



A Messenger Mini-Book



# *Our Fractal Nature*

**A Journey of Self-Discovery  
and Connection**

**Kimberly Burnham**

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A Journey of  
Self-Discovery and Connection

By Kimberly Burnham, PhD

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# Fractals

*“In discerning our fractal nature, we are nature contemplating and embodying ourselves.”*

– *Our Fractal Nature*

**frac ♦ tal – noun.** Term from Mathematics, Physics, Life and Nature. Latin *fract(us)* – uneven + *al*, fraction of something, a term introduced by French mathematician Benoit Mandelbrot.

A fractal is a textured geometric shape. It can be split into parts, each of which is roughly a smaller version of the larger part, exhibiting self-similarity.

While fractals are a mathematical construct, they are found in nature, artwork, our bodies, the stock market, and the universe. They behave in a magical way, as if the dimensions of the structure—its fractal dimensions—are greater than the spatial dimensions. In other words, the whole is greater than the sum of the parts.

## Gratitude

My thanks go to Benoit Mandelbrot for the heart fractal; Albert Einstein for his perspectives on the universe; Richard Bartlett, developer of Matrix Energetics, who encourages me to perceive magical realms of existence; Sharon W. Giammatteo, my guide on the Integrative Manual Therapy (IMT) pathway; Jill Purce, who taught me the value of sound, vibration, and listening; Pierre Garreud, a shaman healer who engages me in the spiral nature of life; and my parents, Lew and Gail Burnham, who inspire my love of science, knowledge, and healing.

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## Preface

I am grateful for natural fractals, visible everywhere and symbolizing the universe's support for each of us. My hope in writing *Our Fractal Nature* is that each unique, individual person will understand how we are connected to life, the universe, and the other inhabitants of this planet.

Embedded within *Our Fractal Nature: A Journey of Self-Discovery and Connection* is an invitation. It is an energetic initiation into the value and intelligence of our position in the continuum of life. A sense of belonging is contained here within. My hope is that we can all find peace, a stronger sense of self, and the gifts each of us has to offer.

This book is an exploration of the orchestra of life. Each musician is a talented expert bringing his or her skills and appreciation for the music to a team, a group, an orchestra.

I have energetically infused this book to facilitate a spark of recognition that we are home and designed perfectly to accomplish our dreams.

Perceiving our fractal nature relaxes us, excites us, and teaches us that we belong. It helps us see the joy in being part of something that is bigger than ourselves and yet is still familiar and comfortable. We are each an element of something important: the natural world.

My hope is that this knowledge will guide our growth, learning, and experiences as we connect to our fractal nature. My desire is that the resulting insights connect us to our power and vitality.

I have chosen to live in a friendly universe that supports me and allows me to see the possibilities for myself in this world. I am learning each day how to recognize my beauty, my strength, and my energetic blueprint.

Kimberly Burnham, PhD  
West Hartford, CT  
May, 2011

## Our Beautiful Fractal Nature

*“The most important decision you will ever make is to decide once and for all whether you live in a universe that is supportive, that supports you and is friendly, or whether you live in a universe that is hostile and is not supportive.”*

– Albert Einstein, Physicist

We start this journey with a puzzle. Pick a number between zero and nine. Now, write down your number.

***How many other numbers could you have chosen?***

For some people, fractals will never represent anything more than stunningly-beautiful geometric shapes, unique motifs repeating themselves, like the mesmerizing contours of nested Russian dolls getting smaller and smaller, or the infinite length of a walk along a Caribbean beach, or the way avalanches spread across the rocky surface of Mount Everest. For others, our fractal nature

contains insights about our physical bodies and our health, about relaxing our nervous systems, opening our hearts, and enabling us to see our various choices in life and our place in the living universe.

In fractals, we find beautiful patterns that illuminate the relationships between our physical health, our emotional attitudes, our financial well-being, and the meanings we see in our lives. By perceiving the patterns, it helps us answer the question of who we are and what we are here to contribute.

Fractals help us understand how each part is linked to the others. We are made up of a community of cells, organs, systems, and processes, and similarly we live in communities of individuals, families, towns, countries, and even star systems.

Throughout *Our Fractal Nature* are questions that will light a pathway into our conscious and subconscious minds. The answers will allow us to see the incredible freedom we have concerning our choices about health and wellness and the many ways we can contribute to our communities.

There are many more questions and answers in the online environment, available to anyone wishing to change, heal, and discover how to make life more meaningful for themselves, their families, and their communities.

### ***How can you more fully connect with the beautiful patterns in your life?***

Mathematics is about clarity in the science of numbers. Fractal geometry is a description of numerical relationships in nature, both inside our bodies—our vital blood-vessel networks, the healthy variability of our heartbeats, the tree-like branching contours of our nervous systems, our protective cell membranes—and in our environment—a seashell's repeating contours, a leafy fern's recurring self-similar shape, the irregular pattern of lightning striking the Earth.

Fractal geometry is not the mathematics of high school, which is more commonly known as Euclidean geometry. Euclidean geometry was developed to describe regular shapes, such as smooth lines, circles, squares, and

triangles. Fractals, on the other hand teach us to think outside the square—or outside the box—and along the edges of a rough, irregular shape.

An exploration of the remarkable design principles contained within our fractal patterns encourages us to scan the information in our lives with more self-awareness. This approach to life leads us to function more comfortably as we thrive in the knowledge of our inclusion in life. Reassurance is found by truly seeing the natural patterns and the support found everywhere around—and within—us.

### ***Where are you in the tapestry of life?***

Fractals are designed beautifully by nature. Our bodies are made up of fractals. We are beautiful.

In his groundbreaking work from 1982, *The Fractal Geometry of Nature*, Benoit Mandelbrot describes how fractals account for a long list of natural forms, ranging from Coastal Redwoods to our life-sustaining respiratory systems and our spiraling DNA. The essence of fractal

geometry—where there are no straight lines—is that the deeper you look into their structure the more detail and insights you find.

The details along the winding road of life can be fractal-like in their roughness and complexity, but, at the same time, they can also be beautiful and satisfying to navigate—especially when we pay attention and learn from the repeated patterns of our past.

***What will change in your life if you are brave enough to recognize your beauty and your place in nature?***

## **Connect to Your Fractal Health**

- ✧ Carefully observe the complexity of a green leafy fern, a puffy white cloud, or sit under a shady tree today.
- ✧ Visit the online environment for free bonus materials, including how you can use this information to improve your life, influence your community, and change the world.

## Seeing Fractals Calms Us

*“Assume that all you are connected to is here for your enjoyment, your illumination, your progress. Act as if you are the universe’s favorite—who knows, maybe it is true.”*

– adapted from Chris Coffey

Now, back to the number you chose. If you think there are ten numbers between zero and nine, you are correct on one level. However, let’s shift perspectives, deepen our awareness, and suddenly you see that you can pick a whole number, a fraction, the square root of eight, or even an infinite, irrational number like pi. Fractals, like pi, are infinite. The detail you choose to focus on depends on your desire for accuracy.

Pi is approximately 3.14. We say approximately because there are literally no limits on the numbers that come after the decimal point. Pi is a mathematical constant that describes a relationship between a circle’s circumference and its diameter. How truly accurate we are in describing these

relationships depends on how much detail we wish to see.

***Is the number 3 the same as 3.1, or 3.141, or even 3.14159? How accurately do we describe the relationships in our life? How accurately do we want to see?***

Fractals describe the irregularly-shaped objects in our natural universe—gnarled, rough-barked pine trees, dark smoldering rain clouds, the contours of the Peruvian Andes, California's coastline. These shapes are self-similar down to the smallest levels, which, it turns out, are too small even to measure, but they still provide texture to our reality. According to quantum physicists, the smallest thing is not even a thing. It is a process, a wave, a possibility.

***Do we see the infinite texture of shapes, processes, and choices spread out before us like stars pulsing in the sky? Do we hear them calling, "Look at me!" "Pick me!"? Can we see the vital parts of the whole?***

Fractals invite us to look within and beyond perceived limitations, to broaden our view of the choices we have, to see the way we influence the pathways of our lives and how they all connect.

Having this sense of choices that will launch us on a powerful trajectory into the future is relaxing and exciting. Just by appreciating the beauty of natural scenes and the fractals they contain can make us healthier. People recover from major surgery far more quickly when placed in hospital rooms with windows looking out on natural scenery. Eventually, it may be possible to produce even more effective stress-reducing fractal artwork.

## **Connect to Your Fractal Health**

- ✧ Consider which of your choices will benefit from more attention paid to the array of options.
- ✧ You picked up this book for a reason, perhaps subconsciously. How is your life changed by what you read?

## Ten Powerful Insights

*“Fractal design validates the premise of artificial life: that beauty and life can spring from iteration of simple mechanical rules. That you can get out more than what you put in. The intent of my work is to show that creation does not require control, and in fact, giving up control is the primary creative.”*

– Scott Draves, Artist

Here are ten insights to appreciate about our lives and our fractal nature.

- ✧ We are beautifully designed.
- ✧ Seeing fractals calms us and intrigues us with infinite choices.
- ✧ We can navigate the complex motifs and patterns of life simply and naturally by connecting with what is similar and familiar to us.
- ✧ Our fractal nature eases the process of searching for what is meaningful.
- ✧ While our brains are memory-storing and information-gathering devices, our minds

interpret the perceived information.

- ✧ Like your life, the final shape of a fractal depends on the information blueprint stored in the original “seed,” or start of the trajectory.
- ✧ There are many doorways to healing.
- ✧ We can connect with the energy and rhythms of life’s flow.
- ✧ We are a unique part of a community with nested layers and boundaries.
- ✧ Fractal layers in the brain create a quantum environment available for expanded consciousness.

## **Connect to Your Fractal Health**

- ✧ Ask someone to pick a number between 0 and 9. Then ask them how many choices they had. Explain that they have infinite choices.
- ✧ Write down something true—something indisputably true. Consider how much information we need to make a choice. How much more information do we need to make a judgment?

## Navigating the Complex by Connecting with Our Environment

*“It is easy to get the impression that progress in science depends on discovering the ever finer details of the world. This is a false impression. The most important progress in science involves changes in the basic way we see the world.”*

– Larry S. Leibovitch, from *Complexity, Two Lessons from Fractals and Chaos*

We can navigate the complex motifs and patterns of life easily by looking for that with which we feel congruent or harmonious.

Illustrated by the trunk and branches of the fruit-bearing Lucama tree found in Peru, fractals are described as self-similar structures. Each branch resembles a smaller version of the trunk. Even the leaves have tiny, branching veins which are self-similar to the branching trunk. A tree is visually complex even though it is made up of one simple branching pattern.

Our bodies also have many self-similar patterns. The structures, patterns, processes,

and information both inside and outside our bodies share similarities with nature.

Even though tiny blood vessels are like the aorta, which is the largest artery in our body, no part of our circulatory system is exactly the same as any other part. There are variations in size, color, and vibration. How these blood vessels strengthen our happiness, comfort, and health depends on their relationship to the community in which they contribute.

### ***What are we contributing to?***

The self-similar design of our brains protects us as we grow and develop efficiently using the resources, building blocks, and energy with which we provide them. There are infinite fractal layers in the brain, influencing our ability to communicate and perceive the world around and inside us.

The communities in the brain “talk” with other areas in the body and with the external environment. Each nested layer contributes, including the DNA’s spiraled double helix, the retina’s tiny nervous system trees, and the

thalamic neurons' branching patterns. These neurons influence our perception of pain and pleasure while interpreting many of the sensations coming from our environment.

The fractal geometry of the balance-related neurons displays a self-similar design and provides maximal function for a fixed cost per nerve fiber. Anyone who lives on a budget can appreciate this aspect of fractals: getting maximal function from limited space and resources.

Fractal shapes and processes in the brain explain how a huge number of interconnected neurons produce a range of behaviors in a flexible and self-organized way. As information moves through the nervous system, it is like water in a river, flowing and changing shape wherever it goes. Each time we appreciate the quality of our lives and the functioning of our being, we are evaluating or measuring something different.

Our healthy brain is able to process information in a way that "fits" a personal landscape shaped by attitudes, previous knowledge, and experience. Each time we

encounter something new we change the contours of our nervous systems.

***Do we notice differences or changes each time we reevaluate and interpret the experiences in our lives?***

A defining feature of a healthy mind, body, and spirit is adaptability—the capacity to respond to unpredictable situations, feelings, and stress. When systems in our bodies become less complex, the complexity of the information they can process is also degraded, and we become less adaptable. Functional plasticity, or the ability to adapt and respond, is best served by the high complexity in our nervous systems, a surplus of readily available information, and a variety of options from which to choose our best way forward.

The fractals in our bodies and brains are rich, complex patterns, and they suggest that we are perfectly designed to comfortably and safely enjoy life and all the complex relationships in this universe.

## Connect to Your Fractal Health

- ✧ Find a picture of blood vessels or the nervous system. Notice the self-similar branching. Ask yourself how efficient these structures are and how they serve you.
- ✧ Think of a goal you have. If zero means you will never achieve it, and ten means you already achieved it perfectly, which number would you assign the goal? Consider what resources you have that would make the goal easier to achieve.
- ✧ List 20 or more ways that you can imagine accomplishing a goal. Whether they seem realistic or hilariously fantastical, notice how many choices you have as you write them down.
- ✧ As the Queen in Alice in Wonderland suggests, “believe as many as six impossible things before breakfast.”

## **A Fractal Search for Meaning**

*“Eyes that see do not grow old.”*

– Nicaraguan proverb

The ability to pay attention is fractal in nature. As we consciously choose what we pay attention to, we increase our self awareness and brain plasticity—literally, our ability to heal and adapt.

***What do you pay attention to, listen to, or see in your daily life?***

Our eyes use a fractal power function to search complex visual patterns and insure that we find vital information in the shortest amount of time. Fractal scanning is an efficient way to find what we are looking for. The more we notice in the patterns, the safer and more relaxed our nervous systems and eyes feel.

Preventing cataracts involves maintaining the fractal dimension of the protein formations in our eyes' lenses, thus allowing us an undistorted view of our environment.

Essentially, the healthier our eyes are the safer we feel.

Each cell in our bodies picks up light and electromagnetic energy. Our eyes, of course, have a specialized visual function, but each cell can “see” what is going on around it.

Our DNA, eyes, and brains allow us to perceive the beauty in art and natural scenery with both visual complexity and fractal dimensionality. Viewing fractals helps us relax, which in turn facilitates increased attention and enables better decision-making processes.

Our penetrating eyes, our listening ears, our sense of touch, all our internal sensors are set up to recognize patterns, to pick out what is new and interesting as we scale the mountains of our desires. As the saying goes, “The fastest way to become an old dog: Stop learning new tricks.”

Fractals also teach us to look at the past, to see the patterns emerging from chaos. If we look at a tree, we see the trunk, all the branches, and the leaves that emerged from the seed. We see the pattern of what was created in the past. We can enjoy the tree’s

beauty, the shade it provides, and the delicious fruit. And if we don't want what this particular tree, planted in the past, has to offer, we have the ability today to plant a new seed and notice the new opportunities for enjoyment. We can make sense of our world by picking out the patterns over time.

While we don't know what will grow tomorrow, we can mentally time-travel into the future, imagining the pattern unfolding and learning from all the people who planted seeds in the past.

Our fractal brains use the same brain circuitry to remember who we were in the past and to imagine ourselves in the future. By choosing how we view the information, we can turn our brains into clearing devices, releasing what no longer serves us well. When we choose what to pay attention to or synchronize with, we can literally change the landscape and texture of our minds.

Our sense of time is also fractal in nature. A mother's sense of time differs from that of a clock. Time can appear to stretch out when children are at school or sleeping and there are

few interactions, or it can seem to contract, as when the number of children and their needs for attention are multiplied.

Fractals teach us that there is no right path, no left path. There are an endless number of paths working uniquely together to serve us perfectly.

***Do we choose to step away from patterns which no longer serve us? Do we look for pathways to best assist us on our journey today?***

## **Connect to Your Fractal Health**

- ✧ Look around the room at something that you bought in the past or something that was a gift. How do you feel about it today? How does that feeling differ from the way you felt when you bought or received the object? Imagine how you will feel about it in a month.
- ✧ Pick up a piece of food. Close your eyes, and then describe the food in detail. How does it feel? What is its texture, its

shape? How does it sound when you tap on it? How does it smell or taste? “See” the food with your hands, your ears, your nose, and your taste buds.

- ✧ For each of your goals, make a list of what the perfect ten—a perfectly achieved goal—looks like or feels like when you wake up in the morning. Imagine how you feel when you tell a friend about accomplishing your goal. Visualize success in the richest details possible.
- ✧ Trace the edge of a natural object with your finger. Notice the roughness. Notice the contours and the texture. Notice the path your finger takes. Does appreciating the detail change your enjoyment of the object?
- ✧ Answer these questions about a friend. How many nested layers or separate connections are there in your friendship? How many emotions from other relationships influence this one? See the layers of information, and increase the clarity in this friendship.

## Archive of Fractal Memories

*“Memories are not like fiction. They are fiction. We are built to remember relatively little and to creatively fill in the holes so that we seem to have a complete picture.”*

– Jonah Lehrer and Bhalla Jag, from *I’m Not Hanging Noodles on Your Ears*

DNA represents our ancestral memories. The self-similarity of mitochondrial DNA from our mothers shows up in its loop-like distribution along the genome. The double helix of DNA from both our parents and ancestors represents an ideal electromagnetic antenna. The shape of a space-filling fractal curve, our DNA has the structure of a superconductor storing virtually unlimited amounts of information.

What is created from that initial DNA is complex and influenced by many factors. It is noteworthy that the eggs containing half our DNA—the eggs from which we developed—were already formed inside our mothers’ bodies, even when they were babies inside their own mothers—our grandmothers.

***What, if anything, from your grandmother's environment influences the choices you make today?***

While our brains are information-gathering, perceiving, memory-storage devices, we always interpret the information we receive. We can revisit the memories held there and reinterpret them. The more information we can access consciously, the more we can interpret our pasts and imagine our futures in ways that serve us.

***Do you have clear memories and a useful perspective on your life?***

In the brain, the fluid system also seems to act as an antenna picking up information and frequencies from our environment. It then encodes the information as patterns in the surrounding liquid.

Homeopathic Medicine, Reiki, Matrix Energetics, Wisdom Healing Qigong, Health Coaching, and Non-Violent Communication are a few information-based healing modalities. Attention to information itself can be curative.

The Latin *curatio* means both attention and curing.

Homeopaths and other information practitioners provide the individual with knowledge in the form of a remedy, a fluid, a tablet, a technique, or a symbol that allows the person to shift how his or her body deals with patterns of past injuries or conditions. This new input allows for a new awareness, a new perspective, and a new choice in fulfilling needs. New information interacting with old patterns is a “game changer.”

***What in your life is currently in need of a “game changer”?***

Fractals teach us that our memories and what we perceive from our environment are all just information. We can store wisdom as memories that increase our creative responses to life. Our fractal-structured sensory systems are capable of picking up an infinite number of signals and vibrations.

***How are you choosing to dance to the music you hear?***

As we sift through our memories and experiences, the ones we choose to focus on and the ones we choose to release can bring us peace or create conflict. Remembering experiences from a particular perspective allows us to wake up peacefully every morning, ready for the day, looking forward to the people we will meet and the opportunities we will have to make a difference. Focusing from a different perspective on the same memories can ruin our relationships and lock us into patterns of frustration, anger, and blame. Our fractal branching brains can remember many relationship patterns and allow us new choices in the future.

Sometimes focusing on what we want more of in our lives is easier than focusing on what we want less of.

What are we going towards? What is flowing towards us? Where are we in the patterns? Exploring these questions is easier, more productive, and more joyful than focusing on how to let go of what we don't want. Think for a moment about something you have too much of in your life.

***Is the thought familiar? Is it the same as the last time you felt it? Is it boring in its sameness? Are there an infinite number of exciting ways in which you can feel and function ideally?***

Our ability to consider our memories, imagine the future, and make better and better choices is rooted in our biology.

## **Connect to Your Fractal Health**

- ✧ As you look at a picture of a DNA molecule imagine the spiraling storybook that is your DNA. Contemplate the chapters you want to rewrite or reinterpret.
- ✧ Remember a “happy” memory from the past. Now in your minds-eye change some to the details — the clothing the people are wearing, the weather, your age at the time. Notice how changing the details affects your feelings about the experience.
- ✧ Explore Fractal Homeomorphics and Manual Fractal Patterning. Create miracles. Inspire confidence. Jump start progress. Live abundantly. Transform the universe.

## The Seed and the Trajectory

*“Baby, look at how pink and fuzzy the nice little piggy doll is.” And this began our habit of replacing direct perception of reality with a perceiving, labeling, a process of reacting physically, emotionally, and mentally. As we aged, we also added a thought analyzing method of judging, comparing, and commenting on everything our senses brought our attention to, and we got less and less in touch with Now.”*

– Bob Rose, *Opening the Third Eye*

Fractals show us that there are no “accidents,” just less-than-useful trajectories. Each moment we choose the trajectory or seed that becomes our future. Fractal designs—whether they are natural, like a compact, leafy artichoke, or computer-generated, like the Sierpinski triangle—depend on the kind of seed planted or the original mathematical number chosen.

This is an effect which is popularly referred to as the “Butterfly Effect.” Small differences

in initial conditions generate widely diverging outcomes, making predictions impossible.

The seeds or events surrounding our births influence our whole lives, yet they are not the only influences. We are each unique. Even identical twins are not exactly the same at birth, and what they become is not just about their genetics—it is about their relationships and experiences. We each have choices about the trajectory of our interactions.

***Do we value the choices we have in each moment to really see the world and our opportunities to learn and experience life?***

Much of what happens in the internal environment of our bodies is based on interpretation of sensory information from pressure sensors, chemical sensors, motion and energy detectors, and an infinite number of feedback mechanisms that send information to the brain, to the blood-vessel walls, and to the immune-system cells in the body. Input streams towards each cell, and then each cell

filters and chooses what to “see” and how to respond to the information.

***Are we connecting with the nature of our fractal self, our inner observer, the wisdom from people around us, and the supportive nature of our universe?***

One of the benefits of massage therapy, healthy touch, meditation, and visualization is increased sensory awareness. With more accurate incoming information, sensations can be more effectively interpreted.

A generous handshake, a warm hug, a walk along a green forest path as we focus on the depth of our breath—each can increase our self-awareness and our inner observer’s ability to plant new seeds.

***Which trajectories did you set in motion today?***

Fractals are a kind of patterned chaos. You would think patterned chaos is an oxymoron,

but as with many other baffling aspects of quantum physics, they do go together.

Fractals and chaos both describe nonlinear systems—systems with no straight lines—that are highly sensitive to the initial conditions: the seeds. Chaos also means that some nonlinear-but-quite-simple systems can produce very complicated results. These results can be accurately predicted over brief periods of time, but we are unable to predict their values in the long term.

***Where does chaos exist in our lives? How can we look at it in new ways? How can we change the game by changing our choices—the seeds?***

It is interesting how we sometimes insist on predicting bad things, having arguments in our heads, imagining the worst, when we know that we can't accurately predict the future. As someone once said, "Worrying is like praying for what you don't want."

## ***How can we make short-term predictions that help us feel safe in the long term?***

### **Connect to Your Fractal Health**

- ✧ Look at pictures of the Mandelbrot heart, the Julia set fractal, or a set of Sierpinski triangles. Notice what you like about them or are drawn to.
- ✧ Notice the spirals of an artichoke's leaves or the fractal shapes of other food in your refrigerator.
- ✧ Get a massage, and notice how it increases your sensory awareness.
- ✧ Predict something good for yourself.
- ✧ Visualize telling several people about your success.
- ✧ Listen to a song. Notice your ability to recognize a pattern over time—nested time that includes the past and future—allowing you to perceive a tune and not just a succession of isolated notes.

## Manual Fractal Patterning (MFP)

*“There are many ways to get to the top of Mount Fuji.” – Japanese Saying*

Nested within Manual Fractal Patterning are five ideas that support peace and healing within us and in our relationships.

- ✧ Pattern recognition improves our connections to our desires, communities, and environment.
- ✧ Coaching questions, personal answers, healing words and touch promote better choices with stronger awareness.
- ✧ Delivering new information—with words, thoughts, a touch, fractal symbols or remedies—to old patterns allows for changes, healing and quality of life.
- ✧ The human hand is able to pick up and shift subtle vibrations. A healthy person has a different frequency or vibration in comparison to an unhealthy one.
- ✧ Rhythms and reflex points are fractal images—vibrant representations of our mind, body, and spirit. They are energetic doorways to healing.

## Infinite Doorways to Healing

*“If you don’t like your life, be like a five year old playing a game—change the rules. Change now, while you still can. Change now because you can, change now because it is the right thing to do. Change now because there is no right, no left, no time left, no space left. Only you. Change.”*

– Richard Bartlett, DC, ND, developer of Matrix Energetics

We can be healthy one self-similar cell at a time. Each of our bodies, as well as every human cell, has a digestive system that takes in nutrients from outside and ensures adequate building blocks for growth and healing. Fractal-like, we have tiny cellular digestive systems nested within the larger digestive system.

Waste products are released into the fluid-matrix around the cells. Fractal-branching veins and lymphatic vessels pick up and carry the waste to places where it can be eliminated. While each individual kidney cell has its own elimination process, the kidney cells as a whole

work together to eliminate waste through the bladder.

Our cells also contain microtubules resembling bones that provide structural and mechanical strength. Some evidence of the consciousness occurring at this cellular and microtubule level is that one of the signs of Alzheimer's is a breakdown of nervous-system microtubules. Many forms of integrative medicine consider the bones as carriers of higher-consciousness energy. The bones and the miniature microtubules are similar in their structural and energetic-consciousness function.

Integrative Manual Therapy (IMT) is a therapeutic, hands-on approach which focuses on holistic healing. One component of this therapy addresses microtubule health and integrity as well as treating bone bruising.

Our breathing is also self-similar in nature. Every cell in our body "breathes." Our red blood cells exchange oxygen and carbon dioxide. Our entire respiratory system is set up to bring in life-sustaining oxygen. In our environment, trees, clouds, water, and other

fractal structures also exchange gas molecules as part of Earth's respiratory system. Our lung cells are a self-similar part of the whole universe.

Each of us also has an immune system, including a spleen, liver, thymus, and lymph nodes. Following the flow of the spleen meridian or acupuncture pathway, we find eleven points from the hips, along the inside of each leg, and down to the big toe. Each of these points is thought to be like a tiny spleen.

Knowing yourself and understanding your body can be a way to address auto-immune diseases, which occur when our immune system doesn't recognize us.

There are many ways to learn, access, and work with these tiny areas reflective of the whole.

For example, a manual therapist applies contact or pressure to the points. A Matrix Energetics practitioner may use reflex points in a two-point technique. A Reiki master may use energetic techniques or symbols on these fractal images of the immune system. Many light and sound-vibration approaches balance

the energetic and fluid flow along reflex point meridians.

Manual Fractal Patterning (MFP) looks at the person from the vantage point of fractals, where all therapeutic approaches are doorways into healthy functioning. A practitioner's clinical skills come into play when she or he knows which approach to take with an individual client.

***Which doorways are you using—to assess your life, find blockages, encourage flow, and create supportive ways towards daily healing?***

***How are you encouraging your immune system to deal with issues efficiently while, at the same time, recognizing you?***

If a client has digestive problems, an acupuncturist might needle a stomach point near the knee or a point on the ear. Like the ear, the hands, and the feet, each meridian point is a “small world,” a smaller version of the whole body, giving access to healing for each part and the whole.

A reflexologist might press the bottom of the foot behind the big toe, a point which is reflective of digestive health. An osteopath may work with the left fifth and sixth rib space, connecting to the stomach via a neurolymphatic relationship. An Integrative Manual Therapist might use the IMT percussion instrument (sound vibration) on digestive synchronizers along the seventh rib.

While using different points, each of these approaches gets results for the clients because each point is a doorway into shifting structures, energies, and flow. These approaches enable the body to heal itself and reestablish functional patterning. Many complementary medicine practitioners believe ultimately that all healing is self-healing.

The word healing goes back to the Indo-European root *kailo* meaning whole, uninjured, or of good omen. From this root derived the Germanic *khailaz*, literally “to make whole.” This word is also the root of the adjectives *whole*, *hale*, and *holy*.

Given the fractal nature of our bodies, it simply isn't likely that there is only one way

for our cells to heal, stay healthy, function, and thrive.

***How many ways can you find self-healing and wholeness?***

***Which part do you play in the wholeness or oneness of life?***

## **Connect to Your Fractal Health**

✧ Treat yourself with a Matrix Energetics two-point. Sit quietly, and feel your body. Is there a place in your body that is drawing your attention? Place each hand on a different spot on your body. Notice the two points—the connection, the energy, the feeling. With your hands on two places, look out the window at any fractal-like structures. Take in the patterns around you for a few minutes then draw your attention back to your hands. What has changed—the temperature, texture, pulsing, sensation, emotion, etc?

## Flowing with Our Rhythmical Fractal Heart

“Time exists so that everything doesn’t happen all at once. Space exists so that it doesn’t all happen to me.”  
– a brilliant saying seen on a T-shirt

The blood flowing from the heart to the liver travels along a fractal network of branching blood vessels, and it has an infinite number of ways in which it can move. By choosing the simplest, fastest, or most elegant way to live, move, and function, our bodies can maintain great heart function, liver detoxification, ideal blood pressure, healthy sleep patterns, and high energy levels.

### ***Who is it that is choosing the path?***

Ticking deep inside each of our brains is the suprachiasmatic nucleus (SCN). This tiny structure is known as the biological or circadian clock. When it is healthy, it beats or pulses with a spiky fractal wave and conveys messages about alertness and drowsiness, adaptability

for crossing time zones, serotonin production, fluctuations of various chemical signals, and a myriad of other cyclical processes occurring in the human body.

***When was the last time you were in the sunlight resetting your suprachiasmic nucleus?***

Our heartbeat is one of the rhythmical cycles influenced by the suprachiasmic—meaning “above the optic nerves”—nucleus of the hypothalamus.

Designed by Benoit Mandelbrot, one of the first computer-generated fractals was the Mandelbrot heart. It is a repeating pattern shaped like a fuzzy heart, with lightning crackling off the edges.

Your own heartbeat is like this fuzzy heart, with a complex wave-like pattern. There are smaller and smaller waves surfing at the edges of the main pattern. A healthy heartbeat has the fractal characteristic of an ever-larger number of fluctuations with ever-smaller amplitudes.

This healthy pulsing is characterized by a complex fractal dimension and patterned chaos. The patterned chaos means we can see the pattern in the past but cannot predict exactly where the next peak will land. This unpredictability is a good thing.

Of course, you don't want your heartbeat to be erratic, like that of a person with atrial fibrillations, but neither do you want a perfectly steady rate, like that of a person about to have a heart attack. A healthy heart has a regular pattern ...a fixed pattern and making certain that there is vitality in each response to even small changes in our environment.

This fractal pattern indicates that our circulatory system is striving to maintain variability within a certain range, ensuring we don't get locked into a fixed pattern.

With this variability we have an infinite number of ways to respond to life—to the stresses, the joys, the stairs, or any other challenges that present themselves. When our heart can beat with 20 different variations on the same basic rhythm, we have the ability to

respond in 20 different ways to, say, a delayed flight that causes us to run across the airport.

If your heart beats in just one way, you can't choose the best response to a new situation, to an emergency, to good news, to a barking dog that lunges along the path.

***How many times in the last hour has your heart had to respond to changes in your environment?***

This patterned chaos is a sign of a healthy circulatory system, as well as a strong automatic-feedback mechanism. Our autonomic nervous system is made up of two parts: the sympathetic system—fight or flight—and the parasympathetic system—rest and digest. When these two parts are responsive, they support our needs during times of stress, meals with friends, cars braking in front of us, or the opportunity to sleep in a cozy bed.

***Does the state of your autonomic nervous system influence your digestion, whether***

***you are eating with friends or with people you are in conflict with?***

***What have you done lately to encourage responsiveness and variability in your nervous system?***

Healthy walking has a fractal stride length—the distance between your right heel landing on the pathway and the next time the right heel strikes. The fractal pattern of our walking is also driven by elegant fluctuations in our nervous system and may even be related to the rhythmical production of energy at a cellular level in the mitochondria, which are the power stations of the cells.

The advantage of a fractal pattern or variation in the length of our stride is that it integrates movement and function while, at the same time, providing for adjustable responses to our external environment. This makes it just as effortless for us to walk on flat, hard cement as it is to walk along the rocky shore of a gurgling stream. With many possible responses to the surfaces we encounter,

we can choose the best response, keep our balance, and maintain forward momentum, regardless of how gravity pulls on us.

***Which projects in your life have good forward momentum? Where in your life do you feel steadiest, balanced, and responsive?***

Characteristic of fractals, variations in timing and scale-free movement allow us to better match our internal environment to our external surroundings. Our fractal nature enables us to match pace and flow with the rhythms of the tides, seasons, and cycles of life. It also allows us to coordinate each component of our internal environments. In other words, it allows us to respond with the wisdom and knowledge of our situation in our world.

The rhythms we respond to inside our bodies and in our external environments are measured in years, days, minutes, and, with some fluctuations, even milliseconds. This is an example of fractal time where months are nested within years and seconds are

nested within minutes, etc. Similarly, a feeling, sensation, or emotion can be nested within a cluster of experiences.

## Connect to Your Fractal Health

- ✧ Learn how to train your heart, your immune system, and your brain to recover using exercises developed by Dr. Irving Dardik. *There is information about this in the online environment.*
- ✧ Drive a different way to work, to a store, or to a park everyday this week.
- ✧ Brush your teeth using the opposite hand from the one you usually use to hold your toothbrush.
- ✧ Do things in ways that differ from the usual ways, and notice how your body feels as you do them and also how it feels later.
- ✧ Visualize light streaming towards you—light reflected from familiar as well as novel places. Notice the information carried by the light—information for you about the choices you have.

## **Boundaries and Spiraling Pathways**

*“Living in the world without insight into the hidden laws of nature is like not knowing the language of the country in which one was born.”*

– Hazrat Inayat Khan (1882-1927), Sufi musician and writer

We are a unique part of a community with an infinite number of nested layers and boundaries leading to pathways of success.

Looking at the world’s population, even the person who appears to be “one in a million”—completely unique and different from a million other people—would still have 1334 people just like him or her—in China alone—where the population is 1334 billion. With nearly seven billion people in the world, we have ample opportunities to learn good boundaries.

***How are you “one in a million”? In other words, how are you unique and, at the same time, similar to other people? As a***

***friend of mine says, “You are unique just like everyone else.”***

Fractals have an infinite number of nested layers, one within another, ranging from the proposed dodecahedron shape of the universe down to the tiniest wave within an atom.

This nesting aspect of fractals teaches us about boundaries, surface area, and texture. The loops of the small intestines have a fractal structure. Inside the loops on the intestine wall are villi, tiny loop-like structures which increase surface area. On the villi are yet more tiny bumps that further increase the roughness of the wall, and on these bumps are . . . well, you get the picture. Complementary medicine and nutritional approaches, like a gluten-free diet, help restore the fractal nature of the digestive system’s surface area.

Lots of surface area catches the abundant sensory information within our gut, the place where important decisions are made about what to absorb and what to pass along to the large intestine.

It is also the place to which we refer when

having a “gut feeling,” an intuition, or accessing added information with which to make choices. Perhaps healthier, more fractal-like guts help us create our own intuition fitness centers, accessing the wisdom of our subconscious mind while maintaining good boundaries.

***What was the last “gut feeling” you had? Did you follow it or override it?***

The better the integrity of the DNA, cells, organs, and systems, the better the boundaries the individual has within his or her family, community, and country, insuring the survival of our species. By recognizing the connections between each layer, we can create harmony between the interior and exterior.

Fractals are one of the universe’s most efficient information-storage systems. We can pack more into our lives by recognizing the patterns. Some fractals fall into a pattern known as the Fibonacci sequence, where each number is found by adding the two previous numbers (1, 2, 3, 5, 8, 13, 21, 34, 55, 89, and so on).

Sunflowers, strawberries, and artichokes use patterns of intersecting spirals. In these structures, the number of seeds in the counter-clockwise spiral is part of the Fibonacci sequence. The number of seeds in the clockwise spiral (next section) is the next highest Fibonacci number, part of what is also known as the Golden Ratio.

This relationship between two consecutive numbers—the Golden Ratio, or Phi—allows for the greatest amount of information, seeds, leaves, or structures to fit into the smallest amount of space.

There are many Golden Ratios in the human body. For example, our DNA molecule—the seed of life—measures 34 angstroms long by 21 angstroms wide for each full cycle of its double helix spiral. Our arms also have additive lengths that are approximately equal to the Golden Ratio. Starting with the bone in the tip of the middle finger, the length of the two previous bones roughly equal the length of the next bone all the way up to the shoulder.

## Connect to Your Fractal Health

- ✧ Create a sigil, symbol, or image to use to connect with your subconscious mind. Instructions on how to do this are in the online environment for *Our Fractal Nature*.
- ✧ Put your hand over your heart, and feel the layers. Feel the texture of your clothing. Imagine feeling the skin under the clothing. How far do you have to extend your perception to feel the muscles and ribs? Can you feel the beating of your heart deep within your chest?
- ✧ Focus on the myriad of information contained within your DNA. The energy follows the information creating the form—the form of who we are. Consider your beliefs about where this information originates.
- ✧ Practice Wisdom Healing Qigong—where the mind goes, energy follows and form follows energy.

## Measuring Magical Quantum Consciousness

*“Neurons communicate with each other through a type of electrochemical signaling. This signaling requires the actions of individual ions—sodium, potassium, and calcium—travelling along channels that are, at their narrowest point, only a little more than a single ion wide. This means the brain itself is a quantum environment. In quantum mechanics, the question you ask of nature influences the outcome you see.”*

– Jeffrey Schwartz, author of *The Mind and the Brain*

Our brains and cells are quantum environments where consciousness unfolds in magical ways. We must but look and listen to see the magic. Our brains, our hearts, and our lives are designed to be pattern-forming systems in a community which can switch flexibly from one beautiful state to another. As Dion Fortune said, “Magic is the art of causing changes in consciousness at will.”

## ***Which questions are you asking your quantum brain?***

Perhaps really seeing the fractal nature of our lives is an anti-aging formula. When we look at the length of a coastline, the more detail we see, the longer it gets.

We may measure the distance between two towns on the New York coastline by drawing a straight line and finding they are five miles apart. However, if we have a man walk as exactly as he can along the shoreline, he will cover well over five miles. If we then have an ant walk as exactly as she can along the same coast, she would cover thousands of miles. A tiny boat the size of a water molecule sailing exactly along the same shoreline would cover an even greater distance. The more detailed our observations become, the longer the shoreline seems to get.

The yardstick or scale with which we measure our lives profoundly affects what we see. Life, like the coastline, lengthens with the increased observation of details. The more patterns we notice, and the more we fill our

time and space with people and experiences we love, the longer life will seem.

***Is the shoreline really longer, or is it just more enjoyable and satisfying?***

Recognizing the patterns, choosing each beginning, surfing the rhythms, navigating the pathways, discerning our fractal nature—through it all, we are nature contemplating and embodying ourselves.

**Connect to Your Fractal Health**

- ✧ Take a walk. Follow the edge of the path as closely as you can. Notice how that increases the distance you cover compared to trying to walk a relatively straight line.
- ✧ Explore a longer, richer experience of *Our Fractal Nature* online at [www.MessengerMiniBooks.com](http://www.MessengerMiniBooks.com)  
Book ID# 345589

## **Praise For *Our Fractal Nature***

“Bravo, this is a must read. Poignantly written. Namaste.” – Rosemary N., developer of Fractal Reiki

“Wow, what a book! We swim in an ocean of endless possibilities, and it is on us to choose. Well done!”  
– Reni S., Acupuncturist

“I like your enthusiasm for Fractals. We are far from having a full understanding of their many functions. It is amazing that they are being relatively neglected in mainstream Neuroscience.” – Gerhard Werner, author of *Fractals in the Nervous System Conceptual Implications for Theoretical Neuroscience*

“Very well written, thought provoking and empowering.”  
– Lew B., Business Consultant

“This is one of those books that require the reader to be fully present when reading. In return, it offers a very different perspective to the world.” – Arzu D., Professional Health Coach

“It is an invitation to consider, and I like that about it. An opening where before there may have been less or none.” – Julia R., Meridian Tapping Practitioner

“Fractals are one more way to synthesize information, comprehend life’s intricacies and one’s own body. Brilliant job!” – C. Shapiro, creator midlifemothers.org

## ***The Time Traveler's Strength***

The ability to mentally time travel is now being harnessed to create healthier, more successful lives. Most of us develop this ability to remember the past and imagine the future by the time we are four years old. *The Time Traveler's Strength* explores ways to cultivate this ability to time travel, change our perspective on the past, and imagine the best of all possible futures for ourselves.

Visualization and mental time travel can influence our muscle strength, our athletic ability, and our stride length, as well as create the future that we want—the future where we can move comfortably, hike the world, and go for a walk with a loved one.

*“I figure, if my predictions for the future may or may not be true, it only makes sense to predict the best possible outcome for every situation. As a friend of mine once said, “Act as if you are the universe’s favorite.”*

– Kimberly Burnham, author of *The Time Traveler's Strength*.

## ***The Nerve Whisperer***

*Have you ever wondered what your nervous system is trying to tell you? Are you ever tempted to cut the wire from your body's red warning signal? Do you want to be able to send a message to your subconscious mind, revolutionizing your life?*

In an easy-to-follow way with lots of self-care ideas, *The Nerve Whisperer* explores how we can each communicate better with our nervous systems, our internal organs, people with whom we have relationships, others in our communities, and even the strangers we meet.

Kimberly Burnham, author of *The Nerve Whisperer*, has a PhD in Integrative Medicine. Her dissertation focused on the use of Complementary and Alternative Medicine (CAM) to improve function and health in people with neurological diseases such as Parkinson's, Macular Degeneration, and Autism. She has widely taught, written, and published in the field of neuroscience.

## **Will you be a Messenger of Change and write a Mini-Book like this?**

*"The best thing about the Messengers of Change program is the way it motivated me to better understand myself, my message and the people I reach with my Messenger Mini-Book, *Our Fractal Nature*. This knowledge made the step by step program easy, as it took me through the process from developing good writing habits, understanding the publishing process, building the online environment and creating a marketing program. It is a joy to write in the supportive community Robert Evans, Susan Buckley, my fellow writers and everyone at the Movement of Change has created." Thank you, Kimberly Burnham*

**When YOU are ready—contact the Movement of Change family at [www.themoc.org/](http://www.themoc.org/)  
Input Code 345589**

Enjoy a richer experience of *Our Fractal Nature, a Journey of Self Discovery and Connection* by visiting the online environment. **The Book ID: 345589**  
**<http://www.messengerminibooks.com>**

Learn more about Manual Fractal Patterning and how to create fractal sigils that communicate powerful messages to your subconscious at  
**<http://www.VisualizeHealth.net>**

Sign up for our monthly newsletter at:  
**<http://www.KimberlyBurnhamPhD.com>**

## Use Your Fractal Nature to Visualize, Engage and Find Strength

*"Something resonated in me that illuminated all of the possibilities that I may not notice in life. I found myself shifting into a very positive place of infinite possibilities."*

*-Rachelle A., Matrix Energetics Certified Practitioner*

*"It made me feel like so much more is possible."*

*-Gail B., Artist and Painter*

*"Reassurance can be found in truly seeing natural patterns and the support to be found there."*

*-Our Fractal Nature*

*"In discerning our fractal nature, we are nature contemplating and embodying ourselves."*

*-Our Fractal Nature*



Kimberly Burnham explores health, wellness and consciousness. A Professional Health Coach with a PhD in Integrative Medicine, Kim is certified in both Matrix Energetics and Integrative Manual Therapy. Clinical consulting, individual clients, teaching and coaching take her to clinics worldwide. She lives in West Hartford, Connecticut with her partner, Victoria Carmona.