

MODULE 6: NERVOUS SYSTEM ORGANIZATION

Imagine that you suddenly lost the ability to stand unless you looked down at your feet. Imagine if your arms seemed to wander unless you kept an eye on them. This is the exact situation that a woman named Christina found herself in after waking up one morning. She exclaimed, “Something awful has happened, I can’t feel my body. I feel weird—disembodied.” An integral part of her nervous system had suddenly deteriorated due to what was later diagnosed as polyneuritis, an inflammatory disorder that affects the peripheral nervous system and causes loss of myelin. Essentially, overnight, Christina had lost all **proprioception**: the ability to sense the relative position of body parts. Sense of body positioning is determined by three things: vision, balance organs, and proprioception. Christina lost proprioception, and because of it, she had to learn to control her body with her eyes. She found that she could do nothing without using her eyes. In fact, her body would collapse into a heap the minute she closed her eyes. Gradually over time, Christina learned to walk again and to function with the usual business of life but only with great care in maintaining attention to the particular movement and never at the same level as before. She found that there was no in-between or gradual change with movement. Strict focus had to be maintained for even the simplest tasks. In her words, she stated, “I feel my body is blind and deaf to itself...it has no sense of itself” (Sacks, 1985). In this section, you will learn about the nervous system, how it controls the body, and perhaps more importantly, as illustrated in Christina’s case, how the nervous system interprets the environment around us.

ORGANIZATION OF THE NERVOUS SYSTEM
Neuron Structure and Classification
Glial Cells of the CNS
Glial Cells of the PNS
PHYSIOLOGY OF THE NEURON
The Synapse
Summation



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