JILL BOLTE TAYLOR, Ph.D.

New York Times best-selling author of *My Stroke of Insight*

WHOLE BRAIN LIVING

the ANATOMY *of* CHOICE *and the* FOUR CHARACTERS THAT DRIVE OUR LIFE

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PREFACE

Peace Is Just a Thought Away

In 2008 I received an invitation to give a TED talk. At that point in time, there were only six TED talks online and I had no idea what TED was. (It turned out to stand for Technology, Entertainment, and Design.) The TED talk "My Stroke of Insight" that I gave in Monterey, California, was the first to ever go viral on the Internet. As a result TED and I became globally famous simultaneously.

In that talk I shared with the audience my story of surviving a massive cerebral hemorrhage in which the left hemisphere of my brain shut down and the right hemisphere became dominant. I described how I, through the eyes of a neuroscientist, watched with fascination as my circuits and faculties went off-line. I took the audience on a journey into the deterioration of my own left brain, whereby I shifted into a state of peaceful euphoria and oneness with the universe, unlike anything I had ever known before.

Within three months of delivering that talk, I was chosen as one of *Time* magazine's 100 Most Influential People in the World for 2008. I became the premiere guest on Oprah's Soul Series webcast, and my memoir, *My Stroke of Insight: A Brain Scientist's Personal Journey,* was published by Penguin Books. It spent 63 weeks on the

New York Times bestseller list. Today, over 12 years later, it remains the number one book in the Amazon marketplace on the subject of stroke, and in the top ten in other subjects including Anatomy Science, Medical Professional Biographies, and Nervous System Diseases.

That 18-minute presentation instantly changed my world, and many other lives were permanently shifted too. I still have TEDsters come up to me to share what row they were sitting in on that fateful afternoon, and over 25 million views later, that talk remains one of the most popular TED talks of all time. I have received hundreds of thousands of emails over the years from people asking how they, too, can access that peaceful euphoria I described.

Unquestionably, in many ways that TED talk was an amazing success.

But in my heart the talk failed to accomplish one thing I had hoped it would do. I wanted us, as human beings, to recognize that we are connected as part of a whole, and I wished for us to treat one another with a higher degree of respect and kindness. Instead, our civility toward one another has clearly decayed over the past decade and more.

Perhaps this is not so surprising, given that we live in a world where our politics, relationships, and life in general are spiraling into an uncomfortable state of chaos. Life is tough with its highs and lows, and none of us came into this world with a manual for how to get it all right. But what I have learned is that we do have the power to pause, sidestep our habituated patterns, and make better choices. We have the power to choose moment by moment who and how we want to be in the world.

That ability, like every ability we have, is dependent on the cells in our brain that perform that function. Our brain is a magnificent tool that is the home of our thoughts, emotions, experiences, and behaviors. When we understand at a cellular level what is going on in the relationship between our thoughts and our emotions, we no longer have to be bound by our emotional reactivity. Instead, we can become emboldened to live our best lives and be our best selves. We have much more power over what is going on inside of our heads than we have ever been taught.

Much of the material in this book stems from my own experience with watching my brain break down due to trauma, and then insights I gained as the cells in my brain recovered. In the big picture, this book is about our shared journey into the challenges of our lives and what our choices are in how we can live our best life while taking our brain anatomy into account. In these pages you will encounter a new paradigm for understanding how the different parts of our brain work together to manifest our perception of reality, along with a set of tangible tools you can use to not only master your brain's emotional reactivity, but ultimately live a whole-brain life.

You are the life-force power of the universe and your human brain is amazing far beyond your wildest imagination. This book will clarify for you exactly what that means and what your options are as you learn to own your power and apply these tools to create the life you want to live. This book is your road map to peace, which really is just a thought away.

Part I

A BRIEF LOOK INSIDE YOUR BRAIN

CHAPTER 1

My Story and Our Brain

I grew up to study the brain because I had a brother 18 months older than I who would eventually be diagnosed with the brain disorder schizophrenia. As young siblings, my brother and I were virtually inseparable, but at an early age, I realized that he and I were very different from one another in how we experienced reality. On a routine basis, we would have the exact same experience but walk away with very different interpretations of what had just happened. He might think our mother was angry at us based on the tone of her voice, for example, while I was quite sure she was petrified that we were going to be hurt. Because of this I became fascinated with trying to understand what was "normal" because it was clear to me that one of us was atypical. As far as I could tell, he was oblivious to our different perceptions and interpretations.

For my own survival and sanity, I started paying very close attention to what I could learn from others based on their body and facial languages. I became fascinated with anatomy, and at Indiana University I pursued undergraduate degrees in physiological psychology and human biology. After spending a couple of years as a lab tech in a neuroanatomy lab, I skipped the master's degree program and went straight for a Ph.D. in life sciences at Indiana State University.

Although my research focus was in neuroanatomy through the Indiana University School of Medicine, I found my true joy in the gross anatomy lab, where we dissected human cadavers. For me there is truly nothing more magnificent than the human body, so "gross" lab was a spectacular treat. It was during this doctoral program that my brother, at the age of 31, was officially diagnosed with chronic schizophrenia. As you might imagine, a part of me felt relieved to learn that he was the one diagnosed as "not normal," as that meant that I was most likely the neurotypical one.

After I received my doctorate in Indiana, I scooted off to Boston, where I initially spent two years in the Harvard Department of Neuroscience. From there, I spent four years in the Harvard Department of Psychiatry, working with the amazing "Queen of Schizophrenia," Dr. Francine Benes. My research and professional life truly began to blossom. I adored being a lab rat and felt an awe-inspired camaraderie with the beautiful cells I examined through the microscope.

I was fascinated with how our brains create our perception of reality. I studied the postmortem brain cells and circuitry of people who were diagnosed as normal-control—meaning they would be used as the control group in the experiments I was designing—and then compared that tissue with the brains of individuals diagnosed with schizophrenia, schizoaffective, or bipolar disorder. My weekdays were spent performing jaw-dropping innovative research, which ultimately resulted in journal articles with titles like "Differential Distribution of Tyrosine Hydroxylase Fibers on Small and Large Neurons in Layer II of Anterior Cingulate Cortex of Schizophrenic Brain" and "Colocalization of Glutamate Decarboxylase, Tyrosine Hydroxylase and Serotonin Immunoreactivity in Rat Medial Prefrontal Cortex." This last one became a classic, as it was the first article ever to be published by the first online-only scientific journal, *Neuroscience-Net*.

On the weekends, with guitar in tow, I took a different tack. I traveled as the "Singin' Scientist" for the Harvard Brain Bank, educating families with mental illness about the shortage of brain tissue for research and the value of brain donation. At the age of 36, I found myself the youngest person to ever be elected to the national board of directors of NAMI, the National Alliance on Mental Illness. This

wonderful organization has a membership of over 100,000 families whose loved ones have been diagnosed with severe mental illness. NAMI is a really important national, state, and local resource for families in need (NAMI.org). Between the research and advocating for the mentally ill at the national level, my life had terrific purpose. I was helping people like my brother while at the same time keeping my finger on the pulse of research and public policy.

I was in the prime of my life, strong and athletic, and climbing the Harvard ladder. I was fulfilling my dreams as a successful neuroscientist in the world of schizophrenia and finding meaning as a national-level advocate. Then, on the morning of December 10, 1996, at the age of 37, I woke up to a pounding pain behind my left eye.

My Stroke and Insight

As it turned out, I was born with a congenital neurological brain disorder that I didn't know was there until it became a problem. An arteriovenous malformation (AVM) exploded in the left hemisphere of my brain, and over the course of four hours I watched my brain functions shut down one by one. On the afternoon of the stroke I could not walk, talk, read, write, or recall any of my life. In effect, I had become an infant in a woman's body.

As you might imagine, it was fascinating for me to watch my brain systematically break down, through the eyes of a neuroscientist. The damage to the left hemisphere of my brain was so traumatic that I predictably lost the ability to speak and understand language. In addition, the chattering "monkey mind" of my left brain went silent. With that internal dialogue circuitry shut off, I sat in the center of a completely silent brain for five full weeks. I even lost that little voice of my left-brain ego-self that could say, "I am an individual, separate from the whole. I am Dr. Jill Bolte Taylor." In the absence of my chatty and linear-thinking left brain, I stepped into the awe-inspiring experiential sensations of the present moment, and it was beautiful there.

Compounding my deficiencies of language and individuality, the injury to my left parietal lobe, which processes sensory information from the outside world, made it impossible for me to identify the boundaries of where my physical body began and where it ended. As a result my perception of myself became altered. Instead of a physical being, I experienced myself to be an energy ball that was as big as the universe. Shifted into this consciousness of my right brain, I perceived the essence of myself as enormous and expansive, and my spirit soared free, like a great whale gliding through a sea of silent euphoria.

Emotionally I went from feeling the normal emotions I had experienced in my pre-stroke life to feeling nothing except a sense of peaceful bliss. I know this sounds like an amazing blessing, and it certainly was, but being able to feel a range of emotions makes life much more diverse and interesting. Physically, within those same four hours on the morning of the stroke, I went from being able to swim a mile in 30 minutes to lying sprawled on a hospital gurney with my conscious mind trapped inside a motionless body that felt like a ton of lead.

It was eight years before my body completely recovered and I could slalom water-ski again. During that time I regained the emotional circuits of resentment, guilt, and embarrassment, as well as all of the other more subtle feelings and emotions that make life alluring. Our emotions, even the negative ones, truly enrich our perception of experience and make life nuanced and more remarkable. I wrote about this stroke, recovery, and lessons learned about neuroplasticity and the ability of the brain to recover in my memoir, *My Stroke of Insight: A Brain Scientist's Personal Journey*.

Since then I have begun to explore even more deeply the most valuable insight I gained from this sojourn into the depths of my brain: the realization that we have the power to turn our emotional circuitry on and off by choice. In fact, the same principle underlying our bodies' neurological reflexes, like the kick our knee will give when our patella tendon is tapped with a reflex hammer, remains in play when an emotional circuit is triggered and we reflexively respond with fear, anger, or hostility.

Once the circuit is stimulated and we have triggered an emotional response, it takes less than 90 seconds for the chemistry of that emotion to flood through us and then flush completely out of our bloodstream. Of course, we can either consciously or unconsciously choose to rethink the thought that triggered the emotional circuit to run and stay hurt, angry, sad, or whatever for longer than 90 seconds. But in that case what we are doing at a neurological level is restimulating the emotional circuit so it will run over and over again. If there is no repeated trigger, the emotional circuit will run its course and stop after the 90 seconds that it takes for the chemistry to neutralize. I call this the 90 Second Rule and will share examples in the chapters ahead.

The "We" inside of Me

The TED conference where I presented was dedicated to "The Big Questions," and for the opening session we speakers were directed to address the theme "Who Are We?" I chose to approach this by talking about the "We" inside each of our brains, the "We" of our left and right brain hemispheres. The roster of speakers included some world-famous scientists, including the Canadian anthropologist Wade Davis and Louise Leakey, a National Geographic paleontologist. Then there was me, a Harvard-trained girl from Indiana who had survived, and recovered from, a massive stroke. Needless to say, I was the least known speaker in the lineup.

We have the power to choose, moment by moment, who and how we want to be in the world.

On the day before the opening of the conference, I was onstage giving a practice run for the TED staff and crew. They were performing sound and lighting checks and working through logistics, and because I had brought along a preserved human brain, there were some special considerations. After delivering the first six minutes of my presentation during that practice run, I paused and was ready to

stop, but Chris Anderson, the curator of TED, encouraged me to proceed. His mother had experienced a stroke, so he was particularly interested in my topic.

For the next segment, I took the audience on a reenacted journey into the moment-by-moment breakdown of my mind as it had occurred on the morning of the stroke. I shared what it felt like to waffle between the consciousnesses of my left and right hemispheres. It was a dramatic performance in which my left hemisphere was desperate to orchestrate my rescue, countered by the blissful euphoria of my right hemisphere.

I described how I struggled to stay connected to my functional left brain and managed to make a phone call for help, even though I had no recognizable language. When I found myself curled up in a fetal ball in an ambulance, I felt my spirit surrender, and in that release I was certain I was in my moment of transition. At that point in the presentation, to my surprise, an uncanny silence fell over the TED practice room, and I realized that the staff and crew had stopped what they were doing to listen.

Quote: "When I awoke later that afternoon, I was shocked to discover that I was still alive. When I felt my spirit surrender, I had said goodbye to my life. Then I realized, but I'm still alive, and I have found Nirvana, and if I have found Nirvana and I'm still alive, then everyone who is alive can find Nirvana. I pictured a world filled with beautiful, peaceful, compassionate, loving people who knew that they could purposely choose to step to the right of their left hemispheres and find this peace. And then I realized what a tremendous gift this experience could be, what a stroke of insight this could be for how we live our lives. And it motivated me to recover."

The room was not silent anymore. When I finished, I heard sniffles and even weeping. Chris immediately rearranged the schedule, shifting my talk to the last spot of the afternoon. I might be an unknown girl from Indiana, but he knew that this presentation was something special and that his attendees would probably be profoundly moved. It turned out he was right.

Thanks to the response of the staff and crew, I slept well that night and woke up fresh before taking the TED center stage. I ended my talk in this way, answering the "big question" with this reminder:

Who Are We?

We are the life-force power of the universe with manual dexterity and two cognitive minds. We have the power to choose, moment by moment, who and how we want to be in the world.

Right here, right now, I can step into the consciousness of my right hemisphere, where we are, I am, the life-force power of the universe. I am the life-force power of the 50 trillion beautiful molecular geniuses that make up my form, at One with all that is.

Or, I can choose to step into the consciousness of my left hemisphere, where I become a single individual, a solid, separate from the flow, and separate from you. I am Dr. Jill Bolte Taylor: intellectual, neuroanatomist.

These are the "We" inside of me.

Which would you choose? Which do you choose . . . and when?

I believe that the more time we spend choosing to run the deep inner peace circuitry of our right hemisphere, the more peace we will project into the world and the more peaceful our planet will be.

And I thought that was an idea worth spreading.

What This Means for You

As I have already mentioned, the public's response to that TED talk continues to be profound. It is clear that we, as a collective, are searching for a specific set of directions about how we can choose the peaceful mindset of our right hemisphere to counterbalance the chaos in our world. Many of us are in search of a paradigm shift for how we can embrace our deep inner peace, regardless of our situation.

The most frequently asked question I receive is "How do I quiet the brain chatter in my left brain?" Clearly, many people want to stop their habits of self-judgment and criticism. It is also common for me to hear "I have been practicing meditation for years and have only experienced that feeling of euphoria that you describe a couple of times. What can I do differently to get there? Do you meditate, and if so, what form? Can you still find that sense of euphoria, and if

so, what can I do to get there?" Then there is this one: "What drugs might I take to help me feel that euphoria you got from the stroke? Psychedelics? If so, which ones?" (As important as that question is, especially in light of the recent research into the use of ecstasy for post-traumatic stress disorder [PTSD], that field is beyond my knowledge base.)

By choosing to meditate, pray, or practice mindfulness exercises, we can certainly quiet the chatter and free ourselves from the prison of our own minds. But please be clear: This book is not about any of those subjects. It is about "the power of the We inside of me." I believe that the better we understand the various groups of cells inside of our brain, how they are organized, and what it feels like to run each of those different cellular circuits, the more power we have to purposefully choose which of those neural networks we want to run. By doing so we ultimately gain the power to choose who and how we want to be in the world each and every moment, regardless of what external circumstances we find ourselves in.

Peace really is just a thought away. It is always right there, and always available for you to embody.

I will draw on two different disciplines to explain this idea in the chapters ahead. The science of neuroanatomy involves the study of the structure of the brain. The science of psychology involves the study of the mind and our mental processes. What makes this book so unique and exciting is that the psychology I present here is specifically correlated to the underlying brain anatomy and what we know about the function of those specific groups of cells. When you open yourself to this material, you will gain amazing insights into both the conscious and unconscious realms of your left and right hemispheres. By doing so you will become much more aware of your power to choose who and how you want to be, because you will know what your options are at both a psychological and biological level.

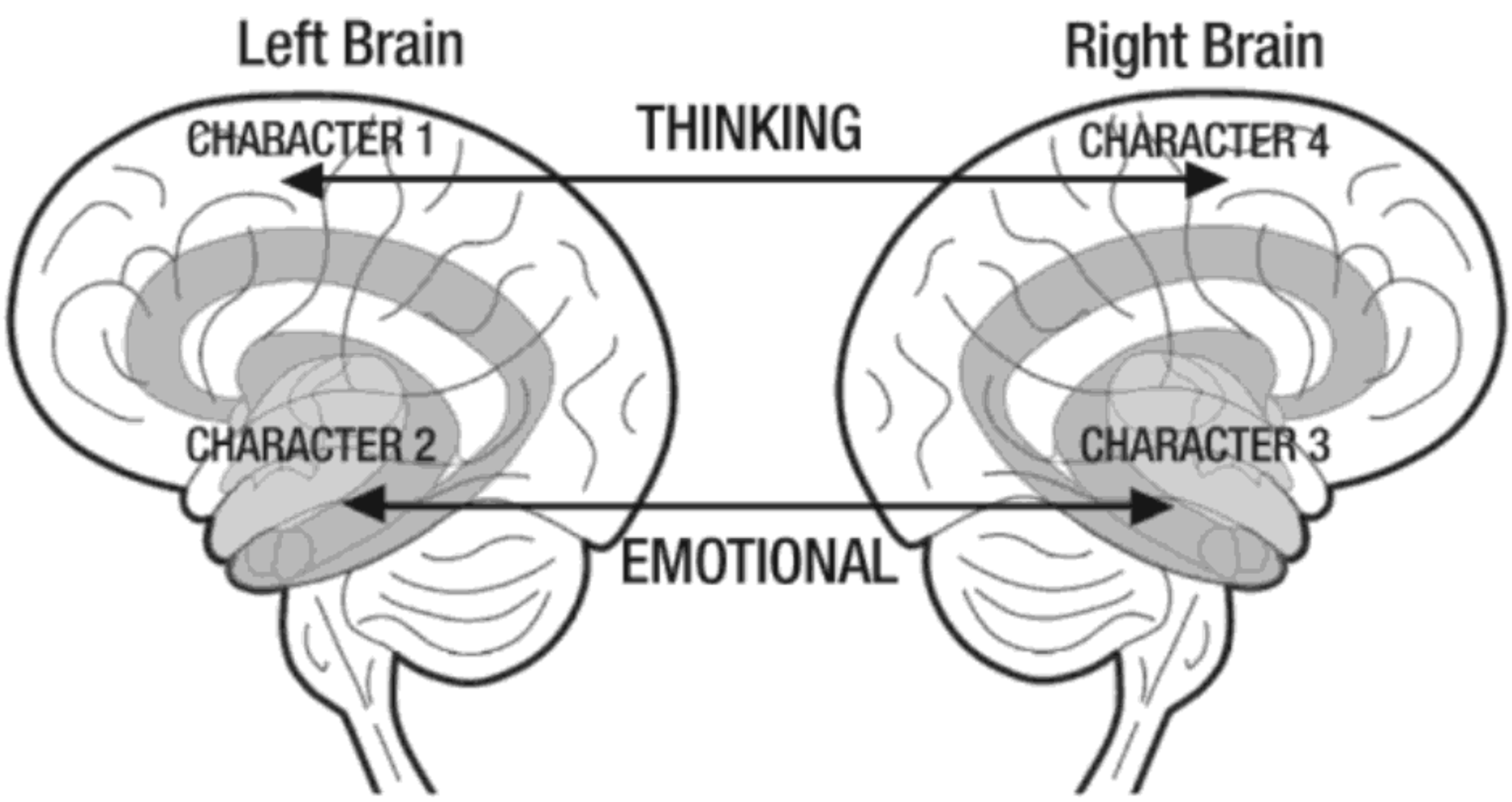
This journey we will take into your brain is reminiscent of Joseph Campbell's classic monomyth that describes the steps a hero must take to fulfill his Hero's Journey. In the language of the brain, the hero must step out of his own ego-based left-brain consciousness into the realm of his right brain's unconsciousness. At this point the hero feels connected to all that is, and is enveloped by a sense of deep inner peace. As you gain mastery of the Four Characters in your brain, whom you are about to meet, you will embark upon your own Hero's Journey into the circuitry of your unconscious brain and realize that peace really is just a thought away. It is always right there and always available for you to embody.

When the cells in my left hemisphere experienced trauma and shut down, I did not just lose cells and skill sets. I lost parts of my personality, including the highly motivated part that was smart, disciplined, punctual, detail based, methodical, and well organized and that knew the details of my life. That part of me was a character that disappeared with the stroke and was no longer available, at least until those cells recovered and that circuitry came back online. I also lost the part of my personality that had known all of the challenges, emotions, and pain from my past. Without that character available, all I could experience was the peaceful euphoria of the present moment.

It took eight years for me to rebuild all of those wounded circuits, and then resurrect and recover those two left-brain characters that had gone off-line. I learned the hard way that we each have four distinctive groups of cells, divided between our two brain hemispheres, that generate four consistent and predictable personalities. Neuroanatomically these four groups of cells make up the left and right *thinking* centers of our higher cerebral cortex, as well as our left and right *emotional* centers of our lower limbic system. Collectively, I call these personalities the Four Characters. Getting to know them inside of your brain is a ticket to freedom.

I realize that the material in this book may require a theoretical shift in how you think about your brain anatomy. For at least 50 years, we have been trained as a society to believe that our left

hemisphere is our "rational thinking" brain, while our right hemisphere is our "emotional" brain. Actually, from a neuroanatomical perspective, although it is true that our left thinking tissue is the home of our conscious, rational mind (which I will refer to as Character 1), both our left and right brain hemispheres share the cells of our emotional limbic system equally (Characters 2 and 3). Character 4 occupies the higher cortical thinking tissue of our right brain.

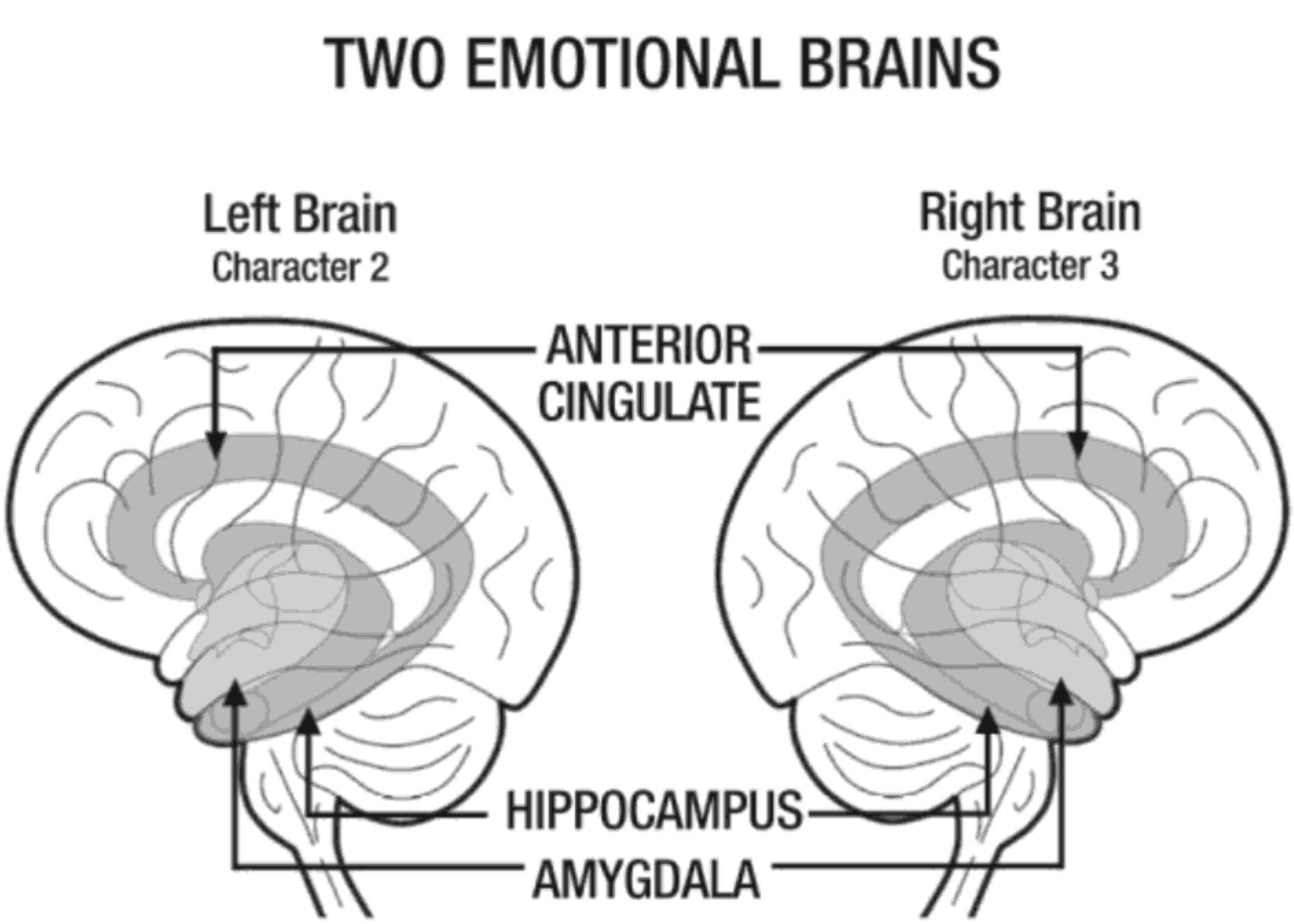


How We Think and Feel

At any moment in time, there are pretty much only three things going on in our brain. We think thoughts, we feel emotions, and we run physiological responses to what we are thinking and feeling. Each of these activities is completely dependent on the health and well-being of the cells that are performing those functions.

We experience emotions via the cells of our limbic system, and these cells are evenly divided between our two hemispheres. The major structures of the limbic system are mirrored in each

hemisphere such that we have two amygdalae, two hippocampi, and two anterior cingulate gyri, among others. This means we have two separate modules for emotional processing (Characters 2 and 3). When information streams in through our sensory systems, it first stops off at our amygdalae, which are there to ask the question, "Am I safe?" We feel safe in the world when enough of the sensory stimulation coming in feels familiar.



When something does not feel familiar, however, our amygdalae tend to label that unfamiliar thing as dangerous, and they respond by triggering our fight-flight-or-play-dead fear response. If it has been your natural tendency to fight, you probably rage, get big and loud, go on the attack or try to shoo the thing away. If it is your style to run like the wind or play dead, then that response may be your best choice.

When our amygdalae are triggered and we feel fear, we are not able to run the learning and memory circuitry of our hippocampi.

Until we push the pause button and take a moment to calm down and feel safe again, we will not be able to think clearly. This is why anyone who is freaking out with test anxiety tends to perform poorly, regardless of how well prepared they are. When our limbic anxiety circuit is triggered, we are neuroanatomically cut off from accessing our higher cortical thinking centers, which is where our learned knowledge is stored.

Understanding the anatomy of the brain is always insightful when it comes to our experience and behavior. If we live with the basic belief that there is only one group of cells inside of our brain that processes our emotions, our experience of mixed emotions can be very confusing. At a neuroanatomical level, when we experience conflicting feelings it is because we have two emotional groups of cells that are completely separate from one another in that they do not share any cell bodies.

Equally important, these two emotional modules of cells process incoming information in predictably different ways. Providing we understand that our left brain processes information linearly and in sequence, we will see in detail how our left-brain emotional module is designed to bring in information about the present moment and then compare that to any emotional experience we have had in the past. As a result, our left-brain emotional Character 2 is programmed to protect us from anything that has a history of hurting us. Consequently, our Character 2 is primed to say "No" and push things away.

Our right-brain emotional Character 3 is exactly the opposite in that it processes present-moment experiences in the present moment. Therefore our emotional Character 3 always exists in the here and now and has no recollection of the past. Instead of pushing things away, our Character 3 moves enthusiastically toward any experience that remotely smells like an enticing and juicy adrenaline rush.

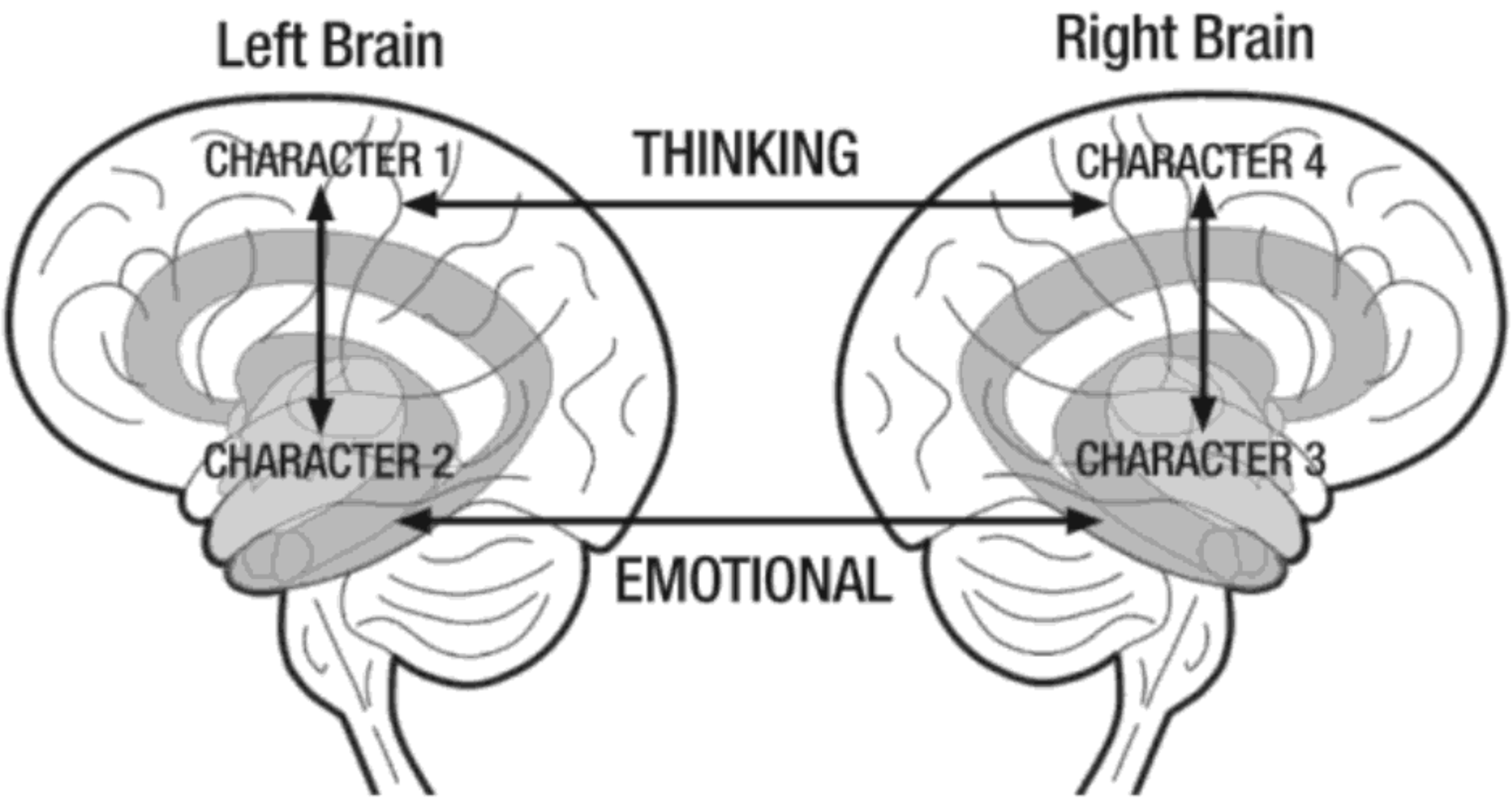
In the mammalian nervous system, a new species is often created by adding new brain cells on top of a well-integrated preexisting cellular matrix. When this happens, the new tissue is designed

to refine and evolve the abilities of the tissue below. In the case of the human brain, although we share the cells of our deeper emotional limbic tissue with other mammals, such as dogs and monkeys, what distinguishes our human brain as unique are the newly added-on higher cortical cells of our two thinking brains.

When information from the external world streams in through our sensory systems, it is processed first by the cells of our limbic emotional cells before it is refined by our higher thinking centers. So, from a purely biological perspective, we humans are feeling creatures who think, rather than thinking creatures who feel. Neuroanatomically you and I are programmed to feel our emotions, and any attempt we may make to bypass or ignore what we are feeling may have the power to derail our mental health at this most fundamental level.

From an evolutionary standpoint, our human brain exists as a truly amazing neurological accomplishment, but it is critical to remember that we are far from being a finished product. Instead humanity exists in an ongoing state of evolution: First, we are actively integrating the newly added-on tissue of our left thinking brain (Character 1) with the tissue of the underlying left emotional brain (Character 2). Second, we are integrating the newly added-on tissue of our right thinking brain (Character 4) with the underlying tissue of our right emotional brain (Character 3). Third, we are connecting the left emotional brain tissue (Character 2) with the right emotional brain tissue (Character 3). And finally, we are integrating the left thinking brain tissue (Character 1) with the right thinking brain tissue (Character 4). When we accomplish this we will evolve into whole-brain living.

WHOLE BRAIN COMMUNICATION



Although our human brain is an evolving masterpiece in process, you don't have to look far to see how the differences between what our left and right hemispheres value (which we will explore in detail in Chapter 3) are playing out in our lives and in society. Besides the most obvious social unrest imparted by our bipartisan political hostilities, statistically speaking, one in five adults in the U.S. will be diagnosed with a severe mental illness at some point in their life. Choosing to advance our own evolution as a species will help us find peace individually, communally, and ultimately globally.

As we move through this material, I implore you to open your heart and mind and be completely honest with yourself about your own individual strengths and weaknesses. As long as we live in a society that rewards us for what we do, rather than for who we are, we will feel undervalued and unfulfilled. For many of us, our goal has been to "get rid of" or "fix" the most unruly, unattractive, or vulnerable parts of ourselves. But when we choose to embrace, listen to, and nurture all of our characters, we will mature, grow, and evolve into that person our dog already thinks we are.

Just to clarify, in this book we are talking about four predictable and easy to identify characters that we all have, based on the anatomy of our brain. Every ability we have is completely dependent on the underlying brain cells that manufacture those abilities, and these four different groups of cells manufacture four different skill sets, ultimately resulting in the expression of each of our Four Characters. When many authors and teachers refer to the *authentic self,* you may wonder which of these Four Characters they might be referring to. In fact, from the way they describe the "authentic self," it is clear that they are referring to Character 4. But please understand that none of the Four Characters is more authentic than the others. Each of these characters represents an authentic part of who we are at a cellular level and should be treated with dignity, respect, and honor.

A Note on Brain Disorders

It is important to note that the material presented here is not related to either schizophrenia or multiple personality disorder, which are both serious neuropsychiatric disorders. The word *schizophrenia* by definition means "split brain," but the division that it describes is a break between the brain of a person and the accepted norms of its surrounding society.

The necessary criteria for someone to be diagnosed with the brain disorder schizophrenia is the experience of sensory hallucinations supported by a delusional thinking system. If your brain is inputting abnormal sensory perceptions of the world because you are seeing, smelling, or hearing things that others are not experiencing, it is impossible for your brain to use those building blocks to construct a normal perception of the world. Predictably, your brain would create a delusional thinking system matching the altered input. Not only do the brains of people with schizophrenia process incoming data in error from normal perception, but there are alterations in the internal wiring of that information. As a result, the brain of a person with schizophrenia is split from

normal information processing at a cellular level, and the resultant delusional thinking system is a by-product of that brain's abnormal neurological miswiring.

Multiple personality disorder (MPD) is a completely different brain disorder from schizophrenia. There is a lot that is not known about this disorder, including why or how a brain is capable of manufacturing multiple personalities. Sometimes these personalities don't even know about one another, or they may exist in conflict. MPD is a pathological condition that may be manifested as a coping tool in response to childhood trauma. In the case of MPD, the split in consciousness occurs within the brain, whereas in schizophrenia the split occurs between the consciousness of the brain and its perception of external reality.

After the stroke, once my whole brain came back online and all four of my characters became fully functional again, I learned that I have the ability to not only recognize which circuitry or character I am running but to choose whether I want to continue running that circuit or switch to a different one. This unusual journey has helped me understand that not only I but all of us have incredible power concerning who and how we want to be. My passion is for you to master your own Four Characters so you, too, can completely own your power and live your best life.

In the following chapters we will explore the anatomy and psychology of the brain's two hemispheres and Four Characters in more detail. (Don't worry—I will make this as interesting and simple as I can.) From there we will explore the unique skill sets that each of the Four Characters specialize in and help you identify which character you are inhabiting at any moment based on what they *feel* like inside of your body.

Then, as we move farther into the book, not only will you meet and get to know the Four Characters of your left and right *thinking* Characters 1 and 4, and your left and right *emotional* Characters 2 and 3, but you will gain insight into how these Four Characters can interact and work together on your behalf.

When we know, understand, and nurture our own Four Characters, their relationships with one another, and their collective power within us, we promote our own cognitive, emotional, physical, and spiritual wellness. This is whole-brain living. I truly believe that this is the evolutionary goal of humanity, and we are getting there one brain at a time.

CHAPTER 2

Brain Anatomy and Personality

My father, Hal Taylor, was a preacher man. He was an ordained and practicing Episcopalian minister during my childhood, and when I was a teenager he became a therapist after receiving his Ph.D. in counseling psychology. Hal was fascinated with people of all walks of life and earned his living helping corporations and non-profit organizations develop team-building skills for better board management and performance. He did this using personality profiles and temperament typing.

Hal was obsessed with helping people help themselves, be they presidents of organizations, the severely mentally ill, or those incarcerated in our jails. Hal had a heart of gold, and his single goal in life, in my opinion, was to help people better understand their strengths so they could live more fully. Temperament typing was a great tool for this. His primary tool was the Myers-Briggs Type Indicator, which was very popular back in the 1970s, '80s, and '90s and is still being used by over a million people a year.

The first time Hal gave me the Myers-Briggs, I was 18 years old and starting college. Like many others I rebelled against the forced-choice nature of the exam because my answers were completely dependent on the circumstances in which I pictured myself. I originally tested as an INTJ—an Introverted, Intuitive, Thinking,

and Judging personality. This profile, labeled by psychologist and temperament-typing expert David Keirsey as the Scientist, clearly depicted a character inside of me, but I was that character only part of the time. When hanging out with my friends, I was an ESFP Performer type—Extroverted, Sensing, Feeling, and Perceiving. So much so that I was voted class clown in high school.

The Myers-Briggs did not accommodate for different life scenarios, and because it pigeonholed me into a single character, I questioned the accuracy of the evaluation. This sparked in me a lifelong curiosity and drive to find a psychological typing system that was more anatomically accurate. Following in my father's footsteps, I became fascinated with psychology and the brain, as well as with the relationships between our mind, brain, body, and behavior. I loved anything that was human-based biology.

The Split-Brain Experiments

To my good fortune, I was an undergraduate during the late '70s, when the field of neuroscience went mainstream and the famous split-brain surgeries captivated the public's attention. To say the least, I was riveted by the work of Dr. Roger Sperry, who surgically separated the two cerebral hemispheres of several of his epileptic patients.

When Dr. Sperry surgically cut the corpus callosum—the band of some 300 million axonal fibers connecting the two cerebral hemispheres—in a procedure called a commissurotomy, he was successful in preventing dangerous seizure activity in one hemisphere from spreading into the other. There was another benefit too: the psychological experiments that were performed on this patient population by Dr. Michael Gazzaniga bore great insights into how our two brain hemispheres function differently when they are separated.

As a budding neuroscientist, I was particularly fascinated by the Dr. Jekyll and Mr. Hyde stories from these experiments, which depicted the psychological and underlying anatomical abilities of the two cerebral hemispheres as dramatically different. It was clear that when the two hemispheres were separated, the split-brain patients behaved as though they were two unique characters that often acted in direct opposition to one another.

In some of these patients, the character "occupying" the right brain hemisphere would directly contradict the intention and behavior of the character "occupying" the left brain hemisphere. For instance, when one gentleman attempted to slap his wife with his left hand (right brain), he simultaneously protected her with his right hand (left brain). On another occasion this same fellow was clearly conflicted when he yanked his pants down with one hand while simultaneously redressing himself with the other.

A different patient, who happened to be a child, was completely verbal in both of his hemispheres. When asked about his life goals, his right-brain character reported that he wanted to grow up to be a race car driver, while his left-brain character was interested in becoming a draftsman. Still another commissurotomy patient reported that she went to battle with herself every morning when choosing her clothing. She described her right and left hands as two repelling magnets, each of which had different styles in mind about what she should wear that day. The same thing happened when she was shopping for food at the grocery store, as her two hemispheric characters were interested in completely different cuisines. It took well over a year following her commissurotomy surgery before she was able to master a single intention and purposefully inhibit the internal battle going on between her two differently opinionated hemispheric characters.

As you hear these stories, it is important to note that the only anatomical difference between these commissurotomy patients and you and me is that our two cerebral hemispheres communicate with one another via the connections of our corpus callosum. Scientists understand that neuroanatomically the majority of these commissural fibers are inhibitory in nature and that they run from one set of cells in one hemisphere to the comparable set of cells in the opposite hemisphere. At any moment in time, both hemispheres have cells that are active, but opposing hemisphere cell groups dance between dominance and inhibition.

In this way, one hemisphere has the power to inhibit the function of the comparable cells in the opposite hemisphere, dominating the function of that particular group of cells. For example, when we are focused on the words and meaning of what someone

is saying (left brain), we tend to not be so focused on the inflection of their voice or the emotional content (right brain) of what they are communicating. Vice versa—have you ever been so stunned that someone was yelling at you that you completely missed the point they were trying to make?

Back in the '70s and '80s, society went a bit overboard in its response to the split-brain studies, and all sorts of "right brain" and "left brain"–based community programs popped up. Many schools even got into the game and established curricula that would help stimulate one or both of the hemispheres. The stereotypes of left-brain and right-brain people entered the mainstream, with the left-brainers appearing to be more organized, punctual, and good with details while the right-brainers thrived in creativity, innovation, and athletics.

Unfortunately, in response to the left-brain/right-brain craze, the strategy that many parents took to help their children get ahead was to expose them to programming that fit their natural dominance. This makes sense, of course, since they wanted their children to be rewarded for what they did well. But if their goal was to create more rounded, whole-brained children, a better plan might have been for them to encourage their kids to partake in activities at which they did *not* excel. For example, they could have encouraged the left brain–dominant science and math types to participate in outdoor events in which they could explore and collect data in the woods. And they could have enticed the athletic and artistic types to creatively design some really cool science-fair projects that would measure some type of performance.

Because parents did it the way they did, however, over the last 40 years we have skewed our abilities toward the two extremes. There have been some writings and teachings specifically designed to help develop our nondominant side, including the book *Drawing on the Right Side of the Brain*, which is a classic and still widely used today. Also, you don't have to look far to recognize how marketers have mastered their advertising strategies to target our right- or left-brain preferences. Even our computer systems fit the bill: Apple products are viewed as right-brain creative, while anything Windows based

screams left-brain analytical. Remember that Blackberry? It used to make my right brain moan.

How the Two Hemispheres Function

In addition to these pop-science efforts that have been designed to capitalize on the stereotypical differences between our two hemispheres, a tome of evidence-based science now offers us a pretty clear understanding of both the anatomical and functional differences between the two halves of our brain. For anyone interested in both the big picture and the details about what we have learned concerning these differences over the last half century, *The Master and His Emissary,* a book by the British psychiatrist Dr. Iain McGilchrist, is a fascinating and up-to-date read.

In addition, if you are interested in how a Harvard psychiatrist works with the left- and right-brain characters in an attempt to help his patients heal issues related to mental illness, the book *Of Two Minds* by Dr. Fredric Schiffer is a real eye-opener. It even addresses how our two hemisphere characters are so different that each may actually manifest unique aches and pains that the other does not acknowledge or exhibit.

Moreover, if you are looking for an alternative tool in how you might manage mental health issues, Dr. Richard Schwartz's Internal Family Systems model is an interesting strategy that recognizes and works with the different *parts* of a person's personality so they can collaborate to find a healthy solution. Each of these books and tools is fascinating if you are interested in learning more about the brain.

Both of our cerebral hemispheres are constantly contributing to the whole of any experiential moment, so I do not mean to imply that either the left brain or the right brain functions in isolation. Modern technology shows clearly that at any moment in time, both hemispheres are contributing to the input, experience, and output of the nervous system. However, as I stated previously, brain cells dominate and inhibit their counterpart cells as a standard practice, so the brain is not *all-on* or *all-off* under any circumstance except for death.

As we think about how the brain works, it is natural to ask this question: "How is it possible that a group of brain cells can work together to create a personality at all?" I'm not the first person to ask this question, nor am I the first to experience a brain trauma, exhibit a change in personality, and then recover the traumatized cells, regaining old circuits, old skill sets, and lost personality traits. However, I may be the first neuroanatomist to take this particular journey deep into the neural and psychological workings of my brain and then walk away with these unique insights concerning our Four Characters.

Brain cells are beautiful little creatures that come in many different shapes and sizes, and their design dictates their ability to perform their specific function. For example, the sensory neurons located in the primary auditory cortex of each of our hemispheres have a unique shape that supports their ability to process sound information. Other neurons that function to interconnect different regions in the brain have an appropriate shape for that action, as do the cells of the motor system.

Neuroanatomically, it is important to note that the neurons in your brain and how they connect with one another are essentially the same for all of us. Structurally speaking the bumps and grooves of the outermost cerebral cortex of everyone's brain are virtually identical, so much so that damage to a specific area in your brain would wipe out comparably the same function as in mine, should I have the same trauma. Using the example of the motor cortex, if you and I experienced damage to the same specific group of cells in the same hemisphere, we would more than likely experience paralysis in the same parts of our bodies.

Underlying the functional differences between our two hemispheres are neurons that process information in unique ways. For example, the neurons in our left brain function linearly: they take an idea, compare that idea to the next idea, and then compare the by-product of those ideas to the *next* idea. Therefore our left brain has the ability to think sequentially. For example, we know that we need to start the engine before we put the car in gear. Our left hemisphere is an amazing serial processor that not only creates abstract

linearity—as in 1+1=2—but manifests for us temporality, the linear sense of time whereby we can separate past, present, and future.

Our right-brain cells are not at all designed to create linear order. Instead, our right hemisphere functions like a parallel processor, bringing in multiple streams of data that simultaneously reveal a single complex moment of experience. Our right brain manifests a rich composite of the right here, right now present moment by adding depth to the creation of our memories, which are influenced by both of our hemispheres.

Although many of our brain cells are responsible for doing obvious things like understanding language or manifesting vision, other neurons function to create our thoughts or emotions. We use the term *module* to describe the way in which groups of neurons interconnect with one another in order to function together as an aggregate. Each of our Four Characters, for example, is supported by its specific and unique module of neurons.

By the time my left brain finally shut down completely, I had drifted into the peaceful consciousness of my right brain, where I lost all sense of urgency.

When I experienced the hemorrhage in the left hemisphere of my brain, most of those cells simply went off-line because of the inflammation, swelling, and pressure buildup within my skull. In response to the trauma, the left-brain cells that had dominated my right-brain cells via the corpus callosum released their inhibition over those cells in my right brain, just as with the split-brain patients. When this occurred, the characters of my *left thinking* and *left emotional* networks receded, while the comparable characters of my right brain's *thinking* and *emotional* modules became untethered, unfettered, newly dominant, and free to run wild.

If you are curious about how I could recall the events that happened on the morning of the stroke, even with my left brain off-line, it is important to note that although the circuits in my left brain shut down due to the trauma, I did not die, nor did I become

unconscious. In addition, the stroke did not blow up—boom—and then it was all over. Instead, after the blood vessel in my left hemisphere exploded, over the course of four hours, more and more blood slowly oozed into that left-brain tissue, shutting circuits off as it went along. I experienced the stroke as more of a slow pipe leak than an instantaneous power outage. As a result, my right brain retained the ability to replay the memory of the morning of the stroke, much like a video.

By the time my left brain finally shut down completely, I had drifted into the peaceful consciousness of my right brain, where I lost all sense of urgency. Temporally, my right brain existed solely in the present moment, with no past regrets, present fears, or future expectations. From this, and the next eight years of recovery, it was apparent that the job of my right-brain circuitry was to process the experience of the right here, right now present moment.

My left hemisphere, on the other hand, had functioned like a *bridge across time*: it was responsible for linking this present moment to the past moment and then to the next moment. Somehow those cells in my left brain were organized in such a way that I had been capable of linear thought. Miraculously, my left brain understood that I needed to put my socks on before my shoes.

Clearly, we have two hemispheres for a reason, and without our left brain we are completely nonfunctional in the external world, in that we have no past or future, no linear thought, no language, and no sense of the boundaries of where we begin or end. Our left brain offers us our individuality, while our right brain connects us with the consciousness of not only the collective whole of humanity but the vast expansive consciousness of the universe.

By having both of these hemispheres working together inside of one head, we experience a natural duality. As a result, it is normal for us to endure an ongoing internal conflict, based completely on the two uniquely autonomous perspectives of our left and right brains. For example, my left brain might want to jump on that homework immediately and get it done, while my right brain would rather go out and play, leaving the work for the last minute.

The Four Characters in Our Brain

The differences between the two hemispheres are far greater than simply the underlying anatomy, physiology, and resultant skill sets. My experience of losing my left brain and then rebuilding it over the course of eight years taught me that in addition to executing opposite abilities and constructing different realities, each of my two hemispheres is the home to very specific and predictable characters. These are the Four Characters you briefly met in the last chapter.

More specifically, with recovery, when I salvaged the functions of my left-brain *thinking* module (Character 1), with them came the goal-driven, well-organized, methodical, controlling character who had dominated my pre-stroke life. She was strong, powerful, capable, manipulative, good with time management, and completely judgmental. Following her recovery, she wanted to be the boss again inside my brain.

In addition, as this *Left Thinking* Character 1 regained its ability to process information linearly, as well as to judge things as right/wrong or good/bad, I recouped the ability to experience *emotions* that were dependent upon a memory from another place and time. For example, we have the ability to feel guilt or shame in response to something that has already occurred, or we can build up resentments over time, or seek revenge for something that has happened in the past. Once the emotional module of my left brain healed enough to come back online, I could experience these kinds of emotions again. But just as a strict and productive Character 1 came back online with my left-brain *thinking* tissue, a pained and cautious Character 2 came back online with my left-brain *emotional* cellular network.

I will admit that I truly enjoyed not having any of the pain from my past in my left-brain emotional module anymore, as I did not miss those tragic emotional circuits of my childhood. Yet having said that, life without the richness of deep emotions is a flat place to exist. This left-brain emotional Character 2 feels and knows our past pain, and it is this character that takes us right up to the edge of our potential growth and either pushes us over that edge or retreats

us back into the safety of what feels familiar. I have to know what is safe and not safe if I am to define the boundaries of my safety. I have to know what is right for me in order to know what is not right. I have to know darkness or sadness to recognize light or joy.

It is our left-brain *emotional* Character 2 who screams, wails, and rages against all those injustices that it has perceived as hurtful, dangerous, or unfair. It also holds us back, flees or freezes when something triggers our fear. Over the years, it has been the job of this tender and vulnerable character to hold our past pain in memory for our future protection. If we want to evolve into our best selves and live our best lives, we must create a healthy relationship with our left-brain Character 2. We grow and thrive when we are brave enough to stand in the center of our own pain and listen to what it is trying to communicate.

During my recovery, the newly dominant *Right Thinking* Character 4, who felt open, expansive, kind, and as big as the universe, was not too keen on letting the recovered stress-driven Character 1 of my left thinking brain waltz right back in to dominate my consciousness. Although I have to say I was thrilled to have those neural networks back in action, so I could speak and understand when others spoke to me and know the boundaries of my body again, I preferred embodying the never-ending peaceful gratitude of my Character 4's open heart. That is why I consciously chose to remain right-brain dominant. And if I can choose which circuitry I want to run, so can you.

As you move through this book, you will learn a great deal more about each of your Four Characters, what they feel like inside of your body, and how you, too, can choose who and how you want to be in any moment.

CHAPTER 3

Our Brain's Team: The Four Characters

The unsung beauty of the split-brain experiments that I described in the last chapter is that they support with convincing neuroanatomical evidence the existence of the Four Characters. Surgically separating our two brain hemispheres has scientifically shown us that they are not simply two anatomically separate halves of a whole. Instead, the two halves of our brain house completely different character profiles that each exhibit unique wants, dreams, interests, and desires. (Just imagine what pearls of wisdom we might have gleaned if Gazzaniga had chosen to give a Myers-Briggs test to each of the hemispheres of those commissurotomy patients.)

For some reason that I am unsure of, modern science has backpedaled away from many of the insights we gained from the split-brain research of the '70s, specifically concerning the diverse and often antagonistic characters residing in each half of our brain. Perhaps this idea faded simply as collateral damage when scientists rushed in to squelch the exaggerated public hype. Or perhaps not everyone, including the scientists involved, was cognizant of their own multiplicity of personality, and as a result those original seeds of knowledge did not receive the water they required for future growth.

In the "My Stroke of Insight" TED talk, I purposefully went out on a limb when I stated, "Our two cerebral hemispheres think about different things, they care about different things, and, dare I say, they have very different personalities." Be it a popular idea or not, I am bringing buckets of water to revive this very important conversation.

How Your Four Characters Think and Feel

Here is a brief list of some of the attributes exhibited by the Left Thinking Character 1 and Right Thinking Character 4 parts of our brain. Notice that these two thinking characters are virtually opposite in how they perceive and process information:

Left Thinking Character 1 (Serial Processor)	**Right Thinking Character 4** (Parallel Processor)
Verbal	Nonverbal
Thinks in language	Thinks in pictures
Thinks linearly	Thinks experientially
Past/future based	Present moment–based
Analytical	Kinesthetic/body
Focuses on details	Looks holistically at the big picture
Seeks differences	Seeks similarities
Judgmental	Compassionate
Punctual	Lost in the flow of time
Individual	Collective
Concise/precise	Flexible/resilient
Fixed	Open to possibilities
Focus on ME	Focus on WE
Busy	Available
Conscious	Unconscious
Structure/order	Fluid/flow

Here is a brief list of some of the attributes exhibited by our Left Emotional Character 2 and Right Emotional Character 3 parts of our brain. Notice that these two emotional characters are also virtually opposite in how they feel when they experience emotion:

Left Emotional Character 2	**Right Emotional Character 3**
Constricted	Expansive
Rigid	Open
Cautious	Risk taking
Fear based	Fearless
Stern	Friendly
Loves conditionally	Loves unconditionally
Doubts	Trusts
Bullies	Supports
Righteous	Grateful
Manipulates	Goes with the flow
Tried and true	Creative/innovative
Independent	Collective
Selfish	Sharing
Critical	Kind
Superior/inferior	Equality
Right/wrong, good/bad	Contextual

In Part II of this book, we will take a much deeper dive into the skill sets and personalities of these Four Characters. I will not only help you identify each of these characters inside of yourself, but we will explore how your Four Characters can work together to become a healthy team inside of your brain. In Part III we will observe the Four Characters in action, or as I like to say, "in the wild." There, we will first take a look at how the Four Characters view their relationship with our body and then get a glimpse at how they each interact predictably in romantic relationships. Because it is our ultimate goal to create more connection and consequently greater health within ourselves and with others, we will take a peek at how devastating

addiction can be to our Four Characters, and gain some insight into why it is that recovery may be effective for one person and not another. From there we will look at the evolution of the Four Characters over the last 100 years, and the profound impact that new technologies have had on the different generations.

As we go along in Part II, for clarity's sake I will share with you the name that I have chosen for each of my Four Characters, along with some of the things I know about her. I do this in an attempt to help you better relate to and identify that specific character inside of yourself. I believe it is vital that you take ownership of your own Four Characters, which is why I have chosen to not give each of these characters a generalized name other than Character 1, 2, 3, and 4. I think it is really important that you spend a little time contemplating a name for each of your Four Characters that is meaningful to you.

With naming your characters, please feel free to be as tame and proper or as absolutely outrageous as you want to be. Some folks have chosen names of their parents or friends, while others have selected mythological or fictional designations. Feel free to use a derivative of your own name or something completely off the wall. The point here is that you choose a name that will bring that character full force into the forefront of your mind when you refer to it.

Anatomically, each of us has a whole brain, and we each have all Four Characters. You may find, however, that one of your Four Characters may be dominating, or another part may rarely show up. If it turns out that you absolutely cannot identify with any of the Four Characters, you might ask your spouse, or a trusted friend, if they know that part of you. Please note that although we all exhibit thoughts, emotions, and behaviors that we are not proud of, none of our Four Characters is bad, wrong, or not worthy of our love and respect. In addition, it is not unusual that our perspective of ourselves is different from how others view us. Hopefully, whatever insights you gain will prove to be an important tool for your own personal growth.

Your Brain Team and Your Power to Choose

We have seen how these Four Characters are the natural by-product of our brain hemispheres' cells, circuits, and functional modules of thinking and emotional tissue, but what does this mean for you in your daily life? Just think about it. Does a day go by when you don't experience an intrapersonal conflict? Our two hemispheres value completely different things, so when your heart says one thing and your head says another, it is simply a dispute between the different parts of your brain. For example, a conflict between your right and left *thinking* characters might look something like this: "Do I take that job in a new city that pays more and is an obvious promotion (left-brain thinking values)?" or "Do I keep my current job so my children can stay in a familiar school and stay connected to their friends and family (right-brain thinking values)?"

Similarly, a conflict between your right and left *emotional* characters might sound like this: "That person hurt me so badly, I just want to get even and hurt them back (left-brain emotional values)" or "I'll just send that person love from afar, and create the time and space away from them that I need, so my heart can heal and I can move on with grace (right-brain emotional values)."

In each of these instances, knowing which characters are engaged in the dialogue, and what their motivating factors are, enables us to make conscious choices about who and how we want to be.

When your heart says one thing and your head says another, it is simply a dispute between the different parts of your brain.

As you become proficient at identifying your Four Characters and learn to appreciate and value the skill set that each brings to your life, you will be able to make this choice more consciously and deliberately. However, just knowing your Four Characters is not enough. The ultimate goal is for your Four Characters to become so familiar with one another that they create healthy relationships

among themselves. Once this happens, your Four Characters will collectively function as a healthy team that is armed with all of your genius and natural abilities.

Teammates in any situation—like a sports team on the field or a team of colleagues at work—will call a quick "huddle" to assess a situation and strategize their next moves. Your brain team, made up of your Four Characters, can huddle together at any moment to analyze what is going on in your life and then collectively decide who and how you want to be in the next circumstance.

Following up on that, in Part II not only will we explore the Four Characters in detail, but I will share with you a five-step process that I call the Brain Huddle, whereby we consciously take a pause, call all Four Characters into our awareness, and then together as a team contemplate our next best move. I will encourage you to practice the Brain Huddle in everyday moments so you can train your brain to make important decisions swiftly and skillfully. If you are willing to train your Four Characters to function as a team during the benign moments of your life, when you are in duress you will have that skill available.

For now, here is a quick preview of the steps we will take to do a Brain Huddle:

Breathe and focus on your breath. This enables you to hit the pause button, interrupt your emotional reactivity, and bring your mind to the present moment with a focus on yourself.

Recognize which of the Four Characters' circuitry you are running in the present moment.

Appreciate whichever character you find yourself exhibiting, and appreciate the fact that you have all Four Characters available to you at any moment.

Inquire within and invite all Four Characters into the huddle so they can collectively and consciously strategize your next move.

Navigate your new reality, with all Four Characters bringing their best game.

You will no doubt realize that these five steps of the Brain Huddle spell out "B-R-A-I-N." While I, of course, think this acronym is adorable, it also has a real purpose: to help you quickly remember the steps when the pressure is on and your Character 2's stress circuitry is running on overdrive. In moments like those, when you can barely think because the chemicals of anxiety or fear are flooding through your bloodstream and overwhelming your circuitry, this B-R-A-I-N acronym can beam like a bright neon light, reminding you of the steps you can take to call your brain team together so you can find your way back into the peace of your right brain.

This process of the Brain Huddle whereby we can consciously and deliberately bring all Four Characters into the conversation is both powerful and empowering. We have the ability to interrupt the automatic circuitry of our emotional reactivity and consciously choose which of the Four Characters we want to have as dominant in any moment. Knowing our Four Characters and being able to recognize them in others enables us to interact more authentically in a whole-brain way. We have the power to purposely build healthy and healing relationships with others.

Your Hero's Journey to Peace

As I noted in Chapter 1, this journey you are embarking on as you get to know your Four Characters and learn how to integrate them into your brain team is a mirror of the Hero's Journey in Joseph Campbell's classic monomyth. In addition, it is worth noting that the Four Characters coincide distinctly with Carl Jung's four major archetypes of the unconscious mind: Character 1—the Persona; Character 2—the Shadow; Character 3—the Animus/Anima; and Character 4—the True Self.

In the classic story of the Hero's Journey, the hero heeds the call to leave behind his rational, ego-based consciousness that processes the reality of the external world. In the language of the Four Characters, the hero must step out of the ego-based consciousness of his Character 1 left thinking brain to enter into the unconscious realm of his right brain. To embark upon this quest, the hero must be willing

to let go of his possessions and worldly knowledge and embrace the death of his ego's individuality. To paraphrase Einstein, we must be willing to give up what we are, in order to become what we will be.

As you might imagine, this is an enormous task for the hero to undertake, which is why, of course, he is described as heroic. He must be willing to set aside everything he has acquired and grown up to be. (Much like the journey of the Buddha, who famously set aside his position and worldly possessions in order to grasp the true nature of reality and attain enlightenment.) But once the hero chooses to shed the rational, ego-based individuality of his left brain, he enters into the realm of his unconscious right brain, where he will meet the Anima/Animus, the androgynous nature of his soul. The hero cannot be both characters—his individual and collective selves—in the same moment. He must lay down the justice-demanding judgment of his dominating left brain (Characters 1 and 2) if he is to embody the merciful characters of his compassionate right brain (Characters 3 and 4).

When we are born, we have no sense of individuality, and our two brain hemispheres are similar in both their structure and in what they value. Over time, however, our left-brain cells develop the ability to define the physical boundaries of where we begin and end, and with that identification of self, we gain the ability to perceive ourselves as individuals who are separate from the whole. It is in those moments that the droplet of our left brain's individual consciousness becomes separate from that sea of cosmic consciousness from which it came. Before the hero's left-brain ego-cells developed his perception of himself as an individual, he possessed the collective knowledge of his right brain's unconscious mind. With time, as the individuation of his left brain developed, it grew to dominate and inhibit the knowledge of his right-brain mind. Consequently, the cosmic consciousness of his right brain shifted into the background, becoming his unconscious intuition.

It is said that in that moment when the hero lays down the sword of his left-brain righteousness and ego, he is emancipated from his left-brain individuality, dissolving back into the cosmic consciousness of the universe from which he originated. Like the droplet returning to the sea, the hero is instantly enveloped by the blissful euphoria of the eternal love that his soul once knew before

he was born. Like the great whale that he had forgotten he was, his soul returns to gliding through the sea of silent euphoria at One with all that is.

Once the hero has battled his fear of death and all the other left-brain monsters he had been clinging to throughout his everyday life, he is now free to gain the insights of his heroic quest while enveloped in the wisdom of his euphoric right brain. At this point, however, the hero must choose to either return home and share his hard-won whole-brain knowledge or keep for himself the lessons he has gleaned. Returning home, he is different now, and it is his challenge to figure out how to live a balanced life in the external world while remaining aware of both his conscious and unconscious characters and their conflicting values.

I invite you to embark upon your own Hero's Journey as you explore the Four Characters inside your conscious and unconscious whole-brain hemispheres.

The Four Characters, as I outline them in this book, provide a neuroanatomical road map of the time-tested paradigm of Jung's Four Archetypes. Like a house with four rooms, two upstairs and two downstairs, our brain is the home of all of these Four Characters. With minimal effort, we can train ourselves to identify each of them within our own psyche, purposefully create healthy relationships between them, and then let them collectively, as our brain team, lead our lives in peace.

If you are willing to pause and recognize what is already going on inside of your brain, if you are game to observe how you present yourself under different circumstances, and if you are prepared to bring your present-moment awareness to your current thinking and emotional patterns, you will be well on your way to living a life of choice. I invite you to embark upon your own Hero's Journey as you explore the Four Characters inside your conscious and unconscious whole-brain hemispheres.

Peace really is just a thought away.

A Note to Your Four Characters

As you continue through this book, to each of your Four Characters I say this:

Left Thinking Character 1

My message to your Character 1:

Breathe. Be open. Exhale. I dare you to finish this book. Feel free to judge this material with caution, but please do it with an open mind. I know you are going to be focused on my typos or errors in semantics, but if you allow yourself to look beyond those details, you will be rewarded with tools you can use to create more order in your world and obtain a greater feeling of connection with those around you.

Titles your Character 1 might give this book:

Know Your Brain, Own Your Power

Control Your Brain: Live Your Best Life

Your Success Starts in Your Brain

The Why behind Emotional Intelligence

What your Character 1 might say about this book after reading it:

"Left brain, right brain, breathe."

"I'll be damned, those other parts of me actually have value."

Left Emotional Character 2

My message to your Character 2:

It's okay. You are not going to like this, and it's still okay. I hear you. You matter. You are the voice of alarm that protects us all, and as such you are an important part of the whole. This material will help the other characters better understand you, keep you safe, and value you. You are indispensable, as you are our growth edge. Without your guidance, we cannot stay safe and we cannot evolve into our best selves or live our best life.

Titles your Character 2 might give this book:

Feelings Matter

Your Feelings Are Valid

Master Your Pain

We Are Feeling Creatures Who Think

What your Character 2 might say about this book after reading it:

"It's okay for me to feel what I'm feeling."

"I can be happy. I can accept. I know why I feel the way I do. I matter. I am okay. I feel empowered. I am the key to living our best life."

Right Emotional Character 3

My message to your Character 3:

Of course this book is available on audio! You can stay in action and enjoy this book too. I know you would rather go do something really exciting right now, but if you are willing to grasp this material and incorporate it into your life, the other characters will recognize how important you are and give you more time for play and innovation.

Titles your Character 3 might give this book:

My Brain Is Super Cool

The We inside of Me Are Total Rock Stars!

Four Play

Our Brain: The Whole Enchilada

What your Character 3 might say about this book after reading it:

"Life is better than I even imagined."

"I love being connected to us all."

Right Thinking Character 4

My message to your Character 4:

Here lies the key for you to unlock all that keeps you small and contained in this life. You are our connection to our Higher Power, as you are clear that it is our number one job to love one another. Not just those outside of ourselves, but the various characters within. This material will help your left-brain characters find the balance between what they do and who they are. You are the peace that is just a thought away.

Titles your Character 4 might give this book:

Free to Be You

We Are the Life-Force Power

Befriend Your Brain

Peace Is Just a Thought Away

What your Character 4 might say about this book after reading it:

"We are One."

"Keep reading . . . the jelly is in the center of the donut for a reason."

Part II

YOUR FOUR CHARACTERS

CHAPTER 4

Character 1— Left Brain Thinking

Our brain's left hemisphere is the primary tool we use to interact with the external world. On the morning of the stroke, those cells making up the network of my Character 1 left thinking brain were swimming in a pool of blood that rendered them completely non-functional. Besides losing a group of skill sets that were dependent on those brain cells to function, as I mentioned earlier, when my left thinking network went off-line, a specific part of my personality, a character that I had known for decades as my ego-self, also disappeared.

When my Character 1 left thinking cellular network was incapacitated, I could no longer identify the physical boundaries of where I began and where I ended. I have to say that even as a neuroanatomist, I had never been taught that there was a group of cells in my brain that did that. With those cells off-line, I perceived myself to be a gigantic ball of energy that blended fluidly with the rest of the energy in the universe. I felt so vast that I believed I would never be able to squeeze the enormousness of myself back inside this tiny little body. As you might imagine, one part of me found this shift in my awareness amazingly insightful and exciting, while my Character 1 would have judged this loss of my *self* to be degrading—if it had remained functional enough to ponder the idea.

In addition to not being able to perceive the boundaries of where I began and ended, my left brain could no longer ascertain the edges or boundaries between anything else in the external world. As a result, I experienced myself as fluid, in flow with the energy of everything en masse around me. This shift in perception was possible because our left brain is designed to perceive differences and separation at the level of things, rather than at the subatomic level of the particles that make up those things. The latter is the realm of what we call our unconscious mind, the territory of our right brain.

The Forest and the Trees

On the afternoon of the stroke, I learned that the energetic flow of all mass moves so slowly that it cannot be detected by our left brain. As long as the left brain is focused at the level of solid things and is preoccupied with detecting the details that allow us to differentiate one thing from another thing, it cannot focus on the component pixels that make up those things. In other words, our left brain focuses on the details that distinguish one thing from another thing (trees), while our right brain focuses on the pixels that have no distinguishing characteristics and move as one (forest), as a part of the cosmic flow.

Because our two hemispheres process information in these two opposite ways, our overall perception of the world is a blended combination of the big picture (right brain) and the details (left brain). Like an eagle soaring from a great height, it can perceive the enormous landscape below and still focus on that vulnerable (and delicious-looking) prairie dog half a mile away.

When my left brain went off-line and I could no longer detect information at the level of things, to use the example of the eagle, I lost the ability to distinguish the prairie dog from the landscape. I could only perceive the pixelated atoms that make up space and exist at the level of the cosmic flow. Consequently, when I stood in the shower on the morning of the stroke, I could not distinguish the pixels making up my arm from those composing the wall. All I could detect was my energy, blended with the energy making up the space around me. My perception of myself bypassed all boundaries, and I literally became as big as the universe.

When the language centers in the Character 1 left thinking part of my brain fell silent, I lost all ability to communicate with others and even with myself. Not only could I not speak or understand when others spoke to me, but I could not distinguish letters or numbers as symbols that had meaning. Pre-stroke, I had known who I was because there had been a group of cells in my left brain that manufactured my identity as Jill Bolte Taylor. These cells that made up my left-brain ego-center knew who I was, where I lived, and tons of other details like what my favorite color was. These ego-center cells had worked day in and day out to keep me abreast of all the tidbits, details, memories, and likes and dislikes that had made up my identity. I, Jill Bolte Taylor, existed because the cells in my left-brain ego-center told me I existed.

It's a bit disconcerting to think that who we are is completely manufactured by a small group of cells in our left brain . . . but that is how fragile our ego identities are.

When those cells of my left-brain ego-center shut down, and I shifted into the oblivion of my right brain, I had no idea who I was and I could not recall anything about my pre-stroke life. It was not as though I was missing a memory that I simply could not put my finger on; it was more like that memory (and I myself) had never existed at all. I know it's a bit disconcerting to think that who we are is completely manufactured by a small group of cells in our left brain, and that we can lose ourselves at any moment, but that is exactly how fragile our ego identities are.

Losing and Regaining My Character 1

In addition to losing all of those very important abilities and functions, when my left brain went off-line I also lost the characters of my left thinking and left emotional cellular networks. Like a stove with the two left burners turned off, most of the cells in

my left brain were still physically there, but they were traumatized and could not function. Without the linearity of time that my left-brain cells had so effectively engineered, all I had was the vastness of the present moment. Unlike the hero in the Hero's Journey who willingly chose to set down the sword of his left-brain ego, mine was involuntarily stripped away. As I unwittingly shifted into the unconscious realm of my right brain, in the absence of a functional left brain I was rendered as inept as an infant.

The loveliest part of losing my left-brain emotional Character 2, which we will talk about in the next chapter, was the complete absence of anger and fear. Without any of the left-brain memories from my past overshadowing the present-moment experience of my right brain, I shifted into a state of blissful euphoria. Of course, as tantalizing as this experience was, the absence of my left-brain Character 1 rendered me literally half-witted, and I could not function in the real world. (Mind you, while I was in that condition of ineptitude, I did not feel any alarm about it.)

Over the course of eight years of recovery, as the circuits in my left brain regained their functions and became strong again, my left-brain characters eventually recovered and came back online. My Left Thinking Character 1, as I mentioned earlier, wanted to take over and be the boss inside my head again. But although she had been both an effective and brilliant part of my pre-stroke life and I had achieved a high level of success under her leadership, I was no longer motivated by the external factors of money and prestige that she valued.

Although I knew I would have to earn a living again, my right-brain characters valued a more peaceful life, at a slower pace, with more time spent sharing deep and meaningful connections with my family and friends. My mother had been caring for me post-stroke, and had just turned 70, while my dad was in his early 80s. Moving back to Indiana, where I could enjoy time with them while they were still alive, became my priority. I had learned how fragile life is, and the preciousness of true and meaningful connections took center stage in who I wanted to be.

Before the stroke, I had been proactive and willing to compromise my relationships by moving away from both my home and those I loved for the status and monetary gain of a career as a

neuroanatomist at Harvard. Although I was truly grateful to recover the vast and important abilities of my left-brain Character 1, post-stroke I was no longer willing to choose the treadmill of work, work, work. Pre-stroke, my left-brain Character 1 had defined success through the achievement of external reward. Post-stroke, my right-brain characters found meaning through the internal standards of loving, being loved, and being in service to others.

I have named my recovered Left Thinking Character 1 "Helen" because she is hell on wheels and she gets stuff done. I have learned that I am completely dependent on Helen if I am to be a functional human being in the external world. However, as much as Helen would like to restore her crown and become the dominant character in my brain again, that's not going to happen.

Helen is, by any measure, a fantastic character, and I am truly grateful that she has come back online so I can be competent again. But Helen is neither my friendliest nor my *best* self, so much so that when my friends call on the phone and recognize Helen is in charge, they say "Hi, Helen," and lovingly ask if I will return their call later in the day.

Left-Brain Consciousness

Our left brain is designed to create order out of the randomness of the cosmic flow, and just as the eagle is capable of zooming its focus in on that prairie dog, our left brain is capable of distinguishing two items as separate from one another by examining their differences. Once our left brain identifies two things as separate, it can then organize and categorize those things, based upon their details.

For example, I can distinguish between a donkey and a boat because they are two very different things, sharing only a few similarities. With a little refinement, my left brain can tell a donkey from a monkey because, although they share similarities such as limbs and a head, there are still a lot of differences. With yet a higher level of refinement in my left brain's ability to process details with an exacting precision, I can differentiate between a donkey

and a horse. Although structurally they look a lot alike, I can identify their subtle differences and categorize them appropriately.

Besides the ability to differentiate between things, somewhere along the line our left brain manages to manifest both an identity and a consciousness. Without writing a dissertation, for our purposes I will define consciousness for the left brain as an awareness of itself and its relationship with the external world.

The primary building blocks of the physical world are things, and as I noted above, our left brain is the masterful tool we use to perceive a thing as separate from the background of the cosmic flow. Our left brain identifies individual things by shifting its perception in such a way that it can compare, critically analyze, and distinguish minute differences in the structure and texture of particles in flow. By focusing completely at the level of things, our left brain creates a new level of consciousness.

You might remember back in the '90s when the Magic Eye stereo images became a fad. Two images were merged together into one image, and depending on how you focused your eyes, you could see either the most obvious two-dimensional image or the three-dimensional image that was hidden inside. The shift in our plane of focus that characterizes the left brain's perception is not exactly the same as what was going on with the Magic Eye images, but the principle is comparable.

In addition to viewing the external world at the level of things, through refinement and higher levels of differentiation our left brain defines the *edges* of where we begin and end as individuals. It does this by manufacturing a holographic image of ourselves so we can delineate between what is inside of us and what is outside of us. When this happens, our left brain perceives the physical world as separate and concludes there is an external reality and an internal reality.

The external world and our relationship with it move to the forefront of our focus because now we are separate from the whole. This means we are no longer safe because with life and separation from the cosmic flow comes the threat that there is now something we can lose, which is the "me-self" as the center of the universe, as well as life itself. Because we have become the center of our own universe, our left-brain ego-cells come online and begin organizing everything in the external world around our individuality.

With this shift of focus toward our relationship with the external world as separate from ourselves, the consciousness of the eternal flow remains, but shifts into the background. Focused on the prairie dog, our now conscious left brain ignores the background landscape, and the holistic realm of our right-brain perception is set aside.

With our left brain now manufacturing a new level of consciousness whereby we perceive things and our relationship with those things as outside of ourselves, we generate higher levels of order that eventually reach an advanced level of sophistication. The cells of our left-brain thinking Character 1 organize, categorize, count, list, and eventually name everything once they have structurally manifested language for communication with others.

As we saw in Part I, with the addition of our higher cortical thinking tissue, we humans have not only added new cells and circuits but we have achieved a functional consciousness that places us at the top of the food chain. By gaining the ability to think rationally, we have become able to create predictable routines and mechanically fit things together based upon their structure. These order-driven cells of our left brain account for both our reality-based consciousness and our elevated status.

Life is an ongoing event, and the more we learn,
the more our left brain wants to learn.

By this point, our left-brain skill sets are well developed, and Character 1 storms in with the intention of ruling the roost. Our Character 1 is our power in the world and also the face we show: as we saw in Chapter 2, it corresponds to the archetype of the Persona, which Jung defined as "a kind of mask, designed . . . to make a definite impression upon others."[1] As our alpha self, our Character 1 will compete when it is challenged and fight for what it believes in. Using its ability to discriminate between this and that, our Character 1 will define what is right or wrong and what is good or bad. In this way, our left-brain thinking tissue establishes for us a worldview and belief system within which we will make our decisions and evolve our life.

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[1] C. G. Jung, Two Essays on Analytical Psychology (London: Routledge, 1992), p. 192.

At the same time our left thinking brain is manipulating data in both linear and methodical formats, it is simultaneously laying down new neural connections in response to novel stimulation. Life is an ongoing event, and the more we learn, the more our left brain wants to learn. Neuroplasticity is the ability of our brain cells to rearrange which other neurons they are communicating with, and this underlies our ability to learn new material.

Because our brain is a product of both its nature and our nurture of it, we have the power to voluntarily change the cellular structure underlying our thoughts and feelings. For humanity this means that for the first time in the history of life on this planet, as far as we are aware, we have the power to direct our own evolution to a higher level of intercommunication.

Let's do it with a full understanding about the different parts of our brain and the power we have to use our thoughts to change the anatomical structure of the cells underlying those thoughts. We can do this through meditation and mindfulness, of course, and by using the Brain Huddle we can strengthen the relationships between our Four Characters, making that level of open communication the norm inside of our brain.

Character 1 in the World

Our left-brain Character 1 has the ability to be purposeful and intentional as well as thorough. By grouping things in repeatable and predictable routines, our left brain can construct a physical world that feels familiar, and thus, although we are separate from it, we can feel safe within it. Having gained an individual consciousness, our left brain becomes a true master at organizing things in space. We organize hierarchically when we judge one thing more important than another, we manage time such that we can be punctual, and when we make plans, we are organizing our behavior across time.

Character 1s wake up in the morning and see the day as something to be conquered. They are eager beavers who rise early, love routines, and thrive on crossing things off their lists. On the job,

Character 1s are effective leaders and good at managing people, places, and things. They laser focus their minds on details and are extremely productive. They are highly critical of their own performance and consistently compare themselves with others. Every day is a chance to sharpen their skills, and it is important to Character 1s to bring their most efficient selves forward.

True to their nature, Character 1s must create order in the space around them, and they value neatness because appearances matter. Everything a Character 1 does is deliberate because if something is worth doing, it is worth doing well. Time has value, so Character 1s are not only punctual but often arrive a few minutes early. You can be certain that the Character 1s who arrived before you noticed if you were late.

Character 1s value material goods, buy quality products, take care of their things, and are sure to give you the stink eye if you don't put the stapler back from where you took it. Our Left Thinking Character 1 is good at earning, organizing, and investing money and is excellent at both self-promotion and confrontation.

By design, Character 1s are gifted rational thinkers with a strong mastery of reality, so they reason their way to their best decision. Because they have taken the time to deliberate why they think what they think, they take responsibility for what they do. If there is a perfectionist inside of your brain, rest assured it is your Character 1.

Thank goodness our human brain has evolved to have the Character 1 skill set. Because of their organizational skills in government, academia, and business, we exist in an orderly society. As a result of their natural abilities, as a collective species we have a neuron on which we can hang an idea. Besides being great at fixing things, cleaning up messes, and running tight schedules all at the same time, our Character 1 respects authority, obeys rules, and consequently tends to keep us from doing really stupid things.