"As 'The Secret' meets the scientist in Dawson's work, the boundaries of what you've believed possible will be stretched far beyond your existing picture of reality."

– Jack Canfield, co-author of the #1 New York Times *best-selling Chicken Soup® series and featured teacher in* The Secret

mind to matter

THE ASTONISHING SCIENCE OF HOW YOUR BRAIN CREATES MATERIAL REALITY

DAWSON CHURCH

FOREWORD BY DR. JOE DISPENZA

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FOREWORD

Science has become the contemporary language of mysticism. In my experience from teaching audiences around the world, the moment terminology related to religion, ancient traditions, secular cultures, or even new age idealisms is spoken in public, audiences become divided. Yet science unifies—and thus creates community.

Thus, when some of the principles of quantum physics (how mind and matter are related) and electromagnetism are combined with the latest discoveries in neuroscience and neuroendocrinology (the study of how the brain regulates the hormone system of the body), then a little *psychoneuroimmunology* (the study of how the brain, nervous system, and the immune system impact each other —*that's the mind-body connection*) is added and finally the last findings in epigenetics (the study of how the environment affects gene expression) are included in the equation, you can demystify the mystical. In doing so, you will also uncover the mystery of the self and unravel the true nature of reality.

All these new areas of research point the finger toward possibility. They prove we are not hardwired to be a certain way for the rest of our lives, and we are not doomed by our genes—rather, we're marvels of adaptability and change.

Each time you learn something new, unique possibilities you were not previously aware of open up before you, and as a result you are changed. This is called knowledge, and knowledge causes you to no longer see things the way *they* are, but the way *you* are. This is the process of learning, and the more you learn, the more you make new synaptic connections in your brain. And as you'll learn in this wonderful book, recent studies show that just an hour of focused concentration on any one subject doubles the number of connections in your brain related to that subject. The same research tells us that if you don't repeat, review, or think about what you've learned, those circuits prune apart within hours or days. Thus, if learning is making new synaptic connections, remembering is maintaining those connections.

In the research I've conducted with literally thousands and thousands of people all over the world, I now know that once a person understands an idea, a concept, or new information—and they can turn to the person next to them and

explain that information—they are firing and wiring certain circuits in their brain. These circuits add new stitches into the three-dimensional tapestry of their brain matter, allowing them to successfully wire the circuits necessary to initiate that new knowledge into a new experience. In other words, once you can remember and discuss the new model of understanding, you are beginning to install the neurological hardware in preparation for an experience.

The more you know what you're doing and why, the easier the *how* gets. That's why this is a time in history when it's not enough to simply *know*—it's a time to *know how.* It makes sense, then, that your next job is to initiate the knowledge by applying, personalizing, or demonstrating what you've philosophically and theoretically learned. This means you're going to have to make new and different choices—and get your body involved. And when you can align your behaviors with your intentions, make your actions equal to your thoughts, or get your mind and body working together, you are going to have a new experience.

So if you are given the proper instructions on what to do, and you follow the directions and perform it properly, you are going to create a new experience. Once you embrace a new experience, the new event will add to (and further enhance) the intellectual circuitry in your brain. This is called experience, and experience enriches the circuitry in the brain. The moment those circuits organize into new networks in the brain, the brain makes a chemical. That chemical is called a feeling or an emotion. That means the instant you feel freedom, abundance, gratitude, wholeness, or joy from that novel event, now you're teaching your body chemically to understand what your mind has intellectually understood.

It's fair to say, then, that knowledge is for the mind and experience is for the body. Now you are beginning to *embody the truth* of that philosophy. In doing so, you're rewriting your biological program and signaling new genes in new ways. That's because new information is coming from the environment. As we know from epigenetics, if the environment signals new genes, and the end product of an experience in the environment is an emotion, you are literally signaling the new genes in new ways. And since all genes make proteins and proteins are responsible for the structure and function of your body (the expression of proteins is the expression of life), you are literally changing your genetic destiny. This suggests that it's quite possible your body can be healed.

If you can create an experience once, you should be able to do it again. If you can reproduce any experience repeatedly, eventually you will neurochemically condition your mind and body to begin to work as one. When you've done something so many times that the body knows how to do it as well as the mind, it becomes automatic, natural, and effortless—in other words, a skill or a habit.

Once you've achieved that level, you no longer have to consciously think about doing it. That's when the skill or habit becomes the subconscious state of being. Now it's innate and you're beginning to *master that philosophy*. You have become that knowledge.

This is how common people around the world are beginning to do the uncommon. In doing so they are transitioning from philosopher to initiate to master; from knowledge to experience to wisdom; from mind to body to soul; from thinking to doing to being; and from learning with their head to practicing it by hand and knowing it by heart. The beauty of it is, we all have the biological and neurological machinery to do this.

The side effect of your repeated efforts will not only change who you are, but it should begin to create possibilities in your life that reflect your efforts. Why else would you do it? What do I mean when I say possibilities? I'm talking about healing from diseases or imbalances of the body as well as the mind; creating a better life by consciously directing energy and attention into a new future—the manifestation of new jobs, new relationships, new opportunities, and new adventures—equal to our ability to imagine it; and initiating mystical experiences that literally transcend language.

It makes sense that when the synchronicities, coincidences, and new opportunities appear in your life, you'll pay attention to what you have been doing and it should inspire you to do it again. That's how you go from being the victim in your life to being the creator of your life.

And that's what this powerful book is all about. *Mind to Matter* is your personal guide to prove to yourself how powerful you truly are when you organize your thoughts and feelings into coherent states. It was written for you to not just intellectually understand the content but to consistently use the practices and apply them to your life so that you reap the rewards of your efforts.

It's no short order to create a scientific model of understanding that suggests that our subjective mind (our thoughts) can influence our objective world (our life), never mind write a book about it. Finding the research alone is a task in and of itself. And yet, my dear friend and colleague Dawson Church has taken this task on in this fantastically well-written book.

I'd like to tell you a bit about Dawson Church. I met Dawson at a conference in Philadelphia, Pennsylvania, in 2006. The moment we met, there was an instant connection. I quickly realized when we first were introduced that this was going to be a long and healthy friendship. The energy from the exchange of ideas between us felt like a thunderstorm. And every time we talked about something we both believed to be true, it was like lightning struck. We were both changed from our first interaction. Since then, we have worked together on several

different projects. Not only has Dawson published several of his own well-researched studies on energy psychology, but he has been part of my research team that has been busy quantitatively measuring the effects of meditation on the brain and the body. He has impeccably led several of our studies and he has become the voice of reason in our research.

Dawson is one of those people I can e-mail or call and ask, *How long does it take for trauma to consolidate in the brain as a long-term memory*? And he will—without hesitation—tell me the exact time it takes, the best reference, the particular research studies as well as the scientists who conducted those studies. It's as if he were giving me directions to the local supermarket. When I discovered this, that's when I realized I was not working with an average scientist, I was in the presence of a super mind. Dawson is brilliant, charismatic, loving, and full of life. He and I share a passion—to understand and to know more about who we really are and what is possible for human beings, especially during these present times of change.

I loved reading this book because it provided answers to some of my own personal questions about the relationship between mind and the material world as well as the connection between energy and matter. I learned new concepts and it helped me see the world differently. I was changed from my time reading it. It is my hope that not only will it change you and help you to see the world differently, but it will also inspire you to apply the principles so that you embody the truth of what is possible for you in your life. If science is the new language of mysticism, then you are learning from a contemporary mystic—my dear friend Dawson Church. He wants you to become your own mystic too and to prove to yourself that your thoughts matter—they literally become matter.

Dr. Joseph Dispenza

New York Times best-selling author

of *You Are the Placebo: Making Your Mind Matter*

INTRODUCTION

Metaphysics Meets Science

Thoughts become things. This is manifestly true. I am sitting on a chair right now. It began as a thought in someone's mind—every detail of it. The frame, the fabric, the curves, the color.

Thoughts become things. This is manifestly untrue. I will never be a quarterback for the National Football League, no matter how earnestly I think about it. I will never be 16 years old again. I will never pilot the starship *Enterprise.*

Between the ways in which thoughts become things and the ways in which thoughts can never become things there is a wide middle ground.

This book explores that middle ground.

Why? We want to be able to create to the outermost limits of our thought, expanding our lives to the limits of our potential. We want to be as happy, healthy, wealthy, wise, fulfilled, creative, and loved as possible. We also don't want to chase pipe dreams, thoughts that are never going to become things.

When we apply the rigorous standards of science to the inquiry, that middle ground turns out to be enormous. Research shows us that with thought, used deliberately, we can create things beyond the ordinary.

The idea that thoughts are things has become a meme in popular culture. It's held as a firm proposition in metaphysics, and some spiritual teachers ascribe infinite powers to the mind. Yet there are clearly limits to human creative abilities; I cannot manifest an aircraft carrier simply by thinking about one. I cannot become Indonesian, jump over Mount Everest, or turn lead into gold.

New discoveries in epigenetics, neuroscience, electromagnetism, psychology, cymatics, public health, and quantum physics, however, are showing that thoughts can be profoundly creative. The page or device on which you now read these words began as a thought. So did democracy, the bikini, space travel, immunization, money, the four-minute mile, and the assembly line.

THE SCIENTIST VERSUS THE MYSTIC

Science and metaphysics are generally considered to be polar opposites. Science is experimental, practical, rigorous, empirical, materialistic, objective, and intellectual. Metaphysics is spiritual, experiential, abstract, mystical, ephemeral, internal, irreplicable, imprecise, subjective, otherworldly, impractical, and impossible to prove. Science studies the world of matter while metaphysics seeks to transcend it.

I have never perceived science and metaphysics as separate and have delighted in being both a mystic and a scientific researcher. When I bring the rigor of science to the questions of consciousness, each illuminates the other.

This book examines the science behind the creative powers of the mind. It reviews the studies that show, step-by-step, exactly how our minds create material form. As each piece of the puzzle falls into place, the science turns out to be even more astonishing than the metaphysics.

This book is also full of case histories—real, up close, authentic personal accounts of people who had an experience of mind-into-matter. Drawn from the worlds of medicine, psychology, sports, business, and scientific discovery, these stories run the gamut from profound to inspiring to heart-wrenching. They show us that thoughts can become things in ways that stretch the fabric of our space-time reality.

KEYS IN THE OCEAN

In 2004, I faced a tight deadline to finish my book *The Genie in Your Genes.* The material, on how our emotions turn genes on and off in our bodies, was fascinating. But finding the time to research and write an emotionally engaging yet scientifically impeccable text—amid the demands of my busy life as a single dad, the owner of two businesses, and a doctoral candidate—was a challenge.

I decided to flee to Hawaii for two weeks for a writing intensive. I booked a room at the Prince Kuhio condo complex, a funky 1950s relic on the beach in Poipu, Kauai. I rented a Jeep Wrangler so I would have a rugged four-wheel-drive vehicle to reach more remote beaches and a place to store my snorkeling gear. That way I could swim each day as well as apply myself to completing the project.

One bright, sunny day, I went for a swim at a gorgeous spot called Lawai

Beach. Five hundred feet long, with a turtle colony in a reef 300 feet from shore and a healthy population of tropical fish, it was one of my favorite places. I grabbed my snorkeling gear out of the Jeep, locked up, pocketed the keys, and jumped in the water. An hour later, after swimming all over the bay, wet and happy, I rinsed my goggles and flippers to put them back in the car.

When I reached into my pocket for the keys, it was empty.

Could I have dropped them on the path from the car to the beach? I retraced my steps, looking over every inch of ground. I sifted through the sand between the road and my entry point to the water. Nothing.

The only possible conclusion was that my keys had fallen out of my pocket somewhere in the bay. Not only did the key ring hold the car keys, I'd clipped the apartment keys to it as well. I was now locked out of both the car and the condo.

I decided not to panic. I centered my consciousness in my heart, and I imagined the keys gently drifting back to me. Then I dove into the water and started swimming with a purpose. I was determined to find those keys.

The bay covered about 150 square yards or meters, and the coral on the bottom was 6 to 12 feet down. It twisted into thousands of colorful crannies, and finding something as tiny as a key ring seemed impossible.

I worked my way systematically back and forth across the bay, searching each yard intently. My head told me I was on a fool's errand, but I kept my heart soft and receptive. Each time my thinking brain began to panic, I refocused my consciousness in my heart area. I certainly intended to find the keys, but I didn't let my thoughts take me out of the state of flow.

I had searched for an hour without success, and it was getting dark. The visibility was dropping as the sun set, and I couldn't see clearly down to the coral anymore. I decided to abandon my quest and swim back to shore.

Though most of the other bathers had left and the day was ending, I saw a father and three sons snorkeling nearby. They were diving to the bottom and coming up in turns.

My intuition gave me a nudge. I swam up to them and asked, "Did you guys find anything on the bottom?" The youngest boy held up my keys.

THE CHAIN OF EVIDENCE FROM MIND TO MATTER

My skeptic's mind tells me there is a logical explanation for every piece of the

key event. I just happened to swim around looking for the keys for the exact length of time it took the boy to find them. I just happened to turn toward the shore at the same moment the family began diving. They just happened to start diving at the spot where my keys had fallen to the bottom. The boy just happened to notice a tiny key ring 12 feet down in an enormous bay after the sky was already dark. It was all a matter of random chance.

But after decades of hundreds of similar experiences, my skeptic's mind has to think again. How can so many highly unlikely things come together at once to produce a desired result?

They led to a quest to determine if there is any scientific link between thoughts and things. As a researcher who has conducted many clinical trials, the editor of a peer-reviewed journal called *Energy Psychology*, and a science blogger for the *Huffington Post*, I read all or part of more than a thousand scientific studies per year. I started to see a pattern. There are multiple links in the chain between thought and thing, and I realized that science could explain many of them. I wondered if anyone had ever connected all the dots to see just how strong the evidence was. Where was the chain strongest, and where were links missing?

If I were to treat the idea of mind creating matter as a scientific rather than a metaphysical hypothesis, would it hold up? I began seeking out research that addressed this question and interviewing some of the brightest minds in the field.

With mounting excitement, I realized that much of the evidence was hiding in plain sight, like pearls scattered in the sand. But no one had strung the facts together in a necklace before. Most of the research is new, and pieces of it are astonishing.

The first pearls I began to pick up from the sand were the easy ones. Research on the human body has been going on since medieval alchemists dissected cadavers. But recently, technology has given scientists unprecedented insight into how our bodies work at the level of cells and molecules.

Nobel Prize–winning physician Eric Kandel showed that when we pass signals through a neural bundle in our brains, that bundle grows rapidly. The number of connections can *double* in *just one hour* of repeated stimulation. Our brains are rewiring themselves along the pathways of our neural activity in real time.

As the thoughts and feelings of our consciousness are carried through our neural network, they trigger the expression of genes. These in turn trigger the synthesis of proteins in our cells. These cellular events produce electrical and magnetic fields that can be measured by sophisticated medical imaging devices such as EEG and MRI.

THE 11-DIMENSIONAL UNIVERSE

The next set of pearls was more challenging. The world of quantum physics is so strange that it confounds our conventional experience of space and time. String theory posits that what we perceive as physical matter is actually composed of strings of energy. What we measure as heavy molecules are fast-moving energy strings, while what we experience as light molecules are energy strings that are vibrating more slowly. The closer science looks at matter, the more it looks like pure energy.

String theory requires a universe with 11 dimensions, not just the 4 required by classical physics. How do our 4-dimensional brains contemplate 11 dimensions? Physicist Niels Bohr said, "If quantum mechanics hasn't profoundly shocked you, you haven't understood it yet."

Then came the pearls that connect consciousness with energy. Energy is entwined with consciousness on both a personal and a cosmic scale. Albert Einstein said: "A human being is a part of the whole, called by us 'Universe,' a part limited in time and space. He experiences himself, his thoughts and feeling as something separated from the rest—a kind of optical delusion of his consciousness." When we begin to "free ourselves from this prison," as Einstein phrased it, then we expand our consciousness to "embrace all living creatures and the whole of nature." Our consciousness interacts with the energy of the universe.

CONSCIOUSNESS AND NONLOCAL MIND

Physician Larry Dossey calls this expansive consciousness that embraces the whole of nature "nonlocal mind." While we live our lives in our local minds and ordinary reality, we're unconscious participants in the larger consciousness of nonlocal mind. Moments of synchronicity like finding my keys remind me of the presence of nonlocal mind. Dossey presents compelling evidence for the existence of nonlocal mind and inspires us with the potential of living our local lives in synchrony with it.

That's a choice we can make in consciousness. Nobel Prize–winning physicist Eugene Wigner says that "the very study of the external world led to the scientific conclusion that the content of the consciousness is an ultimate reality." Though there are many definitions of consciousness, the one I prefer is the simplest: simply being aware.

The way we use that consciousness—the way we direct our awareness—produces profound and immediate changes in the atoms and molecules of our

bodies. Science also shows us that our consciousness affects the material reality around us. As our consciousness changes, so changes the world.

Writing this book, I began to string the pearls together, study by study. Additional evidence began showing up in my life in the same synchronous manner in which my lost keys had appeared. When I looked at all the pearls strung together in sequence, I realized that science can explain every link in the chain from thought to thing.

THE DANCE OF CREATION

I am excited to share each one of these links with you. Through story and analogy, through experiment and research, through case histories and anecdotes, we'll trace every part of the process by which your mind creates the material world around you.

You'll discover that you are a potent creator, and that your thoughts lead to things. You'll learn how to use your mind deliberately, as a creative tool, to think nurturing thoughts. You'll understand how you can nudge material reality effortlessly toward your desires. You'll grasp just how powerful you really are and how capable you are of creating change by simply changing your mind.

You'll also discover how the process works on a grand scale, from the molecule to the cell to the body to the family to the community to the country to the species to the planet to the universe. We'll investigate the dance of creation happening at the scale of nonlocal universal consciousness and how your local mind participates in that dance.

This perspective lifts our awareness from the confines of our ordinary reality into a vast field of potential. As we align our individual local minds with the consciousness of the universal nonlocal mind, the beauty of the material reality we create surpasses anything our limited local minds can even dream of.

PUTTING THESE IDEAS INTO PRACTICE

At the end of each chapter, you'll find a list of practical exercises for implementing the ideas of the chapter in your own life. You'll also find a link to an online Extended Play version of the chapter, with resources to expand your experience. These resources include videos, audios, links, lists, case histories, and previews of ideas explored in following chapters. I encourage you to enrich your transformational journey with the activities in the Extended Play version.

The Extended Play version of this chapter includes:

- Audio interview with Daniel Siegel, M.D., author of *Mind: A Journey to the Heart of Being Human*
- Centering in Your Heart exercise
- Additional case histories and references

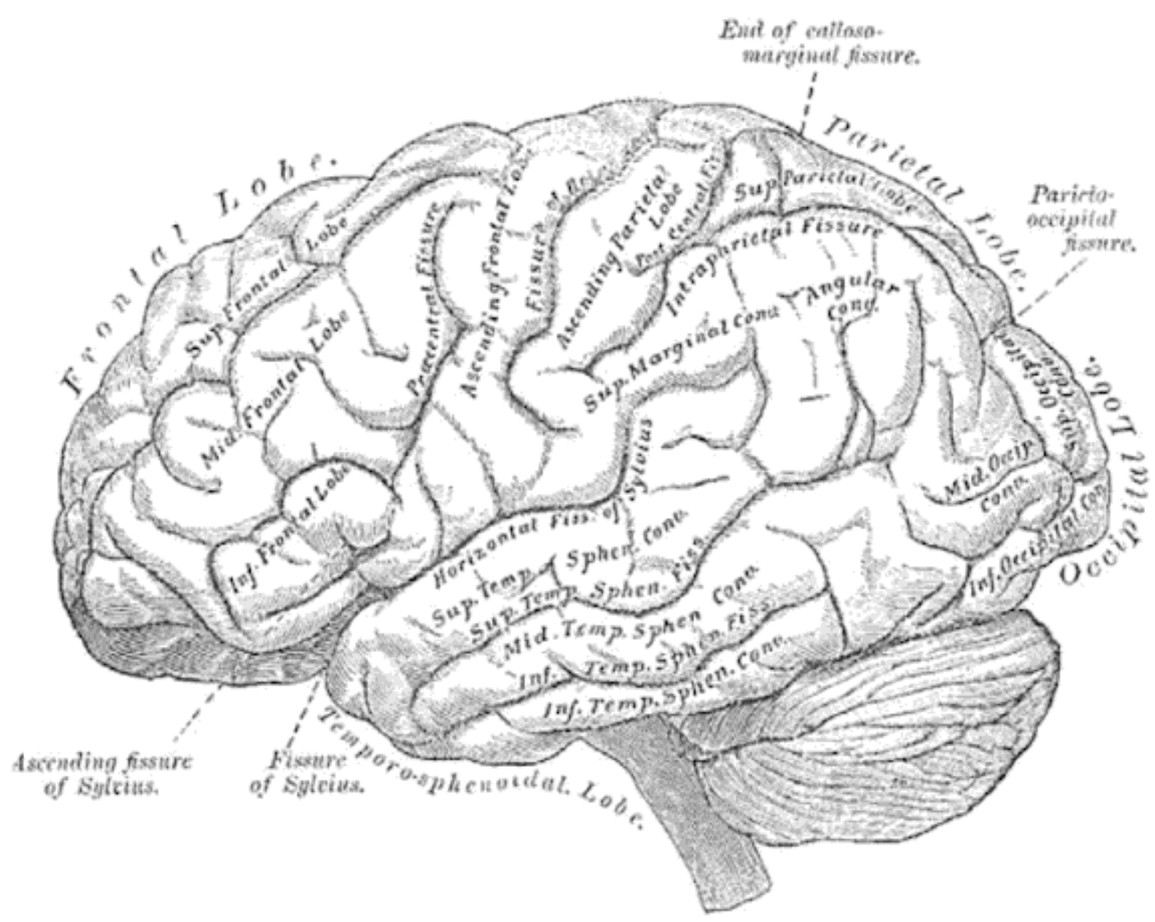
To access the Extended Play version, visit: MindToMatter.club/Intro

CHAPTER 1

How Our Brains Shape the World

Mrs. Hughes was short, red-faced, and round. Her hair had a life of its own, throwing off incandescent wisps like solar flares escaping from the grip of the sun's gravity. The bobby pins with which she attempted to confine it were unequal to the task. Her face alternated between pinched disapproval and resigned boredom. As her students suffered through her high school biology classes, she managed to stamp out every trace of curiosity and wonder in us.

I remember looking at line drawings of the human brain in the biology textbooks provided by Mrs. Hughes. The whole structure was fixed and unchanging, just like another organ such as a liver or a heart. In the 1970s, the science Mrs. Hughes taught "knew" that the brain grew until we were roughly 17 years old. After it had filled our skulls, it remained static for a lifetime, faithfully coordinating the many processes of life through its network of neurons.



Convolutions and fissures of the outer surface of the cerebral hemisphere.

Traditional illustration of the brain.

Mind as an Epiphenomenon of Complex Brains

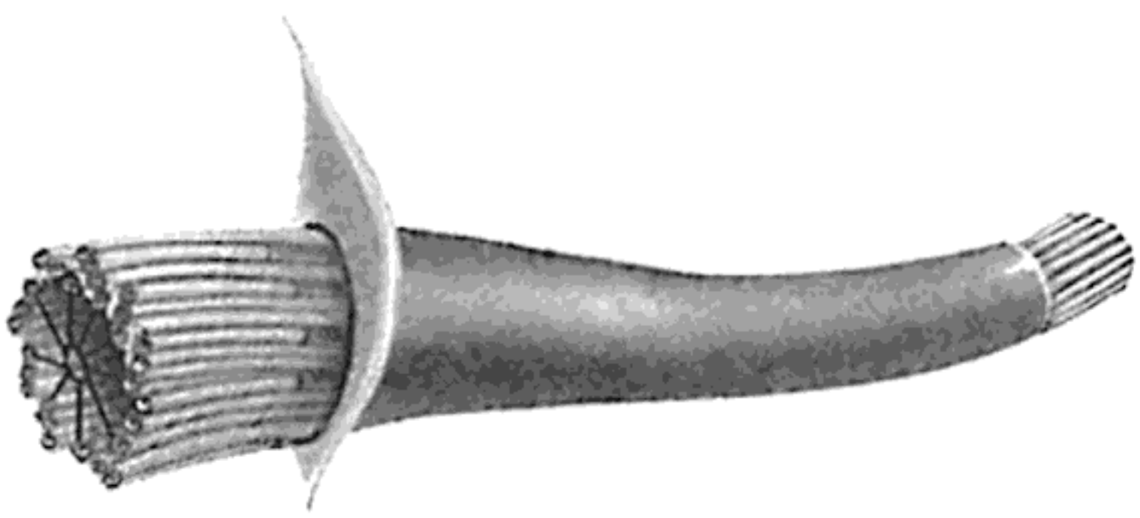
We also had some idea what the mind was. As evolution produced more and

more complex brains, going from the simple ganglia of nematode worms to the massive prefrontal cortex that crowns the human head, mind arose. To scientists of Mrs. Hughes's day, *mind* was an "epiphenomenon" of the brain's increasing complexity. Humans could write poetry, record history, make music, and perform calculus because of the power of the mind residing in the brain locked inside the bony circumference of the skull.

As they say in *The Big Short*, "It ain't what you don't know that gets you into trouble. It's what you know for sure that just ain't so." Most of what science knew, as recorded in the biology textbooks of Mrs. Hughes's day, like the static brain, just ain't so.

Our brains are on the boil. Frenetic cellular activity cycles through the brain constantly, creating and destroying molecules and cells, whether we are awake or asleep (Stoll & Müller, 1999).

Even the structure of neurons is constantly changing. Microtubules are the scaffolding that gives cells their rigidity, similar to the way girders shape a building. The microtubules in the brain's nerve cells have a shelf life of just 10 minutes between creation and destruction (Kim & Coulombe, 2010). That's how quickly our brains are changing.



Microtubules are the rigid skeletal structures giving cells their shape.

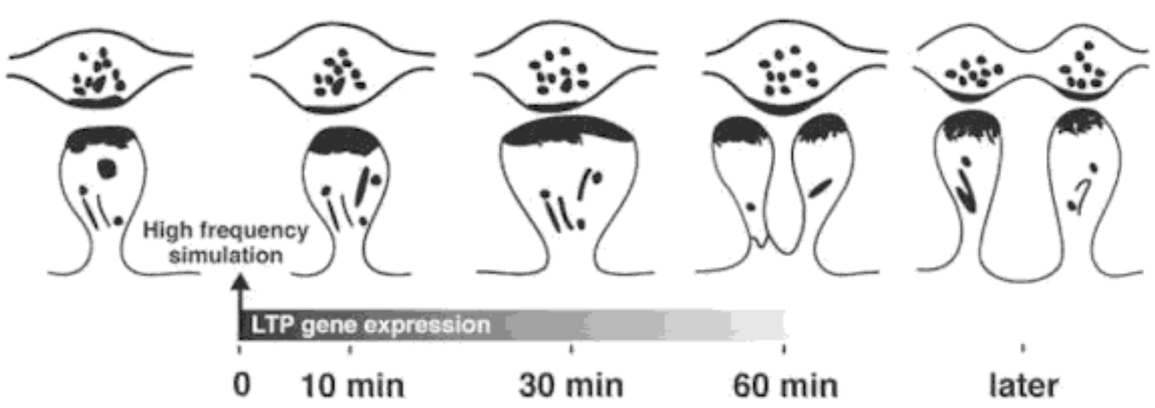
In this seething mass of activity, selected neural circuits are enhanced. The ones that grow are the ones we use. Pass an information signal repeatedly through a neural bundle and the bundle starts to enlarge. Just as the arms of a bodybuilder get bigger as he practices lifting heavier weights, our neural circuits grow when we exercise them.

THE SPEED OF NEURAL CHANGE

Studies published in the 1990s stunned neuroscientists with findings that even people in their 80s rapidly add capacity to frequently used neural circuits. On November 5, 1998, the headline "news of the week" in the most prestigious

research journal, *Science*, read: "New Leads to Brain Neuron Regeneration" (Barinaga, 1998).

The speed of the process caused an earthquake in the world of our scientific knowledge. When the neurons in a neural bundle are stimulated repeatedly, the number of synaptic connections can double in just an hour (Kandel, 1998). If your house acted like your body, it would notice which lights you were turning on, and every hour it would double the amount of electrical conduit going to that light circuit.



Within an hour of repeat stimulation, the number of synaptic connections in a neural pathway doubles.

To obtain the raw materials to rewire the rooms in which you turned on the lights the most, your smart home would strip wiring from other sources. Our bodies do the same. Within three weeks of inactivity in an existing neural signaling pathway, the body starts to disassemble it in order to reuse those building blocks for active circuits (Kandel, 1998).

INCREASING THE MASS OF THE BRAIN'S MOST USED REGIONS

This process of neural plasticity is evident when we learn new mechanical or intellectual skills. Take an adult education class in Russian at your community college; by the end of the first hour, you've already learned a few words. By the end of a year of practice, you've built up those neural bundles enough to speak simple Russian sentences without conscious effort.

Or you might decide that chess is a mental challenge that will keep your mind sharp into old age and start playing. At first, you're terrible; you can't remember whether it's the castle or the knight that moves diagonally. But after a few games, you move the pieces around purposefully and even develop plans for long-term strategies.

Youngster engrossed in a chess match.

Maybe you decide you'd like to manage your money better. You take a look at your retirement plan statements and notice that under the tender loving care of your fund manager, they've been growing at 2 percent a year. Someone's getting rich here, but it's certainly not you. You think you might do better on your own, so you take an online course in stock market investing. At first, even the language seems baffling. What's a covered call? How is return on investment (ROI) different from return on equity (ROE)?

Your first few trades might not make money. But after looking at charts and reading investment news for a few months, you gain confidence and discover that you're getting better at the money game.

Whether you're learning a new language, mastering a new hobby, navigating a new relationship, grappling with a new job, or starting a meditation practice, your brain's process of building and unbuilding is at work. You're adding capacity to the neural circuits you're using the most actively, while old ones wither away, a process called pruning.

Eventually, whole regions of the brain that are being actively used start to gain mass. With MRI scans, researchers are able to measure the volume of each part of a living human brain. They find that people who use their memory actively, like London cabbies who navigate a tangle of ancient streets, have a larger volume of tissue in the hippocampus, a part of the brain responsible for memory and learning. Dancers develop more mass in the part of the brain that manages proprioception, the holographic understanding of the body's location in space.

Your mind is constantly making decisions, such as whether to enroll in that Russian class or join the chess club. What the mind does then determines which brain circuits are engaged. The neural pathways in the brain that the mind's

choices stimulate are the ones that grow. In this way, the mind literally creates the brain.

Patient in an MRI machine.

MINDFULNESS CHANGES THE BRAIN OF A SKEPTICAL TV JOURNALIST

Graham Phillips, Ph.D., is an Australian astrophysicist and TV journalist. Skeptical about feel-good techniques like meditation, he decided to put meditation to the test (Phillips, 2016). In his words, "I'd never really contemplated whether meditation could do anything for me. But the more I hear about the research, the more keen I am to see whether it has any effect. So I'm going to try it myself for two months. . . . For me, to take meditation seriously, I need some hard evidence that it's changing my brain for the better."

Before he began, he was evaluated by a team at Monash University led by biological psychology professor Neil Bailey, Ph.D., and clinical psychologist Richard Chambers, Ph.D. They put him through a battery of tests to evaluate his memory, reaction time, and ability to focus. They also used an MRI to measure the volume of each region of his brain, especially those responsible for memory and learning, motor control, and emotional regulation.

After just two weeks of practicing mindfulness meditation, Phillips felt less stressed and more able to handle the challenges of his job and life. He

reported that he "notices stress but doesn't get sucked into it."

Eight weeks later, he returned to Monash for testing. Bailey and Chambers put Phillips through the same battery of tests again. They found that he was better at behavioral tasks, even though he showed diminished brain activity. The researchers noted that his brain had become more energy efficient. It showed an overall decrease in neural activity, doing a better job but exerting less energy. His memory tests also improved.

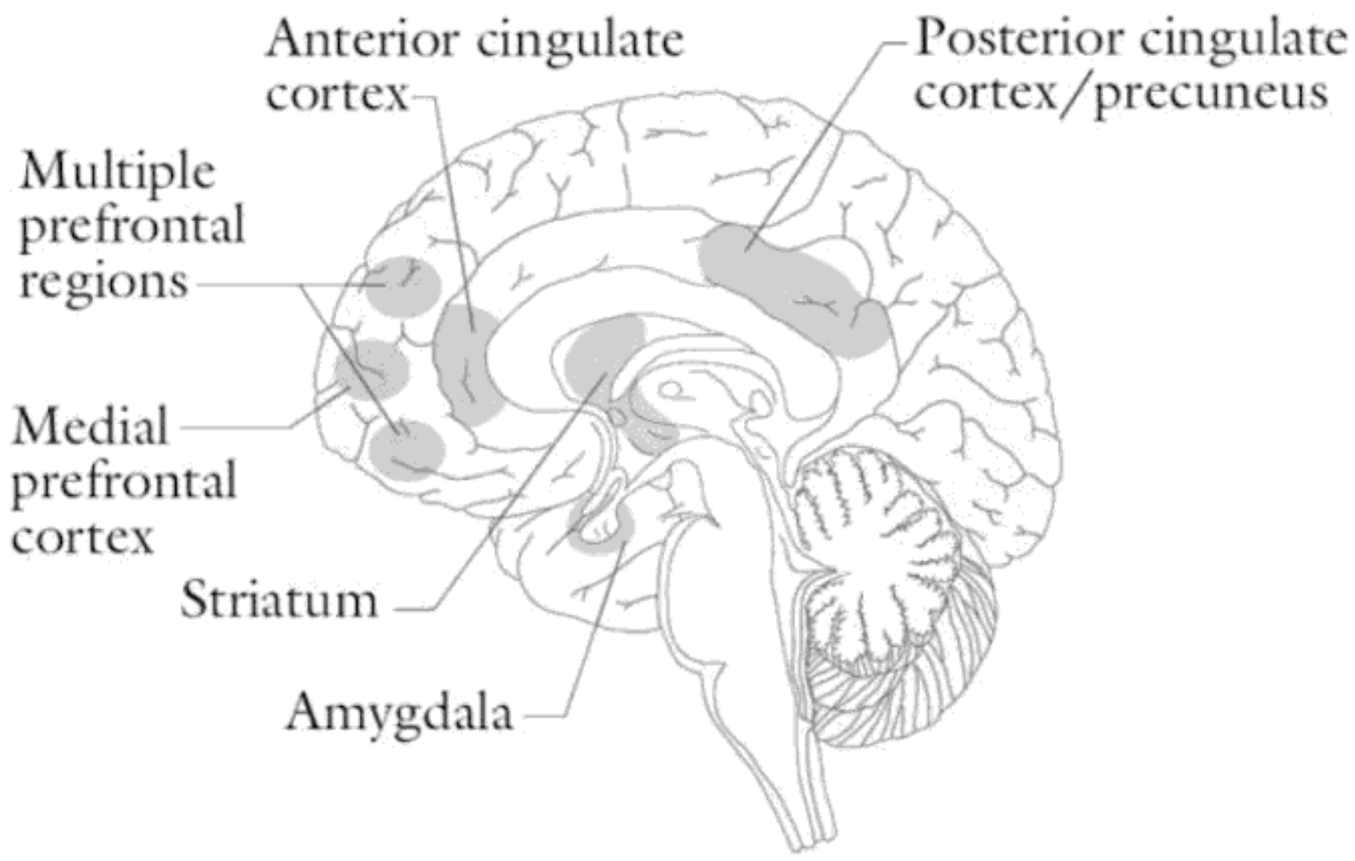
His reaction time to unexpected events had been cut by almost half a second. Phillips imagined the benefits, such as a quicker reaction time if a pedestrian steps out in front of him when he's driving on a busy street.

One of the brain regions the researchers measured was the hippocampus. They looked especially at the dentate gyrus, the part of the hippocampus responsible for regulating emotion in other parts of the brain. It exerts control over the default mode network, the part of the brain that's active when we aren't engaged in a task. They found that the volume of nerve cells in the dentate gyrus had *increased by 22.8 percent.*

That's an enormous change. Such brain reconfiguration is occasionally seen in young people whose brains are still growing, but it is rarely seen in adults. The change in Phillips's brain indicated a dramatically increased ability to regulate emotions. Psychological tests showed that Phillips's cognitive abilities had increased by several orders of magnitude as well.

There are many studies showing that meditation changes the structure of the brain. A review of the research on mindfulness-style meditation was published in the prestigious journal *Nature Reviews Neuroscience*. It found 21 studies in which participants were placed inside MRI machines to measure the volume of each part of their brain before and after meditation, just like Graham Phillips.

This accumulation of a large body of evidence identified neural growth in "multiple brain regions . . . suggesting that the effects of meditation might involve large-scale brain networks." The review found increases in the volume of "brain regions involved in attention control (the anterior cingulate cortex and the striatum), emotional regulation (multiple prefrontal regions, limbic regions and the striatum) and self-awareness (the insula, medial prefrontal cortex and posterior cingulate cortex and precuneus)" (Tang, Hölzel, & Posner, 2015).



Brain regions in which neural growth occurs as a result of meditation.

WHAT EMOTIONAL REGULATION CAN DO FOR YOU

Like the brain of Graham Phillips, your brain is rewiring itself constantly. The brain adds neural capacity to regions you exercise. Choose a different experience, like meditation, and your brain begins working differently. Change your mind, and information starts to flow along new neural pathways in the brain. The brain's neurons reconfigure themselves accordingly, firing and wiring to fit the new pattern. As the mind directs, the brain responds.

Let's unpack the key elements of Graham's story for a moment. There are five:

- A 22.8 percent increase in the volume of the part of the brain responsible for emotional regulation
- Enhanced brain response time, better memory, increased cognitive powers, improved behavioral abilities
- A more relaxed and energy-efficient brain
- Changes in the brain in just 8 weeks
- No drugs, surgery, supplements, or major life changes—just mindfulness

Imagine having 22.8 percent more nerve cells in your brain to handle the task of emotional regulation. *Emotional regulation* may be jargon from neuroscience, but those two words have a big impact on your daily life. Better emotional regulation means that you're not derailed by common challenges such as:

- Getting triggered by co-workers at your job
- Annoying things your spouse or partner says or does

- Being startled by sudden noises or sights
- The problematic behavior of your children
- What politicians say and do
- Being stuck in traffic
- Stories in the news
- The way your body looks and functions
- Winning or losing at games or conflicts with others
- Religious conflicts or views held by others
- The stock market, your investments, and the economy
- Staying calm when people around you are stressed out
- Being short of time or feeling overwhelmed
- The amount of money you have or expect to have
- The way other people drive their cars
- Your age and how your body is changing
- Crowds, shopping, and close physical proximity to other people
- Other people's opinions that clash with yours
- Your expectations about the way your life ought to be
- The way your parents think and what they say
- Having to wait in line or wait for something you want
- The enviable lifestyles of movie stars and celebrities
- People who make unwanted demands on your time and attention
- The possessions you have or don't have
- Annoying relatives you interact with at family gatherings
- Random mishaps of daily life
- Getting or not getting promotions, rewards, and other things you want
- . . . and anything else that routinely annoys you

Imagine having a brain with vastly increased ability to master those challenges, preventing them from compromising your happiness. Meditation doesn't just change your state—the way you feel at the moment. It changes your

traits—the enduring aspects of personality engraved in your brain that govern your outlook on life. Among the positive traits fostered by meditation are greater resilience in the face of adversity, more sympathy for others, and increased compassion for oneself (Goleman & Davidson, 2017). It also leads to a greater degree of self-regulation, making you the master of your emotions rather than a slave to them.

A classic 1972 study called the Stanford marshmallow experiment tested emotional regulation in preschool children. A marshmallow was put in front of them, after which they were left alone in a room. They were promised that they would get a second marshmallow if they could refrain from eating the first one for 15 minutes. Thirty years later, the lives of those who could regulate their emotions were better in many ways. They achieved higher scores on college entry exams. They earned more money and created happier marriages. They had a lower body mass index (BMI) and fewer addictive behaviors (Schlam, Wilson, Shoda, Mischel, & Ayduk, 2013).

The parts of the brain tasked with emotional regulation are also the ones that handle working memory, as revealed by MRI scans (Schweizer, Grahn, Hampshire, Mobbs, & Dalgleish, 2013). Working memory involves awareness, enabling you to remain focused on an activity and to sort relevant from irrelevant information. When your emotions are disturbed, those parts of the brain go offline for use by working memory. You then make poor decisions. When you learn effective emotional regulation, as Graham Phillips did, you are able to control your emotions, freeing up the brain's memory circuits to run your life wisely.

YOUR EVERYDAY SUPERPOWER

This is the everyday superpower that you possess: second by second, you are changing your brain by the way you use your mind. The consciousness of your mind is becoming the cells of the matter of your brain.

We're impressed when we see on-screen superheroes who can change their bodies at will. They may develop mental brilliance, like the hero in the movie and TV series *Limitless,* who takes an experimental drug called NZT that unlocks the full potential of his brain. Or the X-Men, each one of whom has a unique superpower gift.

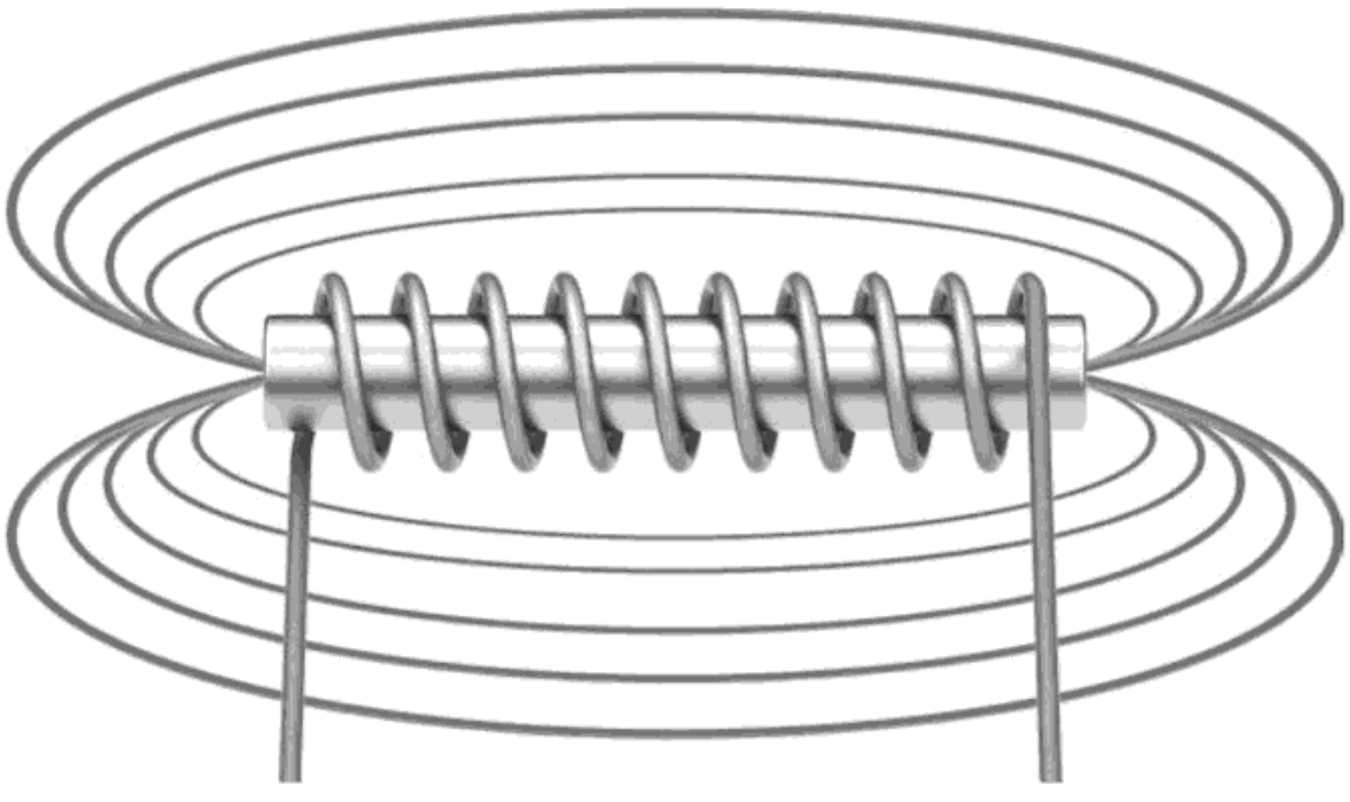
Yet you, at this very moment, possess the superpower to change your brain. With each thought you think, as you direct your attention, you're signaling your brain to create new neural connections. Use this power deliberately, rather than allowing random thoughts to flow through your mind, and you start to

consciously direct the formation of neural tissue. After a few weeks, your brain changes substantially. Keep it up for years, and you can build a brain that's habituated to process the signals of love, peace, and happiness.

This isn't a comic book or sci-fi movie; this is your life! Changing your brain is something you're doing every day. Now it's time to direct the process deliberately in a way that improves your life. Just as you upgrade the operating system of your computer or smartphone, you can upgrade your brain by changing your mind. Mind to matter.

ELECTRICAL CONDUCTORS GENERATE ENERGY FIELDS

Tiny electrical currents run through the neurons in your brain, just like the electricity that runs through the copper wire in the electrical cords powering your appliances. As a whole, the brain seethes with electrical activity. This produces an energy field around the brain. When you get an MRI or EEG, medical professionals can read the energy field of your brain. It's a magnetic field in the case of an MRI, and it's an electrical field in the case of an EEG. Electricity and magnetism are two sides of the same coin: electromagnetism.



When an electric current is passed through a conductor, it produces a magnetic field. This is true whether the conductor is a power cord or a neuron.

There are many other forms of energy as well, and your brain and mind are constantly interacting with them. One of these is light. All living tissues emit photons, or light particles, and the type and intensity of the photons they emit vary. Even individual cells emit photons. A healthy cell emits a steady stream, while a dying cell sprays out its photons all at once like the burst of radiation from a collapsing supernova.

Light, electricity, and magnetism create the energy fields used in biological

signaling. Biologist James Oschman states, "Energy is the currency in which all transactions in nature are conducted" (Oschman, 2015).

THE ANTENNAE IN YOUR CELLS

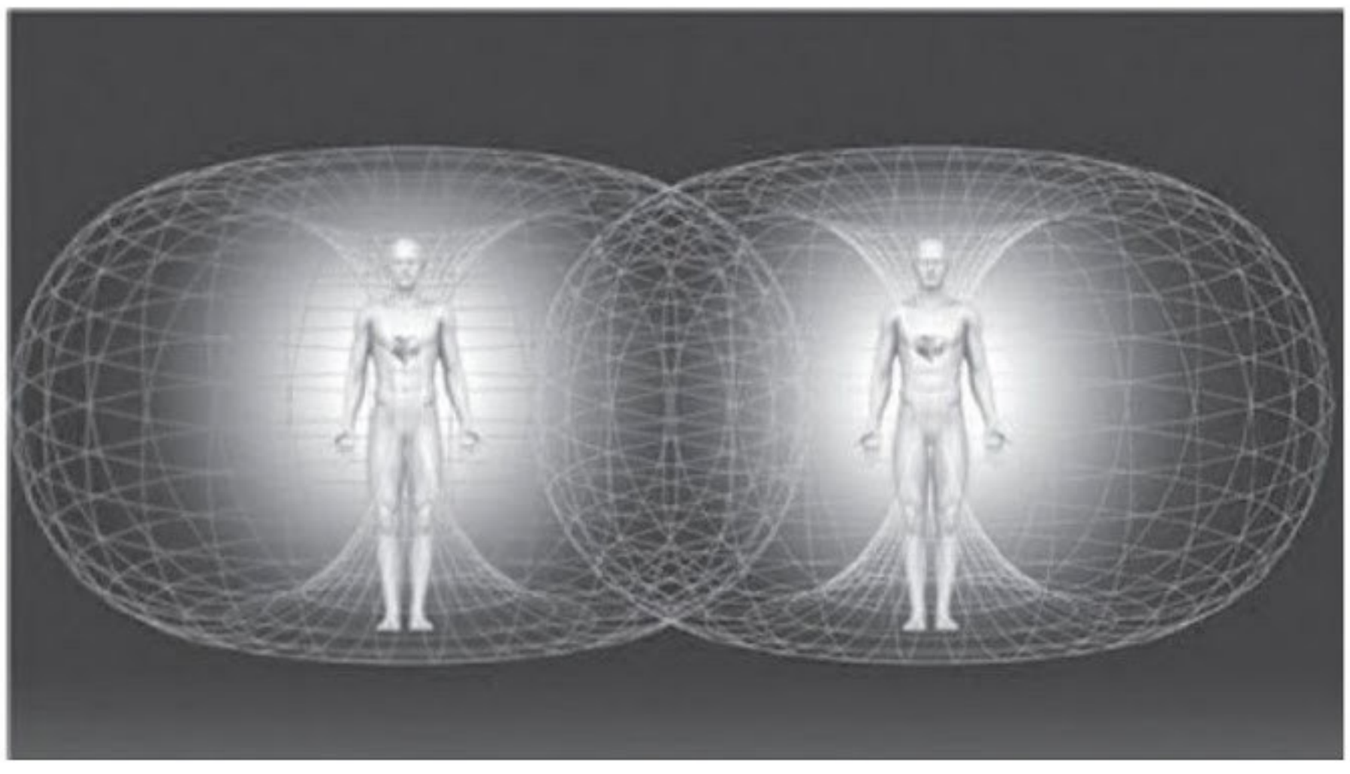
Imagine two magnets. Sprinkle iron filings around them and you'll see the lines of energy their fields produce. The copper cords powering your appliances and the neurons firing in your brain work the same way. They generate fields.

Now place a bigger magnet nearby. It will exert an influence on the iron filings, and the pattern of the whole energy field will change. Add an even bigger magnet and the field shifts again. Fields within fields produce complex patterns of energy.

The neurons in your brain act like those magnets. They generate fields. Those fields shape the matter around them, just the way the magnets cause the iron filings to form symmetrical patterns.

Bigger fields outside the body, such as the gravitational field of the Earth, act like the bigger magnets. They shift the pattern of your body's fields. They act on your brain and your cells, while your body also exerts a tiny influence on those bigger fields. Our bodies are influencing these big fields while also being influenced by them.

Your body's electromagnetic field extends about five yards or meters from your body. When you're five meters away from another person, your field begins interacting with their field. The two of you might be saying nothing, yet your energy fields are shaping each other in an invisible dance of communication (Frey, 1993).



When two people are in close proximity, their fields interact.

For decades, microtubules, with their rigid form, were assumed to be no more

than structural elements of the cell. Just as your body has a skeleton that provides a rigid structure to which other structures of the body attach, microtubules are the girders and scaffolding of the cell.

However, like antennae, microtubules are hollow. They are long cylinders. This property allows them to resonate, like a drum. And like antennae, their structure makes them capable of receiving signals from energy fields (Hameroff & Penrose, 1996). Microtubule signaling has been proposed as a method by which the body's complex systems are coordinated among trillions of cells (Oschman, 2015).

The Shaman and the Cardiac Surgeon

The fields of your body can interact with the fields of other people at great distances. A former cardiac patient named Richard Geggie told me this story during my research for a book called *The Heart of Healing* (Smith, 2004):

"In the early 1990s I was in Toronto, Canada. I went to see my doctor because I felt tired and listless. He sent me to have an electrocardiogram. Later that day, when he got the results back, he told me that my heart was at serious risk. He told me to stay calm, not exert myself, keep nitroglycerine pills with me at all times, and to not go outside alone.

"The doctors administered several tests over the course of the following three days, and I failed them all because my arteries were severely clogged. They included an angiogram, another electrocardiogram, and a treadmill stress test. When I started the bicycle test, the clinic staff didn't even let me finish. They stopped me partway. They were afraid I was going to die on the spot, my arteries were so clogged. As a high-risk patient, I was given an immediate appointment for heart bypass surgery.

"The day before the surgery, I woke up feeling much better. I went to the hospital and I was given an angiogram. This involved shooting dye into my arteries through an injection in my thigh. The surgeons wanted to discover the exact location of the blockages prior to the operation. I was prepared for surgery. My chest was shaved, and the doctors were about to mark my skin where they planned to make the incision.

"When the new angiograms came back from the lab, the doctor in charge looked at them. He became very upset. He said he had wasted his time. There were no blockages visible at all. He said he wished his own arteries

looked as clear. He could not explain why all the other tests had shown such severe problems.

"I later discovered that my friend Lorin Smith [a Pomo Indian medicine man] in California, upon hearing of my heart trouble, had assembled a group of his students for a healing ceremony the day before the second angiogram. He covered one man with bay leaves and told him that his name was Richard Geggie. For the next hour, Lorin led the group in songs, prayers, and movement. The next day, I was healed."

When I last followed up, 13 years later, Geggie was still in excellent health. The phenomenon of distant healing is well documented, with scores of studies showing its effects (Radin, Schlitz, & Baur, 2015).

DIRECTING THE FLOW OF CONSCIOUSNESS

You can direct your consciousness, the way Lorin Smith did toward Richard Geggie's healing. Consciousness isn't something that simply is; it's something that can be controlled and pointed in a desired direction. When you direct your consciousness, you harness the power of your mind, activate the splendid machinery of your brain, and influence the environment around you (Chiesa, Calati, & Serretti, 2011).

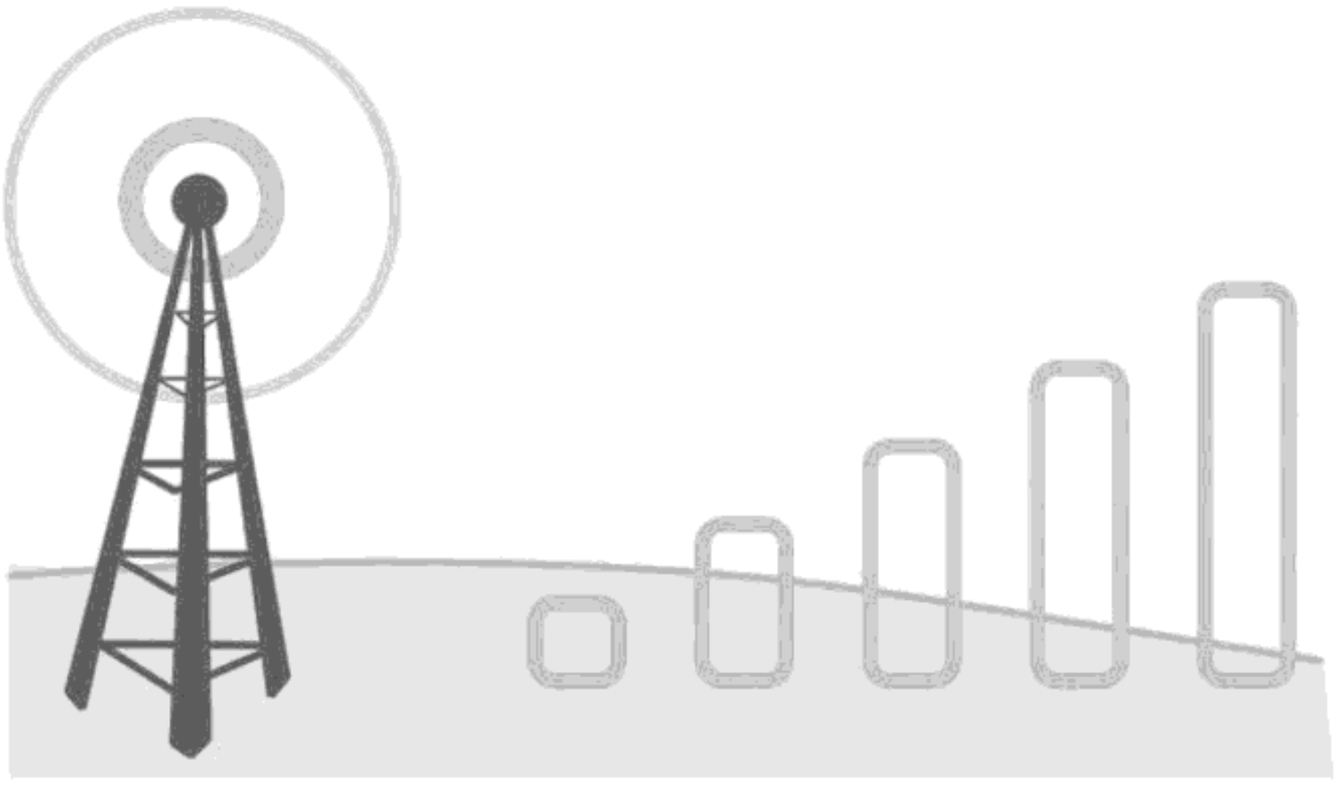
You do that in visibly obvious ways, like deciding to plant a vegetable garden. After your mind makes the decision, you use your consciousness to direct the project. Your brain signals your body to drive your car to the local gardening store, where you buy fertilizer, tools, and seeds. You plant, water, and tend your garden, and a few months later, you have a crop. Your crop began in consciousness and ended in the material reality of a homegrown meal. A thought eventually produced a thing.

Take a look around you right now. The colors in the carpet began as a thought in someone's mind. That person chose the particular shades and textures that wound up in the finished product. Someone else decided the dimensions of your cell phone and laptop computer. Every proportion in your home began as a thought in the consciousness of the builder. We use invisible fields such as cell signals, Bluetooth, and wireless networks every day. A wireless network uses a router to send a signal into the surrounding environment. In the presence of a receiver, such as your smartphone or laptop, information is exchanged. The field of energy created by the router makes communication possible between your laptop and every device accessible to the router.

Though the fields are invisible, they are efficient conductors of information. Even electricity can now be transmitted wirelessly from one device to another.

You also interact with your environment in invisible ways, through the energy fields in which you're immersed. Through your brain, mind, and cells, your consciousness projects signals into the fields around you (Oschman, 2015).

Genius inventor Nikola Tesla is often quoted as saying, "If you wish to find the secrets of the universe, think in terms of energy, frequency, and vibration."



We use invisible energy fields, such as cellular networks, to transmit information every day.

When we originate an idea in consciousness, we send signals into the universal field. Transmission requires hardware, in the form of the brain, as well as software, in the form of the mind. Signals traveling through neural pathways create energy fields, and those fields change depending on the content of consciousness. Healing involves field effects, whether local or distant.

CURING MICE OF CANCER

My friend and colleague Bill Bengston, Ph.D., is a professor of sociology at St. Joseph's College. With various teams of researchers, he has conducted provocative experiments that demonstrate the healing potential of energy fields (Bengston, 2010).

Bill started out as a skeptic. When he finished his degree in sociology in 1971, he had no time for people who claimed paranormal powers. But he was an open-minded skeptic, and when he met healer Bennett Mayrick, he put him to the test. Ben said there was something wrong with Bill's car, and Bill was disappointed. He happened to have had the car inspected the day before, and he knew there was absolutely nothing wrong with it.

Bill's skepticism remained intact for half the drive home—when the car's entire exhaust system crashed to the ground.

Bill got to know Ben well over the next few years and eventually had an opportunity to apply real science to test Ben's skills. Bill had joined the faculty at City University of New York, and one of his fellow faculty members, Dave Krinsley, designed an objective experiment to measure whether human energy could produce healing (Bengston & Krinsley, 2000).

The design was simple. Mice would be injected with mammary cancer, or adenocarcinoma, a procedure that had been used in scores of other studies. In cancer studies, tumors are induced in the mice, after which researchers try various chemicals to see if they will alter the course of the disease. The longest an injected mouse had ever survived was 27 days. After injection, the cancer tumors grow rapidly in the mice, and they die in 14 to 27 days (Lerner & Dzelzkalns, 1966).

The mice in Krinsley's study would be randomized into two groups in order to provide a control. The control mice would be kept in a different building to eliminate the possibility of healing effects due to proximity to the treated mice.

Unfortunately, the shipment of mice did not arrive at the lab on schedule. There were repeated delays, and Ben lost interest in the experiment, as he had other priorities. Dave encouraged Bill to do the healing in Ben's stead.

Eventually, the mice arrived and were injected. Bill began to hold the cage of experimental mice in his hands for an hour each day. His hypothesis was that if healing energy were real, the mice would not develop tumors in the way they normally did.

A week into the treatment, two of the mice developed visible tumors. Bill was bitterly disappointed. When all five developed tumors, Bill asked Dave to put the mice out of their misery, as the experiment had clearly failed.

When Dave arrived, he commented on how healthy Bill's mice appeared to be despite the tumors. They were running around their cages, full of energy, behaving as though they were healthy. The control mice in the other lab, he told Bill, weren't doing well. Two had already died.

He argued, "Perhaps the treatments are slowing down the cancer even if they can't prevent it. There's no record of a single mouse living past day 27. Get one to live 28 days and we'll have a world record. Experiments rarely turn out the way they're supposed to. That's why they're called experiments!"

Around day 17, much to everyone's surprise, the tumors on Bill's mice began to change. They became ulcerated, with scabs replacing the hair on their skin. By day 28, Bill confided to the mice that they were making history. The ulcerations began to disappear and the fur grew back.

Mouse with tumor.

A week later, Bill's mice were examined by a biologist, who relayed the news to Dave: "The mice are cancer-free."

SKEPTICISM IS NO BARRIER TO BEING A HEALER

The experiment was replicated at different times by different researchers who extended the design in interesting ways. The research teams found that when more mice were treated, the effect was stronger. When the effect was very strong, even mice in the control group in a different building began to improve, and some did not die (Bengston, 2007).

In some studies, Bill trained graduate students to perform the healing. He chose people who, like himself, were skeptics. He eliminated true believers from the pool of healers.

The cages in which the mice were kept were held by Bill or the students.

This made no difference. The mice recovered whether treated by Bill or by skeptical students. Not only did the mice recover, but they also developed immunity to adenocarcinoma. If they were injected later, they no longer developed cancer. Bill also tried treating water that was then given to the mice. This was as effective as using the healing practice on the mice themselves.

Bill required the students to keep notebooks describing their personal experiences. Examination of their notes revealed that at first many of them did not believe they were taking part in an experiment in healing. They thought that they, not the mice, were the subjects being studied. They believed they were unconscious stooges being secretly tested to determine just how gullible they were.

This is called the nocebo effect. It's the opposite of the placebo effect. With placebo, people's belief that they will get better can produce a cure. Patients with nocebo can make themselves sick through their beliefs. People who don't believe in the possibility of healing, like the skeptical grad students, introduce the nocebo effect into their work.

The mice had no opinions, which is what makes animals useful for studies in which researchers wish to eliminate the placebo effect. Bill's skeptical students also didn't believe in healing. So it wasn't belief that was producing the healing.

The most likely explanation for the healing is energy fields. Many of the

students, as well as Bill himself, described feeling their hands getting hot as they felt the healing energy begin to flow. They also described a cessation of that feeling when the healing session was complete. They learned to discern exactly what the flow of healing energy through their hands felt like.

Variants of the experiment found that distance was not an obstacle. Whether the mice were in close proximity to or far from the healer did not matter. Energy healing does not appear to be confined by the usual barriers of time and space (Oschman, 2015). Distant intentionality can be as effective as the presence of a healer in the room (Schmidt, Schneider, Utts, & Walach, 2004).

In her book *The Intention Experiment,* medical journalist Lynne McTaggart summarizes six studies using EEG or MRI machines to show that healers are able to affect the brain waves of people at a distance. She concludes that "the receiver's brain reacts as though he or she is seeing the same image at the same time" (McTaggart, 2007).

Bill Bengston also found that he personally was able to change the EEG of a distant human subject. After the experiments with mice, Bill began to offer energy healing to human beings and found that tumors, whether cancerous or benign, often disappeared.

Her Doctor Said: "This Doesn't Make Sense"

Bill Bengston has recorded many case histories from his work with patients with tumors. Here's one in which a patient's doctors were baffled by the changes they saw after energy healing.

"Janis, who was in her 20s, had been diagnosed with ovarian torsion, which means twisted fallopian tubes, along with cysts, causing the ovarian tissue to die. An operation was scheduled, carrying with it the chance that she would become infertile. After I treated her a few times . . . when Janis went for her pre-op exam, her doctor was astonished: 'There are no growths!'

"He referred her to a specialist, who was just as puzzled. He mused aloud while looking at her slides, 'You've got growths in this photo, but they're gone in the next one. You've got twisted tubes in this photo, but now they're gone. This doesn't make sense.' . . . Janis's doctors cancelled her operation" (Bengston, 2010).

CAN HEALING BE LEARNED?

As Bill's skeptical graduate students discovered, healing can be learned. My friends Donna Eden and David Feinstein manage the largest energy medicine program in the world, Eden Energy Medicine. Their program has over 1,000 graduates. Hundreds of stories confirm that energy healing works for humans as well as mice (Eden & Feinstein, 2008).

In the 1980s, I argued that healing was a special ability that only certain gifted individuals possessed. Throughout history, there have been remarkable people who demonstrated verifiable healing powers.

Hands-on healing session.

In *Soul Medicine,* a book I co-authored with Norm Shealy, M.D., founder of the American Holistic Medical Association, we talk about several of these people (Shealy & Church, 2008). Our standard of a verifiable cure was a doctor's diagnosis showing that the patient had a disease, followed by a second diagnosis after healing showing that the patient did not have that disease. Studying these practitioners suggested to me that healing was an unusual gift. Bill, David, Donna, and many others have proved me wrong.

Energy medicine programs such as those offered by Bill and Donna now show that healing is a skill that can be taught. Case studies written by their students include patients who have recovered from serious conditions such as cancer, heart disease, and autoimmune diseases.

I founded a nonprofit called the National Institute for Integrative Healthcare (niih.org). On our website, we maintain a list of studies of energy healing published in peer-reviewed scientific journals. To be included on this list, studies need to meet the following criteria:

- They assess the use of hands-on healing or interventions in the body's

energy field.

- They use energetic exercises or techniques to balance the body's energy systems.
- The explanation they use for the effects of treatment is based on changes to the body's energy field.

The list excludes methods such as acupuncture and EFT (emotional freedom techniques) because these have their own online databases. Nonetheless, there are over 600 studies on the list. If you include EFT, acupuncture, and other energy healing methods, there are over 1,000 studies showing that energy healing is effective for a wide range of conditions, including those listed in Table 1.

Alzheimer's	HIV/AIDS
Anxiety	Insomnia
Arthritis	Irritable bowel syndrome
Asthma	Low back pain
Autism	Memory
Burnout	Menstrual distress
Burns	Migraines
Cancer	Mood disorders
Cardiovascular disease	Motion sickness
Carpal tunnel syndrome	Obesity
Children's behavioral issues	Pain
Cognitive impairment	Post-traumatic stress disorder (PTSD)
Cortisol	Prostate cancer
Dementia	Pulmonary disease

Depression	Skin wounds
Diabetes	Smoking
Drug addiction	Stroke
Fibromyalgia	Substance abuse
Headache	Thyroid dysfunction
High blood pressure	

Table 1. Conditions for which energy healing has been shown to be effective.

This compelling body of evidence shows that consciousness—directed by intention, working through energy fields—can produce radical changes in matter. "Skull and skin are not limiting boundaries of energy and information," says UCLA psychiatrist Dan Siegel in his book *Mind* (Siegel, 2017).

Though healing can occur at the level of small animals, such as mice, as well as at the level of larger animals, such as *Homo sapiens*, and can happen at a distance, just how large can the effect get?

The answer is: very large. Whole societies have been changed by a change of mind in a single person. In every age, there are people who have asked "Why?" and "Does it have to be this way?" and "How can we do things differently?" Even when facing a social condition that has been unchanged for centuries, the mind of a single person is sometimes able to change the matter of an entire society.

Mind is able to change matter at the level of the very small—atoms and molecules. Scaling up, it can change matter at the level of cells, organs, and bodies. Getting bigger still, it can change social groups and even whole countries. There are many historical examples of people who've changed first at the level of their own minds and then gone on to have an impact that shapes the world. We'll look at several examples of how individual mind change can scale up to produce enormous social shifts.

HOW A MIND CHANGE ELIMINATED INFECTIOUS DISEASE

Josephine Baker was the first woman to graduate with a doctorate in public health from New York University. In 1908, she was appointed head of the city's new Bureau of Child Hygiene.

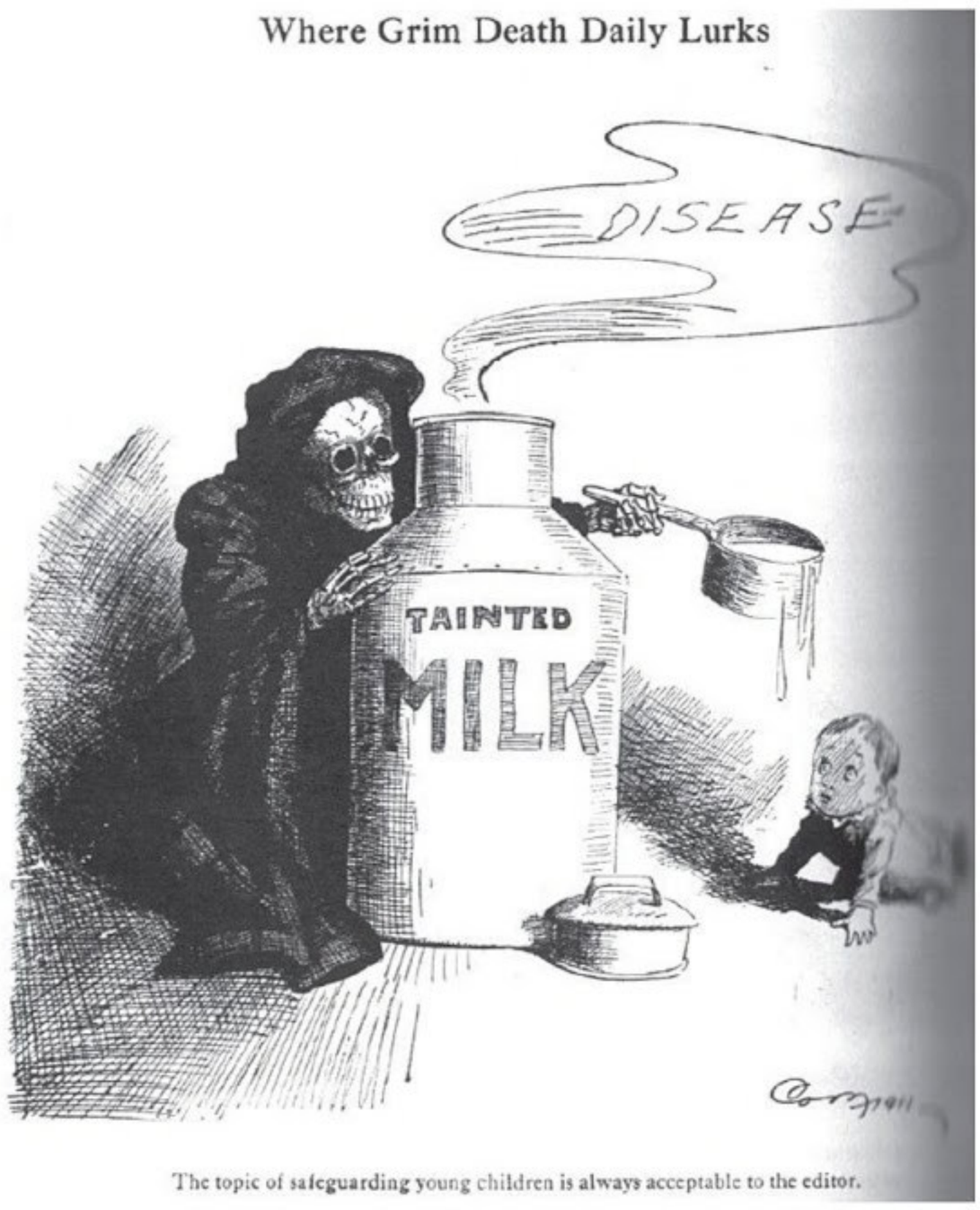
She understood the link between poverty and illness and was possessed by a single-minded desire to eliminate human suffering. She introduced many reforms in New York City (Baker, 1925).

Baker instituted a program called the Little Mothers' League to train girls 12 and up in basic infant care. At a time when both parents were usually working outside the home, this improved the health of small children.

Josephine Baker.

Baker standardized the dosage of silver nitrate being placed in the eyes of newborns to prevent syphilis. Before her innovation, there was no standard dose, and some babies were given so much silver nitrate that they went blind.

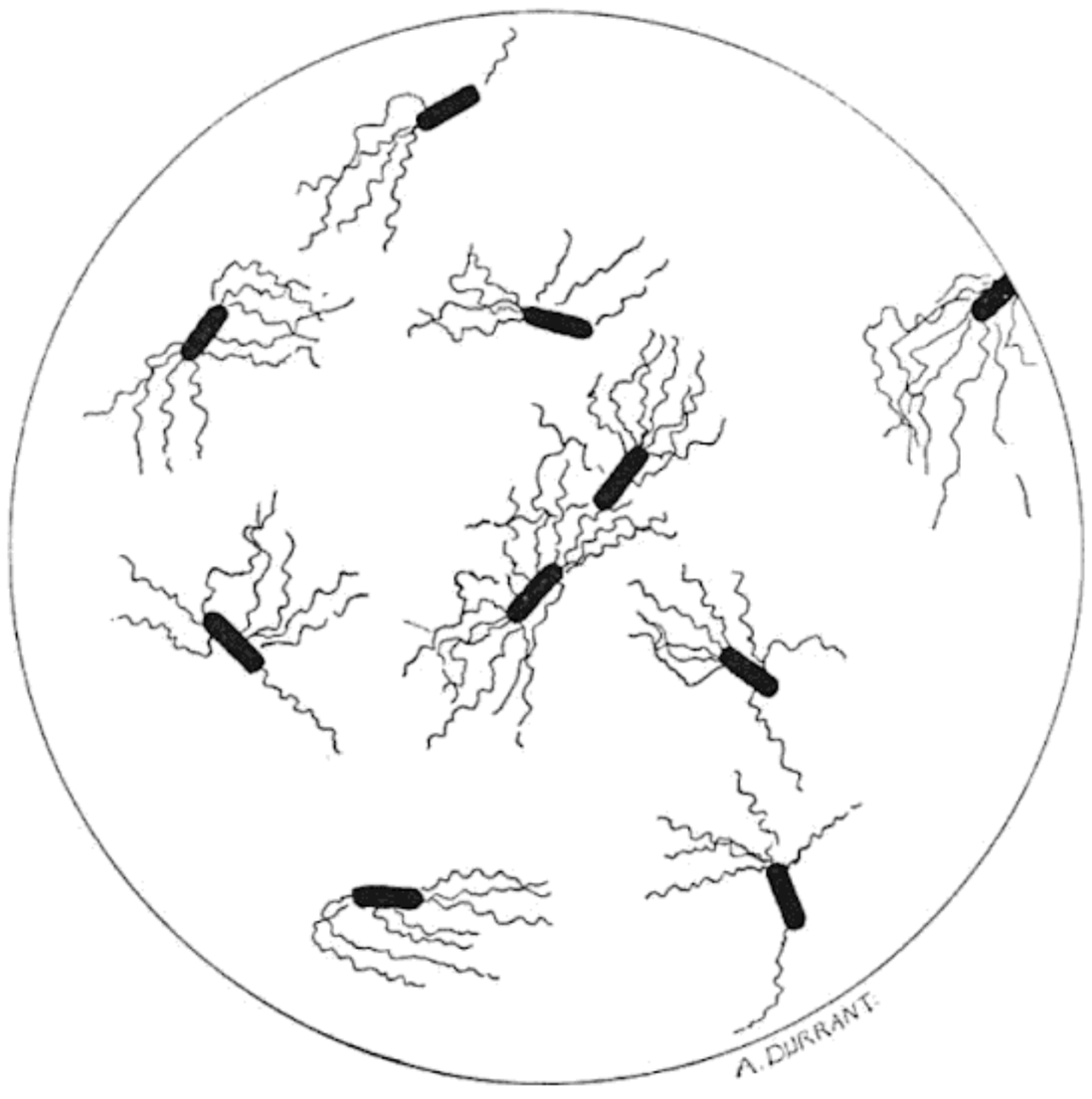
She established standards for the quality of milk. At that time, the milk fed to most youngsters was watered down and then adulterated with other substances such as flour, starch, or chalk to make it look like the real thing.



Nineteenth-century cartoon depicting the health hazards of tainted milk.

In the middle of World War I, Baker published an editorial in the *New York Times* in which she calculated that the mortality rate of children in New York City was higher than that of soldiers on the Western front. This caused a sensation and highlighted the need for public health reforms (King, 1993).

Baker was determined to control the spread of typhoid fever, one of the major killers of both adults and children. The disease had taken the life of her father, a factor that motivated her choice of career. With a colleague named George Soper, she began to map areas of the city marked by outbreaks of typhoid. At a time when the germ theory of disease was not yet widely accepted, her team identified individuals at the epicenter of each outbreak.



Typhoid bacillus.

TYPHOID MARY

One of these individuals was Mary Mallon, an immigrant from County Tyrone in Ireland. Mary served as a cook to various wealthy families. Josephine Baker and George Soper discovered that wherever Mary worked, outbreaks of typhoid followed shortly thereafter. When she prepared food, she transmitted the typhoid bacillus to those who ate it.

Mary was taken for evaluation and testing, and enormous quantities of the typhoid bacillus were found in her blood. She had no symptoms herself, however, and did not believe she was sick.

Though she was released on a promise to pursue a profession other than cooking, she soon went back to her old ways. Josephine Baker tracked her down again and knocked on the family's front door with a police escort.

Mary ran out the back door and eluded the police. But Josephine, more determined than the boys in blue, tracked her down in a neighbor's potting shed. Mary was huddled in a corner. Josephine sat down on top of Mary and yelled for help until the police arrived. Typhoid Mary was out of circulation for good.


"TYPHOID MARY"
The Extraordinary Predicament of Mary Mallon, a Prisoner on New York's Quaran
By Dr. Wm. H. Park, New York Board of Health.

Typhoid Mary.

Josephine Baker's reforms were bitterly contested by the medical establishment. When her campaign against typhoid fever became successful, a group of Brooklyn pediatricians petitioned the mayor to abolish her office. They complained that the supply of sick children to their practices was drying up.

Hearings were held in Congress to stop her. She was mocked as a woman, and critics declared that her efforts would eliminate medicine as a profession for promising young men. Nevertheless, she persisted—and eventually prevailed. By the time she retired, New York had the lowest rate of infant mortality in the United States.

Baker's reforms spread quickly. Her standards were adopted by 35 other states and in 1912 became the basis for the national Children's Bureau. Within a few years, terrifying diseases such as smallpox, typhoid, and cholera were virtually wiped out. That's the power of mind change as it plays out on a large social scale. Anthropologist Margaret Mead is famously supposed to have said, "Never think that a small group of thoughtful, committed citizens cannot change the world. Indeed, it's the only thing that ever has."

AN IDEA WHOSE TIME HAS COME

When you change your mind, sending new signals through the neural pathways of your brain, altering the energy fields all around you, interacting with the fields of others, you have no idea how far the effect might travel.

We see this in great social movements such as the abolition of slavery. In about 50 years, slavery went from an institution that had been with us since the dawn of humankind to being abolished worldwide. Women's suffrage and civil rights followed the same trajectory.

Women's suffrage poster.

Great social movements begin in the consciousness of just a few people. They spread slowly at first, then propagate with accelerating speed. As French novelist Victor Hugo said, "One withstands the invasion of armies; one does not withstand the invasion of ideas" (Hugo, 1877)—or, as it is more popularly paraphrased, "There is nothing more powerful than an idea whose time has come."

An idea that begins in just one mind can take over the world. What are the ideas with which you fill your consciousness every day?

CREATING FROM THE INSIDE OUT

In my first career, in book publishing, I came into contact with many best-selling authors. One day, I asked myself, *What do they have in common?* Reflecting on that question changed the direction of my life.

One of the characteristics common to best-selling authors is a focus on

creation. They are much more interested in producing information than consuming it. The flow of words and images tends to be from the inside out, not the outside in. They certainly read and watch videos like the rest of us. But they tend to spend much more time pouring information out of their consciousness than sucking information into their consciousness. Given a choice of reading (inflow) or writing (outflow), they write.

Most people are passive. They take information in. They listen to the radio, watch shows and movies, and read the occasional book. They are consumers of information rather than producers of information. They are constantly influenced by the information they are consuming.

When it comes to best-selling authors, the flow of information tends to run in the opposite direction. They are much more interested in the information they can produce than what they can consume. They are active producers of information rather than passive consumers of information.

DELILAH AND THE INFORMATION FIELD

I remember a picnic with a group of friends a few years back. One member of the group was a woman in her 50s named Delilah who I hadn't seen for a couple of years but with whom I'd previously shared many warm conversations. She had always been pretty, bright, and healthy. Financially secure, she had no need to work, but she enjoyed a moderately successful career as a classical pianist.

We were sitting on the grass in the park on a beautiful spring day after a morning of group free-form dance. As we talked, Delilah shared her distress about what was happening in the world.

There were a lot of problems for her to be distressed about. Wars in several regions. Refugees. Natural disasters. Pollution. The loss of ground water. Mass extinction. Rising sea levels. The poor quality of governance. Deforestation.


NIGHT EXTRA

THE ATLANTA GEORGIAN EXTRA No. 6

Read For Profit—GEORGIAN WANT ADS—Use For Results

POLICE HAVE THE STRANGLER

AUSTRIA WILL MOVE ALONE ON MONTENEGRO

DETAILS OF BIG PONY CONTEST ANNOUNCED

VOLS SCORE IN FIRST; BRADY OPPOSES BECK

Late this afternoon, Chief of Detectives Lanford made this important statement to a Georgian reporter: "We have the strangler. In my opinion the crime lies between two men, the negro watchman, Newt Lee and Frank. We have eliminated John Gantt and Arthur Mullinax."

FRANK AND NEGRO ARE GIVEN "THIRD DEGREE"

News will rarely make you happy.

As we talked, I got a clear picture of the flow of information in Delilah's life. Whenever she was driving, she had her car radio tuned to an all-news station; she read the newspaper daily and watched television news. Note the use of the word *news* three times in that sentence. She was absorbing all this information from the outside world and spent much of her time engaged in the process.

This did not make her happy. I noticed how much Delilah seemed to have aged since our last conversation, and how heavy her energy felt as she described the flood of problems that filled her worried mind. Even though she was healthy, smart, and financially set for life, her mind was consumed by worry. She attuned her consciousness to the bad stuff, like a vacuum cleaner sucking in garbage. Filling her mind with problems led to a mind filled with garbage.

The places to which she turned her attention led to Delilah's immersion in the energy field of bad news. Conditioned by her consciousness, her brain was busy growing the neural circuits of stress. Her mind was guiding her brain to enhance those neural pathways, making them larger and more efficient at carrying their habitual signals. With every increase in capacity, her mind became more attuned to bad news.

Delilah believed that the bad things she heard on the news were happening "out there." She could claim with complete justification that the news items with which she was filling her thoughts were objectively true.

Yet the truth was that she was creating her own stress-filled reality by the direction in which she chose to turn her attention. Focusing on the news sparked the creation of new neurons in those circuits, which created stronger electromagnetic fields, which in turn sensitized her further to similar signals. Her stress had as much to do with her subjective creation of mind as it did with the objective state of the world.

SELF-DIRECTED NEURAL PLASTICITY

That's the risk you take when you're a consumer of information rather than a producer. When the flow of information is from the outside in, you hold your consciousness hostage to the consciousness of the people producing the information. When the container of your mind is being filled with unhappy input, it's hard to maintain a happy state.

When you allow others to fill your consciousness, you are at the mercy of their consciousness.

My wife, Christine, also consumes information constantly. However, she chooses inspirational material. She listens to her favorite transformational speakers during the long drives she takes to work. She reads inspirational books

and watches nature shows on television. Her family and friends share inspirational quotes in their e-mail exchanges. She is bathing her mind in information from the outside, and her choice of uplifting material makes her a happy and wise presence.

That's the place from which she then creates. She'll tell you about an exciting new art project she's designed or a powerful new idea she's learned. Those are the things that fill her mind.

The thoughts, beliefs, and ideas that fill your consciousness exert a powerful influence on the world outside your brain. You are constantly creating. You can use that power to create intangibles such as a nurturing emotional environment. You can also use that power to create tangible material conditions. There are many examples of changes that have begun inside the mind of a single person like Josephine Baker and expanded to change the world.

Launching Mind into Space

In the sphere of technology, one person whose personal vision has reshaped entire industries is Elon Musk.

Elon Musk is famous as the founder of several successful businesses, including Tesla and Solar City. He sold his first product at the age of 12. It was a game called Blastar for which he'd written the code.

After applying unsuccessfully for a job at Netscape and dropping out of Stanford University, he founded a company called Zip2, which Compaq later purchased for $307 million. He then cofounded PayPal and cashed out when eBay purchased it.

While Musk's businesses thrived, his personal life hit some rough patches. On a vacation in his native South Africa, he contracted cerebral malaria, which is fatal in about 20 percent of cases. He lost 45 pounds and had a near-death experience. Two years later, his first son died at the age of 10 weeks.

Musk founded his third company, SpaceX, in 2002, with the audacious goal of making commercial spaceflight possible.

The launch of the first SpaceX rocket in 2006 ended in a fireball. Along with the incinerated rocket went the millions of dollars Musk had put into the venture. He was undeterred, however, and afterward wrote: "SpaceX is in this for the long haul and, come hell or high water, we are going to make this work" (Malik, 2006).

The following year, the company launched its second rocket. It failed to reach orbit when the engines shut down prematurely, leaving SpaceX with two strikes against it, and a founder who was desperately short of cash.

In the third launch, in 2008, the two stages of the rocket collided after separating. Its payload—which included Musk's first cargo for NASA, as well as the ashes of Star Trek's James "Scotty" Doohan—wound up in the ocean.

SpaceX launch.

Musk was now completely out of money and on the verge of bankruptcy. He was saved only by an eleventh-hour investment from eccentric billionaire Peter Thiel.

Today, Musk's companies—Tesla, SpaceX, and Solar City—are enormously successful. Yet it took perseverance through setback after setback to get to that point. Musk's mind-set is relentlessly positive, whatever the challenge. His mind has been the source of multiple game-changing material realities.

WHAT WORLD WILL YOU SHAPE WITH YOUR BRAIN?

What's in your mind, and what kind of material world might you create with it?

You have this magnificent brain and mind, capable of creating wealth, happiness, health, and well-being in your own life and the lives of those around you. Your consciousness is powerful—much more powerful than you realize.

Most of us are using just a tiny fraction of our ability, not even realizing that our minds create matter. This book is about harnessing your superpower consciously to make a wonderful life for yourself and those around you. You're already turning thoughts into things. You're doing it every day unconsciously.

Now it's time to do it systematically and deliberately.

In the coming pages, you will meet many people like Josephine Baker, Elon Musk, Lorin Smith, and Bill Bengston, who have turned thoughts into things. Information flows out from them into the universal field, and their consciousness conditions the space around them to produce manifestations in material reality.

The concept that mind creates matter is not a metaphysical proposition. It's a biological one. In the chapters ahead, you'll begin to experience for yourself how your brain creates matter in the form of neurons and synapses in response to your consciousness. Consciousness and matter interact with the fields around you, and the result is material reality.

You'll begin to use your consciousness deliberately, building matter through intention flowing from the inside rather than by accident based on what's coming at you from the outside. You'll discover the community of conscious people who are building reality for the highest and best for the whole planet, and discover that you're part of an enormous creative community working for good. Welcome to the future of mind and matter!

PUTTING THESE IDEAS INTO PRACTICE

Activities to practice this week:

- As soon as you wake up in the morning, place your hand over your heart and feel love.
- Buy a journal. Write down a list of your intentions. What are 10 things that would transform your life?
- Breathe and send healing intentions to someone who is sick.
- Make a donation of 10 percent of your next paycheck to a charity dedicated to social change.

The Extended Play version of this chapter includes:

- An audio interview with Bill Bengston, Ph.D.
- Stanford marshmallow experiment video and full story
- A full list of conditions improved by energy therapies
- Women whose inventions changed the world

To access the Extended Play version, visit: MindToMatter.club/Chapter1

CHAPTER 2

How Energy Builds Matter

"Land ho!" the lookout sang. The day was September 6, 1522, and the port ahead was Sanlúcar de Barrameda, Spain. The ship was the *Victory*, commanded by Captain Juan Sebastián de Elcano.

The *Victory* was the last survivor of five ships commanded by Portuguese mariner Ferdinand Magellan. With a well-equipped fleet, he set out from Spain on September 20, 1519, with the goal of circumnavigating the globe via the Spice Islands.

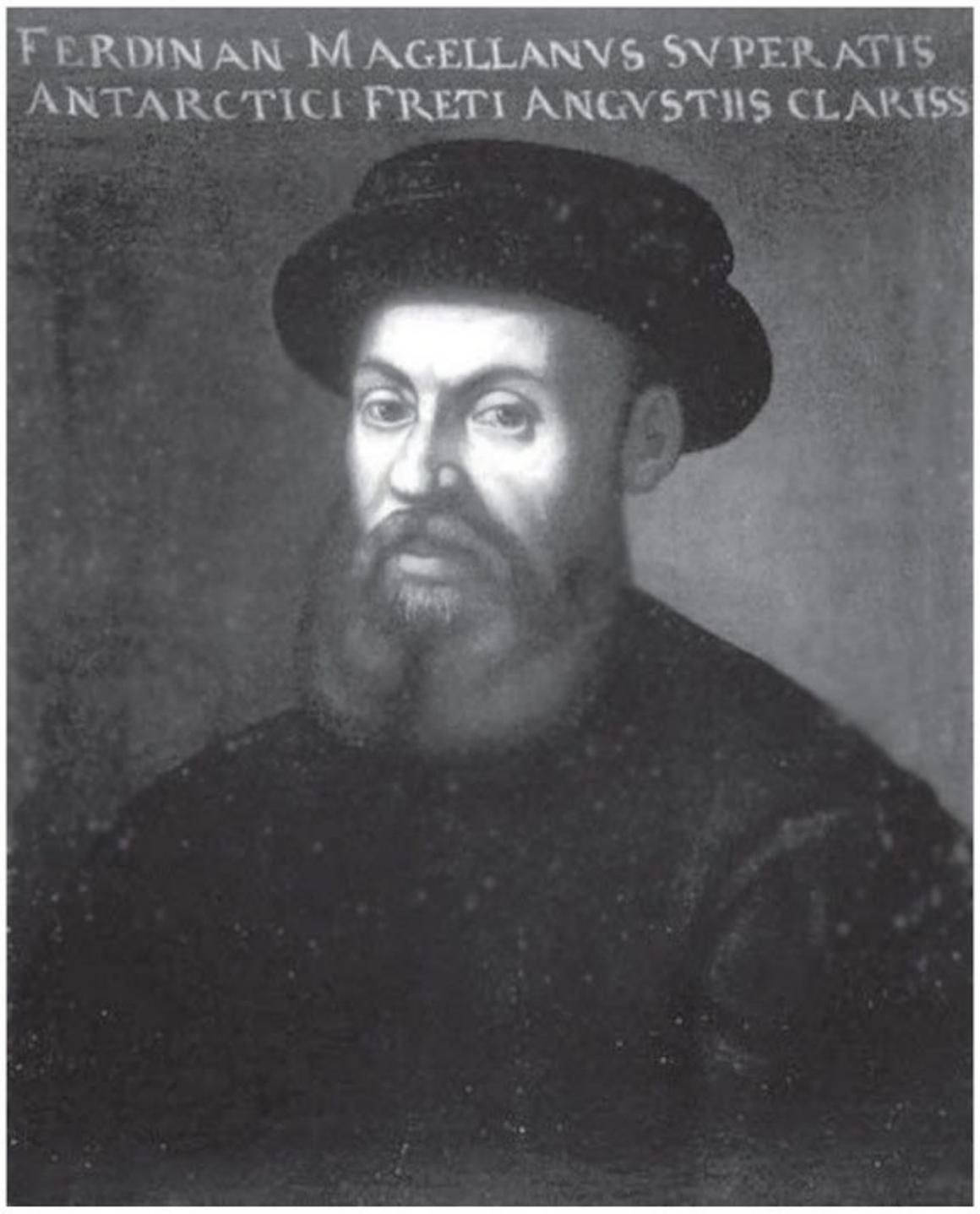
Magellan first sailed south to Africa. From there, he crossed the Atlantic to Brazil. He followed the Brazilian coast, searching for a strait that would lead to the Pacific Ocean. Traversing the entire length of South America, he spent the winter in the sheltered bay at Puerto San Julián, Argentina, near the southern end of the continent.

On Easter day, his captains mutinied, but Magellan was able to subdue the rebellion. He executed one mutineer and beached one of the others.

On October 21, he finally found the passage he'd been looking for, now called the Strait of Magellan. By that time, one ship had been wrecked and a second one had deserted the convoy.

It took the remaining three ships 38 days to round the treacherous promontory of Tierra del Fuego. When Magellan saw the Pacific at the other end of the strait, he wept for joy. Ninety-nine days later, after sailing across the tranquil ocean, he landed at the island of Guam on March 6, 1521. His men were starving. They had chewed the leather straps of their tunics to stay alive.

The survivors resupplied in the Philippine islands. In two ships, laden with spices, they began the journey home. One ship was lost at sea, and only the *Victory* straggled back to Spain. Only 22 of the original 270 men survived.

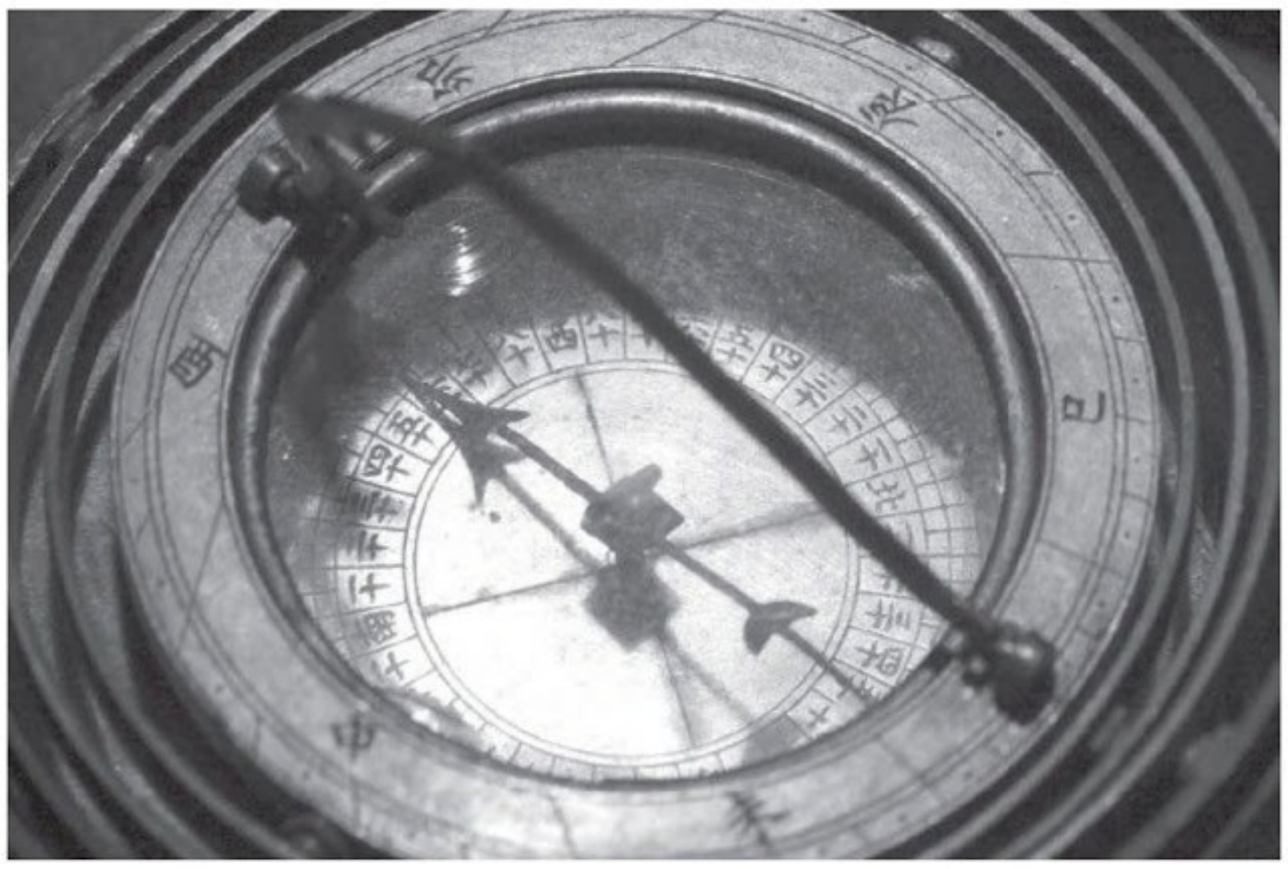


Ferdinand Magellan.

Magellan was not one of the survivors. He had died en route. On April 27, while fighting as an ally of the chief of the Philippine island of Cebu against a tribe on the neighboring island of Mactan, Magellan was struck by a poisoned arrow. His retreating comrades left him to die.

Magellan's voyage was made possible by a remarkable electromagnetic invention, the compass. Invented in China, the first reference to it appeared in a manuscript written in 1040 (Vardalas, 2013). It describes an "iron fish" that when suspended in water, always pointed south.

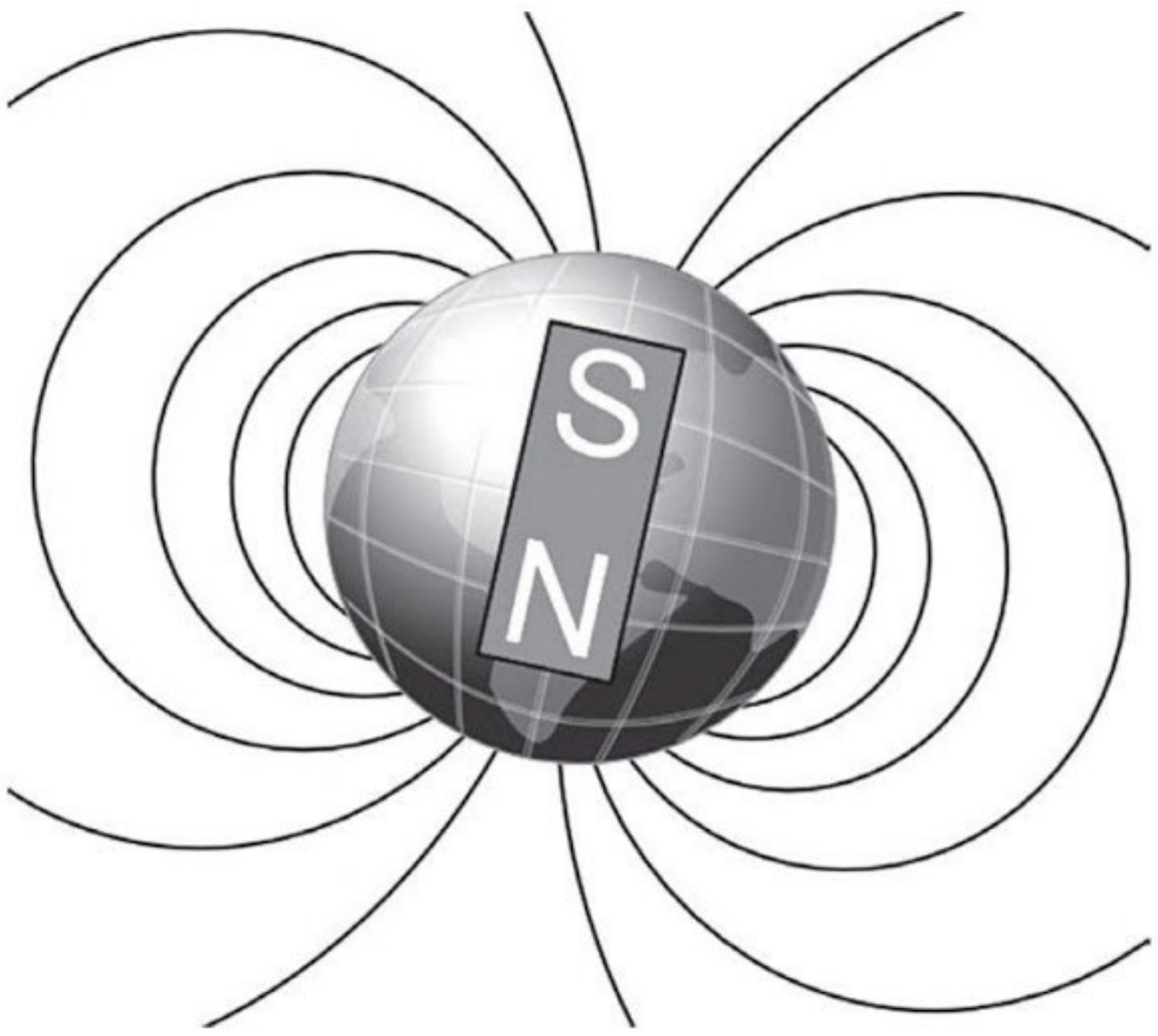
A Song dynasty scholar named Shen Kuo wrote another account in 1088. He said that when "magicians rub the point of a needle with lodestone, then it is able to point to the south. . . . It may be made to float on the surface of water, but it is then rather unsteady. . . . It is best to suspend it by a single cocoon fiber of new silk attached to the center of the needle by a piece of wax. Then, hanging in a windless place, it will always point to the south." Indeed, this must have looked like magic in the 11th century, when electromagnetic fields were unknown.



Nineteenth-century Chinese compass.

About 200 years before Magellan's voyage, the first European compass was used in Amalfi, Italy. Mariners of seafaring nations such as England, France, Holland, Spain, and Portugal recognized the importance of this technological marvel and developed and refined the design.

Without the compass, Magellan's remarkable feat of navigation would have been impossible. A thin sliver of magnetized metal suspended in the center, it points to Earth's magnetic north pole regardless of where on the globe it is located. Lines of magnetic force surround Earth's mantle and are detected by the compass's needle.



Earth's magnetic field.

Celestial bodies such as stars and planets have electromagnetic fields. Small objects such as crystals and rocks have them too. So do living beings. You have a

field around your body, and it extends about five yards or meters out.

FIELDS ARE BEAUTIFUL—AND EVERYWHERE

Electromagnetic fields are now being measured around increasing numbers of plants and animals. In a study published in the prestigious journal *Science,* a research team investigated the electromagnetic relationship between flowers and the bees that pollinate them.

They found that bees can detect the fields around flowers and use the information to determine which flowers have the most nectar (Clarke, Whitney, Sutton, & Robert, 2013). Study co-author Daniel Robert, a biologist at the University of Bristol, says, "We think bumblebees are using this ability to perceive electrical fields to determine if flowers were recently visited by other bumblebees and are therefore worth visiting."

The electromagnetic properties of the fields around living beings came as a surprise to scientists immersed in matter-bound explanations. Thomas Seeley, a behavioral biologist at Cornell University, commented after reading the study, "We had no idea that this sense even existed."

A flower's electromagnetic field.

The ability to perceive electromagnetic fields has now been measured in algae, worms, ants, insects, anteaters, platypuses, and hummingbirds.

Research has recently shown that dolphins are also able to detect electromagnetic fields. The Guiana dolphin is a species that lives close to estuaries in protected waters off the coast of South America. German researchers tested these river dolphins and found that they were sensitive to

even very weak electrical currents (Czech-Damal et al., 2011).

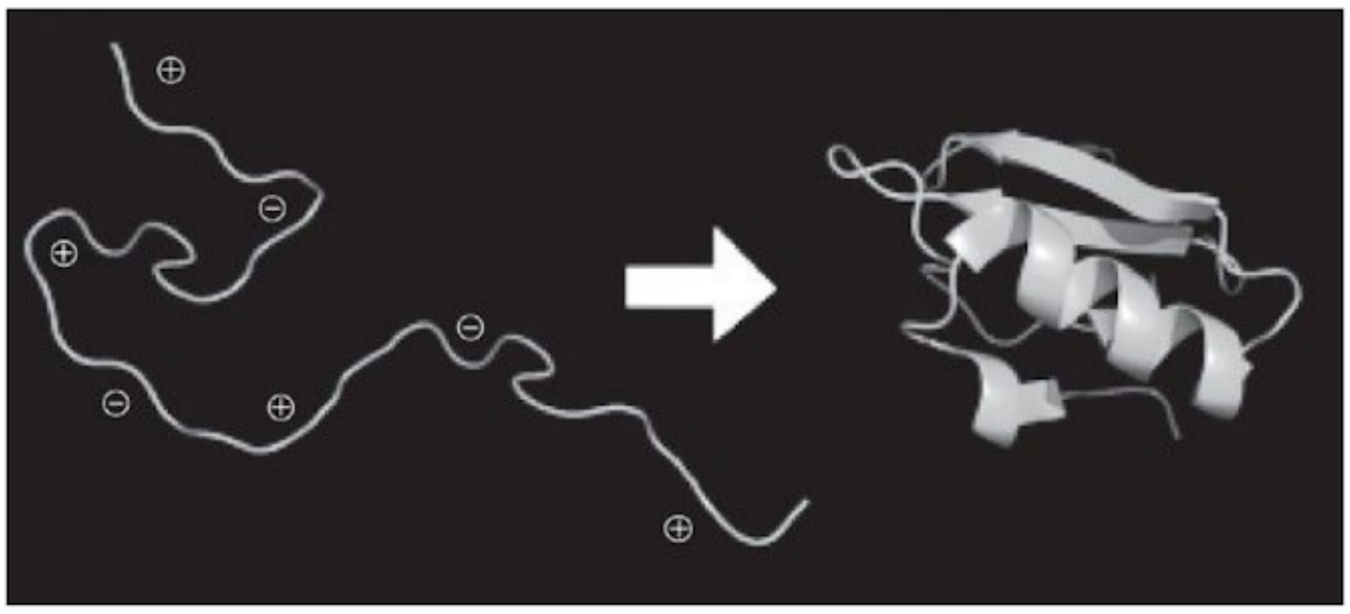
The researchers then investigated how the dolphins were able to detect these fields, and they found small hair follicles around the dolphins' mouths. The indentations are surrounded by nerve endings, well supplied with blood vessels, and are filled with gel. Scientists believe these are the sensory organs by means of which the dolphins detect fields.

FIELDS CREATE THE SHAPES OF MOLECULES

I vividly remember my first experience with electromagnetism. In my first-grade science class, we sprinkled iron filings onto a piece of paper. As we moved magnets around under the paper, they rearranged the iron filings. Without touching, even at a distance, fields were able to rearrange matter. Because this simple experiment is repeated millions of times each year around the world, it's easy to forget how amazing it is. We take it for granted that fields exist and are able to shape matter, yet we somehow forget to apply this concept when we're struggling with the challenges of everyday material life. Whether we scale up large—to the size of a planet or a galaxy—or scale down small—to the size of a single atom—we find fields. Each cell of your body has its own unique electromagnetic field. The molecules of which your cells are built also have fields. Electromagnetism is central to the processes of biology.

Aside from water, most of the molecules in our bodies are proteins. Our bodies manufacture more than 100,000 different types of proteins. They're large and complicated molecules, with strings of atoms folded around each other to make intricate designs. When a cell is synthesizing a protein, it creates these folds the same way my first-grade science class moved iron filings.

Protein molecules are intricately folded.



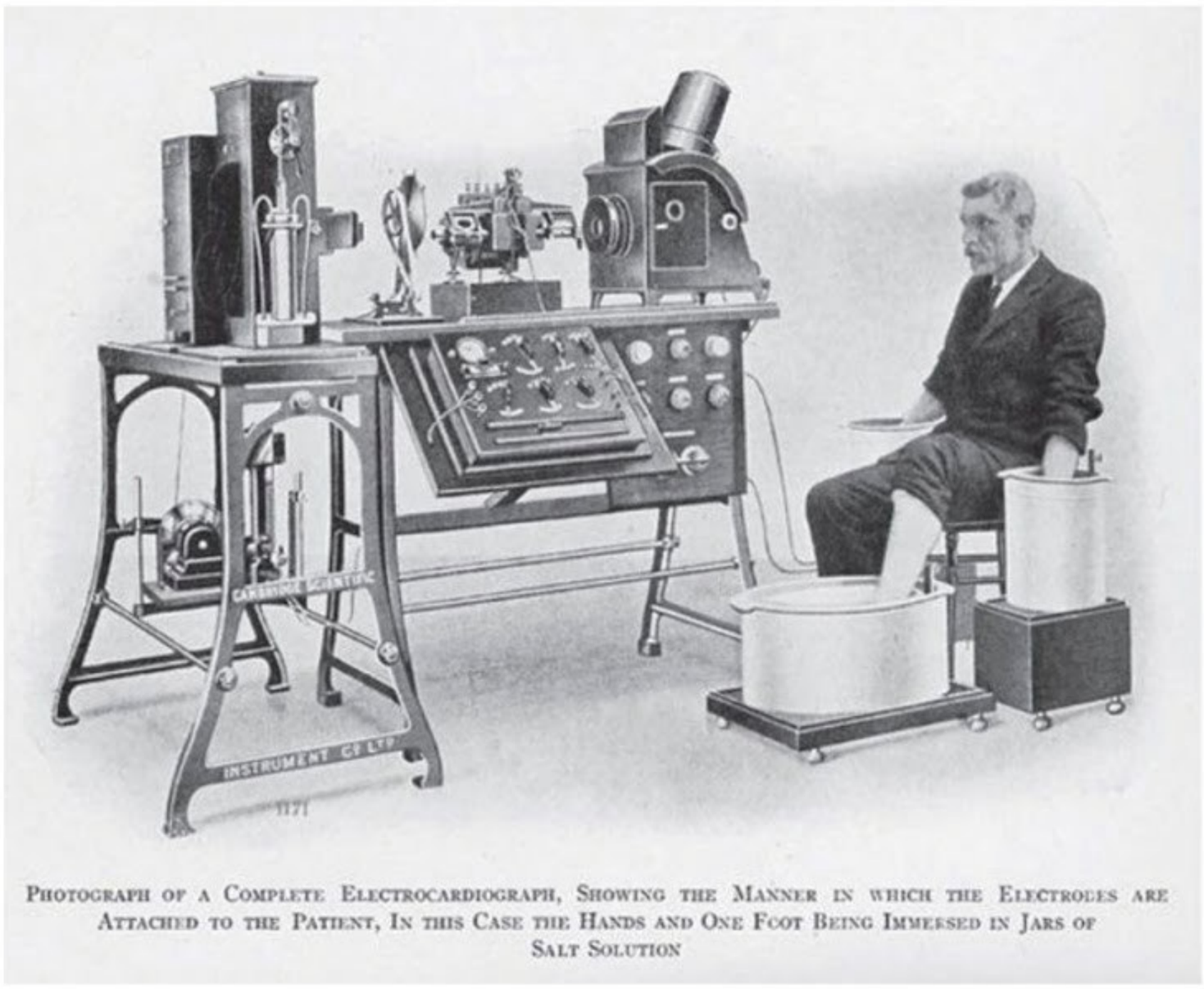
Protein before and after folding. Electrical charges at different points on the molecule determine how it shapes itself.

Each part of the string of molecules making up a protein has its own positive or negative charge. If two parts of the string are both negatively charged, they repel each other. The same is true of positively charged parts. On the other hand, negatives and positives are attracted to each other. These forces of attraction and repulsion mold the big and complicated protein string into its designated shape.

STALKING THE WILD FIELD

Willem Einthoven was an eccentric Dutch physician born in 1860. In the late 1890s, he set out to measure the electromagnetic field of the human heart. He began building a device called a galvanometer. Einthoven faced a great deal of skepticism and opposition, and to many of his medical colleagues, who were used to looking only at matter, the notion of invisible energy fields seemed suspect.

His first attempts were unpromising. His machine weighed 600 pounds (270 kg) and needed five people to operate it. A water-filled radiator system was required to cool the powerful electromagnets on which it relied.



PHOTOGRAPH OF A COMPLETE ELECTROCARDIOGRAPH, SHOWING THE MANNER IN WHICH THE ELECTRODES ARE ATTACHED TO THE PATIENT, IN THIS CASE THE HANDS AND ONE FOOT BEING IMMERSED IN JARS OF SALT SOLUTION

An early electrocardiogram device.

After years of painstaking work, Einthoven developed a galvanometer much more sensitive than any available at the time. He was able to hook up subjects and measure their heart rates. He eventually built up a substantial theory of how the heart functioned and what the readings of electrocardiograms (EKGs) meant for diagnosis and treatment.

As for his critics? Einthoven had the last laugh, winning the Nobel Prize for medicine in 1924. He inspired the search for the field of the brain, which was discovered in 1926. Later researchers were able to map the field of even a single cell.

An early EEG recording, showing the electromagnetic activity of the brain.

WHAT ARE FIELDS DOING?

Harold Saxton Burr was a visionary researcher who became a professor at Yale School of Medicine in 1929. He began to study the energy fields around animals and plants, measuring ways in which matter (atoms, molecules, and cells) is organized by those fields as organisms develop and grow. In a key paper in 1949, he mapped the electromagnetic field around a single nerve. His careful

measurements showed a field much like the iron filings around the magnet in my first-grade science class. The field was strongest closest to the nerve and became weaker moving outward from the nerve (Burr & Mauro, 1949).

Burr's huge insight was that fields weren't just *produced by* living organisms, but that fields *created* matter, providing lines of force around which matter could arrange itself into atoms, molecules, and cells.

Harold Saxton Burr.

In his book *The Fields of Life* (1973), Burr used the analogy of the iron filings with which I played as a child. If you shake the iron filings off the paper and add new ones, they arrange themselves into the same patterns as the discarded ones. It is the field that is organizing the filings; the field is not being produced by the filings.

Burr wrote: "Something like this . . . happens in the human body. Its molecules and cells are constantly being torn apart and rebuilt with fresh material from the food we eat. But, thanks to the controlling [life]-field, the new molecules and cells are rebuilt as before and arrange themselves in the same pattern as the old ones" (Burr, 1973, pp. 12–13).

For instance, when you cut your finger and your skin regrows, the field provides the blueprint around which the new cells organize themselves. Energy is not an epiphenomenon of matter; energy is *organizing* matter.

For many of his experiments, Burr used salamanders. He measured the voltages on the outer membranes of salamander eggs, and found that one spot had maximum voltage, while a spot 180 degrees opposite had minimal voltage. He marked both spots.

When the salamanders grew to maturity, he found that what had been the point with the strongest field in the egg had become the head. The point with lowest electrical activity was always the tail. The field appeared to be organizing

the matter of the egg during gestation and development.

Burr used mice to determine if the energy field played a role in cancer. He measured their fields and noted which mice later developed cancer. After taking more than 10,000 measurements, he found that the electromagnetic signature of cancer appeared in the mouse's energy field before any detectable cellular malignancy was evident.

Thermography scan of a couple doing yoga.

ENERGY CREATES MATTER

In a landmark study published in 1947, Burr turned his attention to human disease to determine if his observations might have therapeutic value. He and his colleagues examined women with uterine cancer. They found that these women's uteruses had an electromagnetic charge that was different from the charge of healthy uteruses (Langman & Burr, 1947).

Burr then looked at a group of healthy women who did not have a diagnosis of uterine cancer. Those women who had the electromagnetic signature of uterine cancer—even though they were apparently healthy—were the ones who went on to develop cancer later. Cancer was showing up *in the field of energy* before it showed up *in the cells of matter.* Burr's work demonstrated that it is not the case that material organs and organisms like hearts and uteruses and salamanders and mice create energy fields. Energy fields form the templates around which matter condenses. Change the field and you change matter.

Though this understanding may be relatively recent in modern science, it is actually not an entirely new concept. An ancient saying in traditional Chinese medicine is "The mind controls the qi, and the blood follows the qi." By *qi* (also spelled *chi*) the ancient sages were referring to life energy, and by *blood* they meant the matter of the body. Energy directs matter.

WHAT IS H_2O?

Water is so familiar to us that many of us take it for granted. It makes up 70 percent of the volume of our bodies and comprises a similar percentage of the surface of the planet. We drink it and bathe in it every day without giving it a second thought. While people other than chemists can't recite the formula for any other molecule, everyone knows that the formula for water is H_2O. Yet it turns out that this most common of substances holds profound lessons about the relationship of energy to matter.

If I ask you, "What is H_2O?" you're likely to answer, "Water, of course." Certainly, if I hand you a glass of H_2O at room temperature, it's water. But if I add energy to the water by placing it on the stove, it becomes steam. It's still H_2O, but the increase in energy has completely changed the material form it takes.

If I take the same H_2O and place it in the freezer, subtracting energy, the matter changes form again. It becomes ice. The decrease in energy has again completely altered the form of the matter. This is one analogy that my colleague Eric Leskowitz, M.D., of Harvard Medical School, an expert on energy in acupuncture, uses to explain the effect of energy on matter. In similar ways, energy underlies the form matter takes in a huge number of ways that we don't usually notice.

H_2O can exist in several different states yet still be water.

WATER AND HEALING

In a remarkable series of experiments at McGill University, pioneering researcher Bernard Grad examined the effect of healing energy on animals and

plants.

The healing was provided by a former Hungarian cavalry officer named Oskar Estebany, who could heal people by projecting energy from his hands. He was not trained in any way, and he had discovered his gift by accident when massaging horses. He believed that this energy was electromagnetic in nature and that it was a natural human ability. Grad first tested Estebany's abilities on mice. Four rows of small puncture wounds were made on their backs, and Estebany was instructed to "heal" only the two center rows. Sure enough, these rows healed faster than the outer rows. Estebany's mice also healed significantly faster than those held by students.

Grad then tested the effect of treated water on the growth rate of barley seeds. When provided with water held by Estebany for 30 minutes, more of the seeds germinated and the resulting plants grew taller. Their chlorophyll content increased, and the quality of leaf growth was significantly enhanced (Grad, 1963). Other researchers also found highly significant improvements in plant growth or seed germination after healers treated the plants (Scofield & Hodges, 1991; Kronn, 2006).

One rigorous study examined water treated by therapeutic touch practitioners (Schwartz, De Mattei, Brame, & Spottiswoode, 2015). The molecule H_2O has two hydrogen atoms bonded to a single oxygen atom. The angle of the bond between them can be measured, just as you can open a hinge partially and measure the angle it forms. The angle of the molecular bond of normal water is 104.5 degrees.

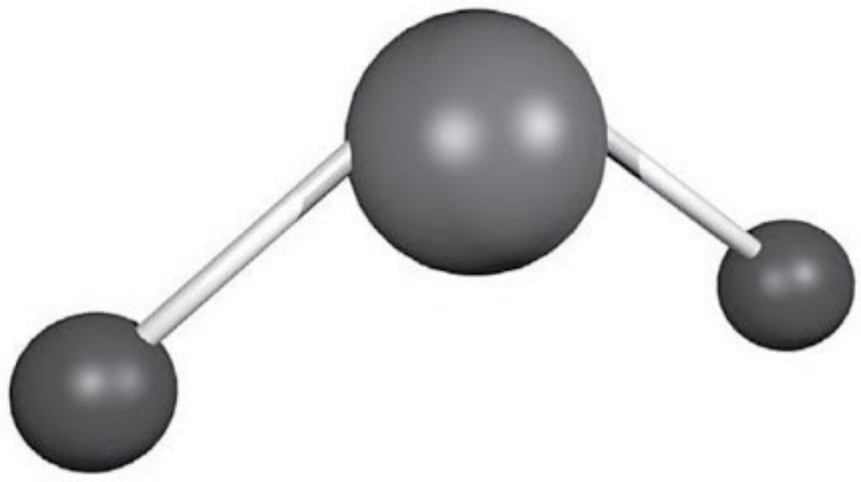
After 45-minute therapeutic touch sessions, the water showed highly statistically significant changes in its absorption of infrared light, which demonstrated that the bonding angle between the oxygen and two hydrogen atoms was altered by contact with the healing field. This particular experiment was very carefully blinded and controlled. Other researchers have also found alterations in the molecular structure of water after contact with a healer (Lu, 1997; Kronn, 2006).

Penn State University materials science professor Rustum Roy conducted many studies of the structure of water. He found that water molecules have a variety of potential configurations in which they can bond together. These can be altered by passing specific frequencies through the water. Water resonates with these frequencies, and the resulting water can have healing properties (Rao, Sedlmayr, Roy, & Kanzius, 2010).

Chinese qigong master Xin Yan has demonstrated the ability to alter the molecular structure of water dramatically, even at a distance. Researchers from the Chinese Academy of Sciences conducted 10 experiments with Dr. Yan. In the first, he stood near the water. In the other nine, he was at a distance of between

7 km and 1,900 km. In all cases, he was able to affect the water while allowing a control sample to remain unchanged.

When performing studies showing that energy healing cured cancer in mice, Bill Bengston noted similar changes in the infrared properties of water held by the healer (Bengston, 2010). He also reviewed research showing that the energy fields of a healer's hands can change how fast cellular enzymes catalyze and, in red blood corpuscles, increase the content of hemoglobin, the compound that carries oxygen to our cells.



H_2O is an oxygen atom bonded to two hydrogen atoms at an angle of 104.5 degrees.

Adeline and the Healing Stars

In the early 1980s, I interviewed a cancer survivor named Adeline. I was working on a project recording spontaneous remissions. Among the many stories I heard, hers stands out to me.

By the time Adeline was diagnosed with uterine cancer in her early 30s, it had spread throughout her body. Adeline's doctors recommended surgery followed by chemotherapy and radiation. Her chances of survival were small.

Unwilling to surrender her body to the ravages of treatment, she decided that instead, she would make her last months as serene as possible.

Adeline began to take long walks in the redwoods of Northern California where she lived. She also took long baths each day, letting water out as it cooled and topping the bath off with hot water. As she lay in the tub and walked through the forest, she imagined tiny glittering healing stars raining from heaven. They passed through her body, and whenever the point of a star touched a cancer cell, she imagined the cancer cell popping like a burst balloon.

Adeline ate the healthiest diet possible, meditated every day, read

inspirational books, and terminated her relationships with people whose company was upsetting to her. Aside from a couple of close friends, most of her time was spent in solitude.

Her walks became longer, and she found herself feeling better physically than she'd felt her entire life.

When she went back to the hospital for a checkup nine months later, Adeline's doctors could find no trace of cancer in her body.

Adeline changed her energy in every possible way. She changed the energy of her physical environment by immersing herself in nature. She filled her mind with positive and specific images like the healing stars and with the uplifting energy of inspirational books. She ate food with an elevated energetic signature. She eliminated the negative energy of unhappy friends. She bathed daily, a practice that fills the body with electrons, countering the free radicals that are a major source of oxidative stress and cell degeneration.

In this pervasive environment of positive healing energy, directed by consciousness, the matter of Adeline's body began to change. Her cells responded, and her body began to eliminate the malfunctioning cancerous tissue. She used energy to heal her material body, and she never went back to her old habits.

Adeline became so accustomed to feeling good that it became her new normal. When I interviewed her seven years later, she was still meditating, eating clean, and living a low-stress lifestyle—and she was still cancer-free.

Adeline's story shows that it's not just gifted healers like Oskar Estebany who heal with energy. We can heal ourselves as well when we adjust our consciousness to the frequency of healing. The matter of our cells responds to the energy of our consciousness.

We're all familiar with the parlor trick of an opera singer breaking a wine glass. When the frequency of the singer's voice raises the energy of the molecules in the glass to the critical limit, they shatter. This is a well-known illustration of a little-known field of study called cymatics, the science of how sound affects matter. Dive deeper into cymatics, and we find that sound is as full of astonishing properties as water.

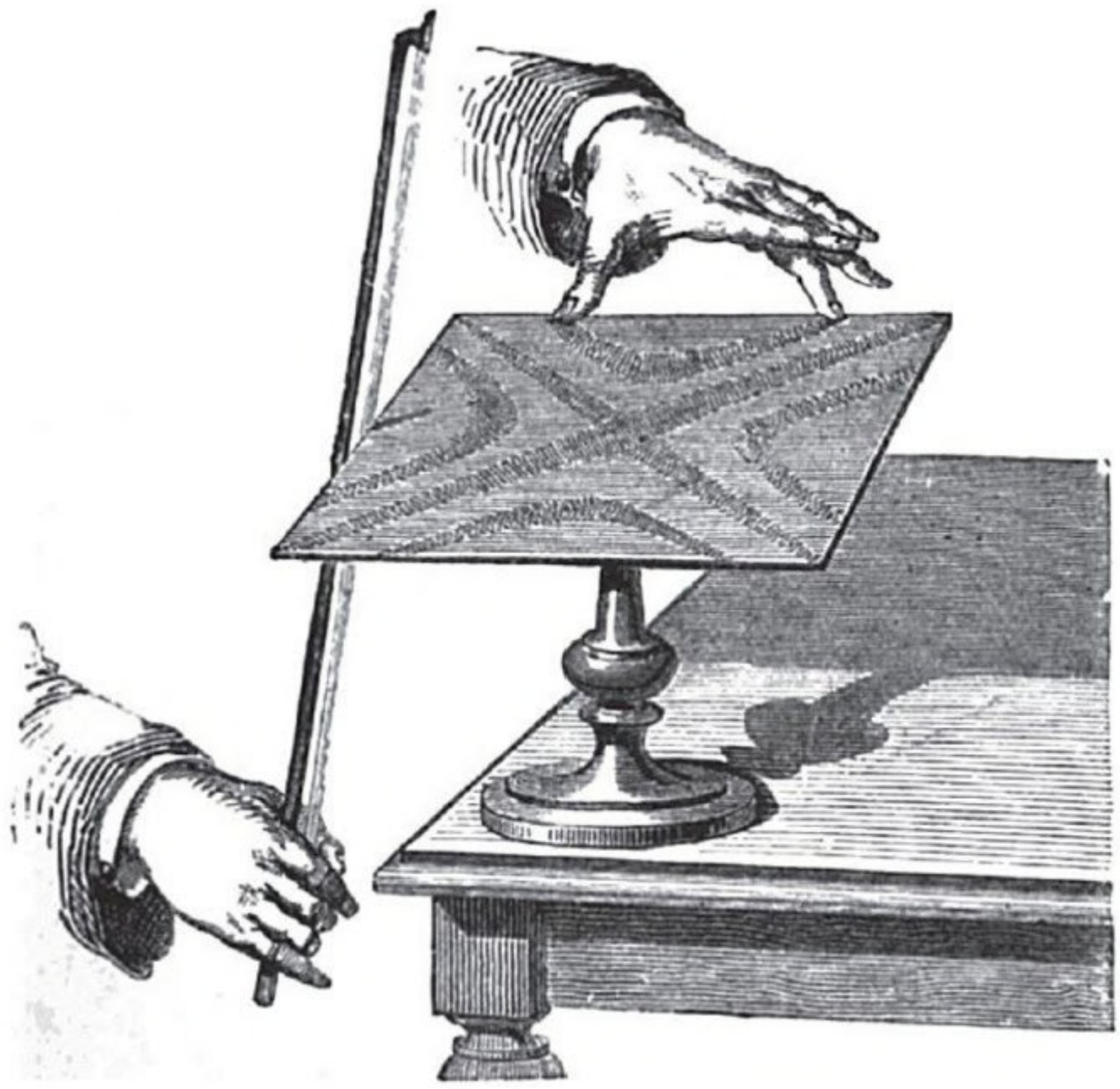
The resonant frequency of sound vibration can shatter a wine glass.

CYMATICS: HOW FREQUENCY CHANGES MATTER

Ernst Chladni was a 19th-century German physicist and musician. He is called the father of acoustics for his pioneering experiments with sound. His father was a strict disciplinarian who did not allow young Ernst outside to play each day until he had finished his rigorous studies.

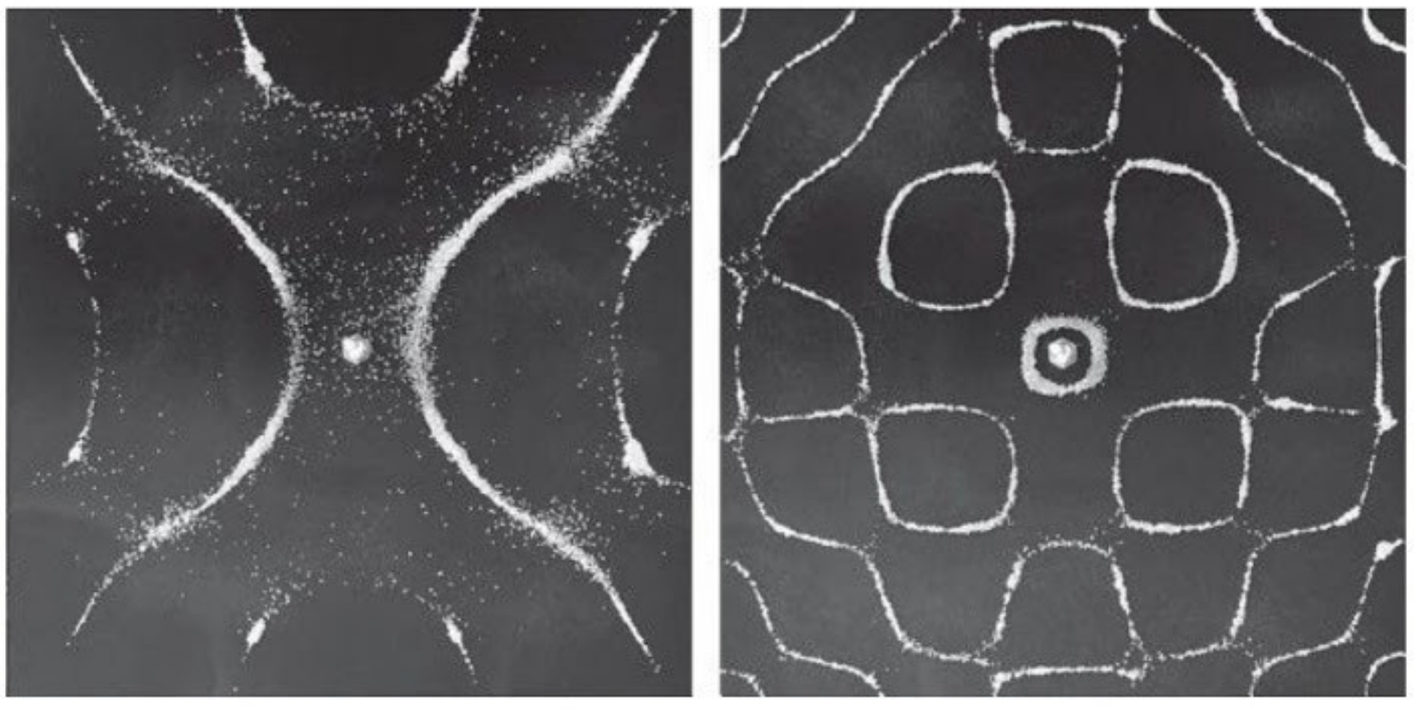
Chladni had an extremely sensitive musical ear, able to discern very small differences between frequencies. After obtaining two degrees, one in law and one in philosophy, Chladni became interested in the study of sound. Inspired by other scientists who had made energy fields visible, he developed a new device.

Fine sand was placed on top of a thin metal plate and a violin bow was drawn along the side of the plate. This caused the plate to vibrate. Different vibrational frequencies produced different patterns in the sand.

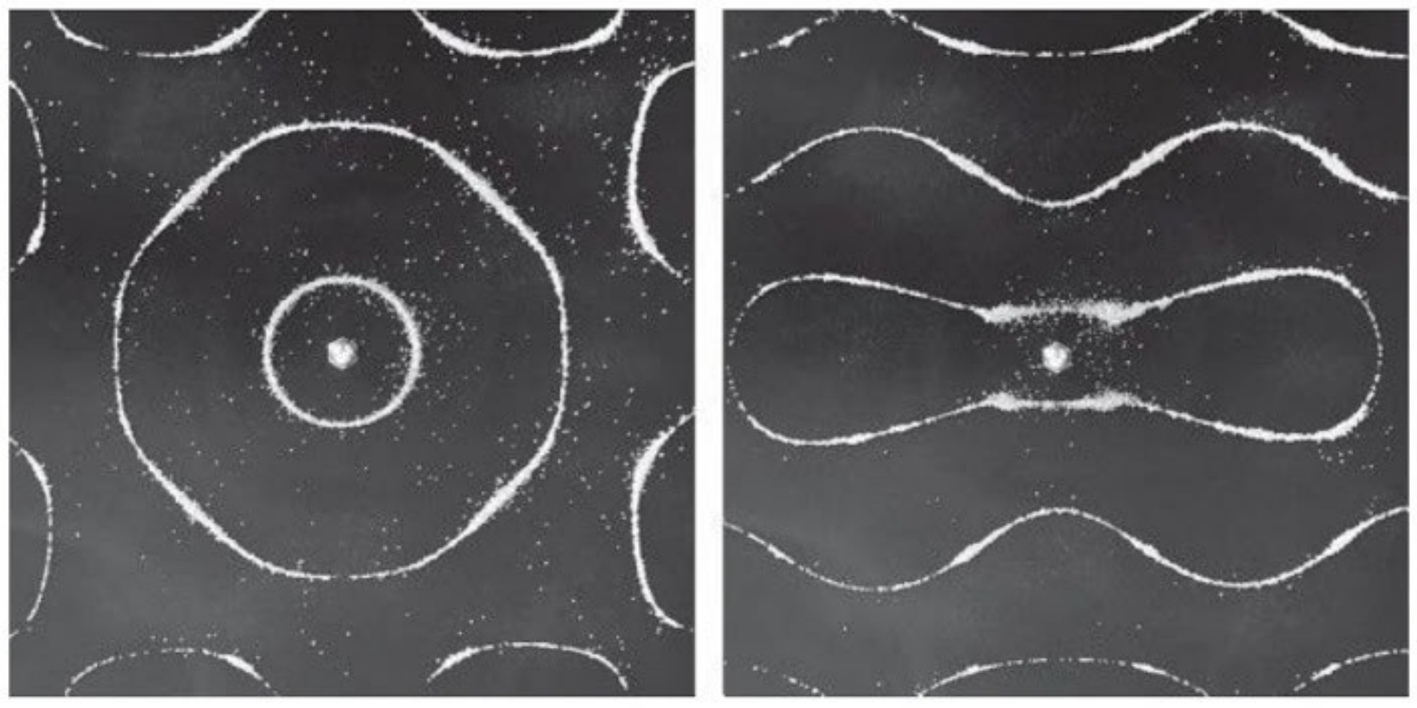


Chladni plate.

Chladni became famous for his public demonstrations, and he traveled throughout Europe year after year. This brought him into contact with many other scientists, and he progressively developed his ideas. He published his seminal work, *Acoustics,* in 1802, founding a new scientific field.



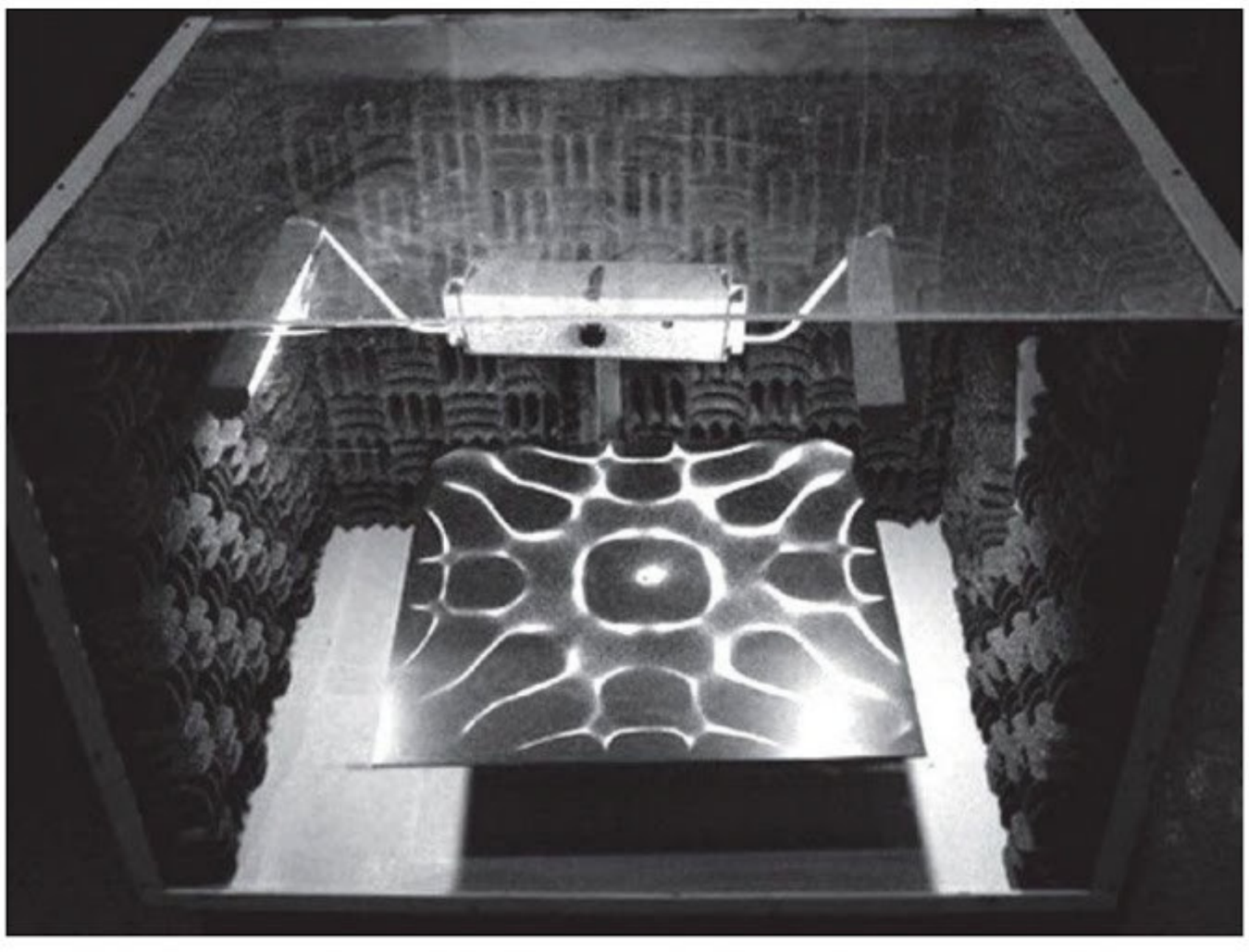
The frequency of sound passed through a Chladni plate produces different patterns. Above, 1305 Hz and 5065 Hz. Below, 2076 Hz and 2277 Hz.



The study of how sound affects matter is called cymatics. Following Chladni's pioneering work, scientists have been examining the effects of vibrational tones on various substances. Vibrations can change the configuration of material objects dramatically and immediately.

A modern Chladni plate is attached to a scientific instrument called a vibration generator. When the frequency is adjusted, the metal vibrates at different rates. When a substance with a contrasting color, such as white sand, is sprinkled on the plate, patterns are visible. That's because when certain frequencies are passed through molecules, they produce distinct shapes. Generally, the higher the frequency, the more complex the pattern it produces in matter.

Various types of matter can be used to illustrate the effect of energy passing through Chladni plates. Salt and sand are popular media. Living organisms such as seeds also respond.

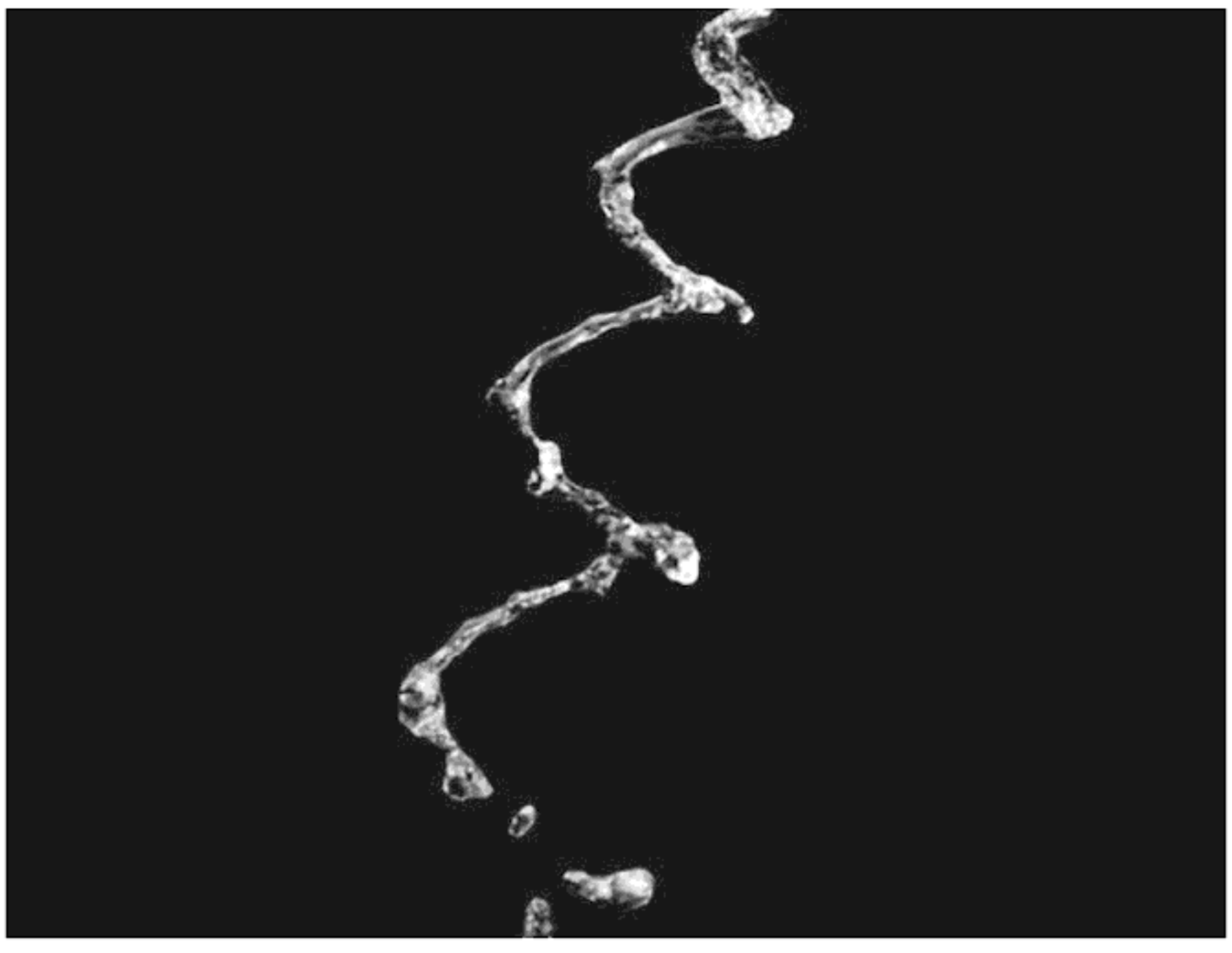


A large Chladni plate at the Harvard University natural sciences laboratory.

Chladni plates and vibration generators are popular items in high-school science classes. They can be purchased online or easily made at home using simple materials. Yet as a demonstration of how energy organizes matter, they are a powerful reminder that every frequency that passes through our bodies and minds is organizing the molecules of our bodies.

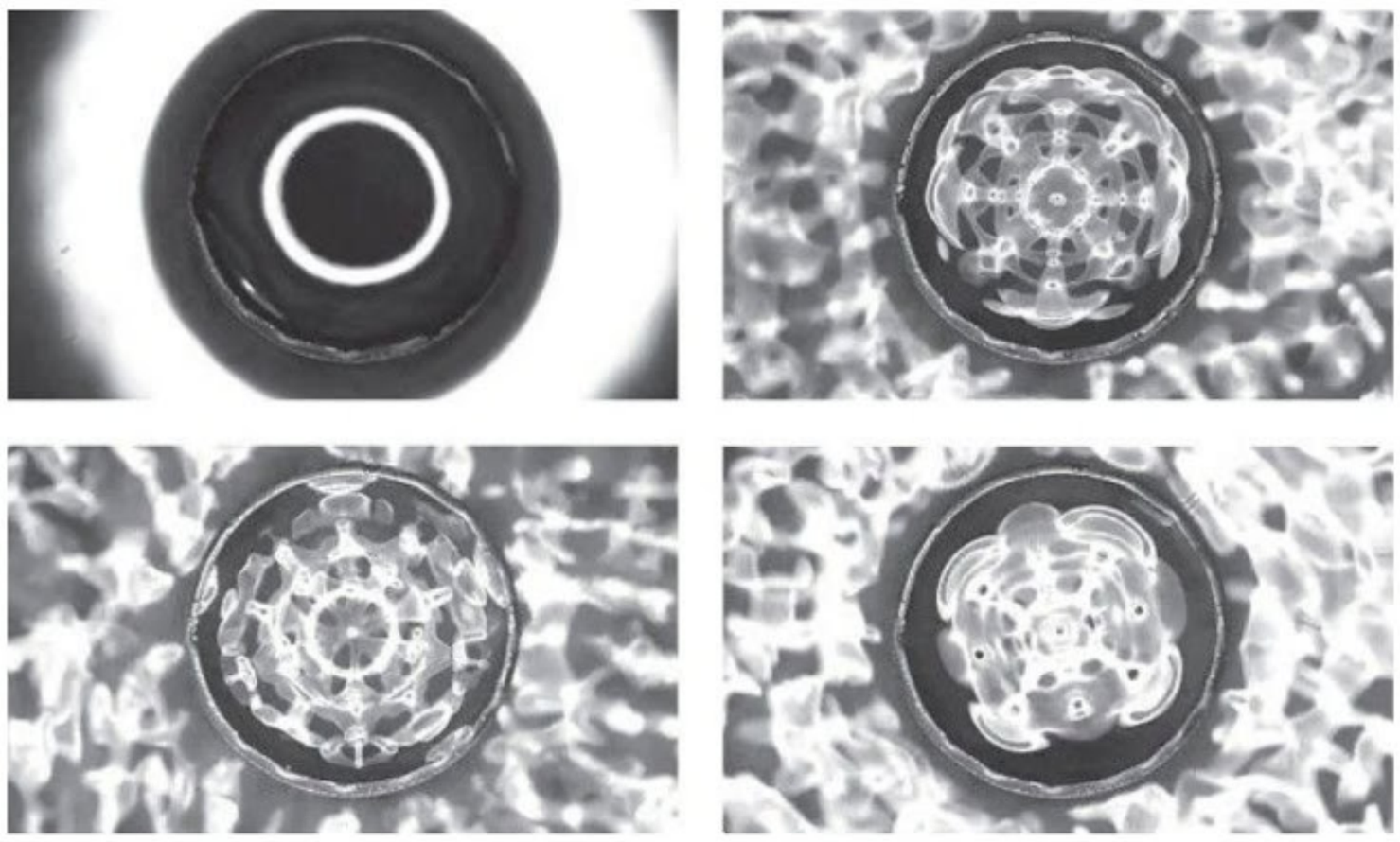
SOUND VIBRATIONS CREATE SQUARE WATER

Water can also be made to change shape in response to vibration. When water comes out of a tube, the shape of the stream is round. If certain frequencies are played nearby, however, it changes its regular form into a series of right angles or a spiral.



A stream of water changes shape in response to sound vibration from a speaker.

Another way to visualize the impact of energy frequencies on matter is to pass sound waves through a dish of water. As the frequency is changed, the patterns in the water change too. Certain types of classical music produce complex and beautiful patterns in the water, while other frequencies, such as those found in harsh music, produce chaotic and disorganized wave forms.



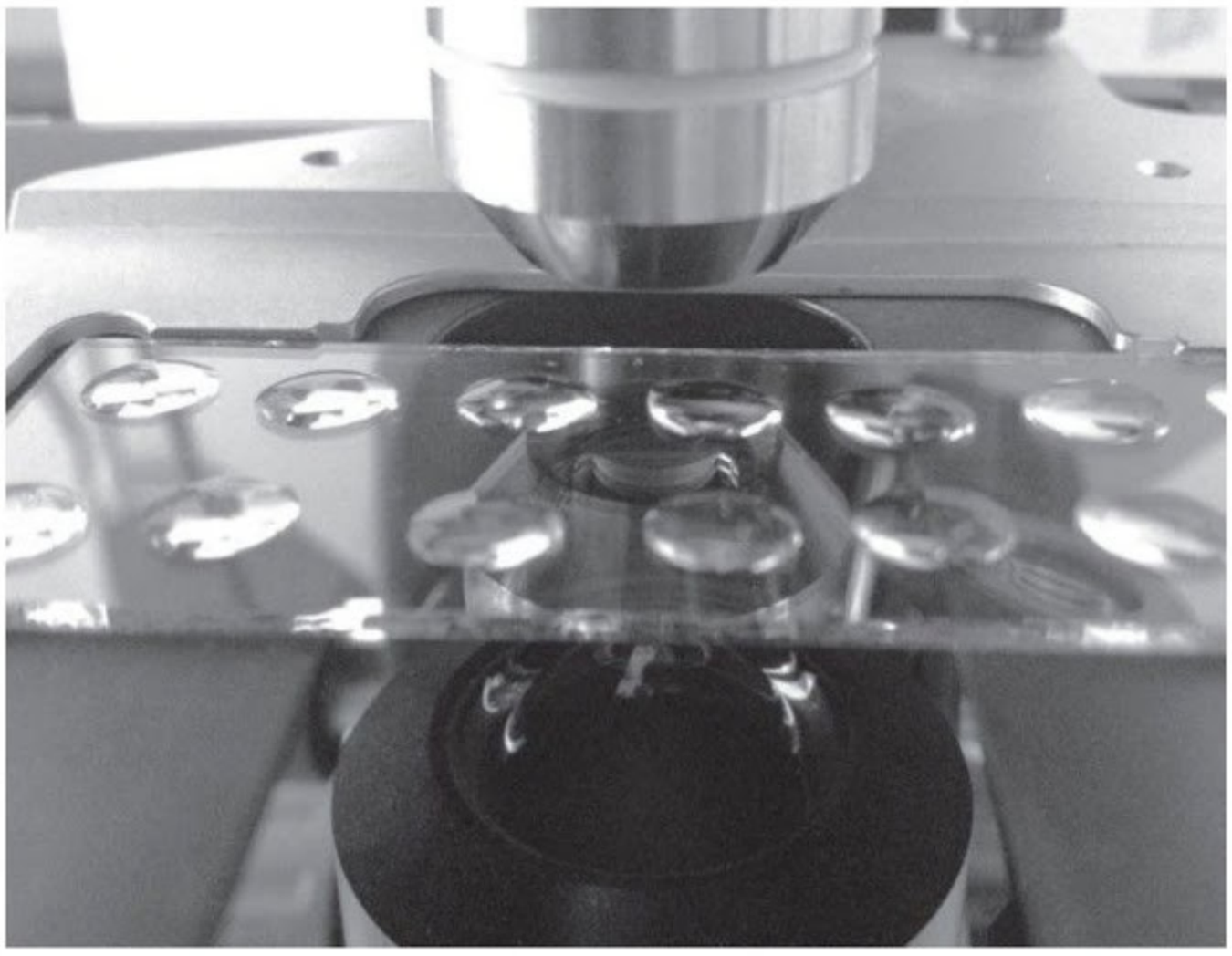
Water in a backlit glass dish changing shape as various energy frequencies are passed through it.

YOUR PERSONALITY IN A DROP OF WATER

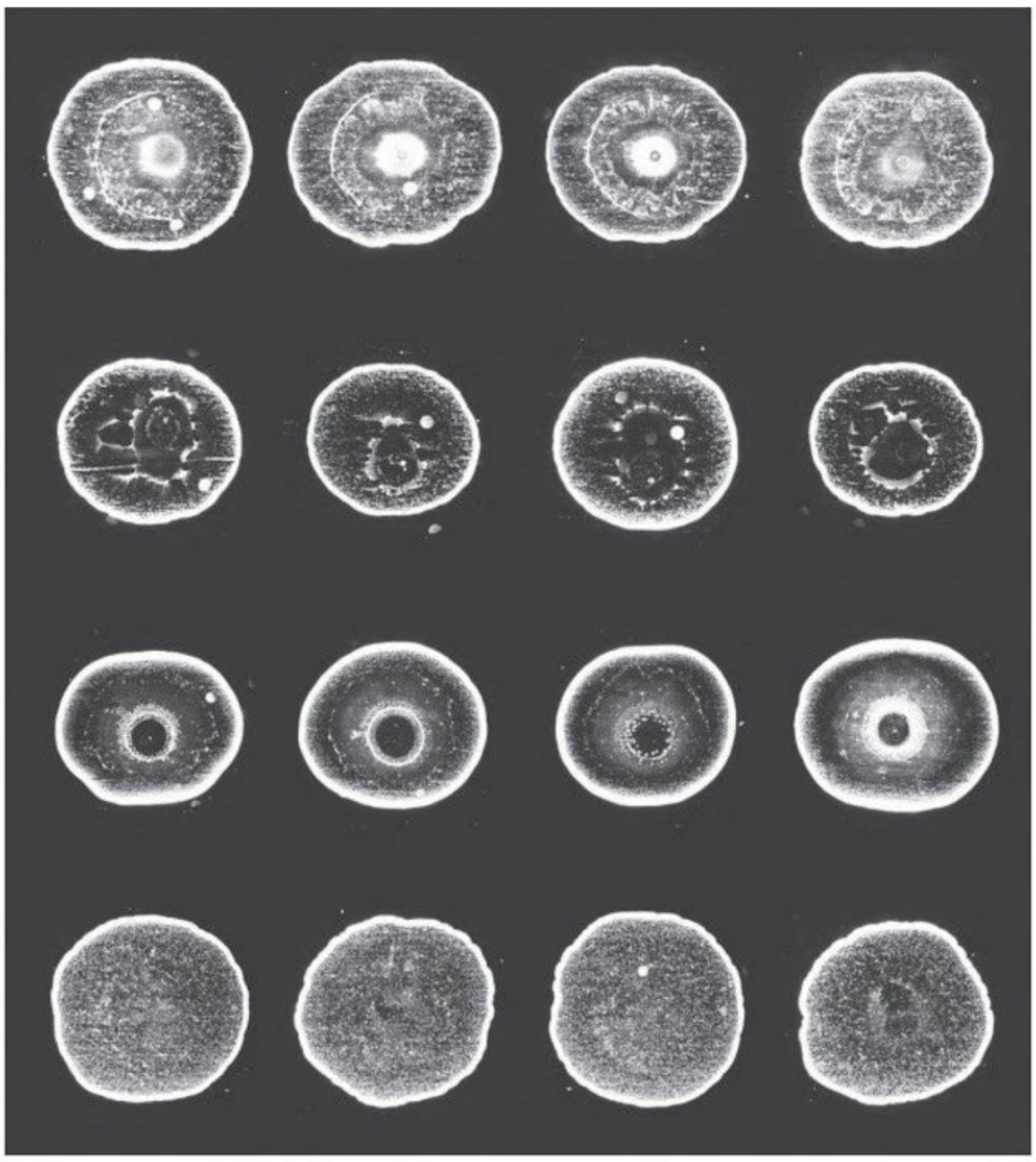
A fascinating series of experiments at the Aerospace Institute (officially, the Institute for Static and Dynamics for Aerospace Constructions) in Stuttgart, Germany, used water as a medium. The studies, performed by Professor Dr. Bernd Helmut Kröplin, measured the effect of different people on water.

A large group of students participated in one experiment. Each one filled a hypodermic syringe with water and squeezed a series of droplets onto a microscope slide. Kröplin's team then took photographs of the droplets.

They found that each person's group of droplets looked quite different from the droplets produced by the others. The droplets produced by the same person, however, were virtually the same. Even if the person squeezed out 20 droplets, a similar pattern was discernable in all 20. But that group of droplets looked different from the droplets produced by the next person, and the next. It seemed that passage through the energy field of a person produced an indelible and consistent impact on the matter, in the form of water, that they handled.



A subject produces a series of droplets on a microscope slide.



However many droplets are produced by a person, they all look similar. Yet they are completely different from a series of droplets produced by another person.

Just as the fingerprints of every one of the eight billion people on the planet are unique, the energy field of each person is unique. When water passes through a person's energy field, the shapes it assumes are always the same,

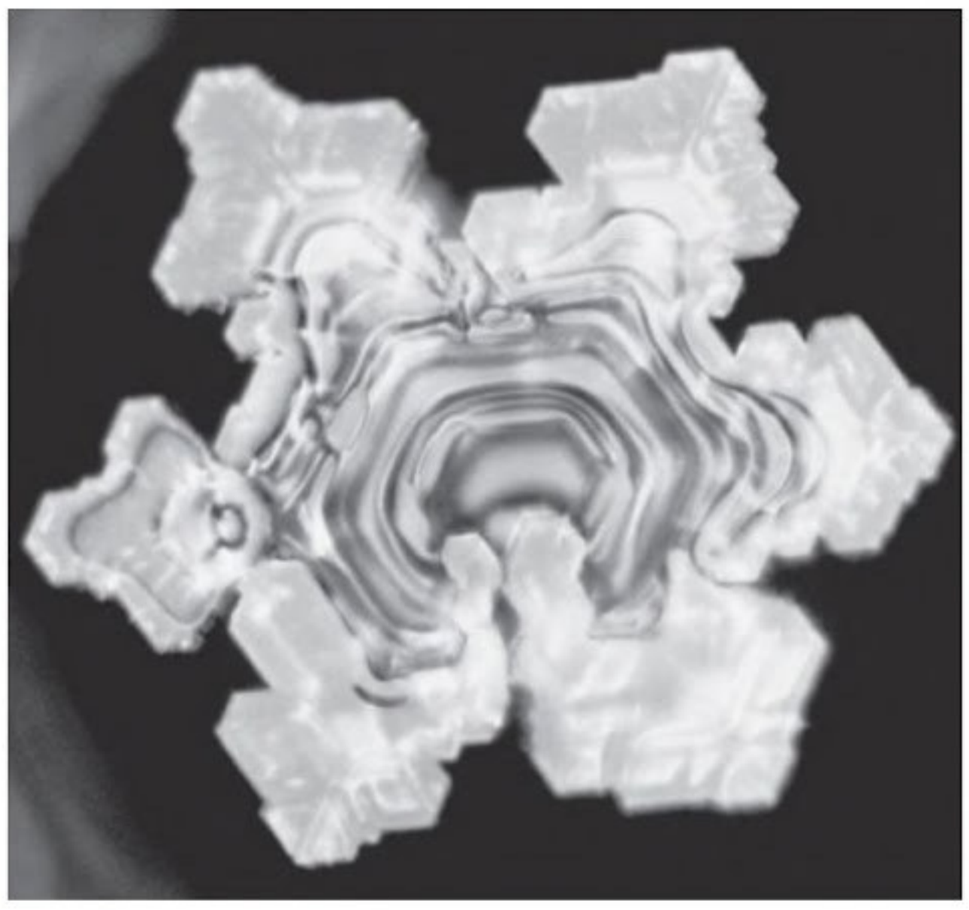
while different from the shapes produced by any other person. Kröplin and his associate Regine Henschel describe their latest research in their book *Water and Its Memory*, saying, "To our surprise, we could demonstrate that the drop image is changed in the vicinity of the experimenter by the individual energy field around him or her. Each experimenter creates an individual, reproducible set of drop images without any special mind or thought activity" (Kröplin & Henschel, 2017).

Another study, this time on the effects of distant intention on water, was performed by a research group at the Institute of Noetic Sciences (IONS) in Petaluma, California.

A group of 2,000 people in Tokyo focused positive intentions on water samples inside an electromagnetically shielded room in Petaluma. Such rooms, also known as Faraday cages, are lead-lined chambers designed to screen out all known forms of radiation. Fiber-optic cables connect the instrumentation inside the room to the lab outside, so that even conventional electromagnetic fields are screened out.

Unknown to the group of earnest intenders in Tokyo, however, similar water samples were being held in a different location as controls.

Photographs of ice crystals formed from both sets of water were then viewed by 100 independent judges. They found the shapes in the treated water more beautiful than those in the untreated water (Radin, Hayssen, Emoto, & Kizu, 2006).



Water exposed to the music of Mozart.