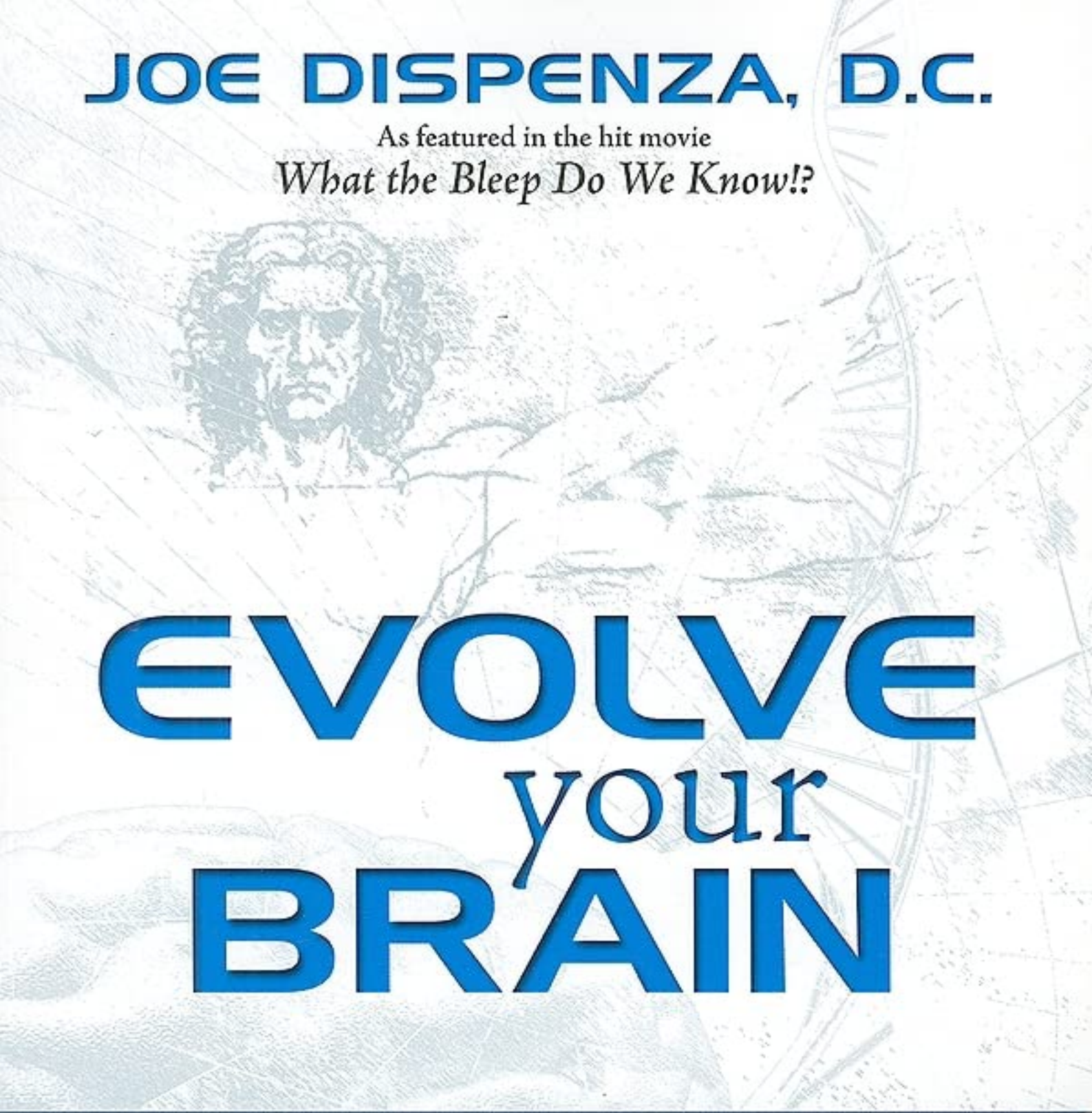


JOE DISPENZA, D.C.

As featured in the hit movie
What the Bleep Do We Know!?



EVOLVE
your
BRAIN

The Science of
Changing Your Mind

Foreword by Amit Goswami, Ph.D.
Author of *The Self-Aware Universe* and *The Quantum Doctor*

Praise for *Evolve Your Brain*

“Dr. Joe Dispenza delves deep into the extraordinary potential of the mind. Read this book and be inspired to change your life forever.”

—**Lynne McTaggart**, author of *The Field* and *The Intention Experiment*

“A beautifully written book that provides a strong scientific basis for how the power of the human spirit can heal our bodies and our lives.”

—**Howard Martin**, executive vice president of HeartMath and coauthor of *The HeartMath Solution*

“Joe Dispenza gives you the tools to make real changes in your life.”

—**William Arntz**, producer/director of *What the Bleep Do We Know!?*

“A groundbreaking work on what I call the ‘yoga of the mind.’ A perceptive and insightful look at how our mental and emotional bodies function and how we can create a more healthy and purposeful life.”

—**Bikram Choudhury**, author of *Bikram Yoga*

“Through the integration of personal experience, Western science, and Eastern thought, Dr. Joe brings a lucid and inspiring story that will change your life.”

—**Michael T. Lardon, M.D.**, consulting psychiatrist for the San Diego Olympic Training Center and the PGA Tour

“*Evolving Your Brain* isn’t just a book; it is an opportunity for anyone who is serious about becoming more and having more to learn exactly how to do it from the inside out.”

—**John Assaraf**, author of *The Street Kids Guide to Having It All* and founder of *Onecoach*

“Approachable, accessible, and empowering, Joe Dispenza helps make sense of this wacky world we call reality.”

—**Betsy Chasse**, writer/director/producer of *What the Bleep Do We Know!?*

EVOLVE
your
BRAIN

The Science of Changing Your Mind

JOE DISPENZA, D.C.



Health Communications Inc.
Deerfield Beach, Florida

www.hcibooks.com

The content of this book is published for educational and informational purposes only. The content of this book should not be used for the diagnosis or treatment of any condition or disease. The case histories presented are provided for illustrative purposes only. No express or implied guarantee of results is made. If you are currently being treated by a physician or other healthcare practitioner for any condition or disease, consult with that provider prior to changing or modifying any treatment program.

**Library of Congress Cataloging-in-Publication Data
is available through the Library of Congress.**

© 2007 Joe Dispenza, D.C.

ISBN-13: 978-0-7573-0765-2 (paperback)

ISBN-10: 0-7573-0765-5 (paperback)

ISBN-13: 978-0-7573-9779-0 (e-book)

ISBN-10: 0-7573-9779-4 (e-book)

All rights reserved. Printed in the United States of America. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the written permission of the publisher.

HCI, its logos and marks are trademarks of Health Communications, Inc.

Publisher: Health Communications, Inc.

3201 S.W. 15th Street

Deerfield Beach, FL 33442-8190

R-10-08

Cover design by Larissa Hise Henoch

Interior book design and formatting by Lawna Patterson Oldfield

Interior illustrations by Larissa Hise Henoch

FOR JACE, GIANNA, AND SHENARA

CONTENTS

ACKNOWLEDGMENTS

FOREWORD BY AMIT GOSWAMI, PH.D

CHAPTER ONE: Beginnings

CHAPTER TWO: On the Back of a Giant

CHAPTER THREE: Neurons and the Nervous System: Traveling the
Original Information Superhighway

CHAPTER FOUR: Our Three Brains and More

CHAPTER FIVE: Wired by Nature, Changeable by Nurture

CHAPTER SIX: Neuroplasticity: How Knowledge and Experience Change
and Evolve the Brain

CHAPTER SEVEN: Putting Knowledge and Experience into Practice

CHAPTER EIGHT: The Chemistry of Survival

CHAPTER NINE: The Chemistry of Emotional Addiction

CHAPTER TEN: Taking Control: The Frontal Lobe in Thought and in
Action

CHAPTER ELEVEN: The Art and Science of Mental Rehearsal

CHAPTER TWELVE: Evolving Your Being

Epilogue: A Quantum Change

Notes

Index

ACKNOWLEDGMENTS

Creation is such an interesting phenomenon. The process is riddled with a landscape of peaks and valleys with indeterminate views.

There are moments when we feel truly inspired and uplifted, because we have made some progress in climbing to a new level to see a better view. In the next moment, when we see that there are bigger obstacles to overcome, we wonder if we even made a difference and if our efforts were really worth it. Like the birthing process, creation comes with labor pains, complications, nausea, fatigue, sleepless nights, and even woeful moments of thinking about the future. Questions lurk about our personal abilities, what we know, what we don't know, who our critics are, who we are doing this for anyway, and why. I have had such moments in writing this book.

And yet, it is almost natural that we fret with such encumbrances, because somewhere inside us, we know that the only terrain we are overcoming is our limited view of ourselves. It's a process, and most certainly, there are speed bumps along the way. I must say that this book has been a great and wonderful teacher for me. I am different today because I continued on in spite of the many reasons to stop. I understand better now why I wrote this book. My sole purpose and hopeful intentions were to contribute toward helping people change their lives. If this book makes a difference in even one person's life, then the whole process was worth it. *Evolve Your Brain* was not written primarily for the scientist, the researcher, or the academic, but for the average person who wants to understand that science supports our ability to change, and that we, as human beings, have great potential.

I certainly do not know everything there is to know about the brain. What I have come to learn, to experience, to research, and to personally conclude are only doorways to greater understandings. Some might say to me, why didn't you discuss this topic or that topic in the book? Simply, I have chosen to keep this body of work about the science of changing our mind and what implications this has for our health and our well-being. There are many more subjects I could have discussed about energy, mind, quantum physics, and our greater abilities that would make

this book too broad to be useful. My epilogue suggests greater applications.

I do want to acknowledge several people who have supported, influenced, and inspired me to complete the book. First, I want to thank my publishers at HCI, Peter Vegso and Tom Sand, who believed in me. A special thank you to my editor, Michele Matrisciani. I also want to express my appreciation to Carol Rosenberg for being such a thorough managing editor and to Dawn Von Strolley Grove and Lawna Patterson Oldfield for their production expertise.

To Tere Stouffer, my copy editor, who helped me with perspective. Also, to Sara Steinberg, my content/copy editor, who taught me about the tortoise and the hare and who showed such caring and love ... I am grateful. To Gary Brozek, your contribution to my work is truly appreciated. My graphic artist Larissa Hise Henoeh showed her true talent in this book.

I also want to give my acknowledgments to my staff for keeping up with my pace. Thanks to Bill Harrell, D.C., Jackie Hobbs, Diane Baker, Patty Kerr, Charlie Davidson, and Brenda Surerus. Your sincerity is invaluable to me. Special gratitude is given to Gabrielle Sagona for her assistance, encouragement, and fabulous energy. Thank you for everything. To Joanne Twining, Ph.D., I am expanded by your skills, your knowledge, and your patience. To Will Arntz, James Capezio, and Rebecca Capezio for their important feedback with the manuscript. To Marjorie Layden, Henry Schimberg, Linda Evans, Anne Marie Bennstrom, Ken Weiss, Betsy Chasse, and Gordon J. Grobelny, D.C., for true encouragement and support. My immense appreciation goes to Paul Burns, J.D., D.C., who helped me in innumerable ways.

I also want to give thanks to JZ Knight for giving her life to help humanity. To Ramtha, who inspired me to write this book and from whom I have learned enough to think about for a hundred lifetimes. To the students at RSE, who live their lives with a passion for adventure and a love of God. I am always inspired by their dedication to the great work.

My gratitude to Amit Goswami, Ph.D., for his brilliant intellectual mind, true compassion, and willingness to be an individual. You are a maverick. Thank you as well to Nick Pappas, M.D., Margie Pappas, R.N., M.S., and John Kucharczyk, Ph.D., who played an important role in informing me about the brain, mind, and body.

I want to personally thank John and Katina Dispenza and my mother, Fran Dispenza, for having strong shoulders to lean on. And finally, a profound thank you should be written across the sky to my lovely lady Roberta Brittingham, for naturally being and living everything that I have tried to explain in this book. I am always inspired by your humility and greatness.

FOREWORD

Since you are holding this book in your hand, you may already be aware of the paradigm shift that is going on in science. In the old paradigm, your consciousness—you—is regarded as an epiphenomenon of your brain. In the new paradigm, your consciousness is the ground of being and your brain is the epiphenomenon. Feel better? Then you are ready to reap the benefit of this book.

If consciousness is the primary ground and brain is secondary, then it is natural to ask how to use the brain in an optimal fashion to fulfill the purpose of consciousness and its evolution. The new paradigm research has been going on for a while, but this is the first book that addresses this question and brilliantly guides you toward that end. Truly, Dr. Joe Dispenza has written a user's manual par excellence for the brain, from the new primacy-of-consciousness perspective.

Dr. Dispenza, not being a quantum physicist, does keep the primacy of consciousness implicit, not explicit, until the very end of the book. Because it requires quantum physics to see the primacy of consciousness explicitly, it may be useful for you, dear reader, to receive a little background information from a quantum physicist; hence, this foreword.

To go back to the beginning of the new paradigm revolution, quantum physics has a fundamental interpretational problem. It depicts objects not as determined “things,” but as waves of possibility. How do these possibilities become actual “things” of our experience when we observe or “measure” them? If you think that our brain—being the site of us, or our consciousness—has the capacity to change possibility into actuality, think again. According to quantum physics, the brain itself consists of quantum possibilities before we measure it, before we observe with it. If we, our consciousness, were a brain product, we would be possibilities as well, and our “coupling” with the object would change neither the object nor us (our brain) from possibility to actuality. Face it! Possibility coupled to possibility only makes a bigger possibility.

The paradox only thickens if you think of yourself dualistically—you as a nonmaterial dual entity, not bound by quantum laws and separate from your brain. But if you are nonmaterial, then how do you interact

with your brain, with which you have not a thing in common? This is dualism, a philosophy intractable as science.

There is a third way of thinking, and this one leads to a paradigm shift. Your consciousness is the primary fabric of reality, and matter (including the brain and the object you are observing) exists within this fabric as quantum possibilities. Your observation consists of choosing from the possibilities the one facet that becomes the actuality of your experience. Physicists call this process *the collapse of the quantum possibility wave*.

Once you recognize that your consciousness is not your brain but transcends it, once you recognize that you have the power to choose among possibilities, you are ready to act on Joe Dispenza's ideas and suggestions. It will help additionally to know that the "you" that chooses is a cosmic you, a state of consciousness available to you in non-ordinary situations. You reach such states when you have a creative insight. In those times, you are ready to make changes in your brain circuits. Dr. Dispenza shows you how.

There is another reason that I think Dr. Joe Dispenza's book is a welcome addition to the growing literature of the new paradigm of science: he emphasizes the importance of paying attention to emotions. You may already have heard the phrase *emotional intelligence*. What does that mean? First of all, it means that you don't have to fall prey to your emotions. You do because you are attached to them; or as Joe Dispenza would say, "You are attached to the brain circuits connected with the emotions."

There is a story that when Albert Einstein was leaving Nazi Germany for America, his wife became very concerned that she had to leave behind so much furniture and other household items. "I am attached to them," she complained to a friend. To this, Einstein joked, "But my dear, they are not attached to you."

This is the thing. Emotions are not attached to you; because you are not your brain, you don't have to identify with your existing brain circuits.

With regard to the concept of emotional intelligence, some writers are a little confused. They talk about emotional intelligence and how you can develop it, but they also insist that you are nothing but the brain. The problem in thinking that way is that the brain is already set up in a hierarchical relationship with the emotions. Emotional intelligence is

possible only if you can change this existing hierarchy, only if you are not part of that hierarchy. Joe Dispenza recognizes the primacy of you, your consciousness, over your brain, and by doing so, he gives you some useful advice about emotional intelligence, about how to change your existing brain circuits and hierarchies.

Gandhi's wife was once asked by a journalist how Gandhi could accomplish so much. "Simple," said the wife. "Gandhi is congruent in regards to his speech, thought, and action."

All of us want to be good accomplisners; we want to fulfill the meaning and purpose of our lives. The crucial challenge is how to achieve synchrony between speech, thought, and action. Put another way, the challenge is to integrate thought and emotion. I believe that the evolution of consciousness demands this from us right now. Recognizing this, Joe Dispenza has provided indispensable knowledge on how you can integrate your feelings and thinking.

I met Dr. Joe for the first time at a *What the Bleep Do We Know!?* conference. This movie, as you may know, is about a young woman who is struggling to change her emotional behavior. In a scene of catharsis (played beautifully by actress Marlee Matlin), the woman looks at her image in a mirror and says, "I hate you." In that moment she frees herself to choose among quantum possibilities of change. She goes on to transform her brain circuits, creating a new state of being and a new life.

You can change your brain circuits, too. You have that power of quantum choice. We have always had the tools to do this, but only now have we become aware of how to use them. Dr. Joe Dispenza's book, *Evolve Your Brain*, will help you use your power to choose and to change. Read this book, use its ideas in your life, and realize your potential.

—Amit Goswami, Ph.D.
Professor of Physics, University of Oregon,
and author of *The Self-Aware Universe*

CHAPTER ONE

BEGINNINGS

*But strange that I was not told
That the brain can hold
In a tiny ivory cell
God's heaven or hell.*

—OSCAR WILDE

I invite you to have a single thought, any thought. Whether your thought was related to a feeling of anger, sadness, inspiration, joy, or even sexual arousal, you changed your body. You changed you. All thoughts, whether they be “I can’t,” “I can,” “I’m not good enough,” or “I love you,” have the same measurable effects. As you sit casually reading this page, not lifting a single finger, bear in mind that your body is undergoing a host of dynamic changes. Triggered by your most recent thought, did you know that suddenly, your pancreas and your adrenal glands are already busy secreting a few new hormones? Like a sudden lightning storm, different areas of your brain just surged with increased electrical current, releasing a mob of neurochemicals that are too numerous to name. Your spleen and your thymus gland sent out a mass e-mail to your immune system to make a few modifications. Several different gastric juices started flowing. Your liver began processing enzymes that were not present moments before. Your heart rate fluctuated, your lungs altered their stroke volume, and blood flow to the capillaries in your hands and feet changed. All from just thinking one thought. You are that powerful.

But how are you capable of performing all of those actions? We can all intellectually understand that the brain can manage and regulate many diverse functions throughout the rest of the body, but how responsible are we for the job our brain is doing as CEO of the body? Whether we

like it or not, once a thought happens in the brain, the rest is history. All of the bodily reactions that occur from both our intentional or unintentional thinking unfold behind the scenes of our awareness. When you come right down to it, it is startling to realize how influential and extensive the effects of one or two conscious or unconscious thoughts can be.

For example, is it possible that the seemingly unconscious thoughts that run through our mind daily and repeatedly create a cascade of chemical reactions that produce not only *what* we feel but also *how* we feel? Can we accept that the long-term effects of our habitual thinking just might be the cause of how our body moves to a state of imbalance, or what we call disease? Is it likely, moment by moment, that we train our body to be unhealthy by our repeated thoughts and reactions? What if just by thinking, we cause our internal chemistry to be bumped out of normal range so often that the body's self-regulation system eventually redefines these abnormal states as normal, regular states? It's a subtle process, but maybe we just never gave it that much attention until now. My wish is that this book will offer a few suggestions for managing your own internal universe.

Since we are on the subject of attention, now I want you to pay attention, become aware, and listen. Can you hear the hum of the refrigerator? The sound of a car passing by your home? A distant dog barking? How about the resonance of your own heart beating? Just by shifting your attention in those moments, you caused a power surge and voltage flux of electricity in millions of brain cells right inside your own head. By choosing to modify your awareness, you changed your brain. Not only did you change how your brain was working moments before, but you changed how it will work in the next moment, and possibly for the rest of your life.

As you return your attention to these words on this page, you altered blood flow to various parts of your brain. You also set off a cascade of impulses, rerouting and modifying electrical currents to different brain areas. On a microscopic level, a multitude of diverse nerve cells ganged up chemically to "hold hands" and communicate, in order to establish stronger long-term relationships with each other. Because of your shift in attention, the shimmering three-dimensional web of intricate neurological tissue that is your brain is firing in new combinations and

sequences. You did that of your own free will, by changing your focus. You quite literally changed your mind.

As human beings, we have the natural ability to focus our awareness on anything. As we will learn, how and where we place our attention, what we place our attention on, and for how long we place it ultimately defines us on a neurological level. If our awareness is so mobile, why is it so hard to keep our attention on thoughts that might serve us? Right now, as you continue to concentrate and read this page, you might have forgotten about the pain in your back, the disagreement you had with your boss earlier today, and even what gender you are. It is where we place our attention and on what we place our attention that maps the very course of our state of being.

For example, we can, in any given moment, think about a bitter memory from our past that is only tattooed in the intimate folds of our gray matter and, like magic, it comes to life. We also have the option of attending to future anxieties and worries that do not readily exist until they are conjured up by our own mind. But to us, they are real. Our attention brings everything to life and makes real what was previously unnoticed or unreal.

Believe it or not, according to neuroscience, placing our attention on pain in the body makes pain exist, because the circuits in the brain that perceive pain become electrically activated. If we then put our full awareness on something other than pain, the brain circuits that process pain and bodily sensations can be literally turned off—and presto, the pain goes away. But when we look to see whether the pain is gone for good, the corresponding brain circuits once again activate, causing us to feel the discomfort return. And if these brain circuits repeatedly fire, the connections between them become stronger. Thus by paying attention to pain on a daily basis, we are wiring ourselves neurologically to develop a more acute awareness of pain perception, because the related brain circuits become more enriched. Your own personal attention has that much of an effect on you. This could be one explanation to how pain, and even memories from our distant past, characterize us. What we repeatedly think about and where we focus our attention is what we neurologically become. Neuroscience finally understands that we can mold and shape the neurological framework of the self by the repeated attention we give to any one thing.

Everything that makes us up, the “you” and the “me”—our thoughts, our dreams, our memories, our hopes, our feelings, our secret fantasies, our fears, our skills, our habits, our pains, and our joys—is etched in the living latticework of our 100 billion brain cells. By the time you have read this far in the book, you have changed your brain permanently. If you learned even one bit of information, tiny brain cells have made new connections between them, and who you are is altered. The images that these words created in your mind have left footprints in the vast, endless fields of neurological landscape that is the identity called “you.” This is because the “you,” as a sentient being, is immersed and truly exists in the interconnected electrical web of cellular brain tissue. How your nerve cells are specifically arranged, or neurologically wired, based on what you learn, what you remember, what you experience, what you envision for yourself, what you do, and how you think about yourself, defines you as an individual.

You are a work in progress. The organization of brain cells that makes up who you are is constantly in flux. Forget the notion that the brain is static, rigid, and fixed. Instead, brain cells are continually remolded and reorganized by our thoughts and experiences. Neurologically, we are repeatedly changed by the endless stimuli in the world. Instead of imagining nerve cells as solid, inflexible, tiny sticks that are assembled together to make up your brain’s gray matter, I invite you to see them as dancing patterns of delicate electric fibers in an animated web, connecting and disconnecting all the time. This is much closer to the truth of who you are.

The fact that you can read and comprehend the words on this page is due to the many interactions you have had throughout your life. Different people taught you, instructed you, and essentially changed your brain microscopically. If you accept this notion that your brain is still changing as you read these pages before you, you can easily see that your parents, teachers, neighbors, friends, family, and culture have contributed to who you are presently. It is our senses, through our diverse experiences, that write the story of who we are on the tablet of our mind. Our mastery is being the fine conductor of this remarkable orchestra of brain and mind; and as we have just seen, we can direct the affairs of mental activity.

Now, let’s change your brain a little further. I want to teach you a new skill. Here are the instructions: Look at your right hand. Touch your thumb to your pinky finger, and then touch your thumb to your index

finger. Next, touch your thumb to your ring finger, and then touch your thumb to your middle finger. Repeat the process until you can do it automatically. Now do it faster and make your fingers move more rapidly without mistake. Within a few minutes of paying attention, you should be able to master the action.

To learn the finger movements well, you had to rise out of your resting state, from relaxing and reading to a heightened state of conscious awareness. Voluntarily, you perked up your brain a little; you increased your level of awareness by your intentional free will. To succeed in memorizing this skill, you also had to increase your brain's level of energy. You turned up the dimmer switch to the light bulb in your brain that is constantly on, and it got brighter. You became motivated, and your choice to do this made your brain turn on.

Learning and performing the activity required you to amplify your level of awareness. By increasing blood flow and electrical activity to different areas in your brain, you could stay more present with what you were doing. You kept your brain from wandering to any other thought so that you could learn a new action, and that process took energy. You changed the way the arrangement of millions of brain cells fired in diverse patterns. Your intentional act took will, focus, and attention. The end result is that you are once again neurologically changed, not only by thinking a thought but also by demonstrating an action or a new skill.

In a moment, I want you to close your eyes. This time, instead of physically demonstrating the finger exercise, I want you to *practice* doing that same action in your mind. That is, remember what you did just moments before and mentally touch each finger the way I asked you to earlier: thumb to pinky finger, thumb to index finger, thumb to ring finger, and thumb to middle finger. Mentally rehearse the activity without physically doing it. Do it a few times in your mind, and then open your eyes.

Did you notice that while you were practicing in your mind, your brain seemed to imagine the entire sequence just as you actually did it? In fact, if you paid full attention to what you were rehearsing in your mind's eye by focusing on mentally practicing those finger actions, you fired the same set of nerve cells in the same part of your brain as if you were actually doing them. In other words, your brain did not know the difference between your doing the action or your remembering how to

do the action. The act of mental rehearsal is a powerful way you can grow and mold new circuits in your brain.

Recent studies in neuroscience demonstrate that we can change our brain just by thinking. So ask yourself: What exactly do you spend most of your time mentally rehearsing, thinking about, and finally demonstrating? Whether you consciously or unconsciously fabricate your thoughts and actions, you are always affirming and reaffirming your neurological self as “you.” Keep in mind that whatever you spend your time mentally attending to, that is what you are and what you will become. My hope is that this book will help you to understand why you are the way you are, how you got this way, and what it takes to change who you are through your intentional thoughts and actions.

You may ask at this point, What is it that allows us to voluntarily modify how the brain works? Where does the “you” exist, and what allows you to turn on and off different brain circuits that then make you aware or unaware? The “you” I’m talking about operates and lives in a part of the brain called the frontal lobe, and without the frontal lobe, you are no longer “you.” In evolution, the frontal lobe has been the last part of the brain to develop, just behind the forehead and right above the eyes. You hold the image of yourself in the frontal lobe, and what you hold in this special place determines how you interact in the world and perceive reality. The frontal lobe controls and regulates other, older parts of the brain. The frontal lobe navigates your future, controls your behavior, dreams of new possibilities, and guides you throughout life. It is the seat of your conscience. The frontal lobe is evolution’s gift to you. This brain region is most adaptable to change and is the means by which you evolve your thoughts and actions. My desire is that this book helps you to use this newest, most recent part of your brain’s anatomy to reshape your brain and your destiny.

Evolution, Change, and Neuroplasticity

We humans have a unique capacity to change. It is via the frontal lobe that we go beyond the preprogrammed behaviors that are genetically compartmentalized within the human brain, the recorded history of our species’ past. Because our frontal lobe is more evolved than that of any other species on earth, we have tremendous adaptability, and with it come choice, intent, and full awareness. We possess an advanced bit of

biotechnology that allows us to learn from our mistakes and shortcomings, to remember, and to modify our behavior so that we can do a better job in life.

It is true that a lot of human behavior is genetically preset. All life forms are preordained to be what they genetically express, and we must agree that a lot of who we are as human beings is predetermined by our genes. Yet we are not condemned to live out our existence without contributing some form of an evolutionary gift to future generations. We can add to our species' progress here on earth because unlike other species, we theoretically have the hardware to evolve our actions in one lifetime. The new behaviors we demonstrate will provide new experiences that should be encoded in our genes—both for now and for posterity. This leads us to consider: How many new experiences have we had lately?

The science of molecular biology is beginning to investigate the concept that, given the right signals, our genes are as equally changeable as our brain cells. The question is this: Can we provide the right type of stimulus to the cells of our body, either chemically or neurologically, to unlock their gigantic library of unused latent genetic information? In other words, by managing our thoughts, feelings, and reactions, can we intentionally make the right chemical elixir to drive the brain and body from a constant state of stress to a state of regeneration and change? Can we escape from the limits of our biology and become more evolved human beings? It is my intent to show you that both theoretically and practically, there is a true biology to change—that is, by maintaining a change in your mind.

Is it possible for us to abandon the old model that implies that our genes create disease? Can we speculate beyond the most recent credo, which states that the environment turns on the genes that create disease? Is it possible that by managing our own internal environment, independent of the external environment, we can maintain or change our genes? Why is it that when two factory employees, working side by side for 20 years, are exposed to the same carcinogenic chemical, one manifests cancer, the other does not? Surely, there must be an element of internal order at work in this situation, one that supersedes the continuous environmental exposure to harmful chemicals known to genetically alter tissues.

A growing body of knowledge points to the effects of stress on our bodies. Living in stress is living in a primitive state of survival common to most species. When we live in survival, we limit our evolution, because the chemicals of stress will always drive our big-thinking brain to act equal to its chemical substrates. In effect, we become more animal-like and less divine. The chemicals of stress are the culprits that begin to alter our internal state and pull the trigger of cellular breakdown. In this book, we examine those effects on the body. It is the redundancy not of acute stress but of chronic long-term stress that weakens our bodies. My goal is to educate you about the effects of stress on the body, creating a level of self-awareness that causes you to stop and ask yourself, Is anyone or anything really worth it?

So often it seems as if we cannot shake those internal states of emotional turmoil. Our reliance on these chemical states drives us to experience confusion, unhappiness, aggression, and even depression, to name a few. Why do we cling to relationships and jobs that logically no longer work? Why does changing ourselves and our conditions in life seem so hard? There is something in us that causes us to act this way. How do we manage to endure it day after day? If it is the conditions of our jobs that we dislike so much, why don't we just find other ones? If it is something in our personal life that causes us to suffer, why don't we change it?

There is a sound answer for us. We choose to remain in the same circumstances because we have become addicted to the emotional state they produce and the chemicals that arouse that state of being. Of course, I know from experience that change of any type is difficult for most people. Far too many of us remain in situations that make us unhappy, feeling as if we have no choice but to suffer. I also know that many of us choose to remain in situations that produce the kind of troubled state of mind that plagues us for our entire lifetime. *That* we choose is one thing, but *why* we choose to live this way is another. We choose to live stuck in a particular mindset and attitude, partly because of genetics and partly because a portion of the brain (a portion that has become hardwired by our repeated thoughts and reactions) limits our vision of what's possible. Like a hostage onboard a hijacked flight, we feel as though we are strapped into a seat on a destination not of our choosing, and we fail to see all the other possibilities that are available to us.

I remember when I was growing up, my mother used to refer to one of her friends as the kind of person who wasn't happy unless she or he was unhappy. Not until the last few years, when I've intensely studied the brain and behavior, did I really understand on a fundamental, biochemical, and neurological level what she meant. This is one of the reasons I wrote the book.

The title *Evolve Your Brain* may have appealed to your belief in human potential, and it's probable you are interested in improving yourself. Another likely reason you picked up this book is that, to one degree or another, you are unhappy with the circumstances of your life and you want to change. Change is a powerful word and it is completely feasible, if you choose it.

When it comes to evolution, change is the only element that is universal, or consistent, to all species here on earth. Essentially, to evolve is to change, by adapting to the environment. Our environment as human beings is everything that makes up our lives. It is all of the complex circumstances that involve our loved ones, our social status, where we live, what we do for a living, how we react to our parents and children, and even the times we live in. But as we will learn, to change is to be greater than the environment.

When we change something in our life, we have to make it different than it would be if we left it alone. To change is to become different; it means that we are no longer who we used to be. We have modified how we think, what we do, what we say, how we act, and who we are being. Personal change takes an intentional act of will, and it usually means that something was making us uncomfortable enough to want to do things differently. To evolve is to overcome the conditions in our life by changing something about ourselves.

We can change (and thus, evolve) our brain, so that we no longer fall into those repetitive, habitual, and unhealthy reactions that are produced as a result of our genetic inheritance and our past experiences. You probably picked up this book because you are drawn to the possibility that you may be able to break out of routine. You may want to learn how you can use the brain's natural capacity of *neuroplasticity*—the ability to rewire and create new neural circuits at any age—to make substantial changes in the quality of your life. Evolving your brain is what this book is about.

Our ability to be neuroplastic is equivalent to our ability to change our mind, to change ourselves, and to change our perception of the world around us; that is, our reality. In order to accomplish that feat, we have to change how the brain automatically and habitually works. Try out this simple example of your brain's plasticity. Take a look at [Figure 1.1](#). What do you see? For most people, the first thing that comes to mind is a duck or a goose. It's pretty simple, right?



Figure 1.1

In this example, the familiar form of the picture in front of you causes your brain to recognize a pattern in the shape of some type of bird. Just above your ears, the temporal lobes (the brain's center for decoding and recognizing objects) lock into a memory. The picture activates a few hundred million neurological circuits, which fire in a unique sequence and pattern throughout specific parts of your brain, and you are *reminded* of a duck or goose. Let's just say that the memory imprinted in your brain cells of what a duck or a goose looks like matches the picture before you, and you are able to recall the word "goose" or "duck." This is how we interpret reality all the time. It's sensory pattern recognition.

Now let's get neuroplastic for a moment. What if I told you to no longer see a bird, but to see a rabbit instead? For you to accomplish this feat, your frontal lobe would have to force your brain to "cool off" the circuits that are related to birds and to reorganize its circuitry to imagine a rabbit instead of a feathered creature with an undying affection for water. The ability to make the brain forgo its habitual internal wiring and fire in new patterns and combinations is how neuroplasticity allows us to change.

Just like the example in [Figure 1.1](#), to break out of a habit of thinking, doing, feeling, perceiving, or behaving is what allows you to see the world—and see yourself—differently. And the best part of this experiment in plasticity is that your brain permanently changed; it neurologically tracked a new way to fire off circuits, by making new neurological patterns work in a different fashion. You changed your mind by altering the brain's typical firing pattern and by strengthening new chains of brain cell connections, and thus who you are changed as well. For our purposes, the words *change*, *neuroplasticity*, and *evolution* have similar meanings. The aim of this book is for you to see that change and evolution are all about breaking the habit of being the “you.”

What I've discovered in studying the brain and its effects on behavior for the last 20 years has made me enormously hopeful about human beings and our ability to change. This is contrary to what we have long thought. Until recently, the scientific literature has led us to believe that we are doomed by genetics, are hobbled by conditioning, and should resign ourselves that the proverbial thinking about old dogs and new tricks has scientific validity.

Here is what I mean. In the evolutionary process, most species that are subjected to harsh environmental conditions (predators, climate/temperature, food availability, social pecking orders, procreation opportunities, and so on) adapt over millions of years, by overcoming the changes and challenges in their external surroundings. Whether they develop camouflage or faster legs to outrun the meat eater, changes in behavior are reflected in physical, genetic biology through evolution. Our evolutionary history is innately encoded within us.

Therefore, exposure to diverse and changing conditions causes certain more adaptable creatures to begin to acclimate to their environment; by changing themselves on an innate level, they ensure their continuity as a species. Over generations of trial and error, the repeated exposure to difficult conditions causes those biological organisms that do not become extinct to slowly adapt, eventually change, and finally alter their genetics. This is the slow, linear process of evolution inherent to all species. The environment changes, the challenges are met, behavior and actions are altered to adapt, genes encode the changes, and evolution follows by recording the change for the future of the species. The organism's lineage is now more suited to endure the changes in its world. As a result of thousands of years of evolution, the physical expression of