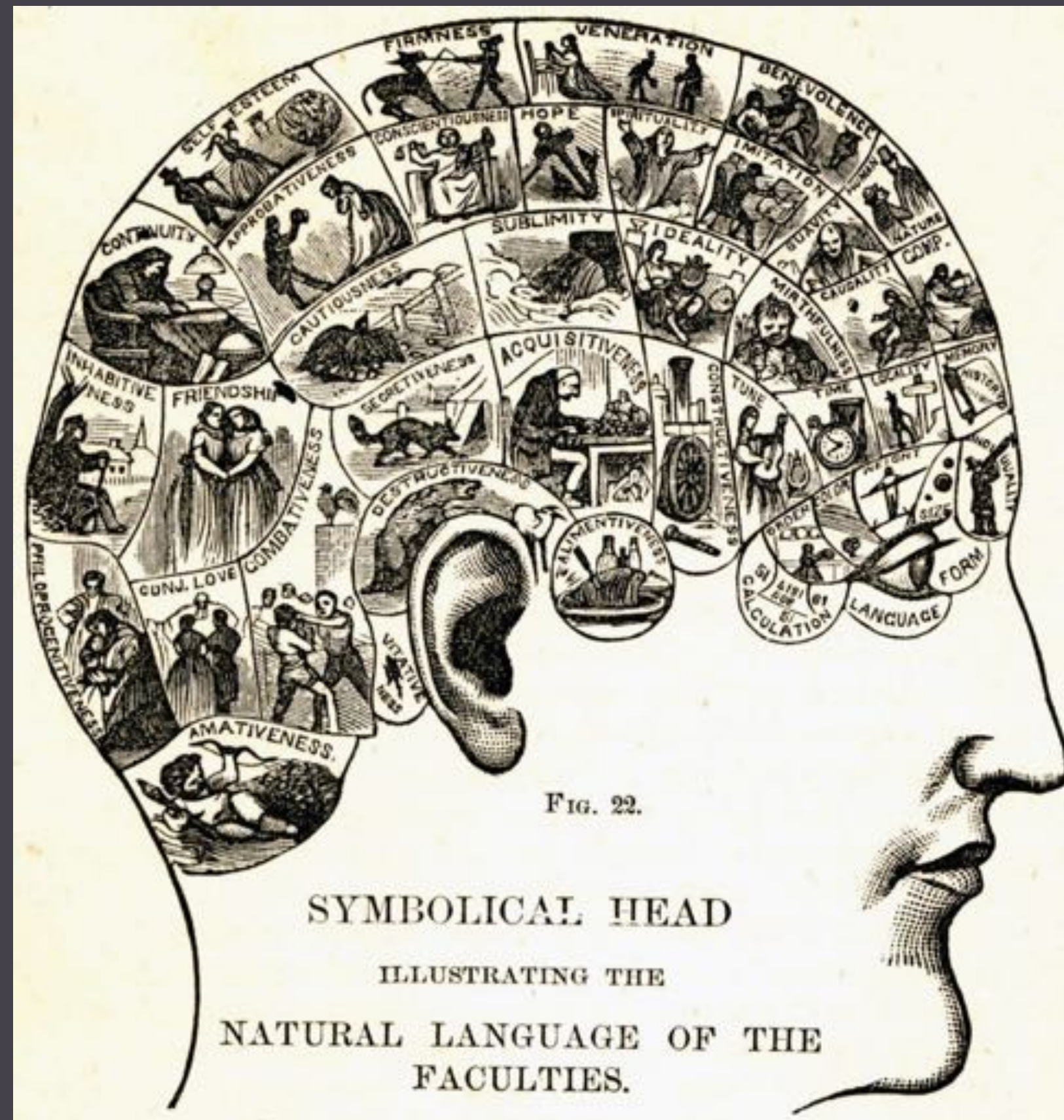


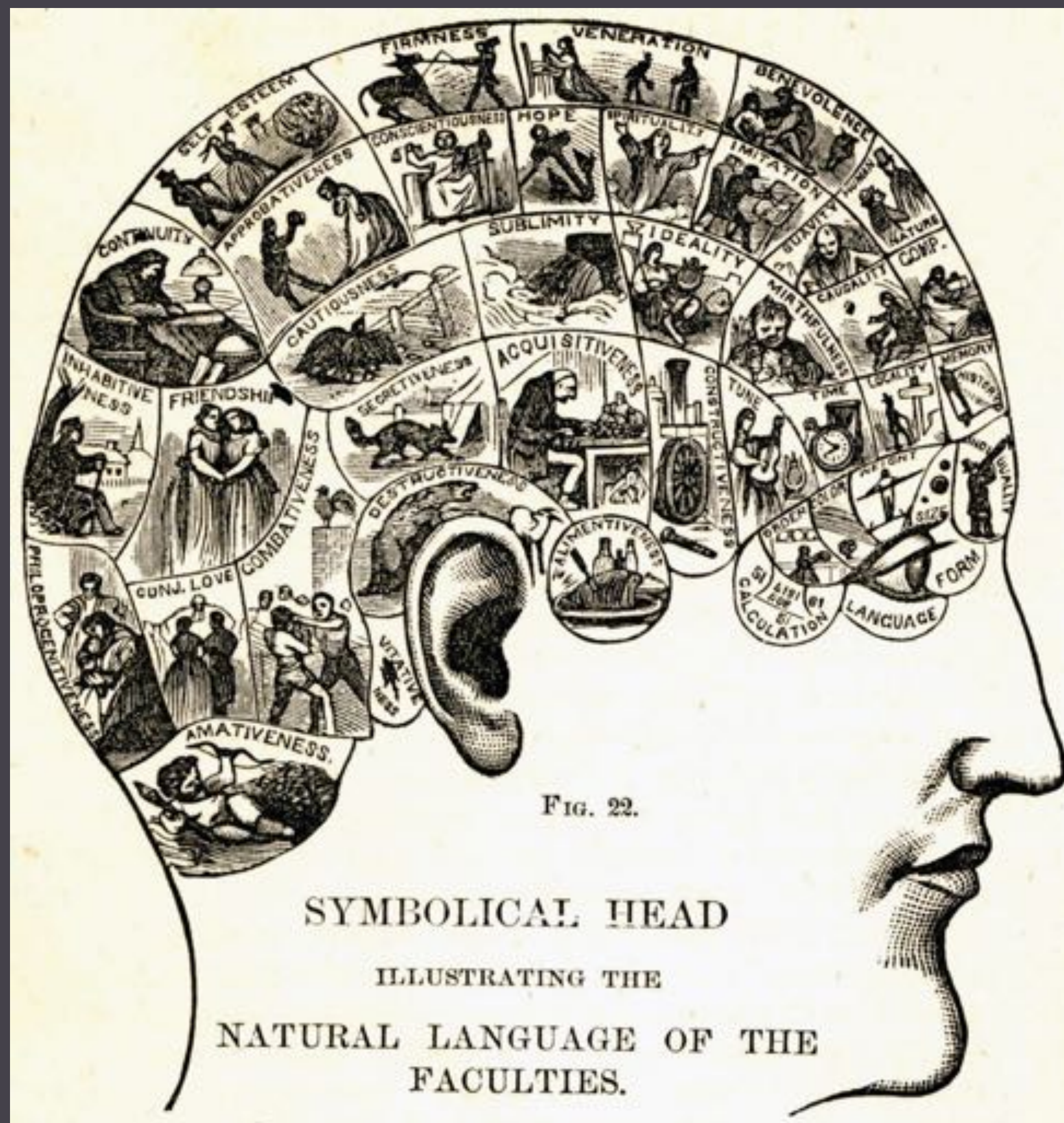
The Brain (Part 4)



PSYCH 1101

PROF. DAVID PIZARRO
DAY 8

Localization Vs Plasticity



Neuroplasticity

- Changes in the physical ***structure*** and functional ***organization*** of the brain due to experience
 - learning ('neurons that fire together, wire together')
 - re-mapping of sensory cortex (video on next slide)
 - Can occur after brain damage (e.g, invasive surgery)
 - Can be positive or negative (e.g. changes in amygdala due to post-traumatic stress)

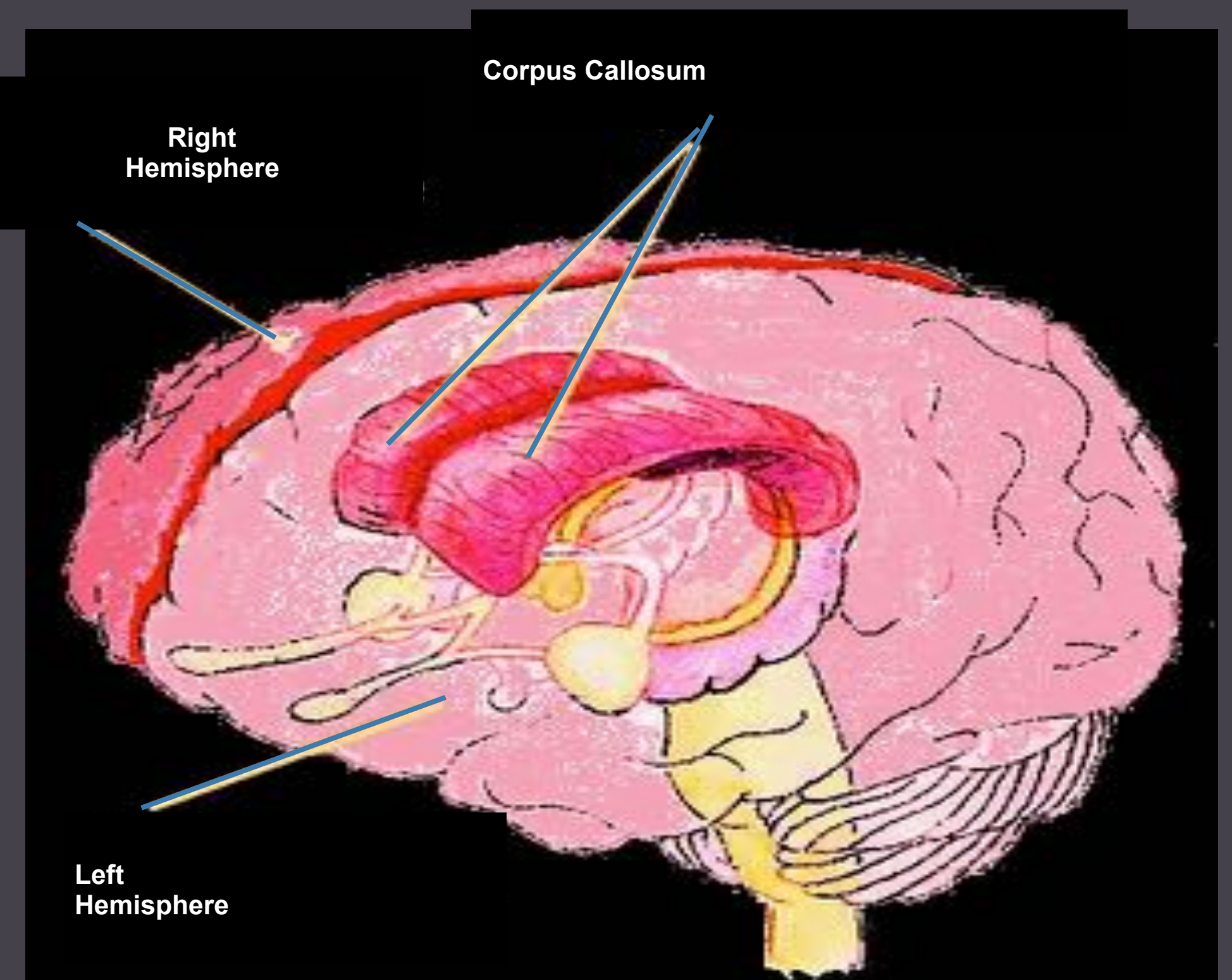
Human Echolocation



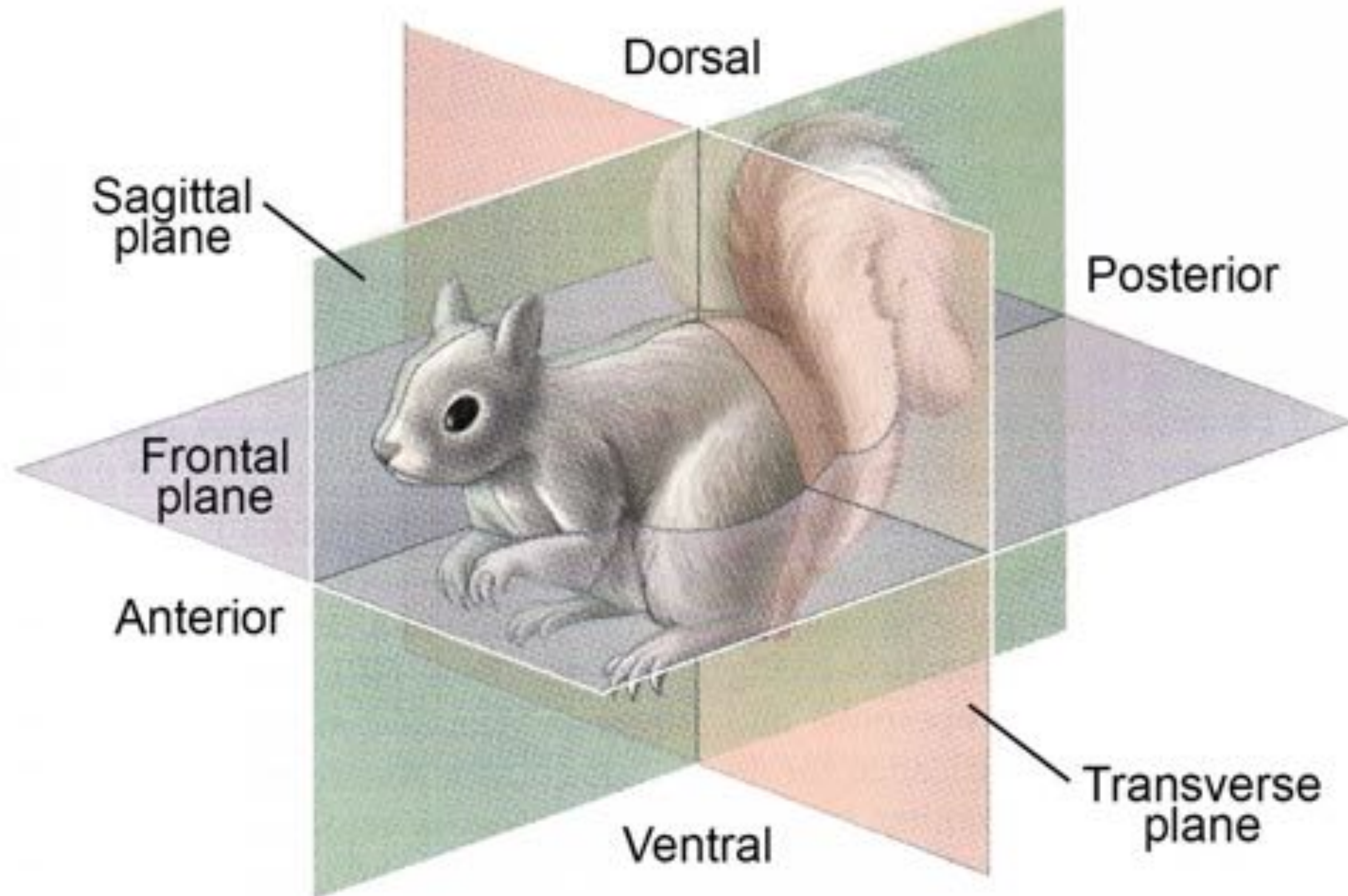
<https://www.youtube.com/watch?v=A8lztr1tu4o>

The Two Hemispheres Of The Brain

- Left and right sides are separate
- Corpus callosum : major pathway between hemispheres
- While there is a built-in redundancy, some functions are 'lateralized'



Bilateral Symmetry



Written language

12345
12345
12345

Number skills

Reasoning

Spoken language

Scientific skills

Right-hand control

Left Brain Functions



Right Brain Functions

Insight

3-D forms

Art awareness

Imagination

Left-hand control

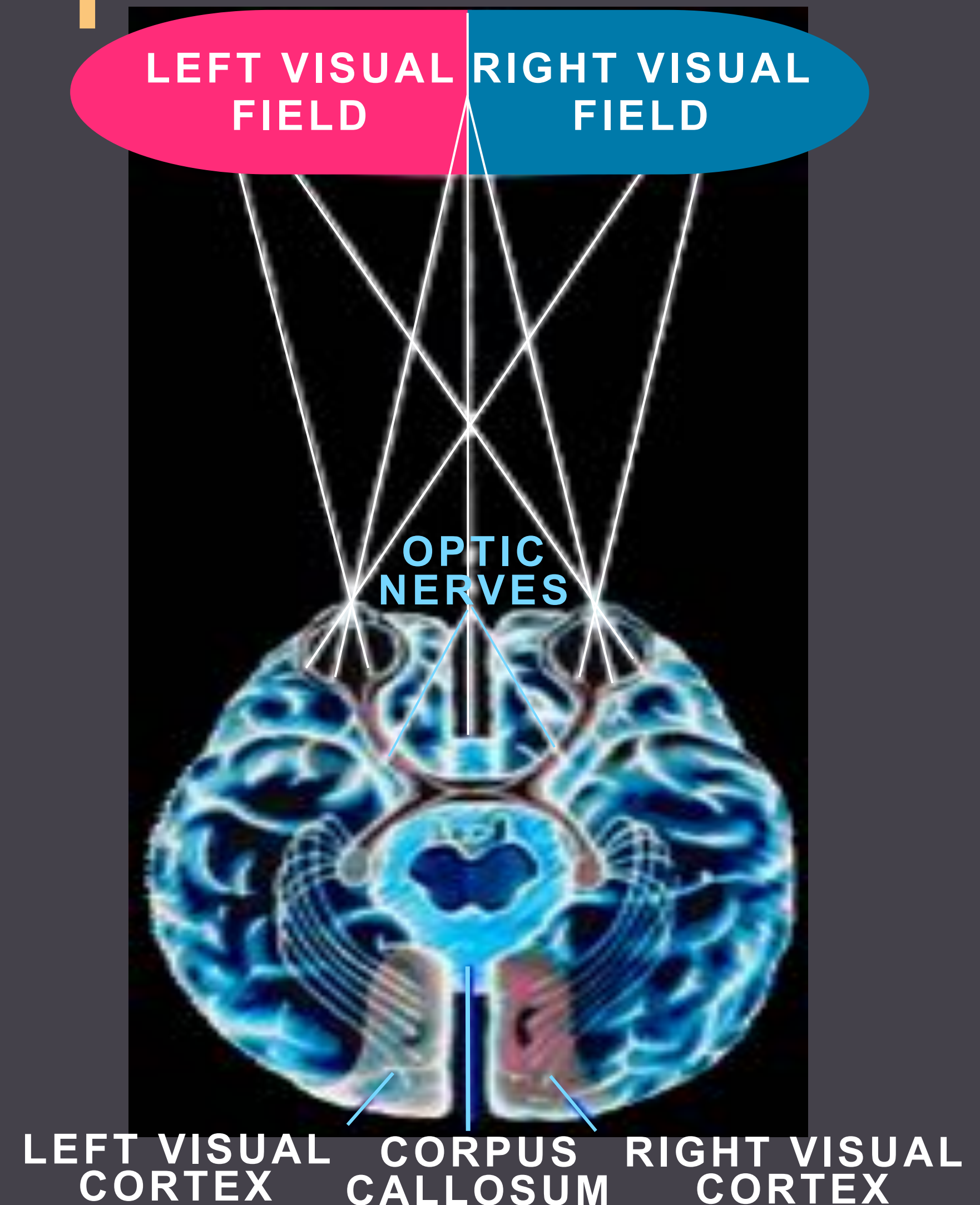
Music awareness

Left Hemisphere (LH)

Right Hemisphere (RH)

Sensory Information Sent To Opposite Hemisphere

- Contralateral organization
- Sensory data crosses over in pathways leading to the cortex
- Visual Crossover
 - left visual field to right hemisphere
 - right field to left
- Other senses similar



Gazzaniga And Split-Brain Patients

SCIENTIFIC
AMERICAN
FRONTIERS

Introductory Psychology
Video Collection

Severed Corpus
Callosum

Some Potentially Disturbing
Implications About Identity...



video by CGP Grey <https://www.youtube.com/watch?v=wfYbgdo8e-8>