SUMMARY

BY ALYSSA BURNETTE

Who's in Charge

By Michael S. Gazzaniga

QuickRead

FREE BOOK SUMMARIES

Summary of Who's in Charge by Michael S. Gazzaniga

Written by Alyssa Burnette

Learn about the relationship between neuroscience and free will.

Table of Contents

Introduction

If you've ever watched a crime show like *Law and Order: Special Victims Unit,* you may have found yourself staring at the screen in horror and wondering how on earth people can do these things to one another. Everyone has free will, after all, and that means that we can choose what we do-- and what we don't do! So, given that everyone has a choice, why would anyone ever choose to torture, rape, or abuse another human being? By contrast, if you work in an office with a variety of people who all have different personalities and leadership, you might often wonder how anybody ever manages to get along. When we are all so different and we have an infinite capacity to get on each other's nerves, you might find it remarkable that anyone has the self-restraint to avoid screaming at their co-workers!

All of these are questions of great magnitude and it would be impossible to flesh them out in the context of one book. But the author observes that the simplest answer lies in the human conscience. In fact, without the conscience, we would not have the self-restraint necessary to avoid harming others. Without the conscience, we would have no society and no civilization. And although we cannot fully tackle the complexities that regulate the human moral compass, we can use neuroscience and psychology to help understand it. So, over the course of this summary, we'll explore the author's research on this fascinating topic.

How Does the Brain Work?

Every day, our brains are hard at work performing a million unseen tasks that keep us functional and human. In fact, it's our very capacity for intelligent, rational, or moral thought that we reference as proof of our superiority to animals and other life forms. Just think about Rene Descartes' seventeenth century assertion, "Cogito, ergo sum-- I think, therefore I am." (Or, if you prefer, you can think about the hit Billie Eilish single of the same name!) But have you ever wondered how your brain really works? Have you ever asked yourself, "What really makes a human being tick?" If you haven't, buckle up, because we're about to take a crash course in some basic neuroscience! For starters, it's important to establish that the brain is comprised of many different parts and each of those parts have uniquely important jobs. You can think of your brain as being divided into several departments, much like any corporation. In the brain's case, it's primarily divided into the compartments of "left brain," "right brain," and your brain stem. And just like any corporation, the "office" of your brain only performs at optimum capacity if everyone shows up to do their jobs.

So, what do those different departments do? For the purposes of this chapter, we're going to concentrate on the role of the left brain and we'll take a journey back through time to learn how insights in neuropsychology have informed our modern understanding of the left brain's function. In the 1960s, neuropsychologist Roger Sperry performed a series of radical, experimental surgeries on patients with epilepsy. With the aim of treating their seizures, he severed the part of their brains called the corpus callosum. If, like me, you're not instantly familiar with this part of your anatomy, the corpus callosum is a thick bundle of nerves and fibres that connects the right side of your brain to the left side of your brain and allows the two to communicate back and forth. Sperry's procedure was a success in that it accomplished his original purpose; the severity of the patients' seizures was tremendously reduced. But it also provided an unexpected benefit by virtue of providing scientists with a focus group of people whose right and left brains were no longer in communication.

As they worked to understand what would happen when communication in the brain was interrupted, researchers found that studies conducted on "split-brain" patients enabled them to isolate and identify the different functions of each side of the human brain. They also discovered that a clear understanding of these different sides and their functions is crucial for developing an understanding of the self. One key insight their research revealed is that our right and left is sort of mixed up; all sensory information from the left side of our body is, in fact, processed by the right side of our brain and vice versa. So, what does our left brain do? Well, it turns out that its primary function is to act as an interpreter. But what's especially interesting is the fact that its interpretations are often straight out of left field! (No pun intended).

In one of the most famous split-brain studies of all time, the patient's left brain (and their right eye) was shown a picture of a chicken's foot. The experimenter then showed the patient's right brain (their left eye) a picture of a snowy landscape. The patient was then asked to look at a series of additional random images with both eyes and pick out pick out the images that could be matched with the first two. The patient's right hand-- remember, the one controlled by their left brain-- correctly selected a picture of a chicken to match the chicken foot. Likewise, the patient's left brain identified an image of a snow shovel and matched it to the snowscape. However, when they were asked to explain their choices, scientists were able to witness the true disconnect in communication between the left and right brains.

Because instead of saying something like, "That's funny, I can't seem to communicate with my right brain, I have no idea why I picked that image with my left hand," their left brain attempted to provide them with a plausible answer. In an effort to make sense of the images and their subsequent identifications, patients formulated such answers as, "Well, the chicken foot goes with the chicken and I chose the shovel because you need it to clean out the chicken coop." So, as you can see from this example, our left brain is an interpreter; its job is to provide us with plausible explanations

for the things that happen to us, even if those answers are completely off base.

Our Brains Tell Stories to Help us Understand the World

So, now we know that our left brain is responsible for helping us interpret images and explanations. But did you know that our brains also tell us stories to help us understand the world and the daily situations we encounter? That might sound a little crazy because you probably don't walk around every day telling yourself stories that begin with, "Once upon a time…" But "once upon a time" is not the standard formula for every story you'll ever tell! And if you don't believe that you tell yourself stories, just think about your thought process when you're imagining what will happen next at any point in your day.

For example, let's say you're about to walk into a meeting with your boss. You're late on the report she asked you to complete. So, as you approach her office, your steps might be tinged with trepidation and you might find yourself visualizing the outcome. You're wondering if she'll fire you. You're wondering if she'll be angry. Maybe you're imagining what she'll say when you walk in. Or maybe you're imagining what you'll say to defend yourself. Maybe she'll be cool about it. Or maybe it'll be catastrophic. No matter what, it's almost guaranteed that you've imagined outcomes for every possibility. And whether you've thought about them that way or not, these thoughts are actually stories that you tell yourself to predict the outcome of the day or to provide assurance or comfort.

And the same is true of stories that don't directly involve us. If you're like most people, you probably have childhood memories of ghost stories, Bible stories, nursery rhymes, or fables told to you by your parents. Some classics include stories like The Tortoise and The Hare, the tale of David and Goliath, or the story of Adam and Eve. These stories are intended to help us navigate the world because they form our understanding of big-picture concepts about human existence. For example, the classic fable of The Tortoise and The Hare teaches us that "slow and steady wins the race"; from this tale, we learn that if we do our best and take our time, we'll eventually win in the end.

Likewise, David and Goliath indicates that underdogs can triumph in the face of seemingly insurmountable opposition, and Adam and Eve's origin story highlights a Christian interpretation of the creation story.

And indeed, it seems that everybody knows these stories. That's because we pass them down from one generation to the next as our parents and grandparents did to us. As a result, these stories and their lessons shape our worldview and our relationship with morality. But have you ever wondered why stories are so effective? Or how they survive to be passed down through generations? As is the case with many significant aspects of human existence, the simplest explanation is often the truest, and stories are no different. Quite simply, stories survive because they invite us to engage with them. They activate our imagination and our emotions. They enable us to live vicariously through characters. And in so doing, we are free to access moral insights that might escape us if someone spoke to us directly about our own behavior.

To consider how this works in practice, let's take a look at a very innocent fable and return to our analogy about the tortoise and the hare. While many myths take a much darker approach, examining critical elements of human morality, the fable of the tortoise and the hare is universally applicable to all ages. So, let's imagine that you struggle with the same issues embodied by the hare. You often bite off more than you can chew or you overestimate your own abilities. Perhaps you're a little more cocky than you should be and you let your pride get the best of you. So, imagine that someone came up to you and told you all those things about yourself. Would you be receptive to what they had to say? Would you be grateful for their insights and willing to take an honest, introspective look at your own behavior? Or would you feel attacked and resentful? Let's be honest-- for most of us, it would be the latter!

But what if someone told you the story of the tortoise and the hare? Because it's a fictional story that situates you as an outside observer, it's easy for you to take a step back and evaluate both characters' behavior in an objective light. From there, you might say, "Wow, that's so foolish of the hare! Doesn't he know he needs to slow down and take his time?" And if you're feeling

especially open-minded that day, it's possible that the story might penetrate deeply enough for you to recognize that your behavior often mirrors that of the hare. In fact, it's possible that you guys have more in common than you would like. So, as you reflect on your newly-discovered insight, you have the opportunity to say, "Hey, I should change that! I'd be a lot happier and more successful if I took a lesson from the tortoise!" From this example, you can see how stories help us to learn more about ourselves, our morality, and the values we hope to cultivate.

But stories are also useful for making sense of the world. Today, many of us don't believe in a host of mythical gods-- in fact, most of us don't believe in any higher power-- but we can still understand how myths help us interpret life. For example, when ancient cultures invented elaborate creation stories and attributed shocking phenomena to supernatural forces, we can understand that it helped them to imagine where the world came from and why certain things happened. Rather than existing in a state of chaos and confusion, it was easier to ascribe natural disasters like famines, plagues, and hurricanes to the wrath of a vengeful god. Believing that you could ward off these disasters by appeasing the gods generated a sense of security. However false it might have been, this sense of security was preferable because it allowed people to believe that they had some control over their futures. And whether we believe in god or science today, modern people still do similar things. So, it's easy to see how stories imbue our lives with a substantial amount of meaning!

Does Free Will Actually Exist?

Because we seemingly have the freedom to make our own decisions, we assume that every human being comes equipped with "free will software." Just like a computer or an iPhone, it would seem that we arrive in the world fully loaded with the freedom to assess information and make rational choices based off of that information. But as the author's research shows, that's not necessarily the case. Although we appear to have free will, the reality is that human beings are all subject to the stories and interpretations provided by our brains.

In fact, we are more or less controlled by the narratives that impact our lives. For example, if you were raised by parents who subscribed to a particular religion or taught you a certain set of moral values, the stories you tell yourself will be filtered through this lens. As a result, you might make decisions based off of questions like, "Is this what a good person would do?" or "Is this morally wrong?" Likewise, if you were subjected to a different set of values like racism, sexism, or homophobia, your choices and your worldview will be filtered through that lens. The same is true for people who have suffered intensely abusive or traumatic experiences.

But even if our free will isn't quite as free as we think, that's not to say that we are merely victims of our upbringing or our brain chemistry. Human beings do come pre-loaded with a conscience. Interestingly, however, neuroscientists have never been able to point to a specific part of the brain and say, "That right there-- that's the conscience!" The same is true of the "self." We all believe that we are individuals and that we have a self, but there is no part of the brain or body that can be identified as the "self." Despite this neuroscientific mystery, however, human behavior has shown us that human beings do possess both a conscience and a sense of self, even if we can't pinpoint their specific, physical locations. And our conscience does allow us to grow, change, and develop a new sense of morality. We can also adapt our behavior and make different choices as a

result of that new information. That's why you're reading self-help books like this one-- because you know you have the capacity to learn and make better choices!

Final Summary

You have the freedom to make so many choices. You can choose what you want to eat or what you want to wear. You can choose to get up and go to work or you can choose to stay in bed and risk getting fired. Human beings have the ability to make thousands of choices every day and so we easily assume that we have free will. But the research of neuroscientists and psychologists has proven that we cannot point to any part of the mind or body and identify it as our “conscience,” our “self,” or our “free will.”

However, neuroscientific and psychological studies have shown that our left brain helps us interpret images and ascribe meaning to stimuli. Likewise, they have proven that our brains tell us stories to help us understand the world. These stories and interpretations inform our choices and our worldview and this in turn informs our perception and application of free will.