

The Battle of a Lifetime

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As I slowly wither to death, I struggle to make connections necessary for my survival. Without the help from my fellow neurons, I know I will no longer be in use to endure the competitive conditions. My home town, Frontal Lobe, is the only place I know. Well, except when I was developing, I migrated from my birth place, the neuronal tube. But I will tell you about that later. My neighbors and I strictly control movements, though some of my neighbors do different jobs like thinking, listening, memorizing, and creating emotions. I know I am different and do not work the same as most of my neighbors; it has been this way for a while. I was assigned my job from almost the second I was born, but I just can't seem to finish it the right way. Since my function to listen or receive information does not work properly, the result ends up in confusion and frustration for my neighboring neurons. Everyone I work with is disappointed in me, but most of them have disabilities as well. Therefore, it is crucial we stay alive in order to perform our jobs for Billy's health. Billy is a human that I have controlled with other neurons for 65 years now. He relies on me and has always treated me right, and I can't even do my job to keep him operating properly. It wasn't always this way, before his diagnosis of Cerebral Palsy my youth was vibrant and exciting with millions of jobs to do every day. I had a lot more friends then that I could connect with to do my job efficiently and correctly. Let me start with how I was born.

The neural tube, my birthplace and nursery, was where I began my life. I divided from other neurons several times before I became a specialized neuron destined for the forebrain. My friend, Radial Glia, guided me to my home by creating a pathway. I passed many older neurons going up to the top of town and resided by other neurons my age. Once in my home, I was able to mature like all neurons do and grow my two limbs necessary for working. My first limb houses the dendrites; they help me receive information from my neighbors. In order to receive information, the end of my dendrite limbs grow out which makes them available to accept messages from my neighbors. The other limbs I grow when maturing are called axons; they send work I processed through by body to my neighbors. Without the help of the target cell family, I would not know where to extend my axon. The target cell family works with the cell-adhesion molecule family to attract axons like mine, but each member of the family attracts specific axons that perform certain tasks. When I was young, my limbs would grow at a much faster rate to make communication between my neuron friends a lot easier. My best friends ended up being from a town over, off of Somatosensory Lane, in Parietal Town. I would receive messages every day from their axons which I was then able to listen to and process through my dendrites and neuronal body. During development, receiving information from my Parietal Town friends was crucial for me to stay alive. My friend Neal the Neuron lived next to me until one day he committed suicide. This tragedy occurred because no one would talk to him and therefore he wasn't able to produce work

for Billy. His lack of communication led to a lack in nourishment, specifically protein. In order to get protein we need to shop under the neurotrophic factor aisle in the grocery store. Besides acting to direct the town's axons, the target cell family is the grocery store. A target family member is able to give protein from its neurotrophic factor aisle for growth and development of neurons. Because Neal did not communicate with his axon to a target cell he did not receive the protein needed to survive, which triggered his self-destruction.

When I thought I was through all the tragedy that I could endure, the tragedy had really just begun. I was exceeding in creating motor skills for Billy when I was overcome with pain and confusion. I had lost all sense to integrate what my dendrites were telling me. My neighborhood became a war zone, as one neuron after another died. I felt helpless and destroyed because I was unsure if all of the connections I had developed and made were lost. I remember I just had my first birthday when my town turned to chaos. Most of my neighbors' limbs were cut off killing them immediately or slowly depriving them of oxygen until death. Even the cells that weren't impacted by Billy's injury degenerated as toxic chemicals were passed on through damaged axons. The problem arose from a blood vessel that ran through our town bursting uncontrollably. The immeasurable amount of bleeding was fault to the inability of Billy's brain to endure such trauma. In addition, it was terrifying to see my town swell up as the body's response was to create a blood clot to stop the bleeding. In doing so, it blocked the blood supply essential to our health. I was lucky enough to only have a couple of my dendrites severed.

My body cannot recover from the rigorous trauma that occurred. I will continue to mess up receiving and sending messages to control Billy's movements. Over time, I have been training to make new connections that rebuild just a few jobs back. Luckily, our town was young when the damage occurred and had the ability to form and mold new connections. The term we use for this in our town is plasticity. Plasticity doesn't just happen during injuries but all during a neuron's life. Changes in Billy's behavior, environment, and neuron communication can all impact plasticity. Repetition and practice is key to developing my job back. Although our town will not function normally again, it will rebuild some connections through the power of plasticity.

Billy has been diagnosed with Cerebral Palsy since two years old. His diagnosis was made known shortly after his severe head trauma, shattering our town. Struggling to walk, stand up right, and intellectually think are just a few of the battles he goes through every day. I have fought for his ability to function through times of hardship. But my world and I can no longer endure the suffering as old age has begun to take away more and more neurons. My world has given up and so will Billy. I send my last message and shrivel to death along with the world around me.

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