

THE BIOLOGY OF BELIEF

Unleashing the
Power of Consciousness,
Matter & Miracles



BRUCE H. LIPTON, Ph.D.

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Praise for *The Biology of Belief*

“Bruce Lipton’s book is the definitive summary of the new biology and all it implies. It is magnificent, profound beyond words, and a delight to read. It synthesizes an encyclopedia of critical new information into a brilliant yet simple package. These pages contain a genuine revolution in thought and understanding, one so radical that it can change the world.”

— Joseph Chilton Pearce, Ph.D.,
author of *Magical Child* and *Evolution’s End*

“Bruce Lipton’s delightfully written *The Biology of Belief* is a much needed antidote to the ‘bottom-up’ materialism of today’s society. The idea that DNA encodes all of life’s development is being successfully employed in genetic engineering. At the same time, the shortfall of this approach is becoming evident. *The Biology of Belief* is a review of a quarter-century of pioneering results in Epigenetics, heralded by *The Wall Street Science Journal* in mid-2004 as an important new field. Its personal style makes it eminently readable and enjoyable.”

— Karl H. Pribram, M.D., Ph.D.,
(Hon. Multi), professor emeritus, Stanford University

“Dr. Lipton is a genius. His breakthrough discoveries give us tools for regaining the sovereignty over our lives. I recommend this book to anyone who is ready and willing to take full responsibility for themselves and the destiny of our planet.”

— LeVar Burton, actor and director

“Bruce Lipton offers new insights and understanding into the interface between biological organisms, the environment—and the influence of thought, perception, and subconscious awareness—on the expression of one’s body healing potential. Well-referenced explanations and examples make this book a refreshing ‘must read’ for the student of the biological,

social, and health care sciences. Yet the clarity of the author’s presentation makes it an enjoyable read for a general audience.”

— Carl Cleveland III, D.C.,
President, Cleveland Chiropractic College

“Dr. Lipton’s revolutionary research has uncovered the missing connections between biology, psychology, and spirituality. If you want to understand the deepest mysteries of life, this is one of the most important books you will ever read.”

—Dennis Perman, D.C., co-founder, The Master’s Circle

“In this paradigm-busting book, Bruce Lipton delivers a TKO to Old Biology. With a left to Darwinian dogma and a right to allopathic medicine, he breaks out of the physicalist box into enlightenment on the mind/body (belief/biology) system. Must read, much fun.”

— Ralph Abraham, Ph.D., professor of mathematics, University of California; author of *Chaos, Gaia, Eros*

“Powerful! Elegant! Simple! In a style that is as accessible as it is meaningful, Dr. Bruce Lipton offers nothing less than the long sought-after ‘missing link’ between life and consciousness. In doing so, he answers the oldest questions and solves the deepest mysteries of our past. I have no doubt that *The Biology of Belief* will become a cornerstone for the science of the new millennium.”

— Gregg Braden, best-selling author of *The God Code* and *The Divine Matrix*

“I finished reading this book with the same sense of profound respect I have when I am with Bruce Lipton—that I have been touched by a revolutionary sense of the truth. He is both a scientist and a philosopher; a scientist in that he provides us with tools to alter cultural consciousness and a philosopher because he challenges our beliefs about the very nature of our perceived

reality. He is helping us create our own futures.”

— Guy F. Riekeman, D.C.,
President, Life University and College of Chiropractic

“*The Biology of Belief* is a milestone for evolving humanity. Dr. Bruce Lipton has provided, through his amazing research and in this inspiring book, a new, more awakened science of human growth and transformation. Instead of being limited by the genetic or biological constraints that humanity has been programmed to live by, humanity now has before it a way of unleashing its true spiritual potential with the help of simply transformed beliefs guided by ‘the gentle and loving hand of God.’ A definite must read for those dedicated to the mind/body movement and to the true essence of healing.”

— Dr. John F. Demartini, best-selling author of *Count Your Blessings* and *The Breakthrough Experience*

“In a world of chaos, Dr. Lipton brings clarity to mankind. His work is thought-provoking, insightful, and will hopefully lead people to ask better quality questions in their lives and to make better decisions. One of the most exciting books I have read, this is a must read.”

— Brian Kelly, D.C., President, New Zealand College of Chiropractic;
President, Australian Spinal Research Foundation

“Finally, a compelling and easy-to-understand explanation of how your emotions regulate your genetic expression! You need to read this book to truly appreciate that you are not a victim of your genes but instead have unlimited capacity to live a life overflowing with peace, happiness, and love.”

— Joseph Mercola, D.O., Founder of www.mercola.com, world’s most
visited natural-health site

“This book is an absolute must read if you want to know, from a scientific view point, that your lifestyle is in control of your health rather than your genetics. From a scientific viewpoint, Lipton demonstrates that the mind is more powerful than drugs to regain our health. The information reveals that your health is more your responsibility than just being a victim of your genes. When I started reading this book, I could not stop until it was finished.”

— M. T. Morter, Jr., D.C.,
founder, Morter Health System;
developer of the B.E.S.T. Technique

“This is a courageous and visionary book that provides solid evidence from quantum biology to dispel the myth of genetic determinism—and implicitly, victimhood. Dr. Bruce Lipton brings a solid scientific mind to not only inform but to transform and empower the reader with the realization that our beliefs create every aspect of our personal reality. A provocative and inspiring read!”

— Lee Pulos, Ph.D., A.B.P.P.,
professor emeritus, University of British Columbia;
author of *Miracles and Other
Realities* and *Beyond Hypnosis*

“History will record *The Biology of Belief* as one of the most important writings of our time. Bruce Lipton has delivered the missing link between the understandings of biomedicine of the past and the essentials of energetic healing of the future. His complex insights are expressed in a readily understandable fashion with a style that welcomes the scientist and the nonscientist on an equal footing. For anyone interested in health, the well-being of the species, and the future of human life, *The Biology of Belief* is a must read. The implications of the perspectives outlined have the potential to change the world as we know it. Bruce Lipton’s understandings—and his concise expression of them—are sheer genius.”

— Gerard W. Clum, D.C.,
President, Life Chiropractic College West

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This book is dedicated to ...



The Mother of Us All
May She forgive us our trespasses.

To my own mother, Gladys,
who has continually encouraged and supported me
while being patient for the twenty years
it took to get this book out.

To my daughters, Tanya and Jennifer,
beautiful women of the world who have always been there
for me ... no matter how weird things had become.

And especially to my darling, Margaret Horton,
my best friend, my life partner, my love.
May we continue on our joyous quest
to live happily ever after!

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Prologue

“If you could be *anybody*, who would you be?” I used to spend an inordinate amount of time pondering that question. I was obsessed with the fantasy of changing my identity because I wanted to be anybody *but* me. I had a good career as a cell biologist and medical school professor, but that didn’t make up for the fact that my personal life was, at best, a shambles. The harder I tried to find happiness and satisfaction in my personal life, the more dissatisfied and unhappy I became. In my reflective moments, I resolved to surrender to my unhappy life. I decided that fate had dealt me a bad hand, and I should simply accept it. *Que sera, sera*.

In the fall of 1985, my depressed, fatalistic attitude changed in one transformational moment. I had resigned my tenured position at the University of Wisconsin’s School of Medicine and was teaching at an offshore medical college in the Caribbean. Because the school was so far from the academic mainstream, I had the opportunity to think outside the rigid parameters of *belief* that prevail in conventional academia. Far from the ivory towers, isolated on an emerald island in the deep azure Caribbean Sea, I experienced a scientific epiphany that shattered my *beliefs* about the nature of life.

My life-changing moment occurred while I was reviewing my research on the mechanisms by which cells control their physiology and behavior. Suddenly I realized that a cell’s life is controlled by the physical and energetic environment and *not* by its genes. Genes are simply molecular blueprints used in the construction of cells, tissues, and organs. The environment serves as a “contractor” who reads and engages those genetic blueprints and is ultimately responsible for the character of a cell’s life. It is a single cell’s “awareness” of the environment, not its genes, that sets into motion the mechanisms of life.

As a cell biologist I knew that my insights had powerful ramifications for my life and the lives of all human beings. I was acutely aware that each of us is made up of approximately fifty trillion single cells. I had devoted my professional life to better understanding single cells because I knew then

and know now that the better we understand single cells the better we can understand the community of cells that comprises each human body and that if single cells are controlled by their awareness of the environment so too are we trillion-celled human beings. Just like a single cell, the character of our lives is determined not by our genes but by our responses to the environmental signals that propel life.

On the one hand, my new understanding of the nature of life was a jolt. For close to two decades I had been programming biology's central dogma—the *belief* that life is controlled by genes—into the minds of medical students. On the other hand, my new understanding was not a complete surprise. I had always had niggling doubts about genetic determinism. Some of those doubts stemmed from my eighteen years of government-funded research on cloning stem cells. Though it took a sojourn outside of traditional academia for me to fully realize it, my research offered incontrovertible proof that biology's most cherished tenets regarding genetic determinism are fundamentally flawed.

My new understanding of the nature of life not only corroborated my stem cell research but also, I realized, contradicted another *belief* of mainstream science that I had been propounding to my students—the *belief* that allopathic medicine is the only kind of medicine that merits consideration in medical school. By finally giving the energy-based environment its due, it provided for a grand convergence uniting the science and practice of allopathic medicine, complementary medicine, and the spiritual wisdom of ancient and modern faiths.

On a personal level, I knew at the moment of insight that I had gotten myself stuck simply by *believing* that I was fated to have a spectacularly unsuccessful personal life. There is no doubt that human beings have a great capacity for sticking to false *beliefs* with great passion and tenacity, and hyper-rational scientists are not immune. Our well-developed nervous system, headed by our big brain, is testament that our awareness is far more complicated than that of a single cell. When our uniquely human minds get involved, we can choose to perceive the environment in different ways, unlike a single cell whose awareness is more reflexive.

I was exhilarated by the new realization that I could change the character

of my life by changing my *beliefs*. I was instantly energized because I realized that there was a science-based path that would take me from my job as a perennial “victim” to my new position as “co-creator” of my destiny.

It has been more than twenty years since that magical night in the Caribbean. Throughout the intervening years, biological research has continued to corroborate the knowledge I gained on that early morning. Today, two newly evolved fields of science representing the most important areas of biomedical research substantiate the conclusions offered in *The Biology of Belief*.

First, the science of *Signal Transduction* focuses upon the biochemical pathways by which cells respond to environmental cues. Environmental signals engage cytoplasmic processes that can alter gene expression and thereby control cell fate, influence cell movement, control cell survival, or even sentence a cell to death. Signal transduction science recognizes that the fate and behavior of an organism is directly linked to its perception of the environment. In simple terms, the character of our life is based upon how we perceive it.

Second, the new science of *Epigenetics*, which literally means “control above the genes,” has completely upended our conventional understanding of genetic control. Epigenetics is the science of how environmental signals select, modify, and regulate gene activity. This new awareness reveals that our genes are constantly being remodeled in response to life experiences. Which again emphasizes that our perceptions of life shape our biology.

Months after this book was first published, an article in one of the most prestigious journals, *Nature*, revealed exciting new epigenetic insights on how the environment controls gene activity in stem cells, which coincidentally is the same subject and conclusion I offer in Chapter 2. I must admit that I was amused by the fact that my chapter is entitled “It’s the Environment, Stupid” while the more recent *Nature* article was titled “It’s the Ecology, Stupid.” (2005 *Nature* 435:268) Essentially, we are on the same page!

Some scientists in reviewing this book asked, “So what’s new about this work?” Leading-edge scientists are familiar with the concepts proposed

herein, and that's a good thing. The problem is related to the fact that over 99 percent of the rest of the population, the "lay audience," is still operating from antiquated and disempowering beliefs about being victims of their genes.

While research scientists might be familiar with this new and truly radical shift in awareness, these insights have yet to trickle down to the general public. The media worsens the situation by misleading the public with a never-ending onslaught of stories presumably identifying a gene that controls this cancer or that malady. Consequently, the intention behind this book is to translate the significance of this leading-edge science so that it is accessible to the lay audience. It is my sincerest hope that you will recognize that many of the *beliefs* propelling your life are false and self-limiting and you will be inspired to change those *beliefs*. Understanding on a scientific level how cells respond to your thoughts and perceptions illuminates the path to personal empowerment. The insights we gain through this new biology unleash the power of consciousness, matter, and miracles.

The Biology of Belief is not a self-help book; it is a *self-empowerment* book. The information offers knowledge of *self* and from that knowledge comes the power to control your life.

This information is powerful. I know it is. The life I have created using this awareness is so much richer and satisfying that I no longer ask myself: "If I could be *anybody*, who would I be?" For now, the answer is a no-brainer. I want to be *me!*

Introduction

The Magic of Cells

I was seven years old when I stepped up onto a small box in Mrs. Novak's second grade classroom, high enough to plop my eye right onto the lens and eyepiece of a microscope. Alas, I was too close to see anything but a blob of light. Finally I calmed down enough to listen to instructions to back off from the eyepiece. And then it happened, an event so dramatic that it would set the course for the rest of my life. A paramecium swam into the field. I was mesmerized. The raucous din of the other kids faded, as did the back-to-school smells of freshly sharpened pencils, new waxy crayons, and plastic Roy Rogers pencil cases. My whole being was transfixed by the alien world of this cell that, for me, was more exciting than today's computer-animated special-effects movies.

In the innocence of my child mind, I saw this organism not as a cell but as a microscopic person, a thinking, sentient being. Rather than aimlessly moving around, this microscopic, single-celled organism appeared to me to be on a mission, though what kind of mission I didn't know. I quietly watched over the paramecium's "shoulder" as it busily comported itself in and around the algal mat. While I was focusing on the paramecium, a large pseudopod of a gangly amoeba began to ooze into the field.

Just then my visit to this Lilliputian world ended abruptly when Glenn, the class bully, yanked me off the step and demanded his turn at the microscope. I tried to get Mrs. Novak's attention, hoping that Glenn's personal foul would get me another minute at the microscope free-throw line. But it was just minutes before lunch time and the other kids in line were clamoring for their turn. Immediately after school, I ran home and excitedly relayed my microscopic adventure to my mother. Using my best second-grade powers of persuasion, I asked, then begged, then cajoled my mother into getting me a microscope, where I would spend hours mesmerized by this alien world that I could access via the miracle of optics.

Later, in graduate school, I advanced to an electron microscope. The advantage of an electron microscope over a conventional light microscope is that it is a thousand times more powerful. The difference between the two microscopes is analogous to the difference between the 25¢ observation telescopes used by tourists to observe scenic vistas and the orbiting Hubble telescope that transmits images of deep space. Entering the electron microscopy suite of a laboratory is a rite of passage for aspiring biologists. You enter through a black revolving door, similar to the ones separating photographic darkrooms from illuminated work areas.

I remember the first time I stepped into the revolving door and began to turn it. I was in darkness between two worlds, my life as a student and my future life as a research scientist. When the door completed its rotation, I was deposited into a large, dark chamber, dimly lit by several red photographic safelights. As my eyes adapted to the available light, I gradually became awed by what stood before me. The red lights were reflecting eerily off the mirrored surface of a massive, foot-thick chromium steel column of electromagnetic lenses that rose to the ceiling in the center of the room. Spreading out on either side at the base of the column was a large control console. The console resembled the instrument panels of a Boeing 747, filled with switches, illuminated gauges, and multicolored indicator lamps. Large tentacle-like arrays of thick power cords, water hoses, and vacuum lines radiated from the base of the microscope like tap roots at the base of an old oak tree. The sound of clanking vacuum pumps and the whir of refrigerated water recirculators filled the air. For all I knew, I had just emerged on to the command deck of the *U.S.S. Enterprise*. Apparently, it was Captain Kirk's day off, for sitting at the console was one of my professors, who was engaged in the elaborate procedure of introducing a tissue specimen into a high-vacuum chamber in the middle of the steel column.

While the minutes passed, I experienced a feeling reminiscent of that day in second grade when I first saw a cell. Finally, a green fluorescent image appeared on the phosphor screen. The presence of darkly stained cells could barely be discerned in the plastic sections, which were enlarged to about thirty times their original size. Then the magnification was increased, one step at a time. First 100X, then 1000X, and then 10,000X. When we finally

hit warp drive, the cells were magnified to over 100,000 times their original size. It was indeed *Star Trek*, but rather than entering outer space, we were going deep into inner space where “no man has gone before.” One moment I was observing a miniature cell, and seconds later I was flying deep into its molecular architecture.

My awe at being at the edge of this scientific frontier was palpable. So was my excitement when I was made honorary co-pilot. I put my hands on the controls so that I could “fly” over this alien cellular landscape. My professor was my tour guide, pointing out notable land-marks: “Here’s a mitochondrion, there’s the Golgi body, over there is a nuclear pore, this is a collagen molecule, that’s a ribosome.”

Most of the rush I experienced came from my vision of myself as a pioneer, traversing territory that had never been seen by human eyes. While the light microscope gave me an awareness of cells as sentient creatures, it was the electron microscope that brought me face to face with the molecules that were the very foundation of life itself. I knew that buried within the *cytoarchitecture* of the cell were clues that would provide insight into the mysteries of life.

For a brief moment, the microscope’s portholes became a crystal ball; in the eerie green glow of its fluorescent screen I saw my future. I knew I was going to be a cellular biologist whose research would focus on scrutinizing every nuance of the cell’s ultrastructure to gain insights into the secrets of cellular life. As I had learned early on in graduate school, the *structure* and *function* of biological organisms are intimately intertwined. By correlating the cell’s microscopic anatomy with its behavior, I was sure to gain insight into the nature of Nature. Throughout graduate school, postdoctoral research, and into my career as a medical school professor, my waking hours were consumed by explorations into the cell’s molecular anatomy. For locked within the cell’s structure were the secrets of its functions.

My exploration of the “secrets of life” led me into a research career studying the character of cloned human cells grown in tissue culture. Ten years after my first close encounter with an electron microscope, I was a tenured faculty member at the prestigious University of Wisconsin School of Medicine, internationally recognized for my research on cloned stem

cells, and honored for my teaching skills. I had graduated to more powerful electron microscopes that allowed me to take three-dimensional CAT scan-like rides through organisms where I came face to face with the molecules that are the very foundation of life itself. Though my tools were more sophisticated, my approach hadn't changed. I had never lost my seven-year-old conviction that the lives of the cells I studied had purpose.

Unfortunately, I had no such conviction that my own life had a purpose. I didn't believe in God, though I confess that on occasion I entertained the notion of a God who ruled with an extremely honed perverse sense of humor. I was after all a traditional biologist for whom God's existence is an unnecessary question: life is the consequence of blind chance, the flip of a friendly card, or, to be more precise, the random shake of genetic dice. The motto of our profession since the time of Charles Darwin, has been: "God? We don't need no steenking God!"

It's not that Darwin denied the existence of God. He simply implied that chance, not Divine intervention, was responsible for the character of life on Earth. In his 1859 book, *The Origin of Species*, Darwin said that individual traits are passed from parents to their children. He suggested that "hereditary factors" passed from parent to child *control* the characteristics of an individual's life. That bit of insight set scientists off on a frenzied attempt to dissect life down to its molecular nuts and bolts, for within the structure of the cell was to be found the heredity mechanism that controlled life.

The search came to a remarkable end fifty years ago when James Watson and Francis Crick described the structure and function of the DNA double helix, the material of which genes are made. Scientists finally figured out the nature of the "hereditary factors" that Darwin had written about in the 19th century. The tabloids heralded the brave new world of genetic engineering with its promise of designer babies and magic bullet medical treatments. I vividly remember the large block print headlines that filled the front page on that memorable day in 1953: "Secret of Life Discovered."

Like the tabloids, biologists jumped on the gene bandwagon. The mechanism by which DNA controls biological life became the Central Dogma of molecular biology, painstakingly spelled out in textbooks. In the long-running debate over nature vs. nurture, the pendulum swung decidedly

to nature. At first DNA was thought to be responsible only for our physical characteristics, but then we started believing that our genes control our emotions and behaviors as well. So if you are born with a defective happiness gene, you can expect to have an unhappy life.

Unfortunately, I thought I was one of those people victimized by a missing or mutant happiness gene. I was reeling from a relentless barrage of debilitating emotional roundhouse punches. My father had just died after a long, pain-fraught battle with cancer. I was his principal caretaker and had spent the previous four months flying back and forth between my job in Wisconsin and his home in New York every three or four days. In between stays at his deathbed, I was trying to maintain a research program, teach, and write a major grant renewal for the National Institutes of Health.

To further compound my stress levels, I was in the midst of an emotionally draining and economically devastating divorce. My financial resources were rapidly depleted as I tried to feed and clothe my new dependents, the judicial system. Economically challenged and homeless, I found myself living pretty much out of a suitcase in a most abysmal “garden” apartment complex. Most of my neighbors were hoping to “upgrade” their living standards by seeking accommodations in trailer parks. I was particularly scared of my next-door neighbors. My apartment was broken into, and my new stereo system was stolen in my first week of residence. A week later, six-foot tall, three-foot wide Bubba knocked on my door. Holding a quart of beer in one hand and picking his teeth with a ten-penny nail held in the other, Bubba wanted to know if I had the directions for the tape deck.

The nadir was the day I threw the phone through the glass door of my office, shattering the “Bruce H. Lipton, Ph.D. Associate Professor of Anatomy, U.W. School of Medicine” sign, all the while screaming, “*Get me out of here!*” My meltdown was precipitated by a phone call from a banker, who politely but firmly told me he couldn’t approve my mortgage application. It was like the scene from *Terms of Endearment* when Debra Winger aptly responds to her husband’s hopes for tenure: “We don’t have enough money to pay the bills now. All tenure means is we won’t have enough money forever!”

The Magic of Cells—Déjà Vu

Luckily, I found an escape in the form of a short-term sabbatical at a medical school in the Caribbean. I knew all my problems would not disappear there, but as the jet broke through the gray cloud cover above Chicago, it felt that way. I bit the inside of my cheek to prevent the smile on my face from evolving into audible laughter. I felt as joyful as my seven-year-old self, first discovering my life's passion, the magic of cells.

My mood lifted even more on the six-passenger commuter plane that took me to Montserrat, a mere four-by-twelve-mile dot in the Caribbean Sea. If there ever was a Garden of Eden, it probably would have resembled my new island home, erupting out of the sparkling aquamarine sea like a giant multifaceted emerald. When we landed, the gardenia-laced balmy breezes that swept the airport's tarmac were intoxicating.

The native custom was to dedicate the sunset period as a time of quiet contemplation, a custom I readily adopted. As each day wound down, I looked forward to the heavenly light show. My house, situated on a cliff fifty feet above the ocean, faced due west. A winding path through a tree-covered fern grotto led me down to the water. At the bottom of the grotto, an opening through a wall of jasmine bushes revealed a secluded beach, where I enhanced the sunset ritual by washing away the day with a few "laps" in the warm, gin-clear water. After my swim, I would mold the beach sand into a comfortable recliner, sit back, and watch the sun set slowly into the sea.

On that remote island, I was out of the rat race and free to see the world without the blinders of civilization's dogmatic beliefs. At first my mind was constantly reviewing and critiquing the debacle that was my life. But soon my mental Siskel and Ebert ceased their thumbs up/thumbs down review of my forty years. I began to re-experience what it was like to live in the moment and for the moment. To become reacquainted with sensations last experienced as a carefree child. To again *feel* the pleasure of being alive.

I became more human and more humane while living in that island paradise. I also became a better cell biologist. Almost all of my formal scientific training was in sterile, lifeless classrooms, lecture halls, and laboratories. However, once I was immersed in the Caribbean's rich

ecosystem, I began to appreciate biology as a living, breathing, integrated system rather than a collection of individual species sharing a piece of the earth's turf.

Sitting quietly within garden-like island jungles and snorkeling among the jeweled coral reefs gave me a window into the island's amazing integration of plant and animal species. All live in a delicate, dynamic balance, not only with other life forms but with the physical environment as well. It was life's harmony—not life's struggle—that sang out to me as I sat in the Caribbean Garden of Eden. I became convinced that contemporary biology pays too little attention to the important role of cooperation because its Darwinian roots emphasize life's competitive nature.

To the chagrin of my U.S. faculty colleagues, I returned to Wisconsin a screaming radical bent on challenging the sacred foundational beliefs of biology. I even began to openly criticize Charles Darwin and the wisdom of his theory of evolution. In the eyes of most other biologists, my behavior was tantamount to a priest bursting into the Vatican and claiming the Pope was a fraud.

My colleagues could be forgiven for thinking a coconut had hit me on the head when I quit my tenured position and, fulfilling my life's dream to be in a rock 'n' roll band, took off on a music tour. I discovered Yanni, who eventually became a big celebrity, and produced a laser show with him. But it soon became clear that I had a lot more aptitude for teaching and research than I did for producing rock 'n' roll shows. I wound down my midlife crisis, which I'll describe in more agonizing detail in a later chapter, by giving up the music business and returning to the Caribbean to teach cell biology again.

My final stop in conventional academia was at Stanford University's School of Medicine. By that time I was an unabashed proponent of a "new" biology. I had come to question not only Darwin's dog-eat-dog version of evolution but also biology's Central Dogma, the premise that genes control life. That scientific premise has one major flaw—genes cannot turn themselves on or off. In more scientific terms, genes are not "self-emergent." Something in the environment has to trigger gene activity. Though that fact had already been established by frontier science,

conventional scientists blinded by genetic dogma had simply ignored it. My outspoken challenge of the Central Dogma turned me into even more of a scientific heretic. Not only was I a candidate for excommunication, I was now suitable for burning at the stake!

In a lecture during my interview at Stanford, I found myself accusing the gathered faculty, many of them internationally recognized geneticists, of being no better than religious fundamentalists for adhering to the Central Dogma despite evidence to the contrary. After my sacrilegious comments, the lecture room erupted into shouts of outrage that I thought meant the end of my job application. Instead, my insights concerning the mechanics of a new biology proved to be provocative enough to get me hired. With the support of some eminent scientists at Stanford, especially from the Pathology Department's chairman, Dr. Klaus Bensch, I was encouraged to pursue my ideas and apply them to research on cloned human cells. To the surprise of those around me, the experiments fully supported the alternative view of biology that I was postulating. I published two papers based on this research and left academia, this time for good. (Lipton, et al, 1991, 1992) I left because, despite the support I got at Stanford, I felt that my message was falling on deaf ears. Since my departure, new research has consistently validated my skepticism about the Central Dogma and the primacy of DNA in controlling life. In fact, *epigenetics*, the study of the molecular mechanisms by which environment controls gene activity, is today one of the most active areas of scientific research. The newly emphasized role of the environment in regulating gene activity was the focus of my cell research twenty-five years ago, long before the field of epigenetics was even established. (Lipton 1977a, 1977b) While that is gratifying for me intellectually, I know that if I were teaching and researching in a medical school, my colleagues would still be wondering about those coconuts because in the last decade I have become even more of a radical by academia's standards. My preoccupation with a new biology has become more than an intellectual exercise. I believe that cells teach us not only about the mechanisms of life, but also teach us how to live rich, full lives.

In ivory tower science, that kind of thinking would no doubt win me the wacky Dr. Dolittle award for anthropomorphism or more precisely cytopomorphism—thinking like a cell, but for me it is Biology 101. You

may consider yourself an individual, but as a cell biologist, I can tell you that you are in truth a cooperative community of approximately fifty trillion single-celled citizens. Almost all of the cells that make up your body are amoeba-like, individual organisms that have evolved a cooperative strategy for their mutual survival. Reduced to basic terms, human beings are simply the consequence of “collective amoebic consciousness.” As a nation reflects the traits of its citizens, our human-ness must reflect the basic nature of our cellular communities.

Living the Lessons of Cells

Using these cell communities as role models, I came to the conclusion that we are not victims of our genes, but masters of our fates, able to create lives overflowing with peace, happiness, and love. I tested my hypothesis in my own life after a nudge from my audiences, who asked me why my insights hadn’t made me any happier. They were right: I needed to integrate my new biological awareness into my daily life. I knew I had succeeded when, on a bright Sunday morning in the Big Easy, a coffee-shop waitress asked me: “Honey, you are the happiest person I ever did see. Tell me child, why are you so happy?” I was taken aback by her question, but nevertheless I blurted out, “I’m in Heaven!” The waitress shook her head from side to side mumbling, “My, my,” and then proceeded to take my breakfast order. Well, it was true. I was happy, happier than I had ever been in my life.

A number of you critical readers may rightly be skeptical of my claim that Earth is Heaven. For by definition, Heaven is also the abode of the Deity and the blessed dead. Did I really think that New Orleans, or any other major city, could be part of Heaven? Ragged homeless women and children living in alleys; air so thick that one would never know if stars really existed; rivers and lakes so polluted that only unimaginable “scary” life forms could exist in them. This Earth is Heaven? The Deity lives here? He *knows* the Deity?

The answers to those questions are: yes, yes, and I believe I do. Well, to be completely honest, I must admit that I don’t know all of the Deity personally, for I don’t know all of you. For God’s sake there are over six billion of YOU. And to be more fully honest, I don’t really know all of the

members of the plant and animal kingdom either, though I believe they also comprise God.

In the immortal words of Tool Time's Tim Taylor: "Baaaaack the truck up! Is he saying that *humans* are God?"

Well ... yes I am. Of course I am not the first to have said that. It is written in Genesis that we are made in the image of God. Yes, this card-carrying rationalist is now quoting Jesus, Buddha, and Rumi. I have come full circle from a reductionist, scientific take on life to a spiritual one. We are made in the image of God, and we need to put Spirit back into the equation when we want to improve our physical and our mental health.

Because we are not powerless biochemical machines, popping a pill every time we are mentally or physically out of tune is not the answer. Drugs and surgery are powerful tools when they are not overused, but the notion of simple drug fixes is fundamentally flawed. Every time a drug is introduced into the body to correct function A, it inevitably throws off function B, C, or D. It is not gene-directed hormones and neurotransmitters that control our bodies and our minds; our beliefs control our bodies, our minds, and thus our lives ... Oh ye of little belief!

The Light Outside of the Box

In this book I will draw the proverbial line in the sand. On one side of the line is a world defined by neo-Darwinism, which casts life as an unending war among battling, biochemical robots. On the other side of the line is the "New Biology," which casts life as a cooperative journey among powerful individuals who can program themselves to create joy-filled lives. When we cross that line and truly understand the New Biology, we will no longer fractiously debate the role of nurture and nature because we will realize that the fully conscious mind trumps both nature and nurture. And I believe we will also experience as profound a paradigmatic change to humanity as when a round-world reality was introduced to a flat-world civilization.

Humanities' majors, who may be worried that this book offers an incomprehensible science lecture, have no fear. When I was an academic, I chafed at the three-piece, itchy suit, the constricting tie, the wing-tip shoes,

and the interminable meetings, but I loved to teach. And in my post-academia life, I've gotten plenty of teaching practice; I have presented the principles of the New Biology to thousands of people all around the world. Through those lectures, I have honed my presentation of the science into easy-to-understand English illustrated by colorful charts, many of which are replicated in this book.

In Chapter 1, I discuss “smart” cells and why and how they can teach us so much about our own minds and bodies. In Chapter 2, I lay out the scientific evidence to show you that genes do not control biology. I also introduce you to the exciting discoveries of epigenetics, a new field of biology that is unraveling the mysteries of how the environment (nature) influences the behavior of cells without changing the genetic code. It is a field that is uncovering new complexities in the nature of disease, including cancer and schizophrenia.

Chapter 3 is about the cell's membrane, the “skin” of the cell. You no doubt have heard more about the DNA-containing nucleus of the cell than you have about its membrane. But frontier science is revealing in ever greater detail what I concluded over twenty years ago, that the membrane is the true brain of the cellular operation. In Chapter 4, I talk about the mind-bending discoveries of quantum physics. Those discoveries have profound implications for understanding and treating disease. However, the conventional medical establishment has not yet incorporated quantum physics into its research or medical school training, with tragic results.

In Chapter 5, I explain why I named this book *The Biology of Belief*. Positive thoughts have a profound effect on behavior and genes but *only* when they are in harmony with subconscious programming. And negative thoughts have an equally powerful effect. When we recognize how these positive and negative beliefs control our biology, we can use this knowledge to create lives filled with health and happiness. Chapter 6 reveals why cells and people need to grow and how fear shuts down that growth.

Chapter 7 focuses upon conscious parenting. As parents we need to understand the role we play in programming our children's beliefs and the impact those beliefs have on our children's lives. This chapter is important whether you are a parent or not for, as a “former” child, the insight into our

programming and its impact upon our lives is quite revealing. In the Epilogue, I review how my understanding of the New Biology led me to realize the importance of integrating the realms of Spirit and Science, which was a radical shift from my background as an agnostic scientist.

Are you ready to use your conscious mind to create a life overflowing with health, happiness, and love without the aid of genetic engineers and without addicting yourself to drugs? Are you ready to consider an alternate reality to that provided by the medical model of the human body as a biochemical machine? There is nothing to buy, and there are no policies to take out. It is just a matter of temporarily suspending the archaic beliefs you have acquired from the scientific and media establishments so that you can consider the exciting new awareness offered by leading-edge science.