



Soul Cycles

Personal & Collective Evolvement
Alternative Healing
Social Artistry

Brain Movements

We will see in the following that our brain has amazing capacities.

The brain has an estimated one hundred billion neurons, which are collectively two million miles long. Each neuron has an average of ten thousand connections that directly links it to other neurons. Thus there are thought to be about one million billion of these connections, making it “the most complex structure”, natural or artificial, on earth. A neuron sends an electrical impulse down its long axons; this releases a neurotransmitter at the space at the end, called a “synapse”, which then excites or inhabits the downstream neuron. A synapse is the connection that functionally links neurons to each other. Because of the web- like interconnections, activation of one neuron can influence an average of ten thousand neurons at the receiving ends. The number of on-off patterns of neuronal firing is immense. The brain is obviously capable of an imponderable huge variety of activity.

Daniel Siegal: “The activation of neural pathways directly influences the way connections are made within the brain. Though experience shapes the activity of the brain and the strength of neuronal connections throughout life, experience early in life may be especially crucial in organizing the way the basic structures of the brain develop. For example, traumatic experiences at the beginning of life may have more profound effects on deeper structures of the brain, which are responsible for basic regulatory capacities and enable the mind to respond later to stress. Thus we see that abused children have elevated baseline and reactive stress hormone levels. More common, everyday experiences also shape brain structure. The brain’s development is an experience-dependent process, in which experience activates certain pathways in the brain, strengthening existing connections and creating new ones. Lack of experience can lead to cell death in a process called pruning. This is sometimes called a use-it-or- loose- it principle of brain development. An infant is born with a genetically programmed excess in neurons, and the postnatal establishment of synaptic connections is determined by both genes and experience. Genes contain the information for the general organisation of the brain’s structure, but experience determines which genes become expressed, how, and when. The expression of genes leads to the production of proteins that enable neuronal growth and the formation of new synapses. Experience- the activation of specific neural pathways- therefore directly shapes gene expression and leads to the maintenance, creation, and strengthening of the connections that form the neural substrate of the mind. Early in life, interpersonal relationships are a primary source of the experience that shapes how genes express themselves within the brain.”

At birth the infant’s brain is the most undifferentiated organ in the body. Genes and early experience shape the way neurons connect to one another and thus form the specialized circuits that give rise to mental processes. In this way, experiences early in life have a tremendously important impact on the developing mind.

Interpersonal experiences continue to influence how our minds function throughout life, but the major structures- especially those that are responsible for self- regulation- appear to be formed in the early years. It is for this reason that we look closely at the early years of life to understand the ways in which the mind develops and comes to regulate its own process. An open question in neurobiology is how plastic, or open to further development, the brain remains during a lifespan. We can look towards the lessons from studies of early interpersonal experience to try to understand the ways in which relationships may continue to foster the development of the mind throughout life.

Experiences can shape not only what information enters the mind, but the way in which the mind develops the ability to process that information.

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