

# THE ELEPHANT INSIDE US: OUR EMOTIONS

In the 1500s, artist Guiseppe Arcimboldo painted portraits of influential Italians. When he noticed that the nobles' features resembled animals or vegetables, he incorporated these images into his view of their heads. In one of his paintings, Arcimboldo included an Elephant in the noble's head, 400 years before scientists discovered that a brain region acts just like this five-ton animal. This region is called the Amygdala, which develops and releases our emotions.

## The Brain's Amygdala: Our Emotional Center

Just the way Arcimboldo's heads are filled with images, the brain has many activity centers that represent every body function. We feel pleasure, anger or fright in one region, activate balance on a skate board in another, and conduct our reasoning with a third. Electrical and chemical impulses transfer information through the cells in these brain regions, sometimes at a speed of 250 miles per second.

One brain region, called the Amygdala, connects our brain with senses of sight, smell, hearing and touch. This region, the size of an almond, lies deep inside the brain, just above the ear. The Amygdala interprets information from our senses, and sends signals to other brain regions that relate to feelings and identity of self.

The Amygdala sends feelings to the Frontal Cortex, the brain region that controls thinking and planning. This cortex area either affirms and acts on those emotions, or "applies the brakes". At the very front, just above and between the eyes, the PreFrontal Cortex exercises our reason in a "free-will" unit and a "free-won't" unit. The "free-will" unit thinks about our choices for action. Its opposite, the "free-won't" unit, applies our reason to operate self-control. That brain unit says "no" to the emotional signals.

Just as a gym machine strengthens a specific muscle group, exercising self-control over emotions, or exercising one's reason, builds that talent over time. In initial athletic effort, muscles tire quickly and they become sore until repetitive effort makes them stronger. In the same fashion, when individuals experience high emotion, intense new learning or times of growth, the brain gets tired. The brain is one of the most energy-hungry organs in the body, and it regains its balance with rest and nutrients from food. As new behavior becomes more automatic, brain cell connections thicken and the transmission of signals becomes more efficient. Energy consumption is reduced and the effort is less tiring.



## The Elephant and Rider on Top

Some psychologists compare our emotional center, the Amygdala, to a five-ton Elephant. Our reasoning center, the Frontal Cortex, can be compared to a Rider on top of that weighty elephant. Our mind's emotional and reasoning states play tug-a-war with each other. It is hard work for the individual to keep both the Elephant and the Rider exercised and in balance. If the Elephant and the Rider disagree about their feeding, who do you think wins? It's not the Rider, unless of course, the Rider develops tricks to get this big elephant to go in the Rider's thinking direction. When we think about the Elephant and the Rider, we can start to look at tips for growing self-control, and what it takes to develop that "free won't" center in the PreFrontal Cortex.



## Self-Control is Draining

Much of our daily behavior is automatic. When we take a shower or make a sandwich, it doesn't take a lot of thinking. However, when our Rider supervises our behavior, it is hard work, as shown in this study: Youth were asked to participate in series of experiments. They were told that the first one measured their memory for taste. They came to the lab hungry and they were led into a room, with a plate of newly baked chocolate chip cookies and a plate of radishes. Half of the group was asked to eat all the cookies they want and the other half could eat all the radishes, but no cookies. The sweet smell of cookies drifted in from the kitchen next door, and scientists left the youth alone to encourage temptation. Meanwhile, the experiment's real goal was to measure the radish-eater's self-control.

Even with lots of temptation, the radish-eating youth used their willpower and succeeded in not touching the cookies. They were thanked for their effort, and the study was officially over. The next day, these same youth returned for a second experiment. This time, scientists said that the goal was to see which youth were better at solving a problem set. In truth, the scientists presented problems that were impossible to solve, and their real goal was to see how long the former radish eaters and cookie eaters would try before giving up. They wondered: "Who will get frustrated and quit first?"

Results may seem surprising. Cookie-eaters of the day before, spent 19 minutes on the task, making 34 attempts to solve the problem. The radish eaters quit after just eight minutes and 19 attempts—less than half the cookie-eater effort. Scientists concluded that the radish eaters had depleted their energy for self-control during the earlier cookie experiment. The Riders didn't have enough strength to yank on the reins of the Elephants again. This experiment reminds us that mental supervision of emotions is hard work. Individuals deplete reserves when they succeed at self-control.

## Self-Control: Trick the Elephant

The good news is that there are some fantastic tricks to help the Rider retain his strength and exercise self-control over the Elephant, or one's emotional desires.

As a first trick, the Rider doesn't let his ego get in the way of asking for help, while he craftily pulls on the Elephant's reins. Those who meet their life's dreams, combine effort with guidance from others.

As a second trick, the Rider imagines the path towards a goal, and then designs the time and place for an exact action which experts call Action Triggers. This exact action is thinking ahead about what will be said or done, at an exact time and location, to achieve a Rider's goal. As the timing unfolds, the Elephant becomes tempted to go off the goal path, yet the Rider is fully prepared with his quicker, pre-thought reflex. With this advantage over the emotional Elephant, the rider doesn't have to pull as hard on the reins.

## Action Triggers Strategies Work!

In an experiment, college students were asked to write an extra-credit paper during Christmas break. They all had good intentions to write the paper. One group went home to vacation without specific instructions and the second group was asked to note in advance their time and place for doing the assignment. For example, one student said he would get up early on Christmas morning, and work in his Dad's study before the family got up. What was the result? Only one-third of students did the assignment, yet an astounding 75% of the Action Triggers students completed the task.

With a Trigger Action, the individual makes the decision about his or her behavior up front, before the moment occurs. This approach actually helps the Rider exercise self-control.

### References

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