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LIMITLESS YOU

*The INFINITE POSSIBILITIES
of a
BALANCED BRAIN*

Lee Gerdes

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PREVIEW COPY

To Peter Gerdes, who walked this walk with me;

to Brain State staff, who were asked to accept
a cut in pay and work more hours,
and did it because of the love they share
for the greater good;

to Brain State affiliates all over the planet,
who seek well-being for everyone they touch;

and mostly, for the approximately 10,000 people
around the world who have utilized brain training
in their search for well-being and to help
optimize their lives—you have honored us
by allowing us to be of assistance.

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Brain State Technologies™ has many individuals associated with its work who have been instrumental in bringing this technology to the world. Paul Hastings and Russ Loucks have worked with me for over ten years as dedicated and creative software developers whose brains are huge and whose hearts are just as big. Alexa Bolles was the first Brain State affiliate and is now Director of Sales and Marketing, using her skills to usher others into this world of helping people through this non-invasive technology. The many individuals who work for Brain State have shown up to work, care for clients, bring this technology to the world, and sustain it in excellence.

I acknowledge the ten percent of clients who were not sufficiently assisted by the technology, but worked to seek a better life for themselves and those around them. They taught me much along the way and helped us hone the efficacy of the technology as we developed new approaches to brain training.

Lastly, I acknowledge my ninety-eight-year-old mother, Josephine Margaret (Thies) Gerdes of Auburn, Nebraska, whose son listened sufficiently to know that we each have huge potential and that seeking this potential and finding its role for the well-being of all is key to a life well lived. She is my best friend, and I honor all that she believed was good by striving to help people and move them toward an optimized state for the greater good of the world.

Foreword

UNTIL RECENTLY, the dominant scientific belief was that our brain is a machine. In this view, if you injured a part of your brain, as in trauma, you lost that function. This is because the brain was seen as a fixed entity that's hardwired.

However, thanks to advances in neuroplasticity—the study of how the human brain can change itself—this concept no longer holds. We now know that our brain can rewire itself to attain its fullest capacity, including the regaining of higher mental functions.

At the heart of *Limitless You* is the author's conviction that we can train our brain to change our life. He sees a Brain Fitness Revolution on the horizon, which will bring balance to our lives simply by training an unbalanced brain to an optimum state. The book is a fascinating constellation of illustrations of human potential.

This revolutionary technology demonstrates that what is happening inside the brain is more significant in terms of the quality of our life than what comes to us from the external world. Lee Gerdes writes movingly about the ways in which this extremely innovative approach is being used to change brain wave energy and hence enrich people's lives.

Limitless You is an informative overview of how we can become more in tune with ourselves, experience spiritual healing, reduce post-traumatic stress disorder, relieve stress and anxiety, rid ourselves of addiction, become less impulsive, curb tendencies to anger and violence, and enhance the overall quality of our lives. Brain training is an especially ideal fit with more natural approaches to wellness.

The book demonstrates the scope and power of brain training by citing numerous examples of people who suffer from a whole spectrum of conditions in which the underlying defect is an unbalanced brain. When the brain returns to a state of balance and harmony, the individual is able to function optimally. Coming from a diverse educational background in math, physics, psychology, and theology, the author shares accounts of individuals who have already benefited from this innovative technology with sensitivity and compassion. He has succeeded in capturing not only the person's spiritual transformation, but also the physiological aspects of this transformation.

To me personally, the book is a remarkable and hopeful portrayal of the endless possibilities of the human brain to empower us to take charge of our lives. Balance your brain and you will lead a happier life.

Limitless You is all about listening to the sounds of your brain, body, and soul.

Vijendra Singh, PhD, Neuroscientist

Introduction

WE HAVE KNOWN for a long time that a connection exists between mind, body, and spirit, but now we can observe this connection. We can see it at work through technology, and more important, we can actually improve the way it functions.

The brain acts as the hub of the wheel of our life. The nervous system can be likened to the spokes of a wheel, while the body is the rim. When the hub is out of balance, everything else is affected. Instead of enjoying a relatively smooth and almost effortless ride through life, our days are often marked by drama and trauma.

This book introduces a modality known as Brain State Conditioning™, which is widely referred to as brain training and is oriented toward solving problems related to brain energy. Brain training isn't based on diagnosis and neither is it concerned with any symptoms a client may be suffering. Rather, its focus is on the degree of *balance*

and *harmony* the brain experiences, plus the flexibility it demonstrates when it moves from being at rest to being activated. This is quite different from modalities that compare a person's brain with a normative database and then try to teach the individual to bring their brain functioning up to par with the average brain.

When we talk about *balance*, we are talking about how the brain's activity is balanced from one hemisphere of the brain to the other, and also how the different regions of the brain balance with each other between the front and back of the same side of the brain. Brain training facilitates brain balance. It's like loading a ship so that it's level on the ocean.

When we talk about *harmony*, we are referring to how energy patterns that vary from low to high exist together in the same region of the brain.

If you have ever driven an automobile with one or more tires out of balance, you know the shimmy and shake that an out-of-balance condition can produce. Well, it's no different in life when the brain has one or more of its regions out of balance. In such a condition, it simply isn't possible to live a life of excellence.

When the brain is balanced and in harmony, it can have a dramatic effect on both the mind and the body. For this reason, brain balance and harmony can be a helpful step to a state of well-being and optimum performance.

When the brain is balanced and in harmony, people involved in sports are much more likely to achieve optimum performance in terms of speed, strength, and so on. Writers, musicians, and artists achieve greater creativity and artistic expression. Individuals who feel stuck—who realize they aren't living up to their full potential but don't know how to let their true being out—often advance to gratifying business endeavors. Whatever a person's walk of life, they can gain clarity about their life's journey.

A Chance to Take Charge of Your Life

Brain training doesn't require *willpower*. Instead, it uses *brainpower*.

Our society is wedded to the idea that we all have free will and simply need to make good choices then stick to them. We have drunk so deeply of this philosophy that we don't realize how limited a person's ability to make good decisions is when their brain is in an unbalanced state. Individuals also tend to lack the willpower to engage in the difficult and often ongoing struggle it takes to change an entrenched pattern of behavior. For instance, countless people with the best of intentions tell themselves, "I'm going to stop smoking." They recognize quitting their habit would make a tremendous improvement in their life. But those who attempt this find it isn't easy, and many fail despite repeated efforts. For most of us, it requires more than willpower.

Using brainpower to change our lives takes the struggle out of it. It's all about achieving self-improvement from a place of deep calm. Our brain learns to function in a more wholistic way.

One client tells how she actually experienced the difference: "I thought education was about information; I thought discipline was about control; I thought procrastination was about willpower; and I thought stopping bad habits and behavior was supposed to be hard, and sustaining new behavior even harder. I was wrong. It isn't about willpower, it's about brainpower. I was at a crossroads. I was smoking and felt like the rat who couldn't learn. My daughter told me that, as an intelligent woman, I should be embarrassed to end up dying from a preventable disease. But I had tried everything and could not stop. It took me a few hours of training to stop smoking, but it took me nearly thirty-five years to find the technology that helped me stop."

A brain that's balanced and in harmony is in a state known as homeostasis. The term is derived from two Greek words, *homoios*

meaning “same” and *stasis* meaning “stand.” In a state of homeostasis, conditions stay the same. It’s a state in which the brain functions on a level playing field, which enables it to respond to life’s challenges in an optimal manner. When the brain is in homeostasis, thinking, feeling, performing, and the body’s ability to repair itself all function at their best and self-regulate based on what they are called upon to do at any given moment.

Brain training is potentially a life-changing tool, serving as an adjunct to other modalities with the objective of helping these modalities achieve what they seek to accomplish by first bringing the person into a state of self-regulation. Also, when used as a non-invasive information-gathering tool, as a means of exposing causes and effects, brain training illuminates the path to how countless disorders might be corrected more quickly and more completely.

Brain training is a revolutionary way to break free from our limiting history. It allows retraining of the imbalances in the brain to help correct various disorders without negative side effects or invasive procedures.

Doctors are told, “First, do no harm,” but unfortunately, many of the pharmaceuticals and procedures currently in use have devastating side effects for some. Brain training is a tool to help “do no harm.” It isn’t the only answer, but I believe it is part of the solution—a part that may be the missing link when it comes to ADHD, sleep issues, postmenopausal problems, depression, anxiety, pain management, addiction, and the quest for optimum performance.

Take addiction, which is often seen as difficult to change, but for brain training poses no greater challenge than any of the other dysfunctions many of us experience from day to day. After an addict does brain training to balance and harmonize their brain patterns, they are unlikely to desire their addiction. Their brain can be assessed and trained, often with stunning results. For example, in an efficacy trial

with probationers in Yavapai County, Arizona, brain training made it possible for repeat offenders with long histories of addiction, including prolonged methamphetamine use, to begin a new life. Even though the trial participants remained in constant contact with other addicts, after the first year more than eighty-five percent remained substance free. After three years, of the participants surveyed, more than seventy-five percent were still substance free—an astounding accomplishment compared with conventional approaches.

The process is simple, and it works with other conditions and disorders with the same glaring simplicity.

How Brain Training Was Discovered

People who have trained their brain often want to know about my background. How did I come up with this simple yet powerful modality?

I wasn't a doctor or even a brain researcher; I was a computer geek. Most of my life revolved around computer science, though my background did include a degree in theology and extensive work in psychology as well as math and physics.

As Vice President of Solutions for Net Perceptions in Minneapolis, I was consulting and designing software along with developing algorithms for marketing. In essence, an algorithm is a formula, and the Net Perceptions algorithms linked similar products or concepts to individuals. Our first customer was Amazon.com, which licensed technology that notes the kind of books a person buys then suggests other books they might also enjoy. You've probably seen the recommendation, "If you liked ... you may like ..." Our original Net Perceptions algorithms are still widely used in today's marketplace.¹

We were a successful company whose stock was climbing when web-based stocks suddenly fell dramatically in a general collapse of web-based businesses at that time. Such businesses were often greatly overvalued because people's expectations of what a web-based business could achieve were inflated. When it became clear that many of these businesses weren't going to be profitable, investors started pulling their money out, leading to widespread panic.

However, Net Perceptions had already proven successful, so our initial response during the crisis was to find still wider uses for our technology. I headed up a team that built a business-to-business application whereby we could assist, for example, an electrical store that stocked tens of thousands of parts to achieve a much more efficient turnover of its stock. When a contractor comes in to order parts, our algorithm figures out what parts they might have overlooked so they won't have to return for them at a later date. Through all of this, I was gaining increasing proficiency in software design, having worked in the software field since the sixties.

I was suffering from post-traumatic stress disorder. To try to alleviate this condition, I sought out one healing modality after another. Though I went through a raft of treatments in addition to extensive psychotherapy, such treatments were of only limited help. Though to some degree they alleviated my physical condition, they were unable to affect the edge I was on all the time. Anyone could press my buttons and evoke a lightening-fast response—a response out of proportion to what was appropriate, and a huge waste of emotional energy.

Alongside my fascination with computer software development, I had a deep interest in science, especially quantum mechanics. The development of brain training was, in a way, an accident. Among the more helpful therapies I had tried were biofeedback and neurofeedback. Suddenly, it occurred to me how the insights of quantum mechanics, teamed with highly sophisticated computer

technology, could enable an individual to go so much further than was possible with either biofeedback or neurofeedback.

It was only when I tried training my own brain with the first technology and protocols I developed that I finally felt better. After benefitting from the technique for some weeks, I set it aside, never imagining it would someday help thousands of people.

My son began having problems during the usual rebellious stage of the teen years. Falling in with a tough crowd, he left school, experienced some difficulties with a girlfriend, and was rapidly going downhill toward a dysfunctional life. I believed he could benefit from the brain training I had used on myself, so I essentially bribed him to give it a try. I sent him a computer, amplifier, and electrodes. The effect was stunning. He cleaned up his life, returned to school, and immediately made the dean's list.

With my encouragement, my son then tried the technique on several other people, which made him not only my first real client but also my first trainer. It was his success, along with the success of his friends, that spurred us to make the training available to other people and led me to leave Net Perceptions. Now, thousands have found a way out of their self-limiting prisons by utilizing brain training. All it took was balancing their brainwave patterns.

From Simple to Sophisticated

Brain training began with a mobile office. I hauled a computer and electronics in the back of my car. Volunteers were trained in their home, and the data we collected relative to the brain's response was used to refine the algorithms.

I had properties in Montana, Minneapolis, and Florida. I sold these and emptied my 401K. It was enough to set up the

equipment required; still, I had a high level of anxiety over whether I was going to run out of money. I recall telling myself, “The universe is going to have to take it from here.”

I moved to Scottsdale, Arizona, and my son and I lived together in a rented home with a bedroom on each side of the house. We set up a third bedroom as a lab and used the family room for research. We couldn't afford to pay our first associate; she came to work with us gratis until we could begin to reward her for her effort.

I can't tell you exactly how brain training started to mushroom; it just did. It was all by word of mouth, as people saw the lives of others change. At first many came to us who didn't have the financial means. They came because nothing else had worked for them and hence they had nothing to lose.

A few months later we were busier than we could have ever imagined. We moved to an office space, then we relocated to an even larger facility, and finally we moved into our current 18,000 square foot facility, still located in Scottsdale.

When brain training began, the technology was rudimentary compared to what we use today. We had 160 gigabytes of data storage capacity at startup, whereas at the time of this writing we have 18 terabytes. For the first three years, brainwaves were sampled at a rate of 128 samples per second, each with 256 bits of information. Now, 256 samples are taken every second, each with over 65,000 bits of information. This yields a vastly increased quantity of data, making brain training even more effective. We continually refine the technique based on the data we receive from over 10,000 clients, which comes to us online every twenty-four hours from more than a hundred and thirty licensees in over fifteen countries. This daily influx of data continues to inform our brain training protocols.

In case you are wondering what a brain training protocol is exactly, it consists of information fed back to the brain based on

data collected by electrodes placed tactically on various areas of a person's head. Each brain training protocol is individually designed, and can last anywhere from five minutes to thirty minutes. A training session consists of approximately five to seven protocols, lasting in all about an hour and forty-five minutes. A person can participate in two training sessions a day, with at least two hours in between sessions to allow the brain to rest from the reorganizing of itself it has been doing during the earlier session.

A Technological Boom

Brain activity is manifested in electromagnetic energy, which can be measured. This energy is measured through tiny detection devices placed on the head. These brain energy detection devices are sophisticated forms of electrodes that contain a computer chip capable of picking up the tiny current of the brain in an entirely noninvasive manner. The brainwaves detected are replicated in a variety of colorful waveforms on a computer screen. The underlying science is electroencephalography (EEG).

Technologically speaking, when we examine brain functioning, we are looking at energy measured in the range of ten-millionths of a volt. With such an infinitesimal quantity of energy powering the brain, you can imagine how little it takes to cause interference. Detecting brain energy accurately, without interference, is far more delicate even than attempting to thread a needle when you are shaking from the chills!

Brain training utilizes a specific type of electrode that includes computer chips designed to eliminate other electromagnetic energy that might result in interference in the signals being detected. This is sophisticated hardware, which is coupled with highly sophisticated

software. In fact, the developers who designed this software for us previously worked on supercomputers and devised a program that could build a molecule based on the characteristics they wanted the molecule to possess. To come up with even a sketch of such a molecule took six scientists two years, but the computer was able to build it in only two weeks. At that time, the supercomputer was the equivalent of running 100,000 desktop computers simultaneously. The computer technology used in brain training is facilitating advancements far beyond our understanding, but it isn't necessary for us to fully understand how it works in order to utilize this technology. In terms of building a brain training protocol in the future, the computer will make so many calculations from all the information it collects from the brain that we couldn't duplicate it in a lifetime of working with a desk calculator.

Intellectrodes™, coupled with other technological advances, are opening the way for us to see brain energy in 3,000 times the detail we could previously access. Imagine that we have gone from seeing the brain's energy with a ten-power microscope to seeing it with a 30,000-power microscope! Such detail will facilitate many new discoveries about how the brain works, allowing us to generate protocols that are more and more specific to the individual.

In other words, it's as if at one point we were looking at a mountain, then boulders on the mountain, then rocks that make up the boulders, and finally we are moving into seeing the energy that holds the rocks together. Or to use another analogy, it's the difference between looking at sugar cubes, granulated sugar, and powdered sugar. Consequently, if a woman with blue eyes and auburn hair were to come in for training, we might speculate from her brain map that she's really a blue-eyed blond. Think about this kind of breakdown of data in terms of pain management, for instance. Instead of having to address a wider region of the brain,

we will be able to focus on the exact frequency in the brain where the discomfort is occurring.

As our technology advances, making it possible to look at smaller and smaller parts of brainwave frequencies, and as we collect more and more information in our data base to furnish us with an ongoing learning capability, it will become exponentially easier for us to achieve our potential as humans.

All of this has led me to wonder what we could do with the mind if our brain was truly its faithful servant. What would we become aware of if our brain was finely balanced?

Exploration of the brain is one of the cutting edge sciences on the planet today. The brain is the new frontier, and investigating this inner space is one of the most fascinating and rewarding adventures we will ever take. This book will give you some idea of the amazing achievements that are already possible with our present understanding of the brain.