Counter-Clockwise

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Mindful Health and the Power of Possibility

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Author's Note

This book could be read as anti–established medicine. It is therefore important to state that if I personally were to experience extreme health symptoms, I would go to my doctor, but there is little else I would do that is traditional.

CHAPTER 1

Counterclockwise

What we need is not the will to believe, but the wish to find out.

—William Wordsworth

There's no way to turn back the clock or to fight the inevitable. We age and the vigor of youth becomes only a memory as we are ravaged by time. Chronic illnesses take their toll, our health and strength diminish accordingly, and the best we can do is graciously accept our fate. Once sickness is upon us, we give ourselves over to modern medicine and hope for the best. We can't intervene as time marches on. Or can we?

In the 1970s my colleague Judith Rodin and I conducted an experiment with nursing home residents.[1] We encouraged one group of participants to find ways to make more decisions for themselves. For example, they were allowed to choose where to receive visitors, and if and when to watch the movies that were shown at the home. Each also chose a houseplant to care for, and they were to decide where to place the plant in their room, as well as when and how much to water it. Our intent was to make the nursing home residents more mindful, to help them engage with the world and live their lives more fully.

A second, control group received no such instructions to make their own decisions; they were given houseplants but told that the nursing staff would care for them. A year and a half later, we found that members of the first group were more cheerful, active, and alert, based on a variety of tests we had administered both before and after the experiment. Allowing for the fact that they were all elderly and quite frail at the start, we were pleased that they were also much healthier: we were surprised, however, that less than half as many of the more engaged group had died than had those in the control group.

Over the next several years, I spent a lot of time thinking about what had happened. Our explanation was that the results were due to the power of making choices and the increased personal control it affords. Although we couldn't make an airtight case, subsequent research would bear out our original understanding. Our research had taken place at the beginning of what was later termed the "New Age" movement and well before mind/body studies were conducted in laboratories around the country. It raised a nagging question: "What is the nature of the link from the nonmaterial mind to the material body?" Examples of this connection are all around us. We see a rat and show signs of fear as our pulse races and sweat breaks out on our skin; we think about losing a significant other and our blood pressure increases; we watch someone vomit and we feel nauseous ourselves. While we easily see evidence of the connection, it's not well understood. Even we had been surprised: it seemed odd that simply asking people to make choices would result in the powerful consequences that our study showed. Subsequently, I realized that *making choices results in mindfulness, and perhaps our surprise was because of the mindlessness we shared with most of the culture.* I began to realize that ideas about mind/body dualism were just that, ideas, and a different, nondualist view

of the mind and the body could be more useful. If we put the mind and the body back together so that we are just one person again, then wherever we put the mind, we would also put the body. If the mind is in a truly healthy place, the body would be as well—and so we could change our physical health by changing our minds.

The next question for me was one of limits. To what extent can the mind influence the body? If I smelled a fresh donut and imagined eating it, would my blood sugar rise? Would people fully convinced that their teeth are in excellent condition have healthier-looking X-rays at their annual checkups? Do men who become bald at a young age and thus see themselves as prematurely old test as older physiologically than men their age with a full head of hair? Do women who undergo cosmetic surgery and see a more youthful self in the mirror age more slowly? The questions may seem a bit "out there," but they were worth asking.

In 1979, several years after that initial investigation with plants and nursing home residents, it seemed natural to continue testing the question of limits with an elderly population. My students and I devised a study—which we would later come to call the "counterclockwise study"—to look at what effects turning back the clock psychologically would have on people's physiological state.[2] We would re-create the world of 1959 and ask subjects to live as though it were twenty years earlier. If we put the mind back twenty years, would the body reflect this change?

As with many ideas, at first it seemed extreme, but the more we thought about it, the more possible it became. We finally decided it was worth the effort. My students weren't quite as confident as I was because it wasn't your usual study, but they quickly got caught up in my excitement.

To start, we consulted leading geriatricians to find the definitive biological markers of age to measure our results. Astonishingly, we were told there were (and still are) none. Without knowing someone's chronological age, science cannot pinpoint how old someone is. To do our research, however, we needed ways to measure how old people were both before and after the retreat, so we determined which psychological and physical measures were the best bets to use. In addition to weight, dexterity, and flexibility, we planned to measure vision with and without eyeglasses, for each eye separately and together, as well as sensitivity to taste. We would give potential participants intelligence tests, to assess how quickly and accurately they could complete a series of paper-and-pencil mazes, and we would test their visual memory. We would also take photographs that we could later evaluate for the *appearance* of changes. Finally, they would each be asked to fill out a psychological self-evaluation test. All of these tests would help us select participants and give us a way to measure potential improvements at the end of the study.

We advertised the study in local newspapers and circulars, describing the research as a study on reminiscing, where people in their late seventies or early eighties would spend a week at a country retreat and talk about the past. To keep the study simple, we decided to use only one gender in order to make room assignments and other logistics easier. We chose to use men. We wanted men who were not ill and who would be reasonably able to participate in the activities and discussions we had planned for them. Word got out. Many younger people wanted to learn more about the study and how it might benefit their elderly parents. Those selected based on their telephone interviews came to the office to take the baseline physical and psychological tests.

The interviews were memorable. At our first meeting, I asked a man named Arnold to tell me about himself and especially how he felt about his health and physical condition. Unlike other adult children who brought their parents in, Arnold's daughter sat back and let him talk without interruption. He told me about his life and the wide range of activities he used to enjoy, both physical and intellectual. Now he never had enough oomph to do much of anything. He had given up reading because he could barely see the words on the page even with glasses. He no longer played golf because it was too disheartening to walk the course as slowly as he did. When he left the house, he invariably caught a cold no matter what the month or how much he bundled up. Food didn't taste good to him anymore, he said. This was as dismal a picture of his life as I could imagine.

Then, Arnold's daughter—whom I had been silently praising for her willingness to let her father speak for himself—spoke up and condescendingly said that Arnold was "prone to exaggeration."

Sadly, Arnold didn't object to his daughter's dismissal of his complaints.

I told him that I didn't know if anything would change as a result of the study, but he might have a good time for a week. He agreed to join us.

As we did more interviews and listened to the participants' complaints about their health and physical limitations, my doubts began to increase. Would we find positive results, and would they be worth the considerable effort of putting together and conducting the study? It was clear to me and my four graduate students that this was indeed a major undertaking, but given the work we had already done, we decided to go forward. We selected participants, divided them into two groups of eight—an experimental group and a control group—and set about putting in place our plans for the experiment.

My students and I traveled to several towns to find an appropriate site for our weeklong retreat. The right spot needed to seem timeless, with few modern conveniences. We eventually found an old monastery in Peterborough, New Hampshire, that was perfect. Our plan was to retrofit it so that it would "replicate" the world of 1959. The "experimental" group of participants would live there for a week going about their lives as though that year were the present. Every conversation and discussion was to be held in the present tense. We sent everyone an information packet in the mail with general instructions, an outline of the week's schedule (including meals, discussion groups about movies and politics of the time, and each evening's activities), and a floor plan of the retreat, marking the location of their room. We told research subjects not to bring any magazines, newspapers, books, or family pictures that were more recent than 1959. They were asked to write a brief autobiography as though it were 1959 and send photos of their younger selves, which we sent to all of the other participants.

The second group—the control group—went on a separate retreat held a week later. They were treated just like the first: they would be living in the same surroundings and enjoying activities and discussions about things that took place in 1959. But their bios were to be written in the past tense, their photos were of their current selves, and once at the retreat they would *reminisce* about the past and thus largely keep their minds focused on the fact that it was not 1959.

For both groups, we knew that if we were going to turn back the clock, we would have to do so convincingly. We carefully studied what daily life in 1959 was like. We learned the particulars of current political and social issues, the television and radio programs people watched and listened to, and the physical objects they would have encountered. It was difficult, but we were able to create a

program for a week's worth of events in an environment that would indeed persuasively mimic the past for our participants.

When the experimental group participants were brought together for their trip orientation, we introduced the present-tense nature of their experience; we stressed that the best way to approach the study might not be through simple reminiscence. Rather, they should return as completely as possible in their minds to that earlier time. I remember the excitement of saying, "Therefore, we're going to a very beautiful retreat where we will live *as if* it were 1959. Obviously, that means no one can discuss anything that happened after September 1959. It is your job to help each other do this. It is a difficult task, since we are not asking you to 'act as if it is 1959' but to let yourself be just who you were in 1959. We have good reason to believe that if you are successful at this, you also will feel as well as you did in 1959." We told them that all of their interactions and conversations should reflect the "fact" that it was 1959. "It may be difficult at first, but the sooner you let yourselves go, the more fun you'll have," I said enthusiastically. A few men laughed nervously, one giggled in excitement, and a couple just shrugged cynically.

And so off we went to spend a week in the "nifty fifties," a time when an IBM computer filled a whole room and panty hose had just been introduced to U.S. women.

Once at the retreat, we met daily to discuss current events such as the 1958 ("last year" in the case of the experimental group) launch of the first U.S. satellite, Explorer 1; the need for bomb shelters; and Castro's advance into Havana. A talk on communism became very heated, as did a recap of the Baltimore Colts' 31–16 defeat of the New York Giants in the NFL championship game. We listened as Royal Orbit won the Preakness, watched Sgt. Bilko and Ed Sullivan on a black-and-white television, and shared our thoughts about "recent" books such as Ian Fleming's *Goldfinger*, Leon Uris's *Exodus*, and Philip Roth's *Goodbye Columbus*. Jack Benny and Jackie Gleason made us laugh; Perry Como, Rosemary Clooney, and Nat "King" Cole sang on the radio, and we watched movies like *The Diary of Anne Frank, Ben Hur, North by Northwest*, and *Some Like It Hot*.

What happened? We noticed a change in behavior and attitude in both groups before the respective weeks were up. Indeed, by the second day everyone was actively involved in serving meals and cleaning up afterward. Despite their obvious and extreme dependence on relatives who initially drove them to Harvard's psychology department for interviews, they were all functioning independently almost immediately upon arrival at the retreat. After each weeklong retreat was over, we retested all participants and found that indeed, the mind has enormous control over the body. Both groups had been treated with respect, engaged in lively discussions, and experienced a week unlike anything in their recent past. Both groups also came out of the experience with their hearing and their memory improved. For better or worse—in most cases for better—they gained an average of three pounds each and the strength of their grip increased significantly. On many of the measures, the participants got "younger." The experimental group showed greater improvement on joint flexibility, finger length (their arthritis diminished and they were able to straighten their fingers more), and manual dexterity. On intelligence tests, 63 percent of the experimental group improved their scores, compared to only 44 percent of the control group. There were also improvements in height, weight, gait, and posture. Finally, we asked people unaware of the study's purpose to compare photos taken of the participants at the end of the week to those submitted at the beginning

of the study. These objective observers judged that all of the experimental participants looked noticeably younger at the end of the study.

This study shaped not only my view of aging but also my view of limits in a more general way for the next few decades. Over time I have come to believe less and less that biology is destiny. It is not primarily our physical selves that limit us but rather our mindset about our physical limits. Now I accept none of the medical wisdom regarding the courses our diseases must take as necessarily true.

If a group of elderly adults could produce such dramatic changes in their lives, so too can the rest of us. To begin, we must ask if any of the limits we perceive as real do exist. For example, we largely presume that as we age our vision gets worse, that chronic diseases can't be reversed, and that there is something wrong with us when the external world no longer "fits" as it did when we were young.

Why is it that, as a society, we pay so much attention to our health and yet we know so little about achieving a healthy life? We read article after article in magazines. There are mountains of books and television shows devoted to improving our health; we are obsessed with health and fitness. Yet if we look carefully, psychology tells us that we are not attuned to our health at all. On the contrary, motivation and behavior often stand directly in the way of achieving the good health we seek. We need to try a more mindful approach, one that doesn't accept the limits we place on our health.

Mindful health is not about how we should eat right, exercise, or follow medical recommendations, nor is it about abandoning these things. It is not about New Age medicine nor traditional understandings of illness. It is about the need to free ourselves from constricting mindsets and the limits they place on our health and well-being, and to appreciate the importance of becoming the guardians of our own health. Learning how to change requires understanding how we go astray. The goal of this book is to convince you to open your mind and take back what is rightfully, sensibly, and importantly yours.

If One Dog Could Yodel

Most people believe that "always" and "never" are rarely appropriate ways of understanding human events. This belief is akin to the more scientific observation that what is true for the general case may not be true in any particular instance; with few if any exceptions, we cannot predict any particular outcome at any particular time. What may be true for most people most of the time matters less to us than what is true for any one of us at any particular time. If my leg needs to be amputated, the fact that most people survive the surgery is of little comfort.

Science has come a long way in providing answers to serious and important questions. Nevertheless, scientific data only speak to the general case, to what is generally true. Whether any particular medication or medical procedure is deemed effective is determined by a study of what works in a population that had the presenting problems under investigation. For practical reasons alone, all types of people—and their different body types, genetic makeup, lived experiences, and so on—are not equally likely to be among those studied. Every aspect of the investigation is a best guess at the time: which people to include as research subjects, which symptoms and in what combination to consider, which aspects of the procedure to focus on, and which measures to take

are all based on choices made by the medical world. Because the task before medical science is enormous in its complexity and experiments cannot incorporate all the unknowns, it is with good reason that the findings of these studies are given in terms of probabilities—as general truths.

A perceptive reader might ask, "Why are your studies any different?" Much of my own research is designed to test possibilities, not to find what is descriptively true. If I can make one dog yodel, then we can say that yodeling is possible in dogs. The results of the counterclockwise study do not show us that everyone who talks about the past will show the same results. It does tell us, however, that it is *possible* to achieve these kinds of improvements, but only if we try.

Research in general tells us something about "most" people. Given that our concern is for what we, rather than what most people, should do, current medical practice alone cannot have a definitive answer. Medical science is not wrong or useless, but we as individuals are the keepers of some missing data. We need to learn how to integrate what the medical world knows to be generally true with what we know, or can find out, about ourselves.

If we spill a drop of red sauce on a white shirt, we easily will notice it. If the shirt were a busy plaid, we might not. Most of us are so disengaged from ourselves—stressed, depressed, overworked, and so on—that we look at ourselves and see plaid shirts. But that can change if we take note of what's new and different about the world and ourselves. When we notice new things, we become mindful, and mindfulness begets more mindfulness. The more mindful we become, the more we see ourselves as white shirts and the easier it is to find the red spot and remove it.

Attending to the world doesn't mean that we need to become hypervigilant. Our attention naturally goes to what is different and out of balance. If we allow it, we will begin to notice small signals without consciously searching or paying any particular attention to them. But first we need to open our minds to possibility. We all pay lip service to the idea that anything is possible. Yet whenever specific instances of "never-before" happenings present themselves, most of us reject the possibility out of hand. Can limbs regenerate? Can paralysis be reversed? Many of us who otherwise agree that anything is possible will respond no almost without thinking. Why don't we allow in practice what we profess to believe? One answer is that the mindsets we form from everyday experience close us off to possibility. It doesn't occur to us to rethink much of what we learn about the world because we tend to learn mindlessly; it's not that we aren't paying attention to whatever it is we are learning, it's that we aren't paying attention to the context in which we learn it. We don't consider that what's true here need not be true over there. If we don't think to think about our ideas, we can't update or improve them. It won't occur to us to question how we know what we know, what facts we base it on, and whether the science that produced those facts is suspect. The hefty price for accepting information uncritically is that we go through life unaware that what we've accepted as impossible may in fact be quite possible.

Most people, including scientists, engage in hypothesis-confirming behavior. Once we think we know something, we search for information consistent with that belief. Seek and ye shall find. If we searched for the opposite of what we believe to be true, we would likely also find confirmation and in many cases we could be better served. Social psychologists typically do this by looking for interactions among variables, expecting the effect in question to be true in some situations and not in others. If we all did this more generally, we might discover something we didn't know or we might develop more nuanced beliefs. When we simply search for confirmation of our beliefs,

however, we usually collect more evidence for the same hypothesis and potentially erroneous beliefs become harder to dispel. (It's even true that experimenters investigating the phenomenon of hypothesis confirmation have the same problem of seeking hypothesis confirmation.) We often find the source of our beliefs in conventional wisdom and their proof in expert opinion. For example, we believe generally that alcohol is basically bad for us, and science—expert opinion—believes that this is often the case. Doctors who treat alcoholics confirm it. In many cases, it simply doesn't occur to us to question either of these "truths." If we did, our trust in the impossible might yield to a belief in possibility. Now we all know, for example, that red wine can actually be good for us.

The Psychology of Possibility

In most of psychology, researchers describe what is. Often they do this with great acumen and creativity. But *knowing what is and knowing what can be are not the same thing*. My interest, for as long as I can remember, is in what can be, and in learning what subtle changes might make that happen. My research has shown how using a different word, offering a small choice, or making a subtle change in the physical environment can improve our health and well-being. Small changes can make large differences, so we should open ourselves to the impossible and embrace a psychology of possibility.

The psychology of possibility first requires that we begin with the assumption that we do not know what we can do or become. Rather than starting from the status quo, it argues for a starting point of what we would like to be. From that beginning, we can ask how we might reach that goal or make progress toward it. It's a subtle change in thinking, although not difficult to make once we realize how stuck we are in culture, language, and modes of thought that limit our potential. For instance, we all use pithy expressions such as "We won't know unless we try," but we don't realize how misleading they can be. I maintain that we may not know even if we try, because when we try and fail, all we know is that the way we tried was not successful. We still do not know that it *can't* be.

When faced with disease or infirmity, we may find a way to adjust to what is. In the psychology of possibility, we search for the answer to how to improve, not merely to adjust.

For example, most of us believe that between the ages of forty and fifty, our eyesight will start to decline. Indeed, research has shown that while it may not happen to everybody, a loss of vision happens much of the time. But we too often mindlessly turn this probability into absolute fact. When we begin to have trouble reading we accept that our eyes have worsened and we adjust to the loss by getting glasses. I'm not suggesting that optometrists give us glasses when we physiologically don't need them. I'm not arguing that we don't need the glasses at this point. But if we didn't accept that our eyes were going to chronically get worse, they might not. If instead we thought that perhaps our eyesight could improve over time—be better than when it was at its best—we might develop ways to make that happen. Consider how the deaf come to see better just as the blind develop more acute hearing. Surely we can find that we see some things better than others. So it would make sense to ask why not try to see the less clear more clearly. We probably wouldn't even ask ourselves; we would just do it.

The second step toward embracing a psychology of possibility—using our eyesight as a continued example—is to try out different things without evaluating ourselves as we go along. If we squint when trying to read small print and we still have trouble, our self-esteem would not be particularly on the line. We would simply note whether or not the attempt was successful. With the same attitude, we would be more likely to notice other anomalies regarding our vision: perhaps that sometimes we can see the previously unseen and sometimes not, which could give us clues as to what was happening to our vision. In this way, the psychology of possibility is more positive, less evaluative, and more process-oriented than most personal and scientific research.

Pursuing possibility regarding our health may result in the desired end, but in addition, pursuing the psychology of possibility is itself empowering. It feels good to have a personal mission, it contributes to a more positive outlook in general, and it works against the idea that the rest of us are soon to follow suit and fall apart. As we actualize the possible, we may find out other interesting things about ourselves and the world. In exploring the "limits" of my vision, for example, I may see things around the house that I have too long ignored ("seeing them" through a fresh attempt to see them); I may notice that I need a new sofa (I notice frayed edges where I'd never bothered to look before) or that I am particularly fond of a painting on the wall that I ceased to appreciate years ago.

In the psychology of possibility, interpreting findings is also a different process. In descriptive or traditional psychology, the majority of subjects tested have to show an effect for us to conclude that the effect is real: a large number of monkeys would need to be able to speak clearly for us to conclude that monkeys can talk. In this new psychology, once we've ruled out experimenter error, only one participant is needed to prove that something is possible. If just one monkey spoke one real word, we'd have enough evidence to draw conclusions about primate communication abilities. Typically, participants who do not conform to the experimenter's hypothesis are seen as unwanted noise in the data. In my research, these exceptional cases become the focal point of the investigation.

In physics, concepts such as "dark energy" function as placeholders. It is acknowledged that we do not understand much about it, but science is well served to presume it exists. In psychology we do not have placeholders. The question is more often about why phenomena exist rather than if they can exist. Accordingly, psychology researchers look for mediating mechanisms to explain how they could be. If they can't be explained, the findings may be dismissed out of hand. For instance, many psychologists presume memory loss is a natural part of aging. An older person who doesn't have memory loss is seen as an anomaly instead of becoming a model for how we all might be. In the psychology of possibility, mediating mechanisms (or their absence) do not blindside us. The mission is to see if an outcome is possible first. After that, explanations for why and how can be pursued.

Too many of us believe the world is to be discovered, rather than a product of our own construction and thus to be invented. We often respond as if we and/or the world around us are fixed, even when we agree in theory that we are not. We might sit uncomfortably in the bathroom each day without realizing that we would feel better if we changed the height of the toilet. We lament that we can't paint until our broken wrist heals and never seriously consider painting with our nondominant hand. We don't go to the opera because of our glaucoma, when the experience of merely listening to the music could be extremely rich. There are many changes we would

Ever since the counterclockwise study, my students and I have continued to research how our well-being is linked to our mindset. We recently conducted a study that looked into the question "If the life we live resembles that of a different age group, will we age like that group or be more similar to our own age cohorts?" We found that women who marry men much younger than they are live longer than average and those married to much older men die younger. The same is true for men, even as the average life expectancies are different. The psychologist Bernice Neugarten suggested we are deeply influenced by "social clocks"—that we gauge our lives by the implicit belief that there is a "right age" for certain behaviors or attitudes.[4] We reasoned that if we set our own social or biological clocks in accordance with our spouse's age, we change the game. In this way, the older spouse becomes "younger" and lives longer than expected, while the younger one becomes "older" and dies sooner than expected.

Other research has shown that women are less likely to die in the week before their birthday but more likely to die in the week after.[5] Men, on the other hand, are more likely to die in the week before and show no rise above normal the week after. The results suggest that women and men "package reality differently," in the words of David Jenkins, commenting on the research.[6] The packaging we create or the way we frame information for ourselves has real effects. For example, women tend to be hopeful in the lead-up to their birthdays and look forward to the celebration. It would appear that men do not care as much.

In a recent study of personality, aging, and longevity, my former student, psychologist Becca Levy, and her colleagues found that people's mindsets may contribute more to their health than the physiological factors we and our doctors typically focus on.[7] They looked at the life spans of a group of more than 650 people in Oxford, Ohio, who in 1975 had been asked to respond to positive and negative statements about aging. They could agree or disagree with thoughts such as "Things keep getting worse as I get older," "As you get older, you are less useful," and "I am as happy now as I was when I was younger." Scoring their responses allowed the participants to be categorized as holding either a positive or negative view of their health and aging.

In checking the records of the participants more than twenty years after the survey, Levy and her colleagues found that those who viewed aging more positively lived, on average, seven and a half years longer than those who were negative about it. Simply having a positive attitude made far more difference than any to be gained from lowering blood pressure or reducing cholesterol, which typically improve life span by about four years. It also beats the benefits of exercise, maintaining proper weight, and not smoking, which are found to add one to three years. In 1999, psychologists Heiner Maier and Jacqui Smith published a study of the relationship between mortality and seventeen indicators of psychological well-being, including intellectual ability, personality, subjective well-being, and social ability.[8] Using data from the Berlin Aging Study, which had collected information on the physical and psychological health of more than five hundred people in the early 1990s, they also found that dissatisfaction with aging was one of the principle factors in how long people live.

People read the results of studies such as this and think, "That's interesting, but that can't have much to do with me." The idea that our beliefs might be one of the most important determinants of our life span goes too much against the grain of what we "know" to be true. We have to put aside our mindless belief in what we "know" in order to understand that while we can know that something