

# ALPHABETICAL BRAIN™ VOCABULARY HUMANIST FAMILY BRAIN STUDY

## DETAILS ABOUT YOUR PLASTICITY #10 January 10, 20109

### WHAT IS YOUR PLASTICITY? AND WHY IS IT SO IMPORTANT?

The evolutionary purpose of your brain's *plasticity process* (neuroplasticity) is that it makes you an adaptable human being who can learn from changes in the environment and your own personal choices and decisions.

Now that you are aware of the massive complexity of the connections of your nerve fibers inside your *connectome (neuronal pathways)*, you will be able to understand how it makes possible your brain's *plasticity process*.

The *plasticity process* includes your brain's ability to modify itself. It makes possible your mental force brainpower which means your mind's infinite adaptability.

The *plasticity process* enables you to learn new vocabulary words and more complex language skills as you think for yourself and learn how to make more useful choices and decisions and manage your habits better.

The *plasticity process* It is important to realize that the process depends upon how well all of the other interactive and interdependent parts of your *connectome* are coordinated at the moment. This process is located at each of the junctions or switches known as your *1,000 trillion synapses*.

Every day your mind interacts with cultural forces and natural environmental forces to produce new knowledge

about your ***adaptable self-identity*** through the basic human learning process.

Typically, your many memory systems store information about all of your experiences during the daytime. At night, your brain sifts through the memories of the day to reinforce the most significant ones for your self-esteem, personal security, and ultimate survival in the future.

This phenomenal adaptive cellular communication process has a dimension known as ***synaptic plasticity***. It is caused by the fact that your neurons and your synapses are jointly involved in the ***exchange of ions of potassium and sodium*** at switches or junctions called ***synapses***.

Now modern scientific knowledge can explain in the new scientific language the way in which your ***100-200 billion neurons*** and ***1,000 trillion synapses*** are attached to each other. Your ***neurons*** and ***synapses*** function together to create your understandable and ***adaptable self-identity***.

The plasticity process includes the entire biochemical neuronal network that connects your brain (head) and nervous system (body). Both your brain and your body need the expert "***executive***" control function of your ***prefrontal cortex*** in your ***cerebrum*** to take charge and manage your behavior.

This is the point at which your ***limbic system (emotional brain)*** can upset the ***homeostasis (balanced coordination)*** of your brain and body.

NOTE: See in context: neurons #1, nucleus of a neuron #5, synapses #7, potentiation #8, connectome #9, plasticity #10, cerebrum #11, prefrontal cortex #12, limbic system #13, pleasure system #14.