

# What Makes Your Brain Happy and Why You Should Do the Opposite

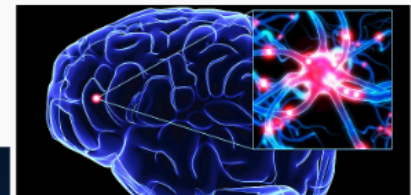
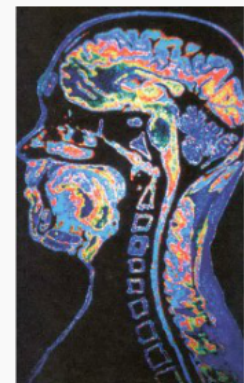
## The Cerebrum

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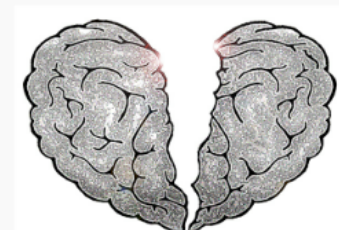
We have seen that the cerebrum is divided into two hemispheres that control opposite sides of the body.

*What you'll learn:*

- what would happen if the the two cerebral hemispheres could not communicate with each other.
- why researchers often refer to the left hemispheres as "dominant"
- why "left-brainedness" and "right-brainedness" are exaggerations.

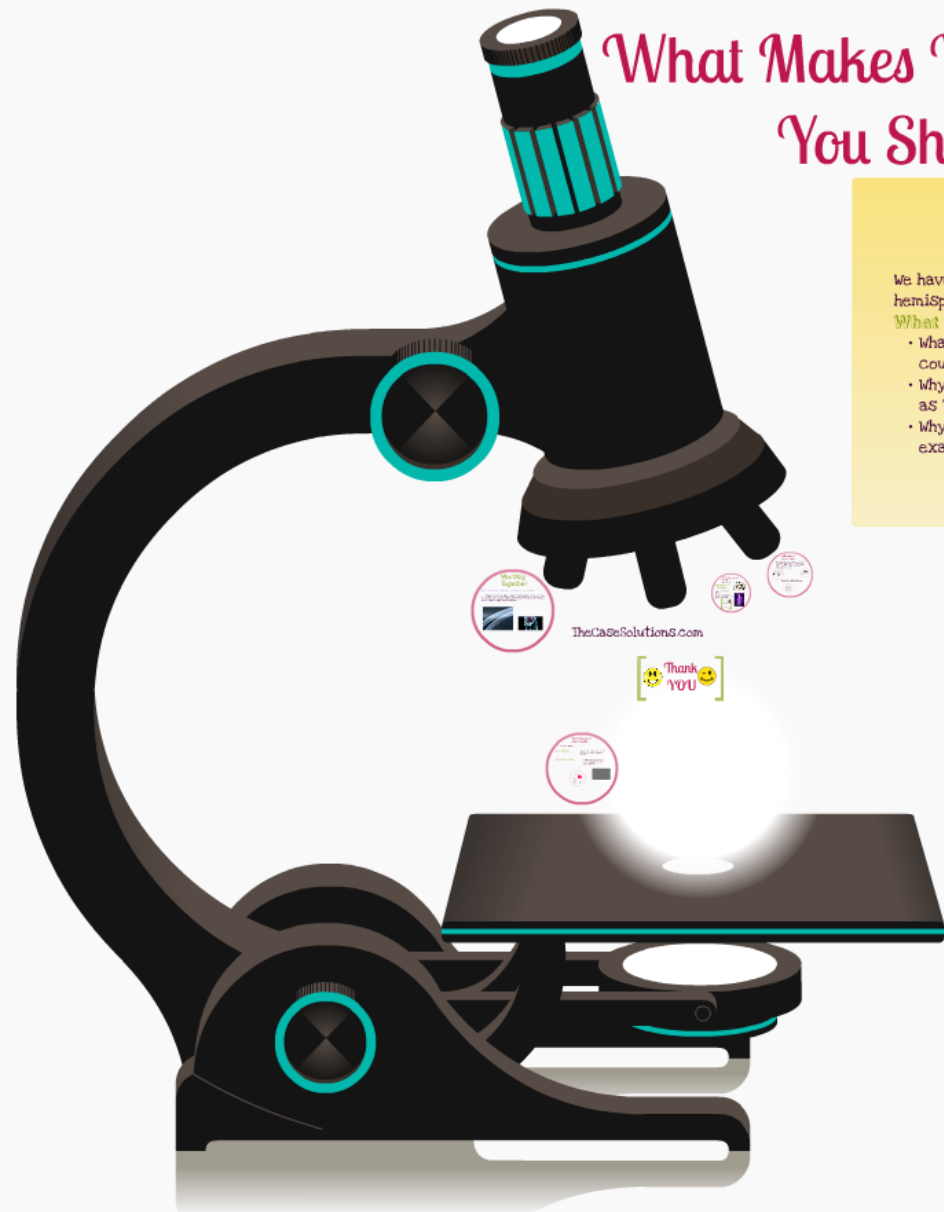


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Split Brain

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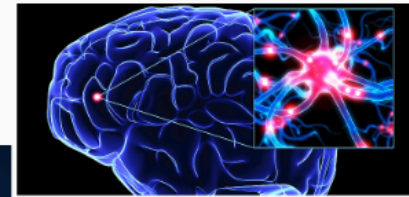
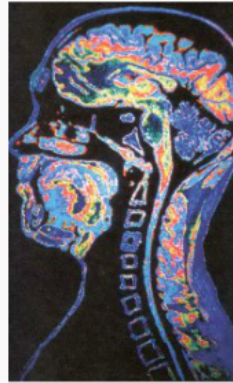
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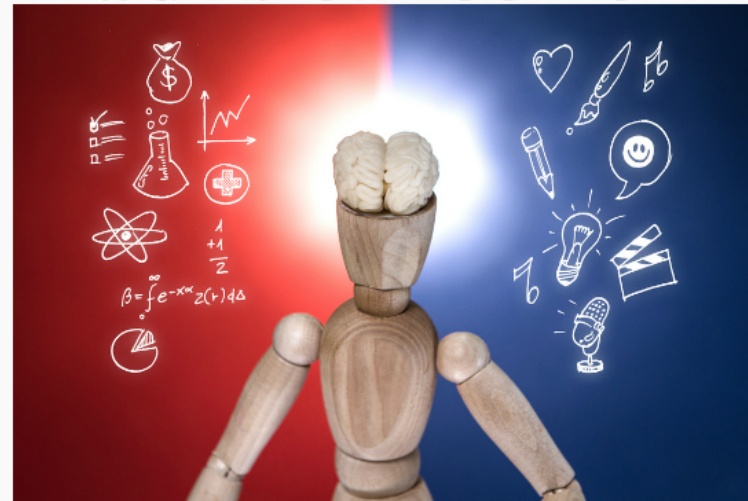
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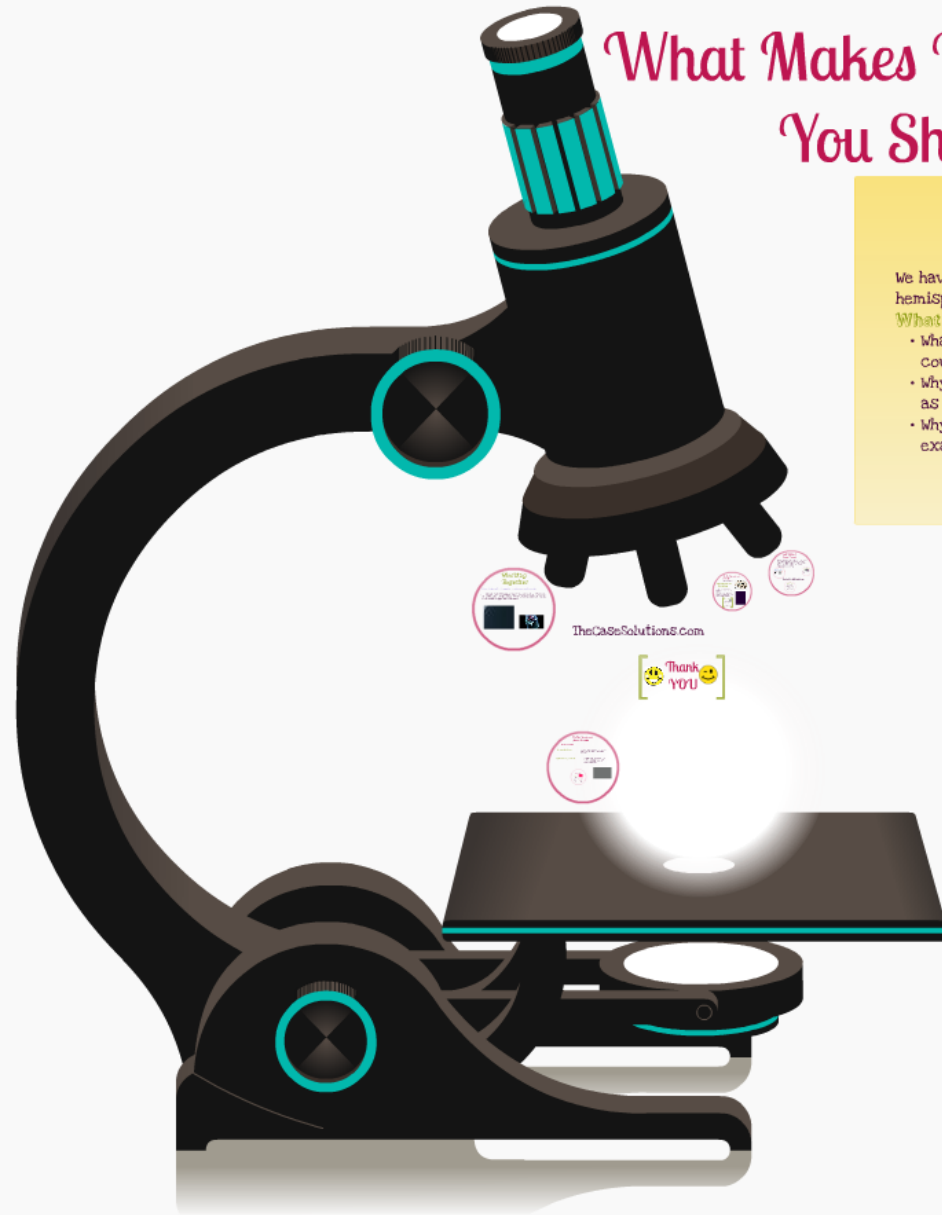


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Split Brain

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**Working Together**

The two brains will work together to make everyday life easier.

- For example, the left hemisphere "hears" the individual sounds that make up the words, but the right hemisphere "hears" the intonation that tells us if the speaker is happy, sad, or sarcastic.



**The Two Hemispheres of the Brain**

Two parts to the cerebrum

A left cerebral hemisphere, part of the brain

A hemisphere, that is, half of a sphere. Appears as a mirror image from the other side.



**Split Brains of Stroke Victims**

In a normal brain, the two hemispheres of the cerebral hemisphere will join together across the corpus callosum. The bundle of fibers that connects them. Without support on one side of the brain, it is impossible for the other side.



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[ 😊 Thank YOU 😊 ]

**The Two Hemispheres: Alike or Opposite?**

**Methods on the brain:**

**Corpus Callosum:** Connects the two hemispheres of the brain. About 1/4 inch thick and made of white matter.

**Split Brain Operations:** In split brain operations, the corpus callosum is cut. This separates the two hemispheres of the brain. The operations are performed only on the left hemisphere.

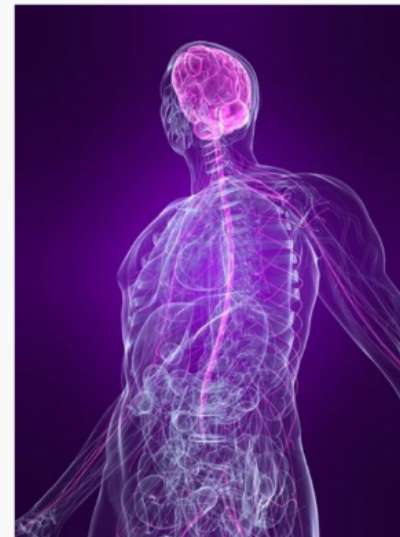
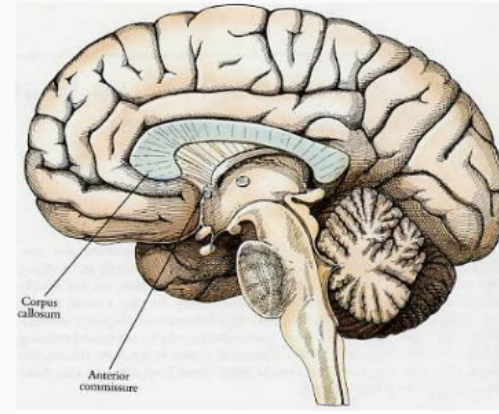



# The Two Hemispheres of the Brain

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## Two parts to the Cerebrum

1. Both control separate sides of the body.
2. Hemispheric specialization is especially apparent in patients who have suffered brain damage.



### The Left & Right

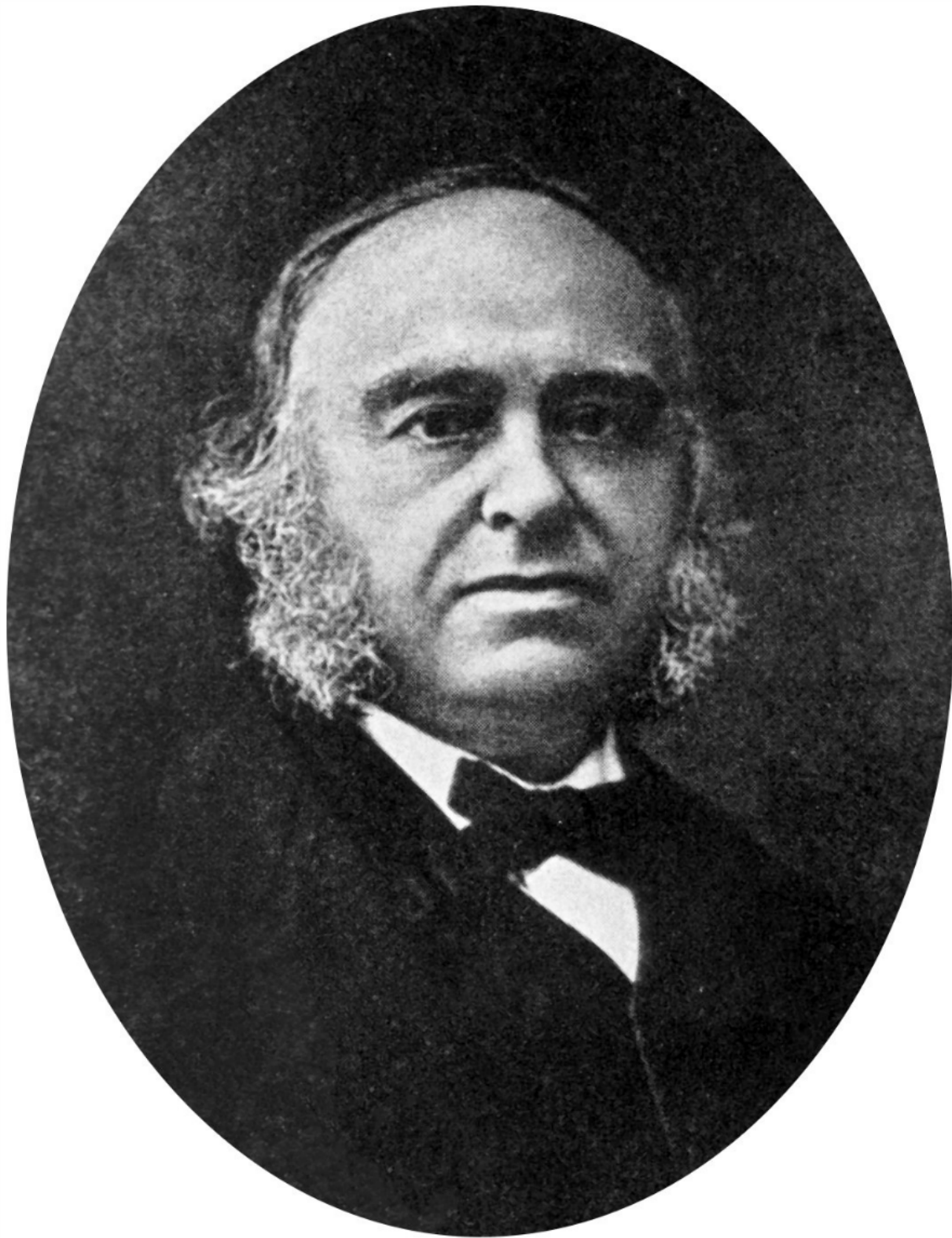


- French Neurologist - Paul Broca
- Made first observation in 1861
- Documented left/right hemisphere damage through behavioral/cognitive difficulties

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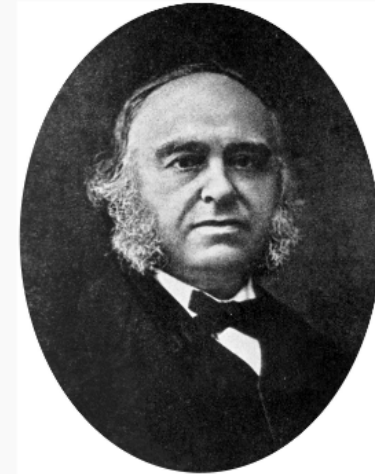
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# Split Brains: A House Divided

In a normal brain, the two hemispheres of the cortex communicate with one another across the corpus callosum (the bundle of fibers that connects them). Whatever happens on one side of the brain is transferred to the other side.

## Experimental Research

What would happen if the two sides were cut off from each other?

Ronald E. Myers & Roger W. Sperry



Took the first steps toward answering the question.

1960's  
Team of surgeons cut corpus callosum in patient with severe epilepsy.

After Surgery  
• Seizures were reduced  
• Walk  
• Talk  
• Lead fairly normal lives

• Connections in undivided deeper part of brain kept body movement/other functions normal  
• Two functioning hemispheres each doing their own job

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## Visual Pathways

- Each hemisphere receives info from the eyes about the opposite side of the visual field.
- Half the axons in each optic nerve cross over to the opposite side of the brain
- "Split Brain" prevents that communication

