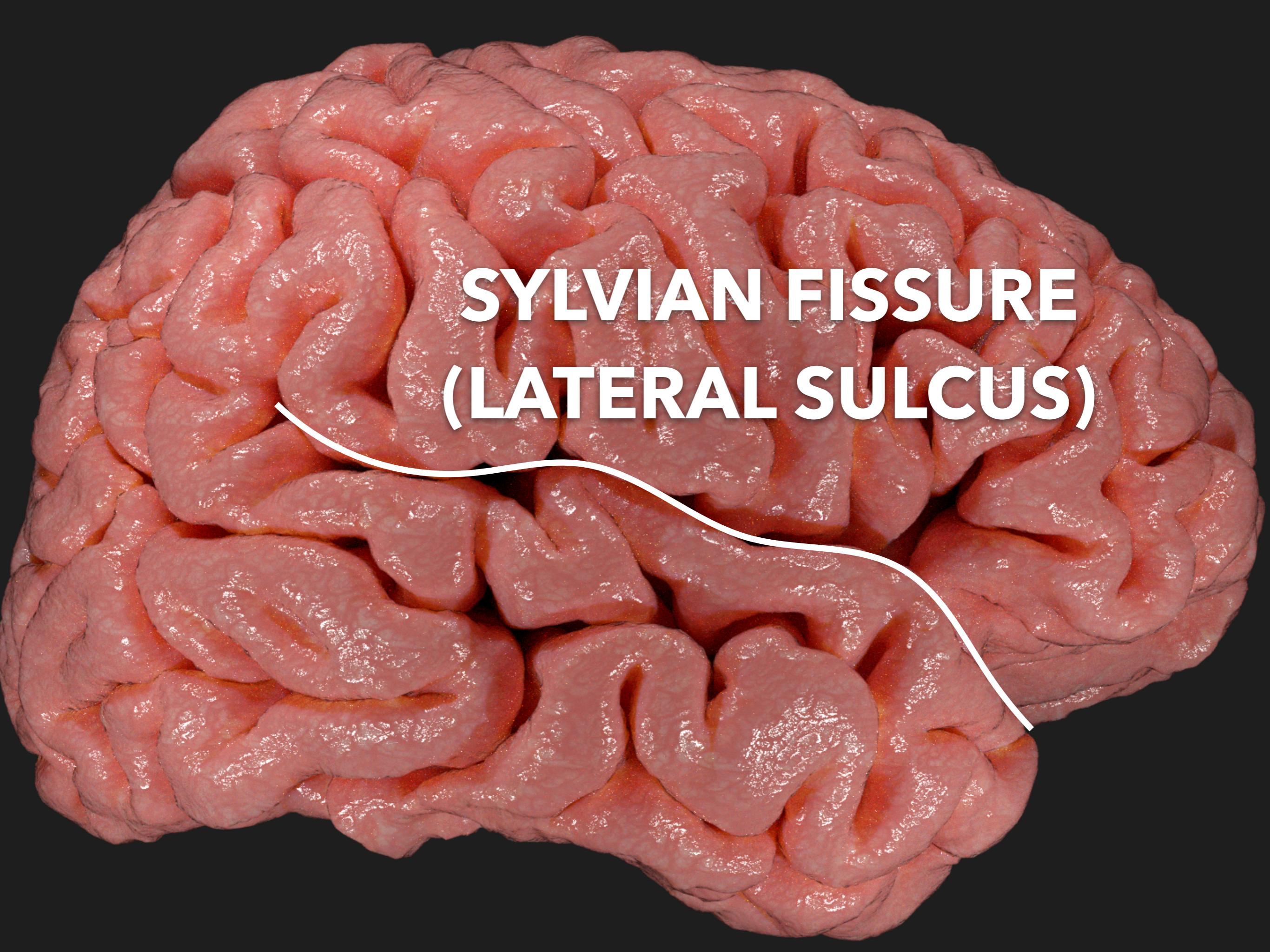


"Inflated" Brain

Sulci are dark

"Flattened" Brain

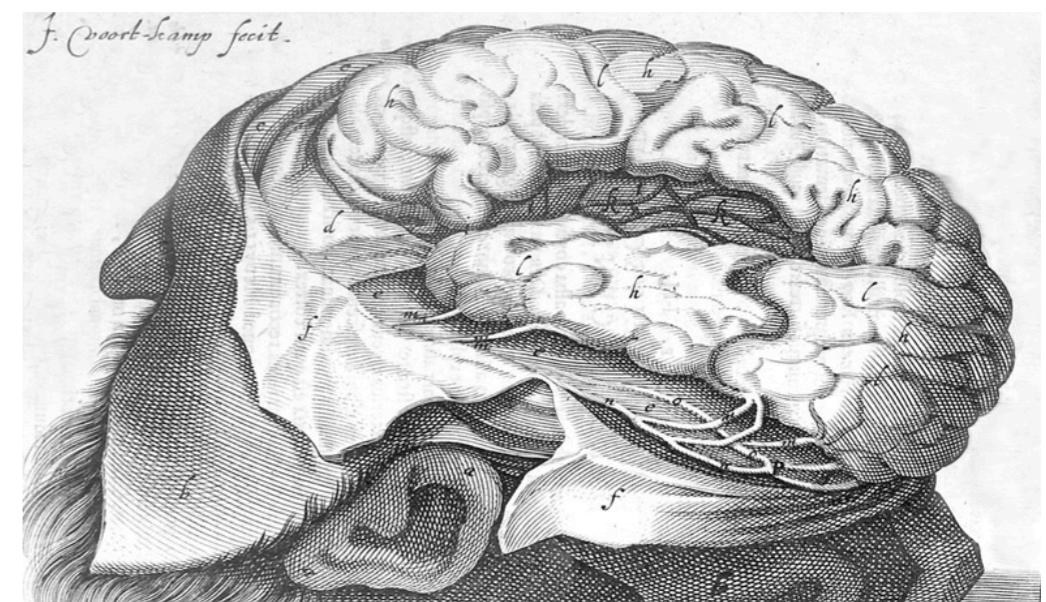




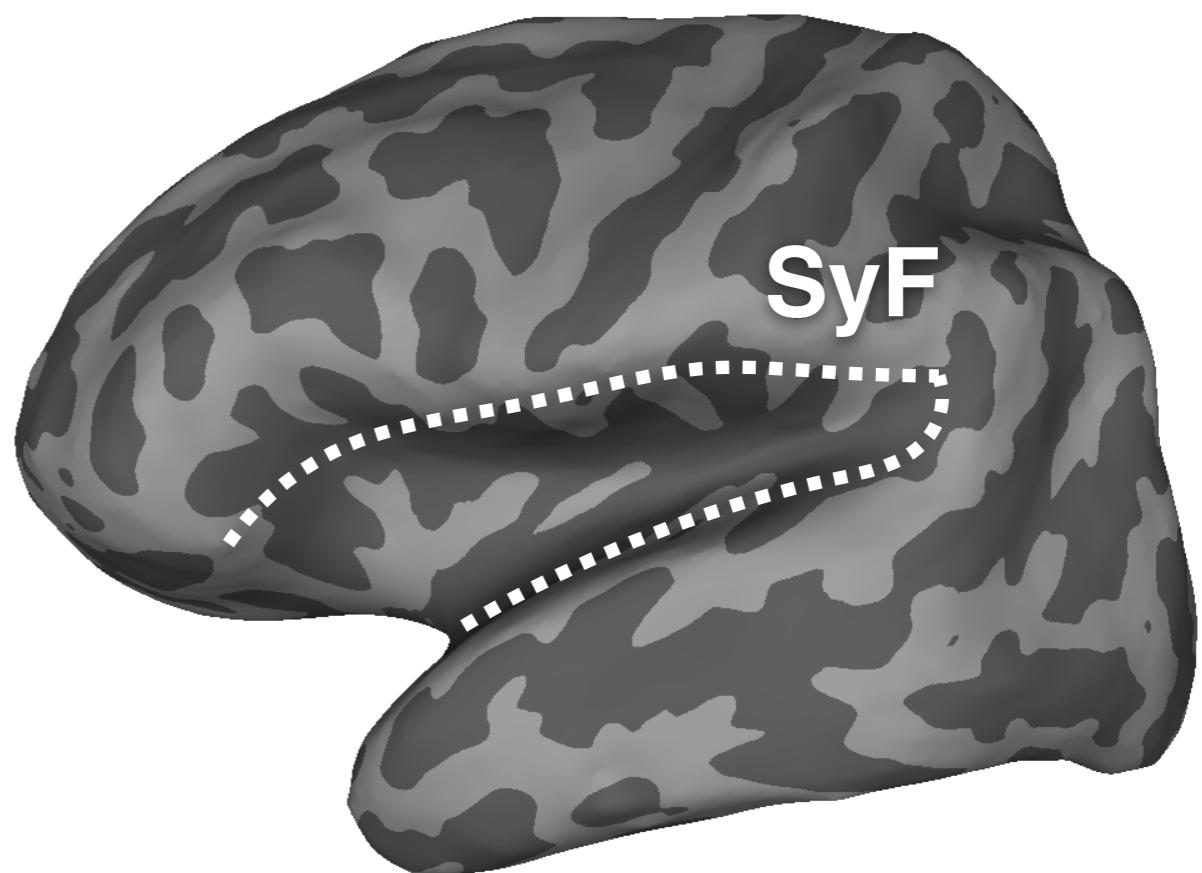
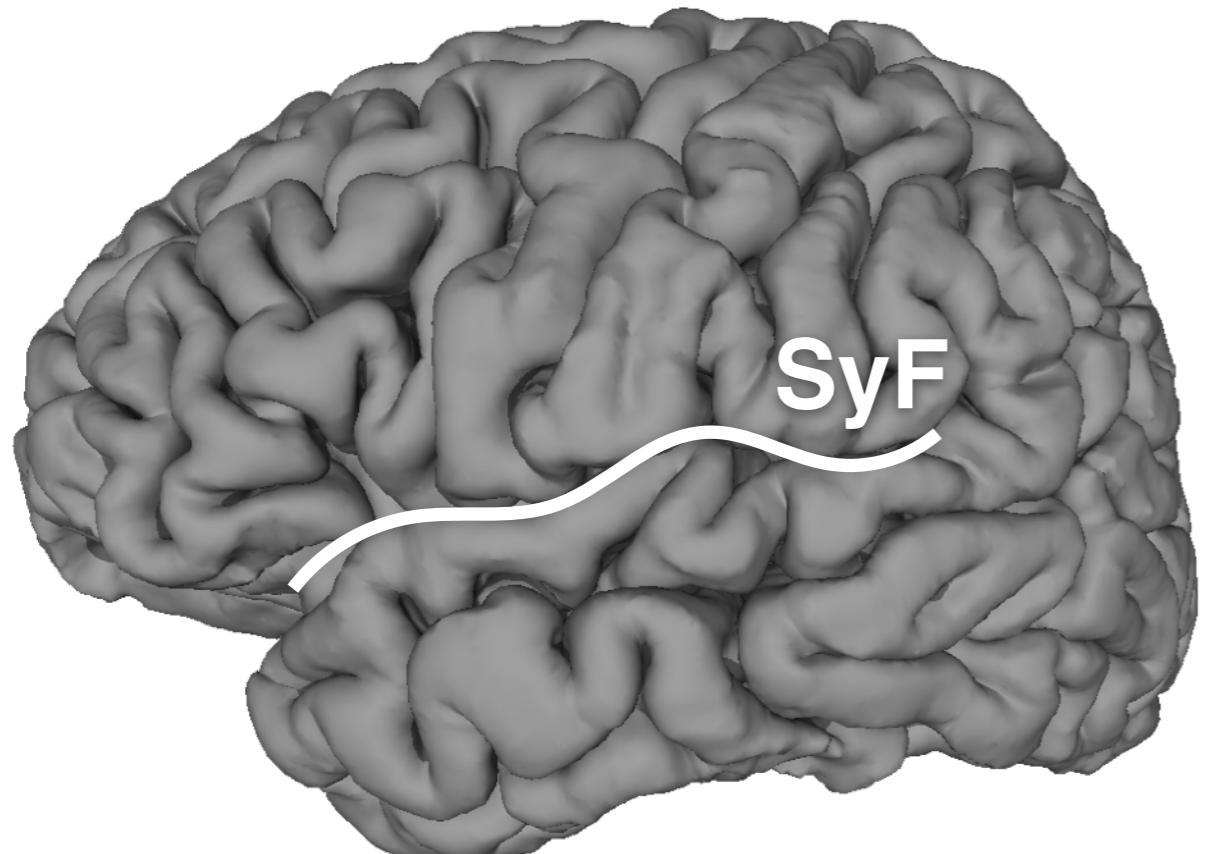
**SYLVIAN FISSURE
(LATERAL SULCUS)**

SYLVIAN FISSURE

- * Major sulcus that separates the **temporal lobe** from the **parietal** and **frontal lobes**
- * So big that lots of things are *hiding inside it:*
 - * the insula
 - * frontal operculum & parietal operculum
 - * superior temporal plane



Abbreviation: SyF

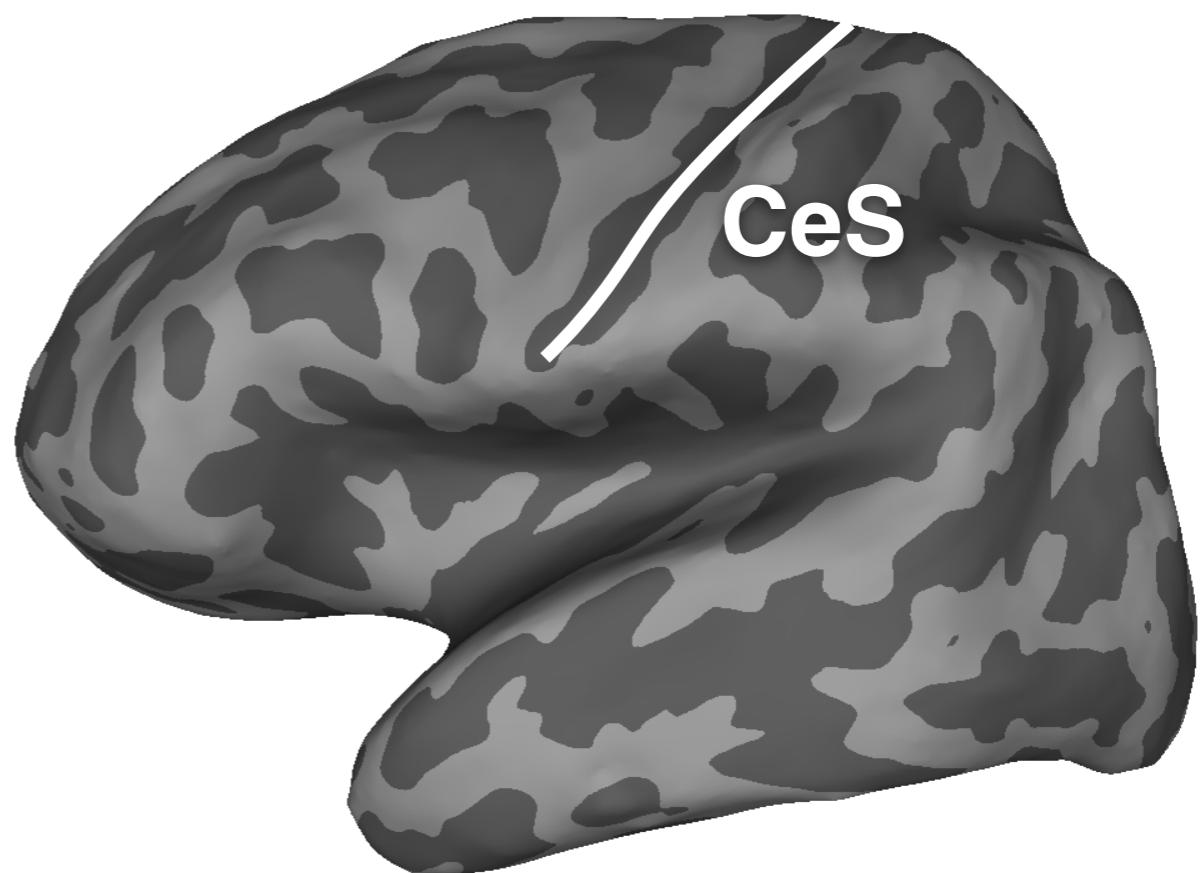
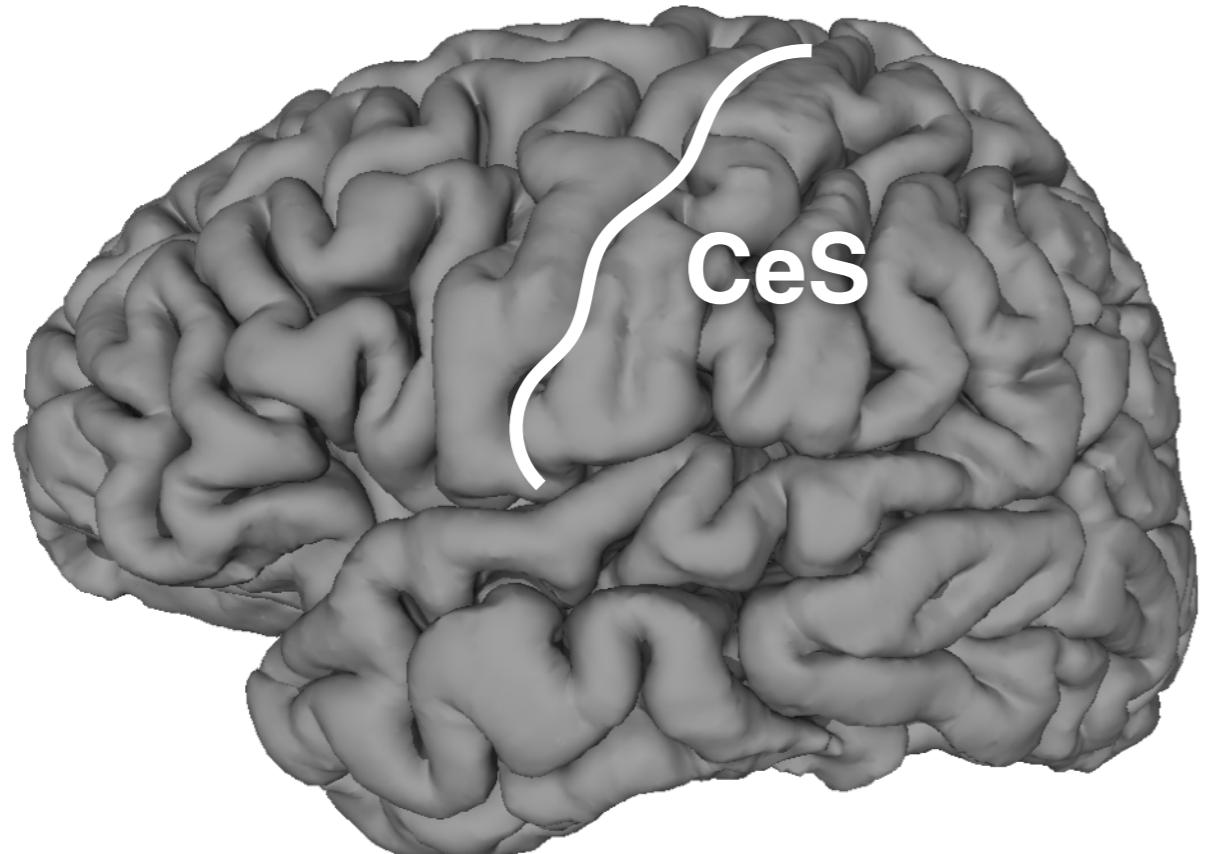


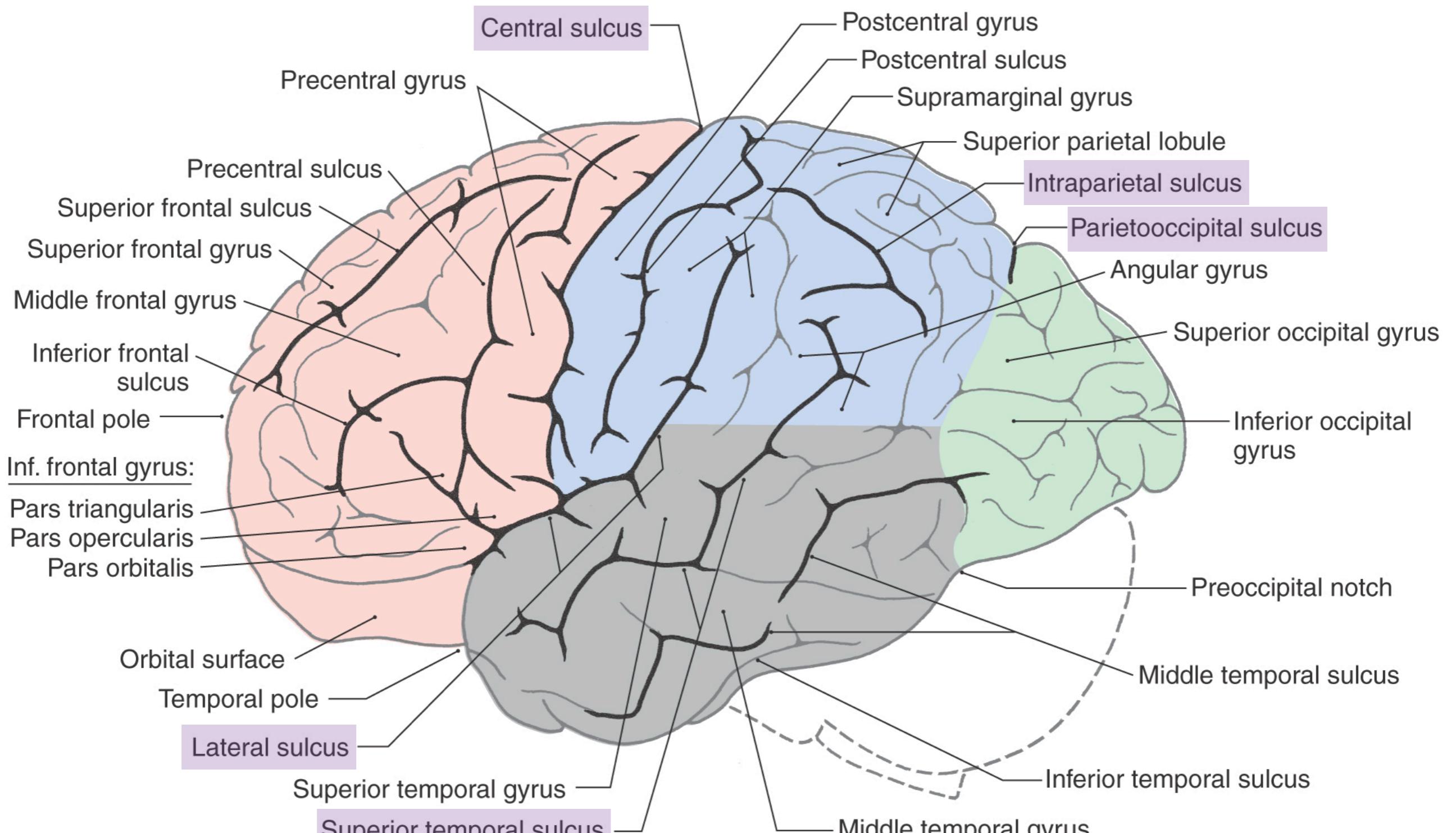
**CENTRAL
SULCUS**

CENTRAL SULCUS

- * Major sulcus that separates the **frontal lobe** from the **parietal lobe**
- * The site of **primary motor** & **primary somatosensory** cortex (the homonculus)

Abbreviation: CeS



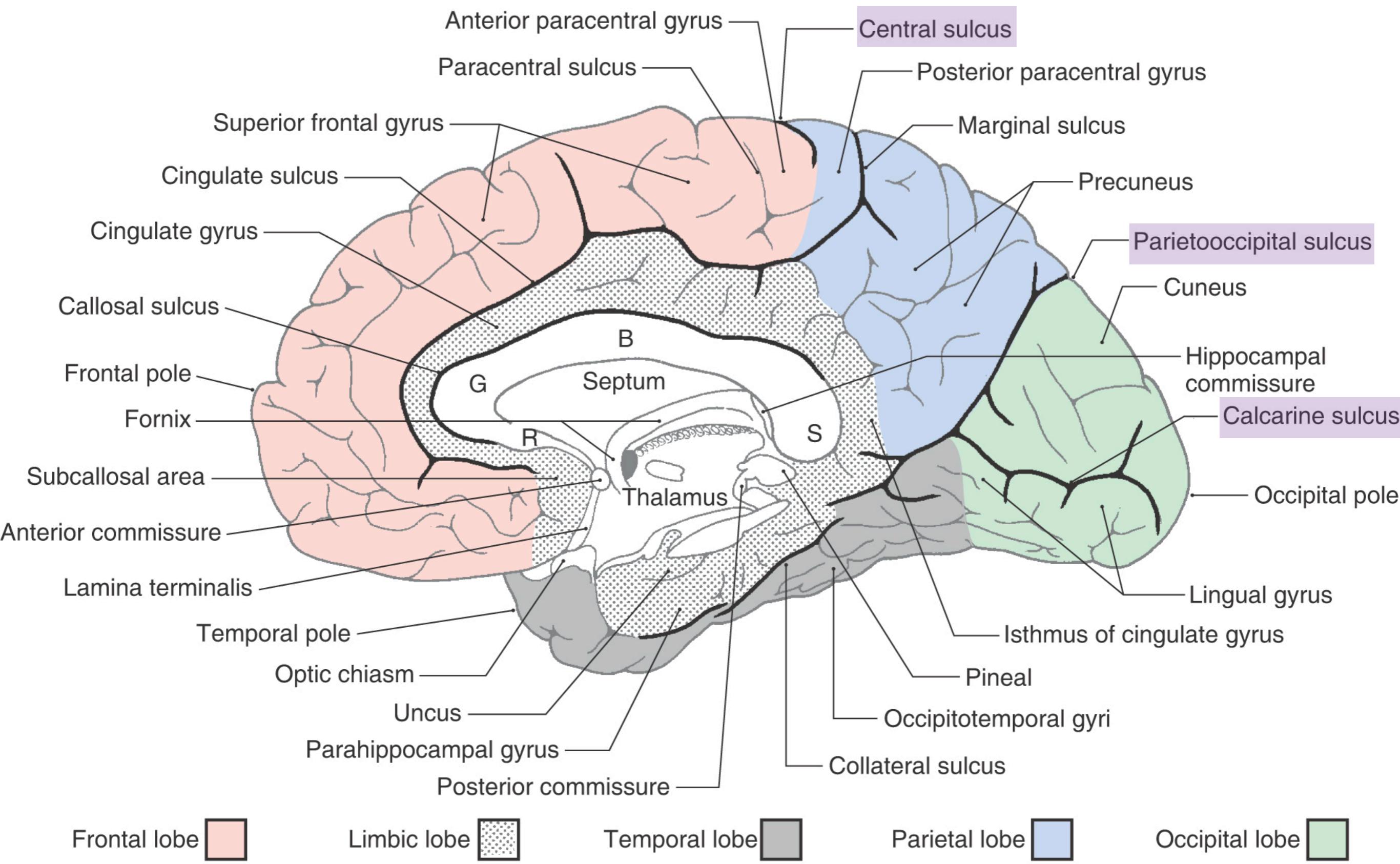


Frontal lobe

Parietal lobe

Temporal lobe

Occipital lobe



UNTIL

NEXT

TIME