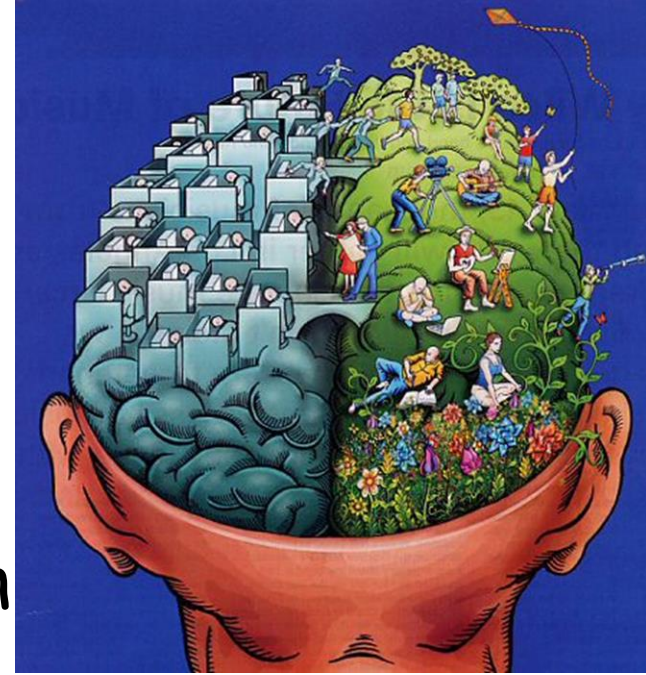


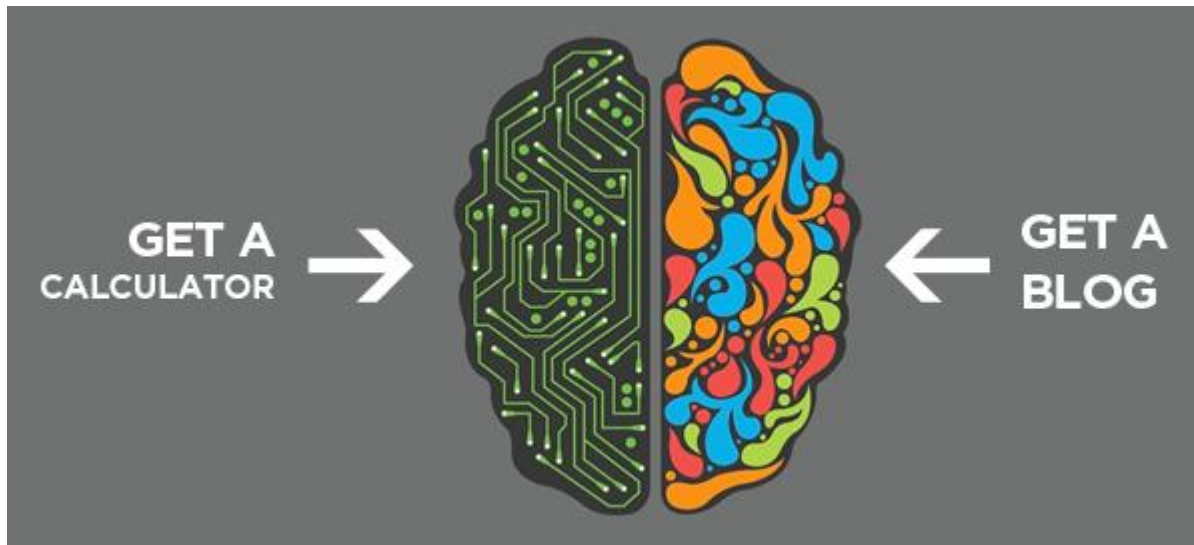
Common Myths

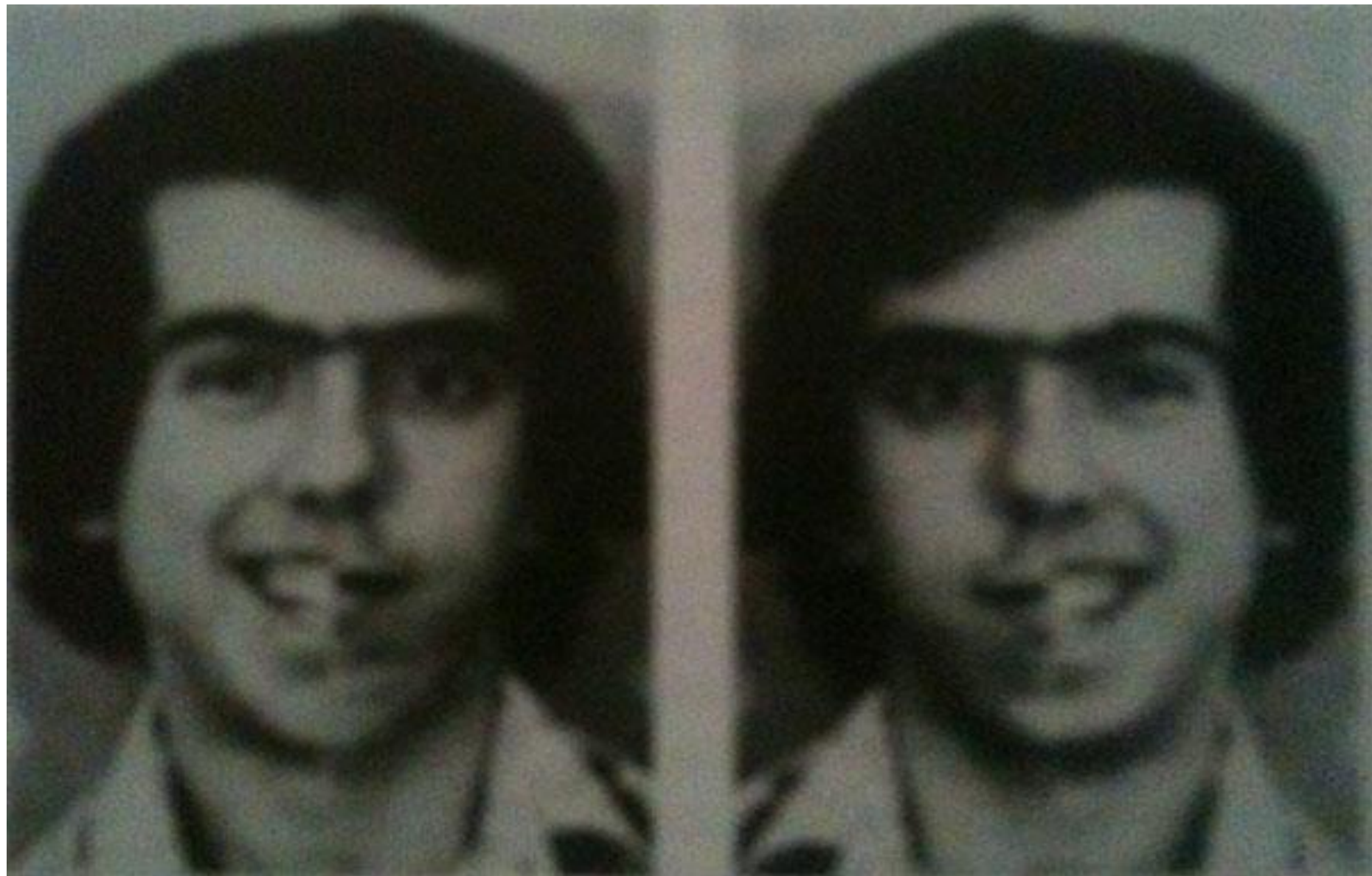


MYTHS:

- Lefties are better at spatial and creative tasks.
- Righties are better at logic.

- ❑ There is a lot of “pop psychology” about hemispheric specialization
- ❑ Broad statements like ‘the left brain is logical and the right brain is creative’ are almost always gross over-generalizations





Hemispheric Specialization

Traditional understanding:

Left side processes:

- **Speech**
- Analysis
- Time
- Sequence

It Recognizes:

- Letters
- Numbers
- Words

Right side processes:

- Creativity
- Patterns
- Spatial Awareness
- Context

It Recognizes:

- **Faces**
- Places
- Objects

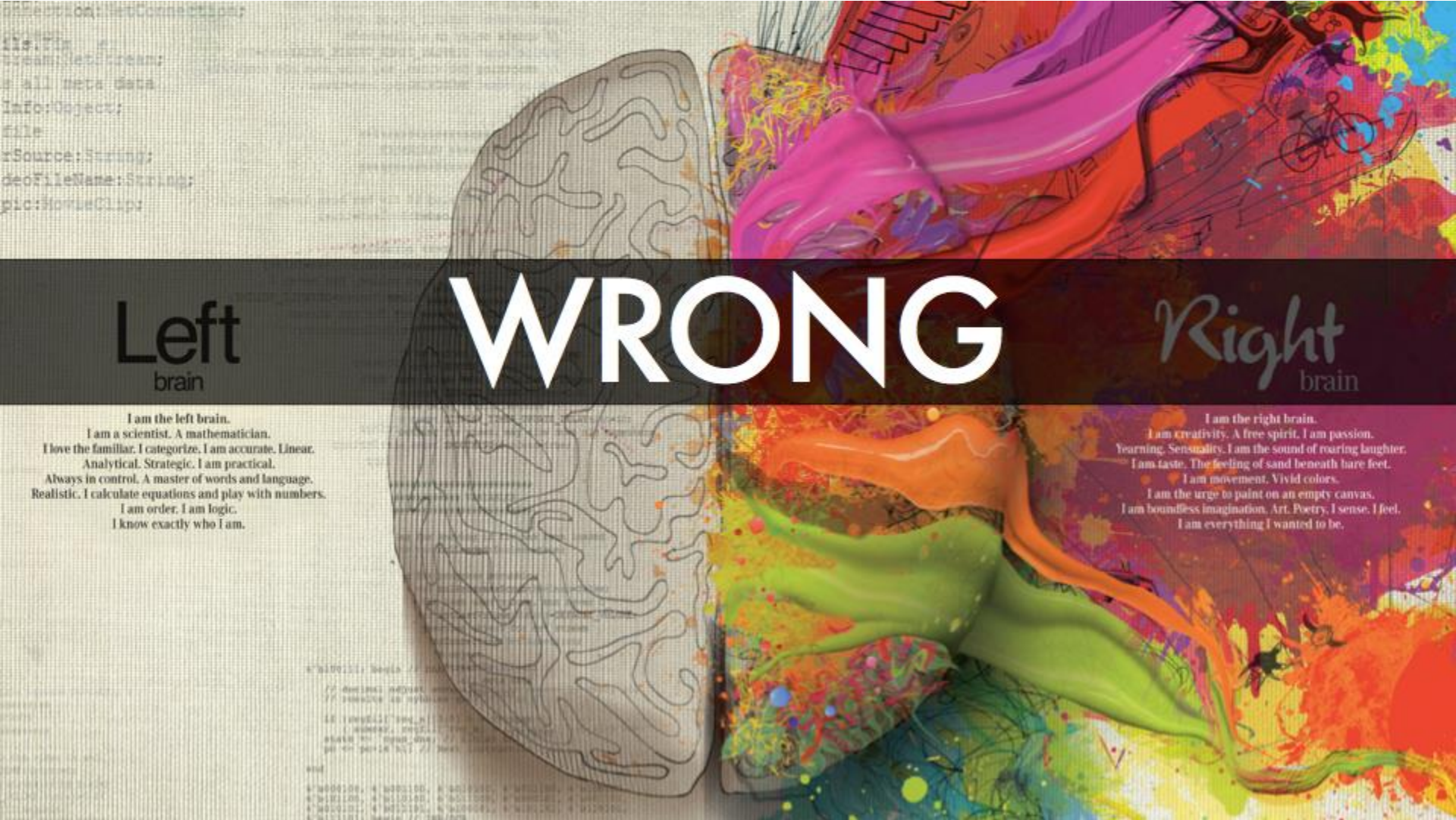
The left brain/right brain myth in advertising



Right brain

I love the
A
Always i
Realistic. I

I am the right brain.
I am creativity. A free spirit. I am passion.
Yearning. Sensuality. I am the sound of roaring laughter.
I am taste. The feeling of sand beneath bare feet.
I am movement. Vivid colors.
I am the urge to paint on an empty canvas.
I am boundless imagination. Art. Poetry. I sense. I feel.
I am everything I wanted to be.



Left
brain

WRONG

Right
brain

I am the left brain.
 I am a scientist. A mathematician.
 I love the familiar. I categorize. I am accurate. I learn.
 Analytical. Strategic. I am practical.
 Always in control. A master of words and language.
 Realistic. I calculate equations and play with numbers.
 I am order. I am logic.
 I know exactly who I am.

I am the right brain.
 I am creativity. A free spirit. I am passion.
 Yearning. Sensuality. I am the sound of roaring laughter.
 I am taste. The feeling of sand beneath bare feet.
 I am movement. Vivid colors.
 I am the urge to paint on an empty canvas.
 I am boundless imagination. Art. Poetry. I sense. I feel.
 I am everything I wanted to be.

Variations

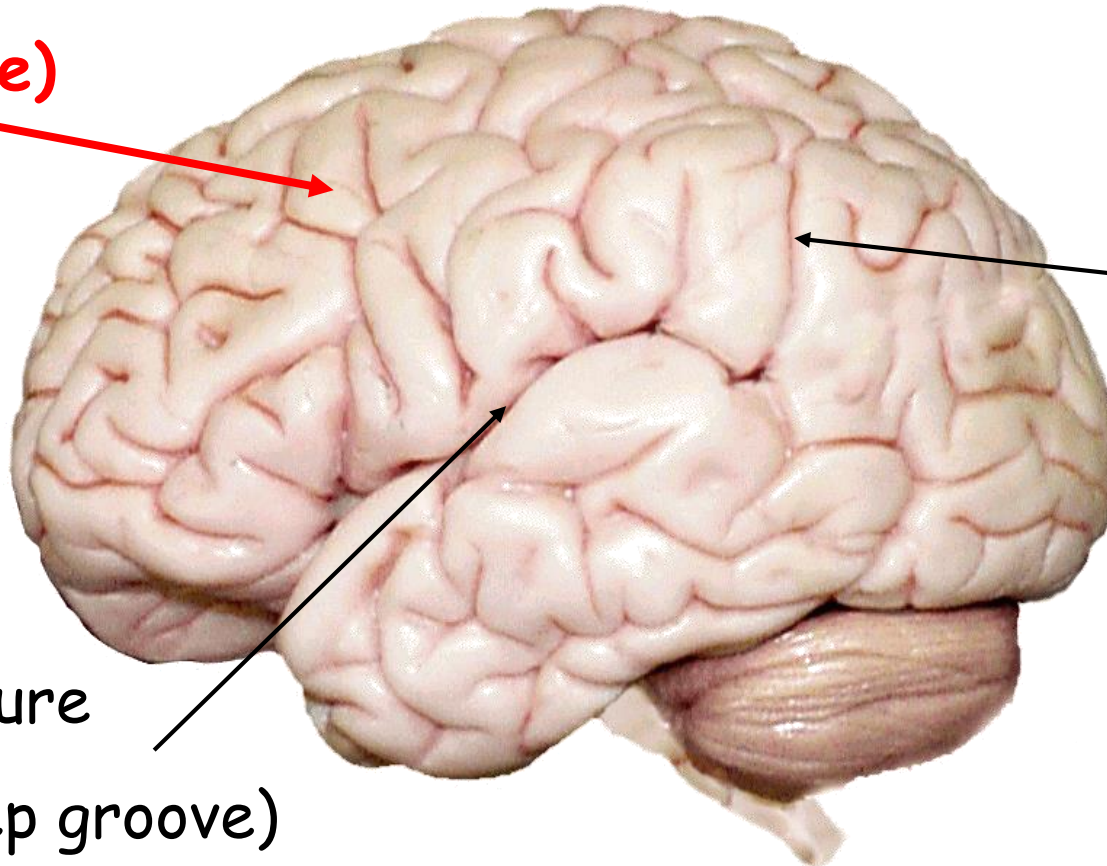
Hemispheric Specialization

- While there are some specialized functions in certain hemispheres of the brain, it is an oversimplification to say that one is "right-brained" or "left-brained."
- The two hemispheres do NOT operate independently; they communicate constantly, mostly via the corpus callosum.
- "There are many more similarities between the hemispheres than differences."
- To completely lose a particular mental faculty, a person normally needs to suffer damage to a particular area in both the left and right hemispheres.

Cerebral Features:

- Gyri - Elevated ridges "winding" around the brain.

Gyri
(ridge)



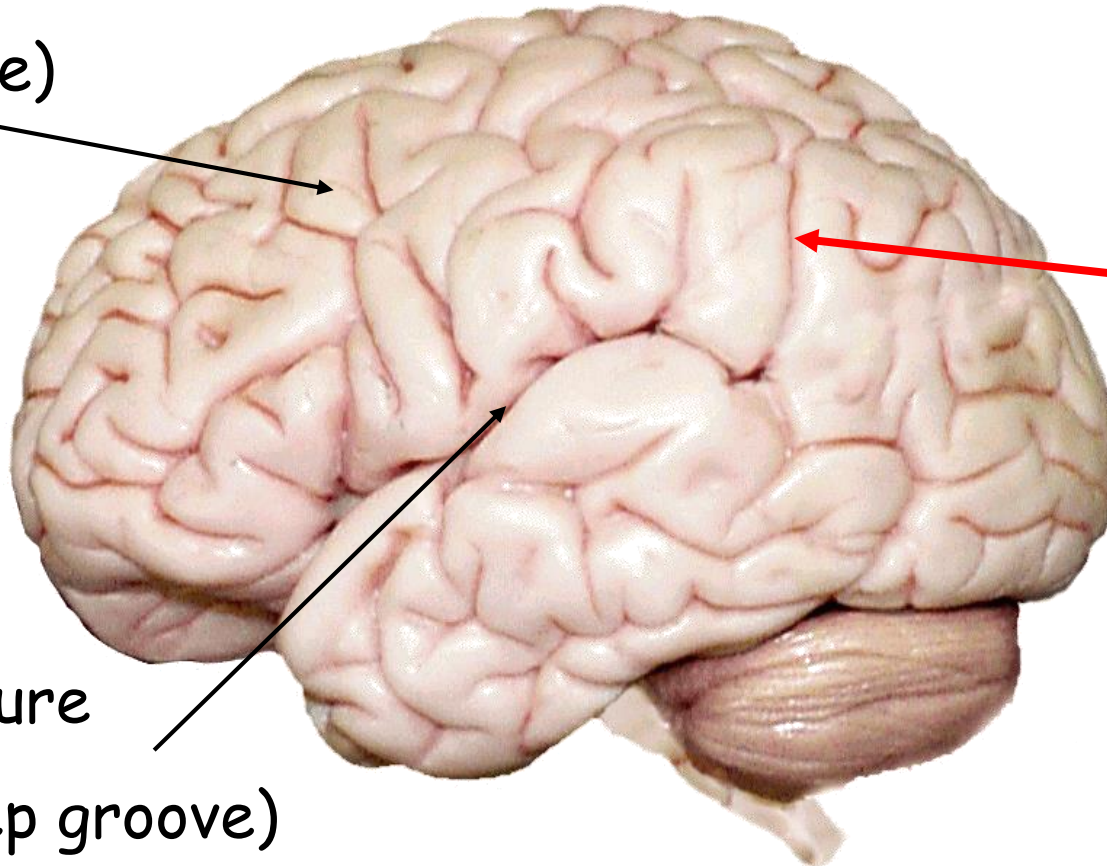
Sulci
(groove)

Fissure
(deep groove)

Cerebral Features:

- Sulci - Small grooves dividing the gyri

Gyri
(ridge)



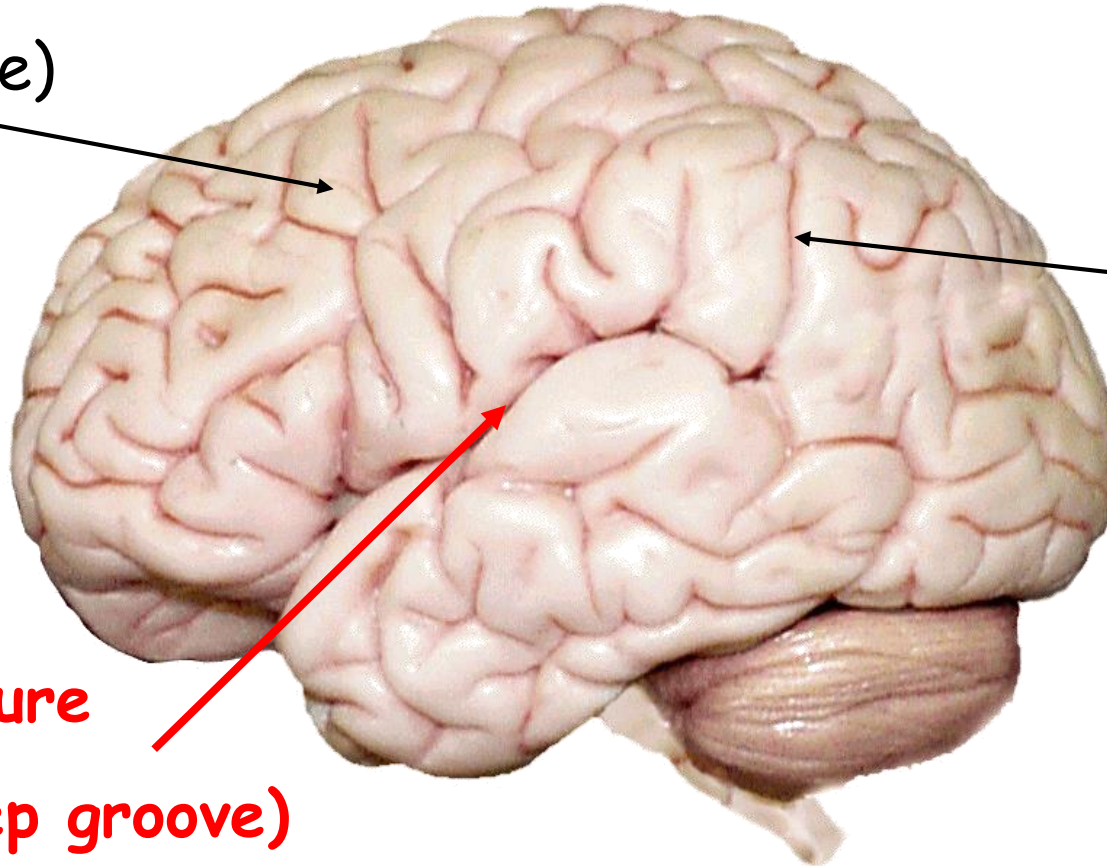
Sulci
(groove)

Fissure
(deep groove)

Cerebral Features:

- **Fissures** - Deep grooves, generally dividing large regions/lobes of the brain

Gyri
(ridge)



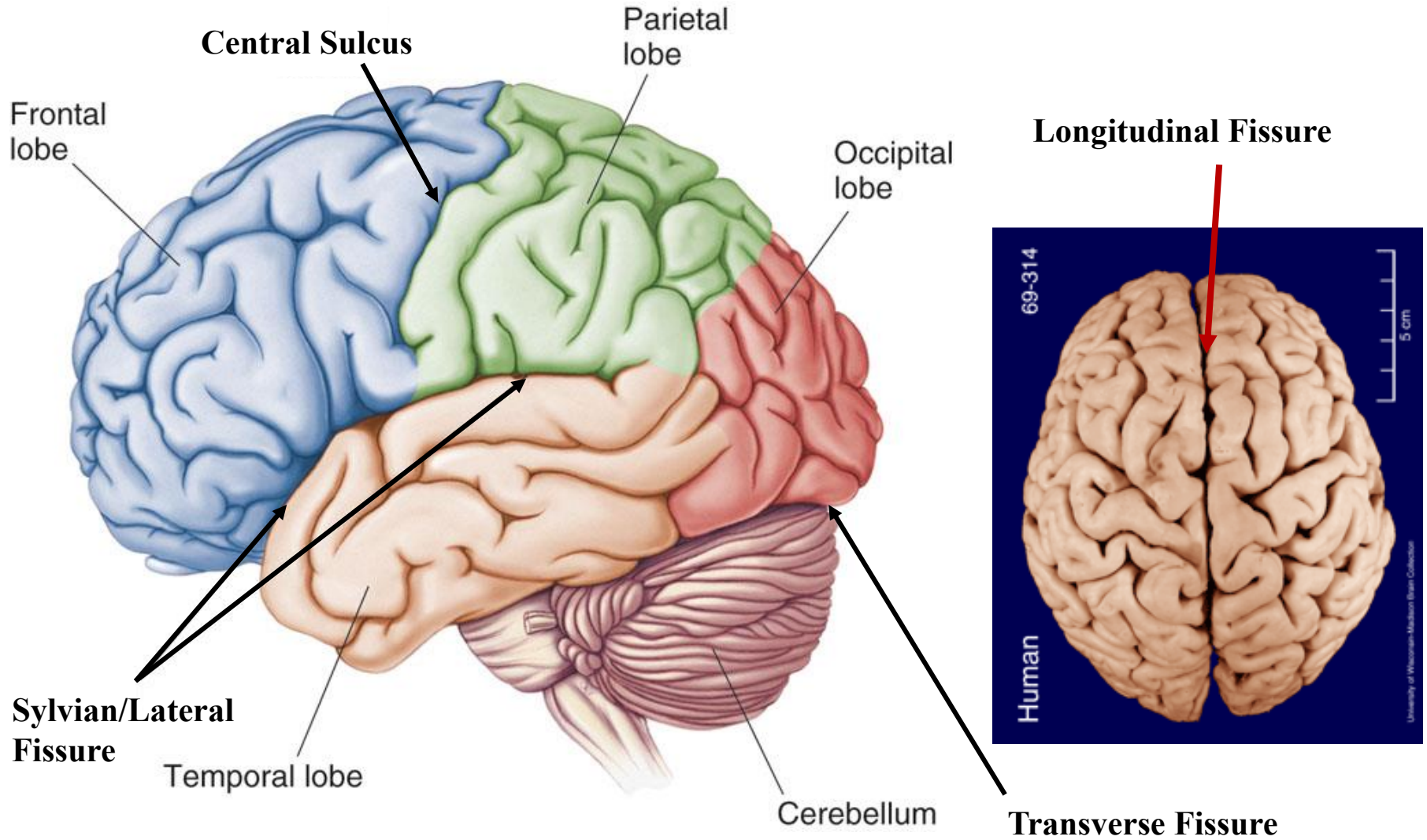
Sulci
(groove)

Fissure
(deep groove)

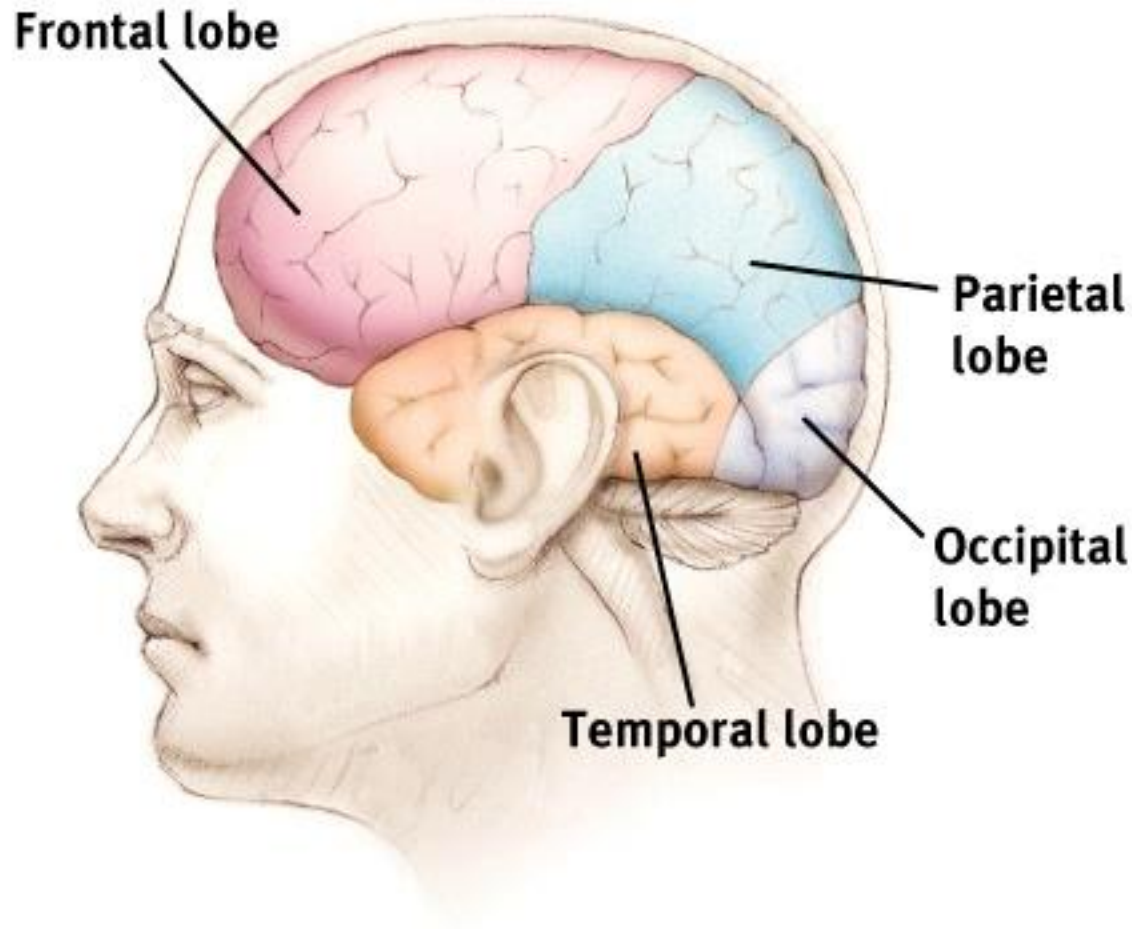
Specific Cerebral Features you need to know:

- **Longitudinal Fissure** - Divides the two Cerebral Hemispheres
- **Central Sulcus** - Divides the Frontal Lobe from the Parietal Lobe
- **Transverse Fissure** - Separates the Cerebrum from the Cerebellum
- **Sylvian/Lateral Fissure** - Divides the Temporal Lobe from the Frontal and Parietal Lobes

Specific Sulci/Fissures:



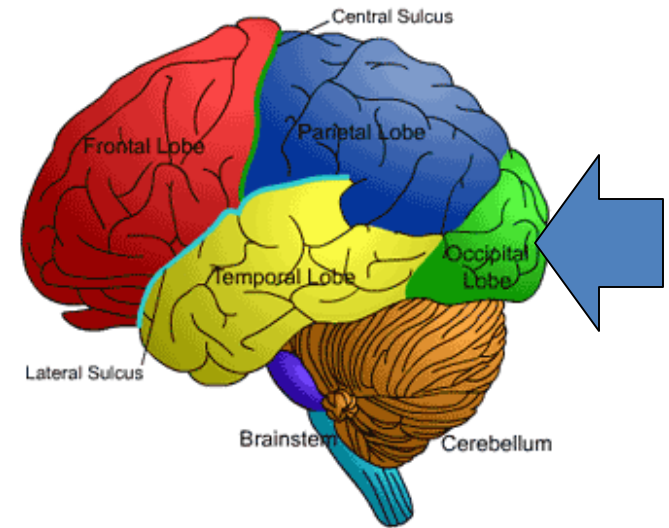
The Cerebral Cortex is made up of four Lobes.



Structure of the Cortex

- occipital lobe: brain lobe at the back of the head
 - responsible primarily for vision
 - Contains **Visual Cortex**: Processes and interprets messages from our eyes into images we can understand

Figure AB-11: Lobes of the Brain

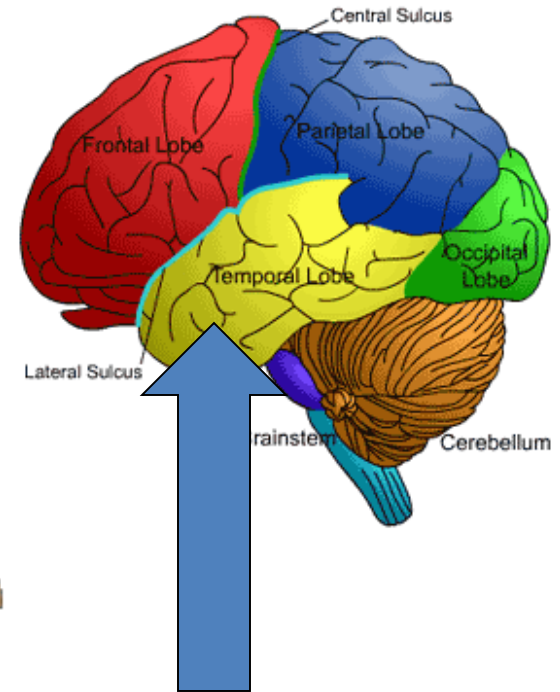


Structure of the Cortex

- temporal lobe: the brain lobe under the temples, in front of the ears
 - many functions, including processing sounds, committing information to memory, and comprehending language
- Sound is interpreted in **Auditory Cortex**.
- Processes faces in Facial recognition system [right side only]



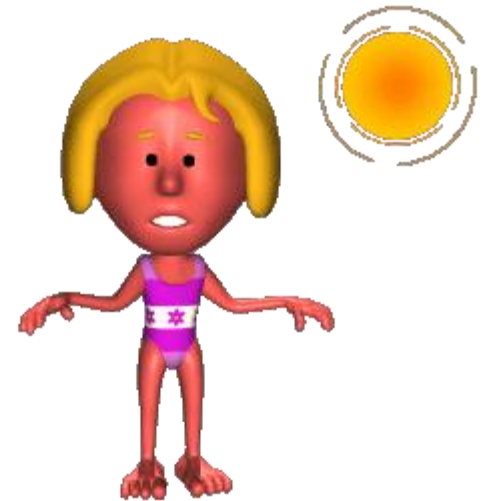
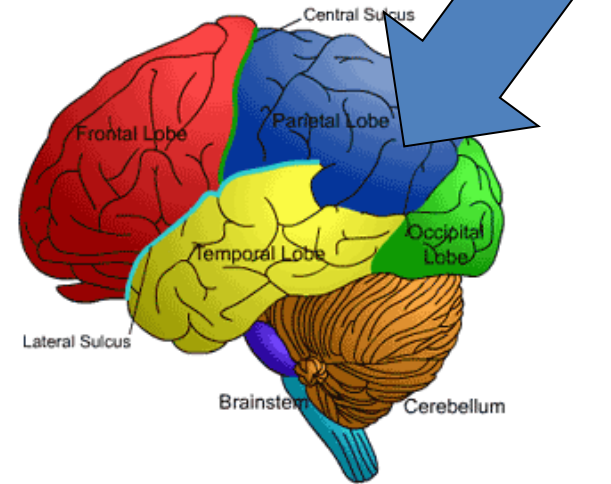
Figure AB-11: Lobes of the Brain



Structure of the Cortex

- parietal lobe: brain lobe at the top and center/rear of the head
- Contains **SomatoSensory Cortex**: receives incoming touch sensations from rest of the body.
- Most of the Parietal Lobes are made up of **Association Areas**, which integrates sensations.

Figure AB-11: Lobes of the Brain

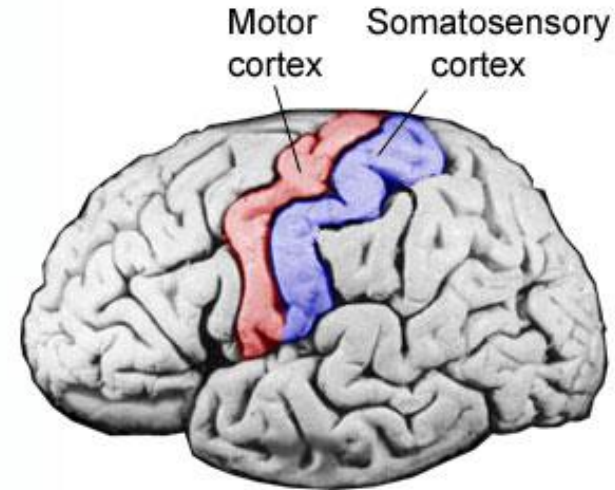


Structure of the Cortex

- sensory cortex (a.k.a. somatosensory strip): the gyrus immediately behind the central sulcus
 - registers sensation on the body, and is organized by body part

Homunculus literally means "little person,"

Figure F-3: Motor and Somatosensory Cortex



Homunculus