

# The Brain: *How to Ride Your Elephant*

By Jim Myers

Neurons are the cells that make up the brain and neural systems of the body. There are an estimated **86 billion neurons in the brain**. The **cortex** is **the main information processing area** of the brain -- *it contains about **30 billion neurons***. An average **neuron** in the brain has about **ten thousand dendrites (inputs)** and about **ten thousand axon terminals (outputs)**. The **synaptic cleft** is the space between an axon terminal and a dendrite. When we consider the number of **possible synaptic connections** in just the **30 billion neurons** in cortex, we are dealing with hyper-astronomical numbers:

***10 followed by at least a million zeros.***

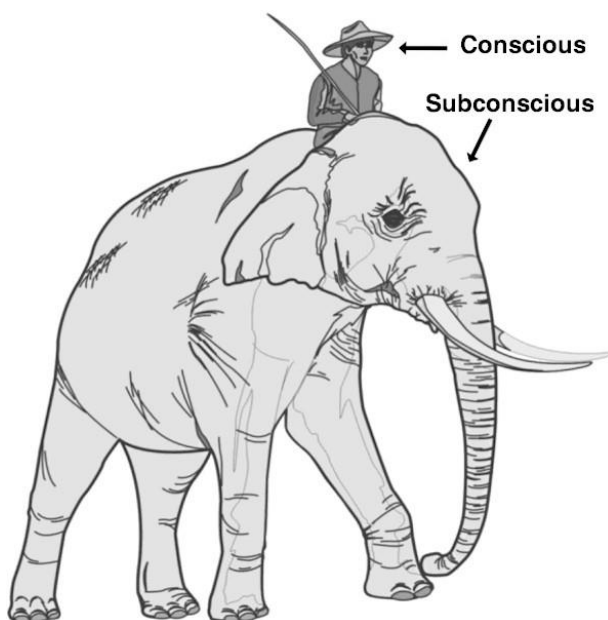
The number below is the total number of particles in the known universe:

***10 followed by 79 zeros (give or take a few).***

***The human brain is the most complex known object in the universe!***

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Today we will focus on two functions of those billions of neurons.



The **subconscious function** interprets, and responds to, over **40 million nerve impulses** per second.

The **conscious function** processes about **40 nerve impulses** per second.

As an information processor the **subconscious function** is **one million times more powerful than the conscious** --and it contributes 95% of cognitive activity.

Visualize the relationship of the two functions as that of a **rider** to an **elephant**.

The rider will go wherever the elephant wants to go -- *until the rider learns how to coax it to go somewhere else*. You will learn those skills in these educational emails.

**The brain's most important mission is survival** and most of that activity takes place at the *subconscious level*. The elephant devotes lots of time and energy to *predicting what will*

*happen next*, so that the body will be ready for any contingency. Every moment it is issuing thousands of predictions at a time -- *based on its past experiences*.

Predictions are made on information it has acquired and converted into belief models. The elephant is the guardian and protector of the brain's most trusted beliefs.

1. The subconscious is constantly searching for information outside the body that confirms its belief models.
2. The subconscious distorts and molds new information to make it fit its preconceived concepts to confirm its belief models.
3. The subconscious filters out information that does not fit its preconceived concepts or confirm its belief models -- **without the rider being aware of what it is doing**.

*Stop and think about the process above for a moment.* They are all subconscious. The rider is not aware of them. This is why we need other people to help us become aware of what our own brains are doing. My elephant is consuming information at over 40 million nerve impulses per second, until someone says something that gets my rider's 40 nerve impulses involved and slows down the elephant. It will then see more details in the information it is processing. It is like switching a microscope from 100x to 300x.

The information flows into the brain by nerves linked to our sensory organs – *eyes, ears, nose, tongue and skin*. Brains and stomachs do similar things – *they ingest and process things that come into them*. The stomach converts solids and liquids into energy. The brain converts information into realities and behaviors.

1. 10 weeks after conception DNA has begun constructing the brain.
2. 28 weeks after conception there are billions of neurons functioning in the brain.
3. 39 weeks after conception the brain is functioning at the level for living outside the mother's body.
4. At birth, the brain is engaging in the first stages of the socialization process.
5. At age 25, the brain reaches it full maturity.

Neither an **understanding of the stages of a brain's development**, nor an **understanding of the biology of beliefs** have become part of mainstream discussions about human behaviors in the society – *even though they are major factors!*

**Recommended Books:**

- *The Brain: The Story of You* by David Eagleman
- *Livewired: The Inside Story of the Ever-Changing Brain* by David Eagleman
- *Behave: The Biology of Humans at Our Best and Worst* by Robert M. Sapolsky