

## Open Your Class with This Tomorrow *The Neuroscientist Who Lost Her Mind*



If necessary, review the function of the following main brain parts. These descriptions were provided by Dr. Lipska and will be used to explain some of her symptoms.

- **Frontal lobe:** ability to plan and organize actions, language and speaking, appropriate behavior and judgment, personality, and memory
- **Prefrontal cortex:** differentiate between right and wrong, inhibit inappropriate or impulsive behavior, predict future consequences of things that happen in the past
- **Motor cortex:** controls movement of the opposite side of the body
- **Parietal lobe:** coordinates sensory information sent to the brain from the rest of the body, allowing us to feel, taste, move, and touch. It places us in space, tells us where we are in relation to things around us, and where our bodies start and end. It also enables us to read and do math.
- **Hippocampus:** helps store long-term memories, works like a GPS, enabling spatial navigation, so we know where we are
- **Occipital lobe:** processes information from the eyes and enables us to see, contains the primary visual cortex
- **Cerebellum:** coordinates voluntary movements: how we sit, walk, and speak

“While we don’t know exactly what took place in my brain or where precisely it happened, my journey has given me an invaluable opportunity to tour the landscape of the brain.”

According to Dr. Thomas R. Insel, former National Institute of Mental Health (NIMH) director, when speaking of Lipska, “You have done something so important for people with serious mental illness who do not have an observable lesion. Not only have you reminded us all that mental illnesses are brain illnesses, you have reminded us to be hopeful. People recover.”

Books for Psychology Class

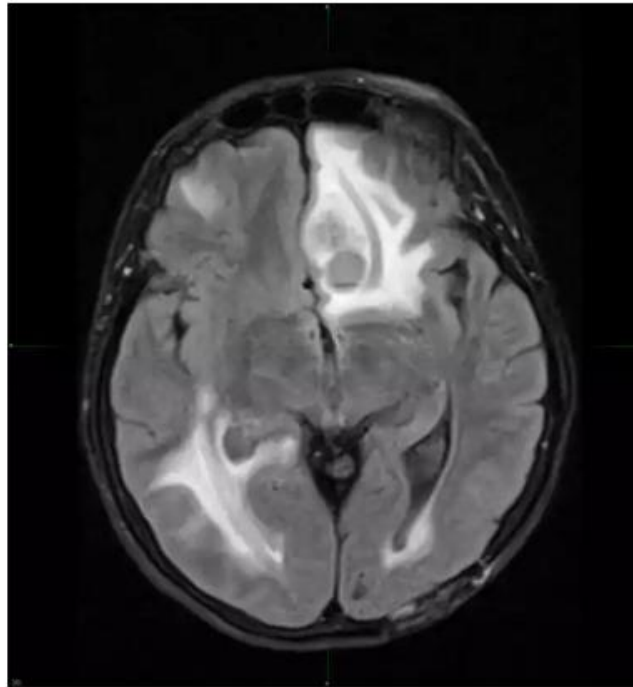
<http://booksforpsychologyclass.weebly.com/>

**Directions:** Read the following book excerpts or summaries that involve symptoms and identify the brain part(s) that might be involved. If possible, identify other mental illnesses associated with the symptoms.

1. "I reach out to switch on my computer. My stomach clenches. My right hand is gone. I can't see it. It's disappeared. I move my hand toward the left. There it is! It's back! But when I slide it back to the lower- right quadrant of the computer keyboard, it vanishes again."
  - a. Brain part associated with symptoms
  - b. Mental illnesses with similar symptoms
2. Dr. Lipska tells the story of her train being delayed by continuously repeating, "Amtrak sucks!" "It's not only Amtrak that is the object of my ire. I'm irritated if our lunch is even five minutes later than Kasia (her daughter) promised. I can't stand how loud the boys are. I find everything my family does annoying, and I tell them so."
  - a. Brain part associated with symptoms
  - b. Mental illnesses with similar symptoms
3. A serviceman for termite inspection arrives at Dr. Lipska's door. He has been providing service for over 20 years. She becomes upset about the ants and then questions the chemicals he will be using. She thinks she is being poisoned.
  - a. Brain part associated with symptoms
  - b. Mental illnesses with similar symptoms
4. Dr. Lipska has anosognosia- lack of insight.
  - a. Brain part associated with symptoms
  - b. Mental illnesses with similar symptoms
5. "As my confusion grows, my brain fills in the gaps between what's in my head and what's happening around me with conspiracy theories. I become increasingly suspicious of my family and my colleagues at work and increasingly dissatisfied with everyone's performance of even simple tasks. I'm certain that people, especially the members of my family, are plotting against me."
  - a. Brain part associated with symptoms
  - b. Mental illnesses with similar symptoms
6. "I'm becoming the worst version of myself: selfish and unconcerned about other people's feelings. I've lost empathy, the trait that was always so strong in me. Whereas once I listened patiently to Kasia (her daughter) on the phone as she described her workday or challenges with the kids, I now cut her off. I am losing my emotional connection to the people closest to me, especially my caring husband."
  - a. Brain part associated with symptoms
  - b. Mental illnesses with similar symptoms

7. "It's around this time, in June, that I go for a run through the neighborhood without my prosthetic breast and with hair dye dripping all over me, surprising Mirek with my bizarre appearance when I return home. I see nothing off about the way I look."
  - a. Brain part associated with symptoms
  - b. Mental illnesses with similar symptoms
8. "I'm also suffering from loss of visuospatial memory, which makes it hard for me to remember my location and navigate my way through space."
  - a. Brain part associated with symptoms
  - b. Mental illnesses with similar symptoms
9. Dr. Lipska gains an obsession with food and quickly gains ten pounds. She is taking steroids, but that's only part of the problem. She can't stop herself from eating. "It's not about being hungry, it's just that these treats look so good that I'm going to eat them! Why not?"
  - a. Brain part associated with symptoms
  - b. Mental illnesses with similar symptoms
10. Dr. Lipska stopped at a restaurant to pick up dinner for her husband's birthday. She was trapped at the counter for over 20 minutes staring at the bill and trying to figure out the tip. "I see lots of numbers scrawled on a small sheet of paper but they mean nothing to me. I read the numbers but don't understand what to do with them. I do remember that a tip should be 20%- that concept springs to mind- but I don't understand the notion of percentages. I remember only a bare fact: 20%. Without more context, it is meaningless. What does 20% signify? How does one calculate it?" When her daughter finds out, they experiment with simple arithmetic problems all the way home. She can add, as long as the numbers are simple. But she cannot subtract, multiply, or divide no matter how basic the question.
  - a. Brain part associated with symptoms
  - b. Mental illnesses with similar symptoms
11. A local grocery store has a grand opening. "I begin shouting over the music. This is horrible! It's too loud!" Dr. Lipska runs to tell the manager how loud the music is. "I rush past the band, and the music causes me physical pain. The notes are like knives stabbing my body."
  - a. Brain part associated with symptoms
  - b. Mental illnesses with similar symptoms
12. "My left leg starts to twitch uncontrollably. I try to hold it still but it can't. Although it's a very short episode, lasting maybe 30 seconds, I am very frightened."
  - a. Brain part

13. Brain scan: the white areas show swelling; the tumors are circular blobs. Where do you see tumors?



14. Dr. Lipska's brain scans from June 19 (left) and July 21 (right). What differences do you see?

